DSX Version 3

Features

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Features

Account Codes

Use Account codes to categorize and/or restrict outside calls.

Description

Account Codes are user-dialed codes that help categorize and/or restrict outside calls. Account Codes are from 2-10 digits long, using any combination of the digits 0-9. There are three types of Account Codes:

- Optional (Unforced Account Codes)
- Forced Account Codes
- Verified Account Codes

Optional (Unforced) Account Codes

Optional Account Codes allow a keyset extension user to enter an Account Code while placing an outside call or any time while on a call. This type of Account Code is optional: the system does not require the user to enter it. If the keyset user is already talking on an outside call, their conversation continues uninterrupted while they enter an Account Code.

Single line telephone users can only enter an Account Code while placing their outside call.

Forced Account Codes

Forced Account Codes require an extension user to enter an Account Code every time they place an outside call. If the user doesn't enter the code, the system prevents the call. The system can require Forced Account Codes for all outside calls, or just for toll calls (as determined by Toll Restriction programming). Note that Forced Account Codes do not pertain to incoming calls.

Verified Account Codes

With Verified Account Codes, the system compares the Account Code the user dials with a list of codes programmed into the Verified Account Code Table. If the Account Code is in the table, the call goes through (provided it is not prevented by an extension's Toll Restriction programming). If the code is not in the table, the system prevents the call. Verified Account Codes, if enabled, apply only to Forced Account Codes.

The system provides 1000 Verified Account Codes.

Using Account Codes and Speed Dial

To simplify Account Code operation, Personal and System Speed Dial numbers can contain Account Codes. Keep the following in mind when using Speed Dial and Account Codes:

- The Account Code can be either the first or last entry in the bin, and must be preceded and followed by the # character. For example, the Account Code 1234 must be entered as #1234#.
- 1551-02: Allow Account Codes in Speed Dial Bins [System: Options: Setup: Account Codes (1551): Allow in Speed Dial Number] must be enabled in system programming:
- The Speed Dial number can contain an Account Code followed by an outside number, or just the Account Code. The Account Code must be preceded and followed by a # entry. If the number contains just the Account Code, the user must be sure to press the key before dialing the outside number.
- If the system has Verified Account Codes enabled, the Account Code entered in the Speed Dial number must match an entry in the Verified Account Code Table.
- If the Speed Dial number does not contain an Account Code, the user must enter the Account Code manually. If Forced Account Codes are enabled, the system requires the user to enter the Account Code before it outdials the stored Speed Dial number.

- An extension user can preselect a line for a Speed Dial call.

Using Account Codes with Last Number Redial and Save

Last Number Redial and Save do not store Account Codes. This means that the user must manually enter an Account Code to have it included with a call dialed using Last Number Redial and Save. If Forced Account Codes are enabled, the system requires the user to enter the Account Code before it outdials the stored number saved by Last Number Redial or Save.

An extension user can preselect a line for a Last Number Redial or Save call.

Account Codes and Emergency Calls

Account Codes are never enforced for emergency (911 and 1+911) calls.

DSS Console Account Code Key

A keyset user can have an Account Code key on their DSS Console. It works the same as a keyset Account Code key.

Conditions and Defaults

Conditions

- Do not use Account Codes that begin with 911 or 1911.

Default Setting

- Account Codes disabled.

Other Related Features

Features

- Central Office Calls, Answering on page 121
  - You can use Store and Forward with Forced Account Codes.
- Last Number Redial on page 299
  - Last Number Redial and Save do not store Account Codes. This means that the user must manually enter an Account Code to have it included with a call redialed using Last Number Redial and Save.
- Speed Dial on page 448
  - An extension user can store an Account Code in a Speed Dial number. See Using Account Codes and Speed Dial (page 14) for more.
- Station Message Detail Recording on page 463
  - Account Codes print on the SMDR report.
- Voice Mail (IntraMail) on page 516
  - Voice mail callout features (such as Message Notification) may interact with Account Codes if the callout number contains # characters.

IntraMail Features

- None.

Programming Basics

Basic Account Code Programming
1. Set up some general Account Code options.

1. 1551-02: Allow Account Codes in Speed Dial Bins [System: Options: Setup: Account Codes (1551): Allow in Speed Dial Number]

   - This allows users to store Account Codes in Speed Dial numbers. The numbers can contain both the Account Code and the outside number.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 1551-01: Dial # to Enter Account Codes [System: Options: Setup: Account Codes (1551): # Key to Enter Account Codes]

   - If enabled, a user on an outside call can dial # to enter an Account Code. This is the only way single line users can optionally enter Account Codes.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

3. 1551-03: Show Account Codes on Telephone Display [System: Options: Setup: Account Codes (1551): View Account Codes]

   - Use this option to mask Account Codes on the telephone display by showing * characters instead. For security, consider enabling this option.

Options	Description
No (0)	[Default] Entries are not masked on the display.
Yes (1)	Enabled.

2. Should a keyset or DSS Cconsole have an Account Code key?

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

   - This is an alternative to using the keyset soft keys.

Options	Description
28	Assign this key code to an available Feature Key
-	[Default] No Account Code keys assigned by default.

2. 2401-01: DSS Owner [Stations: DSS Consoles: DSS1: Association (2401): DSS Owner]

   - Use the DSS Console if the keyset doesn't have an available key.

Options	Description
28	Assign this key code to an available DSS Console Key

Options	Description
-	[Default] No Account Code keys assigned by default.

Programming Forced Account Codes

Setting Up Forced Account Codes

1. Should an extension have Forced Account Codes enforced?

1. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   - Be sure to check the extension's Class of Service level.

Options	Description
1-15	These are the available extension Class of Service levels.
1	[Default] For extension 300 only.
2	[Default] For all other extensions.

2. 1412-04: Forced Account Codes [System: Class of Service: Toll Restriction: Toll Restriction (1412): Forced Account Code]

   - This option turns Forced Account Codes on and off in station Class of Service.

Options	Description
0 (No)	[Default] Disable Forced Account Codes in an extension's Class of Service.
1 (Yes)	Enable Forced Account Codes in an extension's Class of Service.

2. Should an extension have Forced Account Codes only for toll calls?

1. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   - Be sure to check the extension's Class of Service level.

Options	Description
1-15	There are 15 Class of Service levels.
1	[Default] For extension 300 only.
2	[Default] For all other extensions.

2. 1412-06: Account Codes for Toll Calls Only [System: Class of Service: Toll Restriction: Toll Restriction (1412): Forced (Toll Only) Account Code]

   - Disabling this option (0) enforces Forced Account Codes for all outside calls.

Options	Description
0 (No)	[Default] Disable Forced Account Codes only for toll calls.
1 (Yes)	Enable Forced Account Codes only for toll calls.

3. 1551-04: Account Code Toll Restriction Level [System: Options: Setup: Account Codes (1551): Toll Level]

   - Enter the Toll Level the system will use to differentiate toll calls from local calls.

Options	Description
0 (No)	[Default] Toll calls are any calls the user dials that begin with 0 or 1

Options	Description
1-7 (Yes)	The system uses the toll level options programmed in 3501-01: Toll Restriction Country Type See the Tool Bar for that level to determine if the call is local or toll.

3. Should certain lines never require users to enter a Forced Account Code?

- 3111-01: Disable Forced Account Codes [Lines: Config: Options: Features (3111): Disable Forced Account Codes]

  - You can exclude certain lines from Forced Account Code enforcement.

Options	Description
0 (No)	Forced Account Codes are not enforced for the line.
1 (Yes)	[Default] Forced Account Codes are enforced for the line.

- The line setting overrides the station setting.

Programming Verified Account Codes

Verified Account Code Programming
1. Set up the Verified Account Code options.

1. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   - Be sure to check the extension's Class of Service level.

Options	Description
1-15	These are the available extension Class of Service levels.
1	[Default] For extension 300 only.
2	[Default] For all other extensions.

2. 1412-05: Verified Account Codes [System: Class of Service: Toll Restriction: Toll Restriction (1412): Verify Account Code]

   - This option turns Verified Account Codes on and off in station Class of Service.

Options	Description
0 (No)	[Default] Disable Verified Account Codes in an extension's Class of Service.
1 (Yes)	Enable Verified Account Codes in an extension's Class of Service.

2. Enter Data into the Verified Account Codes Table.

1. 3601-xx: Verified Account Code Data [Lines: Account Codes: Codes: Codes (3601): Dial Code]

   - A Verified Account Code can be from 1 to 10 digits long, using the digits 0-9. You can use the * character as a wild card, which can be entered in any position in a Verified Account Code.

Options	Description
-	[Default] No entries.
-	1000 entries maximum.

2. 1551-01: Dial # to Enter Account Codes [System: Options: Setup: Account Codes (1551): # Key to Enter Account Codes]

- Check this option. If you have it enabled, do not enter # in any of your Verified Account Codes.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

Programming Example 1: Restrict 900 and 1 + 900

Example 1: Forced Account Codes for 900 and 1 + 900 Only
1. Set up the Class of Service and Toll Level options.

1. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   - Check to be sure the extension's Class of Service level enables Forced Account Codes in the next steps.

2. 1412-04: Forced Account Codes [System: Class of Service: Toll Restriction: Toll Restriction (1412): Forced Account Code]

   - Enter **Yes** for this option to enable Forced Account Codes.

3. 1412-06: Account Codes for Toll Calls Only [System: Class of Service: Toll Restriction: Toll Restriction (1412): Forced (Toll Only) Account Code]

   - Enter **Yes** for this option to enable Forced Account Codes for Toll Calls Only. Forced Account Codes will not be required for local calls.

4. 1551-04: Account Code Toll Restriction Level [System: Options: Setup: Account Codes (1551): Toll Level]

   - For this example, enter **2**.

5. 2102-02: Station Toll Level (Day) [Stations: Config: Setup: Access (2102): Day Toll Level]

   - Be sure the extension **does not** use Toll Level 2 during the day. If it does, Toll Restriction will always deny 1 + 900 and 900 calls (regardless of whether the user enters an Account Code).

6. 2102-03: Station Toll Level (Night) [Stations: Config: Setup: Access (2102): Night Toll Level]

   - Be sure the extension **does not** use Toll Level 2 at night. If it does, Toll Restriction will always deny 1 + 900 and 900 calls (regardless of whether the user enters an Account Code).

2. Make the following Toll Restriction entries for Toll Level 2.

1. 3511-01: Active Key Pad [Lines: Toll Restriction: Options: Settings (3511): Active Dial Pad]

   - Enter **Yes** to enable Active Key Pad.

2. 3512-04: Allow N11 Dialing [Lines: Toll Restriction: Options: US/Domestic Options (3512): Allow N11 Dialing:

   - Enter **Yes** to enable N11 (e.g., 411) dialing.

3. 3512-01: Allow 0 + XXX Operator Assisted Dialing [Lines: Toll Restriction: Options: US/Domestic Options (3512): Allow 0+XXX Dialing]

   - Enter **Yes** to enable operator-assisted dialing.

4. 3512-03: Allow 101x Equal Access Dialing [Lines: Toll Restriction: Options: US/Domestic Options (3512): Allow 101X Dialing]

   - Enter **Yes** to enable 101x Equal Access Dialing.

5. 3521-01: Initialize Table [Utilities: Initialize Toll Restriction]

   - Make a deny table with no entries (i.e., deny nothing). This is the default entry.

6. 3531-01: 1+XXX Dialing Restriction [Tool Bar: Default]

   - Make a deny table and enter **900**.

7. 3541-01: 1+XXXXXX Dialing Restriction [Tool Bar: Default]

   - Make a deny table with no entries (i.e., deny nothing). This is the default entry.

8. 3551-01: XXX Dialing Restriction [Tool Bar: Default]

   - Make a deny table and enter **900**.

9. 3561-01: XXXXXX Dialing Restriction [Tool Bar: Default]

   - Make a deny table with no entries (i.e., deny nothing). This is the default entry.

With this programming, an extension user can:

1. Press a line key or dial a code for an outside line.
2. Wait for a reminder tone (3 beeps).
   a) With Forced Account Codes enabled, the system automatically goes into the Account Code mode after you press a line key in step 1 above.
   b) If you have an Account Code Feature Key,it flashes green.
3. If dialing a 1 + 900 or 900 call, dial the Account Code.
   a) If dialing any other long distance call, skip this step.
4. Press **#** (if enabled), the Account Code soft key, or an Account Code Feature Key (if programmed).
5. Dial the outside number.
   a) If the user doesn't enter an Account Code for 900 or 1 + 900 calls, the system will cut off the call.
   b) The system will also cut off any call not allowed by the extension's Toll Restriction programming.

Programming Example 2: Allow 800 and 1 + 800

Example 2: Allow 800 and 1 + 800 Dialing without a Forced Account Code
1. Set up the Class of Service and Toll Level options.

1. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   - Check to be sure the extension's Class of Service level enables Forced Account Codes in the next steps.

2. 1412-04: Forced Account Codes [System: Class of Service: Toll Restriction: Toll Restriction (1412): Forced Account Code]

   - Enter **Yes** for this option to enable Forced Account Codes.

3. 1412-06: Account Codes for Toll Calls Only [System: Class of Service: Toll Restriction: Toll Restriction (1412): Forced (Toll Only) Account Code]

   - Enter **Yes** for this option to enable Forced Account Codes for Toll Calls Only. Forced Account Codes will not be required for local calls.

4. 1551-04: Account Code Toll Restriction Level [System: Options: Setup: Account Codes (1551): Toll Level]

   - For this example, enter **2**.

5. 2102-02: Station Toll Level (Day) [Stations: Config: Setup: Access (2102): Day Toll Level]

   - Be sure the extension **does not** use Toll Level 2 during the day. If it does, Toll Restriction will always deny 1 + toll calls (regardless of whether the user enters an Account Code).

6. 2102-03: Station Toll Level (Night) [Stations: Config: Setup: Access (2102): Night Toll Level]

   - Be sure the extension **does not** use Toll Level 2 at night. If it does, Toll Restriction will always deny 1 + toll calls (regardless of whether the user enters an Account Code).

2. Make the following Toll Restriction entries for Toll Level 2.

1. 3511-01: Active Key Pad [Lines: Toll Restriction: Options: Settings (3511): Active Dial Pad]
   - Enter **Yes** to enable Active Key Pad.
2. 3512-04: Allow N11 Dialing [Lines: Toll Restriction: Options: US/Domestic Options (3512): Allow N11 Dialing:
   - Enter **Yes** to enable N11 (e.g., 411) dialing.
3. 3512-01: Allow 0 + XXX Operator Assisted Dialing [Lines: Toll Restriction: Options: US/Domestic Options (3512): Allow 0+XXX Dialing]
   - Enter **Yes** to enable operator-assisted dialing.
4. 3512-03: Allow 101x Equal Access Dialing [Lines: Toll Restriction: Options: US/Domestic Options (3512): Allow 101X Dialing]
   - Enter **Yes** to enable 101x Equal Access Dialing.
5. 3521-01: Initialize Table [Utilities: Initialize Toll Restriction]
   - Make a deny table with no entries (i.e., deny nothing). This is the default entry.
6. 3531-01: 1+XXX Dialing Restriction [Tool Bar: Default]
   - Make an allow table and enter **800**.
7. 3541-01: 1+XXXXXX Dialing Restriction [Tool Bar: Default]
   - Make a deny table with no entries (i.e., deny nothing). This is the default entry.
8. 3551-01: XXX Dialing Restriction [Tool Bar: Default]
   - Make an allow table and enter **800**.
9. 3561-01: XXXXXX Dialing Restriction [Tool Bar: Default]
   - Make a deny table with no entries (i.e., deny nothing). This is the default entry.

With this programming, an extension user can:

1. Press a line key or dial a code for an outside line.
2. Wait for a reminder tone (3 beeps).
   a) With Forced Account Codes enabled, the system automatically goes into the Account Code mode after you press a line key in step 1 above.
   b) If you have an Account Code Feature Key,it flashes green.
3. If dialing a 1 + 800 or 800 call, skip this step.
   a) If dialing any other long distance call, dial the Account Code.
4. Press # (if enabled), the Account Code soft key, or an Account Code Feature Key (if programmed).
5. Dial the outside number.
   a) The 800 or 1 + 800 call will go through without an Account Code. If the user doesn't enter an Account Code for all other calls, the system will cut off the call.
   b) The system will also cut off any call not allowed by the extension's Toll Restriction programming.

Account Codes

Optional (Unforced) Account Codes

- For keysets, Optional Account Codes apply to both incoming and outgoing calls. For outgoing calls, you can enter the Account Code before or after dialing the outside number.

- For Single Line sets, Optional Account Codes apply only to outgoing calls. You must enter the Account Code after getting dial tone on the line but before dialing the outside number.

To enter an Optional (Unforced) Account Code:

1. Place or answer outside call.
2. Press your **Account Code Feature Key** or dial **#** (if enabled).
3. When your display shows *Enter Account Code*, enter the Account Code.
   a) An Account Code can be up to 10 digits long, using the digits 0-9.
4. Press an **Account Code Feature Key** or dial **#** (if enabled).
5. For outside calls only: Dial your outside number.
   a) Toll Restriction may still prevent you from dialing certain outside numbers.
   b) If the number doesn't dial out within 6 seconds, your system probably has *Store and Forward* enabled. Just dial **#** to have the call go through.

Forced Account Codes

- ***Forced Account Codes may prevent Speed Dial from dialing 911 emergency services.***
- Forced Account Codes do not apply to incoming calls.

To enter a Forced Account Code:

1. Access a line for an outgoing call.
   a) You hear three beeps.
2. When your display shows *Enter Account Code*, enter the Account Code.
   a) An Account Code can be up to 10 digits long, using the digits 0-9.
   b) If your system has Verified Account Codes enabled, you must enter one from the Verified Account Codes Table. If you enter an invalid Verified Account Code, your call will be cut off in the next step.
   c) Skip this step to bypass Account Code entry (for example, when dialing a local call and your system requires Account Codes only for toll calls).
3. Press an **Account Code Feature Key** or dial **#** (if enabled).
4. Dial your outside number.
   a) Toll Restriction may still prevent you from dialing certain outside numbers.
   b) If the number doesn't dial out within 6 seconds, your system probably has *Store and Forward* enabled. Just dial **#** to have the call go through.

Alphanumeric Display

The Alphanumeric Display messages help the display telephone user process calls, identify callers and customize features.

Description

The 22- and 34-Button Display Telephones have a three-line, 24-character per line alphanumeric display. The first line displays the date and time (while idle) and feature status messages. The second line is used extensively by IntraMail. The third line displays the Soft Key definitions.

The 34-Button Super Display Telephone has a nine-line, 24-character per line alphanumeric display. The first line displays the date and time (while idle) and feature status messages, just like the 22- and 34-Button Display Telephones. The second line is used extensively by IntraMail. Lines 4-9 are the comprehensive Super Display Telephone soft key definitions.

Display Contrast Control

While a keyset is idle, pressing **Volume Up** or **Volume Down** adjusts the contrast of the display. There are eight user-selectable contrast control values. The value a user sets is “remembered” by the system and automatically restored in the event of a power down or system reset.

Display Brightness and Contrast Control Presets

The brightness and contrast control presets let the keyset user preset the default active brightness, idle brightness, and contrast for their keyset display. The brightness presets are not available to a 22-button keyset since it doesn’t offer a backlit display.

Automatic Backlit Display with Ambient Light Sensitivity Adjustment

The 34-Button Super Display Telephones provide an Automatic Backlit Display with Light Sensitivity Adjustment. The backlit display can operate in one of two modes: Normal and Automatic with Ambient Light Sensitivity Adjustment.

- **Normal Backlit Display Operation**
  - When the telephone is idle, the backlit display adjusts to the inactive (minimum) backlit level. If the user lifts the handset, the display automatically switches to the active (maximum) backlit level. When the user hangs up, the display reverts to the inactive setting after a preset time. The backlit levels are adjustable from system programming and also by the user right from their telephone.
- **Automatic Backlit Display with Light Sensitivity Adjustment**
  - When this mode is enabled, the telephone’s display backlighting automatically adjusts to the room brightness. In a brightly lit room, the display will stay at its maximum backlit level. This level also applies if the user is busy on the phone. If the room light dims or goes out, the telephone’s display will automatically change to the minimum backlit level. Additionally, each telephone’s ambient light sensitivity can be set to match the lighting of the room in which it is installed.

Conditions and Defaults

Conditions

- None.

Default Setting

- Enabled for all display telephones.

Other Related Features

Features

- Interactive Soft Keys on page 291
  - The interactive Soft keys provide users with intuitive access to the telephone's features.
- Volume, Brightness, and Contrast Controls on page 552
  - While a feature is active, pressing a **VOLUME** key adjusts the volume of the active feature. While the telephone is idle, pressing a **VOLUME** key adjusts the display contrast. Turn to this feature for additional volume, brightness, and contrast controls.

IntraMail Features

None.

Programming Normal Backlit Display Settings

Normal Backlit Display Setup
Set up the telephone display backlight and key pad illumination controls.

1. 2104-01: Max Brightness [Stations: Config: Setup: Display (2104): Max Brightness]

Set the telephone's backlight brightness while it is active.

This option does not apply to 22-button keysets since they have neither backlit displays nor illuminated key pads.

Options	Description
0	Backlight off.
1-8	Relative brightness settings 1-8. [Default] = 8.

2. 2104-02: Min Brightness [Stations: Config: Setup: Display (2104): Min Brightness]

Set the telephone's backlight brightness while it is idle.

This option does not apply to 22-button keysets since they have neither backlit displays nor illuminated key pads.

Options	Description
0	Backlight off.
1-8	Relative brightness settings 1-8. [Default] = 2.

3. 2104-03: Dial Pad Illumination [Stations: Config: Setup: Display (2104): Dial Pad Illumination]

Enable or Disable the key pad illumination.

This option does not apply to 22-button keysets since they have neither backlit displays nor illuminated key pads.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled

4. 2104-02: Min Brightness [Stations: Config: Setup: Display (2104): Min Brightness]

   Set the telephone's backlight brightness while it is idle.

   This option does not apply to 22-button keysets since they have neither backlit displays nor illuminated key pads.

Options	Description
0	Backlight off.
1-8	Relative brightness settings 1-8. [Default] = 2.

5. 1605-05: Backlight Idle Timer [System: Timers: Features: Control (1605): Backlight Idle]

   Set how long an extension must be idle before it reverts to its idle backlight brightness setting.

   These options do not apply to 22-button keysets since they have neither backlit displays nor illuminated key pads.

Options	Description
1-99	Interval in seconds. [Default] = 6.

Programming Automatic Backlight Settings

Automatic Backlight Display Setup
Set up the 34-button keyset Automatic Backlit Display options.

1. 2104-04: Auto Backlight [Stations: Config: Setup: Display (2104): Auto Backlight]

   Enable or disable Automatic Backlight for the extension.

   If enabled for a 34-Button Super Display Telephone, set the Backlight Sensitivity in the next step.

   This option does not apply to 22-button keysets since they have neither backlit displays nor illuminated key pads.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 2104-04: Backlight Sensitivity [Stations: Config: Setup: Display (2104): Backlight Sensitivity]

   For 34-Button Super Display Telephones only, set the Backlight Sensitivity to match the lighting conditions for the room in which the telephone is installed.

Use lower settings (towards 1) for bright rooms.

Use higher settings (towards 8) for dimly lit rooms).

Options	Description
1-8	Backlight Sensitivity setting. [Default] = 4.

Attendant Call Queuing (Intercom Queue Key)

The Intercom Queue Key helps minimize call congestion for extensions that handle a high volume of incoming Intercom calls.

- Intercom Queue Key for All Extensions is available in software versions 3.01 or higher.

Description

An unlimited number of callers can queue for the attendant. The callers hear ringback while they wait for the attendant to answer — not busy tone. If you have the attendant as the overflow destination for Direct Inward Lines, for example, unanswered DILs will “stack up” at the attendant until they are answered.

Operator Call Key

The last Feature Key on an attendant telephone is permanently assigned as an Operator Call key. When the operator has Intercom calls waiting to be answered, the calls queue under this key. The key winks (on) when calls are queued.

The Operator Call key is a permanent assignment for all extensions assigned as operators. You cannot change this assignment. Attendant Call Queuing is a permanent, non-programmable feature.

Intercom Queue Key for All Extensions

[3.01] Any extension can have an Intercom Queue key, not just an operator. If an extension with an Intercom Queue key is busy on a call, and it receives an Intercom call, the new call will ring the key. If additional co-workers call the extension, their calls "stack up" under the Intercom Queue key. As soon as the busy extension becomes free, the first (oldest) call rings the key first. The extension user can just press the Intercom Queue key to answer the call, then repeatedly press the key to answer the remaining calls. The Intercom Queue key is a visual reminder that additional Intercom calls are waiting to be answered.

An unlimited number of Intercom callers can queue for an extension with an Intercom Queue key. The callers hear ringback while they wait for the extension — not busy tone. The key winks on (green) when calls are queued.

By default, the extension receives Off-Hook Ringing for a call waiting on an Intercom Queue key.

If you assign an extension as an operator, it does not automatically get an Intercom Queue key.

Conditions and Defaults

Conditions

- None.

Default Setting

- No Intercom Queue Keys defined on any extensions.

Other Related Features

Features

- Attendant Position on page 36
  - Assign system attendants.

- Call Coverage Keys on page 63
  - A Call Coverage Key will not pick up a call ringing the attendant's Operator Call Key.
- Off-Hook Signaling on page 362
  - The Operator Call Key does not activate off-hook signaling.
- Ringing Line Preference on page 432
  - Ringing Line Preference will not answer a call ringing the Operator Call Key.
- Voice Mail (IntraMail) on page 516
  - Automated Attendant Screened (STRF) Transfers flash the Operator Call key and the Ring Indicator lamp. The call does not flash a line/loop key. (Note that Ringing Line Preference will not pick up a call ringing the attendant's Operator Call key.)
  - Automated Attendant Unscreened (UTRF) Transfers flash the line's line/loop key and the Ring Indica- tor lamp.

IntraMail Features

- None.

Attendant Call Queuing (Intercom Queue Key)

Using your Intercom Queue Key

To answer a call waiting on your Intercom Queue Key:

1. Press the flashing **Intercom Queue Key**.
   a) You answer the waiting call.
2. Press the key repeatedly to answer additional waiting calls.

Attendant Position

The attendant is the system's call processing focal point.

Description

The attendant is the focal point for call processing within the system. The system can have up to four attendants. In addition to the features of a standard keyset, the attendant also has the following unique capabilities (refer to the respective feature for details):

- Attendant Call Queuing (Intercom Queue Key) on page 34
  - Incoming Intercom calls from co-workers queue for the attendant. The callers never hear busy tone.
- Barge In (Intrusion) on page 58
  - The attendant can break into another extension user's established call. This option is enabled in the attendant's Class of Service (COS 1).
- Direct Line Access on page 181
  - Direct Line Access lets the attendant user dial a code to access an individual line. This option is enabled in the attendant's Class of Service (COS 1).
- Forced Line Disconnect on page 261
  - In an emergency, the attendant can release (disconnect) another user's active outside call. This option is enabled in the attendant's Class of Service (COS 1).
- Line Queuing / Line Callback on page 309
  - The attendant can Camp-On (queue) for a busy line. This option is enabled in the attendant's Class of Service (COS 1).
- Night Service / Night Ring on page 353
  - An attendant with a System Night key can put the system in the night mode. This option is enabled in the attendant's Class of Service (COS 1).
- Removing Lines and Extensions from Service on page 425
  - The attendant can remove problem lines from service —then return them to service once the problem is corrected. This option is enabled because the attendant has Direct Line Access enabled in their Class of Service (COS 1)

The attendant should use a 34-Button Display or 34-Button Super Display Telephone. In addition, most attendants should find a DSS Console helpful when processing calls.

Conditions and Defaults

Conditions

- Ringing Line Preference will not pick up a call ringing the attendant's Operator Call key.
- System operators will not ring for Ring Group calls.

Default Setting

- No attendants assigned.

Other Related Features

Features

- Barge In (Intrusion) on page 58
  - Since the attendant is never busy, Intercom callers cannot Barge In on an attendant.
- Call Coverage Keys on page 63
  - A Call Coverage Key will not pick up a call ringing the attendant's Operator Call Key.
- Call Waiting / Camp-On on page 93
  - Since the attendant is never busy, Intercom callers cannot Camp-On to an attendant.
- Callback on page 97
  - Since the attendant is never busy, Intercom callers cannot leave a Callback for an attendant.
- Class of Service on page 142
  - By default, the system assigns Class of Service 1 to the attendant. This provides the attendant with Barge In, Call Forwarding Off Premises, Direct Line Access, Forced Line Disconnect, Night Service, and Line Queuing (Camp-On) capability.
- Do Not Disturb on page 217
  - The attendant can have Do Not Disturb. In addition, pressing DND at the attendant activates the night mode for any lines directly terminated to the attendant.
- Door Box on page 223
  - An operator can monitor a Door Box by having a Call Coverage key to monitor ringing and a Hotline key to call the Door Box.
- Feature Keys on page 247
  - If an operator is reassigned (i.e., moved from 300 to 301), only the Operator Call key will automati- cally follow the new assignment. All other Feature Keys must be reprogrammed for the new operator.
- Group Ring on page 268
  - System operators will not ring for Ring Group calls.
- Intercom on page 292
  - Designate each extension's operator.
- Monitor / Silent Monitor on page 341
  - Since the attendant is never busy, Intercom callers cannot Monitor an attendant.
- Privacy on page 413
  - Since the attendant is never busy for Intercom calls, the attendant always has Privacy enabled.
- Removing Lines and Extensions from Service on page 425
  - Normally, the attendant should be able to remove extensions and lines from service.

- Voice Mail (IntraMail) on page 516
  - STRF transfers to the attendant from the voice mail Automated Attendant flash the Operator Call key and the Ring Indicator lamp. The call does not flash a line/loop key. (Note that Ringing Line Prefer- ence will not pick up a call ringing the attendant's Operator Call key.)
  - UTRF transfers to the attendant from the voice mail Automated Attendant flash the line's line/loop key and the Ring Indicator lamp.
- Voice Over on page 521
  - An operator cannot receive a Voice Over from a co-worker since their extension is never busy to Inter- com callers.

IntraMail Features

- None.

Programming Attendant Position

Attendant Position Setup

1. A 34-Button Display or Super Display is recommended for attendants.
2. Set up the system attendants (operators).

1. 1501-01: Number of Operators [System: Options: Setup: Operators (1501): Number of Operators]

Define the number of operators.

Options	Description
0	[Default] System has no operators.
1-4	Number of operators.

2. 1502-01: Operator Number 1 [System: Options: Setup: Operator Assignments (1502): Operator 1] 1502-02: Operator Number 2 [System: Options: Setup: Operator Assignments (1502): Operator 2] 1502-03: Operator Number 3 [System: Options: Setup: Operator Assignments (1502): Operator 3] 1502-01: Operator Number 1 [System: Options: Setup: Operator Assignments (1502): Operator 1]

Enter the extension number for each of the operators in your system.

Options	Description
0	[Default] System has no operators.
300-427	Operator's extension number. [Default] = No assignment.

3. 2114-03: Station's Operator Extension Number Stations: Config: Options: OffHook (2114): Operator: Extension]

For each extension, enter the corresponding operator's extension number.

You can choose among the operators defined in the previous step. If there are no operators defined, this option has no meaning.

Options	Description
300-427	Operator's extension number. [Default] = 300.

3. While busy on a call, should the attendant get Off-Hook Signaling?

1. 2116-03: Off Hook Signaling for Incoming Outside Calls Stations: Config: Options: Off Hook Signal (2116): OHS Lines]

   For the attendant's extension. set up the Off-Hook Signaling options (none, Camp-On tone, or Off-Hook Ringing).

Options	Description
0	No Off-Hook Signaling at the extension.
1	Camp-On tones.
2	[Default] Off-Hook Ringing

2. Optionally choose 0 to disable Off-Hook Signaling.

4. Should 0 (or 01-04) be the digit users dial to reach their operator?

1. 1301-[01-10]: Function Type [System: Numbering: Dialing Plan: Numbering (1301): Function Type]

   This option sets the function type for each dialed digit. Normally, digit 0 is set at type 1 which is for operator access.

   Normally, digit 0 is set at type 1 which is for operator access. If you want to use a digit other than 0, you'll need to change the function type of the digit 0 and assign type 1 to another digit. ***Be aware, however, that most other digits already have important assignments.***

Options	Description
1	Operator access. [Default for digit 0.]
2	Extension access.
3	Line Group access.

2. 1301-[01-10]: Expected Number of Digits [System: Numbering: Dialing Plan: Numbering (1301): Expected Digits]

   Set how many digits the system expects to receive when the digit string begins this digit.

   Normally, digit 0 is set at 2 to accommodate 0 (in single operator systems) and 01-04 (in multiple operator systems). If you change the operator access digit, you'll also need to check this option.

Options	Description
0	2
1-8	3
9	1

Attendant Position

Calling the Attendant
To call the attendant:

1. Press **INTERCOM**.

2. Dial **0**.
   a) You hear two beeps.
   b) This calls the attendant assigned to your extension. If your system has multiple attendants, you can reach them by dialing **01**-**04**.
   c) In a multiple attendant system, you can dial **0** and wait on the line to automatically call operator 1.

Auto Redial

Instead of redialing, have Auto Redial periodically retry a busy outside number.

Description

Auto Redial periodically redials a busy outside number. If a keyset user places an outside call and the call recipient is busy, the user can press a soft key to enable Auto Redial. The keyset user doesn't have to retry the number, hoping it will go through.

Auto Redial will periodically retry the number up to 15 times. Auto Redial cancels when the called party rings or answers, or when the extension:

- Places or answers another outside call.
- Receives an Intercom voice announcement or answers an Intercom call by lifting the handset or pressing **SPEAKER**.
- Presses **SPEAKER** to cancel Auto Redial.
- Presses any other fixed feature key except **MIC**.
- Lifts and replaces the handset.
- Presses the **CANCEL** soft key (Super Display only).

For your reference, the following table shows the standard call progress tones.

Call Progress Tones		
Description	**Frequencies**	**Rate**
Dial tone	350 Hz + 440 Hz	Steady
Reorder (Fast Busy) tone	480 Hz + 620 Hz	250 mS on, 250 mS off (+ 25 mS)
Busy tone	480 Hz + 620 Hz	500 mS on, 500 mS off (+ 50 mS)
Audible ring tone (ring- back)	440 Hz + 880 Hz	800mS to 1.2 sec on, 2.7 sec to 3.3 sec off
Stutter dial tone	350 Hz + 440 Hz	800 mS to 1.2 sec on, 800mS to 1.2 sec off

Conditions and Defaults

Conditions

- None.

Default Setting

- Enabled

Other Related Features

Features

- Last Number Redial on page 299

- Last Number Redial allows an extension user to quickly redial the last outside number dialed.

IntraMail Features

- None

Programming Auto Redial

Auto Redial Setup
Set up the Auto Redial timers.

1. 1602-06: Repeat Redial Timer [System: Timers: Features: Outgoing (1602): Repeat Dial]

This timer defines the interval between Auto Redial callout attempts.

If the default value is not adequate, change this timer to meet the site requirements.

Options	Description
1-99	Time in seconds. [Default] = 30.

2. 1602-07: Repeat Redial Busy Timer [System: Timers: Features: Outgoing (1602): Repeat Busy]

This timer sets how long the system waits for busy tone when processing an Auto Redial callout attempt.

The interval is measured from the last digit dialed to the receipt of busy tone. If the system doesn't receive busy tone within this interval, it assumes that the call went through and cancels Auto Redial.

Options	Description
1-99	Time in seconds. [Default] = 6.

Auto Redial

Using Auto Redial
To enable Auto Redial:

1. Place an outside call and receive busy tone.

2. Push **Auto Redial** (**AInd**) to enable Auto Redial.

a) The system enables Auto Redial for the last outside call you dialed.

b) The display shows the interval between callout attempts (e.g., **WAITING (30 SEC)**), as well as how many times redial has occurred (e.g., **AUTO REDIAL 1 of 15**).

c) **SPEAKER** winks when your telephone has Auto Redial enabled.

3. The system periodically redials the call, up to 15 times.

a) Auto Redial cancels when you:

- Place or answer another outside call.
- Receive an Intercom voice announcement or answer an Intercom call by lifting the handset or pressing **SPEAKER**.
- Press **SPEAKER**.
- Lift and replace the handset.
- Push **CANCEL** (Super Display only).

b) If a Caller ID call rings while Auto Redial is enabled, your display will show the number and optional name of the incoming caller. However, the ringing does not cancel Auto Redial. In addition, the Auto Redial display will be restored after the Caller ID call stops ringing.

Automated Attendant, Built-In

- **Provides built-in call answering capability when IntraMail is not installed.**
  - The Built-In Automated Attendant features described on this page are available in software versions 3.01 or higher.
- **For the full-featured IntraMail Automated Attendant that automatically answers incoming calls, plays an Instruction Menu message, and provides dialing options to callers, see Automated Attendant .**

Description

The Built-In Automated Attendant gives the system call answering and routing capabilities when IntraMail is not installed. The Built-In Automated Attendant can use any of the first eight Call Routing Mailboxes (801-808) for call handling, and each of these eight Routing Mailboxes can have a 30 second Instruction Menu message (Attendant Greeting). The Routing Mailboxes must be Call Routing Mailboxes, and all other Routing Mailbox types are ignored. Additionally, the Built-In Automated Attendant provides two voice mail ports, allowing it to process two calls simultaneously.

The Built-In Automated Attendant does not provide voice mail.

Just like the full-featured Automated Attendant, the Built-In Automated Attendant answers outside calls on each line, according to the time of the day and day of the week that the call is ringing. After answering, the Built-In Automated Attendant plays an Instruction Menu message (greeting) to the caller and provides them with dialing options.

There are 3 major components:

- Line Schedules on page 312
  - The Line Schedules, when enabled, set how the system answers outside calls according to the time of day and day of week the call is ringing. If the active Line Schedule routes a call to an IntraMail Call Routing Mailbox, the Built-In Automated Attendant picks up.
  - By default, Line Schedules do not route calls to the Built-In Automated Attendant.
- *Call Routing Mailbox*
  - A Call Routing Mailbox is a mailbox associated with an individual Line Schedule entry. It specifies which dialing options (Dial Action Table) are available to callers. It also provides the Instruction Menu to callers which typically greets the callers and describes the dialing options.
  - By default, Line Schedules do not route calls to the Built-In Automated Attendant.
- *Dial Action Table*
  - Once the Built-In Automated Attendant answers, the Dial Action Table provides the dialing options to callers. Each digit a caller can dial is assigned a specific action (function) in the Dial Action Table. The dial action used depends on the setting in the active Call Routing Mailbox, which in turn depends on the Line Schedule setup. The valid Dial Action Table actions for the Built-In Automated Attendant are:
    - UTRF (Unscreened Transfer)
    - GOTO (Go to a Mailbox)
    - Hang Up

- By default, Call Routing Mailboxes 1-8 use Dial Action Table 1.

Note: To record an Attendant Greeting (Instruction Menu Message) for the Built-In Automated Attendant:

1. Dial **#AG** (**#24**).
   - Your extension must have access level 5 in order for you to use this option.
2. Enter the Call Routing Mailbox Number (801-808).
3. Follow the voice prompts and record your Attendant Greeting.

Upgrading from the Built-In Automated Attendant

To upgrade to IntraMail from the Built-In Automated Attendant:

1. Plug the IntraMail CompactFlash card into the system.
   - See your system's *Hardware Manual* for more.
2. Reset the system. IntraMail automatically installs.
3. Rerecord your Instruction Menu Messages.
   - Your Line Schedule and Dial Action Table programming remain intact.

Conditions and Defaults

Conditions

- None.

Default Setting

- See *Description* above.

Other Related Features

Features

- Line Schedules on page 312
  - If enabled, sets how the system answers outside calls.

IntraMail Features

- Call Routing Mailbox
  - The mailbox that specifies the dialing options (Dial Action Table) and Instruction Menu that announcements are available to Built-In Automated Attendant callers.
- Dial Action Table
  - Defines the dialing options for the Call Routing Mailbox.
- Fax Detection
  - The Automated Attendant can route outside calls to the company fax machine.
- Multiple Company Greetings

- One IntraMail system can provide individual greetings and dialing options for several companies.

Programming Unique Built-In Automated Attendant Options

Setting Up the Built-In Automated Attendant Basics
Built-In Automated Attendant Setup

1. 4101-01: Voice Mail Type [System: Voice Mail: Setup: Type (4101): Type]

   Use this option to designate the voice mail type as the Built-In Automated Attendant (1).

Options	Description
No (0)	[Default] Disabled.
0	None. [Default] when no voice mail is installed.
1	Built-In Automated Attendant.
2	Intramail. [Default] when IntraMail is installed.
3	Ultramail (DSX-80/160 only). [Default] when UltraMail is installed).
4	External.

2. 2102-04: User Programming Access Level [Stations: Config: Setup: Access (2102): Program Level]

   To be able to record the Built-In Automated Attendant Instruction Menu, the user must have access level 5.

Options	Description
1-5	Access level. [Default] = 5 for extension 300 and 1 for all others.

Automated Attendant, Built-In

Using the Built-In Automated Attendant Setup Menu
To use the Built-In Automated Attendant setup menu at a keyset:

Setting Up Built-In Automated Attendant (Keyset)			
Push **V-MAIL**	Select the Built-In Automated Attendant setup menu.		
	MOH	Select the Message On Hold option.	
		Lstn	Listen to the currently recorded Message On Hold.
		Rec	Record a new Message On Hold.
		Erase	Erase the currently recorded Message On Hold.
		Exit	Exit the setup menu.
	Instr	Select the Attendant Greeting (Instruction Menu) option.	

Setting Up Built-In Automated Attendant (Keyset)				
		Mailbox Number	Enter the Call Routing Mailbox number (801-808) that will store the Attendant Greeting. • Normally you should select 801, but ask your communications manager to be sure.	
			Lstn	Listen to the currently recorded Attendant Greeting.
			Rec	Record a new Attendant Greeting.
			Erase	Erase the currently recorded Attendant Greeting.
			Exit	Exit the setup menu.
		Exit	Exit the setup menu.	
	Exit	Exit the setup menu.		

To use the Built-In Automated Attendant setup menu at a Super Display:

Setting Up Built-In Automated Attendant (Super Display)				
Push **V-MAIL**	Select the Built-In Automated Attendant setup menu.			
	Message On Hold	Select the Message On Hold option.		
		Listen	Listen to the currently recorded Message On Hold.	
		Record	Record a new Message On Hold.	
		Erase	Erase the currently recorded Message On Hold.	
		Exit	Exit the setup menu.	
	Instruction Menu	Select the Attendant Greeting (Instruction Menu) option.		
		Mailbox Number	Enter the Call Routing Mailbox number (801-808) that will store the Attendant Greeting. • Normally you should select 801, but ask your communications manager to be sure.	
			Listen	Listen to the currently recorded Attendant Greeting.
			Record	Record a new Attendant Greeting.
			Erase	Erase the currently recorded Attendant Greeting.
			Exit	Exit the setup menu.
		Exit	Exit the setup menu.	
	Exit	Exit the setup menu.		

Automatic Handsfree

Automatic Handsfree is a convenience for workers who don't have a free hand to answer a call or use a feature.

Description

Automatic Handsfree allows a keyset user to place or answer a call Handsfree by just pressing a key — with- out lifting the handset or pressing **SPEAKER** first. If enabled, the system provides Automatic Handsfree for:

- Call Coverage keys
- Central Office Calls (line and loop calls)
- Group Call Pickup keys
- Hotline Keys
- Intercom (**INTERCOM** key)
- Last Number Redial (**REDIAL** key)
- Paging keys
- Park keys
- Personal Speed Dial number keys
- Personal and System Speed Dial Feature Keys

The system always provides Automatic Handsfree for:

- Dial Number Preview
- Directory Dialing

Conditions and Defaults

Conditions

- None

Default Setting

- Enabled

Other Related Features

Features

- Central Office Calls, Placing on page 128
  - With Automatic Handsfree, an extension user can press a line key to place an outside call without first lifting the handset or pressing **SPEAKER**. Users without Automatic Handsfree can preselect a line key before lifting the handset or pressing **SPEAKER**.
- Handsfree and Handsfree Answerback on page 271
  - Process calls using the speaker and microphone in the telephone (instead of the handset).
- Headset Compatibility on page 274
  - While in the headset mode, Automatic Handsfree simplifies answering outside calls.

- Line Keys on page 307
  - Automatic Handsfree allows the keyset user to answer a call ringing a line key without lifting the handset; they just press the line key instead.
- Loop Keys on page 329
  - Automatic Handsfree allows the keyset user to answer a call ringing a loop key without lifting the handset; they just press the loop key instead.

IntraMail Features

- None

Programming Automatic Handsfree

Automatic Handsfree Setup
Enable Automatic Handsfree System-Wide and for Extensions

1. 1512-01: Automatic Handsfree [System: Options: Setup: Calls (1512): Auto Handsfree]

Enable or disable Automatic Handsfree system-wide.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 2112-01: Automatic Handsfree Stations: Config: Options: Speaker (2112): Auto Handsfree]

Enable or disable Automatic Handsfree for an extension.

This option only takes affect if you have first enabled Automatic Handsfree system-wide in the previous step.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

Automatic Line Balancing

Improves call quality and Handsfree performance on outside calls over analog lines.

- Available in software versions 3.01 and higher.

Description

Automatic Line Balancing (ALB) automatically performs a series of tests on analog lines and selects a preset profile that optimizes the audio quality and Handsfree performance of the line. There are 19 available profiles (0-18) from which the system can choose after testing the line. If Automatic Line Balancing is enabled in programming, the optimization test reoccurs:

- When the system is powered up or it is reset.
- A COIU card is installed or reset and the lines associated with the card have Automatic Line Balancing enabled (0).
- A line returns to service after it has been out of service.
- If you enable the option in programming. The test runs the next time the line goes idle.

You can also run the Automatic Line Balancing optimization test manually. See How to Manually Run the ALB Test for more.

Conditions and Defaults

Conditions

- None.

Default Setting

- Automatic Line Balancing disabled.

Other Related Features

Features

- Central Office Calls, Answering on page 121 and Central Office Calls, Placing on page 128
  - Automatic Line Balancing helps achieve the best possible call quality when using analog lines.
- Handsfree and Handsfree Answerback on page 271
  - When using Handsfree on an outside analog line, Automatic Line Balancing can dramatically improve the quality of Handsfree calls.

IntraMail Features

None.

Programming Automatic Line Balancing (ALB)

Setting Up Automatic Line Balancing (ALB)

To enable ALB for a line:

1. 3103-03: Loop Length [Lines: Config: Setup: Settings (3103): Loop Length]

   Enter 0 to enable Automatic Line Balancing for the line.

   The system sets up ALB automatically for the line, or you can run the ALB test automatically from telephone programming. See How to Manually Run the ALB Test for more.

Options	Description
0	Auto. This enables Automatic Line Balancing.
1	Short loop length.
2	[Default] Long loop length.

2. Remember, the line loop length settings and Automatic Line Balancing only apply to analog lines.

Automatic Ring Down

Go to Ringdown Extension on page 430

Automatic Slot Configuration

The system automatically installs PCBs when you power up the system.

Description

Automatic Slot Configuration automatically sets up station and line PCBs when you initially power up the system. This simplifies installation because you don't have to use system programming to activate station and line PCBs after you plug them in.

Here's how Automatic Slot Configuration works:

1. With power off, install your station and line PCBs.
2. With the system powered down, install the station and line PCBs from left to right in the order you want your extension and line numbers set up.
   - Be sure to install a 16ESIU PCB in the first slot (CN1).
   - You don't have to group your station and line PCBs together, although it may be more convenient to do so.
3. Power up the system.
4. On power up, the system scans the PCBs from left to right and sets up the extension and line numbering as follows.
   - Extension numbers will begin with 300 in the first slot and increment from left to right.
   - Line numbers will begin with 101 (starting from the first installed line PCB) and will also increment from left to right.

System reset does not cause reconfiguration. Automatic Slot Configuration is temporarily disabled during a system reset.

Conditions and Defaults

Conditions

- None

Default Setting

- None

Other Related Features

- None

Programming Automatic Slot Configuration

Automatic Slot Configuration Setup
Optionally configure station and line PCBs after initial installation.

1. 1201-01: Card Type [System: Ports: Slot x: Station Port Configuration (1201/1202/1203): Card Type]

Optionally configure station PCBs after the initial installation.

2. 1211-01: Card Type [System: Ports: Slot x: Line Card Configuration (1211/1212): Card Type]

   Optionally configure line PCBs after the initial installation.

Background Music

Broadcast music through the telephone or paging speakers for a more pleasing work environment.

- Using a PGDAD Module audio port as the Background Music source is available in software versions 2.01 and higher.

Description

Background Music (BGM) sends music from a customer-provided music source to speakers in keysets. If an extension user activates it, BGM plays whenever the extension is idle. Incoming calls and Paging announcements temporarily override (turn off) Background Music. Background Music is available from one of six sources: two audio input minijacks, and one of four PGDAD Module audio ports. The source you choose in turn connects to a customer-provided external music source.

- In DSX-40, the audio input minijacks are located on the equipment cabinet.
- In DSX-80/160, the audio input minijacks are located on the CPU PCB.

The external music source you connect to the audio input minijacks is typically a CD player or FM receiver. The source, which you can also use for Music on Hold, must be compatible with the following specifications:

Music Source Specifications	
Input Impedance	10K Ohms
Relative Input Level	+18 dBr (+/- dBr) at 1.0 kHz

For more on connecting a customer-provided music source, refer to the system's Hardware Manual.

Note: In accordance with U.S. copyright law, a license may be required from the American Society of Composers, Authors and Publishers (ASCAP) or other similar organizations, if radio, television broadcasts or music other than material not in the public domain are transmitted through the Music on Hold feature of telecommunications systems. NEC Unified Solutions, Inc. hereby disclaims any liability arising out of the failure to obtain such a license.

Using the 2PGDAD Module as a Background Music Source

You can use a 2PGDAD Module audio port as a Background Music music source, in lieu of using one of the two built-in minijacks.

- See Using the PGDAD Module as a Music Source on page 346 to learn more about using a 2PGDAD Module audio port as a Background Music music source.

Conditions and Defaults

Conditions

- None.

Default Setting

- Enabled system-wide and at each extension.

Other Related Features

Features

- Do Not Disturb on page 217
  - DND does not affect the operation of Background Music.
- Headset Compatibility on page 274
  - Background Music plays in the headset when the extension is in the headset mode.
- Music on Hold on page 344
  - Background Music and Music on Hold share the same music source.
- Paging on page 367
  - Background Music can broadcast over the External Paging speakers.
- PGDAD Audio Interface Module on page 389
  - You can use a port on the 2PGDAD Module as the Background Music source input.
- Room Monitor on page 435
  - Background Music is not available at the monitored extension while it is being monitored.
- Single Line Telephones on page 444
  - Background Music is not available to single line telephones.

IntraMail Features

- None.

Programming Background Music

Programming Background Music Setup
Enable Background Music system-wide and at extensions.

1. 1521-03: Background Music Source [System: Options: Setup: Music On Hold/Background Music (1521): Background Music Source]

   Use this option to specify the Background Music source.

   Be sure you have a properly matched music source connected to the Music Source you select.

Options	Description
0	[Default] Disables Background Music (i.e., no music source).
1	Audio input 1 (minijack 1).
2	Audio input 2 (minijack 2).
3-6	PGDAD Module audio ports 3-6. See Using the PGDAD Module as a Music Source on page 346 for more on how to set this up.

2. 2111-02: Allow Background Music [Stations: Config: Options: Features (2111): Allow Background Music]

Use this option to enable or disable Background Music at an extension.

You must have a music source connected and programmed before this setting is effective.

Options	Description
0	Disabled.
1	[Default] Enabled.

Using the PGDAD Module as a Music Source

Setting up a PGDAD Module Audio Port as a Music Source

1. Set up the PGDAD Module jumpers and program the ports.

1. To set the jumpers, see PGDAD Module Jumper Settings on page 393.

   Before plugging in the 2PGDAD Module, make sure the channel you are using is set for Audio Input/Output.

   For quickest installation, don't plug the 2PGDAD module into it's digit station port until ***after*** programming is complete.

2. To set the basic programming for the 2PGDAD Module, see Programming 2PGDAD Module Station Ports on page 390.

   Program the 2PGDAD Module.

   For quickest installation, don't plug the 2PGDAD module into it's digit station port until ***after*** programming is complete.

3. To connect and program the 2PGDAD Module audio ports, see Connecting and Programming 2PGDAD Module Audio Ports on page 391.

   Connect a compatible music source into the selected 2PGDAD Module audio port.

   For quickest installation, don't plug the 2PGDAD module into it's digit station port until ***after*** programming is complete.

2. Plug the 2PGDAD Module into its assigned digital station (ESIU) port.

1. Turn on the music source connected to the 2PGDAD Module.
2. Adjust the music source and system gains as required.

Background Music Operation

To turn Background Music on and off:

1. Do not lift the handset or press **SPEAKER**.
2. Press **HOLD.**

Barge In (Intrusion)

In an emergency, use Barge In to get through to a co-worker right away.

Description

Barge In permits an extension user to break into another extension user's established call. This sets up a three-way conversation between the intruding extension and the two parties on the initial call. The user can Barge In on an Intercom call or outside call.

CAUTION
Unauthorized intrusion on calls using this feature may be interpreted as an invasion of privacy.

Conditions and Defaults

Conditions

- Barge In uses a system Conference circuit. See Conference on page 144 for more.

Default Setting

- Disabled

Other Related Features

Features

- Attendant Position on page 36
  - Since the attendant is never busy, Intercom callers cannot Barge In on an attendant.
- Conference on page 144
  - An extension user can Barge In on a Conference.
- Forced Line Disconnect on page 261
  - As an alternative to Barging In, disconnect the line instead.
- Privacy on page 413
  - Privacy blocks Barge In attempts.

IntraMail Features

- None

Programming Barge In (Intrusion)

Setting the Barge In Options
Enabling Barge In and Barge In Block

1. 1402-02: Barge In (Intrusion) [System: Class of Service: Stations: Stations (1402): Barge In]

In an extension's Class of service, enable or disable the ability to initiate a Barge In.

Options	Description
No (0)	Disabled. [Default] for COS 2-15.
Yes (1)	Enabled. [Default] for COS 1.

2. 1401-03: Privacy [System: Class of Service: Features: Features (1401): Privacy]

In an extension's Class of service, enable or disable Privacy. When Privacy is enabled, incoming Barge In attempts are blocked.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

3. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Barge In (Intrusion)

Using Barge In

- **Caution**: Unauthorized intrusion on calls using this feature may be interpreted as an invasion of privacy.

To Barge In on a call:

1. Place one of the following types of call:

- Call busy extension.
- Press line key for busy line.
- Press **INTERCOM** and dial **101** for busy line (i.e., using Direct Line Access).
- Press **INTERCOM** and dial **#901** for busy line (i.e., using Line Dial-up).
- Press **INTERCOM** and dial Line Group access code (e.g., **9**).

2. Push **Barge In** (**Barge**) or dial **4**.
   - You hear two beeps.
3. Join the call in progress.

Battery Backup

The system provides permanent backup of system memory.

Description

In the event of commercial AC power failure, the NAND Flash memory on the CPU PCB permanently maintains the site database. Additionally, an internal battery on the CPU provides short-term backup of the system date and time (Real Time Clock) and certain station parameters (such as the Caller ID log). The battery will hold the Real Time Clock and station parameters for up to 10-14 days. When commercial AC power is restored, the system restarts with all programming and the time and date intact.

Additional Battery Backup capability can be provided by a customer-supplied Uninterruptable Power Supply (UPS). The length of time the UPS will power the system when power fails depends on the capacity of the UPS unit. Consult with the UPS manufacturer for the specifics. Refer to the *Hardware Manual* for additional details.

Conditions and Defaults

Conditions

- None

Default Setting

- None

Other Related Features

Features

- When commercial AC power fails, the system does not back up the status of the following:
  - Call Forwarding
  - Call Waiting / Camp-On
  - Do Not Disturb
  - Line Queuing
  - Message Waiting
  - Microphone Mute
- Time and Date on page 484
  - The system’s internal battery backs up the CPU Real Time Clock for 10-14 days.

IntraMail Features

- None

Brightness Control

Go to Volume, Brightness, and Contrast Controls on page 552

Call Coverage Keys

Call Coverage keys allow an extension user to cover a co-worker's calls from their own telephone.

Description

A keyset can have Call Coverage Keys for a co-worker's extensions, Ring Group master numbers and UCD Group master numbers. The Call Coverage Key lights when the co-worker's extension is busy, flashes slowly when the co-worker has an incoming call, and flashes fast when the co-worker is in Do Not Disturb. The Call Coverage Key can ring immediately when a call comes into the covered extension, ring after a delay or not ring at all. In addition, the keyset user can press the Call Coverage Key to intercept their co-worker's incoming call. They can also go off hook and press the Call Coverage key to call the covered extension. An extension can have as many Call Coverage Keys as they have available Feature Keys on their telephone.

Call Coverage Key Busy Lamp Indications	
When the key is:	**The covered extension is:**
Off	Idle or not installed
On	Busy
Slow Flash	Ringing
Medium Flash	Covered extension is in DND for outside calls (option 1).
Fast Flash	Covered extension is in DND for Intercom calls (option 2) or All Calls (option 3).

Call Coverage Keys ***will*** intercept the following types of calls:

- Key Ring Calls
- Ringing Intercom calls
- Calls to a UCD Group master number
- Calls ringing a Group Ring master number
- Transferred calls

Call Coverage Keys ***will not*** intercept a call ringing the attendant's Operator Call Key.

Call Coverage Guard Timer

The 4 second Call Coverage Guard Timer helps extensions that have the same Call Coverage key assignments. As soon as an extension user presses their Call Coverage key to answer a call, the key becomes unavailable for 4 seconds to all other extensions with that same key. (Users will hear reorder tone if they press their key before the 4 seconds expire.) This helps prevent users from inadvertently placing a call to the covered destination.

Hotline and Call Coverage Key Surfing

Consecutively pressing Call Coverage or Hotline keys, also called "surfing", is a convenient way to locate co-workers. The operation of surfing operates is an interaction between the Hotline Automatic Transfer and Automatic Hold options. The chart below shows this interaction. For example, when Hotline Automatic Transfer and Automatic Hold are both enabled, the user on an outside call can quickly surf a row of keys to find a co-worker and then hang up when they find them. The call transfers to the co-worker without any other steps.

Call Coverage and Hotline Key Surfing			
1401-03: Privacy [System: Class of Service: Features: Features (1401): Privacy]	1411-03: Automatic Hold [System: Class of Service: Lines: Lines (1411): Automatic Hold]	User's extension is:	Surfing their Hotline or Call Coverage Keys will:
Off	Off	Idle	Place consecutive Intercom calls without putting the prior Hotline/Call Coverage call on Hold.
		Busy on Intercom Call	Surfing will: **1.** Disconnect the active call. **2.** Place consecutive Intercom calls without putting the prior Hotline/Call Coverage call on Hold.
		Busy on Outside Call	Surfing will: **1.** Disconnect the active call. **2.** Place consecutive Intercom calls without putting the prior Hotline/Call Coverage call on Hold.
On	Off	Idle	Place consecutive Intercom calls without putting the prior Hotline/Call Coverage call on Hold.
		Busy on Intercom Call	Surfing will: **1.** Disconnect the active call. **2.** Place consecutive Intercom calls without putting the prior Hotline/Call Coverage call on Hold.
		Busy on Outside Call	Surfing Hotline keys will: • Put the outside call on Hold and then transfer it to the last surfed

			destination when the user hangs up. Surfing Call Coverage Keys will: **1.** Disconnect the active call. **2.** Place consecutive Intercom calls without putting the prior Hotline/Call Coverage call on Hold.
Off	On	Idle or Busy on Intercom Call	Place consecutive Intercom calls without putting the prior Hotline/Call Coverage call on Hold.
		Busy on Outside Call	Surfing will: **1.** Put the outside call on Hold. **2.** Place consecutive Intercom calls without putting the prior Hotline/Call Coverage call on Hold. **3.** When the user hangs up, the outside call remains on Hold. • Alternately, pressing **TRANSFER** transfers the call to the last surfed destination.
On	On	Idle or Busy on Intercom Call	Surfing will: **1.** Disconnect the active call. **2.** Place consecutive Intercom calls without putting the prior Hotline/Call Coverage call on Hold.
		Busy on Outside Call	Put the outside call on Hold and then transfer it to the last surfed

			destination when the user hangs up.

Conditions and Defaults

Conditions

- None.

Default Setting

- No Call Coverage Keys assigned.
- The Call Coverage Delay Ring timer is 10 seconds.

Other Related Features

Features

- Direct Station Selection (DSS) Console on page 187
  - DSS Consoles can have Call Coverage keys.
- Distinctive Ringing on page 204
  - By using Key Ring Override, Distinctive Ringing allows an extension user to set up unique ringing for their Call Coverage keys.
- Door Box on page 223
  - If you enter Door Chime type 0 (normal ring) above, you can set up Call Coverage keys for the Door Box Ring Group. This allows extensions that are not members of the Ring Group to answer Door Box calls. Extensions with Call Coverage keys to the Door Box Ring Group can also activate the relay.
- Extension Hunting on page 233
  - A keyset can have Call Coverage keys for UCD Group master numbers. The group can be a normal UCD Group or a “dummy” group with no members.
- Group Ring on page 268
  - A keyset can have Call Coverage keys for Ring Group master numbers.
- Hotline on page 285
  - Hotline keys provide many of the features available with Call Coverage keys.
- Intercom on page 292
  - A user can press a Call Coverage Key as an alternative to dialing Intercom numbers.
- Key Ring on page 295
  - Call Coverage will pick up Key Ring calls.
- Transfer on page 497
  - An extension user can use a Call Coverage key to Transfer a call to the covered extension.
- User Programmable Features on page 508
  - An extension user can use the User Programmable Features to set up their own Call Coverage keys.

- Voice Mail (IntraMail) on page 516
  - Pressing **TRANSFER** + Call Coverage key can Transfer a call to an uninstalled extension's mailbox (if the mailbox is enabled).
- Voice Over on page 521
  - After calling a co-worker by pressing their Call Coverage key, and extension user can dial 9 to leave a Voice Over (if enabled in programming)

IntraMail Features

- None.

Programming Call Coverage Keys

Basic Call Coverage Key Setup

1. Setting up Call Coverage keys on a keyset.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

Assign an Immediate Ring, No Ring (Lamp Only), or Delay Ring Call Coverage Key.

Options	Description
06	Immediate Ring Call Coverage key. [Default] = no type 06 keys assigned.
07	No Ring (Lamp Only) Call Coverage key. [Default] = no type 07 keys assigned.
08	Delay Ring Call Coverage key. [Default] = no type 08 keys assigned.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

Assign the covered (i.e., destination) extension, Ring Group master number, or UCD Group master number.

Options	Description
300-427	Extensions. [Default] = no destinations assigned.
600-607	Ring Group master numbers. [Default] = no destinations assigned.
700-707	UCD Group master numbers. [Default] = no destinations assigned.

3. 1604-02: Call Coverage Delay Ring Timer [System: Timers: Features: Station (1604): CCK Delay]

Set the Call Coverage Delay Ring timer. Delay Ring Call Coverage keys will start to ring after this interval.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 10 seconds.

2. Setting up Call Coverage keys on a DSS Console.

1. 2402-[01-60]: DSS Console Key Codes [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

Assign an Immediate Ring, No Ring (Lamp Only), or Delay Ring Call Coverage Key.

Options	Description
06	Immediate Ring Call Coverage key. [Default] = no type 06 keys assigned.
07	No Ring (Lamp Only) Call Coverage key. [Default] = no type 07 keys assigned.
08	Delay Ring Call Coverage key. [Default] = no type 08 keys assigned.

2. 2402-[01-60]: DSS Console Key Data [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

   Assign the covered (i.e., destination) extension, Ring Group master number, or UCD Group master number.

Options	Description
300-427	Extensions. [Default] = no destinations assigned.
600-607	Ring Group master numbers. [Default] = no destinations assigned.
700-707	UCD Group master numbers. [Default] = no destinations assigned.

3. 1604-02: Call Coverage Delay Ring Timer [System: Timers: Features: Station (1604): CCK Delay]

   Set the Call Coverage Delay Ring timer. Delay Ring Call Coverage keys will start to ring after this interval.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 10 seconds.

3. Setting up Call Coverage/Hotline Key Surfing.

1. 1401-13: Hotline Automatic Transfer [System: Class of Service: Features: Features (1401): Hotline Auto Transfer]

   This Class of Service option works in conjunction with the Automatic Hold option to control the operation of key surfing.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 1411-03: Automatic Hold [System: Class of Service: Lines: Lines (1411): Automatic Hold]

   This Class of Service option works in conjunction with the Hotline Automatic Transfer option to control the operation of key surfing.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

3. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Call Coverage Keys

Using Call Coverage Keys

- Call Coverage keys ***will*** intercept the following types of calls:
  - Key Ring Calls
  - Ringing Intercom calls
  - Calls to a UCD Group master number
  - Calls ringing a Group Ring master number
  - Transferred calls

Call Coverage keys ***will not*** intercept a call ringing an extension's Intercom Queue Key (if programmed).

To answer a call ringing or flashing a Call Coverage key:

1. Press the flashing Call Coverage key.
2. You'll pick up the covered call.

To place a call from an idle Call Coverage key to the covered extension:

1. Press the Call Coverage key.
   - You hear two beeps or Intercom ringing.
2. Speak with the co-worker at the covered extension.
   - The Call Coverage key lights green while you are connected.

To Transfer your call using a Call Coverage key:

1. Do not hang up.
2. Press **TRANSFER**.
3. Press your Call Coverage key.
4. Do one of the following.
   a) Announce the call to make a Screened Transfer.
      - Hang up if your co-worker accepts the call.
   b) Hang up to send the call through as an Unscreened Transfer.
   c) Press the flashing line key to return to the call if your co-worker doesn’t want it.
5. When you Transfer a call, it will recall to you if it is unanswered at the destination. If you don’t answer the recall, it diverts to Key Ring.

To set up a Call Coverage key:

1. Push **Menu**.
   - *Super Display*: Push **Key Assignment** + **Feature Keys**.
   - *Keyset*: Dial **51**.
2. See User Programmable Featuresfor more.

Call Forwarding

Call Forwarding ensures that the user's calls are covered when they are away from their work area.

Description

Call Forwarding permits an extension user to redirect their call to another extension. The types of Call Forwarding are:

- **Call Forwarding when Not Answered**
  - Calls ringing the extension forward when not answered.
- **Call Forwarding when Busy or Not Answered**
  - Calls ringing the extension forward when not answered, and all calls forward while the extension is busy.
- **Call Forwarding Immediate**
  - All calls to the extension forward immediately.

You can set up Call Forwarding to reroute all calls or just outside calls. If an extension with forwarding set for outside calls only receives a screened Transfer, the initial voice-announcement broadcasts at the extension. When the caller hangs up to complete the transfer, the outside call forwards as programmed.

Call Forwarding Chaining

Extension user's can chain Call Forwards. For example, extension 301 can forward all calls immediately to 304, which in turn can forward all calls immediately to extension 302. Any co-worker calling 301 or 304 goes to 302 instead. If extension 302 is Call Forwarded to voice mail, callers to 301 or 304 go directly to 302's mailbox.

Call Forwarding Cancel

Call Forwarding cancel allows a keyset user to dial a code to simultaneously cancel all Call Forwarding system-wide. The extension must have access level 4 or 5 set up in 2102-04: User Programming Access Level [Stations: Config: Setup: Access (2102): Program Level]

Call Forwarding Key

A keyset user can have a key on their telephone or DSS Console assigned as a Call Forwarding key.

- *While the extension is idle* , pressing the key puts the extension in the Call Forwarding programming mode - the same as pressing **INTERCOM** and dialing ***3**.
  - If the extension has Call Forwarding enabled, and the user presses the key and waits (for at least 6 seconds), Call Forwarding is automatically cancelled.
  - If the extension has Call Forwarding disabled, and the user presses the key and waits (for at least 6 seconds), the prior Call Forwarding mode is automatically enabled (if any).
- *While the extension is busy* , pressing the key switches Call Forwarding on and off.

Call Forwarding Key BLF	
This flash rate:	**Means:**
Off	Call Forwarding is disabled.

Fast flash	The extension is in the Call Forwarding programming mode.
Slow flash	Call Forwarding is enabled at the extension.

Call Forwarding Toggle in a Personal Speed Dial Bin

If an extension doesn't have an available Feature Key for a Call Forwarding key, the user can program a Personal Speed Dial number for similar operation (without the BLF). To do this:

- While on hook, dial **#77**.
- Press the key for the Personal Speed Dial number you want to program + **HOLD**.
- For **LINE/GRP/ICM**, press **INTERCOM** + **HOLD**.
- For **NUM**, dial ***3** + **HOLD**.
- For **NA**, enter a name of your choosing + **HOLD**.
- Press **SPEAKER** to exit.

While the extension is idle , pressing the key puts the extension in the Call Forwarding programming mode - the same as pressing **INTERCOM** and dialing ***3**.

- If the extension has Call Forwarding enabled, and the user presses the key and waits (for at least 6 seconds), Call Forwarding is automatically cancelled.
- If the extension has Call Forwarding disabled, and the user presses the key and waits (for at least 6 seconds), the prior Call Forwarding mode is automatically enabled (if any).

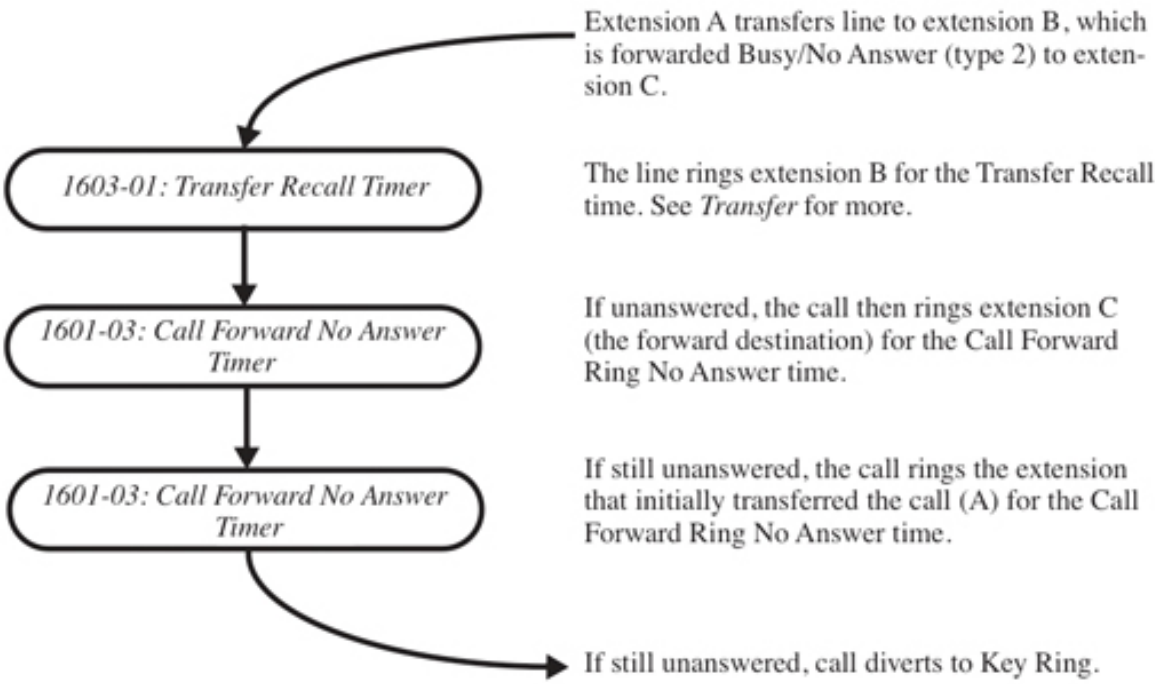
Call Forwarding Confirmation Tone

Keyset users will hear a single confirmation beep after enabling or cancelling Call Forwarding. Single line telephone users will hear Intercom dial tone after enabling or cancelling Call Forwarding.

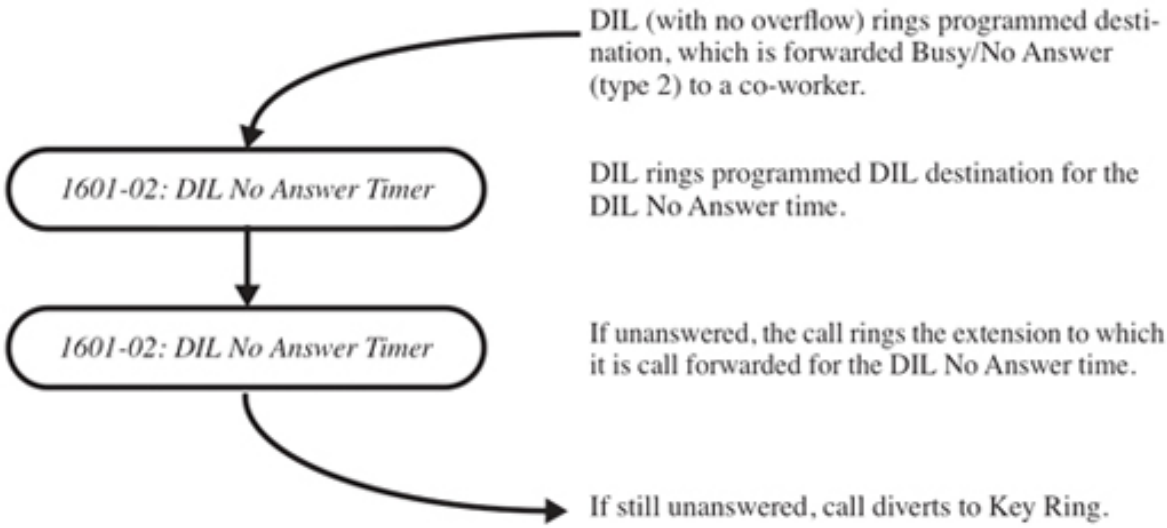
Call Forwarding Timers

The following diagrams show how the system implements various timers when handling forwarded calls. Refer to the programming for each individual timer for more information.

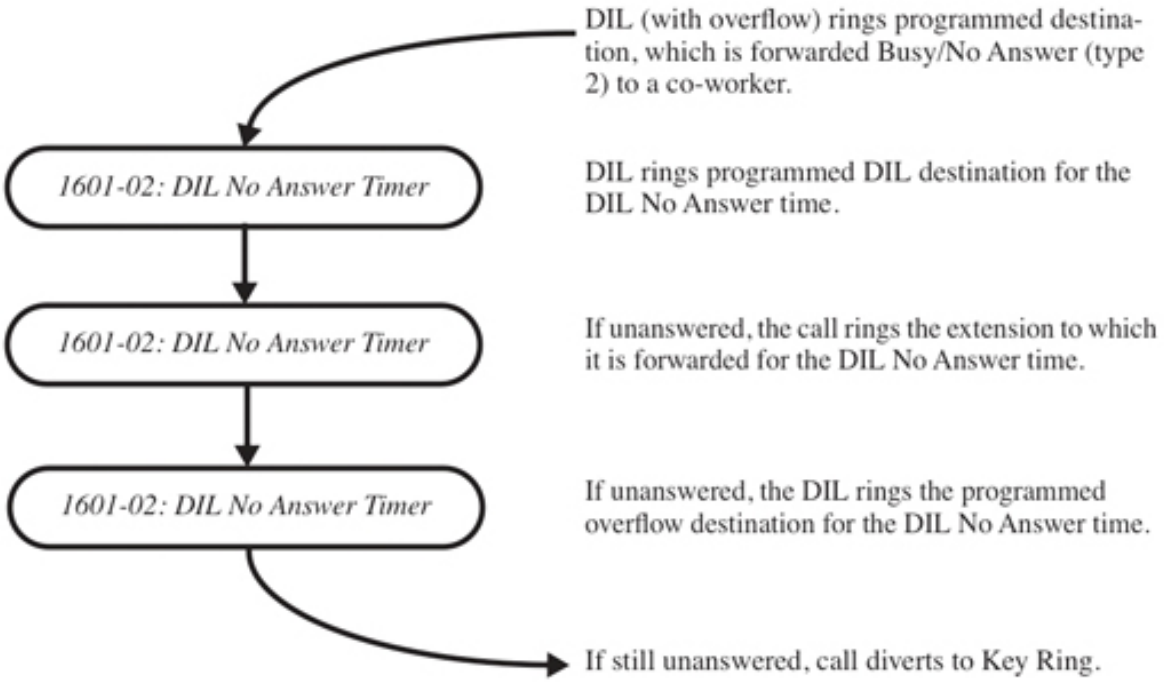
Transferred Outside Call to Forwarded Extension



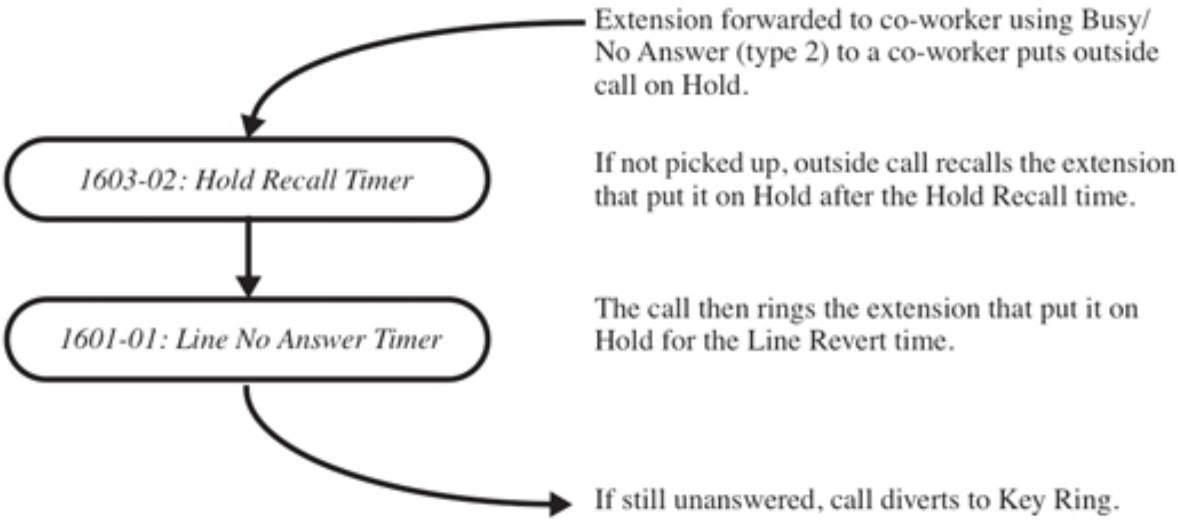
DIL (no overflow) to Forwarded Extension



DIL (with overflow) to Forwarded Extension



Outside Call on Hold at Forwarded Extension



Conditions and Defaults

Conditions

- An extension's Call Forwarding is reinstated after a power down or system reset. For example, an extension with calls forwarded immediately to voice mail will still be forwarded to voice mail after the system resets or is powered down and then powered back up.

- The display **CFWD Not Allowed** indicates that an Call Forwarding is denied because it would set up an illegal Call Forwarding loop. For example, if extension 305 if forwarded to 301, and 301 attempts to forward to 305, the user at 305 would see the display **CFWD Not Allowed**.

Default Setting

- Enabled

Other Related Features

Features

- Call Coverage Keys on page 63
  - Call Forwarding will not reroute a call ringing a Call Coverage Key.
- Call Forwarding Off Premises on page 81
  - Off Premises Call Forwarding allows a keyset user to forward their calls to an off-site location (such as a cell phone or remote office).
- Direct Inward Line on page 177
  - Call Forwarding will reroute Direct Inward Lines.
- Do Not Disturb on page 217
  - Call Forwarding considers an extension in DND as busy. In addition, an extension can have both DND and Call Forwarding enabled at the same time.
  - Note that Call Forwarding has priority over Do Not Disturb. If both are enabled simultaneously at an extension, Call Forwarding is in force.
- Door Box on page 223
  - An extension user cannot forward a call to a Door Box.
- Extension Hunting on page 233
  - If a member of a Circular or Terminal Hunting group forwards their calls, hunting will follow Call Forwarding.
  - Calls to a UCD Group ***will not*** follow Call Forwarding at a group member's extension. However, calls directed to the group member's extension (such as DILs and transferred calls) ***will*** follow the Call Forwarding set up at the extension.
- Group Ring on page 268
  - Call Forwarding will not reroute Group Ring calls.
- Intercom on page 292
  - Call Forwarding when Busy and Call Forwarding when Busy/Not Answered will not reroute voice-announced Intercom calls. It will reroute only ringing Intercom calls.
- Key Ring on page 295
  - Call Forwarding will not reroute Key Ring calls.
- Line Keys on page 307
  - Call Forwarding will not reroute calls ringing line keys.
- Loop Keys on page 329
  - Call Forwarding will not reroute a call ringing a loop key (unless the call is a DIL).

- Message Waiting on page 335
  - An extension user cannot leave a Message Waiting at a co-worker that has Call Forwarding Immediate (*34) enabled. Pressing **V-MAIL** automatically leaves a message at the forwarding destination instead.
  - An extension user cannot leave a Message Waiting at a busy co-worker that has Call Forwarding Busy/No Answer (*32) enabled. Pressing **V-MAIL** will automatically leave a message at the forwarding destination instead.
- Selectable Display Messaging on page 440
  - Enabling or canceling Call Forwarding cancels an extension's Selectable Display Messaging.
- Transfer on page 497
  - Call Forwarding will reroute transferred calls.
  - When handling Transfer recalls, Call Forwarding has priority over Extension Hunting. See *Interaction Between Call Forwarding, Extension Hunting, and Transfer Recall* in Transfer on page 497 feature for more.

IntraMail Features

- None

Programming Call Forwarding

Call Forwarding Setup
Program the basic Call Forwarding options.

1. 1406-02: Allow Call Forwarding [System: Class of Service: Call Forward: Call Forward (1406): Internal Call Fwd]

Use this Class of Service option to enable or disable Internal Call Forwarding. If disabled, the extension user cannot forward their calls.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

3. 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]

When an extension has Ring No Answer forwarding enabled, calls route to the forwarding destination after this interval.

Options	Description
1-9999.	Seconds. [Default] = 10 seconds.
0	Disabled.

4. 2102-04: User Programming Access Level [Stations: Config: Setup: Access (2102): Program Level]

The ability to use Call Forwarding Cancel is determined by an extension's User Programming Access Level. Levels 1-3 cannot use Call Forwarding Cancel; levels 4 and 5 can.

Options	Description
1-5	User Programming Access Level [Default] for extension 300 = 5 (which enables Call Forwarding Cancel). [Default] for all other extensions = 3 (which blocks Call Forwarding Cancel).

Call Forwarding Key Setup

1. Set up a Call Forwarding key on a keyset.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

Assign a Call Forwarding key to an available key on a keyset.

Options	Description
27	Call Forwarding key. [Default] = no type 27 keys assigned.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

There is no data entry for this option.

2. Set up a Call Forwarding key on a DSS Console.

1. 2402-[01-60]: DSS Console Key Codes [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

Assign a Call Forwarding key to an available key on a DSS Console.

Options	Description
27	Call Forwarding key. [Default] = no type 27 keys assigned.

2. 2402-[01-60]: DSS Console Key Data [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

There is no data entry for this option.

Call Forwarding

To set up Call Forwarding at a keyset:

Setting Up Call Forwarding (Keyset)			
Next: Go to next selection. **Prev**: Go to previous selection. **Select**: Select current Option. **Back**: Back out of current option. **Exit**: Exit Menu setup.			
Menu + **60**	Select the Call Forwarding sub-menu		
	Select	Enter the Call Forwarding setup mode.	
		On	Turn Call Forwarding on (if set up and disabled).
		Off	Turn Call Forwarding off (if set up and enabled).
		Edit	Set up your Call Forwarding options.
			62: Call Forwarding Type Select the Call Forwarding Type and enter the options.
			None Remove your Call Forwarding setup.
			Immediate Immediately forward your calls to an extension, group, or voice mail (by pressing **V-MAIL**). Enter the destination, then: **1.** Push **All** to forward all calls, or **Line** to forward just outside calls. **2.** Push **Save** to save your setup or **Cancel** to quit without saving.
			Ring No Ans Forward your unanswered calls to an extension, group, or voice mail (by pressing **V-MAIL**). Enter the destination, then: **1.** Push **All** to forward all calls, or **Line** to forward just outside calls. **2.** Push **Save** to save your setup or **Cancel** to quit without saving.
			Busy No Ans Forward your unanswered calls and calls when you are busy on the phone to an extension, group, or voice mail (by pressing **V-MAIL**). Enter the destination, then: **1.** Push **All** to forward all calls, or **Line** to forward just outside calls.

Setting Up Call Forwarding (Keyset)	
	2. Push **Save** to save your setup or **Cancel** to quit without saving.
	Off Premise Speed Dial See Call Forwarding Off Premises on page 84 for more.
	Off Premise Speed Number See Call Forwarding Off Premises on page 84 for more.
	AME See *Answering Machine Emulation* in the *IntraMail Feature Handbook* for more.
	Display Message See Selectable Display Messaging for more.

To set up Call Forwarding at a Super Display:

Setting Up Call Forwarding (Super Display)		
Next: Go to next selection. **Prev**: Go to previous selection. **Select**: Select current Option. **Back**: Back out of current option. **Exit**: Exit Menu setup.		
Menu + **Call Forward**	Select the Call Forwarding sub-menu	
	On	Turn Call Forwarding on (if set up and disabled).
	Off	Turn Call Forwarding off (if set up and enabled).
	Edit	Set up your Call Forwarding type and options.
		Immediate Immediately forward your calls to an extension, group, or voice mail (by pressing **V-MAIL**). Enter the destination, then: **1.** Push **All** to forward all calls, or **Line Only** to forward just outside calls. **2.** Push **Save** to save your setup or **Cancel** to quit without saving.
		Ring No Answer Forward your unanswered calls to an extension, group, or voice mail (by pressing **V-MAIL**). Enter the destination, then: **1.** Push **All** to forward all calls, or **Line Only** to forward just outside calls. **2.** Push **Save** to save your setup or **Cancel** to quit without saving.

Setting Up Call Forwarding (Super Display)	
	Busy No Answer Forward your unanswered calls and calls when you are busy on the phone to an extension, group, or voice mail (by pressing **V-MAIL**). Enter the destination, then: **1.** Push **All** to forward all calls, or **Line Only** to forward just outside calls. **2.** Push **Save** to save your setup or **Cancel** to quit without saving.
	Off-Premise See Call Forwarding Off Premises on page 84 for more.
	Display Message See Selectable Display Messaging for more.
	AME See *Answering Machine Emulation* in the *IntraMail Feature Handbook* for more.
	None Remove your Call Forwarding setup.

To quickly turn off Call Forwarding and clear your Call Forwarding setup:

1. Press **CLEAR**.
2. Push **Call Forward** (**Cfwd**).
3. Push **Yes** to clear Call Forwarding or **Cancel** to quit the procedure without clearing.

Call Forwarding Off Premises

When a user is out of the office, they can send their calls to their home office or cell phone.

Description

Off Premises Call Forwarding allows a keyset user to forward their calls to an off-site location (such as a cell phone or remote office) if allowed by their Class of Service. Keyset users can stay in touch by having Off Premises Call Forwarding automatically forward their calls while they are away from the office. To set up Off Premises Call Forwarding, the user selects the line, Line Group, or Prime Line over which the call should route, as well as the number the system should dial. The number dialed can be from an extension's Personal Speed Dial number containing an outside number, or the user can enter an outside number directly. When a call rings the forwarded extension, the system selects the specified route and then outdials the stored number.

Off Premises Call Forwarding reroutes:

- Intercom calls
- Transferred calls
- Direct Inward Lines
- UTRF (unscreened transfer) calls routed from the voice mail Automated Attendant
- Circular and Terminal Extension Hunting calls

Off Premises Call Forwarding does not reroute:

- Key Ring calls
- Group Ring calls (i.e., calls to a Ring Group master number)
- UCD Group Calls (i.e., calls to a UCD Group master number)
- Ringing Call Coverage key calls

You can set up Off Premises Call Forwarding to reroute all calls or just outside calls. If an extension with forwarding set for outside calls only receives a screened Transfer, the initial voice-announcement broadcasts at the extension. When the caller hangs up to complete the transfer, the outside call forwards as programmed.

Call Forwarding Off Premises Example

Call Routes to Emergency Service Number After Hours

A service department dispatcher has Key Ring for lines 1-4 during the day. The dispatcher answers calls on those lines and assigns dispatchers accordingly. At night, the calls on lines 1-4 must automatically route to the technician on call for emergency service. To do this:

1. In 3112-01: Direct Termination in the Day [Lines: Config: Options: Termination (3112): Day Termination: Direct Termination], make sure lines 1-4 are assigned as Key Ring lines (by pressing **CLEAR**).
2. In 3112-04: Direct Termination at Night [Lines: Config: Options: Termination (3112): Night Termination: Direct Termination], terminate lines 1-4 directly to the dispatcher's extension (e.g., extension 300).
3. At the dispatcher's extension, program a Personal Speed Dial number for each technician that is qualified to take emergency calls.
4. At the end of the day, the dispatcher presses their *System* Night key to put the system in the night mode.
5. After enabling the night mode, the dispatcher implements Off Premises Call Forwarding to whichever Speed Dial number represents the technician on call for that evening.
6. Calls ringing lines 1-4 at night automatically route to the technician on call.

Conditions and Defaults

Conditions

- Telco must provide Loop Disconnect Supervision on the originating line (i.e., the line that Off Premises Call Forwarding will reroute).
- All other Speed Dial programming also applies to Off Premises Call Forwarding.
- An extension user cannot off premise call forward to a Personal Speed Dial number that contains an Intercom number. If the user selects a number that contains an Intercom number, the system cancels Off Premises Call Forwarding.
- Off Premises Call Forwarding is cleared after a system reset or power down.
- If a line rings an off-premise forwarded extension and the specified outbound route is busy, the system reroutes the call to the programmed overflow destination (normally Key Ring). Intercom callers will hear busy tone if the outbound route is busy, and have the option of dialing 2 for Line Queuing or Line Callback.
- Tandem Calling must be enabled for the originating line (i.e., the line that Off Premises Call Forwarding will reroute).
    - If a screened Transfer is made to an extension with Line Only forwarding, and Tandem Calling is not enabled for the originating line, the transferred line immediately goes to Key Ring when the transferring party hangs up.
    - If a screened Transfer is made to an extension with All Calls forwarding, and Tandem Calling is not enabled for the originating line, the transferred line will stay at the transferring extension when that party hangs up.
- Off Premises Call Forwarding is not available at single line telephones.

Default Setting

- Call Forwarding Off Premises is disabled in an extension's Class of Service.
- Tandem Calling is disabled for lines.

Other Related Features

Features

- Call Forwarding on page 71
    - Call Forwarding permits an extension user to redirect their call to another extension.
- Single Line Telephones on page 444
    - Call Forwarding Off Premises is not available at single line telephones.

IntraMail Features

- None

Programming Call Forwarding Off Premises

Call Forwarding Off Premises Setup
1. Program the Call Forwarding Off Premises Basics

1. 1406-01: Call Forwarding Off-Premises [System: Class of Service: Call Forward: Call Forward (1406): Off-Premise Call Fwd]

Use this Class of Service option to enable Internal Call Forwarding.

You must enable Internal Call Forwarding for Off Premise Call Forwarding to work.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 1406-01: Call Forwarding Off-Premises [System: Class of Service: Call Forward: Call Forward (1406): Off-Premise Call Fwd]

   Use this Class of Service option to enable Off Premise Call Forwarding.

   Be sure Internal Call Forwarding is also enabled.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

3. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

2. Set up the Tandem Calls and Speed Dial options.

1. 3103-04: Tandem Calls [Lines: Config: Setup: Settings (3103): Tandem Calls]

   In order to forward an incoming outside call to an off premises destination, Tandem Calls must be enabled for the incoming line.

   If Tandem Calls for the incoming line is disabled, the off premises forwarding is blocked.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. Speed Dial on page 448

   The extension user can optionally use Personal Speed Dial numbers for the off premises destination, instead of entering the number manually.

   This is helpful if the user has several destinations and needs to quickly switch between them.

Call Forwarding Off Premises

To set up Call Forwarding Off Premises at a keyset:

Setting Up Call Forwarding Off Premises (Keyset)			
Next: Go to next selection. **Prev**: Go to previous selection. **Select**: Select current Option. **Back**: Back out of current option. **Exit**: Exit Menu setup.			
Menu + **60**	Select the Call Forwarding sub-menu		
	Select	Enter the Call Forwarding setup mode.	
		On	Turn Call Forwarding on (if set up and enabled).
		Off	Turn Call Forwarding on (if set up and enabled).
		Edit	Set up your Call Forwarding options.
			62: Call Forwarding Type Select the Call Forwarding Type and enter the options.
			Immediate See Call Forwarding on page 78 for more.
			Ring No Ans See Call Forwarding on page 78 for more.
			Busy No Ans See Call Forwarding on page 78 for more.
			Off Premise Speed Dial Reroute your calls off premise using a number stored in your Personal Speed Dial. **1.** Push **Select** then **<<** or **>>** to choose the Personal Speed Dial number. **2.** Push **Next**. **3.** Push **All** to forward all calls, or **Line** to forward just outside calls. **4.** Push **Save** to save your setup or **Cancel** to quit without saving.
			Off Premise Number Reroute your calls off premise using a number stored at your phone. **1.** Push **Select** then **<<** or **>>** to select the route over which your call should be forwarded (line, line group, or your Prime Line). **2.** If you pushed **Line**, enter the line number (1-64); if you pushed **Line Group**, enter the line group number (90-98). **3.** Push **Next**.

Setting Up Call Forwarding Off Premises (Keyset)	
	4. Enter the number (16 digits max.) you want the system to dial when rerouting your call off premise. **5.** Push **Next**. **6.** Push **All** to forward all calls, or **Line** to forward just outside calls. **7.** Push **Save** to save your setup or **Cancel** to quit without saving.
	AME See *Answering Machine Emulation* in the *IntraMail Feature Handbook* for more.
	Display Message See Selectable Display Messaging for more.

To set up Call Forwarding Off Premises at a Super Display:

Setting Up Call Forwarding Off Premises (Super Display)		
Next: Go to next selection. **Prev**: Go to previous selection. **Select**: Select current Option. **Back**: Back out of current option. **Exit**: Exit Menu setup.		
Menu + **Call Forward**	Select the Call Forwarding sub-menu	
	On	Turn Call Forwarding on (if set up and enabled).
	Off	Turn Call Forwarding on (if set up and enabled).
	Edit	Set up your Call Forwarding options.
		Immediate See Call Forwarding on page 78 for more.
		Ring No Answer See Call Forwarding on page 78 for more.
		Busy No Answer See Call Forwarding on page 78 for more.
		OffPremise Select Off Premises Call Forwarding.
		Push **Number** to reroute your calls off premise using a number stored at your phone. **1.** Do one of the following: • Push **Line** to select a specific line as the route over which your call should be forwarded, then enter the line number (1-64). • Push Line Group to select a Line Group as the route over which your call should be forwarded, then enter the line group number (90-98).

Setting Up Call Forwarding Off Premises (Super Display)	
	• Push Primeline to choose your Prime Line as the route over which your call should be forwarded. **2.** Push **Next**. **3.** Enter the number (16 digits max.) you want the system to dial when rerouting your call off premise. **4.** Push **Next**. **5.** Push **All** to forward all calls, or **Line Only** to forward just outside calls. **6.** Push **Save** to save your setup or **Cancel** to quit without saving.
	Push **Speed Dial** to reroute your calls off premise using a number stored in your Personal Speed Dial. **1.** Push **<<** or **>>** to choose the Personal Speed Dial number. • Push **View Number** to display the number. • Push **View Name** to display the name. **2.** Push **Next**. **3.** Push **All** to forward all calls, or **Line Only** to forward just outside calls. **4.** Push **Save** to save your setup or **Cancel** to quit without saving.
	AME See *Answering Machine Emulation* in the *IntraMail Feature Handbook* for more.
	Display Message See Selectable Display Messaging for more.

To quickly turn off Call Forwarding and clear your Call Forwarding setup:

1. Press **CLEAR**.
2. Push **Call Forward** (**Cfwd**).
3. Push **Yes** to clear Call Forwarding or **Cancel** to quit the procedure without clearing.

Call Handling

Set up routing scenarious to handle incoming calls, from basic to advanced.

- Available in software versions 3.01 or higher.

Description

Initial System Setup

When the system is first installed, it handles incoming calls as follows:

- In DSX-40, incoming calls on lines 1-8 ring on line keys 1-8 for extensions 301-308.
- In DSX-80/160, incoming calls on lines 1-12 ring on line keys 1-12 for extensions 301-316.
- There is no special routing for unanswered calls, and no calls are picked up by voice mail.

Basic Call Handling

Use Basic Call Handling to set up simple call routing by manually assigning options to lines. For example, you can have a line ring an extension or voice mail directly as a Direct Inward Line on page 177.

The Basic Call Handling options also let you set up Night Service / Night Ring on page 353 answering. ***You can, for example, set up a simple day/night greeting by programing a Direct Inward Line to one Call Routing Mailbox during the day and another at night. When a user presses their night key, incoming calls route to the night greeting.***

You can also configure overflow routing if a call is not picked up at its initial destination.

For more on Basic Call Handling, see:

- Basic Day Call Handling Options on page 355
- Basic Night Call Handling Options on page 358

Line Schedules

If you need more flexibility when handling incoming calls, use Line Schedules on page 312. Line Scheduling is easy to understand and intuitive to set up, but has the power and flexibility to satisfy even complex call answering scenarios. Since Line Scheduling is enabled on a line-by-line basis, you can easily develop an elaborate scenario for a test line while leaving basic routing intact for your main business lines. When your Line Schedule is ready to go, just assign your main lines to the schedule and the system will automatically override the basic handling.

Conditions and Defaults

Conditions

- None

Default Setting

- In DSX-40:

  All keysets have 8 line keys (for lines 1-8).
  Extensions 301-308 ring for all incoming calls.
  There is no overflow or night mode programming set up.

Calls do not route to voice mail.

- In DSX-80/160:

  All keysets have 12 line keys (for lines 1-12).
  Extensions 301-316 ring for all incoming calls on lines 1-12.
  There is no overflow or night mode programming set up.
  Calls do not route to voice mail.

Other Related Features

Features

- Central Office Calls, Answering on page 121
  - Use the flexible Call Handling of incoming CO calls to meet the exact site requirements.
- Direct Inward Line on page 177
  - Direct Inward Lines ring extensions and voice mail directly.
- Line Schedules on page 312
  - Use the flexibility and power of Line Schedules to set up more demanding outside call handling.
- Night Service / Night Ring on page 353
  - Redirect calls to a night destination just by pressing a Night key.

IntraMail Features

- Automated Attendant
  - By default, the Automated Attendant does not answer outside calls.

Call Timer

Call Timer helps users that must keep track of their time on the phone.

- Enabling the Call Timer without a Feature Key is available in software versions 3.01 or higher.

Description

Call Timer lets a keyset user with a Call Timer key time their outside calls on the telephone display. There are two types of Call Timer keys:

- **Manual Call Timer**
  - Any time while placing a call or while on a call, a display keyset user can press their Manual Call Timer key to start the Call Timer. The Call Timer will continue until the user hangs up or presses their Manual Call Timer key again.
- **Automatic Call Timer**
  - In addition to the features of the Manual Call Timer key, the Automatic Call Timer key provides automatic timing for outside calls. When a display keyset with an Automatic Call Timer key places or answers an outside call, the Call Timer automatically starts when that outside call connects. The Automatic Call Timer does not automatically start for Intercom calls. The Automatic Call Timer can also work like a Manual Call Timer key. There is no need to have a Manual and Automatic Call Timer key on the same phone.

The Call Timer feature also provides:

- **Review of Previously Timed Call**
  - Any time after hanging up from a timed call, a display keyset user can press their Manual or Automatic Call Timer key to review the duration of that call.
- **Timer Reset for Current Call**
  - While the display keyset user is timing their call, they can press CLEAR at any time to reset the Call Timer to 00:00:00.
- **Automatic Timer Stop**
  - The system assigns the Call Timer to the active call. When the user terminates the active call, the Call Timer automatically shuts down.
- **Wrap-up Timer Display**
  - After hanging up a timed call, a display keyset will show the Call Timer data for 6 seconds before returning the display to idle. This gives the extension user adequate time to make a record of the timed call, if desired.

Call Timer Without a Key

[3.01] An extension user can enable the Call Timer display from their soft keys, without having to set up a Call Timer key. The soft keys also allow the user to check the duration of the previously timed call. Optionally, the administrator can enable the Call Timer display for an extension in system programming. A change made to the option in programming overrides the soft key setting and vice-versa.

Conditions and Defaults

Conditions

- None

Default Setting

- No Call Timer keys assigned.

Other Related Features

Features

- Caller ID on page 101
  - The Auto Timer feature interacts with Caller ID on the first line of the telephone display.
- Central Office Calls, Placing on page 128
  - Call Timer shows the time a user has been on an outside call.
- Flash on page 256
  - Flash restarts the Call Timer.
- Hold on page 278
  - A user's Call Timer starts when they pick up a call from Hold. If they place the call on Hold and another user picks it up, the timer restarts for the new user.
- Station Message Detail Recording on page 463
  - The SMDR report also keeps track of the time on a call.

IntraMail Features

- None.

Programming Call Timer

Call Timer Key Setup
1. Setting up Manual and Automatic Call Timer keys.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

Assign key code 16 to an available Feature Key.

Options	Description
16	Call Timer key. [Default] = no type 16 keys assigned.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

This entry lets you specify the key as a Manual Call Timer key or an Automatic Call Timer key.

Options	Description
1	Manual Call Timer key.
2	Automatic Call Timer key.
-	[Default] = no data assigned.

Call Timer

Using the Call Timer

To automatically time your outside call:

1. Check to be sure you have an Automatic Call Timer key or that the timer is enabled in the **Menu** + **Feature Preferences** sub-menu.
2. Do nothing - the Call Timer will automatically start and stop for outside calls as required.

To manually time your outside call:

1. Press your Call Timer key (automatic or manual).
   OR
2. Push **Time** (**Timer**).

To manually stop timing your outside call:

1. Press your Call Timer key (automatic or manual).
   OR
2. Push **Time** (**Timer**).

To check the duration of the previously timed call:

1. Press your Call Timer key (automatic or manual).
   OR
2. Push **Check** in the **Menu** + **Automatic Call Timer** sub-menu (see below).

To restart (reset) the Call Timer for your current call:

1. Press **CLEAR**.
2. The Call Timer will restart at 00:00.

To set the Call Timer Menu options at a keyset:

Setting the Call Timer Menu Options (Keyset)		
Next: Go to next selection. **Prev**: Go to previous selection. **Select**: Select current Option. **Back**: Back out of current option. **Exit**: Exit Menu setup.		
Menu + **33**	Select the Automatic Call Timer sub-menu.	
	On	Enable the Automatic Call Timer.
	Off	Disable the Automatic Call Timer.
	Check	Check the duration of the previously timed call.

To set the Call Timer Menu options at a Super Display:

Setting the Call Timer Menu Options (Super Display)			
Next: Go to next selection. **Prev**: Go to previous selection. **Select**: Select current Option. **Back**: Back out of current option. **Exit**: Exit Menu setup.			
Menu + **Features**	Select the Feature Preferences sub-menu.		
	Auto Call Timer	Select the Automatic Call Timer sub-menu.	
		On	Enable the Automatic Call Timer.
		Off	Disable the Automatic Call Timer.
		Check	Check the duration of the previously timed call.

Call Waiting / Camp-On

Call Waiting helps busy extension users know when they have additional waiting calls. It also lets callers wait in line for a busy extension without being forgotten.

Description

With Call Waiting, an extension user may call a busy extension and wait in line (Camp-On) without hanging up. When the user Camps-On (by dialing 2), the system signals the busy extension with two beeps indicating the first waiting call. (The busy extension can be on a handset or Handsfree call.) The call goes through when the extension becomes free.

If an extension has more than one caller waiting, they queue on a first-in/first-out basis (FIFO). The extension will not hear Camp-On beeps for additional waiting calls.

Off-Hook Signaling also alerts the user when unanswered calls are waiting to get through. Turn to Off-Hook Signaling on page 362 for more.

The following chart shows when the two types of Off-Hook Signaling occur. Note that Camp-On tones occur for an extension when they are the exclusive recipient of the call (such as a DIL).

	Off-Hook Ringing [1]	**Camp-On Tones** [2]
Key Ring	Yes	No
Transferred Outside Call	Yes	Yes
Direct Inward Line	Yes	Yes
Transfer from voice mail (UTRF)	Yes	Yes
Call Coverage Key	Yes	No
Group Call Pickup Key	Yes	No
[1] For Off-Hook ringing, 2116-03: Off Hook Signaling for Incoming Outside Calls Stations: Config: Options: Off Hook Signal (2116): OHS Lines] = 2.		
[2] For Camp-On tones, 2116-03: Off Hook Signaling for Incoming Outside Calls Stations: Config: Options: Off Hook Signal (2116): OHS Lines] (page 750) = 1.		

Conditions and Defaults

Conditions

- A system reset or power failure cancels all Camp-Ons system wide.
- While busy on a call, Camp-On tones occur only for the first incoming call and do not repeat.

Default Setting

- Call Waiting tones enabled.

Other Related Features

Features

- Attendant Position on page 36
  - An extension user cannot Camp-On to the attendant because the attendant's extension is never busy.
- Callback on page 97
  - If an extension user Camps-On and then hangs up, the system converts the Camp-On to a Callback.
- Caller ID on page 101
  - An extension programmed to receive Camp-On tones or Off-Hook Ringing from a waiting call will also receive Second Call Caller ID.
- Direct Inward Line on page 177
  - DILs to a busy extension automatically send Camp-On tones.
- Do Not Disturb on page 217
  - An extension cannot Camp-On to a busy co-worker that is also in Do Not Disturb.
- Intercom on page 292
  - A user can Camp-On after placing an Intercom call to a busy co-worker.
- Key Ring on page 295
  - A Key Ring call will not send Camp-On beeps to a busy extension that normally rings for that call.
- Line Queuing / Line Callback on page 309
  - Line Queuing lets an extension user Camp-On to a busy line.
- Privacy on page 413
  - Privacy blocks Camp-On / Call Waiting.
- Split (Alternate) on page 458
  - Camp-On lets an extension user know that a call is waiting to be answered. The user can Split between the waiting call and their current call.
- Transfer on page 497
  - An extension user can Transfer a call to a busy extension. The call will automatically Camp-On to the busy extension.
- Volume, Brightness, and Contrast Controls on page 552
  - The extension user cannot adjust the volume of incoming Camp-On tone.

IntraMail Features

- None

Programming Call Waiting / Camp On

Setting up the Call Waiting / Camp On Options

1. Set the options for *sending* Camp-On tones to a co-worker.

1. 1512-02: Call Waiting Tones [System: Options: Setup: Calls (1512): Call Waiting (Camp On) Tone]

In order for an extension to send or receive Camp-On tones, you must first enable the tones system-wide.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 1402-03: Camp-On to Busy Extension [System: Class of Service: Stations: Stations (1402): Camp On Busy Station]

Enable this Class of Service option if the extension should be able to send Camp-On tones to a co-worker.

If the receiving extension has Camp-On tones blocked, the tones won't go through.

This options has no effect on the operation of Callback.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

3. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

2. Set the options for *receiving* Camp-On tones from a co-worker.

1. 1401-03: Privacy [System: Class of Service: Features: Features (1401): Privacy]

An extension must have privacy disabled in order to receive Camp-On tones from a co-worker.

Use this option to enable or disable Privacy in an extension's Class of Service.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

3. 2116-01: Off Hook Signaling for Incoming Calls Stations: Config: Options: Off Hook Signal (2116): OHS Intercom]

   This option allows or blocks Camp-On tones from an incoming Intercom call.

   The receiving extension has precedence over the sending extension.

Options	Description
0	No Off-Hook Signaling for incoming Intercom calls.
1	[Default] Camp-On tones for incoming Intercom calls.
2	Voice Over for incoming Intercom calls.

Call Waiting / Camp-On

Using Call Waiting / Camp-On
To Camp-On to a busy extension:

1. Call the busy extension.
   a) Listen for busy or busy/ring tone.
   b) With IntraMail installed, you will hear a voice prompt first.
2. Push **Camp On** (**Camp**) or dial **2** but do not hang up.
   a) If you hang up, the system converts your Camp-On to a Callback.
3. When your co-worker hangs up their initial call, you hear:
   a) Ringback as their telephone rings.
   b) Your co-worker's voice when they answer.

Callback

With Callback, a user does not have to repeatedly call a busy extension back, hoping to find it idle.

Description

When an extension user calls a busy co-worker, they can leave a Callback request for a return call. The system services Callback requests as follows:

1. Caller at extension A leaves a Callback at extension B.

   The caller can place or answer additional calls in the mean time.

2. When extension B becomes idle, the system rings extension A. This is the Callback ring.
3. Once the caller at extension A answers the Callback ring, the system rings (formerly busy) extension B.

   If caller A doesn't answer the Callback ring, the system cancels the Callback.

4. As soon as caller B answers, the system sets up an Intercom call between A and B.

An extension user can leave a Callback at many extensions simultaneously. The system processes the Callbacks as the extensions become free. In addition, many extensions can leave a Callback at the same extension. The system processes these Callbacks on a first-in/first-out (FIFO) basis.

If an extension user leaves a Callback request and then fails to answer within four rings, the system cancels the Callback.

If an extension is set up to receive Camp-On tones for Intercom calls, and Camp-On tones are enabled system-wide, it will receive the tones when a user leaves a Callback.

Conditions and Defaults

Conditions

- A system reset or power failure cancels all Callbacks system-wide.

Default Setting

- Callback enabled.

Other Related Features

Features

- Attendant Position on page 36
  - An extension user cannot leave a Callback for the attendant because the attendant's extension is never busy.
- Call Waiting / Camp-On on page 93
  - If an extension user starts to leave a Callback request but doesn't hang up, the system Camps-On instead.
- Central Office Calls, Answering on page 121
  - If a line is ringing an extension because of a prior Callback, and then receives a new outside call, it will start ringing for the new call. The Callback request is then queued.

- Do Not Disturb on page 217
  - An extension cannot leave a Callback for a busy co-worker that is also in Do Not Disturb.
- Line Queuing / Line Callback on page 309
  - An extension user can queue for a busy line and then hang up to turn the queue into a line Callback.

IntraMail Features

- None.

Programming Call Waiting / Camp On

Setting up the Call Waiting / Camp On Options

1. Set the options for *sending* Camp-On tones to a co-worker.

1. 1512-02: Call Waiting Tones [System: Options: Setup: Calls (1512): Call Waiting (Camp On) Tone]

In order for an extension to send or receive Camp-On tones, you must first enable the tones system-wide.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 1402-03: Camp-On to Busy Extension [System: Class of Service: Stations: Stations (1402): Camp On Busy Station]

Enable this Class of Service option if the extension should be able to send Camp-On tones to a co-worker.

If the receiving extension has Camp-On tones blocked, the tones won't go through.

This options has no effect on the operation of Callback.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

3. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

2. Set the options for *receiving* Camp-On tones from a co-worker.

1. 1401-03: Privacy [System: Class of Service: Features: Features (1401): Privacy]

An extension must have privacy disabled in order to receive Camp-On tones from a co-worker.

Use this option to enable or disable Privacy in an extension's Class of Service.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

3. 2116-01: Off Hook Signaling for Incoming Calls Stations: Config: Options: Off Hook Signal (2116): OHS Intercom]

   This option allows or blocks Camp-On tones from an incoming Intercom call.

   The receiving extension has precedence over the sending extension.

Options	Description
0	No Off-Hook Signaling for incoming Intercom calls.
1	[Default] Camp-On tones for incoming Intercom calls.
2	Voice Over for incoming Intercom calls.

Callback

To leave a Callback at a busy co-worker's extension:

1. Call the busy extension.
   a) Listen for busy or busy/ring tone.
   b) With IntraMail installed, you will hear a voice prompt first.
2. Push **Callback** (**Clbk**), or dial **2** and hang up.
   a) Push **Camp** and stay on the line without hanging up if you want to Camp-On instead.
3. When your busy co-worker becomes free, you hear Intercom ringing.
4. Answer the Intercom ring.
   a) The system automatically places a call to your co-worker.
   b) Speak to your co-worker when the call goes through.

To clear (cancel) a Callback you have left:

1. Press **CLEAR**.

2. Push **Callback** (**Clbk**).
3. Push **Yes** to clear callbacks or **Cancel** to quit the procedure without clearing.
   a) If you have left callbacks for several extensions, this simultaneously clears all your Callbacks.

Caller ID

Caller ID automatically displays the phone number and optional name for incoming outside calls.

Description

Caller ID allows a display keyset to show an incoming caller's telephone number (called Directory Number or DN) and optional name as the call is ringing. Caller ID supports the telco's Called Number Identification (CNI) and Called Number Delivery (CND) service, when available. These services provide the Caller ID information (i.e., messages) between the first and second ring burst of an incoming call.

Caller ID provides the following features:

Single and Multiple Message Format Compatibility

There are two types of Caller ID message formats currently available: Single Data Message Format (SDMF) and Multiple Data Message Format (MDMF). With Single Message Data Format, the telco sends only the caller's phone number (DN). The DN can be up to 10 digits long. In Multiple Data Message Format, the telco sends the DN and the caller's name. The DN for this format can be up to 15 digits long, and the name provided can consist of up to 15 ASCII characters.

If no DN is received, no number or error message displays.

Caller ID on the SMDR Report

Caller ID data prints on the SMDR report. SDMF records print a single line which shows just the incoming number. MDMF records print on two lines, with the first line showing the number and the second line showing the name. Unlike the telephone display, the SMDR report can show the entire 15 digits in the DN, if required.

Following is a sample SMDR report showing Caller ID data. The first two lines of the report show a complete MDMF record with both the caller's number and name. The last two lines of the report show two Caller ID error messages: Private Number and Out of Area. The "IN" in the type column indicates that the records shown are for incoming calls.

If no DN is received, no number or error message displays.

```
Station Message Detail Recording
05/10/2005 11:11A

---+---+--------------------------------+----------+---------+--------+--->
Sta|Lin| Number Dialed                  |  Account |   Start |Duration| T
---+---+--------------------------------+----------+---------+--------+--->
301| 02| 2139261000                     |          |11:11:39A|00:00:13|IN
301| 02| ANDERSON ALLEN                 |          |11:11:39A|00:00:13|IN
301| 02| Private Number                 |          |11:12:26A|00:00:12|IN
301| 02| Out of Area Number             |          |11:13:16A|00:00:12|IN
```

Caller ID Integration with Voice Mail

Caller ID fully integrates with IntraMail, UltraMail, and the NVM-Series voice mail systems. This enables voice mail features such as Make Call with Caller ID. Make Call allows the voice mail subscriber to return a call to someone who left them a message without knowing the calling party's phone number.

Second Call Caller ID (Extension Level Call Waiting Caller ID)

While a display keyset user is busy on a call, the system can show the Caller ID information for a waiting call. If the busy extension is programmed to receive Camp-On tones or Off-Hook Ringing from the waiting call, the system will send the Caller ID data to the busy telephone's display. If the busy extension does not receive Camp-On tones or Off-Hook Ringing, it will also not receive the waiting call's Caller ID. (Note that Caller ID data from a Camp-On is displayed only once, corresponding to the single Camp-On beep.) ***This is an internal system feature and does not use the telco's Call Waiting Caller ID.***

Call Waiting with Caller ID Support

The system supports the telco's Call Waiting with Caller ID feature. If enabled for the line, a caller busy on an outside call:

- Hears the telco Call Waiting tone.
- Sees the Caller ID for the waiting call in the telephone display.
- Can press **FLASH** to switch between their current call and the waiting call.

This feature is available to keysets, the Cordless Lite II telephone, and single line telephones.

Third Party Caller ID Check

Third Party Caller ID Check allows an idle or busy keyset user to display the Caller ID data for another line. The line that the user checks can be ringing or busy.

Caller ID Display Separator

An extension's display can optionally show a calling party number separator. The separator is a dash after the area code and after the local exchange on a 7 or 10 digit number. If disabled, the calling party number displays without a separator.

Caller ID to Single Line Telephones

The system provides Caller ID data to single line ports. This allows single line Caller ID telephones to receive the Caller ID data also available at keysets. Up to 8 single line telephones can receive Caller ID data simultaneously.

On Intercom calls, the single line telephone display will show the extension number and name (if programmed) of the internal caller.

Conditions and Defaults

Conditions

- None

Default Setting

- Caller ID for each a line is disabled.
  - See 3121-01: Caller ID Type [Lines: Config: Setup: Caller ID Setup (3121): Caller ID Type].
- Caller ID with voice mail is enabled.
  - See 3131-01: Pass Caller ID to Voice Mail N/A.
- An extension's Caller ID display is enabled.
  - See 1404-01: Caller ID Display [System: Class of Service: Caller ID: Caller ID (1404): Caller ID Display].
- Second Call Caller ID is enabled.

    - See 1404-02: Second Call Caller ID [System: Class of Service: Caller ID: Caller ID (1404): 2nd Call Caller ID].
- Third Party Caller ID Check is disabled.
    - See 1404-03: Third Party Caller ID [System: Class of Service: Caller ID: Caller ID (1404): 3rd Party Caller ID].
- The Caller ID Display Separator is disabled.
    - See 1404-04: Caller ID Display Separator [System: Class of Service: Caller ID: Caller ID (1404): Caller ID Display Seperator].
- The telco must provide Caller ID service for each line that has Caller ID programming enabled.

Other Related Features

Features

- Call Timer on page 89
    - The Auto Timer feature interacts with Caller ID on the first line of the telephone display. If an extension has Call Timer enabled, the first line (i.e., caller's name) of the Second Call Caller ID display won't show. The user will only see the caller's number (in the second line).
- Call Waiting / Camp-On on page 93 and Off-Hook Signaling on page 362
    - An extension programmed to receive Camp-On tones or Off-Hook Ringing from a waiting call will also receive Second Call Caller ID.
    - If an extension is set up to receive Off Hook Ringing, it will receive Second Call Caller ID for each new outside call. The display returns to idle when the second call stops ringing.
    - If an extension is set up to receive Call Wait beeps, it will receive Second Call Caller ID only for the first call. This occurs, for example, for DILs and transferred outside calls. With transferred outside calls, the Second Call Caller ID displays until the call recalls the transferring destination (if not picked up). With DILs, the Second Call Caller ID displays remains until the extension activates another feature.
- Caller ID Logging on page 108
    - An extension can store the caller's name and phone number for easy review and redialing.
- Group Ring on page 268
    - An extension's display will show Caller ID data for a line terminated to a Ring Group master number ***as*** the call is ringing.
- Station Message Detail Recording on page 463
    - Caller ID prints out on the SMDR report.
- Voice Mail (IntraMail) on page 516
    - Caller ID fully integrates with IntraMail, UltraMail and NVM-Series voice mail systems.

IntraMail Features

- None

Programming Caller ID

Setting Up Caller ID

1. Set up outside lines to provide Caller ID.

1. Make sure the connected telco is providing Caller ID.
2. 3121-01: Caller ID Type [Lines: Config: Setup: Caller ID Setup (3121): Caller ID Type]

   For each line, set the Caller ID type for compatibility with the connected telco.

Options	Description
0	[Default] None.
1	DSP DSP (labeled Yes in DSX-40).
2	ATRU PCB daughter board (not in DSX-40).
3	T1/PRIT1/PRI (Not in DSX-40).
4	DSP with Call Waiting Caller ID. (labeled Yes with CW in DSX-40)

3. 3121-02: ANI/DNIS Format [Lines: Config: Setup: Caller ID Setup (3121): ANI/DNIS Format]

   If you selected T1/PRI as the Caller ID type, set the ANI/DNIS format for compatibility with the data provided by the connected telco.

Options	Description
0	[Default] None.
1	ANI.
2	*ANI*.
3	*DNIS*.
4	*ANI*DNIS*.

4. 3121-04: Number of ANI Digits [Lines: Config: Setup: Caller ID Setup (3121): # of ANI Digits]

   If you selected **1** as the ANI/DNIS format, use this option to set the number of digits in the ANI number.

   This is required for option 1 since delimiters do not mark the beginning and end of the data string. The system must know how many digits of incoming ANI Caller ID data to interpret.

Options	Description
1-16	ANI digit. [Default] = 10.

5. 3121-03: ANI/DNIS Delimeter [Lines: Config: Setup: Caller ID Setup (3121): ANI/DMIS Delimiter]

   If you selected **2-4** as the ANI/DNIS format, use this option to set the type of data delimiter provided by the telco.

   The delimiter designates the beginning and end of the ANI/DNIS data string.

Options	Description
0-9, #, *	Single digit delimiter. [Default] = *.

6. 3131-01: Pass Caller ID to Voice Mail N/A

Use this option to send Caller ID to the connected voice mail.

This option should ***always*** be enabled.

Options	Description
No (0)	Call ID data sent to voice mail.
Yes (1)	Call ID data not sent to voice mail.

2. Set up the extension Caller ID options.

1. 1404-01: Caller ID Display [System: Class of Service: Caller ID: Caller ID (1404): Caller ID Display]

Enable this Class of Service option to have the extension display Caller ID data (if provided).

Caller ID is only provided if the extensions rings for the line. See Central Office Calls, Answering on page 121 for more.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 1404-02: Second Call Caller ID [System: Class of Service: Caller ID: Caller ID (1404): 2nd Call Caller ID]

Enable this Class of Service option to have the extension display 2nd Call Caller ID (Extension Level Call Waiting Caller ID).

This option works only if the extension receives Off-Hook Signaling for the incoming call. See 2116-03: Off Hook Signaling for Incoming Outside Calls Stations: Config: Options: Off Hook Signal (2116): OHS Lines] for more.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

3. 1404-03: Third Party Caller ID [System: Class of Service: Caller ID: Caller ID (1404): 3rd Party Caller ID]

Enable this Class of Service option to allow the extension to use 3rd Party Caller ID Check.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

4. 1404-04: Caller ID Display Separator [System: Class of Service: Caller ID: Caller ID (1404): Caller ID Display Seperator]

Enable this Class of Service option to have the extension show the display separator in the Caller ID number.

The display separator improves the readability of the Caller ID number.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

5. 1404-06: Caller ID Alert Lamp [System: Class of Service: Caller ID: Caller ID (1404): Caller ID Alert Lamp]

   Enable this Class of Service option to have the extension's Ring/Message lamp flash when there are new Caller ID calls that have not been reviewed.

   See Caller ID Logging on page 108 for more.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

6. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Caller ID

Using Caller ID

To temporarily hide the Caller ID display for a ringing call:

1. Press **CLEAR**.
2. Your telephone display will briefly show the standard soft keys and then return to the Caller ID display.

To use the telephone company Call Waiting Caller ID:

1. Hear the telco Call Waiting tone.
2. Check the number for the waiting call on your telephone display.
3. Press **FLASH** to switch between your current call and your waiting call.

To display the Caller ID data for a co-worker's call:

1. Press **INTERCOM** + **CHECK**.
2. Press one of the following keys for the call you want to check. You will see the Caller ID data for the line you select.

   Press a line key while the call is ringing or connected to your co-worker.
   Press a loop key while the call is ringing your co-worker.
   Press a Hotline key while the call is connected to your co-worker.
   Press a Call Coverage key while the call is ringing the third party.

3. Hang up when you are done.

Caller ID Logging

An extension can store the caller's name and phone number for easy review and redialing.

- Caller ID Manual Callback Selection is available in software versions 3.01 or higher.

Description

When caller ID is enabled, Caller ID Logging stores a record of the caller's number and name (if provided by the telco) for each outside call that rings an extension. This allows an extension user to easily review and redial their calls. The system can log records directly to an extension or to one of 8 Caller ID Logging Groups. All the extensions in the same Logging Group share the same Caller ID records. Each extension or Logging Group can store up to 99 Caller ID records. The system stores up to 1000 Caller ID records, allocated among all extensions and Caller ID Logging Groups. All Caller ID records are retained when the system is powered down or reset. If a line rings more than one extension simultaneously, the system logs the call at all ringing extensions.

Programmable Caller ID Callback Routing

You can set up Caller ID Callbacks (return calls) to select either a line or Line Group to redial calls allowed by the extension's Toll Restriction. Caller ID Callback Routing can also optionally:

- Strip the area code from the number dialed.
- Strip the leading 1 from the number dialed.
- Add a leading 1 to the number dialed.

Soft Key Integration

Unique Caller ID soft keys provide the extension user with the capability to view all of their Caller ID records or just records for unanswered calls. Super Display telephone users can additionally view records of answered calls.

Save Number to Speed Dial

While reviewing a Caller ID record, the extension user can optionally store the number and optional name directly in an Extension Speed Dial number.

New Record for Calls on Hold and Parked Calls

The system creates a new Caller ID record for a call retrieved from Hold at an extension other than the one that initially placed it on Hold. The same is also true for Parked calls.

- A new call rings the system and creates a CID record.
- Extension 301 answers the call and places it on Hold.
- Extension 302 retrieves the call from Hold.
- The system creates another record of the call at extension 302.

New Record for Transferred Call

A transferred call creates a new call record each time it is transferred. For example:

- A new call rings the system and creates a CID record.
- Extension 300 answers the call and transfers it to extension 301.
- The system creates a new (answered) record for the call at extension 301.
- Extension 301 transfers the call to extension 302.
- The system creates another new (answered) record for the call at extension 302.

Answered Status for Calls Answered at Analog Ports

Calls answered by keyset (digital) and single line (analog) extensions are marked as answered. Calls answered by voice mail ports are not marked as answered.

Record Created for Voice Mail Park and Page

If a call is placed in Personal Park Orbit by voice mail, the system creates a record for the call on the extension at which it is parked, and at the extension that picked up the call. (Note that there is no record created at the voice mail port.)

Types of Calls that are Logged

Call ID Logging will make a record of any outside call to an extension that can normally be answered using Ringing Line Preference. These include:

- Line key (Key Ring) and Loop Key calls
- Transfers
- Direct Inward Lines (DILs)
- Group Ring calls

Caller ID and Answering Machines

If voice mail ***is not*** installed, Caller ID Logging can provide unique handling of a customer-provided answering machine. If an extension is designated as an answering machine in programming, any outside call picked up by the answering machine will not be marked as answered in the Caller ID log. For example, if a call rings into the system and is picked up by the answering machine, it will show as a new call in the Caller ID log. In addition, it will flash green on the Ring/Message lamp indicating that there is a new call.

Manual Callback Selection

[3.01] A Caller ID callback number can be automatically dialed by the system or manually selected by the extension user. To allow users to manually select the callback number, you must first turn off the Caller ID Routing Tables in programming. This lets the extension user choose a callback number right from the telephone display. For example, an extension user can:

1. Review their Caller ID log and display the number they wish to return.
2. Press **Callback**.
3. Select a number from their display. For example, it the incoming Caller ID number is 203-926-5400, the display choices are:
   - 203-926-5400
   - 1-203-926-5400
   - 926-5400
4. The number will dial out on the programmed Caller ID Callback route.

If the Caller ID number is non-standard (i.e., not 10 digits long), the system will dial the number on the programmed route exactly as it was received. It will not be processed in the Caller ID routing tables and the user will not be prompted with callback choices.

Conditions and Defaults

Conditions

- None.

Default Setting

- There is no Caller ID outbound line/group specified.
- There is no home area code specified. In addition, all local calls are 7 digits long.
- In DSX-40, all keyset extensions (300-315) are in Caller ID Logging Group 1. Since all keysets share a common group log, deleting a record at one keyset will automatically update the log for all others.
- In DSX-80/160, extensions 300-315 are set up for personal logging with 10 records each. There are no records assigned to other extensions.
- Caller ID Logging Group 1 can store 99 records. All other groups are blank.
- All lines are assigned to Caller ID Logging Group 1.
- The Caller ID Alert Lamp is enabled.

Other Related Features

Features

- Caller ID on page 101
  - Caller ID automatically displays the phone number and optional name for incoming outside calls.

IntraMail Features

- None.

Programming Caller ID Logging System Options

Setting Up Caller ID Logging System Options
1. Set up the options for Caller ID callbacks.

1. Make sure Caller ID is enabled in programming and provided by the telco. See Programming Caller ID on page 104 for more.
2. 3711-01: Caller ID Callback Route Type [Lines: Caller ID: Setup: Route (3711): Type]

   Use this option to select the line or Line Group the system will use for dialing out the Caller ID Callbacks.

Options	Description
0	[Default] Caller ID Callback disabled.
1	Caller ID Callback uses a specific line.
2	Caller ID Callback uses a Line Group.

3. 3711-01: Caller ID Callback Line [Lines: Caller ID: Setup: Route (3711): Callback Line]

   If Caller ID Callback is set for line, use this option to specify the line number.

Options	Description
Undefined	[Default] Entered by pressing **CLEAR**.
1-64	Lines 1-64.

4. 3711-01: Caller ID Callback Group [Lines: Caller ID: Setup: Route (3711): Callback Group]

If Caller ID Callback is set for group, use this option to specify the Line Group number (90-98).

Options	Description
Undefined	[Default] Entered by pressing **CLEAR**.
90-98	Line Groups 90-98.

2. Set the system's home area code.

1. Determine the system's home area code. This is the area code in which the system is installed

   You must make an assignment in this program so that Caller ID can properly process callbacks (return calls).

2. 3712-01: Initialize Caller ID Dial Treatment Tables [Tool Bar: Default]

   If you are programming Caller ID Callbacks for the first time , use this option to initialize the Caller ID Dial Treatment Tables.

Options	Description
No (0)	Exit the option without initializing.
Yes (1)	Initialize the Caller ID Dial Treatment Tables.
-	[Default] There is no default setting for this option.

3. 3713-xx: Home Area Code Table Data [Lines: Caller ID: Home NPA: Codes (3713):

   Enter the area code in which the system is installed.

Options	Description
3 Digits	3 digits for the area code (using 0-9, with * * for wild card representing any digit).
-	[Default] There is no default setting for this option.

3. Set up additional dialing options for the home area code.

1. 3712-02: 10-Digit Local Calls [Lines: Caller ID: Setup: Options (3712): 10 Digit Local Calls]

   Enable or disable 10-digit local calling.

   If enabled, the system will include the area code for local callbacks.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 3712-03: Home Area Code Exception List Type [Lines: Caller ID: Setup: Options (3712): HNPA Exception Type]

   If there are any calls within the system's home area code that are toll calls, you'll need to set up the Home Area Code Exception List Table.

   Use this option to specify the Home Area Code Exception List Table as a Toll Table or a Local Table.

- If it is a Toll Table, the codes you enter in the table are toll calls. All other codes are local calls.
- If it is a Local Table, the codes you enter in the table are local calls. All other codes are toll calls.

Options	Description
0	[Default] The Home Area Code Exception List Table is a Local Table.
1	The Home Area Code Exception List Table is a Toll Table.

3. 3714-xx: Home Area Code Exception List Table Data [Lines: Caller ID: HNPA Exceptions: Codes (3714):

   Enter the numbers (NPA + NXX) within the home area code that are toll calls (i.e., exceptions).

   These are 6-digit entries, specifying both the area code (NPA) and local exchange (NXX).

Options	Description
6 Digits	6 digits for the area code and exchange (using 0-9, with * * for wild card representing any digit).
-	[Default] There is no default setting for this option.

4. 3715-xx: Foreign Area Code Exception List Table Data [Lines: Caller ID: Foreign NPA Locals: Codes (3715): 1-96]

   If there are any calls in an adjacent area code that are local calls, you'll need to enter them in the Foreign Area Code Exception List Table.

   These are 6-digit entries, specifying both the area code (NPA) and local exchange (NXX).

Options	Description
6 Digits	6 digits for the area code and exchange (using 0-9, with * * for wild card representing any digit).
-	[Default] There is no default setting for this option.

Programming Caller ID Logging Extension Options

Setting Up Caller ID Logging Extension Options

1. Set the type of logging for the extension (personal or group).

1. Make sure the Caller ID Logging Callback options are correctly set.
2. 2117-01: Caller ID Log Type Stations: Config: Options: Call Logging (2117): CID Log Type]

   This option assigns the type of Caller ID Logging for the extension.

Options	Description
0	None.
1	[Default]Personal Caller ID Logging
2	Group Caller ID Logging.

2. Set up the Personal Caller ID Logging options.

1. Make sure logging type is set to 1
2. 2117-01: Caller ID Log Type Stations: Config: Options: Call Logging (2117): CID Log Type]

   This option specifies the maximum number personal Caller ID logs the extension can have.

   When assigning records, be careful not to exceed the system maximum (1000).

Options	Description
0	Logging disabled.
1-99	Maximum number of Caller ID records for the extension. [Default] = 10.

2. Set up the Group Caller ID Logging options.

1. Make sure logging type is set to 2
2. 2117-01: Caller ID Log Group Stations: Config: Options: Call Logging (2117): CID Log Size/Group]

   Specify the Caller ID Logging Group to which the extension should belong

   When assigning records, be careful not to exceed the system maximum (1000).

Options	Description
1-8 Digits	The Caller ID Logging Group to which the extension belongs. [Default] = 1 (group 1).

3. 3122-[01-08]: Caller ID Group Membership [Lines: Config: Setup: Caller ID Groups (3122): Group x]

   Specify to which Caller ID Logging Groups the outside line should log its calls.

   The line can log its calls into any or all groups.

   You make a separate entry for each group.

Options	Description
No (0)	The line ***should not*** log its calls into the selected group. [Default] for groups 2-8.
Yes (1)	The line ***should*** log its calls into the selected group. [Default] for group 1.

4. 3701-xx: Caller ID Logging Group Size Lines: Caller ID: Setup: Groups (3701): Group x Log Size]

   Specify the total number of records that can be stored in each Caller ID Logging group.

   When assigning records, *be careful not to exceed the system maximum* (1000)

   You make a separate entry for each group.

Options	Description
0	Logging disabled.
1-99	Maximum number of Caller ID records for the extension. [Default] = 99 for group 1, 0 for groups 2-8.

Programming Additional Caller ID Logging Options

Setting Up Other Caller ID Logging Options

1. Set up some other additional Caller ID Logging options.

1. 9013-01: Initialize Caller ID Logs [Utilities: Initialize: CID Log]

Use this option to optionally initialize the Caller ID Logs system-wide.

Options	Description
No (0)	Cancel without initializing.
Yes (1)	Initialize all Caller ID Logs system-wide.
-	There is no default setting for this option.

2. 1404-06: Caller ID Alert Lamp [System: Class of Service: Caller ID: Caller ID (1404): Caller ID Alert Lamp]

Enable this Class of Service option to have the extension's Ring/Message lamp flash when there are new Caller ID calls that have not been reviewed.

See Caller ID Logging on page 108 for more.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

3. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

4. 2111-08: Answering Machine Stations: Config: Options: Features (2111): Answering Machine]

Enable this option if the system is using a customer-provided answering machine instead of voice mail.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

Caller ID Logging Programming Examples

How to Set Up Caller ID Logging: Two Examples

1. Enable Caller ID callbacks (return calls) for a system in area code 203.

1. This example has no 10-digit local calling or other special requirements.
2. In 3121-01: Caller ID Type [Lines: Config: Setup: Caller ID Setup (3121): Caller ID Type], for each line enter the type of Caller ID required: - (DSP = **1**, ATRU-DB = **2**, T1 ANI = 3).
3. Set up the outbound route for Caller ID callbacks

   In 3711-01: Caller ID Callback Route Type [Lines: Caller ID: Setup: Route (3711): Type], select the type of route used for Caller ID call- backs (**1** = line, **2** = Line Group).

   For line, in 3711-01: Caller ID Callback Line [Lines: Caller ID: Setup: Route (3711): Callback Line] enter the line number (**1**-**64**) the system will use for Caller ID callbacks.

   For Line Groups, in 3711-01: Caller ID Callback Group [Lines: Caller ID: Setup: Route (3711): Callback Group] enter the Line Group number (**90**- **98**) the system will use for Caller ID callbacks.

4. In 3712-02: 10-Digit Local Calls [Lines: Caller ID: Setup: Options (3712): 10 Digit Local Calls], enter **0** (No).
5. In 3713-xx: Home Area Code Table Data [Lines: Caller ID: Home NPA: Codes (3713):, enter 203.

   The system will add a leading 1 to all calls to all area codes other than 203.

   Calls to area code 203 will be redialed as 7-digit calls.

2. Caller ID Callback requires 10-digit local calling and a "foreign" local exchange.

1. Enable Caller ID callbacks (return calls) for a system in area code 203 where there is 10-digit local calling and a local exchange in adjacent area code 860.
2. In 3121-01: Caller ID Type [Lines: Config: Setup: Caller ID Setup (3121): Caller ID Type], for each line enter the type of Caller ID required: - (DSP = **1**, ATRU-DB = **2**, T1 ANI = 3).
3. Set up the outbound route for Caller ID callbacks

   In 3711-01: Caller ID Callback Route Type [Lines: Caller ID: Setup: Route (3711): Type], select the type of route used for Caller ID call- backs (**1** = line, **2** = Line Group).

   For line, in 3711-01: Caller ID Callback Line [Lines: Caller ID: Setup: Route (3711): Callback Line] enter the line number (**1**-**64**) the system will use for Caller ID callbacks.

   For Line Groups, in 3711-01: Caller ID Callback Group [Lines: Caller ID: Setup: Route (3711): Callback Group] enter the Line Group number (**90**- **98**) the system will use for Caller ID callbacks.

4. In 3712-02: 10-Digit Local Calls [Lines: Caller ID: Setup: Options (3712): 10 Digit Local Calls], enter **1** (Yes).
5. In 3713-xx: Home Area Code Table Data [Lines: Caller ID: Home NPA: Codes (3713):,enter 203.
6. In 3714-xx: Home Area Code Exception List Table Data [Lines: Caller ID: HNPA Exceptions: Codes (3714)::

   Configure the table as a local table (L).

   Enter the local exchanges within area code 203.

   Calls within area code 203 that are found in the list are redialed as 10-digit local calls.

Calls within area code 203 not found in the list are redialed as 1 + 10 digit toll calls.

7. In 3715-xx: Foreign Area Code Exception List Table Data [Lines: Caller ID: Foreign NPA Locals: Codes (3715): 1-96] , enter the NPA + NXX combination for area code 860 that is a local call. The call is redialed as a 10-digit local call.

Caller ID Logging

Using Caller ID Logging

To use Caller ID Logging at a keyset:

Using Caller ID Logging (Keyset)			

CL: xx	Push to access the Caller ID Logging options. The "**xx**"" value is the number of new calls waiting for your review.
	• **Total:** is the total number of calls that rang in and are stored in your log. It is the sum of unanswered and answered call.
	• **Unans:** is the number of calls that rang in and were not answered.
	• **New:** is the number of new calls that rang in that you have not yet reviewed.
	• **Ans:** is the total number of calls that rang in and were answered by you or a co-worker.
	`Total:xx New:xx`
	`Unans:xx Ans:xx`
	`All Unan Del* Exit`
	Your Ring/Message Lamp will wink on (green) when you have Caller ID records that you have not yet reviewed.		

	All	Push to display all the calls in your Caller ID log.	

		VOLUME	Push **VOLUME** repeatedly to scroll through the log. The display has two modes (Name and Number), and you press **CHECK** to switch between the modes:
			Name Mode
			`Caller's Name [Log #]`
			`Date Time`
			`Call Store Del Exit`
			Number Mode
			`Caller's Number [Log #]`
			`Line Name Log Type`
			`Call Store Del Exit`

		Call	Push to place a call to the displayed log.
		Store	Push to store the displayed log in a Personal Speed Dial number. 1. Enter the Personal Speed Dial location in which you want to store the logged number (701-720) + **Hold**. 2. Enter the route over which the stored number should dial + **Hold**. The choices are: • **INTERCOM**

Using Caller ID Logging (Keyset)			
			• Line (1-64) • Line Group (90-98) **3.** Verify and optionally edit the number your want to store + **Hold**. **4.** Verify and optionally edit the name for the number you want to store + **Hold**. **5.** You return to the previous menu.
		Del	Push to delete the displayed log.
		Exit	Go back to the previous menu.
	Unan	Push to display just the unanswered calls in your Caller ID log.	

		VOLUME	Push **VOLUME** repeatedly to scroll through the log. The display has two modes (Name and Number), and you press **CHECK** to switch between the modes:
			Name Mode
			`Caller's Name [Log #]`
			`Date Time`
			`Call Store Del Exit`
			Number Mode
			`Caller's Number [Log #]`
			`Line Name Log Type`
			`Call Store Del Exit`

		Call	Push to place a call to the displayed log.
		Store	Push to store the displayed log in a Personal Speed Dial number. **1.** Enter the Personal Speed Dial location in which you want to store the logged number (701-720) + **Hold**. **2.** Enter the route over which the stored number should dial + **Hold**. The choices are: • **INTERCOM** • Line (1-64) • Line Group (90-98) **3.** Verify and optionally edit the number your want to store + **Hold**. **4.** Verify and optionally edit the name for the number you want to store + **Hold**. **5.** You return to the previous menu.
		Del	Push to delete the displayed log.
		Exit	Go back to the previous menu.
	Del*	Delete all the calls in your Caller ID log.	
		Yes	Push to delete all the calls in your Caller ID log, then push **Exit** to go back to the idle menu display.
		No	Go back to the previous menu without deleting.

Using Caller ID Logging (Keyset)		
	Exit	Exit to the idle display without making any changes.

To use Caller ID Logging at a Super Display:

Using Caller ID Logging (Super Display)			

Calls xx	Push to access the Caller ID Logging options. The "**xx**"" value is the number of new calls waiting for your review.
	• **Total:** is the total number of calls that rang in and are stored in your log. It is the sum of unanswered and answered call.
	• **Unans:** is the number of calls that rang in and were not answered.
	• **New:** is the number of new calls that rang in that you have not yet reviewed.
	• **Ans:** is the total number of calls that rang in and were answered by you or a co-worker.
	`Total:xx New:xx`
	`Unans:xx Ans:xx`
	Your Ring/Message Lamp will wink on (green) when you have Caller ID records that you have not yet reviewed.		

	View All	Push to display all the calls in your Caller ID log.	

		VOLUME	Push **VOLUME** repeatedly to scroll through the log. The display shows the caller's name and number and other information about the call.
			`Caller's Name [Log #]`
			`Caller's Number`
			`Date Time`
			`Line Name Log Type`

		Callback	Push to place a call to the displayed log.
		Store Bin	Push to store the displayed log in a Personal Speed Dial number. 1. Enter the Personal Speed Dial location in which you want to store the logged number (701-720) + **Hold**. 2. Enter the route over which the stored number should dial + **Hold**. The choices are: • **INTERCOM** • Line (1-64) • Line Group (90-98) 3. Verify and optionally edit the number your want to store + **Hold**. 4. Verify and optionally edit the name for the number you want to store + **Hold**. 5. You return to the previous menu.
		Delete	Push to delete the displayed log.
		Delete All	Push to delete all the Caller ID logs.
		Exit	Go back to the previous menu.

Using Caller ID Logging (Super Display)			
	View Unan	Push to display just the unanswered calls in your Caller ID log.	

		VOLUME	Push **VOLUME** repeatedly to scroll through the log. The display shows the caller's name and number and other information about the call.
			`Caller's Name [Log #]`
			`Caller's Number`
			`Date Time`
			`Line Name Log Type`

		Callback	Push to place a call to the displayed log.
		Store Bin	Push to store the displayed log in a Personal Speed Dial number. **1.** Enter the Personal Speed Dial location in which you want to store the logged number (701-720) + **Hold**. **2.** Enter the route over which the stored number should dial + **Hold**. The choices are: • **INTERCOM** • Line (1-64) • Line Group (90-98) **3.** Verify and optionally edit the number your want to store + **Hold**. **4.** Verify and optionally edit the name for the number you want to store + **Hold**. **5.** You return to the previous menu.
		Delete	Push to delete the displayed log.
		Delete All	Push to delete all the Caller ID logs.
		Exit	Go back to the previous menu.
	View Ans	Push to display all the calls that rang your extension but were answered by you or a co-worker.	

		VOLUME	Push **VOLUME** repeatedly to scroll through the log. The display shows the caller's name and number and other information about the call.
			`Caller's Name [Log #]`
			`Caller's Number`
			`Date Time`
			`Line Name Log Type`

		Callback	Push to place a call to the displayed log.
		Store Bin	Push to store the displayed log in a Personal Speed Dial number. **1.** Enter the Personal Speed Dial location in which you want to store the logged number (701-720) + **Hold**. **2.** Enter the route over which the stored number should dial + **Hold**. The choices are:

Using Caller ID Logging (Super Display)			
			• **INTERCOM** • Line (1-64) • Line Group (90-98) **3.** Verify and optionally edit the number your want to store + **Hold**. **4.** Verify and optionally edit the name for the number you want to store + **Hold**. **5.** You return to the previous menu.
		Delete	Push to delete the displayed log.
		Delete All	Push to delete all the Caller ID logs.
		Exit	Go back to the previous menu.
	Delete All	Push to delete all the Caller ID Logs	
	Exit	Exit to the idle display without making any changes.	

Central Office Calls, Answering

The system allows outside calls to ring and be answered at any combination of system extensions.

Description

The system provides flexible routing of incoming CO calls to meet the exact site requirements.

Answering Priority

When multiple calls ring an extension simultaneously, the system services the ringing calls in the following order:

1. Ringing Intercom call
2. Line or loop key (from lowest to highest)

Overflow

Refer to *Overflow for Key Ring Calls* in Key Ring on page 295 for details on the overflow options.

Single Ring Option for Single Line Sets

The option 1403-02: Single Ring for Single Line Set [System: Class of Service: SLTs: SLTs(1403): Single Ring] determines the type of ringing at analog single line extensions. If enabled (Y), analog single line extensions always receive single ringing for outside calls. (Certain analog single line devices connected to the system may require this type of ringing.) If disabled (N), outside call ringing at analog single line extensions follows the ringing pattern of the line. For example, if a line is ringing the system with two ring bursts, the single line extensions will follow the same ringing pattern.

Conditions and Defaults

Conditions

- Per FCC regulations, do not set 3103-01: Transmit Gain [Lines: Config: Setup: Settings (3103): Transmit Gain] higher than 0 dB

Default Setting

- All extensions have full access on all lines.
- In DSX-40, lines 5-8 require the Expansion Board.
- Extensions have immediate day/night ring on all lines.
- Single line sets ring according to 2132-[01-64]: Line Ringing (page 764) programming (just like keysets)
- Lines 1-8 ring extensions on line keys 1-8.

Other Related Features

Features

- Call Timer on page 89
  - The Call Timer helps a user keep track of the time they spend on the phone.
- Direct Inward Line on page 177

- A DIL rings an extension directly.

- Line Keys on page 307
  - Line keys simplify answering outside calls.
- Loop Keys on page 329
  - In order to answer outside calls, extensions without line keys should have loop keys.
- Night Service / Night Ring on page 353
  - Night Service determines how outside calls ring at night.
- Paging on page 367
  - Outside call ringing can broadcast over the External Paging speakers.

IntraMail Features

- None.

Programming Outside Line Type, Access, and Ringing

Setting the Central Office Calls Basics

1. Set the circuit type and loop length to match the connected service.

1. 3101-01: Line Type [Lines: Config: Setup: Type (3101): Type]

Make sure each line's circuit type and loop length setting match the requirements of the connected service.

Options	Description
00	Uninstalled.
01	[Default] Loop Start.
02	Ground Start[1]
03	DID Wink Start[1]
04	DID Immediate Start[1]
05	E&M Wink Start[1]
06	E&M Immediate Start[1]
	[1]Requires T1/PRI PCB[1]

2. 3101-03: DTMF Dialing [Lines: Config: Setup: Type (3101): DTMF Dialing]

Indicate whether the line is DTMF or Dial Pulse.

Options	Description
No (0)	Dial Pulse.
Yes (1)	[Default] DTMF.

3. 3103-03: Loop Length [Lines: Config: Setup: Settings (3103): Loop Length]

For analog lines only, use this option to compensate for the telco circuit loop length.

For normal installations, enter 0 (medium).

If the system is very close to the central office or behind a PBX, enter 1 (short).

If the loop length is abnormally long, enter 2 (long).

Options	Description
0	Medium.
1	Short.
2	[Default] Long.

2. Review the system timers for compatibility with the connected service.

1. *160X: Feature Timers*.
2. *161X: Analog Line Timers*
3. *163x and 164x: T1/PRI Timers*

3. Set the line access and ringing options at extensions for each line.

1. 2131-[01-64]: Line Access Stations: Config: Line Access: Line Access (2131): Line Access]

   Use this program to set the line access options.

Options	Description
0	No access.
1	Incoming access only.
2	Outgoing access only.
3	[Default] Full access.

2. 2132-[01-64]: Line Ringing Stations: Config: Ring Assign: Line Ringing (2132): Ring Assignment]

   Use this program to set the line ringing options.

Options	Description
0	Lamp only (no ringing) day and night. [Default] for DSX-80/160 extensions 316-427.
1	Day and night ringing. [Default] for DSX-40 (all) and DSX-80/160 extensions 300-315.
2	Night ringing only.
3	Delay ringing day and night.

3. 1604-01: Delay Ring Timer [System: Timers: Features: Station (1604): Delay Ring]

   Use this program to set the Delay Ring interval. A line set for Delayed Ringing will ring the extension after this interval.

Options	Description
1-9999	Seconds. [Default] = 10 seconds.

4. Set unique ringing options for single line telephones.

1. 1403-02: Single Ring for Single Line Set [System: Class of Service: SLTs: SLTs(1403): Single Ring]

   Enable this option to allow single line telephones to ring with a single ring for outside calls.

   Disable this option to have line ringing at analog single line extensions follows the ringing pattern of the line.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Programming Line and Loop Keys

Setting Up Line and Loop Keys

1. Set up line keys on your extension.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

   Assign a line key to an available Feature Key on a telephone.

   If an extension doesn't have any line keys, you should assign Fixed or Switched Loop keys to make handling outside calls easier.

Options	Description
03	Line key type. [Default] In DSX-80/160 keys 1-12 are line keys for lines 1-12. In DSX-40, keys 1-8 are line keys for lines 1-8.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

   Specify the line number you want to assign to the key.

Options	Description
1-64	Line 1-64.
-	[Default] = no data assigned.

3. 2111-05: Key Access for Outside Lines [Stations: Config: Options: Features (2111): Key Line Access]

   Enabling this option allows an extension user to press a line key to access and outside line.

This option does not restrict Loop Keys.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. Set up line keys on your DSS Console.

1. 2402-[01-60]: DSS Console Key Codes [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

   Assign a line key to an available Feature Key on a DSS Console.

   Loop Keys are not available on a DSS Console.

Options	Description
03	Line key type. [Default] No line keys assigned to DSS Consoles.

2. 2402-[01-60]: DSS Console Key Data [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

   Specify the line number you want to assign to the DSS Console key.

Options	Description
1-64	Line 1-64.
-	[Default] = no data assigned.

3. Set up a Fixed Loop Key on your extension.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

   Assign a Fixed Loop Key to an available Feature Key on a telephone.

Options	Description
01	Fixed Loop Key type. [Default] No Fixed Loop Keys assigned.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

   There is no data entry for this option.

Options	Description
-	[Default] = no data assigned.

4. Set up a Switched Loop Key on your extension.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

   Assign a Switched Loop Key to an available Feature Key on a telephone.

Options	Description
02	Switched Loop Key type. [Default] No Switched Loop Keys assigned.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

   Assign a line group to the Switched Loop Key.

Options	Description
90-98	Line Groups 90-98.
-	[Default] = no data assigned.

Programming Line Transmit and Receive Gain

Transmit and Receive Gain Setup

1. Setting the transmit and receive gain for outside lines.

1. 3103-01: Transmit Gain [Lines: Config: Setup: Settings (3103): Transmit Gain]

   Set the outside line transmit gain to meet the site requirements.

   While on an outside call, the system user's conversation should be transmitted to the caller at a comfortable level.

Options	Description
0-30	0 dB to 30 dB gain in .5 dB steps. [Default] = 0.
31-60	.5 dB loss to 15 dB loss in .5 dB steps

2. 3103-02: Receive Gain [Lines: Config: Setup: Settings (3103): Receive Gain]

   Set the outside line receive gain to meet the site requirements.

   While on an outside call, the caller's conversation should be received at a comfortable level.

   For a "hot" (high gain) line, decreasing the receive gain should improve Handsfree performance for keysets using that line.

Options	Description
0-30	0 dB to 30 dB gain in .5 dB steps. [Default] = 0.
31-60	.5 dB loss to 15 dB loss in .5 dB steps

Central Office Calls Answering

Answering Outside Calls

- An incoming call on a line or loop key will flash red.
- An incoming call on your Direct Inward Line will flash green.

To answer an outside call:

1. Lift the handset.
   a) If you have Ringing Line Preference, this will answer the incoming call.

b) If you have Automatic Handsfree, you can press the line or loop key without first lifting the handset.

2. Press flashing line or loop key.
   a) The key will be on (green) after you answer the call.

To set up Line Key ringing at your keyset:

Setting Up Line Key Ringing (Keyset)		
Next: Go to next selection. **Prev**: Go to previous selection. **Select**: Select current Option. **Back**: Back out of current option. **Exit**: Exit Menu setup.		
Menu + **41**	Select the Ring Key Assignments sub-menu.	
	Select	Your line keys will light. Press a line key repeatedly to set its ringing mode: • Always (key LED is on green) • Night Ring (key LED flashes slow green) • Delay Ring (key LED flashes fast green) • Lamp Only (key LED is on red)

To set up Line Key ringing at your Super Display:

Setting Up Line Key Ringing (Super Display)		
Menu + **Ringing**	Select the Ring Assignments sub-menu.	
	Key Assignments	Select the Key Assignments sub-menu.
	Line	Your line keys will light. Press a line key repeatedly to set its ringing mode: • Always (key LED is on green) • Night Ring (key LED flashes slow green) • Delay Ring (key LED flashes fast green) • Lamp Only (key LED is on red)

Central Office Calls, Placing

Customize the call placing options to meet the site requirements and each individual's needs.

Description

The system provides flexibility in the way each extension user can place outgoing calls. A user can place a call by:

Pressing a Line Key

- Any keyset can have line keys for one-touch access to specific lines. See Line Keys on page 307 for more.

Pressing a Loop Key

- Loop Keys provide a user with one-touch access to the assigned Loop Group. Loop Groups can consist of one or more Line Groups. See Loop Keys on page 329 for more.

Using Line Dial-Up

- With Line Dial-Up, a user can select a specific line by pressing **INTERCOM** and dialing the Line Dial-Up code (#9) followed by the line number (1-64).

Using Direct Line Access

- Direct Line Access allows a user to access a line by pressing **INTERCOM** and dialing the line's extension number (e.g., 101 for line 1, 102 for line 2. etc.). See Direct Line Access on page 181 for more.

Dialing a Line Group Access Code

- User's can also place outside calls by pressing **INTERCOM** and dialing a Line Group Access Code (90-98). See Line Groups on page 305 for more.

Line Group Routing

- If the system has Line Group Routing enabled, user's get the first available line when they press **INTERCOM** and dial 9. See Line Group Routing on page 302 for more.

Dial Buffering

When placing an outside call, extension users can dial an unlimited number of digits. Users are assured that they can use services such as telephone banking without encountering restrictions imposed by the telephone system.

Store and Forward

Store and Forward is an alternate method of placing outside calls in which the system stores ("collects") the digits a user dials, waits for the user to finish dialing, and then redials the digits on the selected line. Store and forward provides Intercom dial tone to the caller as soon as they dial a line access code or press a loop key, similar to conventional ARS operation. When the user has completed dialing, the system will dial out the call over the connected line after 6 seconds or when the user dials #. Store and Forward can also be an advantage when connected to a T1 service that does not provide line dial tone.

Post dialing for Store and Forward calls is also available. After a user dials using Store and Forward, they can manually dial additional digits. The normal post dialing soft keys (such as **AUTO REDIAL [ALND]** for Auto Redial) are also enabled.

- Store and Forward does not apply to line keys, Direct Line Access, or line dial up (i.e., #9 plus the line number).
- You can use Account Codes with Store and Forward enabled (see *Operation* below).

Conditions and Defaults

Conditions

- Systems using Line Groups or Line Group Access should use the hybrid FCC registration number (i.e., the number that ends in MF-E). Look at the label on the bottom of your equipment cabinet for more information.
- Per FCC regulations, do not set 3103-01: Transmit Gain [Lines: Config: Setup: Settings (3103): Transmit Gain] higher than 0dB.

Default Setting

- Lines 1-12 ring on line keys 1-12 for extensions 300-315. All other extensions are lamp only for lines 1-12. Lines 13-64 do not appear on line keys.
- All extensions have full access on all lines.
- Line Group Routing (dial 9) is assigned to Line Group 90 (which contains lines 1-8). Dial 9 works by default. The outgoing line priority for the dial 9 group is as follows:
  - Order 1 = line 8
  - Order 2 = line 7
  - Order 3 = line 6
  - Order 4 = line 5
  - Order 5 = line 4
  - Order 6 = line 3
  - Order 7 = line 2
  - Order 8 = line 1
- Store and Forward is disabled.

Other Related Features

Features

- Account Codes on page 21
  - You can use Store and Forward with Forced Account Codes.
- Automatic Handsfree on page 48
  - With Automatic Handsfree, an extension user can press a line key to place an outside call without first lifting the handset or pressing **SPEAKER**. Users without Automatic Handsfree can preselect a line key before lifting the handset or pressing **SPEAKER**.
- Call Timer on page 89
  - The Call Timer helps a user keep track of the time they spend on the phone.
- Dial Number Preview on page 159
  - Dial Number Preview allows an extension user to review a number before the system dials it out.
- Direct Line Access on page 181
  - Direct Line Access allows an extension user to seize an individual line and place a call without restriction.
- Equal Access Compatibility on page 230
  - The system is compatible with Equal Access numbers (e.g., 10-10-321).

- Last Number Redial on page 299
  - Easily redial the last number dialed.
- Line Group Routing on page 302
  - With Line Group Routing enabled, an extension user can dial 9 to place an outside call.
- Line Keys on page 307
  - Line Keys give a user one-touch access to specific lines.
- Line Queuing / Line Callback on page 309
  - An extension user can queue for a busy line, or queue and hang up to leave a callback for a busy line.
- Loop Keys on page 329
  - An extension user may also be able to press a Loop Key to place an outside call.
- Save Number Dialed on page 438
  - Save a number you dialed, then easily redial it later on.
- Speed Dial on page 448
  - You can store outside numbers in Speed Dial numbers for quick access to frequently called numbers.

IntraMail Features

- None.

Programming Outside Line Type, Access, and Ringing

Setting the Central Office Calls Basics

1. Set the circuit type and loop length to match the connected service.

1. 3101-01: Line Type [Lines: Config: Setup: Type (3101): Type]

Make sure each line's circuit type and loop length setting match the requirements of the connected service.

Options	Description
00	Uninstalled.
01	[Default] Loop Start.
02	Ground Start[1]
03	DID Wink Start[1]
04	DID Immediate Start[1]
05	E&M Wink Start[1]
06	E&M Immediate Start[1]
	[1]Requires T1/PRI PCB[1]

2. 3101-03: DTMF Dialing [Lines: Config: Setup: Type (3101): DTMF Dialing]

Indicate whether the line is DTMF or Dial Pulse.

Options	Description
No (0)	Dial Pulse.
Yes (1)	[Default] DTMF.

3. 3103-03: Loop Length [Lines: Config: Setup: Settings (3103): Loop Length]

For analog lines only, use this option to compensate for the telco circuit loop length.

For normal installations, enter 0 (medium).

If the system is very close to the central office or behind a PBX, enter 1 (short).

If the loop length is abnormally long, enter 2 (long).

Options	Description
0	Medium.
1	Short.
2	[Default] Long.

2. Review the system timers for compatibility with the connected service.

1. *160X: Feature Timers*.
2. *161X: Analog Line Timers*
3. *163x and 164x: T1/PRI Timers*

3. Set the line access and ringing options at extensions for each line.

1. 2131-[01-64]: Line Access Stations: Config: Line Access: Line Access (2131): Line Access]

Use this program to set the line access options.

Options	Description
0	No access.
1	Incoming access only.
2	Outgoing access only.
3	[Default] Full access.

2. 2132-[01-64]: Line Ringing Stations: Config: Ring Assign: Line Ringing (2132): Ring Assignment]

Use this program to set the line ringing options.

Options	Description
0	Lamp only (no ringing) day and night. [Default] for DSX-80/160 extensions 316-427.
1	Day and night ringing. [Default] for DSX-40 (all) and DSX-80/160 extensions 300-315.
2	Night ringing only.
3	Delay ringing day and night.

3. 1604-01: Delay Ring Timer [System: Timers: Features: Station (1604): Delay Ring]

   Use this program to set the Delay Ring interval. A line set for Delayed Ringing will ring the extension after this interval.

Options	Description
1-9999	Seconds. [Default] = 10 seconds.

4. Set unique ringing options for single line telephones.

1. 1403-02: Single Ring for Single Line Set [System: Class of Service: SLTs: SLTs(1403): Single Ring]

   Enable this option to allow single line telephones to ring with a single ring for outside calls.

   Disable this option to have line ringing at analog single line extensions follows the ringing pattern of the line.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Programming Line and Loop Keys

Setting Up Line and Loop Keys

1. Set up line keys on your extension.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

   Assign a line key to an available Feature Key on a telephone.

   If an extension doesn't have any line keys, you should assign Fixed or Switched Loop keys to make handling outside calls easier.

Options	Description
03	Line key type. [Default] In DSX-80/160 keys 1-12 are line keys for lines 1-12. In DSX-40, keys 1-8 are line keys for lines 1-8.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

   Specify the line number you want to assign to the key.

Options	Description
1-64	Line 1-64.
-	[Default] = no data assigned.

3. 2111-05: Key Access for Outside Lines [Stations: Config: Options: Features (2111): Key Line Access]

   Enabling this option allows an extension user to press a line key to access and outside line.

   This option does not restrict Loop Keys.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. Set up line keys on your DSS Console.

1. 2402-[01-60]: DSS Console Key Codes [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

   Assign a line key to an available Feature Key on a DSS Console.

   Loop Keys are not available on a DSS Console.

Options	Description
03	Line key type. [Default] No line keys assigned to DSS Consoles.

2. 2402-[01-60]: DSS Console Key Data [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

   Specify the line number you want to assign to the DSS Console key.

Options	Description
1-64	Line 1-64.
-	[Default] = no data assigned.

3. Set up a Fixed Loop Key on your extension.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

   Assign a Fixed Loop Key to an available Feature Key on a telephone.

Options	Description
01	Fixed Loop Key type. [Default] No Fixed Loop Keys assigned.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

   There is no data entry for this option.

Options	Description
-	[Default] = no data assigned.

4. Set up a Switched Loop Key on your extension.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

   Assign a Switched Loop Key to an available Feature Key on a telephone.

Options	Description
02	Switched Loop Key type. [Default] No Switched Loop Keys assigned.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

   Assign a line group to the Switched Loop Key.

Options	Description
90-98	Line Groups 90-98.
-	[Default] = no data assigned.

Programming Line Transmit and Receive Gain

Transmit and Receive Gain Setup

1. Setting the transmit and receive gain for outside lines.

1. 3103-01: Transmit Gain [Lines: Config: Setup: Settings (3103): Transmit Gain]

   Set the outside line transmit gain to meet the site requirements.

   While on an outside call, the system user's conversation should be transmitted to the caller at a comfortable level.

Options	Description
0-30	0 dB to 30 dB gain in .5 dB steps. [Default] = 0.
31-60	.5 dB loss to 15 dB loss in .5 dB steps

2. 3103-02: Receive Gain [Lines: Config: Setup: Settings (3103): Receive Gain]

   Set the outside line receive gain to meet the site requirements.

   While on an outside call, the caller's conversation should be received at a comfortable level.

   For a "hot" (high gain) line, decreasing the receive gain should improve Handsfree performance for keysets using that line.

Options	Description
0-30	0 dB to 30 dB gain in .5 dB steps. [Default] = 0.
31-60	.5 dB loss to 15 dB loss in .5 dB steps

Programming Line Group Access

Setting up the Line Access Code Options
Configure the Line Group Access codes.

1. Decide if you want single digit (dial 9) or 2-digit (90-98) access to outside Line Groups.
2. 1301-[01-10]: Function Type [System: Numbering: Dialing Plan: Numbering (1301): Function Type]

   Check to be sure the digit 9 is type 3 (Line Group).

   Normally, digit 9 is set at type 3 which is for Line Group access. If you want to use a digit other than 9, you'll need to changed the function type of the digit 9 and assign type 3 to another digit. ***Be aware, however, that most other digits already have important assignments.***

Options	Description
1	Operator access.
2	Extension access.
3	Line Group access. [Default for digit 9.]

3. 1301-[01-10]: Expected Number of Digits [System: Numbering: Dialing Plan: Numbering (1301): Expected Digits]

   For single digit Line Group Access (dial 9), enter 1.

   For 2-digit Line Group Access (dial 90-98), enter 2.

   You can optionally set up the digit 9 for single digit access and another digit (e.g., 8) for 2-digit access.

Options	Description
0	2
1-8	3
9	1

4. 2113-01: Dial 9 Group Stations: Config: Options: Groups (2113): Dial 9 Group]

   For single digit Line Group Access, assign the group the extension will reach when the user dials 9.

Options	Description
90-98	Line Groups 90-98. [Default] = 90.

Programming Line Dial-Up

Setting up the Line Dial-Up Options
Enabling Line Dial-Up.

1. Line Dial-Up allows a user to dial #901-#964 to access lines 1-64.
2. 2111-06: Line Dial Up [Stations: Config: Options: Features (2111): Line Dial Up]

   Use this option to enable Line Dial-Up.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

Changing the Direct Line Access Numbering

Optionally changing the Direct Line Access numbering from default. How to change the Direct Line Access codes from 101-164.

1. 1313-01: Line Extension Number [System: Numbering: Lines: Assignments (1313): Extension]

This option assigns extension numbers to lines.

If you want to change the leading digit of the line extension numbers (e.g., from 101 to 801), check the system numbering programs that follow to be sure the digits are correctly assigned.

Options	Description
101-164	[Default] Line extension numbers for lines 01-64.

2. 1301-[01-10]: Function Type [System: Numbering: Dialing Plan: Numbering (1301): Function Type]

Check to be sure the digit you choose is type 2 (extension access).

Normally, digit 1 is set at type 2 which is for extension access. If you want to use a digit other than 1, you'll need to check the function type of the digit you want to use. ***Be aware, however, that most other digits already have important assignments.***

Options	Description
1	Operator access.
2	Extension access.[Default] for digit 1.
3	Line Group access.

3. 1301-[01-10]: Expected Number of Digits [System: Numbering: Dialing Plan: Numbering (1301): Expected Digits]

Make sure the digit you choose for Direct Line Access is set for 3 for 3-digit line extension numbers.

Options	Description
0	2
1-8	3
9	1

Programming Store and Forward

Store and Forward Setup
Setting up and Understanding Store and Forward

1. 3111-05: Store and Forward [Lines: Config: Options: Features (3111): Store & Forward]

   Use this option to enable Store and Forward.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. When Store and Forward is outdialing on DTMF lines, it uses the following.

   1111-03: Speed Dial DTMF Tone On [System: Config: Tones: DTMF (1111): Speed Dial DTMF Tone On].

   1104-04: Primary Domain Name Server [System: Config: Communication: Ethernet (1104): DNS #1].

3. When Store and Forward is outdialing on analog Dial Pulse lines, it uses the following.

   1612-01: DP Break Timer [System: Timers: CO Interface Card: Outgoing (1612): Break Time].

   1612-02: DP Make Timer [System: Timers: CO Interface Card: Outgoing (1612): Make Time].

   1612-03: DP Interdigit Timer [System: Timers: CO Interface Card: Outgoing (1612): Interdigit Time].

4. When Store and Forward is outdialing on T1 Dial Pulse lines, it uses the following.

   1632-01: Transmit Dial Pulse Break Timer [System: Timers: T1 Card: Outgoing (1632): Tx Break Time].

   1632-02: Transmit Dial Pulse Make Timer [System: Timers: T1 Card: Outgoing (1632): Tx Make Time].

   1632-03: Transmit Dial Pulse Interdigit Timer [System: Timers: T1 Card: Outgoing (1632): Tx Interdigit].

5. The setting of the following timer determines the interval the system waits, after the user has dialed their last digit, before dialing the call on the selected line.

   1602-01: Interdigit Timer [System: Timers: Features: Outgoing (1602): Interdigit Time].

Central Office Calls, Placing

Using Line Keys
To place an outside call over a specific line using a line key:

1. Lift handset.
2. Press line key.
   a) You hear dial tone on the line you select and the line key lights green.
   b) You can also use Loop Keys for placing outside calls.
3. Dial outside number.

a) If the number doesn't dial out within 6 seconds, your system probably has *Store and Forward* enabled. Just dial **#** to have the call go through.

Using Line Dial-up or Direct Line Access

To place an outside call using Line Dial-up or Direct Line Access:

1. Lift handset.
2. Press **INTERCOM**.
3. Do one of the following:
   a) For Line Dial-up, dial **#9** followed by the line number (e.g., 01 for line 1).
   If you hear busy tone, you may be able to dial 2 to queue for the busy line.
   b) For Direct Line Access, dial **1** plus the line number (e.g., 01 for line 1).
   If you hear busy tone, you may be able to dial 2 to queue for the busy line.
4. Dial outside number.
   a) If the number doesn't dial out within 6 seconds, your system probably has *Store and Forward* enabled. Just dial **#** to have the call go through.

Placing Outside Calls Using Line Groups

To place an outside call over a Line Group:

1. ***By default, pressing Intercom and dialing 911 or lifting the handset and dialing 911 will not call emergency services.***
2. Lift handset.
3. Press **INTERCOM**.
4. Dial Line Group code **9** or **90-98**.
   a) By default, your system uses 9 for single-digit access to line group 90. Dialing 90-98 is not enabled.
   If you hear dial tone as soon as you dial 9, your system has Line Group Routing enabled.
5. Dial outside number.
   a) If the number doesn't dial out within 6 seconds, your system probably has *Store and Forward* enabled. Just dial **#** to have the call go through.

Check Key

Quickly check keyset and DSS Console Feature Key assignments.

- Using the CHECK key to get system information is available in software versions 3.01 or higher.

Description

A keyset user can use the **CHECK** key to check keyset and DSS Console Feature Key assignments and Personal Speed Dial numbers and names.

Using the Check Key to get System Information

[3.01] Pressing **CHECK** and a right-column Fixed Feature Key displays important information about your system. This capability is available at any keyset extension and is for viewing only. You cannot use the **CHECK** key to edit the displayed information. See the following table.

Check Key System Information		
CHECK +	**Display**	**Description**
INTERCOM	**Extension xxx**	The telephone's extension number.
	Station:xxx	The telephone's station port number.
	Slot:x Port:x	The slot to which the extension is connected, and the port on the card in that slot.
V-MAIL	**IntraMail Version x.xx**	The IntraMail prompt set version number.
	Ports:x Type:Pro	The number of IntraMail ports installed, followed by the IntraMail Type (Pro or Standard).
	Lic Code:	The 13-character IntraMail license code. If you want to upgrade your IntraMail, you'll need to provide this code.
DND	**IP:xxx.xxx.xxx.xxx**	The IP address of the system to which the telephone is connected.
	GW:xxx.xxx.xxx.xxx	The system's gateway (router) address.
	DHCP:xxx	The DHCP status: On, Off, or On (Manual IP).
CONF	**VoIP**	The VoIP installation status: Installed or Not Installed
	Ports:	The number of licensed VoIP ports.
	Lic Code:	The 13-character VoIP license code. If you want to add VoIP ports to the system, you'll need to provide this code.
HOLD	**DSX-xxx x.xx.xx**	The system type (40, 80, or 160) and the software level.
	Installed	The system installation date.
	Sys Code:	The 13-character system code. If you lose the level 3 system password or otherwise get locked out, you'll need to provide this entry so you can get an unlock code.

Conditions and Defaults

Conditions

- None.

Default Setting

- Enabled.

Other Related Features

Features

- Direct Station Selection (DSS) on page 183
  - Check DSS Console Feature Key assignments.
- Feature Keys on page 247
  - Check Feature Key assignments.
- Speed Dial on page 448
  - Check Personal Speed Dial number assignments.

IntraMail Features

- None.

Check Key

Checking Feature Key Assignments
To check a Feature Key assignment:

1. Press **CHECK**.
2. Press a Feature Key on your phone or DDS Console.
   a) On your phone, press the key again to check the DSS/BLF assignment.
3. Do one of the following:
   a) Press another Feature Key to check.
   b) Press **SPEAKER** to exit the check mode.

Checking Personal Speed Dial Assignments
To check a Personal Speed Dial assignment (keyset only):

1. Press **CHECK**.
2. Press a Personal Speed Dial key, as follows:
   a) Press once for the lower-numbered bin name.
   For example, pressing key 1 once shows the name for 701.
   b) Press twice for the lower-numbered bin number.
   For example, pressing key 1 twice shows the number for 701.
   c) Press three times for the higher-numbered bin name.

For example, pressing key 1 three times shows the name for 711.

d) Press four times for the higher-numbered bin number.
For example, pressing key 1 four times shows the number for 711.

3. Do one of the following:

a) Press another Personal Speed Dial key to check.

b) Press **SPEAKER** to exit the check mode.

Using the Check Key to get System Information

To check system information:

1. Press **CHECK**.

2. Follow the chart to check system information.

Check Key System Information		
CHECK +	**Display**	**Description**
INTERCOM	**Extension xxx**	The telephone's extension number.
	Station:xxx	The telephone's station port number.
	Slot:x Port:x	The slot to which the extension is connected, and the port on the card in that slot.
V-MAIL	**IntraMail Version x.xx**	The IntraMail prompt set version number.
	Ports:x Type:Pro	The number of IntraMail ports installed, followed by the IntraMail Type (Pro or Standard).
	Lic Code:	The 13-character IntraMail license code. If you want to upgrade your IntraMail, you'll need to provide this code.
DND	**IP:xxx.xxx.xxx.xxx**	The IP address of the system to which the telephone is connected.
	GW:xxx.xxx.xxx.xxx	The system's gateway (router) address.
	DHCP:xxx	The DHCP status: On, Off, or On (Manual IP).
CONF	**VoIP**	The VoIP installation status: Installed or Not Installed
	Ports:	The number of licensed VoIP ports.
	Lic Code:	The 13-character VoIP license code. If you want to add VoIP ports to the system, you'll need to provide this code.
HOLD	**DSX-xxx x.xx.xx**	The system type (40, 80, or 160) and the software level.
	Installed	The system installation date.
	Sys Code:	The 13-character system code. If you lose the level 3 system password or otherwise get locked out, you'll need to provide this entry so you can get an unlock code.

Class of Service

Customize features and options for extensions and outside lines.

Description

Class of Service (COS) sets various features and options for extensions and outside lines. The system allows any number of extensions and lines to share the same Class of Service. The Class of Service options are provided by the following programs:

- **140x-Station Options**
  - 1401-Features
  - 1402-Access
  - 1403-Single Line Telephone Options
  - 1404-Caller ID
  - 1405-Distinctive Ringing
  - 1406-Call Forwarding Options
  - 1407-Paging
- **141x-Line Options**
  - 1411-Access
  - 1412-Toll Restrictions

Conditions and Defaults

Conditions

- None.

Default Setting

- Extension 300 has Class of Service 1. All other extensions have Class of Service 2.
- All lines have Class of Service 1.

Other Related Features

Features

- Attendant Position on page 36
  - By default, the system assigns Class of Service 1 to the attendant. This provides the attendant with Barge In, Call Forwarding Off Premise, Direct Line Access, Forced Line Disconnect, Night Service, and Line Queuing (Camp-On) capability.

IntraMail Features

- None.

Programming Class of Service

Class of Service Overview
Setting up Class of Service

1. Make a unique Class of Service (1-15) for each set of features and options the site requires.
2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   Assign Class of Service to extensions.

   Extension Class of Service options are the 140x series.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

3. 3102-01: Line Class of Service [Lines: Config: Setup: Access (3102): Class of Service Level]

   Assign Class of Service to lines.

   Line Class of Service options are the 141x series.

Options	Description
1-15	Class of Service level 1-15. [Default] = 2.

Conference

A user can set up a multiple-party telephone meeting without leaving the office.

Description

Conference lets an extension user add additional inside and outside callers to their conversation. The following table shows the system's Conference capacities:

Description	Capacity
Conference circuits	32
Maximum simultaneous users in Conference (total of all Conferences system-wide)	32
Maximum simultaneous conferences	8
Maximum parties in any one Conference (lines and/or extensions)	8

The system's 32 Conference circuits are dynamically allocated as users request them.

Conditions and Defaults

Conditions

- None.

Default Setting

- Conference enabled.

Other Related Features

Features

- Hold on page 278
  - If an extension user places a Conference on Hold, no other participants can place the Conference on Hold, split it, or terminate it.
- Off-Hook Signaling on page 362
  - After hearing off-hook signals, an extension user can Conference their active call with the waiting call.
- Reverse Voice Over on page 427
  - An extension user cannot add an incoming Reverse Voice Over call to a Conference.
- Single Line Telephones on page 444
  - Single line telephones can use Conference.
- Voice Over on page 521

  - An extension user cannot Voice Over to a co-worker busy on a Conference call.

- The following features also allow different types of multiple party calls:
  - Barge In (Intrusion) on page 58
  - Group Listen on page 266
  - Meet-Me Conference on page 331
  - Monitor / Silent Monitor on page 341
  - Privacy Release Groups on page 415
  - Tandem Calls / Unsupervised Conference on page 478

IntraMail Features

- None.

Conference

Using Conference
To set up a Conference:

1. Establish an Intercom or outside call.
2. Press **CONF**.
   a) Your hear Intercom dial tone.
   b) Your caller hears Music on Hold (if installed) while they wait for you to set up the Conference.
3. Do one of the following:
   a) Dial extension you want to add.
   b) Place or answer an outside call.
   c) Retrieve a call from Park Orbit.
4. Press **CONF** to set up the Conference.
   a) If you cannot add additional parties to your Conference, you have exceeded the system's Conference limit.
5. Repeat steps 2-4 to add additional parties to your Conference. You can also do one of the following.
   a) To optionally place a Conference on Hold, press **HOLD**.
   b) To reinstate the Conference on Hold, press **CONF**
6. To exit the Conference, hang up.
   a) The remaining parties can continue their conversation uninterrupted.
   b) If you were in Conference with two outside lines, this may set up a Tandem Call (Unsupervised Conference).

Conference, Meet-Me

Go to Meet-Me Conference on page 331

Conference, Unsupervised

Go to Tandem Calls / Unsupervised Conference on page 478

Contrast Controls

Go to Volume, Brightness, and Contrast Controls on page 552

Cordless Telephones

Provides cordless mobility and a rich feature set for employees away from their desks.

- For the Cordless DECT telephone to take advantage of all 8 function keys and the full LCD display, use system software version 2.18 or higher.

Description

Cordless DECT Telephone

The Cordless DECT Telephone (P/N 730095) is the next generation mobility solution for the busy office. This new cordless telephone for DSX uses advanced DECT wireless technology for improved clarity and range. The Cordless DECT Telephone offer the same extensive DSX feature integration as its sibling DSX Cordless Lite II, such as Call Forwarding, Call Coverage, Hotline, and Voice Mail. Additionally, the new Cordless DECT has 4 more fully programmable function keys with LEDs (8 total!) for even greater mobile operability in a compact handset.

The enhanced LCD display has a full 24-character 2 line display with a 3rd line for unique call status icons. All the display guidance provided to DSX keyset users is now available on their Cordless DECT. This new mobility solution comes complete with a base unit that connects directly to a digital station port.

Additional features include:

- Robust 16-hour talk time with 7-day standby using the provided Nickel Metal Hydride battery (2.4V-910 mAh).
- AC Adaptor.
- Handset charging cradle with a slot to charge a spare battery.

Cordless DECT

Cordless Lite II

Cordless DECT Repeater

Use the Cordless DECT Repeater (P/N 730639) to extend the range of the Cordless DECT Telephone (P/N 730095). During installation, special software is used to "pair" one or multiple repeaters with a specific Cordless DECT Base Unit. This allows the user to walk through a facility and have their call "handed off" to one or more repeaters. The call is then automatically handed back to the Base Unit when the user returns to their desk.

Cordless Lite II Telephone

The DSX Cordless Lite II Telephone (P/N 730087) is a 900 Mhz digital narrow band FM cordless telephone that provides mobility, flexibility and convenience for those who spend much of the workday away from their desk. Fully integrated with the DSX system, the DSX Cordless Lite II Telephone offers many standard features such as Call Forwarding, Call Coverage, Hotline, and Voice Mail. Complemented by 4 fully programmable function keys (with LEDs), the DSX Cordless Lite II Telephone achieves a whole new level of convenience and mobility. An easy-to-read 16-character by 2-line LCD display (with four status icons), volume controls, a rechargeable Nickel Metal Hydride Battery Pack, and a handy belt clip round out the elegant and affordable DSX Cordless Lite II Telephone.

Conditions and Defaults

Conditions

- None.

Default Setting

- N/A

Other Related Features

- Refer to the user guide provided with your cordless telephone.

Delayed Ringing

Delayed Ringing helps co-workers cover each other's unanswered calls.

Description

Delayed Ringing allows a line to start ringing a preset interval *after* the call starts flashing a line key. This is helpful for co-workers that cover each other's calls. For example, a secretary can have Delayed Ringing for the lines that ring the boss's telephone. If the boss doesn't answer after the Delayed Ringing interval, the call will start ringing the secretary's extension.

Conditions and Defaults

Conditions

- None.

Default Settings

- Lines 1-8 immediately ring on line keys 1-8.

Other Related Features

Features

- Call Coverage Keys on page 63
  - Delayed Ringing is also available for Call Coverage Keys.
- Distinctive Ringing on page 204
  - You can set up Delayed Ringing to ring with a distinctive tone.
- Private Line on page 417
  - Consider having Delayed Ringing for Private Lines. Users with Delayed Ringing will ring for the Private Line only if it is not answered.

IntraMail Features

- None.

Programming Delayed Ringing

Delayed Ringing Setup
Setting the ring type and Delayed Ringing timer.

1. 2132-[01-64]: Line Ringing Stations: Config: Ring Assign: Line Ringing (2132): Ring Assignment]

   Set the type of ringing for each line. Delayed Ringing is option 4.

Options	Description
1	Lamp only day and night.
2	[Default] Immediate ringing day and night.
3	Immediate ring at night, lamp only during the day.
4	Delayed ringing day and night.

2. 1604-01: Delay Ring Timer [System: Timers: Features: Station (1604): Delay Ring]

Use this option to set the Delay Ringing interval.

If a line is set for Delayed Ringing, it will initially lamp only and the start to ring after this interval.

Options	Description
0	Delayed Ringing disabled.
1-9999	Seconds. [Default] = 10 seconds.

Delayed Ringing

To set up Line Key ringing at your keyset:

Setting Up Line Key Ringing (Keyset)		
Next: Go to next selection. **Prev**: Go to previous selection. **Select**: Select current Option. **Back**: Back out of current option. **Exit**: Exit Menu setup.		
Menu + **41**	Select the Ring Key Assignments sub-menu.	
	Select	Your line keys will light. Press a line key repeatedly to set its ringing mode: • Always (key LED is on green) • Night Ring (key LED flashes slow green) • Delay Ring (key LED flashes fast green) • Lamp Only (key LED is on red)

To set up Line Key ringing at your Super Display:

Setting Up Line Key Ringing (Super Display)			
Menu + **Ringing**	Select the Ring Assignments sub-menu.		
	Key Assignments	Select the Key Assignments sub-menu.	
		Line	Your line keys will light. Press a line key repeatedly to set its ringing mode: • Always (key LED is on green) • Night Ring (key LED flashes slow green) • Delay Ring (key LED flashes fast green) • Lamp Only (key LED is on red)

Department Groups

Department Groups are the basic building blocks of Ring Group and UCD Group call handling.

- Available in software versions 3.01 and higher.

Description

The system has 30 Department Groups that you can set up as either Ring Groups or UCD Groups, replacing the separate Ring and UCD Groups in prior software versions. Department Groups provide additional group capacity, better flexibility, and more simplified programming. For example:

- There are 30 Department Groups, compared with 8 Ring Groups and 8 UCD Groups in prior versions.
- You can assign all the Department Groups as Ring Groups, all as UCD Groups, or choose any combination of the two.
- To configure a Department Group, just assign extensions to Department Groups and set the group types. Additionally, the group IntraMail options are set up by Department Group regardless of group type. There are no separate IntraMail options for Ring Groups and UCD Groups.

Separately programmed Ring Groups and UCD Groups are no longer available. Circular and Terminal Hunting setup is unchanged

System operators (if assigned) can be Department Group members. This is helpful for Door Box and workgroup answering.

Conditions and Defaults

Conditions

- None.

Default Setting

- All Department Groups are set as Ring Groups.
- Department Groups 1-30 use extension numbers 601-630.

Other Related Features

Features

- Extension Hunting on page 233
  - UCD Groups are uniquely-programmed Department Groups.
- Group Ring on page 268
  - Ring Groups are uniquely-programmed Department Groups.
- Night Service / Night Ring on page 353
  - The Night key sets the day/night status of Department Groups. This is true for both types of groups: Ring Groups and UCD Groups.

IntraMail Features

- Group Mailbox
  - Each Department Group has a Department Group Mailbox. There are not separate Ring Group and UCD Group mailboxes.

Programming Department Groups

Setting up the Department Group Basics
Basic Department Group Setup

1. 2301-01: Department Group Name [Stations: Department Groups: Setup: Identification (2301): Name]

Optionally enter a name for the Department Group (up to 18 characters). Group names make programming easier, particularly when using the DSX System Administrator.

Department Group names are also useful for Directory Dialing.

Options	Description
Alphanumeric	Department Group name (18 characters maximum). [Default] = no name programmed. See the Name Programming Chart on page 351.

2. 2301-02: Department Group Incoming Ring Type [Stations: Department Groups: Setup: Identification (2301): Ring Type]

Use this option to assign a ring type to calls ringing the Department Group master number. When an extension in the Department Group rings, it uses the ring type specified in this option.

Options	Description
0	[Default] Standard (the system's default ringing for Department Group calls which cannot be customized)
1	Ring Type A
2	Ring Type B
3	Ring Type C

3. 2301-02: Department Group Type [Stations: Department Groups: Setup: Identification (2301): Group Type]

Use this option to assign the Department Group type (e.g., Ring Group or UCD Group).

Options	Description
0	None.
1	[Default] Ring Group.
2	UCD Group

4. 2302-01: Department Group Overflow Destination [Stations: Department Groups: Setup: Options (2302): Overflow Destination]

Use this option to assign the Department Group overflow destination.

Options	Description
Digits	Extension number, Department Group number, or 700 for voice mail.
None	[Default] No entry, entered by pressing **CLEAR**.

Department Groups and IntraMail
Department Group Mailbox

1. You set up IntraMail options by Department Group regardless of group type. There are no separate IntraMail options for Ring Groups and UCD Groups.
2. See Group Mailbox for more.

DHCP Support

The site DHCP server can automatically provide the DSX with an IP address and other important network settings.

Description

You can set up the DSX system to be a Dynamic Host Configuration Protocol (DHCP) client. If the installation site has a DHCP server, this means that the site server can automatically provide the DSX with the following important network settings:

- IP Address (the network address of the DSX system).
- Subnet Mask (that allows the site server to differentiate internal LAN from external internet addresses).
- Router Address (the address of the site router that handles external internet traffic).
- Domain Name Server (DNS) Address (the servers that convert domain names [like necdsx.com] to their numeric IP addresses).

DHCP Modes

The DSX can operate as a DHCP client in either of two modes: DHCP or DHCP with Manual IP.

- **DHCP**
  - When the DSX is initially connected to the installation site LAN, it requests the site DHCP server to provide (lease) an IP address from it's available pool of addresses. The DHCP server also provides the Sub- net Mask, Router Address, and the DNS address. Additionally, the DHCP server also tells the DSX the duration of the DHCP lease. Normally, the lease is automatically maintained as long as the DSX is connected to the site LAN. However, depending on the site DHCP server set up, the DSX may be periodically provided with a new IP address. Because of this, the DHCP mode may not be the best choice when using remote programming with the System Administrator.
- **DHCP with Manual IP**
  - n this mode, the DSX gets the Subnet Mask, Router Address, and DNS Address from the site DHCP server but uses the IP address you manually enter. This may be your best choice when setting up remote programming with the System Administrator since the DSX IP address can never change. This option does not set up a DHCP lease, so the Subnet Mask, Router Address, and DNS Server Address settings are applied only one time. Always check with the site network administrator before manually entering an IP address.

DHCP Maintenance Options

The DSX provides two DHCP maintenance options: DHCP Release and DHCP Renew.

- **DHCP Release**
  - This option allows you to manually clear (release) the DHCP lease between the site DHCP server and the DSX system. This releases the IP address in the server for reassignment and automatically clears (sets to 0.0.0.0) the DSX system's DHCP address assignments. This option is only available if you have DHCP enabled. When you release, the system automatically clears (returns to 0.0.0.0) the following assignments: IP Address, Subnet Mask, Router Address, and DNS Server Address.
- **DHCP Renew**
  - Use DHCP Renew to manually renew the DHCP lease between the site DHCP server and the DSX system. This option is only available if you have DHCP enabled. Typically, you'll use this option as a testing or

troubleshooting tool since the DSX automatically renews it's lease in the background before the lease expires. (The lease duration is included in the data sent from the DHCP server to the DSX.) When you renew, the system automatically makes the following assignments: IP Address, Subnet Mask, Router Address, and DNS Server Address.

Options Retained After Upgrade

If upgrading from system software version 1.xx.xx to version 2.02 or higher, the system does the following:

- Retains the settings in:
  - 1104-01: System IP Address [System: Config: Communication: Ethernet (1104): IP Address]
  - 1104-02: System Subnet Mask [System: Config: Communication: Ethernet (1104): Subnet Mask]
  - 1104-03: Default Gateway [System: Config: Communication: Ethernet (1104): Router]
- Disables 1103-01: DHCP Enabled [System: Config: Communication: DHCP (1103): DHCP Enabled].

This preserves the network settings of the system so the System Administrator connects as before the upgrade.

DHCP Client Compatibility

The DSX uses the *udhcp DHCP Client Package*. If you need more information about this DHCP client package for troubleshooting or integration, visit *http://udhcp.busybox.net/*.

Conditions and Defaults

Conditions

- None.

Default Setting

- DHCP enabled.

Other Related Features

Features

- PC Program (System Administrator) on page 387
  - The System Administrator fully supports the DHCP client capabilities of the DSX system.

IntraMail Features

- Email Integration
  - Email Integration can automatically send an email notification when a DSX keyset user receives a new message. The email can optionally include the recorded message as a wav file attachment.

Programming DHCP Support

Setting up the DHCP Options
1. Enable DHCP and set the type.

1. 1103-01: DHCP Enabled [System: Config: Communication: DHCP (1103): DHCP Enabled]

Use this option set up the system as a DHCP client.

Enabling DHCP (option 1) sets up a normal DHCP lease between the DHCP server and the DSX DHCP client. The server automatically provides the DSX with the following: IP Address, Subnet Mask, Router Address, and DNS Server Address.

Enabling DHCP with Manual IP (option 2) does not set up a DHCP lease, so the Subnet Mask, Router Address, and DNS Server Address settings are applied only one time.

Options	Description
No (0)	[Default] DHCP disabled.
Yes (1)	DHCP enabled.
Man/IP (2)	DHCP with Manual IP enabled.

2. 1104-01: System IP Address [System: Config: Communication: Ethernet (1104): IP Address]

   If you used option 2 above (DHCP with Manual IP), use this option to set the system's IP address.

   Always check with the site network administrator before manually entering an IP address.

Options	Description
No (0)	DHCP disabled.
Yes (1)	[Default] DHCP enabled.
Man/IP (2)	DHCP with Manual IP enabled.

2. Set the DHCP maintenance options.

1. 1101-01: Baud Rate [System: Config: Communication: RS232 (1101): Baud Rate]

   Use this option to initiate a DHCP Release.

   DHCP Release releases the IP address in the server for reassignment and automatically clears (sets to 0.0.0.0) he following assignments in the DSX: IP Address, Subnet Mask, Router Address, and DNS Server Address.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Initiate a DHCP Release.

2. 1101-01: Baud Rate [System: Config: Communication: RS232 (1101): Baud Rate]

   Use this option to initiate a DHCP Renew.

   If you have DHCP enabled, this option allows you to manually renew the DHCP lease between the site DHCP server and the DSX system. This renews the following assignments in the DSX: IP Address, Subnet Mask, Router Address, and DNS Server Address.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Initiate a DHCP Renew.

Dial Number Preview

Dial Number Preview helps the user avoid dialing errors.

Description

Dial Number Preview lets a display keyset user dial and review a number before the system dials it out.

Conditions and Defaults

Conditions

- None.

Default Setting

- Enabled.

Other Related Features

Features

- Central Office Calls, Placing on page 128
  - Dial Number Preview allows an extension user to review a number before the system dials it out.

IntraMail Features

- None.

Dial Number Preview

Using Dial Number Preview
To dial using Dial Number Preview:

1. ***Do not*** lift the handset and ***do not*** Press **SPEAKER** or **INTERCOM**.
2. Dial ***.
   a) The top line of your display shows: **Dial Preview**
3. Dial the number you want to call.
   a) Your display shows the digits for your call.
4. Press a line key.
   a) Your call will dial out on the line selected.

Editing the Displayed Number
To correct the displayed digits before dialing them out:

1. Press **VOLUME** until the cursor replaces the digit you want to change.

a) Up moves the cursor left; Down moves the cursor right.

2. Dial the digit that you want to replace the cursor.
3. Do one of the following:
   a) Press **VOLUME** to place the cursor over any other digits you want to edit.
   b) Press **VOLUME** down until the entire number displays to the left of the cursor. The system will only dial the digits to the left of the cursor.
4. Press a line key to have the system automatically dial the displayed number.

Dial Number Preview Editing Example
To replace 2049265410 with 2039265400:

1. Dial * followed by **2049265410**. You see: **2049265410-**
2. Press **VOLUME** up until you see: **20-9265410**
3. Dial **3**. You see: **203-265410**
4. Press **VOLUME** down until you see: **20392654-0**
5. Dial **0**. You see: **203926540-**
6. Press **VOLUME** down until the entire number displays to the left of the cursor. You see: **2039265400-**
7. Press a line key to dial number.

Dial Tone Detection

You can set up the system to detect CO dial tone.

Description

The system can optionally detect precise CO dial tone for automatically dialed outside calls (such as Speed Dial and Auto Redial calls). With Dial Tone Detection enabled for a line, the system will monitor the line when initially seized for valid dial tone or stutter dial tone. If valid EIA/TIA dial tone is detected, the system outdials the call on the line. If dial tone is not detected within 2 seconds, the system will try the next available line in the same line to which the initial line belongs. If another line in the group is not available, the user hears busy tone. Dial Tone Detection ***does not*** apply to manually dialed outside calls.

If Dial Tone Detection is disabled, the system waits 500mS after line seizure and then outdials the number.

If enabled, Dial Tone Detection applies to the following types of outside calls:

- Auto Redial (initial line seizure)
- Caller ID (callbacks)
- Last Number Redial
- Call Forwarding Off Premise
- Save
- Speed Dial

Conditions and Defaults

Conditions

- None.

Default Setting

- Disabled.

Other Related Features

Features

- Dial Tone Detection applies to the following features:
  - Auto Redial on page 41
  - Call Forwarding Off Premises on page 81
  - Caller ID Logging on page 108
  - Last Number Redial on page 299
  - Save Number Dialed on page 438
  - Speed Dial on page 448

IntraMail Features

- None.

Programming Dial Tone Detection

Setting Up Dial Tone Detection

Enable or disable Dial Tone Detection.

1. Check the *Related Features* before changing the setting for this option.
2. 3111-03: Dial Tone Detection [Lines: Config: Options: Features (3111): Dialtone Detect]

   Use this option to enable Dial Tone Detection.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

Direct Inward Dialing

Directly dial system extensions from outside the system.

- DID Translation Name is available in software versions 3.01 or higher.

Description

Direct Inward Dialing (DID) lets outside callers directly dial system extensions. DID saves time for callers who know the extension number they wish to reach. To place a DID call, the outside caller dials the local exchange (NXX) and additional digits to ring the telephone system extension. For example, DID number 926-5400 can directly ring extension 400. The caller does not have to rely on an attendant or receptionist to handle the call. Direct Inward Dialing is an efficient way to handle incoming calls, since callers can reach a large block of extensions over a relatively small number of DID lines. Direct Inward Dialing requires a T1/PRI PCB and T1 DID service with a block (range) of DID numbers from the telco.

For outgoing calls, DID lines operate identically to loop start lines.

In addition to direct dialing of system extensions, DID provides the following:

DID Dialed Number Translation

The system provides a 100-entry DID Translation Table. This table gives you more flexibility when buying DID service from the telco. If you can't buy the exact block of numbers you need (e.g., 300-399), use the translation table to convert the digits received. For example, a translation table could convert digits 500-599 to extension numbers 300-399.

By default, the system uses the last 2 digits of the received DID number to route to extensions 300-399.

Flexible DID Service Compatibility

You can program the system to be compatible with DID service of varying lengths (up to 8 digits). DID service is typically 3 or 4 digits long. With 4 digit service, the telco sends 4 digits to the system for translation. With 3 digit service, the telco sends 3 digits to the system for translation. Be sure to set up your system for compatibility with the provided telco service. Additionally, the system is compatible with Dial Pulse (DP) and DTMF DID signaling. DID lines can be either wink start or immediate start.

By default, there are no DID lines programmed.

DID Station Intercept

DID Station Intercept automatically reroutes DID calls under certain conditions. There are 3 types of DID Station Intercept:

- Busy/DND Intercept
  - If a caller dials an extension that is busy or in Do Not Disturb, the system routes the call to the extension’s programmed DID Station Intercept destination.
- Ring No Answer Intercept
  - If a caller dials an extension that is unanswered, the system routes the call to the extension’s programmed DID Station Intercept destination.
- Busy/DND and Ring No Answer Intercept
  - If a caller dials an extension that is busy, in Do Not Disturb, or is unanswered, the system routes the call to the extension’s programmed DID Station Intercept destination.

By default, DID Station Intercept is disabled for all extensions.

Line Overflow

If an incoming DID call is not answered at the destination extension or at the programmed intercept destination, it routes according to Line Overflow. This ensures that the call has an answering point in the system. Line Overflow typically routes to voice mail or to an extension. If the call is not answered at the overflow extension, it normally diverts to Key Ring. If Line Overflow is disabled, an unanswered DID call routes to Key Ring (and cannot overflow).

By default, Line Overflow is disabled. Unanswered calls route to Key Ring (and cannot overflow).

Vacant Intercept

If a caller misdials or dials an extension that does not exist, or there is a DID Translation Table error, Vacant Intercept handles the call routing. Vacant Intercept is always enabled. Since Line Overflow is disabled by default, Vacant Intercept by default routes to Key Ring (and cannot overflow).

- If the telco doesn't send any digits into the system, or If the digits sent by the telco don't correspond to a DID Translation Table entry, or If the destination extension is out of service:
  - The call follows the 3112-01: Direct Termination in the Day [Lines: Config: Options: Termination (3112): Day Termination: Direct Termination] routing for the line. This includes the settings for Day Termination, Day Overflow, Night Termination, and Night Overflow. The call is handled the same as an analog line and follows the normal system timers.
- If the digits sent by the telco have a DID Translation Table entry with no corresponding destination programmed:
  - No routing occurs and the caller hears busy tone.

DID Camp-On

DID Camp-On sets what happens to DID calls to busy extensions when you have Busy/DND Intercept disabled. With DID Camp-On enabled, a call to a busy extension camps-on to the extension. Without DID Camp-On, the caller to the busy extension just hears busy tone (or follows the intercept programming if enabled).

By default, DID Camp-On is disabled.

DID Routing to Voice Mail

If a DID call is unanswered and is eventually routed to voice mail, it will route to the mailbox of the initial DID destination. This is true regardless of whether the call routed to voice mail via DID Line Overflow, Call Forwarding, or Extension Hunting.

ANI/DNIS Support

The system is compatible with telco's T1 Automatic Number Identification (ANI) and Dialed Number Information Service (DNIS) services. ANI/DNIS services can be provided on T1 loop start, ground start, and DID lines (but not E&M). ANI/DNIS Compatibility provides:

Selectable Receive Format

You can set up the system for compatibility with any combination of ANI, DNIS and Dialed Number (Address) data provided by the telco.

Flexible Routing

The system can route the incoming call based on the received DNIS data and the entries stored in the DID Translation Table.

Caller ID

The system can use the received ANI data to display the caller's number on the called extension's display. The ANI data can be up to 10 digits long. (Note that the T1/PRI PCB can alternately receive normal FSK-based Caller ID if provided by the telco, but cannot route on that data.)

DID Translation Name

[3.01] When a DID call rings an extension, the display can optionally show the name programmed into the DID Translation table for each entry. Since the name is associated with the number the outside caller dialed, the extension user knows the nature of the call before they answer.

When setting up this option, keep the following in mind:

- The telephone display shows the first 11 characters of the DID name, even though the name can be 18 characters long.
- If DID Translation Name is enabled but not programmed, the user sees the name of the incoming line. If there is no line name, the user will see the default line name (e.g., "Line 9" for line 9).

Conditions and Defaults

Conditions

- None.

Default Settings

- Disabled.

Other Related Features

Features

- Extension Hunting on page 233
  - Extension Hunting has priority over DID Station Intercept and DID Line Overflow. For example, if an extension has a Type 3 (Ring No Answer/Busy All) hunt to voice mail and a Type 3 DID Station Intercept to the operator, unanswered calls will route to voice mail. See Extension Hunting to Voice Mail for more .
- T1 Lines on page 474
  - T1 provides advanced digital calling and simplifies installation. T1 lines are required for Direct Inward Dialing.
- Tie Lines on page 480
  - Link two systems together for inter-system Intercom calling and other features.
- Transfer on page 497
  - Transfer recalls do not follow DID Station Intercept.

IntraMail Features

- None.

Basic DID Call Routing

Basic DID Call Routing

1. Is telco sending incorrect digits, or is there a DID Translation Table error?

1. If yes, the call normally follows the following Line Overflow programming (e,g, Vacant Intercept).
   a) 3112-01: Direct Termination in the Day [Lines: Config: Options: Termination (3112): Day Termination: Direct Termination]
   b) 3112-02: Enable Day Overflow [Lines: Config: Options: Termination (3112): Day Termination: Overflow Destination]
   c) 3112-03: Day Overflow Destination [Lines: Config: Options: Termination (3112): Day Termination: Overflow Destination]
2. If no, go to the next step for routing.

2. Is the destination extension allowed to receive DID calls?

1. If yes, go to the next step for routing.
   a) This occurs when 1401-08: Receive DID Calls [System: Class of Service: Features: Features (1401): Allow DID Calls] is **Yes**.
2. If no, the call immediately follows Line Overflow.
   a) This occurs when 1401-08: Receive DID Calls [System: Class of Service: Features: Features (1401): Allow DID Calls] is **No**.

3. Is the destination extension available?

1. If yes, the call rings the destination extension.
   a) If unanswered, go to the next step for routing.
2. If no, go to the next step for routing.

4. Is Station Intercept programmed?

1. If yes and the intercept condition is met, the call routes to the Station Intercept destination set up in:
   a) 2115-02: DID Station Intercept Destination Stations: Config: Options: Hunt/Overflow (2115): DID Intercept Destination]
   b) 2114-02: Station Ring Down Type Stations: Config: Options: OffHook (2114): Ring Down: Type]
2. If yes and the intercept condition is not met, go to the next step for routing.
3. If no, go to the next step for routing.

Is DID Camp-On programmed?

1. If yes:
   a) Check to be sure 1401-09: Receive DID Camp-On [System: Class of Service: Features: Features (1401): DID Camp On]= Yes.
   b) If the extension is unanswered, the call follows Line Overflow.
   c) If the extension is busy or in DND, the call camps-on and then follows Line Overflow.
2. If no:
   a) If the extension is unanswered, the call follows Line Overflow.
   b) If the extension is busy or in DND, the call won't go through (i.e., caller hears busy).

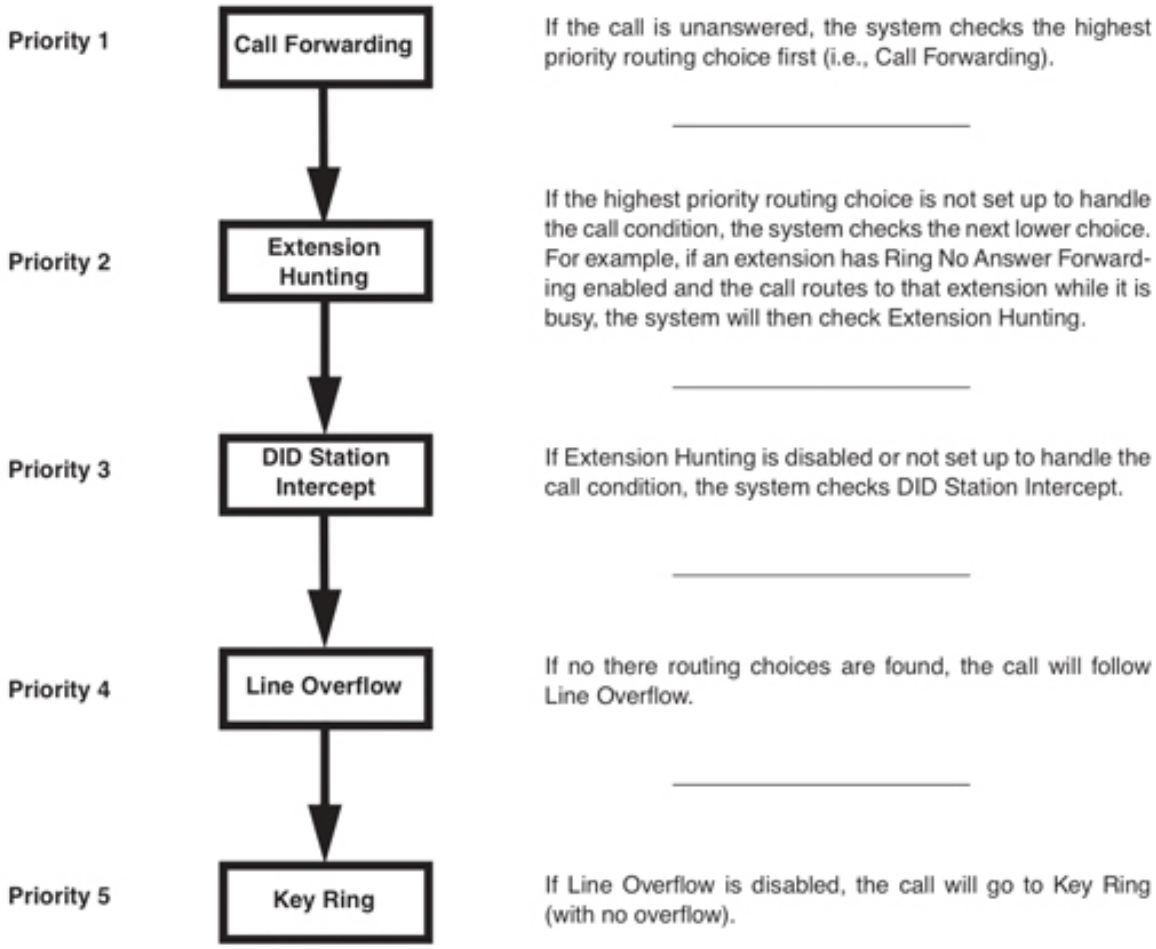
Basic Routing with Call Forwarding and Extension Hunting

Basic Routing Chart

The following chart summarizes how the system handles unanswered DID calls when Call Forwarding and/ or Extension Hunting are enabled at an extension. For the specific routing details, see:

- Detailed Routing with Call Forwarding and Extension Hunting on page 167
- Detailed Routing with Intercept and Line Overflow on page 169

DID with Call Forwarding and Extension Hunting



Detailed Routing with Call Forwarding and Extension Hunting

Detailed Routing Chart

The following table shows the detailed interaction between Call Forwarding and Extension Hunting for unanswered DID Calls. These interactions occur when an extension user enables Call Forwarding and their extension is already part of an Extension Hunting group.

Call Forwarding and Type 1 (Ring No Answer Line) Extension Hunting			
Forwarding Type	Destination Extension		
	Ring No Answer	Busy	In DND
Busy/No Answer *32	• DID call rings destination. • If unanswered, it rings the forwarding destination. • If still unanswered, call routes to Line Overflow.	• DID call rings forwarding destination. • If unanswered, call routes to Line Overflow.	
Immediate *34	• DID call immediately rings forwarding destination. • If unanswered, call routes to Line Overflow		
No Answer *36	• DID call rings destination. • If unanswered, it rings the forwarding destination. • If still unanswered, call routes to Line Overflow.	• DID call Camps-On to destination. • If unanswered, it rings the forwarding destination. • If still unanswered, call routes to Line Overflow.	
Forwarding Off *30	• DID call rings destination. • If unanswered, it rings the hunt destination. • If still unanswered, call routes to Line Overflow.	• DID call Camps-On to destination. • If unanswered, it rings the hunt destination. • If still unanswered, call routes to Line Overflow.	
Call Forwarding and Type 2 (Ring No Answer / Busy Line) Extension Hunting and Call Forwarding and Type 3 (Ring No Answer / Busy All) Extension Hunting and Call Forwarding and Type 4 (Busy Line) Extension Hunting			
Busy/No Answer *32	• DID call rings destination. • If unanswered, it rings the forwarding destination. • If still unanswered, call routes to Line Overflow.	• DID call rings forwarding destination. • If unanswered, call routes to Line Overflow.	
Immediate *34	• DID call immediately rings forwarding destination. • If unanswered, call routes to Line Overflow		
No Answer *36	• DID call rings destination. • If unanswered, it rings the forwarding destination. • If still unanswered, call routes to Line Overflow.	• DID call rings the hunt destination. • If unanswered, call routes to Line Overflow.	
Forwarding Off *30	• DID call rings destination. • If unanswered: - Type 2 and 3 ring the hunt destination. - Type 4 rings the station intercept destination (if programmed). • If still unanswered, call routes to Line Overflow.		

Detailed Routing with Intercept and Line Overflow

Detailed Routing Chart

The following table shows the detailed interaction between DID Station Intercept and Line Overflow for unanswered DID Calls. These interactions occur when an extension has DID Station Intercept enabled, the DID line has Line Overflow enabled, and the call is not intercepted by either Call Forwarding or Extension Hunting.

DID Station Intercept and Line Overflow

Station Intercept	DID Camp-On	Destination Extension		
		Ring No Answer	Busy	In DND
None (0)	**1** (Enabled)	• If unanswered, call routes to Line Overflow.	• Call Camps-On to extension. • If unanswered, call routes to Line Overflow.	
	0 (Disabled)	• If unanswered, call routes to Line Overflow.	• Caller hears busy tone and call does not reroute.	
Busy / DND (1)	**1** (Enabled)	• If unanswered, call routes to Line Overflow.	• Call Camps-On to extension. • If unanswered, call routes to Line Overflow.	• Call routes to intercept destination. • If unanswered, call routes to Line Overflow.
	0 (Disabled)	• If unanswered, call routes to Line Overflow.	• Call routes to intercept destination. • If unanswered, call routes to Line Overflow.	
Ring No Answer (2)	**1** (Enabled)	• If unanswered, call routes to intercept destination. • If still unanswered, call routes to Line Overflow.	• Call Camps-On to extension. • If unanswered, call routes to Line Overflow.	
	0 (Disabled)	• If unanswered, call routes to intercept destination. • If still unanswered, call routes to Line Overflow.	• Caller hears busy tone and call does not reroute.	
Busy / Ring No Answer (3)	**1** (Enabled)	• If unanswered, call routes to intercept destination. • If still unanswered, call routes to Line Overflow.	• Call Camps-On to extension. • If unanswered, call routes to intercept destination. • If still unanswered, call routes to Line Overflow.	• If unanswered, call routes to intercept destination. • If still unanswered, call routes to Line Overflow.
	0 (Disabled)	• If unanswered, call routes to intercept destination. • If still unanswered, call routes to Line Overflow.	• Call routes to intercept destination. • If unanswered, call routes to Line Overflow.	

Basic DID Programming

Programming Basics

1. Set the circuit type for each DID line.

1. Be sure your T1/PRI PCB is installed and connected and that your telco is providing T1 DID service.
2. 3101-01: Line Type [Lines: Config: Setup: Type (3101): Type]

   Use this option to enter the correct circuit type for each DID line

Options	Description
03	DID Wink Start.
04	DID Immediate Start .
-	[Default] No DID circuit types assigned.

3. 3101-03: DTMF Dialing [Lines: Config: Setup: Type (3101): DTMF Dialing]

   Use this option to indicate whether the line is DTMF (1) or Dial Pulse (0).

Options	Description
No (0)	Dial Pulse.
Yes (1)	[Default] DTMF.

4. If your telco provides DID service using E&M Wink Start DTMF signaling, choose circuit type 03 (DID Wink Start) and enable 3101-03: DTMF Dialing [Lines: Config: Setup: Type (3101): DTMF Dialing].

2. Set up DID Translation.

1. 3301-01: Number of DID Digits [Lines: DID: Setup: Configuration (3301): Number of DID Digits]

   Specify the number of incoming DID digits you expect to receive from the telco for each DID call.

   This is the number of received DID digits that the system feeds into the DID Translation Table in the next step.

Options	Description
1-8	DID digits received. [Default] = 3.

2. 3301-02: Name Display [DID: Setup: Configuration (3301): DID Name Display]

   When a DID call rings an extension, the setting of this option determines the source of the displayed DID name. The display can show the programmed line name, the name from the DID Translation Table, or just show the incoming DID number.

Options	Description
0	[Default] Use the line name.
1	Use DID Translation Table name.
2	Use incoming DID number.

3. 3302-01: Incoming DID Digits [Lines: DID: Setup: Translations (3302): Incoming Digits]

This is the first step in building a DID Translation Table. Specify the digits you expect to receive from the telco.

The default entry of *** means the system accepts any three digits.

Options	Description
Digits	1-8 total digits using 0-9.
*****	Wild card representing any digit. [Default] = *** for entry 001. All other table entries are blank.

4. 3302-01: Day Translation Destination [Lines: DID: Setup: Translations (3302): Day Translation]

For the incoming digits received, use this option to define the day destination for the call.

The default entry of 3** means the system routes to an extension in the day mode according to the last two digits dialed.

Options	Description
Digits	1-8 total digits using 0-9.
*****	Wild card representing any digit. [Default] = 3** for entry 001. All other table entries are blank.

5. 3302-01: Night Translation Destination [Lines: DID: Setup: Translations (3302): Night Translation]

For the incoming digits received, use this option to define the night destination for the call.

The default entry of 3** means the system routes to an extension in the night mode according to the last two digits dialed.

Options	Description
Digits	1-8 total digits using 0-9.
*****	Wild card representing any digit. [Default] = 3** for entry 001. All other table entries are blank.

6. 3302-01: DID Name [Lines: DID: Setup: Translations (3302): DID Name]

For the DID entry you are programming, use this option to assign a name (18 characters maximum). This name can optionally display when the DID call rings an extension.

Options	Description
Alphanumeric	DID entry name (18 characters maximum). [Default] = no name programmed. See the Name Programming Chart on page 351.

7. 3302-01: Schedule [Lines: DID: Setup: Translations (3302): Schedule]

For the table entry you are programming, use this option to assign the schedule that should handle routing for the call.

Options	Description
1-8	Schedule 1-8.

Options	Description
0	[Default] Line. The DID entry uses the schedule specified for the line on which the call was received.

3. Allow the extension to receive DID calls.

1. 1401-08: Receive DID Calls [System: Class of Service: Features: Features (1401): Allow DID Calls]

   If you enable this option, the extension can receive DID calls. If disabled, DID calls won't go through.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

3. See Programming Caller ID on page 104 to set up the Caller ID ANI/DNIS services.

Programming Line Overflow

Setting Up Line Overflow

1. Set up day mode Line Overflow.

1. 3112-02: Enable Day Overflow [Lines: Config: Options: Termination (3112): Day Termination: Overflow Destination]

   Use this option to enable or disable day mode Line Overflow.

   If disabled, an unanswered call during the day diverts to Key Ring without overflow (unless intercepted by other features).

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 3112-03: Day Overflow Destination [Lines: Config: Options: Termination (3112): Day Termination: Overflow Destination]

   If day overflow is enabled, use this option to set the day overflow destination.

Options	Description
Digits	The destination can be: • An extension. [Default] = 300. • A UCD Group master number. • The voice mail master number. • A Ring Group master number • Key Ring (entered by pressing **Clear**).

3. 1601-01: Line No Answer Timer [System: Timers: Features: Incoming (1601): Line No Answer]

   When day overflow is enabled, this timer determines how long the call rings its initial destination before diverting to the overflow destination.

   When day overflow is disabled, this timer determines how long the call rings its initial destination before diverting to Key Ring.

   This timer also applies to Direct Inward Lines for a Ring Group. For DILs to an extension, use 1601-02: DIL No Answer Timer [System: Timers: Features: Incoming (1601): DIL No Answer] instead. For DILs to a UCD Group, see Extension Hunting on page 233.

Options	Description
1-9999	Seconds. [Default] = 15 seconds.

4. 1601-02: DIL No Answer Timer [System: Timers: Features: Incoming (1601): DIL No Answer]

   When day overflow is *enabled* for a DIL to an extension, this timer determines how long the call rings the DIL destination before diverting to the overflow destination.

   When day overflow is *disabled* for a DIL to an extension, the call diverts to Key Ring after this interval.

   This interval also sets how long any call rings its overflow destination before diverting to Key Ring.

Options	Description
1-9999	Seconds. [Default] = 15 seconds.

1. Set up night mode Line Overflow.

1. 3112-05: Enable Night Overflow [Lines: Config: Options: Termination (3112): Day Termination: Activate Overflow]

   Use this option to enable or disable night mode Line Overflow.

   If disabled, an unanswered call at night diverts to Key Ring without overflow (unless intercepted by other features).

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 3112-06: Night Overflow Destination [Lines: Config: Options: Termination (3112): Day Termination: Activate Overflow]

   If night overflow is enabled, use this option to set the night overflow destination.

Options	Description
Digits	The destination can be: • An extension. [Default] = 300. • A UCD Group master number. • The voice mail master number. • A Ring Group master number • Key Ring (entered by pressing **Clear**).
Key Ring	[Default] Entered by pressing **Clear**.

3. 1601-01: Line No Answer Timer [System: Timers: Features: Incoming (1601): Line No Answer]

   When night overflow is enabled, this timer determines how long the call rings its initial destination before diverting to the overflow destination.

   When night overflow is disabled, this timer determines how long the call rings its initial destination before diverting to Key Ring.

   This timer also applies to Direct Inward Lines for a Ring Group. For DILs to an extension, use 1601-02: DIL No Answer Timer [System: Timers: Features: Incoming (1601): DIL No Answer] instead. For DILs to a UCD Group, see Extension Hunting on page 233.

Options	Description
1-9999	Seconds. [Default] = 15 seconds.

4. 1601-02: DIL No Answer Timer [System: Timers: Features: Incoming (1601): DIL No Answer]

   When night overflow is *enabled* for a DIL to an extension, this timer determines how long the call rings the DIL destination before diverting to the overflow destination.

   When night overflow is *disabled* for a DIL to an extension, the call diverts to Key Ring after this interval.

   This interval also sets how long any call rings its overflow destination before diverting to Key Ring.

Options	Description
1-9999	Seconds. [Default] = 15 seconds.

Programming DID Intercept and Camp-On

Setting Up DID Station Intercept and DID Camp-On

1. Set up DID Station Intercept at an extension.

1. 2115-02: DID Station Intercept Type Stations: Config: Options: Hunt/Overflow (2115): DID Intercept Type]

   Use this option to set the condition that will cause DID Station Intercept to occur (e.g., station busy, unanswered, etc.).

Options	Description
0	[Default] None.

Options	Description
1	Busy/DND • DID Intercept occurs when the extension is busy or in Do Not Disturb.
2	Ring No Answer • DID Intercept occurs when the extension is unanswered.
3	Busy/DND and Ring No Answer • DID Intercept occurs when the extension is busy, in Do Not Disturb, or is unanswered.

2. 2115-02: DID Station Intercept Destination Stations: Config: Options: Hunt/Overflow (2115): DID Intercept Destination]

Use this option to assign the extension's DID Station Intercept destination. This is the destination to which the call routes after the initial destination is unanswered.

Options	Description
No (0)	The destination can be: • An extension. [Default] = 300. • A UCD Group master number. • The voice mail master number. • A Ring Group master number

3. 1601-02: DIL No Answer Timer [System: Timers: Features: Incoming (1601): DIL No Answer]

When DID Station Intercept enabled, this timer determines how long the call rings its initial destination before diverting to the intercept destination.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 15 seconds.

2. Set up DID Camp-On.

1. 1401-09: Receive DID Camp-On [System: Class of Service: Features: Features (1401): DID Camp On]

This option enables and disables the ability of a DID call to Camp-On to an extension when it is unavailable.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Direct Inward Line

A DIL lets an employee know which calls are just for them.

Description

A Direct Inward Line (DIL) is a line that rings an extension directly. Since DILs only ring one extension, employees always know which calls are for them. For example, a company operator can have a Direct Inward Line for International Sales Information. When outside callers dial the DIL's phone number, the call rings the operator on the International Sales line key. The DIL does not ring other extensions.

Assigning a DIL to an extension automatically provides immediate ringing and incoming access for the line, with no additional programming required.

A DIL can ring:

- Extension numbers (including the attendant's extension)
- Ring Group master numbers
- UCD Group master numbers (including the voice mail master number)

Night Mode Control

The extension to which the line is terminated controls the night mode of the line. For example, if extension 301 has line 1 assigned as a DIL, the user can press **DND** to switch line 1 to its night routing destination. Switching line 1 to night mode at extension 301 has no affect on the night mode of the system. This flexibility could allow a service dispatcher with several DILs to independently send lines to their night destinations without affecting the night mode of the entire system.

Overflow for Direct Inward Lines

If unanswered, DIL calls can route to a programmed overflow destination. The overflow destination can be an extension, Ring Group, UCD Group or voice mail (i.e., DIL destination's mailbox). You can set up separate DIL overflow destinations for the day mode and at night. If unanswered at the overflow destination, the call diverts to Key Ring.

Conditions and Defaults

Conditions

- None.

Default Setting

- No DILs assigned.

Other Related Features

Features

- Call Forwarding on page 71
  - Call Forwarding will reroute an extension's DILs.
- Call Waiting / Camp-On on page 93

    - A DIL to a busy extension will send Camp-On tones (if the extension is programmed to normally receive Camp-On tones).

- Central Office Calls, Answering on page 121
- Central Office Calls, Placing on page 128
    - Refer to these features to set additional parameters for lines (such as transmit gain, receive gain and sidetone level). In addition, extension users can place calls on DILs, just like other lines (depending on programming).
- Delayed Ringing on page 151
    - DILs automatically override Delayed Ringing.
- Do Not Disturb on page 217
    - Enabling Do Not Disturb at an extension puts that extension's DILs into Night Mode.
- Extended Ringing on page 231
    - With Extended Ringing enabled, DIL lines ring for the Number of Extended Rings before routing to the overflow destination.
- Extension Hunting on page 233
    - DILs to a Circular or Terminal Hunting group member initiate hunting. In addition, DILs to a UCD Group master number ring the UCD Group directly
- Group Ring on page 268
    - A DIL can ring a Ring Group master number.
- Key Ring on page 295
    - An unanswered DIL diverts to all extensions with Key Ring for the line.
- Line Keys on page 307
- Loop Keys on page 329
    - When you assign a line as a DIL, it continues to flash its previously programmed line/loop key assignments. It will not, however, ring those phones.
- Names for Extensions and Lines on page 348
    - Programming names for DILs makes it easier to identify incoming callers.
- Night Service / Night Ring on page 353
    - The extension to which the DIL is terminated controls the night mode of the DIL by pressing their DND key.
- Off-Hook Signaling on page 362
    - A DIL ringing a busy extension can automatically initiate Off-Hook Signaling.
- Paging on page 367
    - DILs cannot ring over the External Paging speakers or activate the page relay.
- Prime Line Preference on page 406
    - If an extension's Prime Line is another extension's DIL, lifting the handset will answer the call even though it does not ring the phone.
- Voice Mail (IntraMail) on page 516
    - The voice mail Automated Attendant will answer a DIL terminated to the voice mail Master Number.

- If a DIL is terminated to the voice mail master number, a System Mode key (code 18 + the voice mail number) controls the night mode status of the DIL.

IntraMail Features

- Voice Mail Overflow
  - An unanswered DIL to the Ring Group master number can be picked up by the Ring Group Mailbox.

Programming Line Termination

Key Ring and DIL Basic Setup
Set up Key Ring or a Direct Inward Line answering point.

1. Check Programming Outside Line Type, Access, and Ringing on page 130 to be sure the settings for the line match the connected telco service.
2. 3112-01: Direct Termination in the Day [Lines: Config: Options: Termination (3112): Day Termination: Direct Termination]

   Use this option to assign the day mode termination (answering point).

Options	Description
Digits	The destination can be: • An extension. • A UCD Group master number. • The voice mail master number. • A Ring Group master number • [Default] Key Ring (entered by pressing **Clear**).

3. 3112-04: Direct Termination at Night [Lines: Config: Options: Termination (3112): Night Termination: Direct Termination]

   Use this option to assign the night mode termination (answering point).

Options	Description
Digits	The destination can be: • An extension. • A UCD Group master number. • The voice mail master number. • A Ring Group master number • [Default] Key Ring (entered by pressing **Clear**).

Direct Inward Line

Handling Your Direct Inward Lines

To answer a call on your Direct Inward Line:

1. The line (or loop) key for your DIL flashes fast.
2. Lift the handset.
   a) The key lights on (green) when you connect to your caller.

To place your Direct Inward Line into the Night Mode:

1. Press **DND**.
   a) **DND** flashes.
2. Set the DND mode.
   a) Dial **1** for DND for outside calls.
   b) Dial **2** for DND for Intercom calls.
   c) Dial **3** for DND for all calls.
   d) Alternately dial **0** to cancel DND.
3. This places your extension in DND and sends your DIL to its night destination.

Direct Line Access

Priority users can access lines directly. Direct Line Access also lets maintenance personnel access and test individual lines.

Description

Direct Line Access lets an extension user access (seize) an individual line. After seizing the line, the user can dial any outside telephone number without restriction. An extension's Class of Service allows or denies Direct Line Access. Direct Line Access is normally only provided for attendants, priority users and maintenance personnel.

Conditions and Defaults

Conditions

- None.

Default Setting

- Enabled for Class of Service 1 (the attendant).
- Disabled for Classes of Service 2-15.

Other Related Features
Features

- Central Office Calls, Placing on page 128
  - Refer to this feature for other methods of placing outside calls.
- Forced Line Disconnect on page 261
  - An extension user with Direct Line Access can use Forced Line Disconnect.
- Removing Lines and Extensions from Service on page 425
  - An extension user with Direct Line Access can remove lines from service.
- Toll Restriction on page 488
  - Direct Line Access does not bypass Toll Restriction.

IntraMail Features

- None.

Programming Direct Line Access

Setting up Direct Line Access
How to set up Direct Line Access

1. 1402-06: Direct Line Access [System: Class of Service: Stations: Stations (1402): Direct Line Access]

   Use this option to enable or disable Direct Line Access capability in an extension's Class of Service.

Options	Description
No (0)	Disabled. [Default] for COS 2-15.
Yes (1)	Enabled. [Default] for COS 1.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

When you enable this option, it is not necessary to allow access in 2131-[01-64]: Line Access Stations: Config: Line Access: Line Access (2131): Line Access]. Direct Line Access automatically provides access.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Direct Line Access

Using Direct Line Access

To place a call over a specific line using Direct Line Access:

1. Lift the handset.
2. Press **INTERCOM**.
3. Dial **1** plus the line number (e.g., dial 101 to access line 1).
   a) If you hear busy tone, you may be able to dial **2** to queue for the line. See Line Queuing / Line Callback for more.
4. Dial the outside number.

Direct Station Selection (DSS)

Quickly place and Transfer calls to co-workers, without having to look up or dial your co-worker's extension numbers.

Description

Important
If you enable an extension's DSS Keys and leave the extension's default Prime Line programming intact, the line keys automatically change to DSS keys when the user lifts the handset. ***To avoid confusion, be sure to explain this to your users.***
You may prefer to use the Call Coverage Keys on page 63 or Hotline on page 285 features instead. Remember, in addition to providing one-button Intercom access and Transfer, Call Coverage Keys also provide call pickup capability.

If an extension's Direct Station Selection (DSS) Keys are enabled, Feature Keys *automatically* become Direct Station Selection (DSS) keys when the user presses **INTERCOM**. Direct Station Selection provides an extension user with one-button Intercom access and Transfer to co-workers. Each DSS key also provides a Busy Lamp Field (BLF) for the assigned co-worker.

When the DSS/BLF key is:	The covered extension is:
Off	Idle
On	Busy or ringing
Flashing fast	In Do Not Disturb

Conditions and Defaults

Conditions

- DSS keys do not pick up ringing calls.

Default Setting

- Not assigned. DSS capability is disabled.

Other Related Features

Features

- Intercom on page 292
  - A user can press a DSS key as an alternative to dialing Intercom numbers.
- Prime Line Preference on page 406
  - With Intercom Prime Line, an idle extension user hears Intercom dial tone whenever they lift the handset or press **SPEAKER**. Since each extension's Busy Lamp Field is disabled by default, the Feature Keys do not go into the DSS mode when the user lifts the handset while idle. (If an outside call is ringing the phone,

Ringing Line Preference will normally answer the call when the user lifts the handset — even with Intercom Prime Line enabled.)

- Speed Dial on page 448
  - The Personal Speed Dial Keys also provide one-button access to extensions.
- Transfer on page 497
  - You can press your DSS key to Transfer a call instead of dialing a co-worker's extension number.
- Voice Over on page 521
  - An extension can Voice Over after using Direct Station Selection to call a co-worker.

IntraMail Features

- None.

Programming Direct Station Selection (DSS) Basics

Setting up DSS Keys
How to set up DSS keys.

1. 2111-03: BLF Lamps [Stations: Config: Options: Features (2111): BLF Lamps]

Use this option to enable or disable the DSS function for an extension's Feature Keys.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 2114-01: Prime Line Type [Stations: Config: Options: OffHook (2114): Prime Line (Primary): Type]

Do not enable Intercom Prime Line. This prevents the extension's line keys from switching to DSS mode when the user lifts the handset while idle. See Prime Line Preference on page 406

3. 2123-[01 to 24]: DSS/BLF Key Assignments Stations: Config: DSS Keys: BLF Assignment (2123): Extension]

Use this option to set up an extension's DSS assignments.

Options	Description
Digits	Extension number (for stations only - not UCD Groups or Ring Groups). [Default] Undefined, entered by pressing **CLEAR**.

Direct Station Selection (DSS)

Using Direct Station Selection

- If you have your DSS Keys enabled and leave your default Prime Line programming intact, your line keys automatically change to DSS keys when you lift the handset.
- You may prefer to use the Call Coverage Keys on page 69 or Hotline features instead. Remember, in addition to providing one-button Intercom access and Transfer, Call Coverage Keys also provide call pickup capability.

To place a call to a co-worker using a DSS key:

1. Lift the handset.
2. Press **INTERCOM**.
   a) Your DSS keys show the status of the assigned extension.
3. Press DSS key for the co-worker you want to call.

To Transfer a call to a co-worker using a DSS key:

1. Place or answer an outside call.
2. Press **INTERCOM**.
   a) Your DSS keys show the status of the assigned extension.
3. Press DSS key for the co-worker you want to call.
4. Do one of the following:
   a) Press **TRANSFER** to have the Transfer go through unscreened.
   b) Wait for your co-worker to answer if you want them to screen the Transfer, then press **TRANSFER**.

To assign your DSS keys at a keyset:

Setting Up DSS Keys (Keyset)			
Next: Go to next selection. **Prev**: Go to previous selection. **Select**: Select current Option. **Back**: Back out of current option. **Exit**: Exit Menu setup.			
Menu + **53**	Select the BLF Assignment sub-menu		
	01-24	Enter the DSS key you want to set up.	
		Select	Push to select the key chosen in the previous step.
			BLF Extension Num 1. Enter the number of the extension you want to assign to the key. 2. Push **Save** to save your entry or **Cancel** to exit without saving.

To assign your DSS keys at a Super Display:

Setting Up DSS Keys (Keyset)	
Menu + **Key Assignment**	Select the Key Assignment sub-menu

Setting Up DSS Keys (Keyset)			
	BLF Key	Push to select the DSS/BLF sub-menu.	
		01-24	Enter the DSS key you want to set up.
		Select	Push to select the key chosen above.
			BLF Extension Num **1.** Enter the number of the extension you want to assign to the key. **2.** Push **Save** to save your entry or **Cancel** to exit without saving.

Direct Station Selection (DSS) Console

DSS Consoles provide one-touch access to extensions, lines, and system features.

Description

The DSS Console (P/N 1090024 for black and P/N 090029 for white) gives a keyset user one-button access to extensions, lines, and selected features. This saves time for users that do a lot of call processing such as operators or dispatchers)

The system allows you to install 4 DSS Consoles maximum per system. DSS Consoles use their own digital station port and do not require a separate power supply. In programming, you assign each installed console to an “owner” keyset. Each console can only have one owner.

You can assign the following types of Feature Keys to a DSS Console:

Account Code	Intercom Directory Dialing	Save Number Dialed
Call Coverage (immediate, delayed or no ring)	Line keys	Speed Dial, Personal
Call Forwarding	Message Center	Speed Dial, System
Group Call Pickup (immediate, delayed or no ring)	Night key	Split
Headset key	Page Zones	Voice Mail Conversation Record
Hotline	Park Orbit	
Skip Ahead	Manual Activation Mode	

Conditions and Defaults

Conditions

- You must consider the System Load Factor when installing DSS Consoles.

Default Setting

- Keys 1-48 = Hotline keys to extensions 301-348.
- Key 349 = Page Zone 1
- Key 350 = Page Zone 2
- Key 351 = Page Zone 3
- Key 352 = All Call Page
- Key 353 = System Park Orbit 60
- Key 354 = System Park Orbit 61
- Key 355 = System Park Orbit 62
- Key 356 = System Park Orbit 63
- Key 357 = System Park Orbit 64
- Key 358 = System Park Orbit 65
- Key 359 = System Park Orbit 66
- Key 360 = Night key

Other Related Features

Features

- Account Codes on page 21
  - A DSS Console can have an Account Code key to simplify Account Code entry.
- Call Coverage Keys on page 63
  - A DSS Console can have Call Coverage keys.
- Call Forwarding on page 71
  - A DSS Console Call Forwarding key can streamline Call Forwarding operation.
- Central Office Calls, Answering on page 121
- Central Office Calls, Placing on page 128
  - A DSS Console can have line keys for placing and answering outside calls.
- Directory Dialing on page 198
  - Assign a Directory Dialing key on a DSS Console.
- Group Call Pickup on page 263
  - A DSS Console can have Group Call Pickup keys.
- Headset Compatibility on page 274
  - A DSS Console headset key can simplify switching the headset mode.
- Hotline on page 285
  - A DSS Console can have Hotline keys.

- Night Service / Night Ring on page 353
  - A DSS Console can have night keys for putting the system and UCD Groups into the night mode.
- Paging on page 367
  - A DSS Console can have Page zone keys.
- Park on page 379
  - A DSS Console can have Park keys.
- Reverse Voice Over on page 427
  - A DSS Console can have Reverse Voice Over keys.
- Save Number Dialed on page 438
  - A DSS Console can have a Save key.
- Speed Dial on page 448
  - A DSS Console can have keys for Personal and System Speed Dial numbers. The DSS Console Personal Speed Dial numbers are the same as the extension to which the console is attached.
- Split (Alternate) on page 458
  - A DSS Console can have a Split key
- Voice Mail (IntraMail) on page 516
  - A DSS Console can have voice mail Record and Message Center keys.

IntraMail Features

- None.

DSS Console Feature Key Assignments

DSS Console Key Assignments Chart

DSS Console Feature Key Assignments			
Key Type	**Description**	**Code and Data**	**Operation**
Undefined	Use this option to designate a Feature Key as undefined (no function).	0	N/A
Line Keys on page 307	Use this option to assign a Feature Key as a line key.	03 + nn (line number 1-64)	Press the key to place or answer call.
	Busy Lamp Field (BLF) *Off*: Line is idle or not installed. *On (red)*: A co-worker is busy on the line or has the line on Exclusive Hold. O*n (green)*: You are busy on the line. *Wink On (red)*: On System Hold at a co-worker's extension. *Wink On (green)*: On System Hold at your extension. *Double Wink On (green)*: On Exclusive Hold or recalling your extension.		

DSS Console Feature Key Assignments			
Key Type	**Description**	**Code and Data**	**Operation**
	Slow Flash (red): Line is ringing. *Slow Flash (green)*: Line is ringing or your extension directly.		
Park on page 379	Use this option to assign a Feature Key as a Park Orbit key.	04 + nn (Park Orbit 60-69)	Press key to Park or retrieve parked call.
	Busy Lamp Field (BLF) *Off*: Orbit is idle. *On*: Orbit is holding a parked call. *Wink On (green)*: Orbit is holding a call you parked.		
Hotline on page 285	Use this option to assign a Feature Key as a Hotline key. You cannot set up a hotline for an outside line.	05 + nnn (extension number)	Press key to call Hotline partner.
	Busy Lamp Field (BLF) *Off:* Partner extension is idle. *On:* Partner extension is busy or ringing. *Medium Flash:* Partner extension is in DND for outside calls (option 1). *Fast Flash:* Partner extension is in DND for Intercom calls (option 2) or All Calls (option 3).		
Call Coverage Keys on page 63	Use this option to assign a Feature Key as an immediately ringing Call Coverage Key.	06 + nnn (extension number)	Press key to call covered extension or pick up ringing call.
	Use this option to assign a Feature Key as a lamp only (no ring) Call Coverage Key.	07 + nnn (extension number)	
	Use this option to assign a Feature Key as a delayed ringing Call Coverage Key.	08 + nnn (extension number)	
	Busy Lamp Field (BLF) *Off:* Covered extension is idle. *On:* Covered extension is busy. *Slow Flash:* Covered extension is ringing. *Medium Flash:* Covered extension is in DND for outside calls (option 1). *Fast Flash:* Covered extension is in DND for Intercom calls (option 2) or All Calls (option 3).		

DSS Console Feature Key Assignments			
Key Type	**Description**	**Code and Data**	**Operation**
Group Call Pickup on page 263	Use this option to assign a Feature Key as an immediately ringing Group Call Pickup key.	09 + nn (Pickup Group 1-16)	Press key to answer call ringing Pickup Group.
	Use this option to assign a Feature Key as a lamp only (no ring) Group Call Pickup key.	10 + nn (Pickup Group 1-16)	
	Use this option to assign a Feature Key as a delay ring Group Call Pickup key.	11 + nn (Pickup Group 1-16)	
	Busy Lamp Field (BLF) *Off:* No call is ringing the pickup group. *Slow Flash (green):* A call is ringing the pickup group.		
Paging on page 367	Use this option to assign a Feature Key as a Page Zone key.	13 + n (Page Zone 1- 7, 0 for All Call)	Press key to Page into assigned zone.
	Busy Lamp Field (BLF) *On:* The assigned Page zone is busy. *On (green):* The assigned Page zone is busy broadcasting an announcement you are making. *Off:* The assigned Page zone is idle.		
Speed Dial on page 448	Use this option to assign a Feature Key as a System Speed Dial key. You assign the key to specific System Speed Dial number.	14 + nnn (number 001-999)	Press key to dial stored number.
	There is no BLF for this key type.		
Speed Dial on page 448	Use this option to assign a Feature Key as a Personal Speed Dial key. You assign the key to a specific Personal Speed Dial number.	15 + nnn (01-20)	Press key to dial stored number.
	There is no BLF for this key type.		
Voice Mail Record	Use this option to assign a Feature Key as a Voice Mail Record key. • You must have voice mail installed to use this key.	17 + nnn (extension number of valid Subscriber Mailbox)	Press key to record conversation into mailbox.

DSS Console Feature Key Assignments			
Key Type	**Description**	**Code and Data**	**Operation**
	• A voice prompt and periodic beep will remind you that your calls are being recorded.		
	Busy Lamp Field (BLF) *Off:* Conversation Record is off. *Fast Flash (green):* Conversation Record is on.		
Night Service / Night Ring on page 353	Use this option to assign a Feature Key as a Night key.	18	Press key to activate night mode.
	Busy Lamp Field (BLF) *On:* Night mode is on. *Off:* Night mode is off.		
Split (Alternate) on page 458	Use this option to assign a programmable key as a Split key.	20	See Split (Alternate) on page 458 for more.
	There is no BLF for this key type.		
Directory Dialing on page 198	Use this option to assign a programmable key as an Intercom Directory Dialing key.	21	Press key to access Intercom Directory Dialing.
	Busy Lamp Field (BLF) *On:* Intercom Directory Dialing is active (being used). *Off:* Intercom Directory Dialing is inactive (off).		
Voice Mail (IntraMail) on page 516	Use this option to assign a Feature Key as a Message Center key.	24 + nnn (extension number)	Press key to call Message Center Mailbox.
	Busy Lamp Field (BLF) *Off:* No messages waiting in the Message Center Mailbox. *Fast Flash (green):* Messages waiting in the Message Center Mailbox.		
Save Number Dialed on page 438	Use this option to assign a Feature Key as a Save Number Dialed key.	25	*While on a call*, press key to save the number you just dialed. *While idle*, press key to redial a previously saved number.
	There is no BLF for this key type.		

DSS Console Feature Key Assignments			
Key Type	**Description**	**Code and Data**	**Operation**
Account Codes on page 21	Use this option to assign a Feature Key as an Account Code key.	26	Place or answer outside call + Press key + Enter Account Code + Press key to return to call.
	Busy Lamp Field (BLF) *Off:* Not in Account Code mode or not entering Account Codes. *Fast Flash (green):* In the Account Code entry mode. *On (green):* On a call for which the user has entered an Account Code.		
Call Forwarding on page 71	Use this option to assign a Feature Key as a Call Forwarding key.	27	Press key instead of pressing **INTERCOM** and dialing ***3**.
	Busy Lamp Field (BLF) *Off:* Extension not call forwarded or in the Call Forwarding setup mode. *Fast Flash:* In the Call Forwarding setup mode. *Wink Off:* Extension has Call Forwarding enabled.		
Headset Compatibility on page 274	Use this option to assign a Feature Key as a Headset key.	28	Press key to enable or disable headset mode.
	Busy Lamp Field (BLF) *Off:* Extension is not in the headset mode. *On:* Extension is in the headset mode.		
Line Schedules on page 312	Use this option to assign a Feature Key as a Skip Ahead key.	32 + n (Schedule 1-8)	Press key to advance to the next Line Schedule.
	Busy Lamp Field (BLF) *Off:*Skip Ahead inactive. *On:*Skip Ahead active.		
Line Schedules on page 312	Use this option to assign a Feature Key as a Manual Activation Mode key.	33 + n through 36 + n (Schedule 1-8)	Press key to manually activate the assigned schedule.
	Busy Lamp Field (BLF) *Off:*Manual Activation Mode inactive. *On:*Manual Activation Mode active.		

Programming DSS Consoles

Setting up the DSS Console
Assigning the software port and console owner.

1. 1202-01: Primary Station Port Assignment [System: Ports: Slot x: Station Port Configuration (1201/1202/1203): Primary]

Assign each DSS Console hardware (physical) port to a software port.

1. As you install each DSS Console, make a note of the physical (hardware) port to which the console is connected.
2. For each of these physical ports, enter a software port from the following list.

- **301** for DSS Console 1
- **302** for DSS Console 2
- **303** for DSS Console 3
- **304** for DSS Console 4

3. Note that these are not extension numbers - they are the software ports that identify the DSS Consoles

The first DSS Console installed auto-IDs as software port 301.

- This means that, in a new system, you can plug a DSS Console into any ESIU port and it automatically will get software port 301 and be console 1.

Options	Description
301	Software port for DSS Console 1.
302	Software port for DSS Console 2.
303	Software port for DSS Console 3.
304	Software port for DSS Console 4.

2. 2401-01: DSS Owner [Stations: DSS Consoles: DSS1: Association (2401): DSS Owner]

Enter the number of the keyset extension that will be using the DSS Console. This is termed the console owner.

- In a new system, the owner of DSS Console 1 is preassigned to extension 300.

Options	Description
Extension	Extension number of the DSS Console owner. [Default] for console 1 = 300. Consoles 2-4 are unassigned.

2. Set up the DSS Console Feature keys.

1. 2402-[01-60]: DSS Console Key Codes [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

Assign the desired key code to an available DSS Console Feature Key.

See DSS Console Feature Key Assignments on page 189 for available codes.

2. DSS Console Feature Key Assignments on page 189

For the key code chosen, enter the required key data.

See DSS Console Feature Key Assignments on page 189 for available codes.

Direct Station Selection (DSS) Console

Using the Speed Processing Keys on the DSS Console
To use the Speed Processing keys

1. Press **ANSWER** to answer any call ringing your extension.
2. Press **RELEASE** to hang up (disconnect) your active call.
3. Press **TRANSFER** on your DSS Console to transfer your call.

DSS Console Feature Key Assignments
Understanding Key Assignments

1. By default, your DSS Console has the following Feature Key assignments:
   - Keys 1-48 = Hotline keys to extensions 301-348.
   - Key 349 = Page Zone 1
   - Key 350 = Page Zone 2
   - Key 351 = Page Zone 3
   - Key 352 = All Call Page
   - Key 353 = System Park Orbit 60
   - Key 354 = System Park Orbit 61
   - Key 355 = System Park Orbit 62
   - Key 356 = System Park Orbit 63
   - Key 357 = System Park Orbit 64
   - Key 358 = System Park Orbit 65
   - Key 359 = System Park Orbit 66
   - Key 360 = Night key
2. Refer to the DSS Console Feature Key Assignments on page 189 for more.

Directed Call Pickup

Directed Call Pickup allows co-workers to answer each other's calls.

Description

Directed Call Pickup permits an extension user to intercept any type of call ringing another extension. With Directed Call Pickup, an extension user can pick up:

- Outside (Key Ring) calls ringing an extension
- Direct Inward Lines
- Transferred outside calls
- Ringing Intercom calls
- Recalls (e.g., Hold recall)
- Ring Group Calls (by dialing either the ringing extension's number or the Ring Group master number)
- Ringing Call Coverage key calls
- Ringing Group Call Pickup calls
- Calls ringing an Intercom Queue key

Conditions and Defaults

Conditions

- Directed Call Pickup does not require line access be granted in 2131-[01-64]: Line Access Stations: Config: Line Access: Line Access (2131): Line Access]. Directed Call Pickup allows an extension to pick up a call on a line to which it normally does not have access.

Default Setting

- Enabled.

Other Related Features

Features

- Hold on page 278
  - Directed Call Pickup can pick up Hold recalls.
- Park on page 379
  - Personal Park allows an extension user to pick up a call parked at a co-worker's extension.
- The following features also let co-worker's cover each other's calls:
  - Call Coverage Keys on page 63
  - Group Call Pickup on page 263
  - Hotline on page 285

IntraMail Features

- None.

Directed Call Pickup

Using Directed Call Pickup
To intercept a call ringing a co-worker's extension:

1. Lift the handset.
2. Dial * * .
3. Dial the number of the extension whose call you want to intercept.
   a) To intercept a call ringing an attendant, dial the attendant's extension number (e.g., 301). Do not dial 0 or 01-04.

Directory Dialing

Allows users to place Intercom or Speed Dial calls from a displayed list of names.

- Directory Dialing with Search is available in software versions 3.01 or higher.

Description

Directory Dialing allows a display keyset user to select a co-worker or outside call from a list of names, rather than dialing the phone number. There are three types of directory Dialing:

- System (**C**ompany-Wide) Speed Dial names.
- **I**ntercom names (including extension, Ring Group and UCD Group names).
- **P**ersonal Speed Dial names.

Directory Dialing with Search

Directory Dialing is enhanced with search capability to help you quickly look through the directory for the co-worker or Speed Dial number you wish to call. To use search:

1. Press **Directory [Dir]** to select Directory Dialing.
2. Select the type of directory you wish to search.
   - **Extension [Ext]** = Co-workers
   - **Personal [Pers]** = Personal Speed Dial Numbers
   - **Company [Cmpy]** = Company-wide Shared Speed Dial Numbers
3. Start dialing letters for the directory name.
   - The search will narrow as you dial additional letters in the name.
   - Use **Previous [Prev]** and **Next [Next]** (or the volume keys) to scroll through the directory.
4. When the name you wish to call displays, press **Dial** to place the call.

Conditions and Defaults

Conditions

- None.

Default Setting

- Directory Dialing always enabled.
- There are no Intercom (extension) names or Speed Dial names stored.

Other Related Features

Features

- Direct Station Selection (DSS) Console on page 187
  - Assign a Directory Dialing key on a DSS Console.

- Extension Hunting on page 233
  - Intercom Directory Dialing can call UCD Group names.
- Group Ring on page 268
  - Intercom Directory Dialing can call Ring Group names.
- Intercom on page 292
  - Directory Dialing is a convenient alternative to manually dialing Intercom numbers.
- Names for Extensions and Lines on page 348
  - Set up the names for extensions and lines.
- Speed Dial on page 448
  - Set up Speed Dial names.

IntraMail Features

- None

Programming Directory Dialing

Setting Up the Directory Dialing Options

1. Assign an extension Intercom Directory Dialing Feature Key.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

For Intercom Directory Dialing, assign key code 21 to an available Feature Key on an extension.

Options	Description
21	Intercom Directory Dialing key.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

There is no Intercom Directory Dialing key data required.

Options	Description
-	No key data required.

2. Assign a DSS Console Intercom Directory Dialing Feature Key.

1. 2402-[01-60]: DSS Console Key Codes [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

For Intercom Directory Dialing, assign key code 21 to an available Feature Key on a DSS Console.

Options	Description
21	Intercom Directory Dialing key.

2. 2402-[01-60]: DSS Console Key Data [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

There is no Intercom Directory Dialing key data required.

Options	Description
-	No key data required.

3. Check the Interdigit Timer.

1. Be cautious when changing this option. When an extension user places a call, they must dial each succeeding digit within this interval. ***This option affects all calls system-wide.***
2. 1602-01: Interdigit Timer [System: Timers: Features: Outgoing (1602): Interdigit Time]

   If extension users don't have adequate time to enter their Directory Dialing options, consider extending this timer.

Options	Description
1-9999	Seconds. [Default] = 6 seconds.

Directory Dialing

Using Directory Dialing
To use Directory Dialing at a keyset:

When you select a directory, the top two lines of the display show:

- The number of the current entry and the total number of entries in the selected directory.

  1/4 in the example below.

- The name programmed for the selected directory.

  Albert Smith in the example below.

- The extension or Speed Dial entry number of the current selection.

  x302 in the example below.

```
                    1/4
Albert Smith       x302
```

Using Directory Dialing (Keyset)			
Dir	Select Directory Dialing.		
	Ext	Select the directory of co-worker's names.	
		Do one of the following:	
		2-9	Dial additional letters of the name to narrow your search.
		Prev	Scroll to the previous directory entry.
		Next	Scroll to the next directory entry.
		Dial	Dial the currently displayed directory entry.
		Back	Go back one level and select a new directory type.

Using Directory Dialing (Keyset)				
	Pers	Select the Personal Speed Dial directory.		
		Do one of the following:		
		CHECK	Display the number and name stored in the Speed Dial entry.	
			Back	Go back one level (same as pressing CLEAR).
			Dial	Dial the currently displayed directory entry.
			Exit	Exit Directory Dialing.
		2-9	Dial additional letters of the name to narrow your search.	
		Prev	Scroll to the previous directory entry.	
		Next	Scroll to the next directory entry.	
		Dial	Dial the currently displayed directory entry.	
		Back	Go back one level and select a new directory type.	
	Cmpy	Select the Company (System) Speed Dial directory.		
		Do one of the following:		
		CHECK	Display the number and name stored in the Speed Dial entry.	
			Back	Go back one level (same as pressing CLEAR).
			Dial	Dial the currently displayed directory entry.
			Exit	Exit Directory Dialing.
		2-9	Dial additional letters of the name to narrow your search.	
		Prev	Scroll to the previous directory entry.	
		Next	Scroll to the next directory entry.	
		Dial	Dial the currently displayed directory entry.	
		Back	Go back one level and select a new directory type.	
	Exit	Exit Directory Dialing.		
SPEAKER	Exit Directory Dialing at any time.			

To use Directory Dialing at a Super Display:

Using Directory Dialing (Super Display)			
Directory	Select Directory Dialing.		
	Extension	Select the directory of co-worker's names.	
		Do one of the following:	
		2-9	Dial additional letters of the name to narrow your search.
		Previous	Scroll to the previous directory entry.
		Next	Scroll to the next directory entry.
		Dial	Dial the currently displayed directory entry.
		Back	Go back one level and select a new directory type.

Using Directory Dialing (Super Display)				
	Personal	Select the Personal Speed Dial directory.		
		Do one of the following:		
		CHECK	Display the number and name stored in the Speed Dial entry.	
			Back	Go back one level (same as pressing CLEAR).
			Dial	Dial the currently displayed directory entry.
			Exit	Exit Directory Dialing.
		2-9	Dial additional letters of the name to narrow your search.	
		Previous	Scroll to the previous directory entry.	
		Next	Scroll to the next directory entry.	
		Dial	Dial the currently displayed directory entry.	
		Back	Go back one level and select a new directory type.	
	Company	Select the Company (System) Speed Dial directory.		
		Do one of the following:		
		CHECK	Display the number and name stored in the Speed Dial entry.	
			Back	Go back one level (same as pressing CLEAR).
			Dial	Dial the currently displayed directory entry.
			Exit	Exit Directory Dialing.
		2-9	Dial additional letters of the name to narrow your search.	
		Previous	Scroll to the previous directory entry.	
		Next	Scroll to the next directory entry.	
		Dial	Dial the currently displayed directory entry.	
		Back	Go back one level and select a new directory type.	
	Exit	Exit Directory Dialing.		
SPEAKER	Exit Directory Dialing at any time.			

Display, Alphanumeric

Go to Alphanumeric Display on page 30

Distinctive Ringing

Allows users to customize their telephone's ringing so they'll know when calls are just for them.

Description

Important
Use 9014-01: Initialize Ring Tones [N/A] to initialize Distinctive Ringing with a single command. *Following initialization, you must reset the system or unplug and then re-plug each telephone.*

Distinctive Ringing allows the installer or keyset extension user to customize keyset ringing. This permits the user to determine the type of call just by listening to their keyset ring. Distinctive Ringing provides:

Distinctive Ring Configuration at Each Keyset

A keyset user can follow intuitive soft key menus to set up distinctive ringing for their phone. Their phone will even play back the new ring tones as the distinctive rings are being set up.

Line Override (Distinctive Ringing by Line and Ringing Mode)

Each line can have its own distinctive ringing for each ring mode (day, night, or delay). This allows a keyset user, for example, to easily differentiate between new ringing calls and calls that are ringing their phone after a delay.

Extension Ring Override

Each keyset extension can additionally override a line's distinctive ringing with the extension's own unique settings. Extension Ring Override helps identify ringing phones in large, open work areas. (This is a default ring set that has already been saved into system programming.)

Key Ring Override

A keyset extension can set up unique ringing for each of its Call Coverage, Group Call Pickup, and line keys. If a user needs to know what type of call is ringing their phone, Key Ring Override will help.

Unique Ringing for UCD Groups and Ring Groups

UCD Groups and Ring Groups can have their own distinctive rings. This allows a user to tell the difference between Intercom calls ringing their phone and UCD or Ring Group Calls.

The Distinctive Ringing Hierarchy

An extension's Distinctive Ringing uses the following hierarchy:

1. Key Ring Override
2. Extension Ring Override
3. Line Override
4. Default ringing assigned by the system

This means that Line Override will replace the default ringing assigned by the system. Extension Ring Override will in turn replace ringing set by Line Override. Finally, Key Ring Override will replace ringing set by Extension Override or ringing set by Line Override.

Understanding Ring Types

The Ring Types determine how different types of calls rings extensions. Each Ring Type sounds unique because it uses one of the 10 available ring tones. The first four Ring Types are assigned by default (see the table below). The

last two (B and C) are unassigned by default but you can assign on your phone using *Extension Override* and *Key Ring Override*.

The Ring Types	
Ring Type	**Call Type**
Intercom	**Intercom** ringing • This includes ringing Intercom calls, as well as calls ringing Extension Hunting groups, Call Coverage keys and the operator's Call key.
Group	**Ring Group** and **UCD Group** ringing
Recall	**Recall** ringing • This includes Hold, Park or Transfer recall ringing.
Ring "A"	**Type A** ringing • This includes line key, loop key, Transfer, and DIL ringing. (You can reassign types A, B, and C ringing in *Extension Override* and *Key Ring Override* below.)
Ring "B"	**Type B** ringing • Not used (unassigned) by default. (You can reassign types A, B, and C ringing in *Extension Override* and *Key Ring Override* below.)
Ring "C"	**Type C** ringing • Not used (unassigned) by default. (You can reassign types A, B, and C ringing in *Extension Override* and *Key Ring Override* below.)

When Multiple Calls Ring an Extension

When multiple calls with different priorities are ringing an extension, the system prioritizes ringing according to the list below. All LEDs will flash as appropriate for the type of call, but the telephone will ring only for the highest priority call.

1. **INTERCOM** Key
2. Line Key (from lowest to highest)
3. Loop Key (from lowest to highest)

Conditions and Defaults

Conditions

- None.

Default Setting

- Outside lines, Ring Groups, and UCD Groups use Type A ringing.
- The **ASSIGN (ASGN)** and **KEY** soft keys are disabled.
- The **CONFIG (CNFG)** soft keys is enabled.

Other Related Features

Features

- Call Coverage Keys on page 63
  - By using Key Ring Override, Distinctive Ringing allows an extension user to set up unique ringing for their Call Coverage keys.
- Delayed Ringing on page 151
  - You can set up Delayed Ringing to ring with a distinctive tone.
- Group Call Pickup on page 263
  - By using Key Ring Override, Distinctive Ringing allows an extension user to set up unique ringing for their Group Call Pickup keys.
- Line Keys on page 307
  - By using Key Ring Override, Distinctive Ringing allows an extension user to set up unique ringing for their line keys.

IntraMail Features

- None.

Distinctive Ring Configuration Programming

Setting Up Distinctive Ring Configuration

1. Enable the Config (Cnfg) soft keys.

1. 1405-01: Ring Type Configuration [System: Class of Service: Distinctive Ring: Distinctive Ring (1405): Ring Type Configuration]

   When you enable this option, an extension user can customize the sound of their Ring Types by pressing the **Config (Cnfg)** soft key.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

2. Set up the Distinctive Ring Configuration.

1. 2103-04: Station's Intercom Ring Tone [Stations: Config: Setup: Ringing (2103): ICM Ring Tone]

Use this option to assign the ring tone the extension uses for Intercom ringing.

Options	Description
0-9	Ring tones 0-9. [Default] = 1.

2. 2103-05: Station's Ring Group Ring Tone [Stations: Config: Setup: Ringing (2103): Group Ring Tone]

Use this option to assign the ring tone the extension uses for Ring Group and UCD Group ringing.

Options	Description
0-9	Ring tones 0-9. [Default] = 1.

3. 2103-06: Station's Recall Ring Tone [Stations: Config: Setup: Ringing (2103): Recall Ring Tone]

Use this option to ring tone the extension uses for recall ringing.

Options	Description
0-9	Ring tones 0-9. [Default] = 3.

4. 2103-07: Station's Ring "A" Tone [Stations: Config: Setup: Ringing (2103): Type-A Ring Tone]

Use this option to ring tone the extension uses for ring tone A.

Options	Description
0-9	Ring tones 0-9. [Default] = 2.

5. 2103-08: Station's Ring "B" Tone [Stations: Config: Setup: Ringing (2103): Type-B Ring Tone]

Use this option to ring tone the extension uses for ring tone B.

Options	Description
0-9	Ring tones 0-9. [Default] = 5.

6. 2103-09: Station's Ring "C" Tone [Stations: Config: Setup: Ringing (2103): Type-C Ring Tone]

Use this option to ring tone the extension uses for ring tone C.

Options	Description
0-9	Ring tones 0-9. [Default] = 8.

7. You can also use the extensions soft keys to set these options. See *Distinctive Ring Operation* for more.

Line Override Programming

Setting Up Line Override (Distinctive Ring by Line)

1. 3113-02: Day Ring Type [Lines: Config: Options: Ringing (3113): Day Ring Type]

   Use this option to set the day ring type for the selected line.

Options	Description
0	Standard (non-customizable system default).
1	[Default] Ring type A.
2	Ring type B.
3	Ring type C.

2. 3113-03: Night Ring Type [Lines: Config: Options: Ringing (3113): Night Ring Type]

   Use this option to set the night ring type for the selected line.

Options	Description
0	Standard (non-customizable system default).
1	[Default] Ring type A.
2	Ring type B.
3	Ring type C.

3. 3113-03: Night Ring Type [Lines: Config: Options: Ringing (3113): Night Ring Type]

   Use this option to set the delay ring type for the selected line.

Options	Description
0	Standard (non-customizable system default).
1	[Default] Ring type A.
2	Ring type B.
3	Ring type C.

4. You ***cannot*** set up Line Override using an extension's soft keys.

Extension Override Programming

Set up the Extension Override Options

1. Allow the user to customize Extension Override with their soft keys.

1. 1405-02: Station Ring Override [System: Class of Service: Distinctive Ring: Distinctive Ring (1405): Station Ring Override]

   When you enable this option, an extension can customize the distinctive ringing for Day Ring, Night Ring, and Delay Ring on line keys by pressing the **ASSIGN (ASGN)** soft key.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

2. Set Up Extension Ring Override (Distinctive Ring by Extension)

1. 2103-01: Day Ring Type [Stations: Config: Setup: Ringing (2103): Day Ring Type]

   Use this option to set the day ring type for the selected extension.

Options	Description
0	[Default] Standard ring set in 3113-02: Day Ring Type [Lines: Config: Options: Ringing (3113): Day Ring Type].
1	Ring type A.
2	Ring type B.
3	Ring type C.

2. 2103-02: Night Ring Type [Stations: Config: Setup: Ringing (2103): Night Ring Type]

   Use this option to set the night ring type for the selected line.

Options	Description
0	[Default] Standard ring set in 3113-02: Day Ring Type [Lines: Config: Options: Ringing (3113): Day Ring Type].
1	Ring type A.
2	Ring type B.

Options	Description
3	Ring type C.

3. 2103-03: Delay Ring Type [Stations: Config: Setup: Ringing (2103): Delay Ring Type]

   Use this option to set the delay ring type for the selected line.

Options	Description
0	[Default] Standard ring set in 3113-02: Day Ring Type [Lines: Config: Options: Ringing (3113): Day Ring Type].
1	Ring type A.
2	Ring type B.
3	Ring type C.

Key Ring Override Programming

Enable the Key Ring Override Options

1. Allow the user to customize Key Ring Override with their soft keys.

1. 1405-03: Key Ring Override [System: Class of Service: Distinctive Ring: Distinctive Ring (1405): Key Ring Override]

   Enable this option to allow extension users to customize the distinctive ringing of individual Call Coverage, Group Call Pickup, and line keys by pressing the **KEY** soft key.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

2. Set the Key Ring Override options.

1. 2122-[01 to 24]: Key Ring Override Stations: Config: Key Ring: Assignment (2122): Ring Type]

   This option lets you assign a ring type for each Call Coverage, Group Call Pickup, and line key.

Options	Description
0	[Default] Standard ring set in 3113-02: Day Ring Type [Lines: Config: Options: Ringing (3113): Day Ring Type].
1	Ring type A.
2	Ring type B.
3	Ring type C.

2. If enabled, extension users can override these settings from their soft keys.

[<3.01] Unique Ringing for Ring and UCD Groups

Setting Up Unique Ringing for Ring and UCD Groups
Set up unique Ring and UCD Group Ringing

1. 2201-02: Ring Group Incoming Ring Type Stations: Ring Groups: Setup: Identification (2201): Ring Type]

   This option allows you to assign a unique ring tone to the selected Ring Group.

Options	Description
0	[Default] Normal ring set in 2103-05: Station's Ring Group Ring Tone [Stations: Config: Setup: Ringing (2103): Group Ring Tone].
1	Ring type A.
2	Ring type B.
3	Ring type C.

2. 2301-02: UCD Group Incoming Ring Type [Stations: UCD Groups: Setup: Identification (2301): Ring Type]

   This option allows you to assign a unique ring tone to the selected UCD Group.

Options	Description
0	[Default] Normal ring set in 2103-05: Station's Ring Group Ring Tone [Stations: Config: Setup: Ringing (2103): Group Ring Tone].
1	Ring type A.
2	Ring type B.
3	Ring type C.

3. You ***cannot*** set up unique Ring and UCD Group ringing using an extension's soft keys.

Distinctive Ringing

There are three aspects of Distinctive Ringing: *Ring Mode*, *Ring Type*, and *Ring Tone*.

Ring Mode

- The Ring Mode sets when line keys, Call Pickup keys, and Call Coverage keys ring. The Ring Mode options are:

  Day (during the day).

Night (at night only).
Delay (ring day and night after a delay).
Lamp Only (key flashes but there is no ringing).

- The sound of the ringing is set by the Ring Type (below).

Ring Type

- The Ring Type is what the ringing sounds like when a particular type of call rings your phone. Line keys, Call Pickup keys, and Call Coverage keys have a default ring type but you can change that to one of three optional types. The optional types are:

Ring Type "A"
Ring Type "B"
Ring Type "C"

- Intercom, Group, and Recall ringing each have dedicated Ring Types.
- The sound of each Ring Type can be customized by assigning optional Ring Tones (below) to the types.

Ring Tone

- Your telephone has 10 preset Ring Tones. Each tone consists of an audible tone repeated in a specific sequence (or cadence). By default, the system assigns unique Ring Tones to Ring Types so you can distinguish the type of incoming call by its ringing sound. If you don't like the ringing sounds, you can change the Ring Tone assigned to the various Ring Types.

Using Distinctive Ringing

To set up Distinctive Ringing at your keyset:

Setting Up Distinctive Ringing (Keyset)		
Next: Go to next selection. **Prev**: Go to previous selection. **Select**: Select current Option. **Back**: Back out of current option. **Exit**: Exit Menu setup.		
Menu + **41**	Select the Key Assignments sub-menu. • Use this option to assign the ringing mode to line keys, Call Pickup keys, and Call Coverage keys.	
	Prev	Scroll backwards through the key types: **Line Keys** **Call Pickup Keys** **Call Coverage Keys**
	Next	Scroll forwards through the key types: **Line Keys** **Call Coverage Keys** **Call Pickup Keys**
	Select	Select the displayed key type to change its ring mode assignment.
		The keys of the selected type will light. Press a key repeatedly to set its ringing mode: • Always (key LED is on green) • Night Ring (key LED flashes slow green) • Delay Ring (key LED flashes fast green) • Lamp Only (key LED is on red)

Setting Up Distinctive Ringing (Keyset)			
		Dial a digit (0-4) to set the Ring Type: **0** for Standard **1** for Ring Type A **2** for Ring Type B **3** for Ring Type C	
		Save	Save the displayed changes.
		Cancel	Back up to the previous menu without saving your changes.
	Exit	Exit the Tone Configuration sub-menu.	
Menu + **42**	Select the Ring Tone Assignments sub-menu. • Use this option to change the ring type assigned to each ring mode.		
	Prev	Scroll backwards through the ring modes: **Day Ring** **Delay Ring** **Night Ring**	
	Next	Scroll forwards through the ring modes: **Day Ring** **Night Ring** **Delay Ring**	
	Select	Select the displayed ring mode to change its ring type assignment.	
		<< or **> >**	Scroll forward or backward through the Ring Type options: **Use Line Setting** **Line-Type "A"** **Line-Type "B"** **Line-Type "C"**
		Save	Save the displayed selection as the ring type for the chosen ring mode.
		Cancel	Cancel and back up to the previous level without making any changes.
	Exit	Exit the Tone Assignments sub-menu.	
Menu + **43**	Select the Tone Configuration sub-menu. • Use this option to change the tones assigned to the ring types.		
	Prev	Scroll backwards through the ring types: **Intercom** **Set To Defaults** (The system will require that you confirm this option before setting your assignments back to default.) **Line-Type "C"** **Line-Type "B"**	

Setting Up Distinctive Ringing (Keyset)			
		Line-Type "A" **Recall** **Ring Groups**	
	Next	Scroll forwards through the ring types: **Intercom** **Ring Groups** **Recall** **Line-Type "A"** **Line-Type "B"** **Line-Type "C"** **Set To Defaults** (The system will require that you confirm this option before setting your assignments back to default.)	
	Select	Select the displayed ring type to change its ring tone assignment.	
		<< or **> >**	Scroll forward or backward through the ring tone options (0-9).
		Save	Save the displayed selection as the ring tone for the chosen ring type.
		Cancel	Cancel and back up to the previous level without making any changes.
	Exit	Exit the Tone Configuration sub-menu.	

To set up Distinctive Ringing at your Super Display:

Setting Up Distinctive Ringing (Super Display)			
Menu + **Ringing**	Select the Distinctive Ringing options sub-menu.		
	Key Assignments	Select the Key Assignments sub-menu. • Use this option to assign the ringing mode to line keys, Call Pickup keys, and Call Coverage keys.	
		Select the type of key you want to change. **Line Keys** **Call Coverage** **Pickup**	
			The keys of the selected type will light. Press a key repeatedly to set its ringing mode: • Always (key LED is on green) • Night Ring (key LED flashes slow green) • Delay Ring (key LED flashes fast green) • Lamp Only (key LED is on red) Dial a digit (0-4) to set the Ring Type: **0** for Standard **1** for Ring Type A

Setting Up Distinctive Ringing (Super Display)			
		2 for Ring Type B **3** for Ring Type C	
		Save	Save the displayed selection as the ring type for the chosen ring mode.
		Cancel	Cancel and back up to the previous level without making any changes.
		Back	Cancel and back up to the previous level without making any changes.
	Back	Back up one level.	
	Exit	Exit to the idle menu display.	
Tone Assignments	Select the Tone Assignments sub-menu. • Use this option to change the ring type assigned to each ring mode.		
	Select a ring mode to change its ring type assignment. **Day Ring** **Night Ring** **Delay Ring**		
	For the selected ring mode, choose the ring type (Day, Night, or Delay): **Line-Type "A"** **Line-Type "B"** **Line-Type "C"** **Use Line Setting**		
	Save	Save the displayed selection as the ring type for the selected ring mode.	
	Cancel	Cancel and back up to the previous level without making any changes.	
	Back	Go back to the previous level.	
	Exit	Exit to the idle menu display.	
Tone Configuration	Select the Tone Configuration sub-menu. • Use this option to change the tones assigned to the ring types.		
	Select the ring type you want to change: **Intercom** **Ring Group** **Recall** **Ring "A"** **Ring "B"** **Ring "C"**		

Setting Up Distinctive Ringing (Super Display)			
	Default (This resets the ring types to their default settings. The system will require that you confirm this option before setting your assignments back to default.)		
		0-9	Choose a ring tone for the selected ring type.
		Cancel	Cancel and back up to the previous level without making any changes.
		Save	Save the displayed selection as the ring tone for the chosen ring type.
	Exit	Exit to the idle menu display.	

Do Not Disturb

DND permits an extension user to work by the phone undisturbed by incoming calls and announcements.

Description

Do Not Disturb (DND) blocks incoming calls, Off-Hook Signaling and Paging announcements. An extension user can activate DND anytime while on a call or while their phone is idle. Once activated, incoming outside calls still flash the line keys. The user may use the phone in the normal manner for placing and processing calls.

Do Not Disturb provides the following 4 DND options:

(1) Incoming outside calls blocked

(2) Incoming Intercom calls blocked

(3) All incoming calls blocked

(0) Cancel Do Not Disturb

Do Not Disturb Options	
This DND option:	**Blocks these calls:**
(1) Incoming Outside Calls Blocked	Ringing for outside calls, including: • Key Ring calls • Off Hook Ringing • Call Coverage Keys • Group Call Pickup keys • Transferred outside calls • Hold, Park, and Transfer recalls • Circular or Terminal Extension Hunting calls • DILs to the extension (if the extension is not the night mode termination) • DILs to a Ring Group or UCD Group master number (if the extension is in the group)
(2) Incoming Intercom Calls Blocked	Ringing for Intercom calls, including: • Incoming Intercom calls • Transferred Intercom calls • Paging announcements • Ringing from Intercom calls to the Ring Group master number (if the extension is in the group) • Extension hunting calls that normally ring the extension
(3) All Incoming Calls Blocked	All calls blocked by Option 1 ***and*** Option 2.
(0) Cancel Do Not Disturb	Option 0 cancels Do Not Disturb

Do Not Disturb BLF for Hotline and Call Coverage Keys

The following charts show the Do Not Disturb Busy Lamp Field flash rates for Hotline and Call Coverage keys.

Hotline Busy Lamp Indications	
When the key is:	**The covered extension is:**
Off	Idle or not installed
On	Busy or ringing Intercom call
Medium Flash	In DND for outside calls (option 1)
Fast Flash	In DND for Intercom calls (option 2) or All Calls (option 3)

Call Coverage Key Busy Lamp Indications	
When the key is:	**The covered extension is:**
Off	Idle or not installed
On	Busy
Slow flash	Ringing
Medium flash	In DND for outside calls (option 1)
Fast Flash	In DND for Intercom calls (option 2) or All Calls (option 3)

Note: When transferring an outside call to an extension in DND, the Transfer will be blocked if the extension has enabled DND for all calls (type 3) or DND for outside calls (type 1). The Transfer will be allowed if the extension has enabled DND for Intercom calls (type 2).

Conditions and Defaults

Conditions

- A system reset or power failure cancels DND.

Default Setting

- Do Not Disturb enabled.

Other Related Features

Features

- Attendant Position on page 36
  - The attendant can have Do Not Disturb. In addition, pressing DND at the attendant actives the night mode for any lines directly terminated to the attendant.
- Background Music on page 55
  - DND does not affect the operation of Background Music.
- Call Forwarding on page 71
  - Call Forwarding considers an extension in DND as busy. In addition, an extension can have both DND and Call Forwarding enabled at the same time.

    - Note that Call Forwarding has priority over Do Not Disturb. If both are enabled simultaneously at an extension, Call Forwarding is in force.
- Call Waiting / Camp-On on page 93
    - An extension cannot Camp-On to a busy co-worker that is in Do Not Disturb.
- Callback on page 97
    - An extension cannot leave a Callback for a busy co-worker that is in Do Not Disturb.
- Do Not Disturb Override on page 221
    - Do Not Disturb Override can override an extension's Do Not Disturb.
- Extension Hunting on page 233
    - Placing an agent in DND temporarily removes it from the UCD Group.
- Hotline on page 285
    - An extension user can press their Hotline key twice to override their Hotline partner's DND.
- Message Waiting on page 335
    - An extension user can leave a Message Waiting at an extension in Do Not Disturb.
- Night Service / Night Ring on page 353
    - A DIL destination activates the night mode for the DIL when they press DND.
- Paging on page 367
    - DND blocks Paging announcements.
- Reverse Voice Over on page 427
    - DND does not block Reverse Voice Over.
- Single Line Telephones on page 444
    - Single line extensions cannot use DND.
- Transfer on page 497
    - DND blocks Transfer.

IntraMail Features

- None.

Programming Do Not Disturb

Setting Up Do Not Disturb
Enable or Disable DND at each Extension.

1. Decide which extensions should be able to use Do Not Disturb.
2. 2111-01: Allow Do Not Disturb [Stations: Config: Options: Features (2111): Allow DND]

   Use this option to enable or disable Do Not Disturb at each extension.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

Do Not Disturb

Enabling or Disabling Do Not Disturb
To enable or disable Do Not Disturb:

1. While on-hook, press **DND**.
2. Select the DND type.
   a) **Off** = Turn DND off.
      Alternately dial **0**.
   b) **External** (**Ext**) = Block incoming outside calls.
      Alternately dial **1**.
   c) **Intercom** (**Icm**) = Block Intercom calls.
      Alternately dial **2**.
   d) **All** = Block all incoming calls.
      Alternately dial **3**.
   e) **Room Monitor** (**Mon**) = See Room Monitor.

   If you don't select a type within 10 seconds:

   - *If DND is enabled*, the system automatically disables DND for your extension.
   - *If DND is disabled*, the system automatically enables DND type 3 for your extension.

3. Your telephone's display shows the type of DND you enabled.
   a) Your **DND** key is on.

If you are on a call (or anytime your telephone is not idle):

1. Do not hang up.
2. Press **DND**.
   a) *If DND was enabled*, the system automatically disables DND for your extension.
   b) *If DND was disabled*, the system automatically enables DND type 3 for your extension.

Do Not Disturb Override

Easily override a co-worker's Do Not Disturb.

Description

Do Not Disturb Override lets an extension user override another extension's Do Not Disturb. This allows a priority employee (such as a supervisor or executive) to get through to a co-worker right away while the co-worker's phone is in Do Not Disturb. DND Override is available to all extensions that have DND Override set in their Class of Service. It is also available to any extension that has a Hotline key for a co-worker, even without the Class of Service option enabled.

Conditions and Defaults

Conditions

- None.

Default Setting

- Do Not Disturb Override is disabled in an extension's Class of Service.

Other Related Features

Features

- Do Not Disturb on page 217
  - Do Not Disturb Override can override an extension's Do Not Disturb.

IntraMail Features

None

Programming Do Not Disturb Override

Setting Up Do Not Disturb Override
Enable Do Not Disturb Override for an extension.

1. 1401-07: DND Override [System: Class of Service: Features: Features (1401): DND Override]

   This option lets you enable DND Override for an extension.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Do Not Disturb Override

Using Do Not Disturb Override

To use Do Not Disturb Override:

1. Dial your co-worker’s extension or press their Hotline key.
   a) You hear DND tone and see **Do Not Disturb** in your display.
   b) If you hear busy or ring/busy tone instead, your co-worker is busy on a call.
2. Push **DND Override** (**Ovrd**) to override your co-worker's DND.
   a) You can alternately dial **1** or press the Hotline key for your co-worker.
3. The system automatically places a ringing Intercom call to your co-worker.

Door Box

Use a Door Box to remotely monitor an entrance door.

Description

The Door Box (P/N 922450) is a self-contained analog Intercom unit typically used to monitor an entrance door. A visitor at the door can press the Door Box call button (like a door bell). The Door Box then sends chime tones or ringing to all extensions programmed to receive chimes. To answer the chime or ringing, the called extension user just lifts the handset. This lets the extension user talk to the visitor at the Door Box. The Door Box is convenient to have at a delivery entrance, for example. It is not necessary to have company personnel monitor the delivery entrance; they just answer the Door Box instead.

DSX-80/160

In DSX-80/160, a Door Box connects to an available Door Box port on a 2PGDAD Module (P/N 0891027). Each module supports up to two Door Boxes, with the maximum number of Door Boxes installed limited only by the availability of station ports to connect additional 2PGDAD Modules.

DSX-40

In DSX-40, the Door Box can connect to a 2PGDAD module or to one of the two “built-in” Door Box ports. As in DSX-80/160, the maximum number of Door Boxes installed is limited only by the availability of station ports to connect additional 2PGDAD Modules.

Refer to *Optional Equipment* in the *Hardware Manual* that came with your system for more or installing the Analog Door Box.

Door Box Relays

Any keyset extension that receives Door Box chimes or ringing can control a control relay, which in turn typically enables an electric strike on an entrance door next to the Door Box. Each of the two Door Box circuits in the 2PGDAD Module has an associated control relay that is automatically assigned. Each DSX-40 “built-in” Door Box port has an associated “built-in” relay that you can assign for either door control or Paging control, but not both.

The equipment you connect to a control relay must be compatible with the following specifications. Refer to your system’s *Hardware Manual* for more on connecting to the control relay contacts.

Relay Contact Specifications	
DSX-40	
Contact Configuration:	Normally open
Maximum Load:	0.5A @ 120 VAC, 1A @ 24 VDC
Maximum Initial Contact Resistance	100 mOhms
2PGDAD Module	
Contact Configuration:	Normally open
Maximum Load:	500 mA @ 24 VDC, 250 mA @ 120 VAC

Door Box Alerts

The system uses Ring Groups to control Door Box alerts. When a visitor at the door presses the Door Box call button, the Door Box will alert (chime or ring) all the extensions in the Ring Group to which the Door Box belongs. For

example, if Door Box 309 and extensions 301 and 302 are in Ring Group 1, pressing the call button alerts 301 and 302.

Conditions and Defaults

Conditions

- Door Box P/N 922450 is a weather-tight unit, and can be mounted outside. It has an operating temperature range of -20 to 60 degrees C (-4 to 140 degrees F) and a relative humidity of 10-95%, non-condensing.

Default Setting

- In DSX 80/160, no Door Boxes are enabled.
- In DSX-40, the built-in Door Box ports are enabled for extensions 326 (DOOR 1) and 327 (DOOR 2).

Other Related Features

Features

- Attendant Position on page 36
  - An operator can monitor a Door Box with the following Feature Keys:
    - A Call Coverage key for the Door Box Ring Group to monitor ringing.
    - A Hotline key for the Door Box extension number to call the Door Box.
- Call Coverage Keys on page 63
  - If you enter Door Chime type 0 (normal ring) above, you can set up Call Coverage keys for the Door Box Ring Group. This allows extensions that are not members of the Ring Group to answer Door Box calls. Extensions with Call Coverage keys to the Door Box Ring Group can also activate the relay.
- Call Forwarding on page 71
  - An extension user cannot forward a call to a Door Box.
- Hotline on page 285
  - An extension user can have Hotline keys for Door Boxes.
- Message Waiting on page 335
  - An extension user cannot leave a Message Waiting at a Door Box.
- Paging on page 367
  - Door Box chimes 1-3 can broadcast over the External Paging speakers. An extension user can dial INTERCOM + 0 to answer the chimes and use their soft keys to control the associated relay.
- PGDAD Module and Analog Door Boxes
  - The 2PGDAD Module can connect up to two Analog Door Boxes.
- Single Line Telephones on page 444
  - Single line telephones can only receive Door Chime type 0 (normal ring). While connected to the Door Box, an SLT can hookflash to control the system relay.
- Transfer on page 497
  - An extension user cannot Transfer a call to a Door Box.

IntraMail Features

- None.

Programming Analog Door Boxes

Analog Door Box Programming Basics

1. Use Ring Groups to set which extensions ring for calls from a Door Box.

1. 2113-02: Department Group [Stations: Config: Options: Groups (2113): Department Group]

Assign the *Door Box* extension and each *telephone* extension to the same Department Group (1-30).

- DSX-40 “built-in” Door Box extensions are 327 and 328.
- For example, if extensions 301 and 302 should ring for calls from Door Box 309, be sure 301, 302, and 309 are in the same Ring Group.
- Multiple Door Boxes can be in the same Ring Group.

Options	Description
0	[Default] No Department Group assigned.
1-30	Department Groups 1-30

2. If the extension is not in the same Department Group as the Door Box, it won't ring for Door Box calls.

3. 2301-02: Department Group Type [Stations: Department Groups: Setup: Identification (2301): Group Type]

Be sure the Department Group you selected above is set up as a Ring Group.

Options	Description
0	None.
1	[Default] Ring Group
2	UCD Group

2. Set the chime pattern for each Door Box.

1. 2101-04: Door Chime Selection [Stations: Config: Setup: Type (2101): Door Chime]

Set the chime pattern for each Door Box extension. DSX-40 “built-in” Door Box extensions are 327 and 328.

Options	Description
0	[Default] Normal Ring Group ringing.
1	Low pitch chime pattern.
2	Mid range pitch chime pattern.
3	High pitch chime pattern.

2. More on Chime 0 Operation:

- Chime 0 rings for 60 seconds and then cancels.

- An extension user can answer the Door Box any time while it is ringing.
- The Door Box user can press the call button again any time after ringing stops, or if an extension user answers their call and then hangs up.
- The Door Box user cannot hang up (disconnect) their call.

3. More on Chime 1-3 Operation:

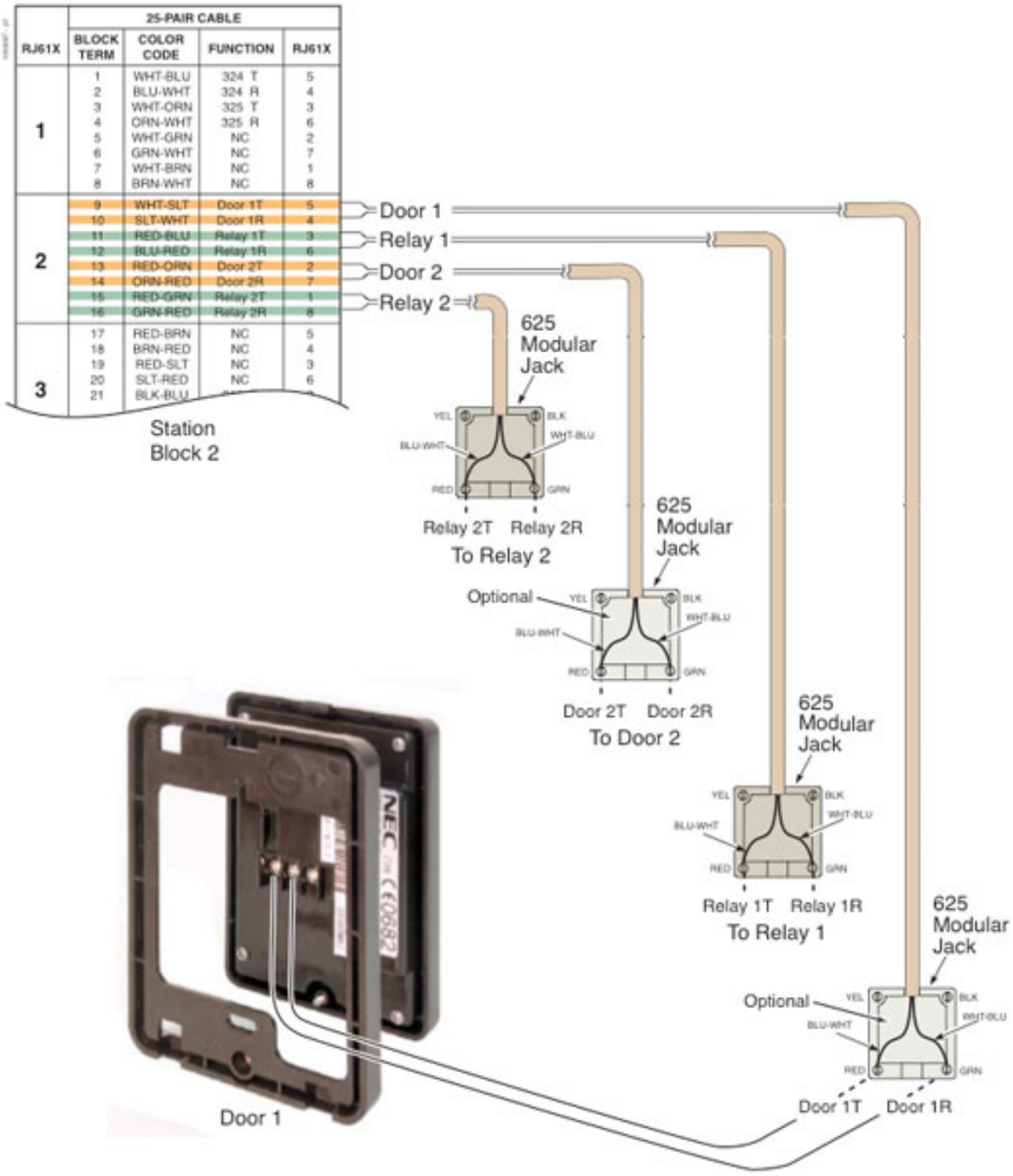
- Chimes 1-3 ring for 5 seconds and then stop.
- An extension user can answer the Door Box any time within 30 seconds after the chime starts.
- After 30 seconds, the Door Box call automatically cancels.
- The Door Box user can press the call button again any time after the chime stops, or if an extension user answers their call and then hangs up.
- The Door Box user cannot hang up (disconnect) their call.

Using DSX-40 Built-In Door Box Ports

Setting up Built-In Door Ports on DSX-40

1. Connect an Analog Door Box to a DSX-40 Door Box Port.

1. DOOR 1 is DSX-40 extension 326.
2. DOOR 2 is DSX-40 extension 327.
3. Use the following illustration as a guide when connecting Analog Door Boxes to DSX-40.



4. Refer to the *DSX-40 Hardware Manual* for additional connection details.

2. Have a "built-in" Door Box activate a control relay.

1. ***This programming does not apply to a Door Box connected to a 2PGDAD Module.***
2. 2101-06: Door Relay Assignment [Stations: Config: Setup: Type (2101): Door Relay Assignment]

   For DOOR 1 (326) or DOOR 2 (327), assign the associated control relay.

   - **1** for relay CPU #1 (normally assigned to DOOR 1/extension 326).
   - **2** for relay CPU #2 (normally assigned to DOOR 2/extension 327).

Options	Description
0	[Default] Not assigned.
1	CPU Relay 1 (DSX40-1)
2	CPU Relay 2 (DSX40-2)

3. 1605-03: Door Relay Unlock Timer [System: Timers: Features: Control (1605): Door Relay]

   This timer sets the interval that the system or PGDAD Module relay remains closed after a keyset user activates (closes) the relay. After this interval, the relay automatically returns to its open (idle) state.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 30 seconds.

3. To have a Door Box operate a DSX-40 *and* PGDAD relay in tandem:

1. 2101-06: Door Relay Assignment [Stations: Config: Setup: Type (2101): Door Relay Assignment]

   For the 2PGDAD Module Door Box extension number, assign the same associated control relay that is assigned to the built-in Door Box port.

Options	Description
0	[Default] Not assigned.
1	CPU Relay 1 (DSX40-1)
2	CPU Relay 2 (DSX40-2)

2. Both relays will now operate simultaneously.

Using the PGDAD Module with an Analog Door Box

Setting up a PGDAD Module for Analog Door Boxes

1. Set up the PGDAD Module jumpers and program the ports.

1. To set the jumpers, see PGDAD Module Jumper Settings on page 393.

   Before plugging in the 2PGDAD Module, make sure the channel you are using is set for Door Box.

   For quickest installation, don't plug the 2PGDAD module into it's digit station port until ***after*** programming is complete.

2. To set the basic programming for the 2PGDAD Module, see Programming 2PGDAD Module Station Ports on page 390.

   Program the 2PGDAD Module.

   For quickest installation, don't plug the 2PGDAD module into it's digit station port until ***after*** programming is complete.

3. To connect and program the 2PGDAD Module for Door Boxes, see PGDAD Module Door Box and Relay Connections on page 396.

Wire the Analog Door Box to the selected 2PGDAD Module door box connections.

For quickest installation, don't plug the 2PGDAD module into it's digit station port until ***after*** programming is complete.

2. Plug the 2PGDAD Module into its assigned digital station (ESIU) port.

Door Box

Calling to and from the Door Box
To place a call *from* the Door Box:

1. Press the Door Box call button.
2. When someone inside the building answers your call, speak toward the Door Box.
   a) Once you press the call button, you can not control the call. You must wait for someone to answer.

To place a call *to* the Door Box:

1. Lift handset and press **INTERCOM**.
2. Dial the Door Box extension number.
   a) You hear two beeps, then conversation with the visitor at the door.

To answer Door Box chimes or ringing:

1. Lift the handset.
2. Talk to the visitor at the door.

Remotely Controlling the Door
To activate the Door Box relay (which in turn controls the door strike):

1. Place or answer a Door Box call.
2. Do one of the following:
   a) Push **Open** to open the door (if closed).
      Alternately press **FLASH**.
   b) Push **Close** to close the door (if open).
      Alternately press **FLASH**.

Equal Access Compatibility

See Toll Restriction on page 488 for more.

Extended Ringing

Lets calls ring longer that usual to assist co-workers that can't readily get to their phones.

Description

Extended Ringing forces an unanswered call to ring a telephone an extended number of times before rerouting. This helps a users that cannot get to their phone quickly to pick up calls (such as a warehouse worker). Extended Ringing is available with the following features:

Direct Inward Line

DILs ring for an extended period before routing to the overflow destination.

Transfer

Transferred outside calls ring for an extended period before recalling the transferring extension.

Conditions and Defaults

Conditions

- None.

Default Setting

- Disabled.

Other Related Features

Features

- Direct Inward Line on page 177
  - With Extended Ringing, a call rings longer at its destination before diverting to Key Ring.
- Transfer on page 497
  - With Extended Ringing enabled, transferred outside calls ring the destination extension longer before recalling the transferring extension.

IntraMail Features

- None.

Programming Extended Ringing

Setting Up Extended Ringing
Set up the Extended Ringing options.

1. 1401-02: Extended Ring [System: Class of Service: Features: Features (1401): Extended Ring]

Use this option to enable Extended Ringing for an extension.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

3. 1604-03: Extended Ringing Timer [System: Timers: Features: Station (1604): Extended Ring]

Set the duration of the Extended Ringing timer.

When Extended Ringing is enabled, calls ring for this interval before diverting.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 20 seconds.

Extension Hunting

Automatically route calls to co-workers that work closely together.

- *[3.01]* UCD Groups are uniquely-programmed Department Groups.

Description

Extension Hunting routes calls to a predefined group of hunt group member extensions. A call rings in sequence through the hunt group until answered at a member extension. Extension Hunting is helpful, for example, for a group of co-workers that share responsibility for answering calls. Each call cycles through the group until an available member picks it up.

There are three types of Extension Hunting:

- Circular Hunting
- Terminal Hunting
- Uniform Call Distribution (UCD) Hunting

Circular Hunting

A Circular Hunting group consists of a group of extensions programmed into a Circular Hunting list. A call unanswered at a member extension rings the next extension in the programmed list. If unanswered, the call will continue to cycle through the hunt group. Depending on the hunt type (see below), Circular Hunting will occur for transferred outside calls, DILs to a hunt group member, and ringing Intercom calls. Hunting does not occur for Key Ring and Ring Group calls.

There are four types of Circular Hunting:

Ring No Answer Outside Calls (Option 1)

Hunting will occur for unanswered outside calls. Hunting will not occur for unanswered ringing Intercom calls or while the member extension is busy.

Busy/Ring No Answer Outside Calls (Option 2)

Hunting will occur for unanswered outside calls and for outside calls to the member extension while it is busy. Hunting will not occur for ringing Intercom calls.

Busy/Ring No Answer All Calls (Option 3)

Hunting will occur for unanswered outside and ringing Intercom calls, and for outside and ringing Intercom calls to the member extension while it is busy.

Busy Outside Calls (Option 4)

Hunting will occur for outside calls to the member extension while it is busy. Hunting will not occur for unanswered outside and ringing Intercom calls.

Overview of Circular Hunting
When setting up Circular Hunting, ***do not program the last extension in the group to hunt back to the first*** . Instead, program the last extension to hunt to the second extension in the group. • To achieve Circular Hunting, send calls to the first extension in the group. • See Setting Up Circular Hunting for more on programming Circular Hunting.

Programmed Hunt Order: **302 -> 303 -> 304 -> 305 -> 302** • Send call to extension 302. • Hunting will not proceed past extension 305. If the call is unanswered at 305, it follows normal recall/routing programming. • For example, a transferred call will recall the transferring extension and, if still unanswered, go to Key Ring.
Programmed Hunt Order: **302 -> 303 -> 304 -> 305 -> 303** • Send call to extension 302. • Hunting will circulate normally, excluding extension 302.

Circular Hunting Notes:

- For type 3 hunting, an Intercom call will stop hunting when it voice-announces. Extension Hunting follows the Handsfree Answerback/Forced Intercom Ringing setup at each extension.
- Placing an extension in DND temporarily removes it from the Circular Hunting group.

Terminal Hunting

A Terminal Hunting group consists of a group of extensions programmed into a Terminal Hunting list. A call unanswered at a member extension rings the next extension in the programmed list. The call will cycle through the group once, until it reaches the last extension in the list. Unlike Circular Hunting, the call will not cycle back to the top of the hunt list. Depending on the hunt type (see below), Terminal Hunting will occur for transferred outside calls, DILs to a hunt group member, and ringing Intercom calls. Hunting does not occur for Key Ring and Ring Group calls.

Just like Circular Hunting, there are four types of Terminal Hunting:

Ring No Answer Outside Calls (Option 1)

Hunting will occur for unanswered outside calls. Hunting will not occur for unanswered ringing Intercom calls or while the member extension is busy.

Busy/Ring No Answer Outside Calls (Option 2)

Hunting will occur for unanswered outside calls and for outside calls to the member extension while it is busy. Hunting will not occur for ringing Intercom calls.

Busy/Ring No Answer All Calls (Option 3)

Hunting will occur for unanswered outside and ringing Intercom calls, and for outside and ringing Intercom calls to the member extension while it is busy.

Busy Outside Calls (Option 4)

Hunting will occur for outside calls to the member extension while it is busy. Hunting will not occur for unanswered outside and ringing Intercom calls.

Terminal Hunting Notes:

- If a call cycles through the entire Terminal Hunting group and remains unanswered, it follows normal recall/routing programming. For example, a transferred call will recall the transferring extension and, if still unanswered, go to Key Ring.
- Placing an extension in DND temporarily removes it from the Terminal Hunting group.
- For type 3 hunting, an Intercom call will stop hunting when it voice-announces. Extension Hunting follows the Handsfree Answerback/Forced Intercom Ringing setup at each extension.

Uniform Call Distribution (UCD) Hunting

Like Circular and Terminal Hunting, a UCD Hunting also consists of a group of extensions programmed into a hunt list. The system routes calls into a UCD Group according to the frequency of use of the member extensions. The first extension rung is the member that has been idle the longest. The last extension rung is the member that has been idle the shortest.

Each member of the group is additionally associated with a UCD Master Extension Number. To activate UCD Hunting, an incoming call must route to the UCD Group master number. This is done by placing an Intercom call to the master number, transferring a call to the master number or setting up a DIL to the master number. When all members of the UCD Group are busy, the call can route to the programmed UCD Overflow destination.

[3.01] The system provides up to 30 UCD Groups if all Department Groups are assigned for UCD Hunting. By default, Department Groups 1-30 use extension numbers 601-630.

UCD Hunting and Call Coverage Keys

If an extension has a Call Coverage key for a UCD Group, the key will ring if a call comes into the group while all members are busy. This allows extension users to “cover” UCD Groups when they are busy.

If you set up the UCD Group with no members, the Call Coverage key will ring whenever a call comes into the group. This type of group functions as a “dummy” (phantom) extension.

- Calls to the “dummy” extension activate the Call Coverage keys on the covering extensions.
- Co-workers can transfer calls into the group. They will ring all Call Coverage keys for the group. If unanswered, a call transferred into the group follows the programmed overflow destination (as do unanswered calls). It will not recall to the transferring party.
- A *UCD Master* night key for the group will control the night termination of any Direct Inward Lines (DILs) terminated to the group. For example, you can have a DIL to the UCD Group during the day and IntraMail at night. When an extension user presses the *UCD Master* night key for the group, the DILs route to IntraMail.
- DILs to the group ring the Call Coverage keys on the covering extensions.

UCD Hunting Notes:

- Unanswered transferred calls and DILs continue to cycle through the UCD Group as long as an agent is available.
- Placing an extension in Do Not Disturb temporarily removes it from the UCD Group.
- Intercom calls to the UCD Group master number always ring the agent extensions.
- *[3.01]* You can set up a UCD Group to overflow to voice mail.
    - Use 2302-01: Department Group Overflow Destination [Stations: Department Groups: Setup: Options (2302): Overflow Destination]to set this option.
- If a call into a UCD Group overflows to voice mail, it is picked up by the Group Mailbox. See Group Mailbox for more.
- To put DILs to a UCD Group master number into the night mode, press a uniquely programmed System Mode UCD Master Night key. See Night Service / Night Ring on page 353 for more.

Conditions and Defaults

Conditions

- None.

Default Setting

- Hunting is not set up.
- By default, extension (master) numbers for UCD Groups are:

- *[3.01]* 601-630 for Department Groups 1-30.

Other Related Features

Features

- Call Coverage Keys on page 63
  - A keyset can have a Call Coverage key for a UCD Group master number. The key will ring if a call comes into the group while all members are busy.
- Call Forwarding on page 71
  - If a member of a Circular or Terminal Hunting group forwards their calls, hunting will follow Call Forwarding.
  - Calls to a UCD Group ***will not*** follow Call Forwarding at a group member's extension. However, calls directed to the group member's extension (such as DILs and transferred calls) ***will*** follow the Call Forwarding set up at the extension.
- Direct Inward Line on page 177
  - DILs to a Circular or Terminal Hunting group member initiate hunting. In addition, DILs to a UCD Group master number ring the UCD Group directly. To put DILs to a UCD Group master number into the night mode, press a uniquely programmed *UCD Master* Night key. See Night Service / Night Ring on page 353 for more.
- Directory Dialing on page 198
  - Intercom Directory Dialing will show UCD Group names.
- Do Not Disturb on page 217
  - Placing an agent in DND temporarily removes it from the UCD Group.
- Flexible Numbering Plan on page 258
  - UCD Hunting group master numbers cannot be in the extension number range. By default, the systems uses codes beginning with 0 for operator access and 9 for line/line group access.
- Group Mailbox
  - If a call into a UCD Group overflows to voice mail, it is picked up by the Group Mailbox.
- Group Ring on page 268
  - Group Ring calls do not activate hunting.
- Intercom on page 292
  - Voice-announced Intercom calls do not initiate hunting.
- Music on Hold on page 344
  - If Music on Hold is enabled for transferred calls, a caller transferred to a busy UCD Group hears MOH.
- Night Service / Night Ring on page 353
  - To put DILs to a UCD Group master number into the night mode, press a uniquely programmed UCD Master Night key.
- Transfer on page 497
  - Outside calls transferred to a Terminal or Circular Hunting group member activate hunting. In addition, outside calls transferred to a UCD Group master number activate hunting.

- When handling Transfer recalls, Call Forwarding has priority over Extension Hunting. See *Interaction Between Call Forwarding, Extension Hunting, and Transfer Recall* in Transfer on page 497 for more.

- Voice Mail (IntraMail) on page 516
  - To set up extension overflow to voice mail, refer to Direct Inward Line on page 177
  - For Terminal and Circular Hunting, unsupervised transfers (UTRF) from the voice mail Automated Attendant route like outside calls. Supervised transfers (STRF) from the voice mail Automated Attendant route like Intercom calls. In either case, unanswered calls eventually route the initially called extension's mailbox.

IntraMail Features

- None

Circular Hunting Programming

Setting up Circular Hunting

1. Set the hunt type and destination.

1. 2115-01: Hunt Type Stations: Config: Options: Hunt/Overflow (2115): Hunt Type:

Assign the hunt type for each extension in the group.

Options	Description
0	[Default] Disabled.
1	Ring No Answer Line.
2	Busy/Ring No Answer Line.
3	Busy/Ring No Answer All Calls.
4	Busy Line.

2. 2115-01: Hunt Destination Stations: Config: Options: Hunt/Overflow (2115): Hunt Master/Destination:

Each extension should route to the next in the group.

The last extension should route back to the second. See the Setting Up Circular Hunting for more.

Options	Description
Digits	Extension number.
None	[Default] No entry, entered by pressing **CLEAR**.

2. Adjust the timers that affect Circular Hunting.

1. 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]

This timer sets how long the first member of the Circular Hunting Group rings before routing to the next member.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 20 seconds.

2. 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]

   This timer sets how long the next and succeeding members of the Circular Hunting Group ring.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 10 seconds.

3. 1601-02: DIL No Answer Timer [System: Timers: Features: Incoming (1601): DIL No Answer]

   This timer sets how long a DIL to a Circular Hunting Group member will ring that extension before routing to the next extension in the group.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 15 seconds.

Terminal Hunting Programming

Setting up Terminal Hunting

1. Set the hunt type and destination.

1. 2115-01: Hunt Type Stations: Config: Options: Hunt/Overflow (2115): Hunt Type:

   Assign the hunt type for each extension in the group.

   To use Terminal Hunting to have an individual extension route to voice mail if unanswered, see Extension Hunting to Voice Mail.

Options	Description
0	[Default] Disabled.
1	Ring No Answer Line.
2	Busy/Ring No Answer Line.
3	Busy/Ring No Answer All Calls.
4	Busy Line.

2. 2115-01: Hunt Destination Stations: Config: Options: Hunt/Overflow (2115): Hunt Master/Destination:

   Each extension (except the last) should route to the next in the group.

   For the last extension, press **CLEAR** to undefine the hunt assignment.

Options	Description
Digits	Extension number.
None	[Default] No entry, entered by pressing **CLEAR**.

2. Adjust the timers that affect Terminal Hunting.

1. 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]

   This timer sets how long the first member of the Terminal Hunting Group rings before routing to the next member.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 20 seconds.

2. 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]

   This timer sets how long the next and succeeding members of the Terminal Hunting Group ring.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 10 seconds.

3. 1601-02: DIL No Answer Timer [System: Timers: Features: Incoming (1601): DIL No Answer]

   This timer sets how long a DIL to a Terminal Hunting Group member will ring that extension before routing to the next extension in the group.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 15 seconds.

[3.01] UCD Hunting Programming

Setting up UCD Hunting

1. Set the Department Group type and check the group extension number.

1. 2301-02: Department Group Type [Stations: Department Groups: Setup: Identification (2301): Group Type]

   Assign the selected Department Group as a UCD Group (2).

Options	Description
0	Disabled.
1	[Default] Ring Group.
2	UCD Group.

2. 1315-01: Department Group Numbers [System: Numbering: Department Groups: Department Groups (1315): Extension and Name]

   Use this program to optionally change Department Group extension numbers.

Options	Description
Digits	For each Department Group (1-30), optionally assign a different extension number. [Default] Department Groups 1-30 use extension numbers 601-630.

2. Set up UCD Overflow.

1. When all UCD agents are busy, a queued call rings and then overflows to the UCD Overflow destination.
2. If overflowing to voice mail, Group Mailbox see for more.
3. 2302-01: Department Group Overflow Destination [Stations: Department Groups: Setup: Options (2302): Overflow Destination]

   Enter the Department Group overflow destination (e.g., an extension, another Department Group, or 700 for voice mail.

Options	Description
None	[Default] Entered by pressing **CLEAR**.
Digits	Extension number, Department Group number, or 700 for voice mail.

4. 1601-04: UCD No Answer Timer [System: Timers: Features: Incoming (1601): UCD No Answer]

   UCD Overflow occurs after this interval. Set as required.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 60 seconds.
Yes (1)	Enabled.

3. Adjust the timers that affect UCD Hunting.

1. 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]

   This timer sets how long a call rings an idle UCD Hunting Group member before routing to the next group member.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 10 seconds.

2. 1601-02: DIL No Answer Timer [System: Timers: Features: Incoming (1601): DIL No Answer]

   This timer sets how long a DIL to the UCD Hunting Group master number rings an idle group member before routing to the next extension in the group.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 15 seconds.

Extension Hunting Timers

Transfer to Hunt Group
Busy/Ring No Answer All Calls (Type 3) - Circular and Terminal Hunting

- **Transferred call into hunt group**.

Call transferred into hunt group.	
	
1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]	Call rings first member for Transfer Recall time.
	
1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]	If unanswered, call rings the next and succeeding members for the Call Forward Ring No Answer time.
	
300	If unanswered, call rings extension 300.
	
1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]	If unanswered at extension 300 for the Call Forward Ring No Answer time, the call diverts to Key Ring.
	
Key Ring	Call goes to key ring.

- **Transferred call routed to busy UCD Group with Overflow.**

Call transferred to extension A, which is the single member of a type 3 hunt group that is set up to hunt to extension B.	
	
1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]	Call rings extension A for the Transfer Recall time.
	
Extension B	If unanswered at extension A, the call hunts to extension B which is the single member to a type 5 UCD Group that is set up to overflow to extension C.

	
1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]	The call now rings extension B for the Call Forward No Answer time.
	
Busy UCD Master	If unanswered at extension B, the call camps-on to the busy UCD master extension number.
	
1601-04: UCD No Answer Timer [System: Timers: Features: Incoming (1601): UCD No Answer]	The call camps-on to the UCD Group for the UCD No Answer interval, waiting for a member to become free. Note that the Call Coverage Delay timer also starts now. See Call Coverage Keys on page 63 for more.
	
UCD Overflow	If a UCD Group member does not become free, the call diverts to the programmed overflow destination.
	
1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]	The call the rings the overflow destination for the Call Forward No Answer time.
	
Key Ring	If still unanswered, the call diverts to Key Ring.

Direct Inward Line (DIL) to Hunt Group
Busy/Ring No Answer All Calls (Type 3) - Circular and Terminal Hunting

- **DIL to hunt group without overflow.**

DIL (with no overflow) directly rings hunt group member.	
	
1601-02: DIL No Answer Timer [System: Timers: Features: Incoming (1601): DIL No Answer]	DIL rings programmed DIL destination for the DIL No Answer time.
	

1601-02: DIL No Answer Timer [System: Timers: Features: Incoming (1601): DIL No Answer]	If unanswered, call rings the next and succeeding members for the DIL No Answer time.
	
Key Ring	If still unanswered, call diverts to Key Ring.

- **DIL to hunt group with overflow.**

DIL (with overflow) directly rings hunt group member.	
	
1601-02: DIL No Answer Timer [System: Timers: Features: Incoming (1601): DIL No Answer]	DIL rings programmed DIL destination for the DIL No Answer time.
	
1601-02: DIL No Answer Timer [System: Timers: Features: Incoming (1601): DIL No Answer]	If unanswered, call rings the next and succeeding members for the DIL No Answer time.
	
1601-02: DIL No Answer Timer [System: Timers: Features: Incoming (1601): DIL No Answer]	If unanswered at the last extension, the DIL rings the programmed overflow destination for the DIL No Answer time.
	
Key Ring	If still unanswered, call diverts to Key Ring.

Outside Call on Hold at Hunt Group Member
Busy/Ring No Answer All Calls (Type 3) - Circular and Terminal Hunting

- **Hunt group member and held call.**

Hunt group member puts outside call on Hold.	
	
1603-02: Hold Recall Timer [System: Timers: Features: Recall (1603): Hold Recall]	If not picked up, outside call recalls the extension that put it on Hold after the Hold Recall time.
	
1601-01: Line No Answer Timer [System: Timers: Features: Incoming (1601): Line No Answer]	The call then rings the extension that put it on Hold for the Line No Answer time.

↓	
Key Ring	If still unanswered, call diverts to Key Ring.

- See Extension Hunting on page 233 for more.

Extension Hunting

Sending Calls to Hunt Groups

To send a call into a Terminal or Circular Hunt Group:

1. Place or answer an outside call.
2. Transfer the call to a hunt group member.
   See Transfer for more.

To send a call into a UCD Hunt Group:

1. Place or answer an outside call.
2. Transfer the call to the UCD Group master number (e.g., 701).
   See Transfer for more.

Remove or Install your Extension from your UCD Group

To remove or reinstall your Extension from your UCD Group:

1. Press **INTERCOM** and dial ***5**.
2. Do one of the following:
   a) Dial **4** to return your extension to your UCD Group.
   b) Dial **6** to remove your extension from your UCD Group.
3. Press **SPEAKER** to hang up.

Extension Locking

When they leave the office, a keyset user can secure their phone to prevent unauthorized use.

Description

Extension Locking allows a keyset extension user to secure their phone when they leave the office. The user may want to do this if their phone has Toll Restriction and Class of Service options enabled that could be easily abused. ***While locked, the restrictions set up in Class of Service 15 and Toll Level 7 are in force at the extension.*** When the user returns, they just unlock their extension to return it to normal operation.

You'll need to program the restrictions in Class of Service 15 and Toll Level 7 separately. See the Class of Service on page 142 and Toll Restriction on page 488 features for more.

Walking Class of Service and Extension Locking

Walking Class of Service overrides Extension Locking. For example:

- Extension 301 is permitted by their Class of Service and Toll Restriction to use Paging and place long distance calls.
- Extension 306 locks their extension. While locked, Class of Service 15 prevents Paging and Toll Level 7 prevents long distance calls. These features are no longer available at extension 306.
- The extension 301 user goes to extension 306 and implements Walking Class of Service.
- The extension 301 user can then use 306 to make long distance calls and Page (even though 306 was locked to prevent those features).

Conditions and Defaults

Conditions

- An extension with access level 4 or 5 must have a valid PIN code enabled for itself in order to unlock another extension.

Default Setting

- Extension Locking is disabled in an extension's Class of Service.
- There are no PIN codes entered by default. In addition:
  - An extension user can dial **INTERCOM** + **##6** to enter or change their PIN number.
  - The operator can dial **INTERCOM** + **##3** to erase a co-worker's PIN number and unlock their extension.

Other Related Features

Features

- Walking Class of Servce on page 554
  - Extension Locking and Walking Class of Service share the same PIN code.

IntraMail Features

None

Programming Extension Locking

Setting up Extension Locking
1. Enable Extension Locking.

1. 1412-03: Station Locking [System: Class of Service: Toll Restriction: Toll Restriction (1412): Station Locking]

Use this option to enable Extension Locking for the extension.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

2. Set the Extension Locking options.

1. 2102-04: User Programming Access Level [Stations: Config: Setup: Access (2102): Program Level]

Make sure at least the operator has access level 4 or 5. This allows the operator to erase a co-worker's PIN number and unlock their extension.

Options	Description
1-5	Extensions access level. [Default] = 5 for extension 300, 3 for all others.

2. 2102-05: Station PIN Code [Stations: Config: Setup: Access (2102): PIN Code]

Assign PIN numbers to extensions.

Options	Description
Digits	PIN number (4 digits required using 0-9, # and *). [Default] = no entry.

Feature Keys

Feature Keys simplify feature operation.

Description

Each keyset has Feature Keys. These Feature Keys simplify placing calls, answering calls and using certain features. You can customize the function of any keyset's Feature Keys from the system program and the User Programmable Features.

The **22-Button Standard and Display Telephones** have 12 Feature Keys.

The **34-Button Display Telephone** has 24 Feature Keys.

The **34-Button Super Display Telephone** also has 24 Feature Keys.

You can assign the following types of Feature Keys to an extension.

Account Code	Intercom Directory Dialing	Park Orbit
Call Coverage (immediate, delayed or no ring)	Line keys	Reverse Voice Over
Call Forwarding	Message Center	Save Number Dialed
Call Timer	Loop Key, Fixed	Speed Dial, Personal
Group Call Pickup (immediate, delayed or no ring)	Loop Key, Switched	Speed Dial, System

Headset key	Night key	Split
Hotline	Page Zones	Voice Mail Conversation Record
Intercom	Flash	
Intercom Queue	Skip Ahead	Manual Activation Mode

Conditions and Defaults

Conditions

- If you unplug a 34-button telephone and replace it with a 22-button telephone, Feature Keys 13-24 are inaccessible. However, the system still retains the programming for those keys.

Default Setting

- In DSX-80/160, keys 1-12 are line keys for lines 1-12 and keys 13-24 are undefined.
- In DSX-40, keys 1-8 are line keys for lines 1-8 and keys 9-24 are undefined.
- For attendants:
  - Key 12 (on 22-button) or key 24 (on 34-button) is an Operator Call Key.

Other Related Features

Features

- Account Codes on page 21
  - An extension can have an Account Code key to simplify Account Code entry.
- Call Coverage Keys on page 63
  - An extension can have Call Coverage keys.
- Call Forwarding on page 71
  - An extension’s Call Forwarding key can streamline Call Forwarding operation.
- Call Timer on page 89
  - An extension can have a manual or automatic Call Timer key.
- Central Office Calls, Answering on page 121
- Central Office Calls, Placing on page 128
  - An extension can have line keys for placing and answering outside calls.
- Check Key on page 139
  - Check the Feature Key assignments.
- Directory Dialing on page 198
  - Assign a Directory Dialing key on an extension.
- Direct Station Selection (DSS) on page 183
  - If enabled in programming, Feature Keys become DSS keys when the user presses INTERCOM.

- Group Call Pickup on page 263
  - An extension can have Group Call Pickup keys.
- Headset Compatibility on page 274
  - An extension's headset key can simplify switching the headset mode.
- Hotline on page 285
  - An extension can have Hotline keys.
- Loop Keys on page 329
  - An extension can have Fixed Loop and Switched Loop keys for placing and answering calls.
- Night Service / Night Ring on page 353
  - An extension can have night keys for putting the system and UCD Groups into the night mode.
- Paging on page 367
  - An extension can have Page zone keys.
- Park on page 379
  - An extension can have Park keys.
- Reverse Voice Over on page 427
  - An extension can have Reverse Voice Over keys.
- Save Number Dialed on page 438
  - An extension can have a Save key.
- Split (Alternate) on page 458
  - An extension can have a Split key.
- Speed Dial on page 448
  - An extension can have keys for Personal and System Speed Dial numbers.
- Voice Mail (IntraMail) on page 516
  - An extension can have voice mail Record and Message Center keys.

IntraMail Features

- None.

Feature Key Assignments

Key Assignments Chart

Feature Key Assignments			
Key Type	**Description**	**Code and Data**	**Operation**
Undefined	Use this option to designate a Feature Key	0	N/A

Feature Key Assignments			
Key Type	**Description**	**Code and Data**	**Operation**
	as undefined (no function).		
Loop Keys on page 329	Use this option to assign a Feature Key as a Switched Loop key.	01	Press the key to place or answer call.
	Busy Lamp Field (BLF) *Off:* Loop key idle. *On (green):* You are busy on a loop key call. *Slow Flash:* Line is ringing.		
Loop Keys on page 329	Use this option to assign a Feature Key as a Fixed Loop key.	02 + nn (Line Group 90-98)	Press the key to place or answer call.
	Busy Lamp Field (BLF) Off: Loop key idle. On (green): You are busy on a loop key call. Slow Flash: Line is ringing.		
Line Keys on page 307	Use this option to assign a Feature Key as a line key.	03 + nn (line number 1-64)	Press the key to place or answer call.
	Busy Lamp Field (BLF) *Off*: Line is idle or not installed. *On (red)*: A co-worker is busy on the line or has the line on Exclusive Hold. O*n (green)*: You are busy on the line. *Wink On (red)*: On System Hold at a co-worker's extension. *Wink On (green)*: On System Hold at your extension. *Double Wink On (green)*: On Exclusive Hold or recalling your extension. *Slow Flash (red)*: Line is ringing. *Slow Flash (green)*: Line is ringing or your extension directly.		
Park on page 379	Use this option to assign a Feature Key as a Park Orbit key.	04 + nn (Park Orbit 60-69)	Press key to Park or retrieve parked call.
	Busy Lamp Field (BLF) *Off*: Orbit is idle. *On*: Orbit is holding a parked call. *Wink On (green)*: Orbit is holding a call you parked.		
Hotline on page 285	Use this option to assign a Feature Key as a Hotline key. You cannot set up a hotline for an outside line.	05 + nnn (extension number)	Press key to call Hotline partner.

Feature Key Assignments			
Key Type	**Description**	**Code and Data**	**Operation**
	Busy Lamp Field (BLF) *Off:* Partner extension is idle. *On:* Partner extension is busy or ringing. *Medium Flash:* Partner extension is in DND for outside calls (option 1). *Fast Flash:* Partner extension is in DND for Intercom calls (option 2) or All Calls (option 3).		
Call Coverage Keys on page 63	Use this option to assign a Feature Key as an immediately ringing Call Coverage Key.	06 + nnn (extension number)	Press key to call covered extension or pick up ringing call.
	Use this option to assign a Feature Key as a lamp only (no ring) Call Coverage Key.	07 + nnn (extension number)	
	Use this option to assign a Feature Key as a delayed ringing Call Coverage Key.	08 + nnn (extension number)	
	Busy Lamp Field (BLF) *Off:* Covered extension is idle. *On:* Covered extension is busy. *Slow Flash:* Covered extension is ringing. *Medium Flash:* Covered extension is in DND for outside calls (option 1). *Fast Flash:* Covered extension is in DND for Intercom calls (option 2) or All Calls (option 3).		
Group Call Pickup on page 263	Use this option to assign a Feature Key as an immediately ringing Group Call Pickup key.	09 + nn (Pickup Group 1-16)	Press key to answer call ringing Pickup Group.
	Use this option to assign a Feature Key as a lamp only (no ring) Group Call Pickup key.	10 + nn (Pickup Group 1-16)	
	Use this option to assign a Feature Key as a delay ring Group Call Pickup key.	11 + nn (Pickup Group 1-16)	
	Busy Lamp Field (BLF) *Off:* No call is ringing the pickup group. *Slow Flash (green):* A call is ringing the pickup group.		
Paging on page 367	Use this option to assign a Feature Key as a Page Zone key.	13 + n (Page Zone 1- 7, 0 for All Call)	Press key to Page into assigned zone.

Feature Key Assignments			
Key Type	**Description**	**Code and Data**	**Operation**
	Busy Lamp Field (BLF) *On:* The assigned Page zone is busy. *On (green):* The assigned Page zone is busy broadcasting an announcement you are making. *Off:* The assigned Page zone is idle.		
Speed Dial on page 448	Use this option to assign a Feature Key as a System Speed Dial key. You assign the key to specific System Speed Dial number.	14 + nnn (number 001-999)	Press key to dial stored number.
	There is no BLF for this key type.		
Speed Dial on page 448	Use this option to assign a Feature Key as a Personal Speed Dial key. You assign the key to a specific Personal Speed Dial number.	15 + nnn (01-20)	Press key to dial stored number.
	There is no BLF for this key type.		
Call Timer on page 89	Use this option to assign a Feature Key as a Call Timer key. There are two types of timer key: manual and automatic.	16 + n (1=manual, 2=automatic)	Press key to start or stop Call Timer.
	Busy Lamp Field (BLF) *On:* Call Timer on. *Off:* Call Timer off.		
Voice Mail Record	Use this option to assign a Feature Key as a Voice Mail Record key. • You must have voice mail installed to use this key. • A voice prompt and periodic beep will remind you that your calls are being recorded.	17 + nnn (extension number of valid Subscriber Mailbox)	Press key to record conversation into mailbox.
	Busy Lamp Field (BLF) *Off:* Conversation Record is off. *Fast Flash (green):* Conversation Record is on.		

Feature Key Assignments			
Key Type	**Description**	**Code and Data**	**Operation**
Night Service / Night Ring on page 353	*[3.01]* Use this option to assign a Feature Key as a Night key.	18	Press key to activate night mode.
	Busy Lamp Field (BLF) *On:* Night mode is on. *Off:* Night mode is off.		
Split (Alternate) on page 458	Use this option to assign a programmable key as a Split key.	20	See Split (Alternate) on page 458 for more.
	There is no BLF for this key type.		
Directory Dialing on page 198	Use this option to assign a programmable key as an Intercom Directory Dialing key.	21	Press key to access Intercom Directory Dialing.
	Busy Lamp Field (BLF) *On:* Intercom Directory Dialing is active (being used). *Off:* Intercom Directory Dialing is inactive (off).		
Reverse Voice Over on page 427	Use this option to assign a Feature Key as a Reverse Voice Over key.	23 + nnn (extension number)	While on a handset call, press key to place a private Intercom call to covered extension.
	Busy Lamp Field (BLF) *Off:* Assigned extension is idle. *On:* Assigned extension is busy or ringing. *Medium Flash:* Assigned extension is in DND for outside calls (option 1). *Fast Flash:* Assigned extension is in DND for Intercom calls (option 2) or All Calls (option 3)		
Voice Mail (IntraMail) on page 516	Use this option to assign a Feature Key as a Message Center key.	24 + nnn (extension number)	Press key to call Message Center Mailbox.
	Busy Lamp Field (BLF) *Off:* No messages waiting in the Message Center Mailbox. *Fast Flash (green):* Messages waiting in the Message Center Mailbox.		
Save Number Dialed on page 438	Use this option to assign a Feature Key as a Save Number Dialed key.	25	*While on a call*, press key to save the number you just dialed. *While idle*, press key to redial a previously saved number.
	There is no BLF for this key type.		

Feature Key Assignments			
Key Type	**Description**	**Code and Data**	**Operation**
Account Codes on page 21	Use this option to assign a Feature Key as an Account Code key.	26	Place or answer outside call + Press key + Enter Account Code + Press key to return to call.
	Busy Lamp Field (BLF) *Off:* Not in Account Code mode or not entering Account Codes. *Fast Flash (green):* In the Account Code entry mode. *On (green):* On a call for which the user has entered an Account Code.		
Call Forwarding on page 71	Use this option to assign a Feature Key as a Call Forwarding key.	27	Press key instead of pressing **INTERCOM** and dialing ***3**.
	Busy Lamp Field (BLF) *Off:* Extension not call forwarded or in the Call Forwarding setup mode. *Fast Flash:* In the Call Forwarding setup mode. *Wink Off:* Extension has Call Forwarding enabled.		
Headset Compatibility on page 274	Use this option to assign a Feature Key as a Headset key.	28	Press key to enable or disable headset mode.
	Busy Lamp Field (BLF) *Off:* Extension is not in the headset mode. *On:* Extension is in the headset mode.		
Intercom on page 292	Use this option to assign a Feature Key as an Intercom key.	29	Press key to place or answer an Intercom call.
	Busy Lamp Field (BLF) *Off:* Intercom is idle. *Slow Flash (green):* Incoming Intercom call ringing. *Double Wink On (green):* Intercom call on Hold. *On (green):* Busy on an Intercom call.		
Flash on page 256	Use this option to assign a Feature Key as a Flash key.	30	Press key to initiate a Flash.
	There is no BLF for this key type.		
Attendant Call Queuing (Intercom Queue Key) on page 34	Use this option to assign a Feature Key as an Intercom Queue key.	31	Press key to answer a waiting Intercom call.

Feature Key Assignments			
Key Type	**Description**	**Code and Data**	**Operation**
	Busy Lamp Field (BLF) *Off:*No Intercom call waiting. *Wink Off (green):* Intercom call waiting.		
Line Schedules on page 312	Use this option to assign a Feature Key as a Skip Ahead key.	32 + n (Schedule 1-8)	Press key to advance to the next Line Schedule.
	Busy Lamp Field (BLF) *Off:*Skip Ahead inactive. *On:*Skip Ahead active.		
Line Schedules on page 312	Use this option to assign a Feature Key as a Manual Activation Mode key.	33 + n through 36 + n (Schedule 1-8)	Press key to manually activate the assigned schedule.
	Busy Lamp Field (BLF) *Off:*Manual Activation Mode inactive. *On:*Manual Activation Mode active.		

Programming Feature Keys

Setting Up Feature Keys
Customize Feature Keys

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

   Assign key code that enables the desired feature to an available Feature Key.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

   For the feature assigned, add Feature Key data as required.

Flash

Extension users can access certain CO and PBX features by interrupting line loop current.

Description

Flash allows an extension user to access certain CO and PBX features by interrupting line loop current. Flash lets an extension user take full advantage of whatever features the connected telco or PBX offers. You must set the Flash parameters for compatibility with the connected telco.

Flash for Single Line Extensions

The Class of Service option 1403-01: Flash for Single Line Set [System: Class of Service: SLTs: SLTs(1403): Flash for Single Line Sets] allows you to enable or disable hookflash for analog single line extensions. If enabled (Y), a single line extension can hookflash normally and use any of the associated system features. If disabled (N), hookflash is prevented. This means the analog extension can not use any features that require a hookflash (such as Hold, Conference, or Transfer). This may be helpful for lobby phones and single line Ringdown Extensions that should not have access to system features.

When 1403-01: Flash for Single Line Set [System: Class of Service: SLTs: SLTs(1403): Flash for Single Line Sets] is enabled (Y):

- A single line extension user cannot seize an outside line and hookflash without dialing. If they do, the system will disconnect the initial outside call.
- If a single line extension user hookflashes to place their current outside call on Hold and then hangs up, the outside call will immediately recall the extension.

The option is ignored for voice mail ports.

Flash Feature Key

[2.18] An extension can have a Flash Feature Key. The primary purpose of this key is to enable additional features on the *Cordless Lite II* and *Cordless DECT* telephones. The Flash key allows the cordless user to easily pick up a waiting call when Call Waiting with Caller ID is provided. It also allows the cordless user to control a Door Box relay.

Conditions and Defaults

Conditions

- None.

Default Setting

- Enabled.

Other Related Features

Features

- Call Timer on page 89
  - Flash restarts the Call Timer.

- PBX / Centrex Compatibility on page 384
  - Flash allows an extension user to access certain telco or PBX features.
- Toll Restriction on page 488
  - When an extension user with Toll Restriction enabled flashes a line, the system enforces toll Restriction on any digits the user dials from the new dial tone. For example, if an extension user cannot dial 203 926 5400 before they flash, they cannot dial 203 926 5400 after they flash.

IntraMail Features

- None.

Programming Flash

Setting Up Flash
Set up the Flash options.

1. 1612-04: PBX/Centrex Flash Timer [System: Timers: CO Interface Card: Outgoing (1612): Loop Flash Time]

Set the Flash timer for compatibility with the connected Centrex or PBX.

Options	Description
16-4080	mS. [Default] = 800 mS.

2. 1403-01: Flash for Single Line Set [System: Class of Service: SLTs: SLTs(1403): Flash for Single Line Sets]

Enabling this option allows a single line extension user to be able to hookflash.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

3. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Flexible Numbering Plan

Change the digits users dial for co-workers and other features.

Description

The system's Flexible Numbering Plan allows you to change the digits users dial to reach the attendant, other co-worker's, outside lines, UCD Groups, and Ring Groups. The following chart shows the areas of the system number plan you can change.

For this feature:	You can change the digits a user dials to:	These digits are normally:
Attendant Position on page 36	Reach the system operator(s)	0 or 01-04
Central Office Calls, Placing on page 128	Access a Line Group	90-98
Direct Line Access on page 181	Directly access a line	101-164
Extension Hunting on page 233	Reach a UCD Group master number	700-707
Group Ring on page 268	Reach a Ring Group master number	600-607
Intercom on page 292	Call a co-worker over the Intercom	300-427

Conditions and Defaults

Conditions

- None.

Default Setting

- See the table above.

Other Related Features

Features

- Attendant Position on page 36
  - Change the digits users dial to reach the system operators (normally 0 or 01-04).
- Central Office Calls, Placing on page 128
  - Change the digits users dial to access a Line Group for an outside call (normally 90-98).
- Direct Line Access on page 181
  - Change the digits users dial to directly access an outside line (normally 101-164).
- Extension Hunting on page 233

- Change the digits required to reach a UCD Group master number.

- Group Ring on page 268
  - Change the digits required to reach a Ring Group master number.
- Intercom on page 292
  - Change the digits users dial to reach co-worker's over the Intercom (normally 300-427).

IntraMail Features

- None.

Programming Flexible Numbering Plan

An Overview of How to Use Flexible Numbering

1. How to change the system operator digit.

1. 1301-[01-10]: Function Type [System: Numbering: Dialing Plan: Numbering (1301): Function Type]

   Assign another digit (except 3) to type **1** (operator access).

2. 1301-[01-10]: Expected Number of Digits [System: Numbering: Dialing Plan: Numbering (1301): Expected Digits]

   Change the expected digits option for the new digit to **2**.

3. Be sure your choice does not affect other system operations.

2. How to change the digits users dial to reach Line Groups.

1. 1301-[01-10]: Function Type [System: Numbering: Dialing Plan: Numbering (1301): Function Type]

   Assign another digit (except 3) to type **3** (Line Group access).

2. 1301-[01-10]: Expected Number of Digits [System: Numbering: Dialing Plan: Numbering (1301): Expected Digits]

   Change the expected digits option for the new digit to **2**.

3. How to change the line extension number range used for Direct Line Access.

1. 1301-[01-10]: Function Type [System: Numbering: Dialing Plan: Numbering (1301): Function Type]

   Assign another digit (except 3) to type **2** (extension access).

2. 1301-[01-10]: Expected Number of Digits [System: Numbering: Dialing Plan: Numbering (1301): Expected Digits]

   Change the expected digits option for the new digit to **3**.

3. 1313-01: Line Extension Number [System: Numbering: Lines: Assignments (1313): Extension]

   Change the line extension numbers to use the leading digit selected above.

4. How to change the UCD Group master extension number range.

1. 1301-[01-10]: Function Type [System: Numbering: Dialing Plan: Numbering (1301): Function Type]

   Assign another digit (except 3) to type **2** (extension access).

2. 1301-[01-10]: Expected Number of Digits [System: Numbering: Dialing Plan: Numbering (1301): Expected Digits]

   Change the expected digits option for the new digit to **3**.

3. 1315-01: UCD Group Master Extension Number [System: Numbering: Ring/UCD Groups: UCD Groups (1315): Extension]

   Change the master numbers to use the leading digit selected above.

5. How to change the Ring Group master extension number range.

1. 1301-[01-10]: Function Type [System: Numbering: Dialing Plan: Numbering (1301): Function Type]

   Assign another digit (except 3) to type **2** (extension access).

2. 1301-[01-10]: Expected Number of Digits [System: Numbering: Dialing Plan: Numbering (1301): Expected Digits]

   Change the expected digits option for the new digit to **3**.

3. 1314-01: Ring Group Master Extension Number [System: Numbering: Ring/UCD Groups: Ring Groups (1314): Extension]

   Change the master numbers to use the leading digit selected above.

6. How to change the Intercom extension number range.

1. 1301-[01-10]: Function Type [System: Numbering: Dialing Plan: Numbering (1301): Function Type]

   Assign another digit (except 3) to type **2** (extension access).

2. 1301-[01-10]: Expected Number of Digits [System: Numbering: Dialing Plan: Numbering (1301): Expected Digits]

   Change the expected digits option for the new digit to **3**.

3. 1311-01: Station Extension Number [System: Numbering: Stations: Assignments (1311): Extension]

   Change the extension numbers to use the leading digit selected above.

4. 9031-01: Station Swap [Utilities: Swap: Station Ports]

   Optionally swap the extension numbers of two telephones.

Forced Line Disconnect

Disconnect a co-worker's outside call in an emergency.

Description

Forced Line Disconnect allows an extension user to disconnect (release) another extension's active outside call. Forced Line Disconnect lets a user access a busy line in an emergency, when no other lines are available. Maintenance technicians can also use Forced Line Disconnect to release a line on which there is no conversation. This can happen if a line does not properly disconnect when the outside party hangs up.

CAUTION
Forced Line Disconnect abruptly terminates the active call on the line. Only use this feature in an emergency and when no other lines are available.

Conditions and Defaults

Conditions

- None.

Default Setting

- Enabled for attendants (COS 1). Disabled for all other extensions (COS 2-15).

Other Related Features

Features

- Attendant Position on page 36
  - System attendants normally have Forced Line Disconnect capability.
- Barge In (Intrusion) on page 58
  - As an alternative to disconnecting the line, Barge In instead.
- Direct Line Access on page 181
  - An extension user with Direct Line Access can dial a code for the busy line before using Forced Line Disconnect.
- Tandem Calls / Unsupervised Conference on page 478
  - An extension user can end an Unsupervised Conference by using Forced Line Disconnect on one of the lines in the tandem call.

IntraMail Features

- None

Programming Forced Line Disconnect

Setting Up Forced Line Disconnect
Forced Line Disconnect Setup.

1. 1402-01: Forced Line Disconnect [System: Class of Service: Stations: Stations (1402): Forced Disconnect]

This option lets you enable Forced Line Disconnect for an extension.

Options	Description
No (0)	Disabled. [Default] for COS 2-15.
Yes (1)	Enabled. [Default] for COS 1.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

3. 2131-[01-64]: Line Access Stations: Config: Line Access: Line Access (2131): Line Access]

Make sure the extension has outgoing (option 2) or full (option 3) access to the lines it should be able to disconnect.

Options	Description
0	No access.
1	Incoming access only.
2	Outgoing access only.
3	[Default] Full access.

Group Call Pickup

Easily answer a call ringing your Pickup Group, even if you don't know which extension is ringing.

Description

Group Call Pickup allows an extension user to answer a call ringing an extension in their assigned Pickup Group. This permits co-workers in the same Pickup Group to easily answer each other's ringing calls. The user can intercept the ringing call by dialing a code or pressing a programmed Group Call Pickup key. The system has a maximum of eight Pickup Groups, with an unlimited number of extensions in each group. However, an extension can be a member of only one pickup group.

Group Call Pickup can answer the following types of calls:

- Ringing Intercom calls
- Transferred calls
- Direct Inward Lines
- Calls on lines assigned to the Pickup Group

To simplify picking up calls, an extension can have Feature Keys assigned as Group Call Pickup keys. There are three types of Group Call Pickup keys: immediate ring, no ring (lamp only), or delayed ring.

Conditions and Defaults

Conditions

- None.

Default Setting

- No Pickup Groups assigned.

Other Related Features

Features

- Direct Inward Line on page 177
  - DILs to an extension activate Group Call Pickup if the extension ringing is a member of a Pickup Group.
- Direct Station Selection (DSS) Console on page 187
  - DSS Consoles can have Group Call Pickup keys.
- Directed Call Pickup on page 196
  - Directed Call Pickup is another way to pick up calls ringing an extension.
- Distinctive Ringing on page 204
  - By using Key Ring Override, Distinctive Ringing allows an extension user to set up unique ringing for their Group Call Pickup keys.
- Intercom on page 292

- Ringing Intercom calls activate Group Call Pickup if the extension ringing is a member of a Pickup Group.

- Transfer on page 497
  - An outside call transferred to an extension in a Pickup Group activates Group Call Pickup.

IntraMail Features

- None.

Programming Group Call Pickup

Setting Up Group Call Pickup

1. Set up the Group Call Pickup extension options.

1. 2113-03: Pickup Group Stations: Config: Options: Groups (2113): Pickup Group]

Enter the number of the Pickup Group (1-8) to which the extension should belong.

Options	Description
0	[Default] Unassigned.
1-8	Extension assigned to Pickup Group 1-8.

2. To set up Group Call Pickup keys, see Feature Key Assignments on page 249.

2. Set up the Group Call Pickup line options.

1. 3113-01: Pickup Group Assignment [Lines: Config: Options: Ringing (3113): Pickup Group]

If an incoming call should ring all extensions in a Pickup Group, assign the Pickup group to the line in this option.

Options	Description
0	[Default] Unassigned.
1-8	Extension assigned to pickup group 1-8.

2. 2131-[01-64]: Line Access Stations: Config: Line Access: Line Access (2131): Line Access]

If an incoming call should ring all extensions in a Pickup Group, make sure the extensions in the group have incoming (option 1) or full (option 3) access to the line.

Options	Description
0	No access.
1	Incoming access only
2	Outgoing access only.
3	[Default] Full access.

3. 2132-[01-64]: Line Ringing Stations: Config: Ring Assign: Line Ringing (2132): Ring Assignment]

Enable ringing for all extensions in the Pickup Group that should ring for the line.

Options	Description
0	Lamp only (no ringing) day and night.
1	Day and night ringing.
2	Night ringing only.
3	Delay ringing day and night.

Default
DSX-80/160
1 for extensions 300-315 on lines 1-12.
0 for all other extensions.
DSX-40
1 for extensions 300-307 on lines 1-8.
0 for all other extensions.

Group Listen

Use Group Listen to talk to an important client or customer and have your co-workers listen in on the meeting.

Description

Group Listen permits a keyset user to talk on the handset and have their caller's voice broadcast over the telephone speaker. This lets the keyset user's co-workers listen to the conversation. Group Listen turns off the keyset's Handsfree microphone so the caller does not hear the co-worker's voices during a Group Listen. When a keyset user sets up Group Listen, they hear their caller's voice over the telephone speaker as well as their handset.

Conditions and Defaults

Conditions

- None.

Default Setting

- Enabled.

Other Related Features

Features

- Headset Compatibility on page 274
  - Group Listen is not available to extensions in the headset mode.
- Single Line Telephones on page 444
  - Group Listen is not available to single line telephones.

IntraMail Features

- None.

Programming Group Listen

Setting Up Group Listen
Important note for Group Listen.

1. 2112-02: Headset Mode Stations: Config: Options: Speaker (2112): Headset]

This option should be disabled for each extension that needs Group Listen capability.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. An extension using a headset cannot also use Group Listen.

Group Ring

Use Group Ring to call a group of co-worker's simultaneously.

Description

Group Ring allows you to arrange extensions into Ring Groups for answering calls. When a call comes into the Ring Group master number, all extensions in the group ring simultaneously. Any user in the Ring Group can answer the call just by lifting the handset. The ringing call can be:

- A Direct Inward Line to the Ring Group (i.e., terminated to the Ring Group master number).
- An outside call transferred to the Ring Group master number.
- An intercom call to the Ring Group master number.

[3.01] A Ring Group is a uniquely assigned Department Group. By default, all 30 Department Groups are assigned as Ring Groups. Department Groups 1-30 use extension numbers 601-630. See Department Groups on page 153 for more

Overflow for Group Ring Calls

[3.01] You can set up a Ring Group to overflow to voice mail.

- Use 2302-01: Department Group Overflow Destination [Stations: Department Groups: Setup: Options (2302): Overflow Destination]to set this option.
- If a call into a Ring Group overflows to voice mail, it is picked up by the Group Mailbox. See Group Mailbox for more.

If the Ring Group DIL does not have overflow programmed, the call will divert to Key Ring after the *Line No Answer* interval.

Conditions and Defaults

Conditions

- *[3.01]* None.

Default Setting

- By default, extension (master) numbers for Ring Groups are:
  - *[3.01]* 601-630 for Department Groups 1-30.

Other Related Features

Features

- Call Coverage Keys on page 63
  - A keyset can have Call Coverage keys for Ring Group master numbers.
- Call Forwarding on page 71
  - Call Forwarding does not reroute Ring Group calls.

- Call Waiting / Camp-On on page 93
  - An extension user cannot Camp-On to a busy Ring Group. When all extensions in the Ring Group are busy, the call continues to ring until an extension becomes free.
- Caller ID on page 101
  - An extension's display will show Caller ID data for a line terminated to a Ring Group master number as the call is ringing.
- Direct Inward Line on page 177
  - A DIL can terminate to a Ring Group master number. When a call comes in on the line, all phones in the Ring Group ring simultaneously.
- Directed Call Pickup on page 196
  - Directed Call Pickup can intercept Ring Group calls.
- Directory Dialing on page 198
  - Intercom Directory dialing will show Ring Group names.
- Extension Hunting on page 233
  - Group Ring calls do not activate hunting.
- Night Service / Night Ring on page 353
  - The Night (System) key sets the day/night status of a DIL terminated to a Ring Group.
- Transfer on page 497
  - An extension user can Transfer a call to a Ring Group master number. If unanswered, the call will recall the extension from which it was transferred.

IntraMail Features

- Voice Mail Overflow
  - An unanswered DIL to the Ring Group master number can be picked up by the Ring Group Mailbox.

Programming Group Ring

Setting Up Group Ring
1. Overview of Ring Group programming.

1. *[3.01]* 2113-02: Department Group [Stations: Config: Options: Groups (2113): Department Group]

Enter the Department Group (1-30) to which the extension should belong.

Check to be sure the Department Group is set up as a Ring Group.

Options	Description
0	[Default] Not assigned.
1-30	Department Groups 1-30.

2. To enter a name for a Ring Group, see Programming Names on page 348

3. To set up Distinctive Ring for a Ring Group, see [<3.01] Unique Ringing for Ring and UCD Groups on page 211.
4. To set up the DIL and overflow options for a Ring Group, see Programming Line Termination on page 179
5. To set up line keys for a DIL to a Ring Group, see Programming Line and Loop Keys on page 132.

2. If required, adjust the timers that affect Ring Groups.

1. 1601-01: Line No Answer Timer [System: Timers: Features: Incoming (1601): Line No Answer]

   If a Ring Group DIL is unanswered, the call diverts to its overflow destination after this interval.

   If a Ring Group DIL doesn't have overflow and is unanswered, the call diverts to Key Ring after this interval.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 15 seconds.

2. 1601-02: DIL No Answer Timer [System: Timers: Features: Incoming (1601): DIL No Answer]

   If a Ring Group DIL is unanswered at the overflow destination, the call diverts to Key Ring after this interval.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 15 seconds.

Handsfree and Handsfree Answerback

- **Talk over the phone Handsfree, using the built-in speaker and microphone.**
- **With Handsfree Answerback, answer an Intercom call by just speaking toward your phone.**

Description

Handsfree

Handsfree allows a keyset user to process calls using the speaker and microphone in the telephone (instead of the handset). Handsfree is a convenience for workers who don't have a free hand to pick up the handset. For example, a terminal operator could continue to enter data with both hands while talking on the phone.

Handsfree Answerback and Forced Intercom Ringing

Handsfree Answerback permits an extension user to respond to a voice-announced Intercom call by speaking toward the phone, without lifting the handset. Like Handsfree, this is a convenience for workers who don't have a free hand to pick up the handset. Incoming Intercom calls alert with two beeps if the extension has Handsfree Answerback — a single beep if it does not.

Forced Intercom Ringing causes an Intercom call to ring the destination extension. You can enable Forced Intercom Ringing system-wide (for all extensions), or a user can dial a code to have their Intercom call ring the destination.

Full Duplex Speakerphone Options

[2.18] Several important options are available for the Super Display Telephone with Full-Duplex Speakerphone (P/Ns 1090023 and 1090028).

- Full-duplex operation is automatically disabled for incoming voice-announced Intercom calls. Full-duplex operation is not required for these types of calls.
- For environments where high background noise makes full-duplex operation undesirable, you can disable full-duplex operation in programming. In 2112-07: Disable Full Duplex Handsfree Stations: Config: Options: Speaker (2112): Disable Full Duplex HF], enter 1 to disable full-duplex operation or enter 0 to enable full-duplex operation.

Conditions and Defaults

Conditions

- Since Handsfree switching is handled in each telephone, there is no limit to the number of simultaneous Handsfree calls system-wide.

Default Setting

- Enabled.

Other Related Features

Features

- Automatic Handsfree on page 48

- Automatic Handsfree allows a keyset user to place or answer a call Handsfree by just pressing a key — without pressing **SPEAKER** first.

- Headset Compatibility on page 274
  - Handsfree is not available to extensions in the headset mode. Handsfree Answerback is still available — depending on system programming.
- Intercom on page 292
  - Handsfree Answerback allows a user to answer an Intercom call by just speaking toward the phone.
- Microphone Mute on page 338
  - Use Microphone Mute to temporarily turn off the Handsfree microphone.
- Single Line Telephones on page 444
  - On- and Off-Premise Extensions do not have Handsfree and Handsfree Answerback capability.

IntraMail Features

- None.

Programming Handsfree and Handsfree Answerback

Setting Up Handsfree and Handsfree Answerback

1. Enable voice announcements.

1. 1513-01: Intercom Voice Announcements [System: Options: Setup: Intercom (1513): Voice Announce]

   Use this option to enable Intercom voice announcements system-wide.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 2113-03: Pickup Group Stations: Config: Options: Groups (2113): Pickup Group]

   This option allows to enable or disable an extension's ability to receive voice-announced Intercom calls.

   If voice announcements are disabled at an extension, incoming Intercom calls will ring.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. Enable Handsfree Reply.

1. 1513-02: Handsfree Reply (Handsfree Answerback) [System: Options: Setup: Intercom (1513): Handsfree Reply]

   Use this option to enable Handsfree Reply to a voice-announced Intercom call system wide.

   If enabled, a keyset extension user can respond to Intercom voice announcements without lifting the handset.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 2112-05: Handsfree Reply (Handsfree Answerback) Stations: Config: Options: Speaker (2112): Handsfree Reply]

This option allows your to enable or disable Handsfree Reply to voice-announced Intercom calls for individual extensions.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

3. Optimize speakerphone performance.

1. 3103-03: Loop Length [Lines: Config: Setup: Settings (3103): Loop Length]

To optimize speakerphone performance, and just the loop length for compatibility with the connected service.

Options	Description
0	Medium.
1	Short.
2	[Default] Long.

2. Test and readjust, if required.

3. 2112-07: Disable Full Duplex Handsfree Stations: Config: Options: Speaker (2112): Disable Full Duplex HF]

For the 34-Button Backlit Super Display with Full-Duplex Speakerphone (P/Ns 1090023 and 1090028), you can optionally disable the full-duplex speakerphone.

This may be beneficial if background noise levels preclude effective full-duplex operation.

Options	Description
0	[Default] Full-duplex speakerphone operation enabled.
1	Full-duplex speakerphone operation disabled.

Headset Compatibility

Have the privacy of a handset call without having to hold the handset.

Description

A keyset user can utilize a customer-provided headset in place of the handset. Like using Handsfree, using the headset frees up the user's hands for other work. However, the headset provides privacy not available from Handsfree.

Headset Compatibility also provides the following features. (Note that while an extension is in the Headset mode, the system ignores all hookswitch depressions.)

Background Music

If programmed and connected, Background Music will broadcast over the telephone speaker while the extension is in the Headset mode.

Central Office Calls, Answering

An extension user in the Headset mode can press Volume Up and Volume Down to control the volume of any call ringing their phone.

Handsfree and Handsfree Answerback

An extension in the Headset mode can receive normal voice-announced Intercom calls, depending on system programming the setting of 2112-04: Voice Announcements in Headset Mode Stations: Config: Options: Speaker (2112): Headset V.A.]. The extension user can respond to the voice-announced call by speaking toward the phone (just like non-headset extensions). To answer the voice-announced call in the headset, the user just presses SPEAKER after hearing the voice-announcement.

Microphone Mute

While on a headset call, the extension user can press MUTE to mute (i.e., turn off) the headset microphone. While responding to an Intercom call using Handsfree Answerback, pressing MUTE mutes the Handsfree microphone.

Off-Hook Signaling

Off-Hook Signaling Options when Using a Headset

- Outside Calls
  - Depending on the setting of 2116-03: Off Hook Signaling for Incoming Outside Calls Stations: Config: Options: Off Hook Signal (2116): OHS Lines], an extension in the headset mode can receive either Camp-On beeps or Off-Hook Ringing for incoming outside calls (just like non-headset extensions).
- Intercom Calls
  - Depending on the setting of 2116-01: Off Hook Signaling for Incoming Calls Stations: Config: Options: Off Hook Signal (2116): OHS Intercom], an extension in the headset mode can receive either Camp-On beeps or Voice Over announcements from a co-worker (just like non-headset extensions).
- Hotline Calls
  - Depending on the setting of 2116-02: Off Hook Signaling for Calls from Hotline Partner Stations: Config: Options: Off Hook Signal (2116): OHS Hotline], an extension in the headset mode can receive either Camp-On beeps or Voice Over announcements from their Hotline partner.

- Paging
  - Internal Paging announcements broadcast over the telephone speaker while the extension is in the Headset mode.
- Transfer
  - Screened and unscreened transfers work just like non-headset extensions. For example, if a headset extension user presses **SPEAKER** to answer a screened transfer, the call will connect to their headset when the transferring party hangs up. Note that Handsfree Transfers always connect to the headset extension's headset, not speakerphone.
- Volume Control
  - While on a headset call, the extension user can press **Volume Up** and **Volume Down** to adjust the receive volume in the headset.

Headset Key

A keyset user can have a Feature Key on their telephone or DSS Console assigned as a Headset key. The user presses the key to enable or disable the headset mode, as an alternative to using the **#HL** User Programmable Feature. The key lights while the extension is in the Headset mode, and is off while the Headset mode is disabled. If an extension user is on a call, pressing the Headset key automatically switches the active call to the headset. Pressing the Headset key again switches the call back to Handsfree.

Conditions and Defaults

Conditions

- None.

Default Setting

- Headset Mode disabled.

Other Related Features

Features

- Automatic Handsfree on page 48
  - While in the headset mode, Automatic Handsfree simplifies answering outside calls.
- Background Music on page 55
  - Background Music plays in the headset when the extension is in the headset mode.
- Group Listen on page 266
  - Group Listen is not available to extensions in the headset mode.
- Handsfree and Handsfree Answerback on page 271
  - Handsfree is not available to extensions in the headset mode. Handsfree Answerback is available — depending on system programming.
- Off-Hook Signaling on page 362
  - Go to *Off-Hook Signaling and Headsets* above for more on how Off-Hook Signaling interacts with headsets.

- Single Line Telephones on page 444
  - Headset Compatibility is not available to single line telephones.
  - On- and Off-Premise Extensions do not have headset capability.
- Voice Over on page 521
  - An extension user cannot Voice Over to a co-worker in the headset mode.

IntraMail Features

- None.

Programming Headset Compatibility

Setting up the Headset Options
1. Set up a Headset Key.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

Assign key code 28 to an available Feature Key.

Options	Description
28	Headset key. [Default] = no headset keys assigned.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

No additional key data required.

3. 2402-[01-60]: DSS Console Key Codes [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

Assign key code 28 to an available Feature Key.

Options	Description
28	Headset key. [Default] = no headset keys assigned.

4. 2402-[01-60]: DSS Console Key Data [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

No additional key data required.

2. Set up additional headset options.

1. 2112-02: Headset Mode Stations: Config: Options: Speaker (2112): Headset]

Enable this option of you want the extension to be in the headset mode.

You can also turn the headset mode on and off by:

- Pressing the Headset key on the extension or DSS Console.
- Using the User Programmable Feature code **#HS**. See User Programmable Features on page 508 for more.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 2112-04: Voice Announcements in Headset Mode Stations: Config: Options: Speaker (2112): Headset V.A.]

If you enable this option, incoming Intercom calls to the extension while it is in the headset mode beep in the headset.

If you disable this option, incoming Intercom calls to the extension while it is in the headset mode ring over the speaker.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

Hold

Have a call wait on Hold, then pick it up to continue the conversation.

- Hold and Park Recall Cycles control is available in software versions 3.01 or higher.

Description

Hold lets an extension user put a call in a temporary waiting state. The caller on Hold hears silence or Music on Hold, not conversation in the extension user's work area. While the call waits on Hold, the extension user may process calls or use a system feature. Outside calls left on Hold too long recall the extension that placed them on Hold. If the recall is unanswered, the call diverts to Key Ring.

There are four types of Hold:

System (Regular) Hold

With System Hold, an outside call a user places on Hold flashes the line key (if programmed) at all other keysets. Any keyset user with the flashing line key can pick up the call.

Exclusive Hold

When a user places a call on Exclusive Hold, only that user can pick up the call from Hold. The line appears busy to all other keysets that have a key for the line. Exclusive Hold is important if the user doesn't want a co-worker picking up their call on Hold.

Automatic Hold

Automatic Hold allows a user to be on an outside call, activate a feature, and automatically place the call on Hold without first pressing the **HOLD** key. The system places a call on Hold automatically when the user presses **CONF**, **INTERCOM**, or a Hotline key. Automatic Hold optionally allows a user, busy on an outside call, to press another line key or a Call Coverage Key to automatically put their initial call on Hold.

Intercom Hold

A user can place an Intercom call on Hold. The Intercom call on Hold does not indicate at any other extension. There is no Hold Recall for Intercom calls.

Distinctive Flash Rate on Recall

System Hold and Exclusive Hold recall feature a distinctive flash rate for line keys (see the chart below). This allows the keyset extension user to easily differentiate new calls that are ringing from held calls that are recalling.

Distinctive Flash Rate on Recall		
For this type of call:	**You see this flash rate:**	
	System Hold	**Exclusive Hold**
Call that you placed on Hold	Single Wink On (green)	Double Wink On (green)
Call that you initially placed on Hold recalling your phone	Double Wink On (green)	Double Wink On (green)
Call a co-worker placed on Hold at their extension	Single Wink On (red)	None (On red)
Call a co-worker initially placed on Hold recalling your phone	Double Wink On (red)	Double Wink On (red)

Hold Recall Display

The Hold recall display identifies:

- The type of call recalling the extension.
- The extension which initially placed the call on Hold.

The Hold recall displays occurs as the call is ringing the extension that initially placed it on Hold, and after the call diverts to Key Ring.

Hold and Park Recall Cycles

[3.01] The Hold and Park Recall Cycles option provides additional control over how the system handles unanswered held and parked calls. For example:

1. When a user Parks a call or places a call on Hold, the call waits for the recall interval.
   - Park uses the interval set in 1603-04: Park Orbit Recall Timer [System: Timers: Features: Recall (1603): Orbit Recall].
   - Hold uses the interval set in 1603-02: Hold Recall Timer [System: Timers: Features: Recall (1603): Hold Recall].
   - Exclusive Hold uses the interval set in 1603-03: Exclusive Hold Recall Timer [System: Timers: Features: Recall (1603): X-Hold Recall].
2. If not picked up, the call recalls the extension for the interval set in 1601-01: Line No Answer Timer [System: Timers: Features: Incoming (1601): Line No Answer].
   - If the extension has Extended Ringing enabled, the call recalls for the interval set in 1604-03: Extended Ringing Timer [System: Timers: Features: Station (1604): Extended Ring].
3. If the recall is not picked up, the system checks the Recall Cycles option set in 1603-05: Abandoned Hold Cycles [System: Timers: Features: Recall (1603): Recall Cycles].
4. One of the following then occurs:
   - If the number of programmed cycles ***has not*** been met, the call goes back on Hold or into orbit and the cycle continues.
   - If the number of cycles ***has*** been met, the line goes to Key Ring.

You can also set up the Recall Cycles option to ***never*** divert to the overflow destination by setting the Recall Cycles count at **0**. The call will continually switch between waiting in orbit (or on Hold) and ringing the initiating extension. This is helpful if the site receives may priority calls that should never reroute to a destination that allows other co-workers to pick them up.

Conditions and Defaults

Conditions

- None.

Default Setting

- System Hold, Exclusive Hold and Automatic Hold enabled.

Other Related Features

Features

- Call Timer on page 89
  - A user's Call Timer starts when they pick up a call from Hold. If they place the call on Hold and another user picks it up, the timer restarts for the new user.
- Conference on page 144
  - If an extension user places a Conference on Hold, no other participants can place the Conference on Hold, split it, or terminate it.
- Directed Call Pickup on page 196
  - Directed Call Pickup can pick up Hold recalls.
- Key Ring on page 295
  - Unanswered Hold Recalls revert to Key Ring if not picked up.
- Music on Hold on page 344
  - If installed, Music on Hold plays to callers on Hold.
- Off-Hook Signaling on page 362
  - An extension user can place their current call on Hold and answer the waiting call.
- Single Line Telephones on page 444
  - A single line telephone user can only place an outside call on Exclusive Hold. System Hold is not available.
- Transfer on page 497
  - If an extension receiving a screened Transfer answers the screen and immediately hangs up (before the transferring extension), the call goes on Exclusive Hold at the transferring extension.

IntraMail Features

- None.

Programming Hold

Setting the Hold Options
1. Set Up Automatic Hold.

1. 1411-03: Automatic Hold [System: Class of Service: Lines: Lines (1411): Automatic Hold]

Use this option to enable or disable Automatic Hold.

- If enabled, pressing a line key or Call Coverage key will put the initial call on Hold.
- If disabled, pressing a line key or Call Coverage key will disconnect the initial call on Hold.

Options	Description
No (0)	[Default] Disabled.

Options	Description
Yes (1)	Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

2. Adjust the Hold timers.

1. 1603-02: Hold Recall Timer [System: Timers: Features: Recall (1603): Hold Recall]

This timer sets how long a call stays on System Hold before recalling the extension that initially placed it on hold.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 60 seconds.

2. 1603-03: Exclusive Hold Recall Timer [System: Timers: Features: Recall (1603): X-Hold Recall]

This timer sets how long a call stays on Exclusive Hold before recalling the extension that initially placed it on hold.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 90 seconds.

3. 1601-01: Line No Answer Timer [System: Timers: Features: Incoming (1601): Line No Answer]

This timer sets how long a call rings the extension that initially placed it on hold before diverting to Key Ring.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 15 seconds.

3. Set the abandoned Hold recall cycles.

1. 1603-05: Abandoned Hold Cycles [System: Timers: Features: Recall (1603): Recall Cycles]

Use this option to set how may times a call will follow the Hold or Park recall cycle before diverting to Key Ring.

Options	Description
1-9999	Number of recall cycles. [Default] = 2.
0	Call recalls continuously (i.e., never diverts to Key Ring).

2. If you set this option to 0, the call will continuously recall the extension that placed it on hold until it is answered or the outside caller hangs up.

Hot Dial Pad

Dial a call without first lifting the handset or pressing any keys.

- Available in software versions 3.01 and higher.

Description

Hot Dial Pad allows an extension user to place a call without first lifting the handset or pressing **INTERCOM**. With Hot Dial Pad enabled, the user can more easily place Intercom calls (without first pressing **INTERCOM**), quickly place outside calls (using Line Group Access and Direct Line Access), and even use the User Programmable Features.

Note: Hot Dial Pad is ***not*** available with the following features which use **#** as the first access digit:

- Placing a Speed Dial call (e..g., **#701** or **#201**)
- Programming (**#*#***)
- Extension Locking (**##0**, **##3**, **##5**, and **##6**)

Conditions and Defaults

Conditions

- None.

Default Setting

- Disabled.

Other Related Features

Features

- Central Office Calls, Placing on page 128
  - Dial an outside call (using Line Group Access or Direct Line Access) by just dialing on the dial pad, without first lifting the handset or pressing any other keys.
- Intercom on page 292
  - Dial an Intercom call by just dialing you co-worker's extension number on the dial pad, without first lifting the handset or pressing **INTERCOM**.

IntraMail Features

- None.

Programming Hot Dial Pad

Programming Basics
Setting up Hot Dial Pad

1. 2111-11: Hot Dial Pad [Stations: Config: Options: Features (2111): Hot Dial Pad]

Use this option to enable Hot Dial Pad at an extension.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. In you enable this option, the extension user can dial a call without lifting the handset or pressing any other keys.

Hotline

Hotline provides partner extensions with one-button calling and Transfer.

Description

Hotline gives a keyset user with a programmed Hotline key one-button calling and Transfer to another extension (the Hotline partner). Hotline helps co-workers that work closely together. The Hotline partners can call or Transfer calls to each other just by pressing a single key.

In addition, the Hotline key shows the status of the partner's extension:

Hotline Busy Lamp Indications	
When the key is:	**The partner extension is:**
Off	Idle or not installed
On	Busy or ringing1
Medium Flash	Partner extension is in DND for outside calls (option 1).
Fast Flash	Partner extension is in DND for Intercom calls (option 2) or All Calls (option 3).
[1] Ringing Intercom and Group Ring calls light the Hotline key. DILs, Key Ring calls and transferred calls do not.	

Hotline Automatic Transfer

With Hotline Automatic Transfer, the extension can Transfer their call to a co-worker just by pressing their Hotline key and hanging up. Without Hotline Automatic Transfer, the user must press **TRANSFER** ***before*** pressing the Hotline key. If the user frequently uses their Hotline key for one-button Transfer to co-workers, Hotline Automatic Transfer is recommended. If the user prefers to consult with their Hotline partner rather than Transfer, disabling Hotline Automatic Transfer would be helpful.

Hotline and Call Coverage Key Surfing

Consecutively pressing Call Coverage or Hotline keys, also called "surfing", is a convenient way to locate co-workers. The operation of surfing operates is an interaction between the Hotline Automatic Transfer and Automatic Hold options. The chart below shows this interaction. For example, when Hotline Automatic Transfer and Automatic Hold are both enabled, the user on an outside call can quickly surf a row of keys to find a co-worker and then hang up when they find them. The call transfers to the co-worker without any other steps.

Call Coverage and Hotline Key Surfing			
1401-03: Privacy [System: Class of Service: Features: Features (1401): Privacy]	1411-03: Automatic Hold [System: Class of Service: Lines: Lines (1411): Automatic Hold]	User's extension is:	Surfing their Hotline or Call Coverage Keys will:
Off	Off	Idle	Place consecutive Intercom calls without putting the prior

			Hotline/Call Coverage call on Hold.
		Busy on Intercom Call	Surfing will: **1.** Disconnect the active call. **2.** Place consecutive Intercom calls without putting the prior Hotline/Call Coverage call on Hold.
		Busy on Outside Call	Surfing will: **1.** Disconnect the active call. **2.** Place consecutive Intercom calls without putting the prior Hotline/Call Coverage call on Hold.
On	Off	Idle	Place consecutive Intercom calls without putting the prior Hotline/Call Coverage call on Hold.
		Busy on Intercom Call	Surfing will: **1.** Disconnect the active call. **2.** Place consecutive Intercom calls without putting the prior Hotline/Call Coverage call on Hold.
		Busy on Outside Call	Surfing Hotline keys will: • Put the outside call on Hold and then transfer it to the last surfed destination when the user hangs up. Surfing Call Coverage Keys will: **1.** Disconnect the active call. **2.** Place consecutive Intercom calls without putting the prior

			Hotline/Call Coverage call on Hold.
Off	On	Idle or Busy on Intercom Call	Place consecutive Intercom calls without putting the prior Hotline/Call Coverage call on Hold.
		Busy on Outside Call	Surfing will: **1.** Put the outside call on Hold. **2.** Place consecutive Intercom calls without putting the prior Hotline/Call Coverage call on Hold. **3.** When the user hangs up, the outside call remains on Hold. • Alternately, pressing **TRANSFER** transfers the call to the last surfed destination.
On	On	Idle or Busy on Intercom Call	Surfing will: **1.** Disconnect the active call. **2.** Place consecutive Intercom calls without putting the prior Hotline/Call Coverage call on Hold.
		Busy on Outside Call	Put the outside call on Hold and then transfer it to the last surfed destination when the user hangs up.

Conditions and Defaults

Conditions

- An extension's Hotline partner can be any other keyset (e.g., physical port). An extension cannot have a Hotline key for master numbers or virtual ports.

Default Setting

- No Hotline keys programmed.

Other Related Features

Features

- Call Coverage Keys on page 63
  - Call Coverage Keys provide many of the features available to Hotline partners.
- Direct Station Selection (DSS) Console on page 187
  - DSS Consoles can also have Hotline keys.
- Do Not Disturb on page 217
  - An extension user can press their Hotline key twice to override their Hotline partner's DND.
- Intercom on page 292
  - A user can press a Hotline Key as an alternative to dialing Intercom numbers.
- Transfer on page 497
  - An extension user can Transfer a call to their Hotline partner by pressing their Hotline key.
- Voice Mail (IntraMail) on page 516
  - Pressing a Hotline key can Transfer a call to an uninstalled extension's mailbox (if the mailbox is enabled).
- Voice Over on page 521
  - An extension can Voice Over after calling a co-worker by pressing their Hotline key.

IntraMail Features

- None.

Programming Hotline

Setting Up Hotline
1. Set up the Hotline basics.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

Assign key code 05 to an available Feature Key on a keyset.

Options	Description
05	Hotline key. [Default] = no Hotline keys assigned.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

For the key data, enter the extension number of the Hotline partner.

Options	Description
Extension	Extension number of Hotline partner. [Default] = No data assigned.

3. 2402-[01-60]: DSS Console Key Codes [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

   Assign key code 05 to an available Feature Key on a DSS Console.

Options	Description
05	Hotline key. [Default] = no Hotline keys assigned.

4. 2402-[01-60]: DSS Console Key Data [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

   For the key data, enter the extension number of the Hotline partner.

Options	Description
Extension	Extension number of Hotline partner. [Default] = No data assigned.

5. 2116-02: Off Hook Signaling for Calls from Hotline Partner Stations: Config: Options: Off Hook Signal (2116): OHS Hotline]

   Use this option to specify the type of Off-Hook Signaling that occurs when a user presses the Hotline key for their busy Hotline partner.

Options	Description
0	[Default] Disabled.
1	Camp-On. Hotline call from partner will send Camp-On tones.
2	Voice Over. Hotline call from partner will initiate Voice Over.

2. Set up Hotline Automatic Transfer.

1. 1401-13: Hotline Automatic Transfer [System: Class of Service: Features: Features (1401): Hotline Auto Transfer]

   This option enables or disables Hotline Automatic Transfer at the extension.

   - If enabled, the extension user can Transfer a call just by pressing the Hotline key (without first pressing **TRANSFER**).
   - If disabled, to transfer a call the extension user must press **TRANSFER** before pressing the Hotline key.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

3. The Hotline Key Surfing Options.

1. See Hotline and Call Coverage Key Surfing on page 285 for more on Hotline Key Surfing.
2. The *Call Coverage and Hotline Key Surfing chart* shows the program and call state interactions.

Interactive Soft Keys

Use advanced features just by pressing a soft key, without remembering feature codes.

Description

Interactive Soft Keys provide intuitive feature access. It is no longer necessary to remember feature codes to access the telephone's advanced features because the function of the soft keys change as the user process calls. For example, while on an outside call a display keyset user can press the **Park** soft key to Park their call in orbit.

Conditions and Defaults

Conditions

- When an extension's soft keys are enabled or disabled in programming, the user must take some action at the telephone (such as lifting and replacing the handset) before the change takes effect.

Default Setting

- Soft keys enabled.

Other Related Features

- None.

Programming Interactive Soft Keys

Setting Up Interactive Soft Keys
Enabling Interactive Soft Keys at an extension.

1. 1401-05: Soft Keys [System: Class of Service: Features: Features (1401): Soft Keys]

Use this option to enable or disable an extension's Interactive Soft Keys.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Intercom

Use Intercom to call any co-worker.

Description

Intercom gives extension users access to other extensions. This provides the system with complete internal calling capability.

Handsfree Answerback and Forced Intercom Ringing

Handsfree Answerback permits an extension user to respond to a voice-announced Intercom call by speaking toward the phone, without lifting the handset. Like Handsfree, this is a convenience for workers who don't have a free hand to pick up the handset. Incoming Intercom calls alert with two beeps if the extension has Handsfree Answerback — a single beep if it does not.

Forced Intercom Ringing causes an Intercom call to ring the destination extension. You can enable Forced Intercom Ringing system-wide (for all extensions), or a user can dial a code to have their Intercom call ring the destination.

For more on setting up Handsfree Answerback and Forced Intercom Ringing, see Handsfree and Handsfree Answerback on page 271 for more.

Intercom Feature Key

[2.18] An extension can have an Intercom Feature Key. The primary purpose of this key is to enable additional features on the *Cordless Lite II* and *Cordless DECT* telephones. The Intercom key allows the cordless user to pick up a call on Intercom Hold. It also allows the user to get Intercom dial tone if they have a Prime Line to an outside line.

Conditions and Defaults

Conditions

- None.

Default Setting

- Intercom calling always enabled.

Other Related Features

Features

- Attendant Position on page 36
  - Designate each extension's operator.
- Call Coverage Keys on page 63
  - A user can press a Call Coverage Key as an alternative to dialing Intercom numbers.
- Call Waiting / Camp-On on page 93
  - A user can Camp-On after placing an Intercom call to a busy co-worker.

- Callback on page 97
  - A user can leave a Callback request after placing an Intercom call to a busy co-worker.
- Direct Station Selection (DSS) on page 183
  - A user can press a DSS key as an alternative to dialing Intercom numbers.
- Directory Dialing on page 198
  - Directory Dialing is a convenient alternative to manually dialing Intercom numbers.
- Extension Hunting on page 233
  - Voice-announced Intercom calls do not initiate hunting.
- Flexible Numbering Plan on page 258
  - Change the digits users dial to place Intercom calls to co-workers.
- Group Call Pickup on page 263
  - Ringing Intercom calls activate Group Call Pickup if the extension ringing is a member of a Pickup Group.
- Handsfree and Handsfree Answerback on page 271
  - Handsfree Answerback allows a user to answer an Intercom call by just speaking toward the phone.
- Headset Compatibility on page 274
  - Extensions with headsets cannot receive voice-announced Intercom calls.
- Hotline on page 285
  - A user can press a Hotline Key as an alternative to dialing Intercom numbers.
- Last Number Redial on page 299
  - Last Number Redial cannot redial Intercom calls.
- Message Waiting on page 335
  - A user can leave a Message Waiting after placing an Intercom call to a busy co-worker.
- Music on Hold on page 344
  - Music on Hold plays to Intercom callers on Hold.
- Names for Extensions and Lines on page 348
  - Extension names help identify Intercom callers to co-workers.
- Paging on page 367
  - Intercom ringing can broadcast over the External Paging speakers.
- Ringdown Extension on page 430
  - Ringdown Extension follows the voice-announce status of destination extension. For example, if an extension usually voice-announces Intercom calls, a ringdown to that extension will also voice-announce.
- Ringing Line Preference on page 432
  - Ringing Line Preference answers a ringing Intercom call before a ringing outside call.
- Single Line Telephones on page 444
  - Single line telephones cannot receive voice-announced Intercom calls.

- Transfer on page 497
  - The system cannot Transfer Intercom calls.
- Voice Over on page 521
  - An extension user can Voice Over to a co-worker busy on an Intercom call.
- Volume, Brightness, and Contrast Controls on page 552
  - The default Intercom (station-to-station) gain is 0 dB. While on an Intercom call, use **Volume Up** and **Volume Down** to change this setting.

IntraMail Features

- None.

Programming Intercom

Setting the Intercom options.
Set the Interdigit Timer.

1. 1602-01: Interdigit Timer [System: Timers: Features: Outgoing (1602): Interdigit Time]

   When an extension user dials an Intercom call, they must dial each succeeding digit within this interval.

Options	Description
1-9999	Seconds. [Default] = 6 seconds.
Yes (1)	Enabled.

2. Keep in mind that if you change this timer it will affect all dialing system-wide.

Key Ring

So they are not forgotten, unanswered calls automatically ring co-worker's extensions.

Description

A Key Ring line rings an extension according to the settings in 2132-[01-64]: Line Ringing Stations: Config: Ring Assign: Line Ringing (2132): Ring Assignment]. Multiple extensions can be enabled to ring immediately or after a programmed delay for each incoming line call. In addition, under certain conditions other types of outside calls divert to Key Ring if unanswered. The following conditions also initiate Key Ring:

- **Direct Inward Line**
  - An unanswered DIL diverts to Key Ring if unanswered at the extension to which it is terminated. See Direct Inward Line on page 177 for more.
- **Hold**
  - Calls left on Hold too long recall the extensions that initially placed them on Hold. If still unanswered, they divert to Key Ring.
- **Park**
  - Calls parked in orbit recall the extension that initially parked them. If unanswered, the call diverts to Key Ring.
- **Transfer**
  - An unanswered Transfer recalls the extension that initially transferred it. If still unanswered, the line diverts to Key Ring.

Overflow for Key Ring Calls

If unanswered, Key Ring calls can route to a programmed overflow destination. The overflow destination can be an extension, Ring Group, UCD Group or voice mail. You can set up separate Key Ring overflow destinations for the day mode and at night. If unanswered at the overflow destination, the call again diverts to Key Ring. Note that a Key Ring line goes into the night mode when any extension with night mode capability presses their System Night key. See Night Service / Night Ring on page 353 for more.

Conditions and Defaults

Conditions

- None.

Default Setting

- (DSX-40) Enabled for all keyset extensions.
- (DSX-80/160) Enabled for extensions 300-315.

Other Related Features

Features

- Call Coverage Keys on page 63
  - Call Coverage will pick up Key Ring calls.
- Call Forwarding on page 71
  - A Key Ring call will not follow an extension's Call Forwarding.
- Call Waiting / Camp-On on page 93
  - A Key Ring call will not send Camp-On beeps to a busy extension that normally rings for that call.
- Direct Inward Line on page 177
  - An unanswered DIL reverts to all extensions with Key Ring for the line.
- Hold on page 278
  - Unanswered Hold Recalls revert to Key Ring if not picked up.
- Off-Hook Signaling on page 362
  - Off-Hook Signaling can occur for Key Ring calls.
- Park on page 379
  - An unanswered Park recall diverts to Key Ring.
- Transfer on page 497
  - An unanswered call transferred to an extension diverts to Key Ring if unanswered at the transferring extension.

IntraMail Features

- None.

Language Selection

Set up a telephone to show displays and soft keys in English or Spanish.

Description

Language Selection provides telephone displays for soft keys and system programming in English and Spanish. You can select the language for each extension in system programming, or the extension user can choose their language via the soft keys. Language Selection allows the system to easily accommodate bilingual installations (English and Spanish). The telephone user can have their telephone display the language with which they are most comfortable.

Language Selection and SMDR

Language Selection also allows to you to print the Station Message Detail Recording (SMDR) header and call type data in English or Spanish. Following is a sample SMDR report in Spanish:

```
Registro de Detalle de Llamados
05/11/2003 11:47A
---+---+--------------------------------+----------+---------+--------+---
Ext|Lin| Numero Marcado                 | Cuenta   |  Inicio |Duracion| T
---+---+--------------------------------+----------+---------+--------+---
304| 03| 5551212                        |          |11:47:12A|00:00:05|SAL
304| 03| 5552145                        |          |11:42:37A|00:00:08|SAL
102| 02| 2126657845                     |          |11:43:30A|00:00:16|TMB
102| 02| MACDONALD MIKE                 |          |11:43:30A|00:00:16|TMB
304| 02| 2126657845                     |          |11:44:11A|00:00:08|ENT
304| 02| MACDONALD MIKE                 |          |11:44:11A|00:00:08|ENT
```

Conditions and Defaults

Conditions

- None.

Default Setting

- The telephone display language is English.
- The SMDR language is English.
- The attendant (COS 1) can change an extension’s display language. All other extensions (COS 2) cannot.

Other Related Features

Features

- Regional Defaults on page 424
  - Changing the Regional Default to Latin America automatically switches all telephone displays to Spanish and enables the Spanish SMDR header and Call Type data.
- Station Message Detail Recording on page 463
  - The SMDR header and Call Type data can print in either English or Spanish.

IntraMail Features

- None.

Programming Language Selection

Setting the Language Options

1. Set the display and SMDR header language.

1. 2103-03: Delay Ring Type [Stations: Config: Setup: Ringing (2103): Delay Ring Type]

Use this option to change the extension's display language (English or Spanish).

Options	Description
1	[Default] English.
2	Spanish.

2. 1541-03: SMDR Language [System: Options: Setup: SMDR (1541): Language]

This option sets the language of the SMDR header (English or Spanish).

Options	Description
1	[Default] English.
2	Spanish.

2. Allow an extension user to change their display language.

1. 1401-11: Language Programming [System: Class of Service: Features: Features (1401): Allow Language Setting]

If enabled, this option allows an extension user to change the display language of their telephone.

This telephone display language is changed via the soft keys.

Options	Description
No (0)	Disabled. [Default] for COS 2-15.
Yes (1)	Enabled. [Default] for COS 1.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Last Number Redial

Quickly redial the last number dialed.

Description

Last Number Redial allows an extension user to quickly redial the last outside number dialed. For example, a user may quickly recall a busy or unanswered number without manually dialing the digits. Last Number Redial saves in system memory the last 20 digits a user dials. The number can be any combination of digits 0-9, # and *. The system remembers the digits regardless of whether the call was answered, unanswered or busy. The system normally uses the same line as for the initial call. However, if that line is busy and is part of a Line Group, Last Number Redial will automatically select the next line in the group. The user can also preselect a specific line if desired.

Enhanced Last Number Redial

If enabled, Enhanced Last Number Redial allows the extension user to select from the last 5 outside numbers dialed. When the user places an outside call, the number dialed is stored in the Enhanced Last Number Redial buffer. This buffer saves the 5 most recent numbers (including Speed Dial calls), with the most recent call at the top of the buffer and the oldest number at the bottom of the buffer. Old calls get pushed off the bottom of the buffer to make room for new calls at the top. If a user dials a number that is already stored in the buffer, the system inserts the number at the top of the buffer and deletes the duplicate entry.

The numbers stored in the Enhanced Last Number Redial buffer are retained if the system resets or is powered down.

Automatic Hyphenation in the Enhanced Last Number Redial Display

The system will automatically insert hyphens in the Enhanced Last Number Redial display for the types of calls listed below. All other calls are displayed without hyphens.

- NNX + xxxx calls (e.g., 926-5400)
- NPA + NNX + xxxx calls (e.g., 203-926-5400)
- 1 + NPA + NNX + xxxx calls (e.g., 1-203-926-5400)

If the call is placed on a PBX line, and the PBX access code is dialed, the display shows the PBX access code, a space, followed by the dialed number using the same hyphenation as shown above (e.g., 9 1-203-926-5400). If the PBX access code is not dialed, the number is displayed without hyphens.

Conditions and Defaults

Conditions

- None.

Default Setting

- Last Number Redial and Enhanced Last Number Redial are enabled.

Other Related Features

Features

- Account Codes on page 21 and Save Number Dialed on page 438.

- Last Number Redial and Save do not store Account Codes. This means that the user must manually enter an Account Code to have it included with a call dialed using Last Number Redial and Save.

- Auto Redial on page 41
  - Auto Redial periodically redials a busy outside number.
- Central Office Calls, Placing on page 128
  - Users can easily redial the last outside number dialed.
- Intercom on page 292
  - Last Number Redial cannot redial Intercom calls.
- Line Queuing / Line Callback on page 309
  - If all lines are busy and Last Number Redial cannot go through, the user can dial **2** a queue for a line to become free. If the user hangs up, the system converts the queue to a Line Callback.
- Save Number Dialed on page 438
  - Save also simplifies dialing important numbers.
- Single Line Telephones on page 444
  - Last Number Redial is not available at single line telephones.
- Toll Restriction on page 488
  - Last Number Redial will not store a number denied by Toll Restriction.

IntraMail Features

- None.

Programming Last Number Redial

Setting Up the Last Number Redial Options
Last Number Redial Setup.

1. 1411-04: Enhanced Last Number Redial [System: Class of Service: Lines: Lines (1411): Enhance LND]

When this option is enabled, the extension has Enhanced Last Number Redial.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15.

Options	Description
	[Default] for extension 300 = 1. [Default] for all other extensions = 2.

3. 2131-[01-64]: Line Access Stations: Config: Line Access: Line Access (2131): Line Access]

To use Last Number Redial, the extension must have either outgoing only or full access to the line.

Use this option to set line access for the extension. See Programming Outside Line Type, Access, and Ringing on page 130 for more.

Line Group Routing

Dial a single code to place a call over the first available line in a Line Group.

Description

With Line Group Routing enabled, an extension user can just press **INTERCOM** and dial **9** to place an outside call. Line Group Routing automatically selects the first available line in the extension's programmed "dial 9" Line Group. This simplifies placing calls in systems that have a lot of lines for outgoing calls. Rather than press one of many line keys, the user just dials **9** instead.

Conditions and Defaults

Conditions

- Systems using Line Groups or Line Group Routing should use the hybrid FCC registration number (i.e., the number that ends in MF-E). Look at the label on the bottom of your equipment cabinet for more information.
- If you include a line in your "dial 9" group that is not physically connected, when a user dials **9** the system will:
  - Try the line up to 5 times.
  - Mark it as failed.
  - Automatically exclude it from the "dial 9" group.

Default Setting

DSX-80/160>

- Lines 1-12 ring on line keys 1-12 for extensions 300-315. All other extensions are lamp only for lines 1-12. Lines 13-64 do not appear on line keys.
- All extensions have full access on all lines.
- Line Group Routing (dial 9) is assigned to Line Group 90 (which contains lines 1-8). Dial 9 works by default. The outgoing line priority for the dial 9 group is as follows:
  - Order 1 for line 8
  - Order 2 for line 7
  - Order 3 for line 6
  - Order 4 for line 5
  - Order 5 for line 4
  - Order 6 for line 3
  - Order 7 for line 2
  - Order 8 for line 1

DSX-40

- Keys 1-8 are line keys for lines 1-8.
- All extensions have full access on all lines.
- Lines 5-8 require the Expansion Board.
- Line Group Routing (dial 9) is assigned to Line Group 90 (which contains lines 1-8). Dial 9 works by default. The outgoing line priority for the dial 9 group is as follows:
  - Order 1 for line 8

- Order 2 for line 7
- Order 3 for line 6
- Order 4 for line 5
- Order 5 for line 4
- Order 6 for line 3
- Order 7 for line 2
- Order 8 for line 1

Other Related Features

Features

- Central Office Calls, Placing on page 128
  - Review this feature for other ways to place outside calls.
- Line Groups on page 305
  - With Line Group Routing disabled, extension users can optionally dial **90**-**98** to place calls on Line Groups 90-98.
- Line Queuing / Line Callback on page 309
  - An extension user camp-on or leave a Callback if all lines in the dial 9 group are busy.

IntraMail Features

- None.

Programming Line Group and Dial 9 Options

Setting Up Line Groups
Configure the Line Groups.

1. 3201-[01-64]: Line Group [Lines: Groups: Group xx: Order (3201):

This option assigns lines to Line Groups.

A line can be in more than one group.

Options	Description
1-64	Assign each line to one or more of the Line Groups (90-98).
Group 90	
	[Default] Group 90 Order 1 for line 8 Order 2 for line 7 Order 3 for Line 6 Order 4 for line 5 Order 5 for line 4 Order 6 for line 3

Options	Description
	Order 7 for line 2 Order 8 for line 1
-	All other groups and lines are unassigned.

2. 2133-[01-64]: Line Group Access Stations: Config: Line Access: Line Groups Access (2133): Group 90_98:

   Use this option to set the extension's access to Line Groups 90-98.

   The extension also needs access to the individual lines within the Line Group.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled. Each extension has access to each Line Group.

3. Check the extension's access to lines within the group. See Programming Outside Line Type, Access, and Ringing on page 130 for more.
4. For extension users to be able to access Line Groups 90-98, make sure the numbering plan provides for two-digit Line Group access. See Programming Flexible Numbering Plan on page 259 for more.

Setting Up the Dial 9 Options

Configure the Dial 9 group.

1. 2113-01: Dial 9 Group Stations: Config: Options: Groups (2113): Dial 9 Group]

   Use this option to assign an extension's dial 9 group.

Options	Description
90-98	Line Groups 90-98. [Default] = 90.

2. Check to be sure there are lines assigned to each dial 9 group.
3. The system number plan must provide single digit (dial 9) Line Group access. See Programming Flexible Numbering Plan on page 259 for more.

Line Groups

Dial codes to access Line Groups for outgoing calls.

Description

Extension users can optionally dial Line Group access codes 90-98 to select an available line in the group for outgoing calls. This is helpful in applications that have different services arranged into Line Groups. For example, dialing 90 could access a group of DDD lines for local calls, and dialing 91 could access a group of WATS lines for long distance calls. Note that systems with Line Group Routing on page 302 enabled cannot also dial Line Group access codes 90-98.

When a user dials a Line Group access code (90-98), the system selects the lowest number in the group that is available. If that line is busy, it automatically selects the next highest line. If all lines in the group are busy, the user can optionally queue for a line to become free. See Line Queuing / Line Callback on page 309 for more.

Systems using Line Groups or Line Group Access should use the hybrid FCC registration number (i.e., the number that ends in MF-E). Look at the label on the bottom of your equipment cabinet for more information.

Conditions and Defaults

Conditions

- Systems using Line Groups or Line Group Routing should use the hybrid FCC registration number (i.e., the number that ends in MF-E). Look at the label on the bottom of your equipment cabinet for more information.
- A line can be in more than one group.

Default Setting

- **DSX-80/160**
- Lines 1-12 ring on line keys 1-12 for extensions 300-315. All other extensions are lamp only for lines 1-12. Lines 13-64 do not appear on line keys.
- All extensions have full access on all lines.
- Line Group Routing (dial 9) is assigned to Line Group 90 (which contains lines 1-8). Dial 9 works by default. The outgoing line priority for the dial 9 group is as follows:
  - Order 1 for line 8
  - Order 2 for line 7
  - Order 3 for line 6
  - Order 4 for line 5
  - Order 5 for line 4
  - Order 6 for line 3
  - Order 7 for line 2
  - Order 8 for line 1

- **DSX-40**
- Keys 1-8 are line keys for lines 1-8.
- All extensions have full access on all lines.
- Lines 5-8 require the Expansion Board.
- Line Group Routing (dial 9) is assigned to Line Group 90 (which contains lines 1-8). Dial 9 works by default. The outgoing line priority for the dial 9 group is as follows:

- Order 1 for line 8
- Order 2 for line 7
- Order 3 for line 6
- Order 4 for line 5
- Order 5 for line 4
- Order 6 for line 3
- Order 7 for line 2
- Order 8 for line 1

Other Related Features

Features

- Loop Keys on page 329
  - Switched and Fixed Loop Keys use the system's Line Groups.
- Line Group Routing on page 302
  - With Line Group Routing enabled, extension users can press **INTERCOM** and dial **9** to place outgoing calls.

IntraMail Features

- None.

Line Keys

Press a line key for one-touch access to an outside line.

Description

A line key provides an extension user with one-button access to outside lines. The extension user just presses a line key to place or answer a call on the line. There is no need to dial codes to access or intercept outside calls. In addition, a line key provides a Busy Lamp Field (BLF) for the line to which it is assigned (see the table below).

Line Key BLF Indications	
When the key is:	**The line is:**
Off	Idle or not installed
On (red)	In use or on Exclusive Hold at a co-worker's extension
On (green)	In use at your extension
Wink On (red)	On System Hold at a co-worker's extension
Wink On (green)	On System Hold at your extension
Double Wink On (green)	On Exclusive Hold or recalling your extension
Slow Flash (red)	Ringing into the system
Slow Flash (green)	Ringing or recalling directly to your extension

Answering Priority

When multiple calls ring an extension simultaneously, the system services the ringing calls in the following order:

1. Ringing Intercom call
2. Line or loop key (from lowest to highest)

Conditions and Defaults

Conditions

- None.

Default Setting

- (DSX-80/160) Keys 1-12 are line keys for lines 1-12.
- (DSX-40) Keys 1-8 are line keys for lines 1-8.

Other Related Features

Features

- Automatic Handsfree on page 48

    - Automatic Handsfree allows the keyset user to answer a call ringing a line key without lifting the handset; they just press the line key instead.

- Central Office Calls, Placing on page 128
    - Line Keys give a user one-touch access to specific lines.
- Direct Inward Line on page 177
    - When you assign a line as a DIL, it continues to flash its previously programmed line/loop key assignments. It will ring line/loop keys only after diverting to Key Ring.
- Distinctive Ringing on page 204
    - By using Key Ring Override, Distinctive Ringing allows an extension user to set up unique ringing for their line keys.
- Loop Keys on page 329
    - Loop keys also provide one-button access to lines.
- Ringing Line Preference on page 432
    - Ringing Line Preference allows an extension user to answer a call ringing a line key just by lifting the handset.

IntraMail Features

- None.

Line Queuing / Line Callback

- **When all lines are busy, Line Queuing lets a user wait in line for a line to become free.**
- **Line Callback will automatically call the user back when a line is available.**

Description

Line Queuing

Line Queueing permits an extension user to queue (wait in line) on hook for a busy line or Line Group to become free. The system connects the queued extension as soon as the line is available. The user does not have to manually retry the line later.

Line Callback

After queuing for a line, the extension user just hangs up to convert the Line Queue into a Line Callback. When the line becomes free, the system automatically recalls the extension. As soon as the extension user answers the callback ring, the system connects the extension to the line.

An extension user can leave a Line Callback for many lines. The system processes the callbacks as the lines become free. In addition, many extensions can leave a Line Callback for the same line. The system processes the Callbacks on a first-in/first-out (FIFO) basis.

If an extension user leaves a Line Callback request and then fails to answer the callback ring, the system cancels the Callback.

Line Queuing Priority

Selected extensions can have Line Queuing Priority enabled in their Class of Service. If more than one extension queues or leaves a Callback for a busy line, the system services the extension with Line Queuing Priority first. If more than one extension with priority is queued for the same busy line, the system services the priority extensions on a first-in/first-out (FIFO) basis.

Conditions and Defaults

Conditions

- A System reset or power failure cancels all Line Callbacks system-wide.

Default Setting

- Line Queuing Priority disabled.

Other Related Features

Features

- Call Waiting / Camp-On on page 93
  - An extension user can Camp-On to a busy co-worker then hang up to turn the Camp-On into a Callback.
- Callback on page 97

- An extension user can Camp-On to a busy co-worker then hang up to turn the Camp-On into a Callback.

- Central Office Calls, Answering on page 121
  - If a line is ringing an extension because of a prior Callback, and it then receives a new outside call, it will start ringing for the new call. The Callback request is then queued.
- Central Office Calls, Placing on page 128
  - An extension user can queue for a busy line, or queue and hang up to leave a callback for a busy line.
- Last Number Redial on page 299
  - If all lines are busy and Last Number Redial cannot go through, the user can dial 2 a queue for a line to become free. If the user hangs up, the system converts the queue to a Line Callback.
- Save Number Dialed on page 438
  - If an extension user presses their Save key and hears busy, they can dial 2 to wait in line for the line to become available. The system will automatically redial the call. However, if the user hangs up to convert the queue to a Line Callback, the system will not redial the saved call once the line connects.

IntraMail Features

- None.

Programming Line Queuing / Line Callback

Setting Up Line Queuing and Line Callback
Set the options for queuing and priority.

1. 1411-01: Camp-On to Busy Lines [System: Class of Service: Lines: Lines (1411): Camp-On Busy Station]

Enabling this option allows an extension to queue for a busy line.

This option *does not* restrict Line Callback.

Options	Description
No (0)	Disabled. [Default] for COS 2-15.
Yes (1)	Enabled. [Default] for COS 1.

2. 1411-02: Line Queue Priority [System: Class of Service: Lines: Lines (1411): Line Queuing Priority]

Enable this option if the extension should have Line Queuing Priority.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

3. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Line Schedules

Easily set up powerful incoming call handling.

- Available in software versions 3.01 and higher.

Description

Use Line Scheduling to set up how you want the system to handle incoming calls. Line Scheduling is easy to understand and intuitive to set up, but has the power and flexibility to satisfy even complex call answering scenarios. There are eight Line Schedules with 20 Schedule Entries in each Schedule. Here are the basics on how to set this up:

1. Assign a line to one of the eight available Schedules.
2. Create an "Always" schedule that covers how you want calls handled ***most*** of the time.
    - For example, calls could Key Ring co-workers and then overflow to voice mail if they are not answered.
3. Set up more specific entries for certain times of the day, days of the week, or dates (like Christmas and company holidays).
    - You can have lunch time calls go to the Automated Attendant, evening calls go to a group mailbox, and weekend calls leave a message for an emergency service.
4. Add some "override" entries, each one activated by pressing a Manual Activation Mode Feature Key, for reoccurring events like closing early and opening late.
5. Additionally, create entries that automatically put the system in the night mode and activate the night time routing you have set in other features.

The power of Line Scheduling also comes from the myriad of combinations you can set up. Each line can use one of the eight schedules in combination with its per-line routing options. The 20 entries in each schedule can also work together with the per-line options to create even more routing possibilities. Add the Feature Key modes and Automatic Night Mode and you can benefit from complex answering scenarios that are easy to set up and understand.

Line Schedule selections are also available for each entry in the DID Translation Table. Incomplete DID calls can follow the routing set up in the schedule or the options programmed for the line.

Skip Ahead

Skip Ahead is part of Line Scheduling and allows an extension user to press a uniquely programmed Skip Ahead Feature to skip ahead to the next schedule entry. This key is called the Skip Ahead key and allows the extension user to advance from the current schedule entry to the next schedule entry. Each Skip Ahead key is assigned to a specific schedule. An extension can have multiple Skip Ahead keys assigned to different schedules.

The following example illustrates how Skip Ahead helps even in sites using basic scheduling.

- The installation site has a schedule programmed as follows:
    - The Morning schedule entry runs every week day from 8:00 AM to 12:00 PM.
    - The Noon schedule entry runs every week day from 12:00 PM to 1:00 PM.
    - The Afternoon schedule entry runs from 1:00 PM to 5:00 PM.
    - The Evening schedule entry runs from 5:00 PM to 8:00 AM the following morning.
- Here are a few of the possible applications of Skip Ahead at this site.
    - If an employee comes in early (before 8:00 AM), they can press Skip Ahead to activate the normal morning schedule entry.

- If the company has to close mid-afternoon (before 5:00 PM) because of inclement weather, an employee can press Skip Ahead to activate the evening schedule entry.

Conditions and Defaults

Conditions

- None.

Default Setting

- Disabled (no Line Schedules are programmed and no lines are assigned to schedules).

Other Related Features

Features

- Central Office Calls, Answering on page 121
  - Line Schedules work with all types of incoming calls on analog, T1 and PRI lines.

IntraMail Features

- Answer Tables
  - In version 3, Line Schedules replace IntraMail Answer Tables. The Line Schedules feature does not require IntraMail and works with all types of incoming calls. Additionally, the IntraMail Answer Tables feature is removed.

Basic Line Schedule Programming

Setting up Lines
1. Assign lines to schedules.

1. 3112-07: Schedule [Lines: Config: Options: Call Routing (3112): Options: Schedule]

   Use this option to assign an outside line to a schedule.

   If the schedule has an active entry when a call rings in, the schedule will handle the call.

Options	Description
0	[Default] No schedule assigned.
1-8	Schedules 1-8.

2. By default, lines ***are not*** assigned to schedules and all schedules are empty.

2. Assign the identification, schedule, and destination options.

1. To set up the identification options, see Programming the Schedule Identification Options on page 315.
2. To set up the schedule options, see Programming the Schedule Type Options on page 316.
3. To set up the destination options, see Programming the Schedule Type Options on page 316.

3. Optionally assign a Skip Ahead Feature Key.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

   Assign key code 32 to an available Feature Key.

Options	Description
32	Skip Ahead key. [Default] = no Skip Ahead keys assigned.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

   Specify the schedule to which the Skip Ahead key is assigned.

Options	Description
1-8	Line Schedules 1-8
-	[Default] = no data assigned.

3. 2402-[01-60]: DSS Console Key Codes [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

   Assign key code 32 to an available Feature Key on a DSS Console.

Options	Description
32	Skip Ahead key. [Default] = no Skip Ahead keys assigned.

4. 2402-[01-60]: DSS Console Key Data [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

   Specify the schedule to which the Skip Ahead key is assigned.

Options	Description
1-8	Line Schedules 1-8
-	[Default] = no data assigned.

4. Optionally assign a Manual Activation Mode Feature Key.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

   Assign a Manual Activation Mode key code (33-36) to an available Feature Key.

Options	Description
33-36	Corresponds to Manual Activation Mode 1 (33) through 4 (36). [Default] = no Manual Activation Mode keys assigned.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

   For each Manual Activation Mode key, specify the schedule to which it belongs. A Manual Activation Mode key can only belong to one schedule.

Options	Description
1-8	Schedules 1-8.
-	[Default] = no data assigned.

3. 2402-[01-60]: DSS Console Key Codes [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

   Assign a Manual Activation Mode key code (33-36) to an available Feature Key on a DSS Console.

Options	Description
33-36	Corresponds to Manual Activation Mode 1 (33) through 4 (36). [Default] = no Manual Activation Mode keys assigned.

4. 2402-[01-60]: DSS Console Key Data [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

   For each Manual Activation Mode key, specify the schedule to which it belongs. A Manual Activation Mode key can only belong to one schedule.

Options	Description
1-8	Schedules 1-8.
-	[Default] = no data assigned.

5. Review the Line Schedule examples.

1. Example 1: Setting up a Schedule that uses a Days Entry on page 319
2. Example 2: Setting up a Schedule that uses a Day Range Entry on page 322
3. Example 3: Setting up a Schedule that uses a Date Entry on page 325

Programming the Schedule Identification Options

Setting the Schedule Entry Name and Activation Mode

1. Enter the Schedule Entry name.

1. 3801-01: [xx]: [Lines: Schedules: Schedule (3801): Edit Entry: Identification: Name]

   Enter a descriptive name for the Schedule Entry (e.g., Weekdays, Weekends, Closed, etc.).

Options	Description
Alphanumeric	Schedule Entry name, up to 18 characters. See Name Programming Chart on page 351 for more. • [Default] = no entry.

2. Make sure you have a unique name for each Schedule Entry.

2. Set the Schedule Entry activation mode.

1. 3801-(xx): Activation Mode [Lines: Schedules: Schedule (3801): Edit Entry] Identification: Activation

   Select the activation mode for the Schedule Entry (automatic or by one of four Manual Activation Mode Feature Keys).

Options	Description
0	[Default] Disabled.
1	Automatic.
2	Manual Activation Key 1.
3	Manual Activation Key 2.
4	Manual Activation Key 3.
5	Manual Activation Key 4.

2. With the automatic mode, Schedule Entries activate without any user intervention. With a manual mode, the Schedule Entry activates only when a user presses a uniquely programmed Manual Activation Mode Feature Key.

3. Optionally enter a name for each manual activation mode.

1. 3802-(01-04): Mode Names [Lines: Schedules: Schedule (3801): Edit Entry: Identification: Manual Name]

   Enter a description name for each of the four manual activation modes.

Options	Description
Alphanumeric	Manual activation mode name, up to 18 characters. See Name Programming Chart on page 351 for more. • [Default] = no entry.

2. Make sure you have a unique name for each manual activation mode.

Programming the Schedule Type Options

Setting up the Schedule Type Options for a Schedule Entry
Select the Schedule Entry type and assign the options.

1. 3801-(xx): Schedule Entry Type [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type]

   For the selected Schedule Entry, choose the entry type (Days, Day Range, Date, or Always).

Options	Description
0	[Default] Disabled.
1	Days.
2	Day Range.
3	Date.
4	Always.

2. 3801-xx: Type = Days (1) [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type]

   If the selected entry type is Days (1), enter the Days type options.

Options	Description
Day of Week	Enter 1 for each day of the week the entry should be active; 0 for day the entry should be inactive. [Default] = 0 for each day.
Start Time	Enter the schedule start time in military time (00:00 through 23:59). [Default] = 00:00 (Midnight).
Stop Time	Enter the schedule end time in military time (00:00 through 23:59). [Default] = 00:00 (Midnight).

3. 3801-(xx): Type = Day Range (2) [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type]

If the selected entry type is Day Range (2), enter the Day Range options.

Options	Description
Start Day	Enter the day of the week the schedule should start (Sunday = 1, Saturday = 7). [Default] = 1 (Sunday).
End Day	Enter the day of the week the schedule should end (Sunday = 1, Saturday = 7). [Default] = 1 (Sunday).
Start Time	Enter the schedule start time in military time (00:00 through 23:59). [Default] = 00:00 (Midnight).
Stop Time	Enter the schedule end time in military time (00:00 through 23:59). [Default] = 00:00 (Midnight).

4. 3801-xx: Type = Date (3) [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type]

If the selected entry type is Date (3), enter the Date options.

Options	Description
Date	Enter the date the schedule should be active in MM/DD format. [Default] = 01/01 (January 1).
Start Time	Enter the schedule start time in military time (00:00 through 23:59). [Default] = 00:00 (Midnight).
Stop Time	Enter the schedule end time in military time (00:00 through 23:59). [Default] = 00:00 (Midnight).

5. 3801-(xx): Type = Always (4) [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type]

There are no entry options for the Always type.

Programming the Schedule Destination Options

Setting up the Schedule Destination Options for a Schedule Entry
Assign the destination (call handling) options for the Schedule Entry.

1. 3801-(xx): Use Line [Lines: Schedules: Schedule (3801): Edit Entry: Use Line Destination/Overflow]

For the selected Schedule Entry, choose between the line destination and overflow settings set in program 3112 or the settings in this entry.

Options	Description
No (0)	[Default] Disabled - uses the destination and overflow settings for the Schedule Entry.
Yes (1)	Enabled - uses the line destination and overflow settings from program 3112.

2. 3801-(xx): Day/Night [Lines: Schedules: Schedule (3801): Edit Entry: Destination: Night Mode]

   When you enable this option, the Schedule Entry is a night mode entry. If an entry is set for night mode, the system will go into the night mode when the schedule is active.

Options	Description
No (0)	[Default] Day mode.
Yes (1)	Night mode.

3. 3801-(xx): Destination Type [Lines: Schedules: Schedule (3801): Edit Entry: Destination: Destination:]

   If *Use Line Destination/Overflow* is disabled, use this option to select the entry destination type (Key Ring, extension, or IntraMail).

Options	Description
0	None.
1	[Default] Key Ring. • There is no destination entry for this type.
2	Extension. • When the type is Extension (2), the destination entry set in 3801-(xx): Destination Entry [Lines: Schedules: Schedule (3801): Edit Entry: Destination: (Extension or Mailbox)] is an extension number.
3	IntraMail. • When the type is IntraMail (3), the destination entry set in 3801-(xx): Destination Entry [Lines: Schedules: Schedule (3801): Edit Entry: Destination: (Extension or Mailbox)] is a mailbox.

4. 3801-(xx): Overflow Type [Lines: Schedules: Schedule (3801): Edit Entry: Destination: Destination:]

   If *Use Line Destination/Overflow* is disabled, use this option to select entry overflow type (Key Ring, extension, or IntraMail).

Options	Description
0	None.
1	[Default] Key Ring. • There is no destination entry for this type.
2	Extension. • When the type is Extension (2), the destination entry set in 3801-(xx): Overflow Entry [Lines: Schedules: Schedule (3801): Edit Entry: Overflow: (Extension or Mailbox)] is an extension number.

Options	Description
3	IntraMail. • When the type is IntraMail (3), the destination entry set in 3801-(xx): Overflow Entry [Lines: Schedules: Schedule (3801): Edit Entry: Overflow: (Extension or Mailbox)] is a mailbox.

Example 1: Setting up a Schedule that uses a Days Entry

Schedule Entry Programming Tips

Data Entry Guidelines
When entering data into a schedule: • Days of the week are 1 (Sunday) through 7 (Saturday). • Time is HH:MM using a 24-hour clock. • Date is MM:DD. • Schedule types are Days of the Week (1), Day Range (2), Date (3), and Always (4).
When setting up a schedule with multiple types, organize them in the following order: **1.** Days **2.** Day Range **3.** Date **4.** Always **5.** If a schedule has entries that are the same time, the entry towards the ***top*** of the list (lower number) has priority.

Summary of how this Schedule uses Days Routing

Schedule Layout

The business is open Monday, Tuesday, Thursday, and Friday from 8:00 AM to 5:00 PM, but closed Wednesday mornings.
• Schedule Entry 1 is a Days schedule that runs Wednesday from 8:00 AM to 12:00 PM and answers with Announcement Mailbox 809.
  • The announcement tells callers that the business is closed Wednesday mornings.
• Schedule Entry 2 is a Days schedule that runs Monday, Tuesday, Thursday, and Friday from 8:00 AM to 5:00 PM and answers with Call Routing Mailbox 802.
  • The Instruction Menu Message tells callers that they are open all day and to dial the extension number they wish to reach.
• Schedule Entry 3 is an always schedule that answers with Call Routing Mailbox 801.
  • The Instruction Menu Message tells callers that the business is closed and to either hang up or dial # to leave a message.

Setting up the Schedule

Schedule Setup

Schedule = 1

- Select schedule 1 in 3801-xx: Table-(01-08) [Lines: Schedules: Schedule (1-8) Tabs].

Schedule Entry = 1

- For Schedule 1, select Schedule Entry 1 in 3801-(01-20): [Lines: Schedules: Schedule (3801): Entry (1-20)]

Schedule Name = **Wednesday Morning**

- Enter a descriptive name for the schedule in 3801-01: [xx]: [Lines: Schedules: Schedule (3801): Edit Entry: Identification: Name].

Schedule Activation = **Automatic**

- Since the schedule should be activated automatically each Wednesday morning, enter **Auto** (1) in 3801-(xx): Activation Mode [Lines: Schedules: Schedule (3801): Edit Entry] Identification: Activation.

Schedule Type = **Days** (1)

- For Schedule Entry 1, select **Days** (1) in 3801-(xx): Schedule Entry Type [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type].

Days Type Entries

- In 3801-xx: Type = Days (1) [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type], enter the Days type options:
  - In *Day of Week*, make the schedule active just for **Wednesday**.
  - In *Start Time*, enter **8:30 AM**.
  - In *Stop Time*, enter **12:00 PM**.

Destination = **Announcement Mailbox 809**

- In 3801-(xx): Destination Type [Lines: Schedules: Schedule (3801): Edit Entry: Destination: Destination:], select **Intramail** (3).
- In 3801-(xx): Destination Entry [Lines: Schedules: Schedule (3801): Edit Entry: Destination: (Extension or Mailbox)], enter **809**.

Record the Announcement Message for Announcement Mailbox 809.

Schedule Entry = 2

- For Schedule 1, select Schedule Entry 2 in 3801-(01-20): [Lines: Schedules: Schedule (3801): Entry (1-20)]

Schedule Name = **Work Week**

- Enter a descriptive name for the schedule in 3801-01: [xx]: [Lines: Schedules: Schedule (3801): Edit Entry: Identification: Name].

Schedule Activation = **Automatic**

- Since the schedule should be activated automatically each workday, enter **Auto** (1) in 3801-(xx): Activation Mode [Lines: Schedules: Schedule (3801): Edit Entry] Identification: Activation.

Schedule Type = **Days** (1)

- For Schedule Entry 2, select **Days** (1) in 3801-(xx): Schedule Entry Type [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type].

Days Type Entries

- In 3801-xx: Type = Days (1) [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type], enter the Days type options:
  - In *Day of Week*, make the schedule active for **Monday**, **Tuesday**, **Wednesday**, **Thursday**, and **Friday**.
  - In *Start Time*, enter **8:30 AM**.
  - In *Stop Time*, enter **5:00 PM**.

Destination = **Call Routing Mailbox 802**

- In 3801-(xx): Destination Type [Lines: Schedules: Schedule (3801): Edit Entry: Destination: Destination:], select **Intramail** (3).
- In 3801-(xx): Destination Entry [Lines: Schedules: Schedule (3801): Edit Entry: Destination: (Extension or Mailbox)], enter **802**.

Record the Instruction Menu Message for Call Routing Mailbox 802.

Schedule Entry = 3

- For Schedule 1, select Schedule Entry 3 in 3801-(01-20): [Lines: Schedules: Schedule (3801): Entry (1-20)]

Schedule Name = **Closed**

- Enter a descriptive name for the schedule in 3801-01: [xx]: [Lines: Schedules: Schedule (3801): Edit Entry: Identification: Name].

Schedule Activation = **Automatic**

- Since the schedule should be activated automatically each day of the week, enter **Auto** (1) in 3801-(xx): Activation Mode [Lines: Schedules: Schedule (3801): Edit Entry] Identification: Activation.

Schedule Type = **Always** (4)

- For Schedule Entry 3, select **Always** (4) in 3801-(xx): Schedule Entry Type [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type].

Destination = **Call Routing Mailbox 801**

- In 3801-(xx): Destination Type [Lines: Schedules: Schedule (3801): Edit Entry: Destination: Destination:], select **Intramail** (3).
- In 3801-(xx): Destination Entry [Lines: Schedules: Schedule (3801): Edit Entry: Destination: (Extension or Mailbox)], enter **802**.

			Record the Instruction Menu Message for Call Routing Mailbox 801.

Example 2: Setting up a Schedule that uses a Day Range Entry

Schedule Entry Programming Tips

Data Entry Guidelines
When entering data into a schedule: • Days of the week are 1 (Sunday) through 7 (Saturday). • Time is HH:MM using a 24-hour clock. • Date is MM:DD. • Schedule types are Days of the Week (1), Day Range (2), Date (3), and Always (4).
When setting up a schedule with multiple types, organize them in the following order: **1.** Days **2.** Day Range **3.** Date **4.** Always **5.** If a schedule has entries that are the same time, the entry towards the ***top*** of the list (lower number) has priority.

Summary of how this Schedule uses Day Range Routing

Schedule Layout

The business is open Monday through Wednesday from 8:00 AM to 4:00 PM, and Thursday and Friday from 8:00 AM to 9:00 PM.
• Schedule Entry 1 is a Day Range schedule that runs Monday through Wednesday from 8:00 AM to 4:00 PM and answers with Call Routing Mailbox 802.
  • The Instruction Menu Message announces the store hours and describes the options callers can dial.
• Schedule Entry 2 is a Day Range schedule that runs Thursday and Friday from 8:00 AM to 9:00 PM and answers with Call Routing Mailbox 803.
  • The Instruction Menu Message announces the extended store hours and describes the options callers can dial.
• Schedule Entry 3 is an always schedule that answers with Call Routing Mailbox 801.
  • The Instruction Menu Message tells callers that the business is closed and to either hang up or dial # to leave a message.

Setting up the Schedule

Schedule Setup
Schedule = 1

- Select Schedule 1 in 3801-xx: Table-(01-08) [Lines: Schedules: Schedule (1-8) Tabs].

Schedule Entry = 1

- For Schedule 1, select Schedule Entry 1 in 3801-(01-20): [Lines: Schedules: Schedule (3801): Entry (1-20)]

Schedule Name = **Monday to Wednesday**

- Enter a descriptive name for the schedule in 3801-01: [xx]: [Lines: Schedules: Schedule (3801): Edit Entry: Identification: Name].

Schedule Activation = **Automatic**

- Since the schedule should be activated automatically every Monday through Wednesday, enter **Auto** (1) in 3801-(xx): Activation Mode [Lines: Schedules: Schedule (3801): Edit Entry] Identification: Activation.

Schedule Type = **Day Range** (2)

- For Schedule Entry 1, select **Day Range** (2) in 3801-(xx): Schedule Entry Type [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type].

Day Range Type Entries

- In 3801-xx: Type = Days (1) [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type], enter the Day Range type options:
  - In *Start Day*, enter **Monday**.
  - In *End Day*, enter **Wednesday**.
  - In *Start Time*, enter **8:00 AM**.
  - In *Stop Time*, enter **4:00 PM**.

Destination = **Call Routing Mailbox 802**

- In 3801-(xx): Destination Type [Lines: Schedules: Schedule (3801): Edit Entry: Destination: Destination:], select **Intramail** (3).
- In 3801-(xx): Destination Entry [Lines: Schedules: Schedule (3801): Edit Entry: Destination: (Extension or Mailbox)], enter **802**.

Record the Instruction Menu Message for Call Routing Mailbox 802.

Schedule Entry = 2

- For Schedule 1, select Schedule Entry 2 in 3801-(01-20): [Lines: Schedules: Schedule (3801): Entry (1-20)]

Schedule Name = **Thursday and Friday**

- Enter a descriptive name for the schedule in 3801-01: [xx]: [Lines: Schedules: Schedule (3801): Edit Entry: Identification: Name].

Schedule Activation = **Automatic**

- Since the schedule should be activated automatically every Thursday and Friday, enter **Auto** (1) in 3801-(xx): Activation Mode [Lines: Schedules: Schedule (3801): Edit Entry] Identification: Activation.

		Schedule Type = **Day Range** (2) • For Schedule Entry 2, select **Day Range** (2) in 3801-(xx): Schedule Entry Type [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type].	

			Day Range Type Entries
			• In 3801-xx: Type = Days (1) [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type], enter the Day Range type options:
			  • In *Start Day*, enter **Thursday**.
			  • In *End Day*, enter **Friday**.
			  • In *Start Time*, enter **8:00 AM**.
			  • In *Stop Time*, enter **9:00 PM**.

		Destination = **Call Routing Mailbox 803** • In 3801-(xx): Destination Type [Lines: Schedules: Schedule (3801): Edit Entry: Destination: Destination:], select **Intramail** (3). • In 3801-(xx): Destination Entry [Lines: Schedules: Schedule (3801): Edit Entry: Destination: (Extension or Mailbox)], enter **803**.	
			Record the Instruction Menu Message for Call Routing Mailbox 803.
	Schedule Entry = 3 • For Schedule 1, select Schedule Entry 3 in 3801-(01-20): [Lines: Schedules: Schedule (3801): Entry (1-20)]		
		Schedule Name = **Closed** • Enter a descriptive name for the schedule in 3801-01: [xx]: [Lines: Schedules: Schedule (3801): Edit Entry: Identification: Name].	
		Schedule Activation = **Automatic** • Since the schedule should be activated automatically each day of the week, enter **Auto** (1) in 3801-(xx): Activation Mode [Lines: Schedules: Schedule (3801): Edit Entry] Identification: Activation.	
		Schedule Type = **Always** (4) • For Schedule Entry 3, select **Always** (4) in 3801-(xx): Schedule Entry Type [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type].	
		Destination = **Call Routing Mailbox 801** • In 3801-(xx): Destination Type [Lines: Schedules: Schedule (3801): Edit Entry: Destination: Destination:], select **Intramail** (3). • In 3801-(xx): Destination Entry [Lines: Schedules: Schedule (3801): Edit Entry: Destination: (Extension or Mailbox)], enter **801**.	
			Record the Instruction Menu Message for Call Routing Mailbox 801.

Example 3: Setting up a Schedule that uses a Date Entry

Schedule Entry Programming Tips

Data Entry Guidelines
When entering data into a schedule: • Days of the week are 1 (Sunday) through 7 (Saturday). • Time is HH:MM using a 24-hour clock. • Date is MM:DD. • Schedule types are Days of the Week (1), Day Range (2), Date (3), and Always (4).
When setting up a schedule with multiple types, organize them in the following order: **1.** Days **2.** Day Range **3.** Date **4.** Always **5.** If a schedule has entries that are the same time, the entry towards the ***top*** of the list (lower number) has priority.

Summary of how this Schedule uses Date Routing

Schedule Layout

The business is open Monday through Friday from 8:00 AM to 5:00 PM, Saturday and Sunday from 8:00 AM to 1:00 PM, and is closed Christmas day.
• Schedule Entry 1 is a Day Range schedule that runs Monday through Friday from 8:00 AM to 5:00 PM and answers with Call Routing Mailbox 802.
  • The Instruction Menu Message announces the store hours and describes the options callers can dial.
• Schedule Entry 2 is a Day Range schedule that runs Saturday and Sunday from 8:00 AM to 1:00 PM and answers with Call Routing Mailbox 803.
  • The Instruction Menu Message announces the extended store hours and describes the options callers can dial.
• Schedule Entry 3 is a Date schedule that runs Christmas day from 8:00 AM to 5:00 PM and answers with Call Routing Mailbox 804.
  • The Instruction Menu Message announces that the business is closed on Christmas day.
• Schedule Entry 4 is an always schedule that answers with Call Routing Mailbox 801.
  • The Instruction Menu Message tells callers that the business is closed and to either hang up or dial # to leave a message.

Setting up the Schedule

Schedule Setup

Schedule = 1

- Select Schedule 1 in 3801-xx: Table-(01-08) [Lines: Schedules: Schedule (1-8) Tabs].

Schedule Entry = 1

- For Schedule 1, select Schedule Entry 1 in 3801-(01-20): [Lines: Schedules: Schedule (3801): Entry (1-20)]

Schedule Name = **Monday to Friday**

- Enter a descriptive name for the schedule in 3801-01: [xx]: [Lines: Schedules: Schedule (3801): Edit Entry: Identification: Name].

Schedule Activation = **Automatic**

- Since the schedule should be activated automatically every Monday through Friday, enter **Auto** (1) in 3801-(xx): Activation Mode [Lines: Schedules: Schedule (3801): Edit Entry] Identification: Activation.

Schedule Type = **Day Range** (2)

- For Schedule Entry 1, select **Day Range** (2) in 3801-(xx): Schedule Entry Type [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type].

Day Range Type Entries

- In 3801-xx: Type = Days (1) [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type], enter the Day Range type options:
  - In *Start Day*, enter **Monday**.
  - In *End Day*, enter **Friday**.
  - In *Start Time*, enter **8:00 AM**.
  - In *Stop Time*, enter **5:00 PM**.

Destination = **Call Routing Mailbox 802**

- In 3801-(xx): Destination Type [Lines: Schedules: Schedule (3801): Edit Entry: Destination: Destination:], select **Intramail** (3).
- In 3801-(xx): Destination Entry [Lines: Schedules: Schedule (3801): Edit Entry: Destination: (Extension or Mailbox)], enter **802**.

Record the Instruction Menu Message for Call Routing Mailbox 802.

Schedule Entry = 2

- For Schedule 1, select Schedule Entry 2 in 3801-(01-20): [Lines: Schedules: Schedule (3801): Entry (1-20)]

Schedule Name = **Weekends**

- Enter a descriptive name for the schedule in 3801-01: [xx]: [Lines: Schedules: Schedule (3801): Edit Entry: Identification: Name].

Schedule Activation = **Automatic**

- Since the schedule should be activated automatically every weekend, enter **Auto** (1) in 3801-(xx): Activation Mode [Lines: Schedules: Schedule (3801): Edit Entry] Identification: Activation.

Schedule Type = **Day Range** (2)

- For Schedule Entry 2, select **Day Range** (2) in 3801-(xx): Schedule Entry Type [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type].

Day Range Type Entries

- In 3801-xx: Type = Days (1) [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type], enter the Day Range type options:
  - In *Start Day*, enter **Saturday**.
  - In *End Day*, enter **Sunday**.
  - In *Start Time*, enter **8:00 AM**.
  - In *Stop Time*, enter **1:00 PM**.

Destination = **Call Routing Mailbox 803**

- In 3801-(xx): Destination Type [Lines: Schedules: Schedule (3801): Edit Entry: Destination: Destination:], select **Intramail** (3).
- In 3801-(xx): Destination Entry [Lines: Schedules: Schedule (3801): Edit Entry: Destination: (Extension or Mailbox)], enter **803**.

Record the Instruction Menu Message for Call Routing Mailbox 803.

Schedule Entry = 3

- For Schedule 1, select Schedule Entry 3 in 3801-(01-20): [Lines: Schedules: Schedule (3801): Entry (1-20)]

Schedule Name = **Christmas**

- Enter a descriptive name for the schedule in 3801-01: [xx]: [Lines: Schedules: Schedule (3801): Edit Entry: Identification: Name].

Schedule Activation = **Automatic**

- Since the schedule should be activated automatically every Christmas day, enter **Auto** (1) in 3801-(xx): Activation Mode [Lines: Schedules: Schedule (3801): Edit Entry] Identification: Activation.

Schedule Type = **Date** (3)

- For Schedule Entry 3, select **Date** (3) in 3801-(xx): Schedule Entry Type [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type].

Date Type Entries

- In 3801-xx: Type = Days (1) [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type], enter the Date type options:
  - In *Date*, enter **12/25**.

			• In *Start Time*, enter **8:00 AM**. • In *Stop Time*, enter **5:00 PM**.
		Destination = **Call Routing Mailbox 804** • In 3801-(xx): Destination Type [Lines: Schedules: Schedule (3801): Edit Entry: Destination: Destination:], select **Intramail** (3). • In 3801-(xx): Destination Entry [Lines: Schedules: Schedule (3801): Edit Entry: Destination: (Extension or Mailbox)], enter **804**.	
			Record the Instruction Menu Message for Call Routing Mailbox 804.
	Schedule Entry = 4 • For Schedule 1, select Schedule Entry 4 in 3801-(01-20): [Lines: Schedules: Schedule (3801): Entry (1-20)]		
		Schedule Name = **Closed** • Enter a descriptive name for the schedule in 3801-01: [xx]: [Lines: Schedules: Schedule (3801): Edit Entry: Identification: Name].	
		Schedule Activation = **Automatic** • Since the schedule should be activated automatically each day of the week, enter **Auto** (1) in 3801-(xx): Activation Mode [Lines: Schedules: Schedule (3801): Edit Entry] Identification: Activation.	
		Schedule Type = **Always** (4) • For Schedule Entry 4, select **Always** (4) in 3801-(xx): Schedule Entry Type [Lines: Schedules: Schedule (3801): Edit Entry: Schedule: Type].	
		Destination = **Call Routing Mailbox 801** • In 3801-(xx): Destination Type [Lines: Schedules: Schedule (3801): Edit Entry: Destination: Destination:], select **Intramail** (3). • In 3801-(xx): Destination Entry [Lines: Schedules: Schedule (3801): Edit Entry: Destination: (Extension or Mailbox)], enter **801**.	
			Record the Instruction Menu Message for Call Routing Mailbox 801.

Loop Keys

Loop keys simplify answering and placing calls.

Description

Loop keys are Feature Keys that simplify the way extension users place and answer outside calls. There are two types of loop keys: Switched Loop keys and Fixed Loop keys.

Switched Loop Keys

For incoming calls, Switched Loop keys provide an appearance for any line ***not*** assigned to a line key for which the extension has access and ringing. Switched Loop keys insure that there is a visual appearance for lines that do not ring an extension's line keys.

For outgoing calls, Switched Loop keys provide convenient access to Line Groups. For example, instead of pressing **INTERCOM** and dialing 90 for Line Group 90, the user can just press the Switched Loop key and dial **0** instead.

Fixed Loop Keys

For outgoing calls, a Fixed Loop key is a loop key assigned to a specific Line Group. When the extension user presses the Fixed Loop key for an outgoing call, they get the first line in the group assigned to the key.

For incoming calls, the Fixed Loop key works just like a Switched Loop key. It provides an appearance for any line not assigned to a line key for which the extension has access and ringing.

Answering Priority

When multiple calls ring an extension simultaneously, the system services the ringing calls in the following order:

1. Ringing Intercom call
2. Line or loop key (from lowest to highest)

Conditions and Defaults

Conditions

- None.

Default Setting

- No Switched Loop or Fixed Loop keys assigned.

Other Related Features

Features

- Automatic Handsfree on page 48
  - Automatic Handsfree allows the keyset user to answer a call ringing a line key without lifting the handset; they just press the line key instead.
- Call Forwarding on page 71
  - Call Forwarding will not reroute a call ringing a loop key (unless the call is a DIL or transferred call).

- Central Office Calls, Answering on page 121
  - An extension user can press a Loop Key to answer an outside call.
- Central Office Calls, Placing on page 128
  - An extension user can press a Loop Key to place an outside call.
- Direct Inward Line on page 177
  - When you assign a line as a DIL, it continues to flash its previously programmed line/loop key assignments. It will ring line/loop keys only after diverting to Key Ring.
- Line Groups on page 305
  - Switched and Fixed Loop Keys use the system's Line Groups.
- Line Keys on page 307
  - Line keys also provide one-button access to lines.
- Ringing Line Preference on page 432
  - Ringing Line Preference allows an extension user to answer a call ringing a loop key just by lifting the handset.

IntraMail Features

- None.

Meet-Me Conference

Set up a multiple-party telephone conversation with your co-workers.

Description

With Meet-Me Conference, an extension user can set up a telephone meeting with their co-workers. Each party joins the Conference by dialing a Meet Me Conference code. Meet Me Conference lets extension users have a telephone meeting — without leaving the office. Users must join the meeting within the Meet-Me Conference interval.

The system has two Meet-Me Conference codes (#11 and #12). After a Meet-Me Conference is set up and the Meet-Me Conference interval expires, the code used becomes available for a new meeting. Since Meet-Me Conference is a type of Conference, the system's Conference capacity determines:

- The number of users that can join a Meet-Me Conference, and
- The number of simultaneous conferences.

The following table shows the Conference capacities:

Description	Capacity
Conference circuits	32
Maximum simultaneous users in Conference (total of all Conferences system-wide)	32
Maximum simultaneous conferences	8
Maximum parties in any one Conference (lines and/or extensions)	8

The system's 32 Conference circuits are dynamically allocated as users request them.

Conditions and Defaults

Conditions

- None.

Default Setting

- Meet-Me Conference enabled.

Other Related Features

Features

- The following features also allow different types of multiple party calls:
  - Barge In (Intrusion) on page 58
  - Conference on page 144
  - Group Listen on page 266
  - Privacy on page 413
  - Tandem Calls / Unsupervised Conference on page 478

IntraMail Features

- None.

Programming Meet-Me Conference

Setting the Meet-Me Conference Options
Set the Meet-Me Conference Join timer.

1. 1605-02: Meet Me Conference Join Timer [System: Timers: Features: Control (1605): Meetme Conf]

Use this option to set the Meet-Me Conference Join timers. This sets how long a co-worker has to join a Meet-Me Conference after they the Page inviting them to join.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 30 seconds.

2. Adjust the timer as required.

Message On Hold

A prerecorded message can play to callers while they wait on Hold.

- In software versions 3.01 and higher, the Message on Hold is built-in and does not require IntraMail.
- If IntraMail is not installed, the Message on Hold is limited to 120 seconds.

Description

Message On Hold allows the System Administrator to record a message that will play to callers while they wait on Hold. For example, you can record a message summarizing available services or hours of operation. This message will play to callers as soon as you put them on Hold, and continually repeat as long as they remain on Hold. Message On Hold recording is only available from the System Administrator's Mailbox. IntraMail provides a single Message On Hold. Any number of callers can simultaneously listen to the Message On Hold recording.

Conditions and Defaults

Conditions

- None.

Default Setting

- Disabled.

Other Related Features

Features

- Music on Hold on page 344
  - Message On Hold is an alternative to the telephone system's Music On Hold.

IntraMail Features

- Automated Attendant, Built-In on page 44
  - *[3.01]* With the Built-In Automated Attendant enabled, the Message On Hold cannot exceed 120 seconds.
- System Administrator
  - Only the System Administrator can record the Message On Hold.

Programming Message On Hold

Setting Up Message On Hold
Set the Message On Hold Basics

1. 3103-05: Music On Hold Source [Lines: Config: Setup: Settings (3103): Music On Hold Source]

   For each line that should use the Message On Hold, use 5 as the Music On Hold music source.

Options	Description
0	None.
1	[Default] Audio input 1 (minijack 1).
2	Audio input 2 (minijack 2).
3	Internal tone 1.
4	Internal tone 2.
5	IntraMail Message On Hold.
6	Audio input 3 (from 2PGDAD Module).
7	Audio input 4 (from 2PGDAD Module).
8	Audio input 5 (from 2PGDAD Module).
9	Audio input 6 (from 2PGDAD Module).

2. 4201-01: Outgoing Message Length [Voice Mail: IntraMail: Config: Messages (4201): OGM Message Length]

Optionally set the Outgoing Message Length (which also sets the length of the Message On Hold).

Options	Description
1-4095	Seconds. [Default] = 120 seconds.

Message Waiting

For systems without voice mail, leave a Message Waiting request for a return call.

Description

An extension user can leave a Message Waiting indication at a busy or unanswered extension requesting a return call. The indication is a flashing **V-MAIL** key and Ring/Message lamp at the called extension. Answering the Message Waiting automatically calls the extension which left the indication. Message Waiting ensures that a user will not have to recall an unanswered extension. It also ensures that a user will not miss calls when their extension is busy or unattended.

An extension user can leave Messages Waiting at any number of extensions. Also, any number of extensions can leave a Message Waiting at the same extension. If an extension has multiple messages waiting, the user can scroll through their Messages Waiting and select a co-worker to call back.

Single Line Telephone Message Waiting

Message Wait Lamping

The system provides two types of Message Wait lamping at single line telephone ports: High Voltage and FSK (Frequency Shift Keying).

- **High Voltage Message Waiting**
  - With High Voltage Message Waiting, the system switches the 150 VDC signal required to light the Message Waiting lamps on analog telephones with messages waiting. This type of lamping is typically used on conventional 2500 type sets with Message Waiting lamps. Check your system's single line sets to see if they require High Voltage Message Waiting. High Voltage Message waiting is not available in DSX-40.
- **FSK Message Waiting**
  - The system can alternately provide an FSK signal to light the Message Waiting lamp on an analog telephone. Instead of 150 VDC, FSK Message Waiting uses a modulated carrier signal to control lamping. This type of Message Wait signaling is typically used on new, electronic single line sets. Check your system's single line sets to see if they require FSK Message Waiting.

SLT Special Dial Tone

Either type of Message Wait lamping can be used with SLT Special Dial Tone. When SLT Special Dial Tone is enabled, an SLT user with messages waiting hears a pulsating Intercom dial tone when they lift the handset. Intercom dial tone returns to normal only after the SLT user dials ***8** to answer all their Messages Waiting.

Conditions and Defaults

Conditions

- A power failure or system reset cancels all Messages Waiting system wide.

Default Setting

- Enabled.

Other Related Features

Features

- Call Forwarding on page 71
  - An extension user cannot leave a Message Waiting at an co-worker that has Call Forwarding Immediate (*34) enabled. Pressing **V-MAIL** automatically leaves a message at the forwarding destination instead.
  - An extension user cannot leave a Message Waiting at a busy co-worker that has Call Forwarding Busy/No Answer (*32) enabled. Pressing **V-MAIL** automatically leaves a message at the forwarding destination instead.
- Do Not Disturb on page 217
  - An extension user can leave a Message Waiting at an extension in Do Not Disturb.
- Intercom on page 292
  - A user can leave a Message Waiting after placing an Intercom call to a busy co-worker.
- Voice Mail (IntraMail) on page 516
  - A system can have either voice mail or Message Waiting activated — not both.
- Voice Over on page 521
  - An extension user cannot leave a Message Waiting after using Voice Over.

IntraMail Features

- None.

Programming Message Waiting

Setting Up Message Waiting
1. Disable Voice Mail.

1. 4101-01: Voice Mail Type [System: Voice Mail: Setup: Type (4101): Type]

   In order to have Message Waiting, you must disable voice mail.

Options	Description
0	None. [Default] when no voice mail is installed.
1	Built-In Automated Attendant.
2	IntraMail. [Default] when IntraMail is installed.
3	UltraMail (DSX-80/160 only). [Default] when UltraMail is installed.
4	External.

2. ***The system can have either Message Waiting or voice mail, not both.***

2. Set up the single line telephone Message Waiting options.

1. 1403-03: Special Dial Tone for Single Line Set [System: Class of Service: SLTs: SLTs(1403): Special Dial Tone]

Use this option to enable special dial tone for a single line telephone.

When enabled, the single line telephone user will hear special dial tone when they have a message waiting

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 1403-04: High Voltage Message Waiting Lamp for Single Line Set [System: Class of Service: SLTs: SLTs(1403): HiVolt Msg Waiting Lamp]

   (DSX-80/160 only) If the single line extension has a high voltage Message Waiting lamp, use this option to enable high voltage Message Waiting for the extension.

   If both high voltage and FSK Message Waiting are enabled, the system uses FSK.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

3. 1403-05: FSK Message Waiting Lamp for Single Line Set [System: Class of Service: SLTs: SLTs(1403): FSK Msg Waiting Lamp]

   Use this option to enable FSK Message Waiting for the single line extension.

   If both high voltage and FSK Message Waiting are enabled, the system uses FSK.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

4. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Microphone Mute

Talk to a co-worker in your office without your caller hearing the conversation.

Description

Microphone Mute lets a keyset user turn off their phone's handset or Handsfree microphone at any time. While the extension is on-hook, Microphone Mute mutes the Handsfree microphone. While off-hook, Microphone Mute mutes the handset microphone. Once activated, Microphone Mute prevents the caller from hearing conversations in the user's work area. The user can turn off the Handsfree or handset microphone while their telephone is idle, busy on a call, in DND or while an outside call is ringing. Answering a call automatically cancels Microphone Mute.

While an extension has their microphone muted, an incoming voice-announced Intercom call announces with a single beep (splash tone).

Handsfree Reply Soft Key

Display keyset users can press their **HF Reply (Hfrp)** soft key to turn off their telephone's Handsfree microphone for incoming Intercom calls.

Conditions and Defaults

Conditions

- A system reset or power failure cancels all Microphone Mutes system wide.

Default Setting

- Enabled.

Other Related Features

Features

- Handsfree and Handsfree Answerback on page 271
  - Use Microphone Mute to temporarily turn off the Handsfree microphone.

IntraMail Features

- None.

Modem, Built-In

Remotely program a system using the DSX built-in modem, the System Administrator, and the modem in your PC.

Description

The DSX built-in modem lets you use the System Administrator and the modem in your PC to remotely pro- gram a system. With the built-in modem, you can securely and economically maintain and customize your installed systems without leaving your office. The DSX built-in modem is software-based and no additional equipment at the remote site is required. The modem meets the V.32bis modem standard and employs V.42 error correction for effective speeds approaching 14.4K bps.

To remotely program a DSX system:

1. Start the System Administrator and select the com port and initialization string for your PC modem.
2. Dial the modem in the remote system. There are three basic ways to do this.
   - Place a call to a Direct Inward Line on page 177 terminated to the remote modem extension number.
   - Using Direct Inward Dialing on page 163, dial the remote modem extension number.
   - Dial into the remote system's Automated Attendant and do an Unscreened Transfer to the remote modem extension.
3. After your PC modem and the remote modem negotiate and set up, enter the system's password and use the System Administrator normally to program the system.

Conditions and Defaults

Conditions

- None.

Default Setting

- The Built-In modem is enabled and assigned to extension 429.

Other Related Features

Features

- Direct Inward Dialing on page 163
  - Use DID to directly dial the built -in modem extension number.
- Direct Inward Line on page 177
  - Set up a Direct Inward Line to directly ring into the modem extension.
- PC Program (System Administrator) on page 387
  - The built-in modem gives the System Administrator remote programming via modem capability.

IntraMail Features

- Automated Attendant,Automated Attendant, Built-In on page 44, and Unscreened Transfer
  - The Automated Attendant can route calls to the built-in modem via an Unscreened Transfer.

Enabling the Built-In Modem

Setting Up the Built-In Modem
To enable the modem and set its extension number:

1. 1102-01: Modem Enabled [System: Config: Communication: Modem (1102): Enabled]

Use this option to enable or disable the DSX built-in soft modem.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 1316-01: Internal Modem Extension Number [System: Numbering: Modem: Assignments(1316): Extension]

Use this option to specify the Built-In Modem extension number. A call routed to this extension number is answered by the Built-In Modem.

Options	Description
Digits	Extension number. [Default] = 429.

Monitor / Silent Monitor

Monitor a co-worker's phone conversation without them knowing you are on the phone.

Description

Monitor lets an extension user listen to the conversation at a busy extension. To implement Monitor, an extension user just calls a busy extension and dials the Monitor code. The busy extension and their caller have no indication of the intrusion. There are no tones heard and there is no visual indication that monitoring is occurring. For example, Monitor could help the supervisor of a service department. The department supervisor could listen to the questions that callers ask without disturbing the service call.

CAUTION
Monitor provides no warning tones prior to intrusion. Monitor may be interpreted as an invasion of privacy.

Conditions and Defaults

Conditions

- Monitor uses a system Conference circuit. See Conference on page 144 for more.

Default Setting

- Disabled

Other Related Features

Features

- Attendant Position on page 36
  - Since the attendant is never busy, Intercom callers cannot Monitor an attendant.
- Conference on page 144
  - An extension user cannot Monitor a Conference.
- Privacy on page 413
  - Privacy blocks Monitor attempts.

IntraMail Features

- None.

Programming Monitor / Silent Monitor

Setting Up Monitor / Silent Monitor
Set up the Monitor / Silent Monitor options.

1. 1402-04: Silent Monitor [System: Class of Service: Stations: Stations (1402): Silent Monitor]

Use this option to enable Silent Monitor.

When Silent Monitor is enabled, and extension user can silently monitor a co-worker's calls.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Multiple Directory Numbers

See Call Coverage Keys on page 63 for more.

Music on Hold

Callers can listen to music while waiting for their call to go through.

- Using a PGDAD Module audio port as the Music on Hold source is available in software versions 2.01 and higher.

Description

Music on Hold (MOH) plays music to calls on Hold, parked calls, and transferred calls. The music lets the caller know that their call is waiting, not forgotten. Without Music on Hold, the system provides silence to these types of calls. Music on Hold is available from one of eight sources: two internal beep tones, two audio input minijacks, and one of four PGDAD Module audio ports. The source you choose in turn connects to a customer-provided external music source.

- In DSX-40, the audio input minijacks are located on the equipment cabinet.
- In DSX-80/160, the audio input minijacks are located on the CPU PCB.

The external music source you connect to the audio input minijacks is typically a CD player or FM receiver. The source, which you can also use for Background Music, must be compatible with the following specifications:

Music Source Specifications	
Input Impedance	10K Ohms
Relative Input Level	+18 dBr (+/- dBr) at 1.0 kHz

For more on connecting a customer-provided music source, refer to the system's Hardware Manual.

With Music on Hold enabled, transferred callers can optionally listen to ringback or MOH while their call waits at the transfer destination.

Note: In accordance with U.S. copyright law, a license may be required from the America Society of Composers, Authors and Publishers (ASCAP) or other similar organizations, if radio, television broadcasts or music other than material not in the public domain are transmitted through the Music on Hold feature of telecommunications systems. NEC Unified Solutions, Inc. hereby disclaims any liability arising out of the failure to obtain such a license.

Conditions and Defaults

Conditions

- None.

Default Setting

- External MOH enabled from audio input minijack 1.

Other Related Features

Features

- Background Music on page 55

- Background Music and Music on Hold can the same external music source.

- Extension Hunting on page 233
  - If Music on Hold is enabled for transferred calls, a caller transferred to a busy UCD Group hears MOH.
- Hold on page 278
  - If installed, Music on Hold plays to callers on Hold.
- Intercom on page 292
  - Music on Hold plays to Intercom callers on Hold. Intercom callers always hear internal Tone 1.
- Park on page 379
  - If installed, Music on Hold plays to parked callers.
- PGDAD Audio Interface Module on page 389
  - You can use a port on the 2PGDAD Module as the Music on Hold source input.
- Transfer on page 497
  - With Music on Hold enabled, transferred callers can optionally listen to ringback or MOH while their call waits at the transfer destination. Music on Hold will also play to transferred callers camped-on to a busy UCD Group.

IntraMail Features

- None.

Programming Music on Hold

Setting the Music on Hold Options

1. Enable Music on Hold and select the source.

1. 1521-01: Enable Music on Hold [System: Options: Setup: Music On Hold/Background Music (1521): Enable Music On Hold]

Use this option to enable Music on Hold system-wide.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 3103-05: Music On Hold Source [Lines: Config: Setup: Settings (3103): Music On Hold Source]

This option allows you to assign the Music on Hold music source for each line.

Options	Description
0	None.
1	[Default] Audio input minijack 1.
2	Audio input minijack 2.
3	Internal tone 1.

Options	Description
4	Internal tone 2.
5	IntraMail Message on Hold. See Message On Hold on page 333 for more.
6-9	PGDAD Module audio ports 3-6.

2. Set the gains for the audio input minijacks.

1. 1521-05: Audio Input 1 Gain Setting [System: Options: Setup: Music On Hold/Background Music (1521): Audio Gain #1]

   If required, use this option to set the gain for audio input minijack 1.

Options	Description
01-25	Gain setting 01-25 (-12 dB to +12 dB in 1 dB steps). [Default] = 13 (0 dB)

2. 1521-06: Audio Input 2 Gain Setting [System: Options: Setup: Music On Hold/Background Music (1521): Audio Gain #2]

   If required, use this option to set the gain for audio input minijack 2.

Options	Description
01-25	Gain setting 01-25 (-12 dB to +12 dB in 1 dB steps). [Default] = 13 (0 dB)

3. Set up the Music on Hold for Transferred Calls option.

1. 1521-02: Music on Hold for Transferred Calls [System: Options: Setup: Music On Hold/Background Music (1521): Music On Hold on Transfer]

   Depending on how you set this option, transferred callers waiting to be connected with either hear ringback or Music on Hold.

Options	Description
No (0)	[Default] Disabled - caller hears ringback while waiting.
Yes (1)	Enabled - caller hears Music on Hold while waiting.

2. This is a system-wide setting.

Using the PGDAD Module as a Music Source

Setting up a PGDAD Module Audio Port as a Music Source

1. Set up the PGDAD Module jumpers and program the ports.

1. To set the jumpers, see PGDAD Module Jumper Settings on page 393.

   Before plugging in the 2PGDAD Module, make sure the channel you are using is set for Audio Input/Output.

   For quickest installation, don't plug the 2PGDAD module into it's digit station port until ***after*** programming is complete.

2. To set the basic programming for the 2PGDAD Module, see Programming 2PGDAD Module Station Ports on page 390.

   Program the 2PGDAD Module.

   For quickest installation, don't plug the 2PGDAD module into it's digit station port until ***after*** programming is complete.

3. To connect and program the 2PGDAD Module audio ports, see Connecting and Programming 2PGDAD Module Audio Ports on page 391.

   Connect a compatible music source into the selected 2PGDAD Module audio port.

   For quickest installation, don't plug the 2PGDAD module into it's digit station port until ***after*** programming is complete.

2. Plug the 2PGDAD Module into its assigned digital station (ESIU) port.

1. Turn on the music source connected to the 2PGDAD Module.
2. Adjust the music source and system gains as required.

Names for Extensions and Lines

Names help identify lines and extensions.

Description

Extensions and lines can have names instead of just circuit numbers. These names show on a keyset's display when the user places or answers calls. Extension and line names make it easier to identify callers. The user does not have to refer to a directory when processing calls. Extension and line names can consist of upper and lower case letters, spaces and punctuation, and can be up to 18 characters long.

Extension names display when placing or answering Intercom calls. Line names display when using the following features:

- Central Office Calls, Answering on page 121
- Central Office Calls, Placing on page 128
- Direct Inward Line on page 177
- Direct Line Access on page 181
- Directed Call Pickup on page 196
- Last Number Redial on page 299
- Line Keys on page 307
- Loop Keys on page 329
- Night Service / Night Ring on page 353
- Park on page 379
- Speed Dial on page 448
- Transfer on page 497

Conditions and Defaults

Conditions

- None.

Default Setting

- No extension names assigned (the extension's number displays instead).
- All line names are *LINE* followed by the line's number (e.g., *LINE 2*).
- User-entered names are available only at the attendant (Class of Service 1).

Other Related Features

- See list under *Description* above.

Programming Names

Setting Name Programming Options and Entering Names
1. Set the Class of Service and Access Level options.

1. 1401-10: Name Programming [System: Class of Service: Features: Features (1401): Allow Name Programming]

Enable this option to allow users to program their extension's name.

Options	Description
No (0)	[Default for COS 2-15] Disabled.
Yes (1)	[Default for COS 1] Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

3. 2102-04: User Programming Access Level [Stations: Config: Setup: Access (2102): Program Level]

Extensions with Access Levels 4 and 5 can program names for co-workers, ring Groups, and UCD Groups.

Options	Description
1-5	Extension's Access Level. [Default] = 5 for extension 300, 3 for all others.

2. Program names for extensions, lines, and groups.

1. 1511-01: Name Format [System: Options: Setup: Display (1511): Name Format]

Use this option to determine how names should be entered. The choices are

- First name followed by last name.
- Last name followed by first name.

Options	Description
1	[Default] First name followed by last name..
2	Last name followed by first name.

2. 2101-02: Station Name [Stations: Config: Setup: Type (2101): Name]

Use this option to program extension names (up to 18 characters).

An extension user may be able to program the name for their own or co-worker's extensions. See the Access Level and Class of Service options in step 1.

Options	Description
Name	Extension name, up to 18 characters. See Name Programming Chart on page 351 for more.
-	[Default] No names entered.

3. 3101-02: Line Name [Lines: Config: Setup: Type (3101): Name]

   Use this option to program line names (up to 18 characters).

Options	Description
Name	Line name, up to 16 characters. See Name Programming Chart on page 351 for more.
-	[Default] No names entered.

4. *[3.01]* 2301-01: Department Group Name [Stations: Department Groups: Setup: Identification (2301): Name]

   Use this option to program Department Group names (up to 18 characters).

Options	Description
Name	Department Group name, up to 18 characters. See Name Programming Chart on page 351 for more.
-	[Default] No names entered.

3. Program additional name options.

1. 1011-01: System Name [System: Config: Setup: Name (1011): System Name]

   Use this option to enter the site name (up to 18 characters).

Options	Description
Name	Site name, up to 18 characters. See Name Programming Chart on page 351 for more.
-	[Default] No name entered.

2. 1702-[001-999]: System Speed Dial Name [System: Speed Dial: Setup: Assignment (1702): Name]

   Use this option to enter a System Speed Dial name (up to 18 characters).

Options	Description
Name	System Speed Dial name, up to 18 characters. See Name Programming Chart on page 351 for more.
-	[Default] No name entered.

3. 2151-[01-20]: Personal Speed Dial Name Stations: Config: Speed Dials: Assignment (2151): Name]

   Use this option to enter a Personal Speed Dial name (up to 18 characters).

Options	Description
Name	Personal Speed Dial name, up to 18 characters. See Name Programming Chart on page 351 for more.
-	[Default] No name entered.

4. 2501-[01-16]: Selectable Display Messages [Stations: Text Messages: Setup: Text (2501): Function Type]

   Use this option to enter a Selectable Display Message (up to 18 characters).

Options	Description
Name	Selectable Display Message, up to 18 characters. See Name Programming Chart on page 351 for more.
-	[Default] See Selectable Display Messaging on page 440 for more.

5. 4111-01: Voice Mail Port Name [System: Voice Mail: Setup: Options (4111): Name]

Use this option to enter a Voice Mail Port name (up to 18 characters).

Options	Description
Name	Voice Mail Port name, up to 18 characters. See Name Programming Chart on page 351 for more.
-	[Default] Voice Mail #.

6. *[3.01]* 4221-04: Routing Mailbox Name [IntraMail: Routing Mailboxes: Setup (4221): Name]

Use this option to program Routing Mailbox names (up to 18 characters).

Options	Description
Name	Routing Mailbox name, up to 18 characters. See Name Programming Chart on page 351 for more.
-	[Default] No names entered.

Name Programming Chart

Entering Name Characters from the Dial Pad

Name Programming Chart									
Press a key the indicated number of times for the desired character.									
Key	1 Time	2 Times	3 Times	4 Times	5 Times	6 Times	7 Times	8 Times	9 Times
1	&	-	/	'	1				
2	A	B	C	a	b	c	2		
3	D	E	F	d	e	f	3		
4	G	H	I	g	h	i	4		
5	J	K	L	j	k	l	5		
6	M	N	O	m	n	o	6		
7	P	Q	R	S	p	q	r	s	7
8	T	U	V	t	u	v	8		
9	W	X	Y	Z	w	x	y	z	9
0	space	:	0						
#	Not used								

*	Not used
After selecting a letter, press a key for another letter or wait 2 seconds for the cursor to automatically advance.	

Additional Options

Additional Name Programming Options	
HOLD	Save name.
SPEAKER	Exit user name programming.
Volume Up	Scroll the cursor to the right.
Volume Down	Scroll the cursor to the left.
CLEAR	This key has several functions: • While editing, clears character to the right. • At beginning of line, erases entire entry. • At end of line, becomes a backspace key.
CHECK	Restore the previous entry.

Night Service / Night Ring

Use Night Service to reroute calls after hours.

- In software versions 2.01 and higher, the night mode is preserved in the event of a power failure.

Description

Night Service redirects outside calls to their night mode destination. Typically, the attendant or supervisor activates Night Service after normal working hours, when most employees are unavailable to answer calls. Lines can ring extensions directly at Night, providing specific answering points for Night Service calls. (For example, you can program lines to ring the security station at night.)

To have outside lines ring the External Paging system (which users can answer by dialing a code), see *Outside Call Ringing Over External Page* in Paging on page 367. To have the ringing call also activate the system relay, see *Page Relay Control* in Paging on page 367.

Night Service Keys

The night mode status of the system is controlled by the following types of keys:

- **Night Key**
  - This key puts the system in the night mode. To program this type of key, see 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type] and 2402-[01-60]: DSS Console Key Codes [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]. The entry is **18**. Also see Direct Inward Line on page 177.
- **An Extension's DND Key**
  - If an extension has a Direct Inward Line, the user can press **DND** to immediately send their DIL to its programmed night destination. Also see Direct Inward Line on page 177.

Night Mode Answering Options

These are the available answering options for a line. The same options are available during the day and when the system is in the night mode.

Key Ring

All extensions that are programmed to ring on that line at night will ring.
For example, calls could ring the receptionist during the day and then ring throughout the building at nigh.

Direct Inward Line to an Extension

A DIL can route to a different extension in the day and at night.
The call rings the night destination for the *DIL No Answer Time* and then follows the programmed night mode overflow routing.
For example, calls could ring throughout the building during the day and just the security office at night.

Direct Inward Line to an Extension's Mailbox

An outside line can route directly to a Subscriber Mailbox. There is no need to set up Call Forwarding to voice mail or Extension Hunting to voice mail.
For example, calls that ring the receptionist during the day could go right to the receptionist's mailbox at night.

Automated Attendant

Calls on the line are answered by the Automated Attendant.

Depending on how this is set up, calls are answered either by the line's Default Mailbox or by a specific Call Routing Mailbox.

For example, calls could ring throughout the building during the day and go right to the Automated Attendant at night.

Conditions and Defaults

Conditions

- None.

Default Setting

- In DSX-40, keys 1-8 are line keys for lines 1-8 and ring at extensions 301-308.
- In DSX-80/160, keys 1-12 are line keys for lines 1-12 and ring at extensions 301-316.

Other Related Features

Features

- Department Groups on page 153
  - The Night key sets the day/night status of Department Groups. This is true for both types of Department Groups: Ring Groups and UCD Groups.
- Direct Inward Line on page 177
  - The extension to which the DIL is terminated can control the night mode of the DIL by pressing **DND**.
- Direct Station Selection (DSS) Console on page 187
  - A DSS Console with a Night key can put the system in the night mode.
- Do Not Disturb on page 217
  - A DIL destination activates the night mode for the DIL when they press **DND**.
- Paging on page 367
  - To have lines ring the External Paging system, see *Outside Call Ringing Over External Page* in Paging on page 367. To have the ringing call also activate the system relay, see *Page Relay Control* in Paging on page 367

IntraMail Features

- None.

Programming Night Keys

Setting Up Night Keys

1. Set up a Night Key on your extension.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

Assign the Night key code (18) to an available Feature Key.

Options	Description
18	Night key.
-	[Default] = no night keys assigned.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

No entry required.

2. Make sure the extension can put the system in the night mode.

1. 1402-05: Activate Night Mode [System: Class of Service: Stations: Stations (1402): Activate Night Mode]

Check this option to be sure the extension with the Night key has the ability to put the system in the night mode.

Options	Description
No (0)	Disabled. [Default] for COS 2-15
Yes (1)	Enabled. [Default] for COS 1.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Basic Day Call Handling Options

Setting Up the Basic Day Routing Options

Select a ***Day Call Handling*** shortcut below to learn more.	
Key Ring with no overflow	Key Ring with overflow to an extension
Key Ring with overflow to an extension's mailbox	Key Ring with overflow to the Automated Attendant
Key Ring with overflow to the line's Default Mailbox	Direct Inward Line rings an extension directly and then overflows to another extension
Direct Inward Line rings an extension directly and then overflows to an extension or Department Group Subscriber Mailbox	Direct Inward Line rings an extension directly and then overflows to the extension's Subscriber Mailbox
Direct Inward Line rings an extension directly and then overflows to the Automated Attendant	Automated Attendant answers immediately using the line's Default Mailbox

Call is picked up by a Subscriber Mailbox immediately	Automated Attendant answers immediately

Day Routing Options (An Alternative to Line Schedules)

1. If you don't want to use Line Schedules on page 312, alternately use the following table to set up basic day call routing using the *3112: Call Routing* options.
2. In the following chart:

   LNA = 1601-01: Line No Answer Timer [System: Timers: Features: Incoming (1601): Line No Answer].
   DNA = 1601-02: DIL No Answer Timer [System: Timers: Features: Incoming (1601): DIL No Answer].
   CRM = Call Routing Mailbox.

Basic Day Routing	
Key Ring with no overflow:	
The call Key Rings (i.e., rings all extensions with ringing programmed for the line) and does not overflow.	
Day Route and Destination • *3112-01: Day Destination Type* = Key Ring (1) • *3112-01: Day Destination Entry* = No entry	Overflow Route and Destination • *3112-03: Day Overflow Type* = None (0) • *3112-03: Day Overflow Entry* = No entry
Key Ring with overflow to an extension:	
The call Key Rings for the LNA time, overflows to 301 and rings for LNA time, and then goes back to Key Ring.	
Day Route and Destination • *3112-01: Day Destination Type* = Key Ring (1) • *3112-01: Day Destination Entry* = No entry	Overflow Route and Destination • *3112-03: Day Overflow Type* = Extension (2) • *3112-03: Day Overflow Entry* = 301 (for example)
Key Ring with overflow to an extension's mailbox:	
The call Key Rings for the LNA time and then goes right to an extension or Department Group Subscriber Mailbox.	
Day Route and Destination • *3112-01: Day Destination Type* = Key Ring (1) • *3112-01: Day Destination Entry* = No entry	Overflow Route and Destination • *3112-03: Day Overflow Type* = Mailbox (3) • *3112-03: Day Overflow Entry* = 301 (for example)
Key Ring with overflow to the Automated Attendant:	
The call Key Rings for the LNA time and then goes right to a Routing Mailbox to be handled by the Automated Attendant.	
Day Route and Destination • *3112-01: Day Destination Type* = Key Ring (1) • *3112-01: Day Destination Entry* = No entry	Overflow Route and Destination • *3112-03: Day Overflow Type* = Mailbox (3) • *3112-03: Day Overflow Entry* = 801 (for example)
Key Ring with overflow to the line's Default Mailbox:	

The call Key Rings for the LNA time and then goes right to the line's Default Mailbox. The Default Mailbox can be an extension or Department Group Subscriber Mailbox or a Routing Mailbox.

Day Route and Destination	Overflow Route and Destination
• *3112-01: Day Destination Type* = Key Ring (1) • *3112-01: Day Destination Entry* = No entry	• *3112-03: Day Overflow Type* = Extension (2) • *3112-03: Day Overflow Entry* = Not used • *3112-08: IntraMail Default Mailbox* = 801 (for example)

Direct Inward Line rings an extension directly and then overflows to another extension:

The call rings the DIL destination for the DNA time, rings the extension set as the overflow destination for the LNA time, and then goes to Key Ring.

Day Route and Destination	Overflow Route and Destination
• *3112-01: Day Destination Type* = Extension (2) • *3112-01: Day Destination Entry* = 301 (for example)	• *3112-03: Day Overflow Type* = Extension (2) • *3112-03: Day Overflow Entry* = 302 (for example)

Direct Inward Line rings an extension directly and then overflows to an extension or Department Group Subscriber Mailbox:

The call rings the DIL destination extension for the DNA time and then goes to a Subscriber Mailbox. The Subscriber Mailbox can be the extension's own mailbox, belong to another extension, or be assigned to a Department Group.

Day Route and Destination	Overflow Route and Destination
• *3112-01: Day Destination Type* = Extension (2) • *3112-01: Day Destination Entry* = 301 (for example)	• *3112-03: Day Overflow Type* = Mailbox (3) • *3112-03: Day Overflow Entry* = 302 (for example)

Direct Inward Line rings an extension directly and then overflows to the extension's Subscriber Mailbox:

The call rings the DIL destination extension for the DNA time and then goes to the extension's Subscriber Mailbox. There is no need to forward the extension to voice mail or use Extension Hunting to voice mail.

Day Route and Destination	Overflow Route and Destination
• *3112-01: Day Destination Type* = Extension (2) • *3112-01: Day Destination Entry* = 301 (for example)	• *3112-03: Day Overflow Type* = Extension (2) • *3112-03: Day Overflow Entry* = 700

Direct Inward Line rings an extension directly and then overflows to the extension's Subscriber Mailbox:

The call rings the DIL destination extension for the DNA time and then goes to the extension's Subscriber Mailbox. There is no need to forward the extension to voice mail or use Extension Hunting to voice mail.

Day Route and Destination	Overflow Route and Destination
• *3112-01: Day Destination Type* = Extension (2) • *3112-01: Day Destination Entry* = 301 (for example)	• *3112-03: Day Overflow Type* = Extension (2) • *3112-03: Day Overflow Entry* = 700

Direct Inward Line rings an extension directly and then overflows to the Automated Attendant:

The call rings the DIL destination extension for the DNA time and then goes right to a Routing Mailbox to be handled by the Automated Attendant.

Day Route and Destination	Overflow Route and Destination
• *3112-01: Day Destination Type* = Extension (2) • *3112-01: Day Destination Entry* = 301 (for example)	• *3112-03: Day Overflow Type* = Mailbox (3) • *3112-03: Day Overflow Entry* = 801 (for example)
Automated Attendant answers immediately using the line's Default Mailbox:	
The call is picked up immediately by the Automated Attendant and answered by the line's Default Mailbox.	
Day Route and Destination	Overflow Route and Destination
• *3112-01: Day Destination Type* = Extension (2) • *3112-01: Day Destination Entry* = 700 • *3112-08: IntraMail Default Mailbox* = 801 (for example	• No overflow entries required.
Call is picked up by a Subscriber Mailbox immediately:	
The call is picked up immediately by an extension or Department Group Subscriber Mailbox.	
Day Route and Destination	Overflow Route and Destination
• *3112-01: Day Destination Type* = Mailbox (3) • *3112-01: Day Destination Entry* = 301 (for example)	• No overflow entries required.
Automated Attendant answers immediately:	
The call is picked up immediately by the Automated Attendant and answered by the specified Routing Mailbox.	
Day Route and Destination	Overflow Route and Destination
• *3112-01: Day Destination Type* = Mailbox (3) • *3112-01: Day Destination Entry* = 801 (for example)	• No overflow entries required.

Basic Night Call Handling Options

Setting Up the Basic Night Call Routing Options

Select a ***Night Call Handling*** shortcut below to learn more.

Key Ring with no overflow	Key Ring with overflow to an extension
Key Ring with overflow to an extension's mailbox	Key Ring with overflow to the Automated Attendant
Key Ring with overflow to the line's Default Mailbox	Direct Inward Line rings an extension directly and then overflows to another extension
Direct Inward Line rings an extension directly and then overflows to an extension or Department Group Subscriber Mailbox	Direct Inward Line rings an extension directly and then overflows to the extension's Subscriber Mailbox
Direct Inward Line rings an extension directly and then overflows to the Automated Attendant	Automated Attendant answers immediately using the line's Default Mailbox
Call is picked up by a Subscriber Mailbox immediately	Automated Attendant answers immediately

Night Routing Options (Alternative to Line Schedules)

1. If you don't want to use Line Schedules on page 312, alternately use the following table to set up basic night call routing using the *3112: Call Routing* options.
2. Normally, a user puts the system in the night mode by pressing a uniquely programmed Night key. However, Line Schedules can ***automatically*** put the system in the night mode.
3. In the following chart:

   LNA = 1601-01: Line No Answer Timer [System: Timers: Features: Incoming (1601): Line No Answer].
   DNA = 1601-02: DIL No Answer Timer [System: Timers: Features: Incoming (1601): DIL No Answer].
   CRM = Call Routing Mailbox.

Basic Night Routing	
Key Ring with no overflow:	
The call Key Rings (i.e., rings all extensions with ringing programmed for the line) and does not overflow.	
Night Route and Destination • *3112-04: Night Destination Type* = Key Ring (1) • *3112-04: Night Destination Entry* = No entry	Overflow Route and Destination • *3112-06: Night Overflow Type* = None (0) • *3112-06: Night Overflow Entry* = No entry
Key Ring with overflow to an extension:	
The call Key Rings for the LNA time, overflows to 301 and rings for LNA time, and then goes back to Key Ring.	
Night Route and Destination • *3112-04: Night Destination Type* = Key Ring (1) • *3112-04: Night Destination Entry* = No entry	Overflow Route and Destination • *3112-06: Night Overflow Type* = Extension (2) • *3112-06: Night Overflow Entry* = 301 (for example)
Key Ring with overflow to an extension's mailbox:	
The call Key Rings for the LNA time and then goes right to an extension or Department Group Subscriber Mailbox.	
Night Route and Destination • *3112-04: Night Destination Type* = Key Ring (1) • *3112-04: Night Destination Entry* = No entry	Overflow Route and Destination • *3112-06: Night Overflow Type* = Mailbox (3) • *3112-06: Night Overflow Entry* = 301 (for example)
Key Ring with overflow to the Automated Attendant:	
The call Key Rings for the LNA time and then goes right to a Routing Mailbox to be handled by the Automated Attendant.	
Night Route and Destination • *3112-04: Night Destination Type* = Key Ring (1) • *3112-04: Night Destination Entry* = No entry	Overflow Route and Destination • *3112-06: Night Overflow Type* = Mailbox (3) • *3112-06: Night Overflow Entry* = 801 (for example)
Key Ring with overflow to the line's Default Mailbox:	
The call Key Rings for the LNA time and then goes right to the line's Default Mailbox. The Default Mailbox can be an extension or Department Group Subscriber Mailbox or a Routing Mailbox.	

Night Route and Destination	Overflow Route and Destination
• *3112-04: Night Destination Type* = Key Ring (1) • *3112-04: Night Destination Entry* = No entry	• *3112-06: Night Overflow Type* = Extension (2) • *3112-06: Night Overflow Entry* = Not used • *3112-08: IntraMail Default Mailbox* = 801 (for example)
Direct Inward Line rings an extension directly and then overflows to another extension:	
The call rings the DIL destination for the DNA time, rings the extension set as the overflow destination for the LNA time, and then goes to Key Ring.	
Night Route and Destination	Overflow Route and Destination
• *3112-04: Night Destination Type* = Extension (2) • *3112-04: Night Destination Entry* = 301 (for example)	• *3112-06: Night Overflow Type* = Extension (2) • *3112-06: Night Overflow Entry* = 302 (for example)
Direct Inward Line rings an extension directly and then overflows to an extension or Department Group Subscriber Mailbox:	
The call rings the DIL destination extension for the DNA time and then goes to a Subscriber Mailbox. The Subscriber Mailbox can be the extension's own mailbox, belong to another extension, or be assigned to a Department Group.	
Night Route and Destination	Overflow Route and Destination
• *3112-04: Night Destination Type* = Extension (2) • *3112-04: Night Destination Entry* = 301 (for example)	• *3112-06: Night Overflow Type* = Mailbox (3) • *3112-06: Night Overflow Entry* = 302 (for example)
Direct Inward Line rings an extension directly and then overflows to the extension's Subscriber Mailbox:	
The call rings the DIL destination extension for the DNA time and then goes to the extension's Subscriber Mailbox. There is no need to forward the extension to voice mail or use Extension Hunting to voice mail.	
Night Route and Destination	Overflow Route and Destination
• *3112-04: Night Destination Type* = Extension (2) • *3112-04: Night Destination Entry* = 301 (for example)	• *3112-06: Night Overflow Type* = Extension (2) • *3112-06: Night Overflow Entry* = 700
Direct Inward Line rings an extension directly and then overflows to the Automated Attendant:	
The call rings the DIL destination extension for the DNA time and then goes right to a Routing Mailbox to be handled by the Automated Attendant.	
Night Route and Destination	Overflow Route and Destination
• *3112-04: Night Destination Type* = Extension (2) • *3112-04: Night Destination Entry* = 301 (for example)	• *3112-06: Night Overflow Type* = Mailbox (3) • *3112-06: Night Overflow Entry* = 801 (for example)
Automated Attendant answers immediately using the line's Default Mailbox:	
The call is picked up immediately by the Automated Attendant and answered by the line's Default Mailbox.	

Night Route and Destination • *3112-04: Night Destination Type* = Extension (2) • *3112-04: Night Destination Entry* = 700 • *3112-08: IntraMail Default Mailbox* = 801 (for example	Overflow Route and Destination • No overflow entries required.
Call is picked up by a Subscriber Mailbox immediately:	
The call is picked up immediately by an extension or Department Group Subscriber Mailbox.	
Night Route and Destination • *3112-04: Night Destination Type* = Mailbox (3) • *3112-04: Night Destination Entry* = 301 (for example)	Overflow Route and Destination • No overflow entries required.
Automated Attendant answers immediately:	
The call is picked up immediately by the Automated Attendant and answered by the specified Routing Mailbox.	
Night Route and Destination • *3112-04: Night Destination Type* = Mailbox (3) • *3112-04: Night Destination Entry* = 801 (for example)	Overflow Route and Destination • No overflow entries required.

Off-Hook Signaling

Off-Hook Signaling helps important callers get through.

Description

When a user is busy on a call, Off-Hook Signaling indicates that another caller is trying to get through. Off-Hook Signaling helps important callers get through, without waiting in line for the called extension to become free. After the user hears the off-hook signal, they can use other system features (such as Hold or Park) to process their active call and then answer the waiting call.

Off-Hook Signaling for Outside Calls

While a key set user is on a call, Off-Hook Signaling for outside calls can be:

- While on a handset call,
  - A flashing green Ring/Message lamp
  - A flashing red or green line/loop key
  - Muted off-hook ringing
    - While Off-Hook Ringing is occurring, use **Volume Up** and **Volume Down** to adjust the volume of ringing.
  - A flashing green line/loop key
  - Camp-On tones

The following chart shows when the two types of Off-Hook Signaling occur. Note that Camp-On tones occur for an extension when they are the exclusive recipient of the call (such as a DEAL).

	Off-Hook Ringing [1]	**Camp-On Tones** [2]
Key Ring	Yes	No
Transferred Outside Call	Yes	Yes
Direct Inward Line	Yes	Yes
Transfer from Voice Mail (TURF)	Yes	Yes
Call Coverage Key	Yes	No
Group Call Pickup Key	Yes	No
[1] For Off-Hook ringing, 2116-03: Off Hook Signaling for Incoming Outside Calls Stations: Config: Options: Off Hook Signal (2116): OHS Lines] = **2**.		
[2] For Camp-On tones, 2116-03: Off Hook Signaling for Incoming Outside Calls Stations: Config: Options: Off Hook Signal (2116): OHS Lines] = **1**.		

Off-Hook Signaling for Intercom Calls

While an extension user is on a handset or Hands free call, they can receive Camp-On tones from a co-worker that called them and dialed **2** to Camp-On. Turn to Call Waiting / Camp-On on page 93 for more on how to set this up. Off-hook ringing for Intercom calls is not available.

Off-Hook Signaling for Hotline Calls

While an extension is busy on a handset call, the system provides unique handling of Off-Hook Signaling for calls from their Hotline partner. This unique handling occurs when the Hotline partner calls the extension by first pressing their Hotline key. The Off-Hook Signaling can be Camp-On tones or Voice Over. The default is Camp-On tones.

Conditions and Defaults

Conditions

- None.

Default Setting

- Off-Hook Signaling for outside calls is set for Off-Hook Ringing (option 2) by default. While busy on a call, the extension will receive Off-Hook Ringing for outside calls that normally ring the phone. This includes:
  - Key Ring calls
  - Transferred outside calls
  - Direct Inward Lines
  - TURF transfers from voice mail
  - Call Coverage keys
  - Group Call Pickup keys
- Off-Hook Signaling for Intercom calls is Camp-On tones.
- Off-Hook Signaling for Intercom calls from the Hotline partner is Camp-On tones.

Other Related Features

Features

- Attendant Call Queuing (Intercom Queue Key) on page 34
  - The Operator Call key does not activate off-hook signaling.
- Caller ID on page 101
  - An extension programmed to receive Camp-On tones or Off-Hook Ringing from a waiting call will also receive Second Call Caller ID.
- Conference on page 144
  - An extension user can Conference their active call with the waiting call.
- Direct Inward Line on page 177
  - DILs can initiate Off-Hook Signaling beeps.
- Headset Compatibility on page 274
  - Turn to *Off-Hook Signaling and Headsets* (page 199) for more on how Off-Hook Signaling interacts with headsets.
- Hold on page 278
  - An extension user can place their current call on Hold and answer the waiting call.
- Hotline on page 285

- Hotline activates Off-Hook Signaling.

- Key Ring on page 295
  - Off-Hook Signaling can occur for Key Ring calls.
- Park on page 379
  - An extension user can Park their current call and answer the waiting call.
- Park on page 379
  - An extension user can alternate between their active call and their waiting call.
- Transfer on page 497
  - An extension user can Transfer their current call to a co-worker or voice mail and then answer the waiting call. In addition, transferred calls can initiate Off-Hook Signaling.
- Voice Over on page 521
  - Voice Over also lets a user get through to a key set extension user busy on a handset call. The busy key set extension user hears an alert tone followed by the voice of the interrupting party.

IntraMail Features

- None.

Programming Off-Hook Signaling

Setting Up Off-Hook Signaling
Set the Off-Hook Signaling options.

1. 2116-01: Off Hook Signaling for Incoming Calls Stations: Config: Options: Off Hook Signal (2116): OHS Intercom]

   Use this option to set the extension's Off-Hook Signaling for waiting Intercom calls.

Options	Description
0	Disabled - no Off-Hook Signaling.
1	[Default] Camp-On.
2	Voice Over.

2. 2116-02: Off Hook Signaling for Calls from Hotline Partner Stations: Config: Options: Off Hook Signal (2116): OHS Hotline]

   Use this option to set the extension's Off-Hook Signaling for calls from their Hotline partner.

Options	Description
0	[Default] Disabled - no Off-Hook Signaling.
1	Camp-On (Hotline call from partner will send Camp-On tones).
2	Voice Over (Hotline call from partner will initiate Voice Over).

3. 2116-03: Off Hook Signaling for Incoming Outside Calls Stations: Config: Options: Off Hook Signal (2116): OHS Lines]

Use this option to set the extension's Off-Hook Signaling for waiting outside calls.

Options	Description
0	Disabled - no Off-Hook Signaling.
1	Call Wait beeps over the telephone speaker.
2	[Default] Off-hook ringing.

One-Touch Keys

Available for Personal Speed Dial. See Speed Dial on page 448 for more.

Paging

Use Paging to broadcast announcements or quickly locate co-workers.

Description

Paging lets extension users broadcast announcements to other keyset users and to external Paging speakers. Paging allows a user to locate a co-worker or make an announcement without calling each extension individually. There are two types of Paging: Internal Paging and External Paging.

Internal Paging

Internal Paging allows extension users to broadcast announcements into 7 internal Paging Zones and All Call (all zone). When a user makes a zone page, the announcement broadcasts to all extensions assigned to the specified zone. If the user makes an All Call announcement, the announcement simultaneously broadcasts to extensions in all zones. All Call Paging automatically overrides any zone pages already in progress. A system timer can optionally limit the duration of Paging announcements.

To simplify Paging access, a keyset can have Feature Keys assigned as Page keys.

Paging Key Busy Lamp Indications	
When the key is:	**The zone is:**
Off	Idle
On (red)	A co-worker is Paging into the assigned zone
On (green)	The extension user is Paging into the assigned zone.

External Paging

When a user pages into Internal All Call Page or Internal page Zone 1, the system simultaneously broadcasts the announcement into the External Paging Zone. In DSX-40 cabinet, access to the external zone is via the audio output minijack located on the equipment cabinet. In DSX-80/160 cabinet, access to the external zone is via the audio output minijack on the CPU. You can also set up a PGDAD Module audio port for External Paging. Refer to the system's *Hardware Manual* for additional installation details.

When connecting External Paging equipment, be sure to adhere to the following requirements:

Audio/Paging Output	
Output Impedance	600 Ohms @ 1 KHz
Output Level	0 dBr at 1.0 KHz

Paging and the 2PGDAD Module

The 2PGDAD Module has two audio ports that you can set up as audio outputs for External Paging. These outputs are typically connected to a customer-provided paging amplifier. Each audio output has a permanently assigned control relay that closes when the audio output is active. You can use these relays to switch a customer-provided paging amplifier on and off. There is no separate relay programming required.

- **2PGDAD Used as a Unique External Page Circuit**

- To use the 2PGDAD Module as a unique External Page zone, users dial the extension number of a PGDAD channel set up for audio output and make their announcement. The associated relay in the PGDAD will close and the announcement will broadcast from the PGDAD audio channel.

- **2PGDAD and Internal Paging**
  - If a 2PGDAD Module extension number is assigned to a Page zone, the audio output will broadcast the announcement and the associated relay will close when the internal zone is paged.
- **2PGDAD and System External Paging**
  - If a 2PGDAD Module extension number is assigned to Page zone 0 (All Call) or zone 1, the audio output will broadcast the announcement and the associated relay will close for an External Page.

For more on setting up 2PGDAD Modules for paging, see Using the PGDAD Module for External Paging on page 376.

Page Relay Control

Page Relay Control allows an announcement broadcast into a Paging zone to activate a system relay. This relay is typically used to activate a customer-provided Paging amplifier. Each of the two audio ports in the 2PGDAD Module has an associated control relay. In addition, each of the two built-in Door Box ports in the DSX-40 has a control relay. In either system, youYou can assign these relays for Door Box strike control or Page Relay Control, but not both. ***If the system relay is programmed for Page Relay Control, and an extension or line is set up to ring over External Paging, the relay will activate when the extension or line rings.***

The equipment you connect to a system relay must be compatible with the following specifications. Refer to your system's Hardware Manual for more on connecting to the system relay contacts.

Relay Contact Specifications	
DSX-40	
Contact Configuration:	Normally open
Maximum Load:	0.5A @ 120 VAC 1A @ 24 VDC
Maximum Initial Contact Resistance:	100 mOhms
2PGDAD Module	
Contact Configuration:	Normally open
Maximum Load:	500 mA @ 24 VDC 250 mA @ 120 VAC

Outside Call Ringing Over External Page

Line ringing can optionally broadcast over External Paging speakers. For each line, the Paging speakers can broadcast ringing for all calls ringing the line, for calls ringing only at night, or for delay ring calls. While a line rings External Paging, any extension user can dial a code (**INTERCOM** + ***0**) to pick up the call. ***If the associated relay is programmed for Page Relay Control, and the line is set up to ring over External Paging, the relay will activate when the line rings.***

If Door Box chimes, ringing, and Background Music are ***all*** programmed to output over External Paging, the system uses the following broadcast priority:

- Paging
- Door Box chimes
- Ringing
- Background Music

Note that External Paging can broadcast either extension ringing or line ringing, not both. In addition, External Paging requires additional customer-provided equipment. Refer to the Hardware Manual that came with your system for more.

Intercom Ring Over External Page

An extension's ringing can optionally broadcast over External Paging. If enabled, any type of call that rings the extension will broadcast over the Paging speakers. While an Intercom call rings External Paging, any extension user can dial a code (**INTERCOM** + ***0**) to pick up the call. ***If the associated relay is programmed for Page Relay Control, and an extension is set up to ring over External Paging, the relay will activate when the extension rings.***

Door Chime Over External Page

Door Box chimes can optionally broadcast over External Paging. While Door Box chimes broadcast over External Paging, any extension user can dial a code (**INTERCOM** + ***0**) to answer the Door Box. After answering, a keyset user can press a soft key or **FLASH** to control the Door Box relay.

Background Music Over External Page

Background Music (BGM) can optionally play over the External Paging speakers while Paging is idle. BGM will automatically turn off while Paging, ringing or Door Box chimes broadcast from the external zone, and restart when the external zone again becomes idle.

Ring Over Page Volume Adjustment

You can adjust the volume of ringing over the External Paging system when using the built-in audio ports. There are three volume adjustments: low (5), medium (6), and high (4). This adjustment does not affect the volume of Background Music or Door Chimes. These adjustments do not apply to the PGDAD Module audio ports; they have their own audio level adjustments.

Conditions and Defaults

Conditions

- None.

Default Setting

- All Call and Zone Paging allowed.
- Ringing, Door Box chimes, and Background Music do not broadcast over External Paging.

Other Related Features

Features

- Background Music on page 55
  - Background Music can broadcast over the External Paging speakers.
- Central Office Calls, Answering on page 121
  - Outside call ringing can broadcast over the External Paging speakers.
- Direct Inward Line on page 177
  - DILs cannot ring over the External Paging speakers or activate the page relay.
- Direct Station Selection (DSS) Console on page 187

- DSS Consoles can have Page zone keys.

- Do Not Disturb on page 217
  - DND blocks Paging announcements.
- Door Box on page 223
  - Door Box chimes can broadcast over the External Paging speakers.
- Intercom on page 292
  - Intercom ringing can broadcast over the External Paging speakers.
- PGDAD Audio Interface Module on page 389
  - You can use a port on the 2PGDAD Module as a Paging output.

IntraMail Features

- None.

Programming The Paging Basics

Basic Paging Setup

1. Set up extensions to receive Paging announcements.

1. 2112-06: Paging Through Speaker Stations: Config: Options: Speaker (2112): Paging]

When enabled, this option allows the extension to receive Paging announcements through the telephone speaker.

This option also applies to 2PGDAD Module extension numbers.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 2113-05: Page Group (Zone) Stations: Config: Options: Groups (2113): Page Group]

Use this option to assign the Paging zone to which the extension belongs.

This option also applies to 2PGDAD Module extension numbers.

Options	Description
0	All all Paging only.
1-7	Page zones 1-7. [Default] = all extensions are assigned to page zone 1.

3. 1605-01: Page Duration Timer [System: Timers: Features: Control (1605): Page Duration]

Use this timer to set the maximum length of Paging announcements.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 30 seconds.

2. Set into which Paging zones the extension can broadcast.

1. 1407-01: Make All Call Page [System: Class of Service: Paging: Paging (1407): Initiate All Call Page]

When you enable this option, the extension can broadcast into All Call Page.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 1407-02: Make Page Into Zone 1 [System: Class of Service: Paging: Paging (1407): Access to Page Zone 1]

When you enable this option, the extension can broadcast into Page Zone 1.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

3. 1407-03: Make Page Into Zone 2 [System: Class of Service: Paging: Paging (1407): Access to Page Zone 2]

When you enable this option, the extension can broadcast into Page Zone 2.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

4. 1407-04: Make Page Into Zone 3 [System: Class of Service: Paging: Paging (1407): Access to Page Zone 3]

When you enable this option, the extension can broadcast into Page Zone 3.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

5. 1407-05: Make Page Into Zone 4 [System: Class of Service: Paging: Paging (1407): Access to Page Zone 4]

When you enable this option, the extension can broadcast into Page Zone 4.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

6. 1407-06: Make Page Into Zone 5 [System: Class of Service: Paging: Paging (1407): Access to Page Zone 5]

When you enable this option, the extension can broadcast into Page Zone 5.

Options	Description
No (0)	Disabled.

Options	Description
Yes (1)	[Default] Enabled.

7. 1407-07: Make Page Into Zone 6 [System: Class of Service: Paging: Paging (1407): Access to Page Zone 6]

   When you enable this option, the extension can broadcast into Page Zone 6.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

8. 1407-08: Make Page Into Zone 7 [System: Class of Service: Paging: Paging (1407): Access to Page Zone 7]

   When you enable this option, the extension can broadcast into Page Zone 7.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

9. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

3. Assign Paging keys to the extension or DSS Console.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

   For an extension Paging key, assign key code 13 to an available Feature Key.

Options	Description
13	Paging key. [Default] = no Paging keys defined.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

   The additional key data defines the Page zone the key will access.

Options	Description
0	All Call Paging
1-7	Zones 1-7.
-	[Default] = no data assigned.

3. 2402-[01-60]: DSS Console Key Codes [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

For a DSS Console Paging key, assign key code 13 to an available Feature Key.

Options	Description
13	Paging key. [Default] = no Paging keys defined.

4. 2402-[01-60]: DSS Console Key Data [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

The additional key data defines the Page zone the key will access.

Options	Description
0	All Call Paging
1-7	Zones 1-7.
-	[Default] = no data assigned.

Programming External Page Ringing

Setting Up the External Paging Ringing Options
1. Set up line ringing over External Paging.

1. 1531-01: External Page Ring Type [System: Options: Ring Over Page: Ring Over Page (1531): Page Ring Type]

Use this option to set the External Paging ring type.

- For line ringing over External Page, enter **2**.

To set this option for a 2PGDAD Module used for External Paging, use 2105-05: PGDAD Audio Port Page Ring Type [Stations: Config: Setup: Audio Port (2105): Page Ring Type] instead.

Options	Description
0	[Default] None.
1	Station (Intercom).
2	Line.

2. 1532-[01-64]: External Page Line Ringing [System: Options: Ring Control: Ring Control (1532): Line (01-64) / Ring Control]

For each line in the system, use this option to define the type of External Paging ringing (none, always, night only, or delay).

To set this option for a 2PGDAD Module used for External Paging, use 2132-[01-64]: Line Ringing Stations: Config: Ring Assign: Line Ringing (2132): Ring Assignment] instead.

Options	Description
0	[Default] No line ringing.
1	Day and night line ringing.
2	Night line ringing only.

Options	Description
3	Delay line ringing day and night. See 1604-01: Delay Ring Timer [System: Timers: Features: Station (1604): Delay Ring] to set the Delay Ring timer.

2. Set up Intercom ringing over External Paging.

1. 1531-01: External Page Ring Type [System: Options: Ring Over Page: Ring Over Page (1531): Page Ring Type]

   Use this option to set the External Paging ring type.

   - For Intercom ringing over External Page, enter **1**.

   To set this option for a 2PGDAD Module used for External Paging, use 2105-05: PGDAD Audio Port Page Ring Type [Stations: Config: Setup: Audio Port (2105): Page Ring Type] instead.

Options	Description
0	[Default] None.
1	Station (Intercom).
2	Line.

2. 1531-02: Extension Ring Over External Page [System: Options: Ring Over Page: Ring Over Page (1531): Extension]

   For Intercom ringing over External Page, this option sets the number of the extension that should ring over the Paging system.

   To set this option for a 2PGDAD Module used for External Paging, use 2105-06: PGDAD Audio Port Ring Extension [Stations: Config: Setup: Audio Port (2105): Ring Extension] instead.

Options	Description
Extension	Extension number. [Default] = no entry.

Programming External Paging Volume

Setting Up the External Paging Gain Options
Set the External Paging volume and gain.

1. 1531-03: External Page Ring Volume [System: Options: Ring Over Page: Ring Over Page (1531): Page Ring Volume]

   Use this option to adjust the volume of ringing over the External Paging (audio out) port.

   This option does not affect the volume of Background Music, Door Chime, or External Page voice broadcasts.

   This option does not apply to a 2PGDAD Module used for External Paging.

Options	Description
1	Low.
2	[Default] Medium.

Options	Description
3	High.

2. 1531-05: External Page Gain [System: Options: Ring Over Page: Ring Over Page (1531): External Page Gain]

   Use this option to additionally adjust the output volume of the External Paging (audio out) port.

   This option controls the volume of *any* audio broadcasting from the External Page output. This includes Page broadcasts, Door Chimes, and ringing.

   This control is in addition to the volume adjustment made in the previous step. You can consider the previous option the coarse adjustment, while this option is the fine adjustment.

   To set this option for a 2PGDAD Module used for External Paging, use 2105-02: PGDAD Audio Port Gain Setting [Stations: Config: Setup: Audio Port (2105): Audio Level] instead. This option controls the level of ***all*** audio broadcast from the PGDAD Module audio port.

Options	Description
01-25	01-25 (-12 dB to +12 dB in 1 dB steps). [Default] = 13 (0 dB).

Programming Door Chimes Over External Page

Setting Up Door Chimes Over External Paging
Set the door chime options.

1. 1531-04: Door Chime Over External Page [System: Options: Ring Over Page: Ring Over Page (1531): Door Chime Over Page]

   Use this option to enable or disable Door Box chimes over the External Paging.

   To set this option for a 2PGDAD Module used for External Paging, use 2105-03: Door Chime Over PGDAD Audio Port [Stations: Config: Setup: Audio Port (2105): Door Chime Over Page] instead.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. See Door Box on page 223 for more.

Programming Background Music Over External Page

Setting Up Background Music Over External Paging
Set the Background Music options.

1. 1521-04: Background Music over External Page [System: Options: Setup: Music On Hold/Background Music (1521): Background Music Over Page]

   Use this option to enable or disable Background Music over the External Paging.

To set this option for a 2PGDAD Module used for External Paging, use 2105-03: Background Music Over PGDAD Audio Port [Stations: Config: Setup: Audio Port (2105): Background Music Over Page] instead.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. See Background Music on page 55 for more.

Using the PGDAD Module for External Paging

Setting up a PGDAD Module Audio Port for External Paging

1. Set up the PGDAD Module jumpers and program the ports.

1. To set the jumpers, see PGDAD Module Jumper Settings on page 393.

   Before plugging in the 2PGDAD Module, make sure the channel you are using is set for Audio Input/Output.

   For quickest installation, don't plug the 2PGDAD module into it's digit station port until ***after*** programming is complete.

2. To set the basic programming for the 2PGDAD Module, see Programming 2PGDAD Module Station Ports on page 390.

   Program the 2PGDAD Module.

3. To connect and program the 2PGDAD Module audio ports, see Connecting and Programming 2PGDAD Module Audio Ports on page 391.

   Connect a compatible customer-provided paging amplifier into the selected 2PGDAD Module audio port.

4. To connect to the 2PGDAD Module relays, see PGDAD Module Door Box and Relay Connections on page 396.

   Connect a compatible paging amplifier relay into the selected 2PGDAD Module Relay Block.

   - Audio Port 1 (channel 1) uses Relay 1.
   - Audio Port 2 (channel 2) uses Relay 2.

2. Set the PGDAD-specific programs that control the paging options.

1. To review the basic programming for Paging, see Programming The Paging Basics on page 370.
2. To set up Ringing Over Page, see Programming External Page Ringing on page 373.
3. To set the system output Page volumes, see Programming External Paging Volume on page 374.
4. To enable Door Chimes over External Page, see Programming Door Chimes Over External Page on page 375.
5. To enable Background Music Over External Page, see Programming Background Music Over External Page on page 375.

3. Plug the 2PGDAD Module into its assigned digital station (ESIU) port.

1. Turn on the customer-provided Paging amplifier.
2. Adjust the volume (gain) settings as required.

Paging, Meet-Me Conference

Available. Refer to Meet-Me Conference on page 331 for more.

Park

Park a call in orbit so a co-worker can pick it up. With Park, it is not necessary to locate a person to handle their calls.

- Hold and Park Recall Cycles control is available in software versions 3.01 or higher.
- Park Orbit Recall Pickup is available in software versions 3.01 oe higher.

Description

Park places an outside call in a waiting state (called a Park Orbit) so that an extension user may pick it up. There are two types of Park: System and Personal. Use System Park when you want to have the call wait in one of 10 system orbits (60-69). Personal Park allows you to Park a call at an extension so a co-worker can pick it up. After parking a call, a user can Page the person receiving the call and hang up. The paged party dials a code or presses a programmed System Park key to pick up the call. Many calls can be parked at the same extension, and are retrieved in LIFO (last-in, first-out) order.

A call parked in System Park Orbit for too long will recall the extension that initially parked it. The recall for System Park Orbits 68 and 69 is permanently fixed at 5 minutes. If the recall remains unanswered, the call diverts to Key Ring.

A call parked in Personal Park Orbit for too long will initially recall to the extension at which it is parked. If unanswered there, it recalls to the extension that parked the call. If still unanswered, it diverts to Key Ring.

When an extension has System Park keys, the keys provide a Busy Lamp Field (BLF) for the orbit assigned to the key.

Park Key Busy Lamp Indications	
When the key is:	**The Park orbit is:**
Off	Idle
On (red)	A co-worker has parked a call in the orbit assigned to the key.
Single wink on (green)	The extension user has parked a call in the orbit assigned to the key.

Distinctive Flash Rate on Recall

Park recall features a distinctive flash rate for line keys (see the chart below). This allows the key set extension user to easily differentiate new calls that are ringing from Parked calls that are recalling.

Distinctive Flash Rate on Park Recall	
For this type of call:	**You see this flash rate:**
Call that you Parked	Double Wink On (green)
Call that you initially Parked recalling your phone	Double Wink On (green)
Call Parked by a co-worker	On (red)
Call initially Parked by a co-worker that is recalling your phone	Double Wink On (red)

Personal Park Orbit Recall Display

The Personal Park Orbit recall display shows:

- *On all extensions that are ringing with the recall:*
  - The type of recall (i.e., Personal Park).
- *On the extension at which the call is parked (while it is ringing):*
  - The extension which initially parked the call.
- *On all other extensions as they are ringing with the recall:*
  - The extension at which the call was initially parked.

The Personal Park Orbit recall display occurs:

- At the extension which initially received the Personal Park.
- At the extension which initially parked the call.
- At all other extensions after the call diverts to Key Ring.

System Park Orbit Recall Display

The System Park Orbit recall display shows:

- The orbit from which the call is recalling (e.g., 60).
- The extension that initially parked the call (e.g., 301).

The System Park Orbit recall display occurs as the call is ringing the extension that initially parked it, and after the call diverts to Key Ring.

Hold and Park Recall Cycles

[3.01] The Hold and Park Recall Cycles option provides additional control over how the system handles unanswered held and parked calls. For example:

1. When a user Parks a call or places a call on Hold, the call waits for the recall interval.
   - Park uses the interval set in 1603-04: Park Orbit Recall Timer [System: Timers: Features: Recall (1603): Orbit Recall].
   - Hold uses the interval set in 1603-02: Hold Recall Timer [System: Timers: Features: Recall (1603): Hold Recall].
   - Exclusive Hold uses the interval set in 1603-03: Exclusive Hold Recall Timer [System: Timers: Features: Recall (1603): X-Hold Recall].
2. If not picked up, the call recalls the extension for the interval set in 1601-01: Line No Answer Timer [System: Timers: Features: Incoming (1601): Line No Answer].
   - If the extension has Extended Ringing enabled, the call recalls for the interval set in 1604-03: Extended Ringing Timer [System: Timers: Features: Station (1604): Extended Ring].
3. If the recall is not picked up, the system checks the Recall Cycles option set in 1603-05: Abandoned Hold Cycles [System: Timers: Features: Recall (1603): Recall Cycles].
4. One of the following then occurs:
   - If the number of programmed cycles ***has not*** been met, the call goes back on Hold or into orbit and the cycle continues.
   - If the number of cycles ***has*** been met, the line goes to Key Ring.

You can also set up the Recall Cycles option to ***never*** divert to the overflow destination by setting the Recall Cycles count at **0**. The call will continually switch between waiting in orbit (or on Hold) and ringing the initiating extension. This is helpful if the site receives may priority calls that should never reroute to a destination that allows other co-workers to pick them up.

Park Orbit Recall Pickup

[3.01] While a call is parked in orbit, a Park Orbit key for that orbit will flash indicating that the user can retrieve the call. The user just presses the key to answer the call.

- The orbit key flashes green (wink off) at the extension that parked the call.
- The orbit key flashes red (wink off) at all other extensions.

If the call is left in orbit past the Orbit Recall time, it will recall the extension from which it was initially parked. During the recall, the Park Orbit key on all extensions will continue to flash allowing any user to retrieve the call.

[<3.01] The orbit key is on (red) at all other extensions while the call is parked. Additionally, another extension user can not use their orbit key to pick up the call while it is recalling.

Conditions and Defaults

Conditions

- None.

Default Setting

- Park Available
- No System Park keys assigned.

Other Related Features

Features

- Direct Station Selection (DSS) Console on page 187
  - DSS Consoles can have Park keys.
- Directed Call Pickup on page 196
  - Directed Call Pickup also allows an extension user to pick up a call at a co-worker's extension.
- Key Ring on page 295
  - Unanswered Park recalls divert to Key Ring.
- Music on Hold on page 344
  - If installed, Music on Hold plays to parked callers.
- Off-Hook Signaling on page 362
  - An extension user can Park their current call and answer the waiting call.
- Voice Mail (IntraMail) on page 516
  - When an extension user with Ring No Answer/Busy Terminal Hunting to voice mail parks a call at a co-worker's extension, the call recalls to them if not picked up. If still unanswered, the call diverts to Key Ring.

IntraMail Features

- None.

Programming Park

Setting Up the Park Programmable Options
1. Set up the Park Orbit Recall timer.

1. 1603-04: Park Orbit Recall Timer [System: Timers: Features: Recall (1603): Orbit Recall]

Use this option to adjust the Park Orbit Recall timer.

This timer controls System Park Orbits 60-67 only. The recall for orbits 68 and 69 is fixed at 5 minutes.

Options	Description
	Disabled.
1-9999	Seconds. [Default] = 20 seconds.

2. Adjust the timer as required.

2. Assign System Park Orbit keys to your extension or DSS Console.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

Assign key code 04 to an available extension Feature Key.

Options	Description
04	System Park Orbit key. [Default] = not assigned.
-	[Default] = no System Park Orbit keys assigned.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

The key data is the System Park Orbit number (60-69).

Options	Description
60-69	System Park Orbit 60-69.
-	[Default] = no data assigned.

3. 2402-[01-60]: DSS Console Key Codes [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

Assign key code 04 to an available DSS Console Feature Key.

Options	Description
04	System Park Orbit key. [Default] = not assigned.
-	[Default] = no System Park Orbit keys assigned.

4. 2402-[01-60]: DSS Console Key Data [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

The key data is the System Park Orbit number (60-69).

Options	Description
60-69	System Park Orbit 60-69.
-	[Default] = no data assigned.

3. Set the abandoned Park orbit recall cycles.

1. 1603-05: Abandoned Hold Cycles [System: Timers: Features: Recall (1603): Recall Cycles]

Use this option to set how may times a call will follow the Hold or Park recall cycle before diverting to Key Ring.

Options	Description
1-9999	Number of recall cycles. [Default] = 2.
0	Call recalls continuously (i.e., never diverts to Key Ring).

2. If you set this option to 0, the call will continuously recall the extension that placed it in orbit until it is answered or the outside caller hangs up.

PBX / Centrex Compatibility

The DSX provides unique features when connected to a PBX or Centrex.

Description

PBX/Centrex Access Codes

PBX Access Codes are the digits PBX extension users must dial to obtain outside lines. When the DSX is installed behind a PBX, users must dial these codes before the digits for their outside call. For example, if the PBX access code is 98, and the DSX user wants to reach 203-926-5400, they must dial 98-1-203-926-5400. Normally, DSX Toll Restriction and Forced Account Codes are applied to the digits dialed after the PBX Access Code. This is because any call dialed without the PBX access code is an internal PBX call, and usually won't require the restrictions imposed by Forced Account Codes and Toll Restriction.

To keep track of valid PBX Access Codes, DSX allows you to enter up to 10 PBX access codes in the PBX Access Codes Table. Each code is either 1 or 2 digits long, using the digits 0-9 and #. You can use the * character as a wild card, which can be entered in any position in the PBX Access Codes Table. A wild card allows the user to dial any digit in that position. For example, the entry 7* represents entries 70, 71, 72, etc.

In addition to entering codes in the PBX Access Codes Table, you must also indicate in programming which DSX lines are PBX lines (i.e., connected to the PBX - not the Central Office).

PBX/Centrex Access Codes and Toll Restriction

The following occurs if a DSX line is programmed as a PBX line and access codes are properly entered in the PBX Access Codes Table (see Programming below):

- If an extension user seizes the line and dials a number *without* a valid PBX access code, DSX assumes the call is an internal PBX call and allows it without restriction.
- If an extension user seizes the line and dials a number preceded by a valid PBX access code, DSX enforces Toll Restriction based on the digits following the PBX access code.

PBX/Centrex Access Codes and Account Codes

Forced Account Codes for All Calls

If Forced Account Codes for All Calls is enabled, and Forced Account Codes are enabled for the line, the system always requires Account Code entry on PBX lines.

Forced Account Codes for Toll Calls Only

If Forced Account Codes for Toll Calls Only is enabled, the line is programmed as a PBX line, access codes are properly entered in the PBX Access Codes Table, ***and*** Forced Account Codes are enabled for the line:

- And an extension user:
  - Seizes the line.
  - Dials a number without a valid PBX access code.

DSX assumes the call is an internal PBX call and does not require the user to enter an Account Code for the call.

If 1551-04: Account Code Toll Restriction Level [System: Options: Setup: Account Codes (1551): Toll Level] = 1-7

- And an extension user:
  - Seizes the line.

- Dials a valid PBX Access Code.
- Dials a number restricted by the Toll Level specified

DSX requires the user to enter an Account Code for the call.

If 1551-04: Account Code Toll Restriction Level [System: Options: Setup: Account Codes (1551): Toll Level] = 0

- And an extension user:
  - Seizes the line.
  - Dials a valid PBX Access Code.
  - Dials a number that begins with 0 or 1.

DSX requires the user to enter an Account Code for the call.

PBX/Centrex Access Codes and SMDR

The following occurs if a DSX line is programmed as a PBX line and access codes are properly entered in the PBX Access Codes Table:

- If an extension user dials a call that includes a valid PBX Access Code, the entire number dialed is printed in the Number Dialed column and OUT is printed in the Type column (indicating that the call is an outgoing call).
- If an extension user dials a call that does not include a valid PBX Access Code, the entire number dialed is printed in the Number Dialed column and PBX is printed in the Type column (indicating that the calls is an internal PBX call).

Conditions and Defaults

Conditions

- None.

Default Setting

- No PBX/Centrex Access Codes programmed.

Other Related Features

Features

- Speed Dial on page 448
  - Speed Dial offers unique compatibility with connected Centrex services.

IntraMail Features

- None.

Programming PBX / Centrex Compatibility

Setting Up the PBX/ Centrex Compatibility Options Set Line Types and Access Codes.

1. 3101-04: PBX Line [Lines: Config: Setup: Type (3101): PBX Line]

Use this option to set a line as a PBX line.

A line will only use the PBX Access Codes Table if it is programmed as a PBX line.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 3401-01: PBX Access Code Digits [Lines: PBX Codes: Codes: Digits (3401):

Use this option to enter the codes into the PBX Access Codes table.

You can enter up to 10 PBX Access Codes.

Each code is either 1 or 2 digits long, using digits 0-9 and #.

You can use * as a wild card character that can be entered in any position.

Options	Description
Digits	PBX Access Code (2 digits max., using 0-9 and #, with * as a wild card representing any digit).
-	[Default] = no entries.

PC Program (System Administrator)

Use your PC or laptop to program the system remotely or while on-site.

Description

The System Administrator is a Windows™-based application you can use for programming the telephone system and maintaining site databases, instead of using the conventional telephone programming. The System Administrator provides:

- **On-Line Programming (Direct Connection)**
  - With the PC connected to the telephone system's USB port, Ethernet port, or Built-In Modem you can make immediate changes to the telephone system programming. While connected, the System Administrator also allows you to save your new data to a file on the PC hard disk, or upload a "template" database from your PC to the system.
- **Remote Programming**
  - Using an IP or modem connection between your PC and the remote system, you can customize a customer's system without leaving your office.
- **Off-Line Programming**

  - With Off-Line Programming, the System Administrator allows you to set up a database on your PC off line, connect to the telephone system, and upload the entire custom configuration.

- **Database Save and Restore**
  - Use the System Administrator to save a site's data to your PC hard disk. You can easily restore the saved data later on, if required.
- **IntraMail Backup and Restore Utility**
  - The IntraMail Utility allows you to use the System Administrator to back up IntraMail messages to your PC hard drive. Once backed up, you can also use this utility to restore the saved messages.
- **IntraMail Import Utility**
  - The IntraMail Import Utility is the part of the IntraMail Utility that allows you to import custom-recorded wav files for use to use for your outgoing messages (e.g., Greetings, Instruction Menus, etc.).
- **Address Book**
  - Use the Address Book to store contact and connection information for each site that you administer. You can connect to a site right from an Address Book entry. Additionally, you can export your Address Book to an Excel spreadsheet, and then import that spreadsheet back into the Address Book if you make off-line changes.

The System Administrator has the following requirements:

- Operating System: Windows XP Pro or higher
- Video resolution: 1024x768 or higher
- Processor speed: 1 GHz or higher
- RAM: 256 Mbytes or greater

Conditions and Defaults

Conditions

- N/A

Default Setting

- N/A

Other Related Features

- N/A

PGDAD Audio Interface Module

Use the PGDAD to connect Analog Door Boxes, control relays, and additional audio inputs and outputs.

Description

The 2PGDAD Module (P/N 0891027) connects to an available 16ESIU station port and provides:

- Two Analog Door Box connections.
- Two audio connections for Background Music, Music on Hold, and/or External Paging.
- Two control relays, typically used for Door Box strike control and Paging amplifier control.

Using the 2PGDAD Module as a Background Music Source

To use the 2PGDAD Module as music source for Background Music, see:

- Background Music on page 55
- Using the PGDAD Module as a Music Source on page 346

Using the 2PGDAD Module as a Music on Hold Source

To use the 2PGDAD Module as a music source for Music on Hold, see:

- Music on Hold on page 344
- Using the PGDAD Module as a Music Source on page 346

Using the 2PGDAD Module to Connect an Analog Door Box

To use the 2PGDAD Module to connect an Analog Door Box, see:

- Door Box on page 223
- Using the PGDAD Module with an Analog Door Box on page 228

Using the 2PGDAD Module for External Paging

To use the 2PGDAD Module as an External Paging output (with relay control), see:

- Paging on page 367
- Using the PGDAD Module for External Paging on page 376

Conditions and Defaults

Conditions

- If you use an audio connection, the corresponding Analog Door Box channel is not available and visa versa.
- Do not connect the 2PGDAD Module into DSX-40 station ports 21-24. The 2PGDAD requires 2-channel digital station ports and DSX-40 ports 21-24 are only single-channel.

Default Setting

- N/A

Other Related Features

Features

- Background Music on page 55
  - The 2PGDAD Module has two audio connections that you can use as music sources.
- Door Box on page 223
  - You can connect up to two Analog Door Boxes (with relay control) to a 2PGDAD Module.
- Music on Hold on page 344
  - The 2PGDAD Module has two audio connections that you can use as music sources.
- Paging on page 367
  - Use the two 2PGDAD Module audio connections as Paging outputs (with relay control).

IntraMail Features

- None.

Programming 2PGDAD Module Station Ports

2PGDAD Module Primary and Secondary Station Port Programming Setting up the Primary and Secondary Ports

1. 1202-01: Primary Station Port Assignment [System: Ports: Slot x: Station Port Configuration (1201/1202/1203): Primary]

   The primary station port auto-IDs with the station port and extension number of the port to which it is connected when you plug it in. ***Do not*** program this option.

   For example, by default a 2PGDAD Module plugged into station port 3 uses extension number 302. If it is set up for an Analog Door Box, this is the number you dial to call the Analog Door Box.

2. 1203-01: Secondary Station Port Assignment [System: Ports: Slot x: Station Port Configuration (1201/1202/1203): Secondary]

   Use this option to set up the 2PGDAD Module secondary station port.

If you are using both channels of the 2PGDAD Module, you'll need to set up the secondary channel.

Options	Description
0	[Default] No assignment.
1-128	Choose an available station port for the 2PGDAD Module second channel. • In DSX-80/160 ports 97-128 are always available by default. • In DSX-40, ports 29-128 are always available by default. • For example, if you intend to plug the 2PGDAD Module into station port 3 and choose port 103 for the secondary port, the 2PGDAD Module extension numbers will be 303 and 403.

3. Plug the 2PGDAD Module into an available ESIU station port.

The secondary channel will auto-ID with the correct circuit type if you set the jumpers correctly and if you followed the programming steps in order.

4. 2101-01: Station Type [Stations: Config: Setup: Type (2101): Type]

You will only need to program the secondary station port if you programmed out of order or the jumpers are incorrectly set.

After you set the circuit type, unplug and reconnect the 2PGDAD Module to the ESIU port.

Options	Description
10	Door Box.
12	Audio input (music source) or audio output (paging).

Connecting and Programming 2PGDAD Module Audio Ports

Programming 2PGDAD Module Audio Ports

1. Set the audio port type and gain.

1. 2105-01: PGDAD Audio Port Type [Stations: Config: Setup: Audio Port (2105): Type]

Set up the audio port for audio in (music source) or page out (audio output).

Options	Description
0	[Default] Page out (audio out).
1	Audio in (music source).

2. 2105-02: PGDAD Audio Port Gain Setting [Stations: Config: Setup: Audio Port (2105): Audio Level]

Adjust the 2PGDAD Module audio port gain from -9 dB to +6 dB as required.

Options	Description
01-16	+6 dB (01) to -9 dB (16) in 1 dB steps. [Default] = +5 dB (02).

2. Assign the 2PGDAD audio ports as audio sources.

1. 1522-01: Audio Input 3 Gain Setting [System: Options: Setup: Audio Source (1522): Audio Gain #3]

Assign a 2PGDAD Module extension number, set up and programmed as an audio port, as audio source 3.

Options	Description
300-427	Extension number. [Default] = no entry.

2. 1522-02: Audio Input 4 Gain Setting [System: Options: Setup: Audio Source (1522): Audio Gain #4]

Assign a 2PGDAD Module extension number, set up and programmed as an audio port, as audio source 4.

Options	Description
300-427	Extension number. [Default] = no entry.

3. 1522-03: Audio Input 5 Gain Setting [System: Options: Setup: Audio Source (1522): Audio Gain #5]

Assign a 2PGDAD Module extension number, set up and programmed as an audio port, as audio source 5.

Options	Description
300-427	Extension number. [Default] = no entry.

4. 1522-04: Audio Input 6 Gain Setting [System: Options: Setup: Audio Source (1522): Audio Gain #6]

Assign a 2PGDAD Module extension number, set up and programmed as an audio port, as audio source 6.

Options	Description
300-427	Extension number. [Default] = no entry.

Connecting to the 2PGDAD Module Audio Ports

Connect your music source or paging amplifier to a 2PGDAD Module Audio Port.

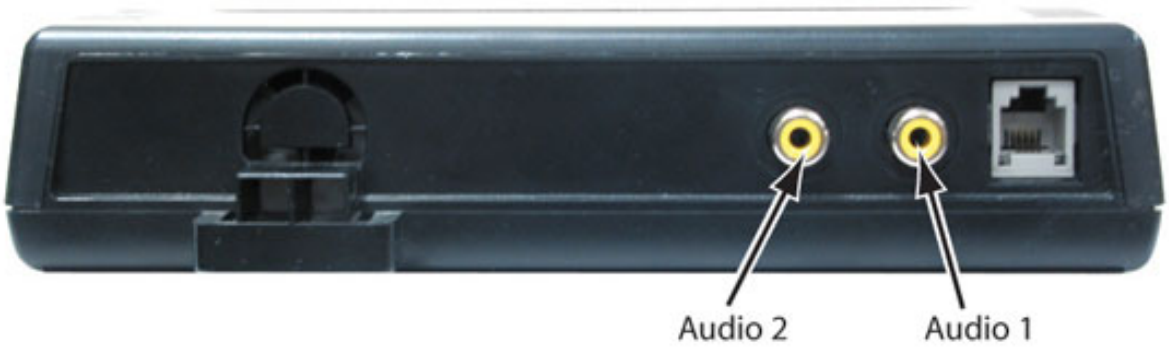
1. Verify that the device you connect is compatible with the following specifications.

2PGDAD Module Audio Connection Specification	
Input Impedance	10K Ohms
Relative Input Level	+18 dBr (+/- dBr) at 1.0 kHz

2. Plug the audio cable from your music source output or paging amplifier input into one of the audio ports on the 2PGDAD Module.

   The 2PGDAD Module has two audio connections to the left of the modular jack. These are "RCA" type phono jacks that can be set up for audio input (music source) or audio output (Paging).

   - Channel 1 is the connection on the right.
   - Channel 2 is the connection on the left.



PGDAD Module Jumper Settings

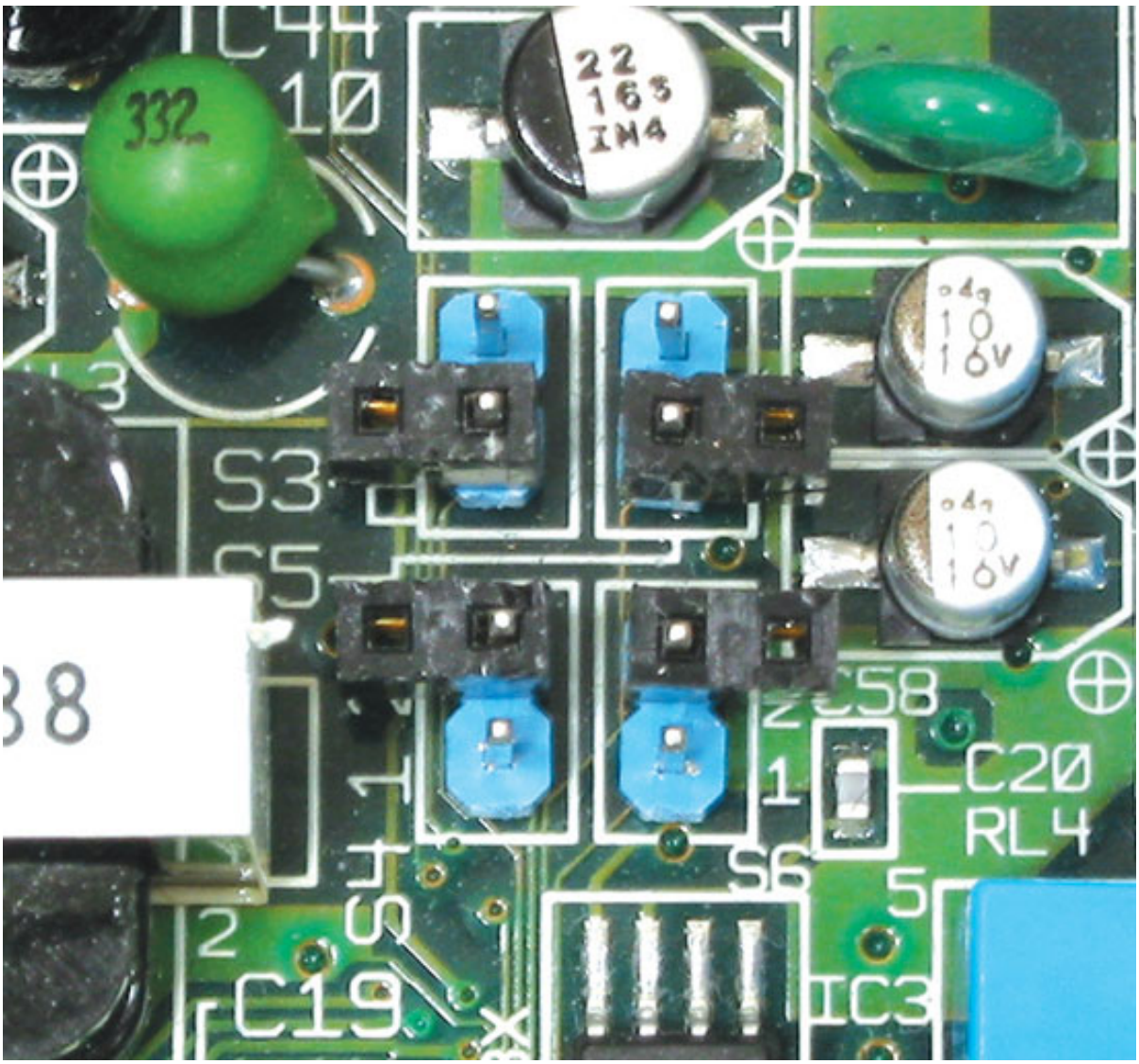
Setting the 2PGDAD Module Jumpers

The jumpers to the right of the Connecting Blocks set the function of the 2PGDAD Module. When you are done wiring the 2PGDAD Module for the function desired, be sure the jumpers are set correctly.

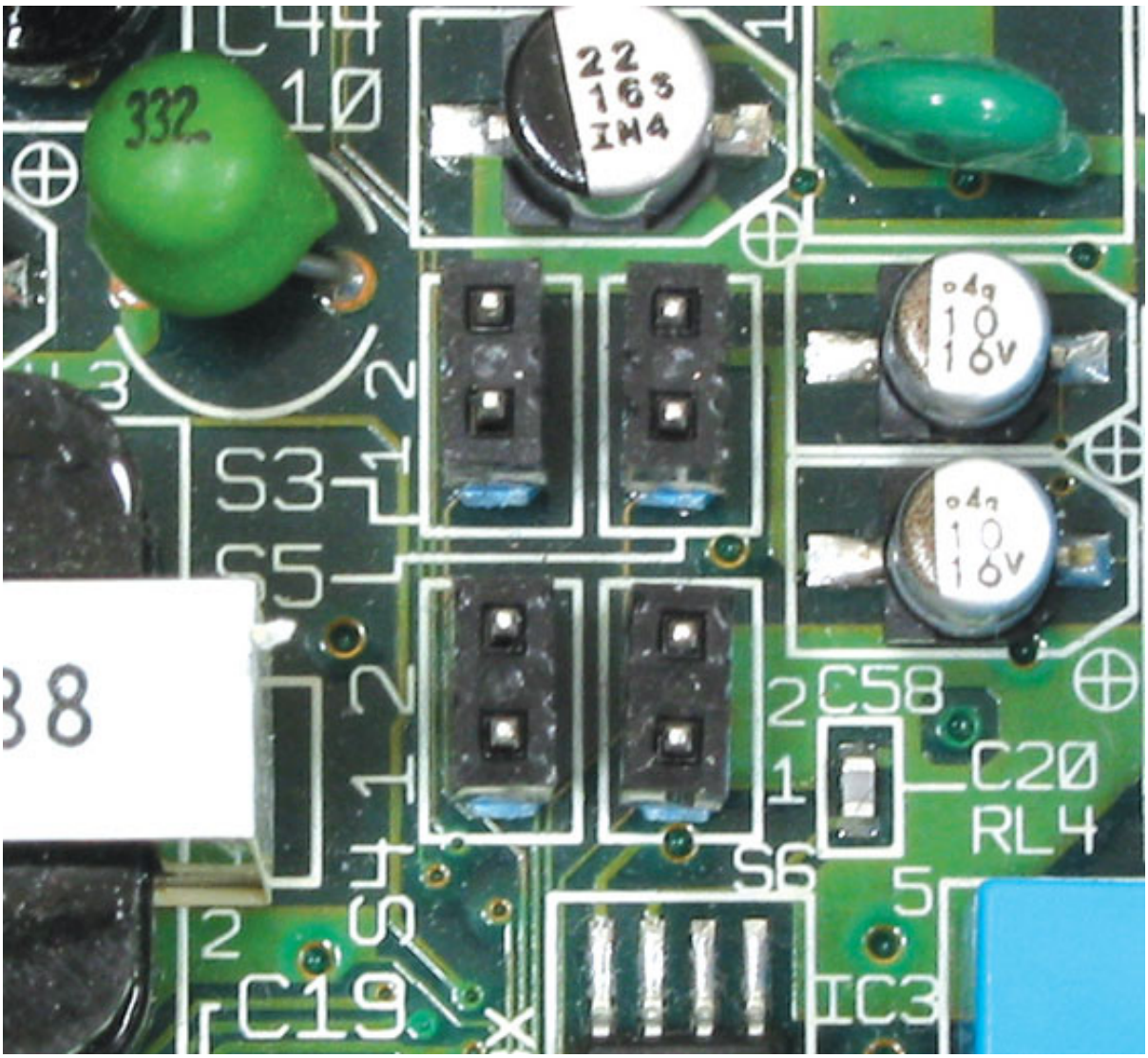
PGDAD Module Jumper Settings

Channel	Jumper S3	S4	S5	S6	Function	2101: Circuit Type Auto ID
1	Open	Open	N/A		Door Box	10
	Short	Short	N/A		Audio Input (Music)	12
	Open	Short	N/A		Audio Output (Page)	12
2	N/A		Open	Open	Door Box	10
	N/A		Short	Short	Audio Input (Music)	12
	N/A		Open	Short	Audio Output (Page)	12

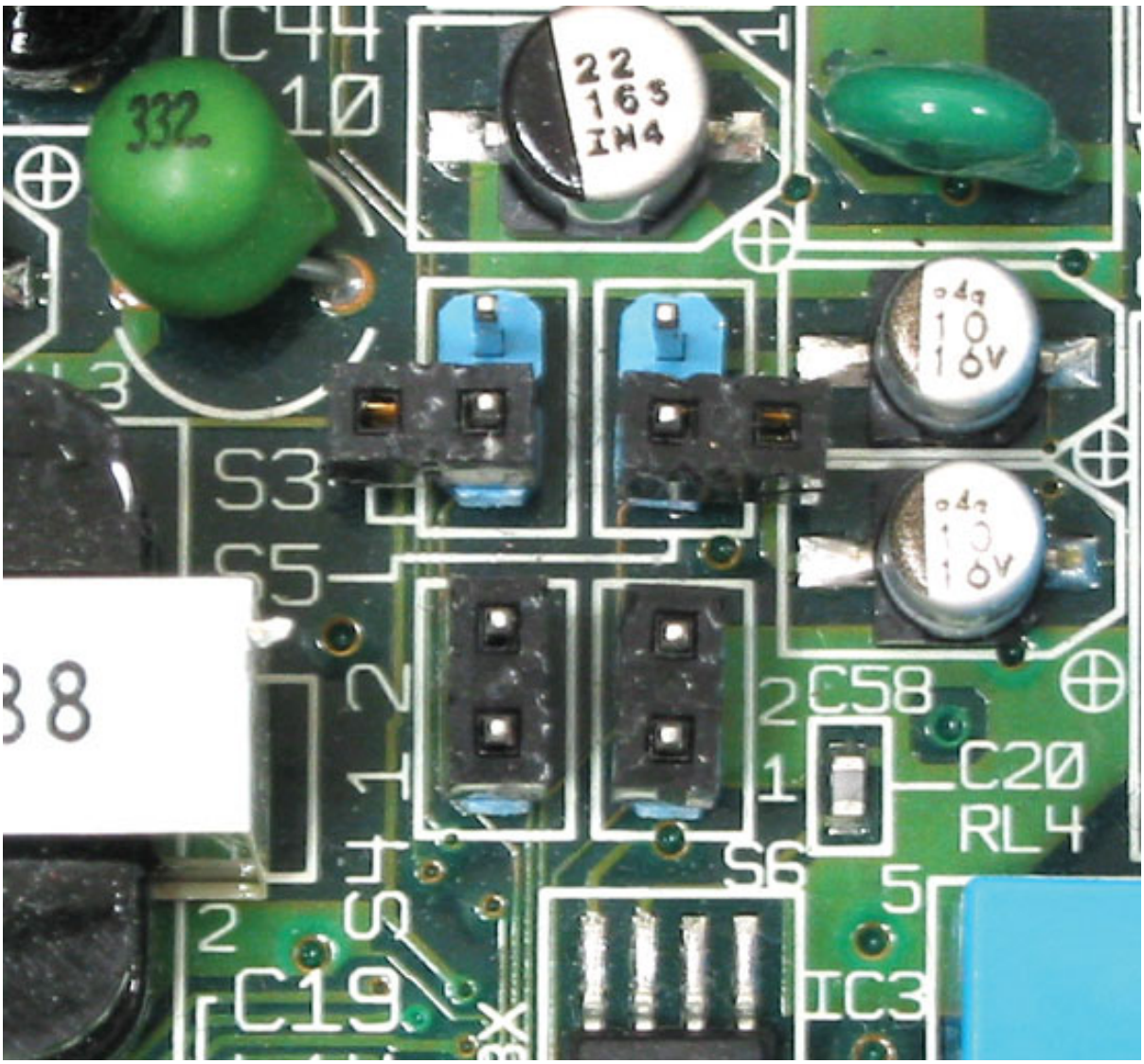
An Example of PGDAD Jumpers set for Analog Door Box



An Example of PGDAD Jumpers set for Background Music



An Example of PGDAD Jumpers set for Paging Output



PGDAD Module Door Box and Relay Connections

Understanding the 2PGDAD Module Connecting Blocks

You need to remove 2PGDAD Module Cover to see the connecting blocks, and you'll need to remove the cable knockout before wiring.

To remove the 2PGDAD Module Cover

- Follow the instructions in your system's Hardware Manual.

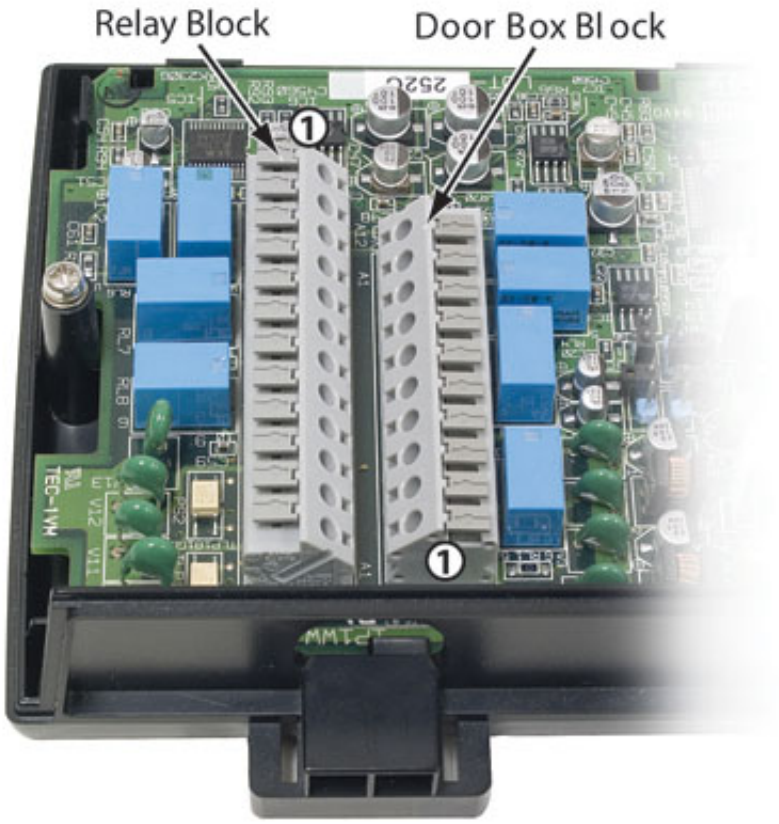
To remove the 2PGDAD Module Cable Knockout:

- Follow the instructions in your system's Hardware Manual.

With the cover removed and the 2PGDAD Module Cable Knockout facing you, you'll see the two connecting blocks.

- The block on the left is the Relay Block. Use this block for connecting Page and Door Box Relays. The circuits used by the system are at the top of the block. Pin 1 is the first pin at the top.

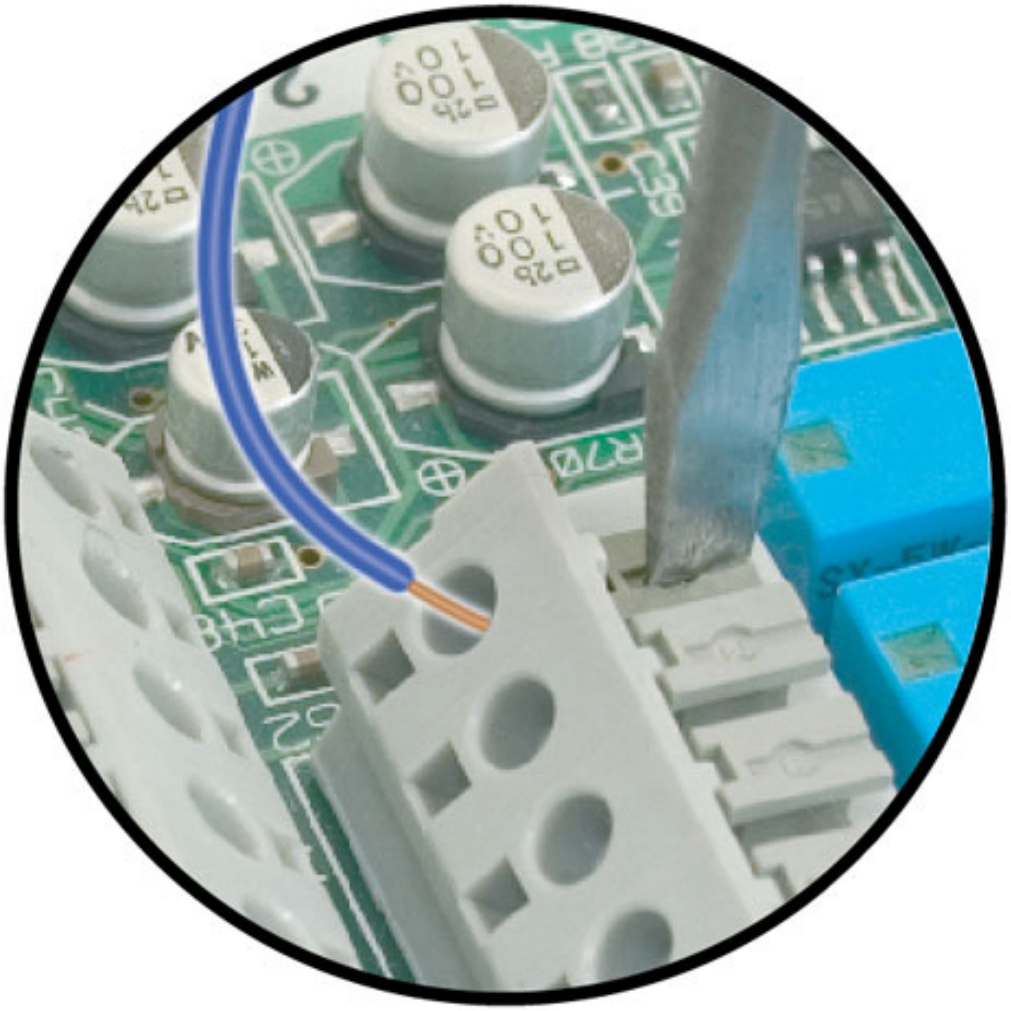
- The block on the right is the Door Box block. It provides connection for the two Analog Door Box circuits. The circuits used by the system are at the bottom of this block, and pin 1 is the last pin on the bottom.



Wiring the Connecting Blocks
Analog Door Box Wiring

1. Position the 2PGDAD Module so the cable knockout is facing towards you. The Door Box block is on the right.
2. Door Box 1 uses pins 2 and 3 at the bottom of the block.
    - Be sure to skip pin 1.
3. Door Box 2 uses pins 4 and 5.
    - Always refer to your system's Hardware Manual for additional details.

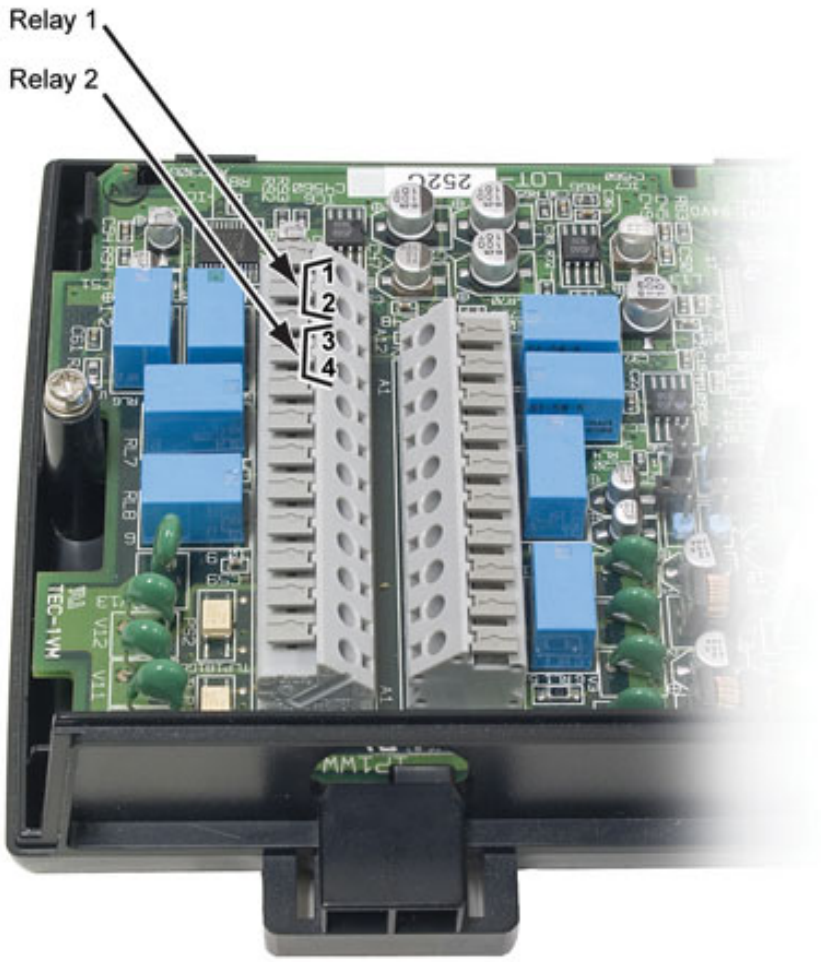
The following illustration shows how you can use a small, flat-blade screwdriver to help you seat the wires in the blocks.



Relay Wiring

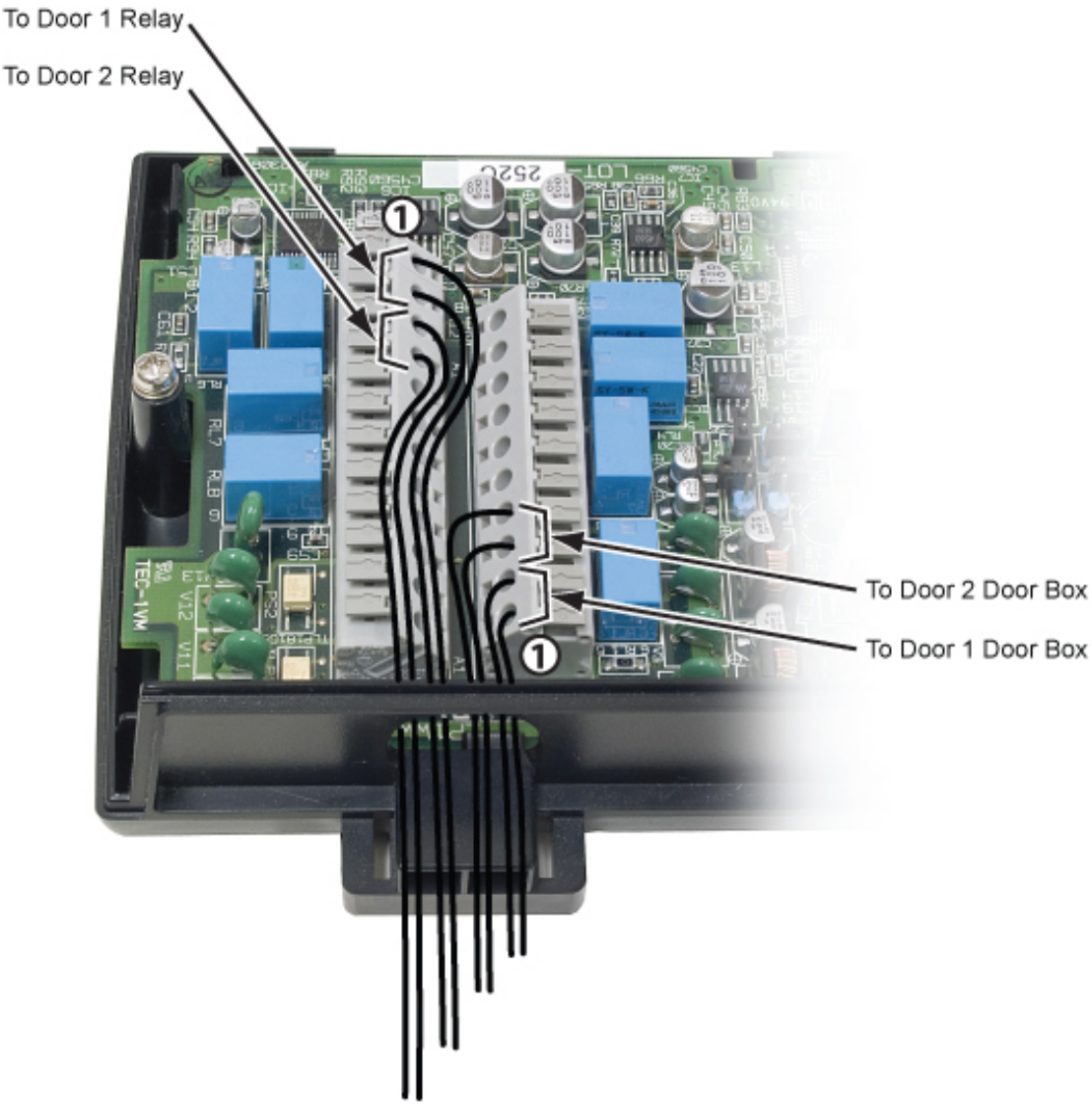
Be sure the device you connect to the 2PGDAD Module Relays is compatible with the following specifications.

2PGDAD Module Relay Contact Specifications	
Contact Configuration:	Normally open
Maximum Load:	500 mA @ 24 VDC, 250 mA @ 120 VAC



1. Position the 2PGDAD Module so the cable knockout is facing towards you. The Relay Block is on the left.
2. Pins 1 and 2 are for Relay 1.
   - f you dial the extension number for Analog Door Box 1 and press **[Open Door] [Open]**, Relay 1 will close.
3. Pins 3 and 4 are for Relay 2.
   - If you dial the extension number for Analog Door Box 2 and press **[Open Door] [Open]**, Relay 2 will close.
   - Always refer to your system's Hardware Manual for additional details.
4. The length of time the relay remains closed is determined by the setting of 1605-03: Door Relay Unlock Timer [System: Timers: Features: Control (1605): Door Relay]. The default is 30 seconds.

The following illustration shows the completed wiring for both Analog Door Boxes with relay control.



Primary Rate Interface (PRI)

In DSX-80/160, PRI provides for connection to advanced digital lines and simplifies installation.

- PRI requires T1/PRI PCB P/N 1091006.
- Expanded CPN per extension is available in software versions 3.01 or higher. This allows the system to send a unique 10-digit telephone number to the called party for each extension.

Description

When a T1/PRI PCB (P/N 1091006) is installed, DSX-80/160 is compatible with ISDN Primary Rate Interface (PRI) circuits that use the NI-2 and DMS-100 signaling types. PRI provides 23 voice channels and a signaling channel (23B+D) in one circuit. Each T1/PRI PCB supports one 23B+D PRI circuit in a single RJ45 connector for a capacity of 23 lines. You can set up each line individually as one of the following line types:

- Loop Start DTMF
- DID Immediate Start DTMF

Similar to T1, PRI gives the system the advantages of advanced digital calling as well as conserving PCB slots. For example, you can set up a system with 12 loop start lines and 11 DID lines and use only a single PCB slot. Additionally, the T1/PRI PCB has its own on-board processor and DSP so it minimally impacts other system resources.

Incoming Calling Party Number and Name

If provided by the telco, DSX PRI supports the following incoming Calling Party Number (CPN) options:

- **Calling Party Number**
  - The keyset displays the Calling Party Number sent by the telco as the call is ringing. The Calling Party Number can be up to 16 digits long.
- **Calling Party Name**
  - As the call rings the keyset displays both the Calling Party Number and the Calling Party Name. The Calling Party Number can be up to 16 digits long and the Calling Party Name can be up to 15 ASCII characters long.

Incoming Calling Party Number is available on Loop Start DTMF and DID Immediate Start DTMF PRI lines when the Caller ID Type is set to T1/PRI.

Outgoing Calling Party Number

The outgoing Calling Party Number (CPN) on a PRI line is provided by interaction of the programming set up for the system telephone number, the PRI line outgoing number, and the extension's outgoing ANI number. Here's how it works:

1. For PRI calls, the system's outgoing Calling Party Number is initially provided by the system telephone number set in 1011-02: Telephone Number [System: Config: Setup: Name (1011): Phone Number].
2. If a PRI line has its own outgoing number programmed in 3101-07: Telephone Number [Lines: Config: Setup: Type (3101): Phone Number], the system outputs that number instead.
3. *[3.01]* If an extension in turn has outgoing ANI programmed in 2101-05: Outgoing ANI ID [Stations: Config: Setup: Type (2101): ANI ID], the system will use the digits (18 maximum) stored for the extension instead.

Outgoing Calling Party Number Example

Here is an example of how outgoing Calling Party Number over PRI lines can work:

- The system number set in 1011-02: Telephone Number [System: Config: Setup: Name (1011): Phone Number] is 203 926 5400.
- PRI line 1 is the only line with an outgoing Caller ID number set in 3101-07: Telephone Number [Lines: Config: Setup: Type (3101): Phone Number]. The entry is 203 926 6400.
- *[3.01]* Extension 302 is the only extension with an outgoing ANI entry set in 2101-05: Outgoing ANI ID [Stations: Config: Setup: Type (2101): ANI ID]. The entry is 860 555 1212.

[3.01] For outgoing PRI calls:

- All outgoing PRI calls (except line 1 and extension 302) use 203 926 5400.
- All outgoing PRI calls on line 1 (except for extension 302) use 203 926 6400.
- An outgoing PRI call from extension 302 on any line uses 850 555 1212.

Outgoing Calling Party Number Privacy

An extension's Class of Service can optionally enable or disable Outgoing Calling Party Number Privacy. When an extension has Privacy enabled, the call recipient should see "Private Number" in their Caller ID display for calls over a PRI line from the extension. If disabled, the call recipient sees the Outgoing Calling Party Number programmed in the system.

Routing on the Dialed Number Received (Direct Inward Dialing)

Direct Inward Dialing (DID) routing for PRI lines is available when:

- The PRI line receiving the call is set for DID Immediate Start.
- The connected telco sends the Calling Party Number.
- The DSX system's DID programming is set for compatibility with the received Calling Party Number.

Installation Note

Although the T1/PRI PCB can connect directly to the telco's smart jack, your telco may require that you purchase and install a separate Channel Service Unit (CSU). This unit installs between the smart jack and the T1/PRI PCB.

Conditions and Defaults

Conditions

- None.

Default Setting

- No PRI PCBs programmed.

Other Related Features

Features

- Central Office Calls, Placing on page 128
  - DSX provides individual En-bloc dialing for PRI lines. This makes the operation of PRI transparent to the user. It is not necessary to enable Store and Forward for PRI lines to facilitate En-bloc dialing.
- Direct Inward Dialing on page 163
  - DID service is available on PRI lines.
- T1 Lines on page 474

- T1 lines give the system a maximum of 24 lines in a single PCB slot.

IntraMail Features

- None.

Programming PRI Basics

Setting Up the PRI Basics

1. Set the circuit and signaling type.

1. 1211-01: Card Type [System: Ports: Slot x: Line Card Configuration (1211/1212): Card Type]

The T1/PRI PCB should auto-ID as circuit type 06.

Options	Description
06	T1/PRI PCB circuit type.
-	[Default] When installed, the T1/PRI PCB should auto-ID as circuit type 06.

2. 1213-07: Signaling Type [System: Ports: Slot x: T1/PRI Slot Configuration (1213): Signaling Type]

Use this option to set the T1/PRI PCB PRI signalling type (NI-2 or DMS 100).

Check with your service provider before setting this option.

Options	Description
0	[Default] T1.
1	NI-2 (ISDN NI-2)
2	DMS 100 (ISDN DMS-100)

3. Programming Outside Line Type, Access, and Ringing on page 130

PRI lines can be either circuit type 01 (Loop Start) or 04 (DID Immediate Start).

2. Set additional PRI basic options.

1. 1213-08: Overlap Dialing [System: Ports: Slot x: T1/PRI Slot Configuration (1213): Overlap Dialing]

Check the Overlap Dialing setting. It is not generally available in North America and should normally be disabled.

With Overlap Dialing, the system outputs digits over the PRI line as they are dialed. Dialing can continue until the system receives one of the following messages:

- The call is proceeding (CALL PROCEEDING).
- The call is ringing the destination (CALL ALERTING).
- Switch dialing to in-band DTMF (PROGRESS INDICATION 1 OR 8).

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 1602-01: Interdigit Timer [System: Timers: Features: Outgoing (1602): Interdigit Time]

   Optionally adjust the Interdigit Timer.

   - Keep in mind that this is a system-wide timer that affects many operations.

   For a manually-dialed PRI call, the system waits the Interdigit Timer interval after the user completes dialing before sending the call over the PRI line.

   - The user can optionally dial # after their last digit to have the call go out right away.

   Speed Dial, Last Number Redial, and Save Number Dialed calls are sent immediately (without the interdigit delay).

Options	Description
1-9999	Seconds. [Default] = 6 seconds.
Yes (1)	Enabled.

Programming Incoming Calling Party Number and Name

Setting Up Incoming Calling Party Number and Name

Set Caller ID and Ringing Options

1. 3121-01: Caller ID Type [Lines: Config: Setup: Caller ID Setup (3121): Caller ID Type]

   Set the Caller ID type to 3 (T1/PRI).

   See Programming Caller ID on page 104 for more on how to set this up.

2. Since Incoming Calling Party Number will only display for ringing calls, review Programming Outside Line Type, Access, and Ringing on page 130and set up the ringing options for PRI lines.

Programming Outgoing Calling Party Number (CPN)

Setting Up Outgoing Calling Party Number

1. Set the options for outgoing CPN.

1. 1011-02: Telephone Number [System: Config: Setup: Name (1011): Phone Number]

   Program the system's Outgoing Calling Party Number.

   This will be the Outgoing Calling Party Number unless overwritten by the line or extension programming in the following steps.

Options	Description
Digits	Digits (18 digits max. using 0-9, # and *). [Default] = no entry.

2. 3101-07: Telephone Number [Lines: Config: Setup: Type (3101): Phone Number]

   Program the Outgoing Calling Party Number for each PRI line.

Each line can have a unique number.

This will be the Outgoing Calling Party number for all calls on the line unless modified by extension programming in the next step.

Options	Description
Digits	Digits (18 digits max. using 0-9, # and *). [Default] = no entry.

3. 2101-05: Outgoing ANI ID [Stations: Config: Setup: Type (2101): ANI ID]

   [3.01] Program the Outgoing Calling Party Number for each extension (up to 18 digits).

   [3.01] For PRI calls, this option specifies the number that will replace the system or line number.

Options	Description
Digits	*[3.01]* Digits (18 digits max., using 0-9, # and *). [Default] = no entry.

2. Optionally enable Outgoing Calling Party Number Privacy.

1. The system will mark outgoing PRI calls from extensions with this capability as private and will not display an outgoing number.
2. Normally, outgoing calls from the extension will be received as *Private Number*.
3. 1404-05: Ongoing ANI Privacy [System: Class of Service: Caller ID: Caller ID (1404): Outgoing ANI Privacy]

   Use this option to enable Outgoing Calling Party Number Privacy

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

4. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Prime Line Preference

Get dial tone for a new outside or Intercom call just by lifting the handset.

- Secondary Prime Line is available in software version 2.01 and higher.

Description

Prime Line Preference allows an extension user to place or answer a call by just lifting the handset. The user does not have to press a line key, loop key, or the **INTERCOM** key first. This simplifies handling calls. In programming, you designate a line key, loop key, the **INTERCOM** key, a line, or a Line Group as the extension's Prime Line. With a line key, loop key, line, or Line Group, the associated line (or lines) becomes your Prime Line. With the **INTERCOM** key, you get Intercom dial tone when you lift the handset. Any number of extensions can have the same Prime Line assignment.

Prime Line Types

There are two types of Prime Line Preference: Idle Prime Line and Intercom Prime Line.

Idle Prime Line

- Idle Prime Line lets a user place or answer a Prime Line call by just lifting the handset. An extension's Idle Prime Line can be any line or Line Group, regardless of whether the extension has a line or loop key for the line or group.
- Idle Prime Line to any line or Line Group is also available at single line telephones.

Intercom Prime Line

- With Intercom Prime Line, an idle extension user hears Intercom dial tone whenever they lift the handset or press **SPEAKER**. Intercom Prime Line may help the extension user that most often uses Intercom functions or calls co-workers. If an extension's Busy Lamp Field is disabled (which is the default), the Feature Keys do not go into the DSS mode when the user lifts the handset.

Secondary Prime Line

If your Prime Line is busy, Secondary Prime Line allows you to automatically connect to an alternate Prime Line when you lift the handset. For example, you can have line 1 as your Prime Line and Line Group 90 (dial 9) as your Secondary Prime Line. Normally, you'll get line 1 when you lift the handset. If line 1 is busy, however, you'll automatically connect to an available line in group 90 instead.

Prime Line and Ringing Line Preference

Ringing Line Preference has priority over Prime Line. For example, an extension with Ringing Line Preference will answer a ringing line, not get dial tone on their Prime Line. In addition, a Ringing Prime Line will have priority over any other ringing line. The seize priority is as follows:

1. Ringing Prime Line
2. Ringing non-Prime Line
3. Prime Line

Prime Line and Privacy Release Groups

Tailored for residential applications, Prime Line and Privacy Release Groups allow you to automatically join a call in progress when you lift the handset. You can do this if:

- The outside line is busy.
- The busy line is on your Prime Line key.
- The extension on the call is in your Privacy Release Group.

Conditions and Defaults

Conditions

- None.

Default Setting

- Intercom Prime Line enabled.

Other Related Features

Features

- Direct Inward Line on page 177
  - If an extension's Prime Line is another extension's DIL, lifting the handset will answer the call even though it does not ring the phone.
- Direct Station Selection (DSS) on page 183
  - With Intercom Prime Line, an idle extension user hears Intercom dial tone whenever they lift the handset or press **SPEAKER**. Since each extension's Busy Lamp Field is disabled by default, the Feature Keys do not go into the DSS mode when the user lifts the handset.
- Privacy Release Groups on page 415
  - You can automatically join a call in progress when you lift the handset if:
    - The line is busy.
    - The busy line is on your Prime Line key.
    - The extension on the call is in your Privacy Release Group
- Single Line Telephones on page 444
  - Single line telephones can use Prime Line Preference.
- Ringing Line Preference on page 432
  - Ringing Line Preference has priority over Prime Line. For example, an extension with Ringing Line Preference will answer a ringing line, not get dial tone on their Prime Line.

IntraMail Features

- None.

Programming Primary Prime Line Preference Type

Setting the Primary Prime Line Type

1. For key, set the following options.

1. 2114-01: Prime Line Type [Stations: Config: Options: OffHook (2114): Prime Line (Primary): Type]

   For key, enter 1.

   This option is not available to single line telephones.

Options	Description
0	None.
1	[Default] Key.
2	Line.
3	Line Group.

2. 2114-01: Prime Line Key Stations: Config: Options: OffHook (2114): Prime Line: Key]

   Enter the number of the line or loop key, or 00 for **INTERCOM**.

Options	Description
00	[Default] Intercom Prime Line.
1-24	Prime Line keys 1-24.

2. For line, set the following options.

1. 2114-01: Prime Line Type [Stations: Config: Options: OffHook (2114): Prime Line (Primary): Type]

   For line, enter 2.

   This option is also available to single line telephones.

Options	Description
0	None.
1	[Default] Key.
2	Line.
3	Line Group.

2. 2114-01: Prime Line Line Config : Stations: Options: OffHook (2114): Prime Line: Line/Group]

   Enter the line number (1-64).

Options	Description
1-64	Lines 1-64. [Default] = 1.

3. For Line Group, set the following options.

1. 2114-01: Prime Line Type [Stations: Config: Options: OffHook (2114): Prime Line (Primary): Type]

   For Line Group, enter 3.

   This option is also available to single line telephones.

Options	Description
0	None.
1	[Default] Key.
2	Line.
3	Line Group.

2. 2114-01: Prime Line Group Stations: Config: Options: OffHook (2114): Prime Line: Line/Group]

   Enter the Line Group number (90-98).

Options	Description
90-98	Line Groups 90-98. [Default] = 98.

4. To disable Prime Line, set the following option.

1. 2114-01: Prime Line Type [Stations: Config: Options: OffHook (2114): Prime Line (Primary): Type]

   To disable Prime Line, enter 0.

Options	Description
0	None.
1	[Default] Key.
2	Line.
3	Line Group.

2. When the user lifts the handset, no Prime Line Preference action is taken.

Programming Secondary Prime Line Preference Type

Setting the Secondary Prime Line Type

1. For key, set the following options.

1. 2114-04: Secondary Prime Line Type Stations: Config: Options: Offhook (2114): Prime Line (Secondary): Type]

   For key, enter 1.

   This option is not available to single line telephones.

Options	Description
0	None.

Options	Description
1	[Default] Key.
2	Line.
3	Line Group.

2. 2114-04: Secondary Prime Line Key [Stations: Config: Options: OffHook (2114): Prime Line (Secondary): Key]

Enter the number of the line or loop key, or 00 for **INTERCOM**.

Options	Description
00	[Default] Intercom Prime Line.
1-24	Prime Line keys 1-24.

2. For line, set the following options.

1. 2114-04: Secondary Prime Line Type Stations: Config: Options: Offhook (2114): Prime Line (Secondary): Type]

For line, enter 2.

This option is also available to single line telephones.

Options	Description
0	None.
1	[Default] Key.
2	Line.
3	Line Group.

2. 2114-04: Secondary Prime Line Line Stations: Config: Options: OffHook (2114): Prime Line (Secondary): Line/Group]

Enter the line number (1-64).

Options	Description
1-64	Lines 1-64. [Default] = 1.

3. For Line Group, set the following options.

1. 2114-04: Secondary Prime Line Type Stations: Config: Options: Offhook (2114): Prime Line (Secondary): Type]

For Line Group, enter 3.

This option is also available to single line telephones.

Options	Description
0	None.
1	[Default] Key.
2	Line.
3	Line Group.

2. 2114-04: Prime Line Group Stations: Config: Options: OffHook (2114): Prime Line (Secondary): Line/Group]

   Enter the Line Group number (90-98).

Options	Description
90-98	Line Groups 90-98. [Default] = 98.

4. To disable Secondary Prime Line, set the following option.

1. 2114-04: Secondary Prime Line Type Stations: Config: Options: Offhook (2114): Prime Line (Secondary): Type]

   To disable Prime Line, enter 0.

Options	Description
0	None.
1	[Default] Key.
2	Line.
3	Line Group.

2. Secondary Prime Line is now disabled.

Programming Unique Prime Line/Privacy Release Groups Feature

Setting Up Unique Prime Line/Privacy Release Operation

1. Set up a line key as your Prime Line Key.

1. 2114-01: Prime Line Type [Stations: Config: Options: OffHook (2114): Prime Line (Primary): Type]

   Enter 1 for Prime Line Type *key*.

   This option is not available to single line telephones.

Options	Description
0	None.
1	[Default] Key.
2	Line.
3	Line Group.

2. 2114-01: Prime Line Key Stations: Config: Options: OffHook (2114): Prime Line: Key]

   Enter the number of a line key (1-24).

Options	Description
00	[Default] Intercom Prime Line.
1-24	Prime Line keys 1-24.

2. Put extensions in the same Privacy Release Group.

1. 2113-04: Privacy Group Stations: Config: Options: Groups (2113): Privacy Group]

   Use this option to assign extensions to a Privacy Release Group (1-16)

   Make sure the group members have line keys for the lines they want to share.

Options	Description
0	[Default] Unassigned.
1-16	Privacy Release Groups 1-16.

2. 2131-[01-64]: Line Access Stations: Config: Line Access: Line Access (2131): Line Access]

   Assign a access to the lines that the Privacy Release Group members should share.

Options	Description
0	No access.
1	Incoming access only.
2	Outgoing access only.
3	[Default] Full access.

3. If user lifts handset while their Prime Line is busy, they will join the call.

Privacy

Use Privacy to prevent interruptions at high priority extensions.

Description

An extension with Privacy blocks incoming Barge In attempts and Call Waiting (Camp-On) signals. Privacy helps extension users that don't want their conversations interrupted.

Note that if an extension with Privacy *enabled* is on a call with an extension with Privacy *disabled*, they are still subject to Barge In attempts and Call Waiting signals to the non-private extension.

Conditions and Defaults

Conditions

- None.

Default Setting

- Privacy disabled in an extension's Class of Service.

Other Related Features

Features

- Attendant Position on page 36
  - Since the attendant is never busy for Intercom calls, the attendant always has Privacy enabled.
- Barge In (Intrusion) on page 58
  - Privacy blocks Barge In attempts.
- Call Waiting / Camp-On on page 93
  - Privacy blocks Camp-On beeps.
- Monitor / Silent Monitor on page 341
  - Privacy blocks Monitor attempts.
- Off-Hook Signaling on page 362
  - Privacy does not block off-hook ringing.
- Privacy Release Groups on page 415
  - There is no interaction between Privacy and Privacy Release Groups.
- Voice Over on page 521
  - Privacy does not block Voice Over.

IntraMail Features

- None.

Programming Privacy

Setting Privacy for an Extension
Enable Privacy in Class of Service.

1. 1401-03: Privacy [System: Class of Service: Features: Features (1401): Privacy]

Use this Class of Service option to enable Privacy for an extension.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Privacy Release Groups

Quickly join in a co-worker's outside call.

Description

You can program extensions into Privacy Release Groups to simplify sharing outside calls. Co-workers in the same Privacy Release Group can easily join another group member's outside call just by pressing the busy line -key. The co-worker immediately joins in unannounced and uninvited. Privacy Release Groups are a quick alternative to Conference where control over the Conference is not required. In a Customer Service group, for example, a supervisor could just press a busy line key to monitor any agent's call.

If desired, an extension user can prevent other members of their Privacy Release Group from interrupting their active call. This ensures that group members will not interrupt confidential calls.

Any number of extensions can be in the same Privacy Release Group. However, an extension can only be in a single group. Members of the Group must have line keys and access to the lines they want to share.

Privacy Release Groups utilizes a Conference circuit. The following table shows the Conference capacities:

Description	Capacity
Conference circuits	32
Maximum simultaneous users in Conference (total of all Conferences system-wide)	32
Maximum simultaneous conferences	8
Maximum parties in any one Conference (lines and/or extensions)	8

The system's 32 Conference circuits are dynamically allocated as users request them.

Privacy Release Guard Timer

The system provides a guard timer that prevents an extension user from inadvertently placing a Privacy Release Conference on Hold. When an extension user with privacy released presses a line key to join a Conference, the system starts a 3 second guard timer. During this interval, if the initial extension on the call presses **HOLD**, they will drop out of the 3-party call. This prevents an extension user, who is trying to extend a call to a co-worker, from inadvertently putting a Privacy Release Conference on Hold by pressing **HOLD**.

Conditions and Defaults

Conditions

- None.

Default Setting

- No Privacy Release groups assigned.

Other Related Features

Features

- Privacy on page 413
  - There is no interaction between Privacy and Privacy Release Groups.
- The following features also allow different types of multiple party calls:
  - Barge In (Intrusion) on page 58
  - Conference on page 144
  - Group Listen on page 266
  - Meet-Me Conference on page 331
  - Tandem Calls / Unsupervised Conference on page 478

IntraMail Features

- None.

Programming Privacy Release Groups

Assigning an Extension to a Privacy Release Group
Assign a Group and set Line Access

1. 2113-04: Privacy Group Stations: Config: Options: Groups (2113): Privacy Group]

   Use this option to assign an extension to a Privacy Release Group.

Options	Description
0	[Default] Unassigned.
1-16	Privacy Release Group 1-16.

2. Programming Line and Loop Keys on page 132

   Make sure the group members have line keys for the lines they want to share.

3. Programming Outside Line Type, Access, and Ringing on page 130

   Allow access to the lines group members should share.

Private Line

You can have a line reserved exclusively for your own use.

Description

A Private Line is a line reserved for a keyset for placing and answering calls. A user with a Private Line knows when important calls are for them. Additionally, the user has their own line for placing calls that is not available to others in the system.

There are three types of Private Lines:

- **Incoming Only**
  - The keyset has a Private Line only for incoming calls. The user cannot place a call on the Private Line. A customer service representative may want an incoming only Private Line to be sure customers can always get through.
- **Outgoing Only**
  - The keyset has a Private Line only for outgoing calls. The Private Line does not ring for incoming calls. A service dispatcher may want an outgoing only Private Line so they can always get in touch with field technicians.
- **Both Ways**
  - The keyset has a Private Line for both incoming and outgoing calls. An executive may want a both ways Private Line that is available only to them for placing and answering calls.

You can optionally set up shared Private Lines between a group of co-workers that work closely together.

Conditions and Defaults

Conditions

- None.

Default Setting

- No Private Lines programmed.

Other Related Features

Features

- The following features work normally for Private Lines.
  - Automatic Handsfree on page 48
  - Delayed Ringing on page 151
  - Group Ring on page 268
  - Hold on page 278
  - Last Number Redial on page 299
  - Night Service / Night Ring on page 353
  - Park on page 379

- Prime Line Preference on page 406
- Save Number Dialed on page 438
- Speed Dial on page 448
- Toll Restriction on page 488
- Transfer on page 497

The following feature does not apply to Private Lines.

- Call Forwarding on page 71
  - If you want to be able to forward a private line, consider setting up a Direct Inward Line.

IntraMail Features

- None.

Programming Private Lines

Setting Up Shared and Non-shared Private Lines
Set the Private Line options.

1. Programming Line and Loop Keys on page 132

   For a non-shared (exclusive) Private Line, make sure that only the Private Line “owner” extension has a line key for the Private Line.

   For a shared Private Line, all the extensions that share the Private Line should have a line key for that line.

2. Programming Outside Line Type, Access, and Ringing on page 130

   For a non-shared (exclusive) Private Line:

   - Make sure that only the Private Line “owner” extension has access to the Private Line.
   - Also, be sure that only the Private Line “owner” extension has ringing for the Private Line.

   For a shared Private Line:

   - All the extensions that share the Private Line should have access to that line
   - Additionally, all the extensions that share the Private Line should have ringing for that line.

Programmable Idle Menu Soft Keys (Super Display)

Customize the Super Display Telephone idle menu soft keys to exactly meet the user's needs.

Description

The Super Display Telephone idle menu soft keys are customizable in system programming and by the extension user. This allows the idle mode display to be tailored to meet the needs of each Super Display Telephone user. The first chart below shows the default idle menu soft key assignments. The second chart shows all the available idle mode soft keys, their definitions, and the related programming codes.

Super Display Telephone Default Idle Menu Soft Key Assignments			
Key	**Display**	**Display**	**Key**
1	Menu	(Blank)	7
2	Directory	(Blank)	8
3	V-Mail	(Blank)	9
4	Calls	SP Dial 1	10
5	Page	SP Dial 2	11
6	(Blank)	(Blank)	12

Super Display Telephone Idle Menu Soft Key Options		
Entry	**Display**	**Description**
00	**UNDEFINED**	The key has no function and the idle menu display is blank
01	Directory	Press to access additional soft keys for Intercom, System Speed Dial, and Personal Speed Dial Directory Dialing.
02	Extension	Press to directly access Intercom Directory Dialing.
03	Personal	Press to directly access Personal Speed Dial Directory Dialing.
04	Company	Press to directly access System Speed Dial Directory Dialing.
05	Program	Press to program the following: • Call Forwarding • Call Screening • Distinctive Ringing • Handsfree Reply • Intercom Voice Announce and Forced Intercom Ringing • Language Selection

		• Name Programming • Speed Dial • Volume for Ringing, Off-Hook Ringing, and Page
06	**V-Mail**	Press to call your voice mail mailbox. This soft key also shows the number of new messages in your mailbox
07	**Calls**	Press to review your Caller ID log. This soft key also shows the number of new calls you have not yet reviewed.
08	**Page**	Press to initiate a Page announcement.
09	**SP Dial 1**	Press to access Personal Speed Dial numbers 701-710. The display shows the Speed Dial numbers (or names - if programmed)
10	**SP Dial 2**	Press to access Personal Speed Dial numbers 711-720. The display shows the Speed Dial number (or name - if programmed)
11-30	**PERS SPDL number 1-20**	Press to access the associated Personal Speed Dial number (701-720). The display shows the Speed Dial number (or name - if programmed).

Conditions and Defaults

Conditions

- Idle Menu Soft Keys are only available at Super Display telephones.
- When an extension's soft keys are customized, the user must take some action at the telephone (such as lifting and replacing the handset) before the change takes effect.

Default Setting

- See the *Super Display Telephone Default Idle Menu Soft Keys Assignments* chart above.

Other Related Features

Features

- User Programmable Features on page 508
  - A Super Display Telephone user can assign their own idle menu soft keys. Also see Feature Operation on the next page.

IntraMail Features

- None.

Programming Idle Menu Soft Keys

Setting Up the Super Display Idle Menu Soft Keys
Customize the idle menu soft key functions.

1. 2124-[01-12]: Idle Menu Soft Key Assignments (Super Display) Stations: Config: Soft Keys: Assignment (2124): Type]

Program the functions of the Super Display Telephone Idle Menu soft keys.

Options	Description
	See the table with Programmable Idle Menu Soft Keys (Super Display) on page 419 for key options.
-	[Default] See the table with Programmable Idle Menu Soft Keys (Super Display) on page 419 for default key setup.

2. This feature only applies to Super Display Telephones.

Pulse to Tone Conversion

Use special services (such as telephone banking) over dial pulse lines.

Description

An extension can use Pulse to Tone Conversion while placing an outside call to change the dialing mode from dial pulse to DTMF. For a system in a dial pulse area, this permits users to access DTMF services (such as telephone banking) from their DP area. Pulse to tone conversion also helps dial pulse callers use another company's automated attendant dialing options. The user can, for example:

- Place a call to their bank over a DP line.
- After the banking service answers, wait 6 seconds. (The system automatically converts dialing to DTMF.)
- Dial additional banking options.

Refer to Central Office Calls, Answering on page 121 and Central Office Calls, Placing on page 128 for the specifics on setting up your outside calling.

Conditions and Defaults

Conditions

- None.

Default Setting

- Pulse to Tone Conversion always enabled for dial pulse lines.

Other Related Features

Features

- Single Line Telephones on page 444
  - The system does not provide Pulse to Tone Conversion for SLTs. The conversion must be switched manually from the telephone.
- Speed Dial on page 448
  - If a Speed Dial number using a dial pulse line contains a pause, the digits following the pause automatically dial out as DTMF.

IntraMail Features

- None.

Programming Pulse to Tone Conversion

Setting Up Dial Pulse Lines
Set the Dial Pulse line options.

1. Programming Outside Line Type, Access, and Ringing on page 130

For dial pulse lines:

- Enter the connected line's type.
- Set the DTMF Dialing option to 0 (for dial pulse)

2. To convert from pulse to tone dialing, just wait 6 seconds after the last digit dialed. The remaining digits dial as DTMF.

Regional Defaults

The system is compatible with both North American and Latin American applications.

Description

Use the Regional Defaults capability to switch your system from the North American mode to the Latin American mode. Switching your system to the Latin American mode makes the following changes:

- The default language in programming, SMDR, and all telephone displays is Spanish. See the following for more:
  - Language Selection on page 297
  - Station Message Detail Recording on page 463
- The Latin American Toll Restriction options are enabled. This is set up when you initialize each Toll Restriction Table. For more, see:
  - Toll Restriction on page 488
  - ***Only use these options if your system is installed in Latin America.***

Conditions and Defaults

Conditions

- None.

Default Setting

- System is enabled for North American installations.

Other Related Features

Features

- Language Selection on page 297
  - Optionally switch all telephone displays to Spanish.
- Station Message Detail Recording on page 463
  - Optionally enable the Spanish SMDR header and Call Type data.
- Toll Restriction on page 488
  - Optionally initialize each Toll Restriction Table for Latin American. ***Latin American Toll Restriction is not included in this manual.***

IntraMail Features

- None.

Removing Lines and Extensions from Service

Temporarily remove problem extensions and lines from service until they can be repaired.

Description

Supervisors and attendants can remove problem lines and extensions from service. This helps ensure maximum system performance. For example, the attendant can busy-out a noisy line or problem extension until service personnel can repair the problem. The line or extension the appears busy to all callers. Following repair, the attendant or supervisor can return the line to service.

The extension or line removed from service shows as busy on the appropriate key (e.g., line key or Hotline key).

Conditions and Defaults

Conditions

- None.

Default Setting

- Enabled for the attendant (COS 1).
- Disabled at all other extensions (COS 2-15).

Other Related Features

Features

- Attendant Position on page 36
  - Normally, system attendants should have the ability to remove lines and extensions from service.
- Call Forwarding on page 71
  - If Call Forwarding is enabled at an extension when it is removed from service, it is reinstated when the extension is returned to service.
- Direct Line Access on page 181
  - An extension user with Direct Line Access can remove lines from service.
- Selectable Display Messaging on page 440
  - Removing and returning an extension to service does not cancel an extension's Selectable Display Messaging.

IntraMail Features

- None.

Programming Removing Lines and Extensions from Service

Setting the Options that allow Removing Lines and Extensions from Service

Set the Direct Line Access option.

1. 1402-06: Direct Line Access [System: Class of Service: Stations: Stations (1402): Direct Line Access]

To remove lines and extensions from service, the extension must have Direct Line Access capability.

Options	Description
No (0)	Disabled. [Default] for COS 2-15.
Yes (1)	Enabled. [Default] for COS 1.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 0.

Reverse Voice Over

Privately call a co-worker while you're busy on your handset.

Description

While on a handset call, Reverse Voice Over lets a busy keyset user make a private Intercom call to an idle co-worker. The busy user just presses and holds down a programmed Reverse Voice Over key to make a private call to the assigned co-worker. The initial caller cannot hear the Reverse Voice Over conversation. The private Intercom call continues until the Reverse Voice Over caller releases the key again. The initial handset call can be an outside call or an Intercom call. An extension can have Reverse Voice Over keys for more than one co-worker.

Reverse Voice Over could help a salesperson, for example, when placing a call to an important client. The salesperson can talk with the client and give special instructions to an assistant — without interrupting the initial call.

When the keyset is idle, the Reverse Voice Over key functions the same as a Hotline key. The key also shows at a glance the status of the associated extension:

Reverse Voice Over Busy Lamp Indications	
When the key is:	**The covered extension is:**
Off	Idle or not installed
On	Busy or ringing
Medium Flash	Assigned extension is in DND for outside calls (option 1)
Fast Flash	Assigned extension is in DND for Intercom calls (option 2) or All Calls (option 3)

Reverse Voice Over uses a system Conference circuit while it is active. The following table shows the system's Conference capacities:

Description	Capacity
Conference circuits	32
Maximum simultaneous users in Conference (total of all Conferences system-wide)	32
Maximum simultaneous conferences	8
Maximum parties in any one Conference (lines and/or extensions)	8

The system's 32 Conference circuits are dynamically allocated as users request them.

Conditions and Defaults

Conditions

- None.

Default Setting

- No Reverse Voice Over keys assigned.

Other Related Features

Features

- Conference on page 144
  - An extension user cannot add an incoming Reverse Voice Over call to a Conference.
- Direct Station Selection (DSS) Console on page 187
  - A DSS Console can not have a Reverse Voice Over key.
- Do Not Disturb on page 217
  - DND does not block Reverse Voice Over.
- Hold on page 278
  - An extension cannot put an incoming Reverse Voice Over call on Hold.
- Transfer on page 497
  - While idle, an extension user can use their Reverse Voice Over key to Transfer calls.

IntraMail Features

- None.

Programming Reverse Voice Over

Setting Up a Reverse Voice Over Feature Key
Assign a Reverse Voice Over key to the extension.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

Assign key code 23 to an available Feature Key.

You cannot assign a Reverse Voice Over key to a DSS Console.

Options	Description
23	Reverse Voice Over.
-	[Default] = no Reverse Voice Over keys assigned.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

The key data is the Reverse Voice Over partner's extension number.

Options	Description
Digits	Reverse Voice Over partner's extension number.
-	[Default] = no data assigned.

Ring Groups

Available. See Group Ring on page 268.

Ringdown Extension

Call another extension, group or voice mail just by lifting the handset.

Description

A Ringdown Extension automatically calls a co-worker, voice mail, a Ring Group, a UCD Group, or a Speed Dial number when the user lifts the handset. The call automatically goes through — there is no need for the user to dial digits or press additional keys. Ringdown extensions are frequently used for lobby phones, where the caller just lifts the handset to get the information desk.

Conditions and Defaults

Conditions

- None.

Default Setting

- Ringdown disabled

Other Related Features

Features

- Intercom on page 292
  - Ringdown Extension follows the voice-announce status of destination extension. For example, if an extension usually voice-announces Intercom calls, a ringdown to that extension will also voice-announce.
- Ringing Line Preference on page 432
  - Ringing Line Preference has precedence over Ringdown Extension. If Ringing Line Preference is ringing the phone, lifting the handset answers the call. Lifting the handset does not call the Ringdown destination.
- Voice Mail (IntraMail) on page 516
  - If the Ringdown destination is the voice mail master number, the Ringdown Extension user hears the voice mail remote logon prompt (“*Please enter your mailbox number*”) after the call connects.

IntraMail Features

- None.

Programming Ringdown Extension

Setting Up Ringdown Extension
Set the Ringdown Extension type and destination.

1. 2114-02: Station Ring Down Type Stations: Config: Options: OffHook (2114): Ring Down: Type]

Use this option to assign the Ringdown Extension type.

Options	Description
0	[Default] None.
1	Extension.
2	Personal Speed Dial.
3	System Speed Dial.

2. 2114-02: Station Ring Down Type Stations: Config: Options: OffHook (2114): Ring Down: Destination]

For the type entered in the previous step, use this option to enter the ringdown destination.

Options	Description
0	[Default] None. For type 1 (extension) ringdown: • Extension number. • UCD Group master number (700-707). • Voice Mail master number (700). • Ring Group master number (600-607). For type 2 (Personal Speed Dial) Ringdown: • Personal Speed Dial number (#701-#720). For type 3 (System Speed Dial) Ringdown: • System Speed Dial number (#201-#299).

Ringing Line Preference

Simply lift the handset to answer a ringing call.

Description

Ringing Line Preference lets a keyset user answer a ringing call by just lifting the handset. For a user that primarily answers calls, Ringing Line Preference ensures that ringing calls have priority. The tables below show the interaction between Ringing Line Preference and other features for both handset and headset calls.

Feature	Keyset		Attendant	
	RLP = Y	RLP = N	RLP = Y	RLP = N
	Does lifting the handset answer the ringing call?			
Intercom on page 292 (Ringing Intercom calls)	Yes	Yes	No[1]	No[1]
Key Ring on page 295 (Line/Loop Keys)	Yes	No	Yes	No
Transfer on page 497	Yes	No	Yes	No
Direct Inward Line on page 177	Yes	No	Yes	No
Group Ring on page 268	Yes	Yes	N/A	N/A
Extension Hunting on page 233 (Call to UCD master)	Yes	Yes	No[1]	No
Call Coverage Keys on page 63	No	No	No	No
Group Call Pickup on page 263	No	No	No	No
[1]Ringing Line Preference will not answer a call ringing the Operator Call Key.				

Feature	Keyset		Attendant	
	RLP = Y	RLP = N	RLP = Y	RLP = N
	Does pressing SPEAKER while in the Headset mode answer the ringing call?			
Intercom on page 292 (Ringing Intercom calls)	Yes	Yes	No[1]	No[1]
Key Ring on page 295 (Line/ Loop Keys)	Yes	No	Yes	No

Transfer on page 497	Yes	No	Yes	No
Direct Inward Line on page 177	Yes	No	Yes	No
Group Ring on page 268	Yes	Yes	N/A	N/A
Extension Hunting on page 233 (Call to UCD master)	Yes	Yes	No[1]	No[1]
Call Coverage Keys on page 63	No	No	No	No
Group Call Pickup on page 263	No	No	No	No
[1]Ringing Line Preference will not answer a call ringing the Operator Call Key.				

When multiple calls ring an extension simultaneously, the system services the ringing calls in the following order:

1. **INTERCOM** Key
2. Line Key (from lowest to highest)
3. Loop Key (from lowest to highest)

In addition, if two extensions with Ringing Line Preference answer the same outside call simultaneously, the system connects the call to the lowest numbered extension.

Prime Line vs. Ringing Line Preference

Ringing Line Preference has priority over Prime Line. For example, an extension with Ringing Line Preference will answer a ringing line, not get dial tone on their Prime Line. In addition, a ringing Prime Line will have priority over any other ringing line. The seize priority is as follows:

1. Ringing Prime Line
2. Ringing non-Prime Line
3. Prime Line

conditions and Defaults

Conditions

- None.

Default Setting

- Enabled

Other Related Features

Features

- Attendant Call Queuing (Intercom Queue Key) on page 34
  - Ringing Line Preference will not answer a call ringing the Operator Call Key.
- Intercom on page 292

- Ringing Line Preference answers a ringing Intercom call before a ringing outside call.

- Prime Line Preference on page 406
  - Prime Line Preference overrides Ringing Line Preference. For example, if you lift the handset while a call is ringing your phone, you seize your Prime Line instead of answering the ringing call.
- Ringdown Extension on page 430
  - Ringing Line Preference has precedence over Ringdown Extension. If Ringing Line Preference is ringing the phone, lifting the handset answers the call. Lifting the handset does not call the Ringdown destination.

IntraMail Features

- None.

Programming Ringing Line Preference

Setting Up Ringing Line Preference
Enable the Ringing Line Preference option.

1. 2111-04: Ringing Line Preference [Stations: Config: Options: Features (2111): Ringing Line Pref]

Use this option to enable Ringing Line Preference for the extension.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. If enabled, the user just lifts the handset to answer the ringing call.

Room Monitor

Room Monitor lets you monitor the sounds at another extension.

Description

Use Room Monitor to monitor the sounds at another extension. A typical residential application is to use Room Monitor to listen for sounds in an infant's room. In a commercial setting, you can use Room Monitor to monitor for activity at a reception area or warehouse entrance. To set up Room Monitor:

1. Enable Room Monitor at the keyset extension to be monitored.
2. From any other extension, place an Intercom call to the extension you wish to monitor.

The *monitoring extension* user can hear everything picked up by the monitored extension's microphone. They can place and answer calls normally and automatically return to monitoring when they hang up. Additionally, the user can press a soft key to make an Intercom call to the monitored extension, or press a different soft key to end monitoring and return to normal operation.

The *monitored extension* is completely dark and quiet except for illuminated (green) **INTERCOM** and **DND** keys. Incoming ringing, paging, and voice announcements are disabled and the Feature Key LEDs are off. The monitored extension user can place calls and return automatically to being monitored when they hang up. In addition, the user can press a soft key to make an Intercom call to the monitoring extension, or press a different soft key to end the Room Monitor session.

Up to 7 extensions can simultaneously monitor the same extension. Each extension in a Room Monitor session (including the monitored extension) uses a system Conference circuit. This means that the maximum number of extensions in a Room Monitor session (8) uses up 8 Conference circuits.

Room Monitor with Call Coverage, Hotline, or Reverse Voice Over Keys

Call Coverage, Hotline, and Reverse Voice Over keys simplify Room Monitor operation by providing one-button access and a unique Busy Lamp Field (BLF) for the monitored extension. See the following chart:

Call Coverage, Hotline, and Reverse Voice Over Key Busy Lamp Indications		
When the key is:	Room Monitor at the destination is:	The covered extension is:
Off	Disabled	Idle
On (red)	Disabled	Busy on a call (all types) or ringing (Hotline and Reverse Voice Over only) (Also see Slow Flash below)
On (orange)	Enabled	Idle or being monitored by another extension
On (green)	Enabled	Being monitored by you
Slow Flash (red)	Disabled	(Call Coverage key only) Ringing for an incoming call

Conditions and Defaults

Conditions

- None.

Default Setting

- Room Monitor is allowed at all keyset extensions.

Other Related Features

Features

- Background Music on page 55
  - Background Music is not available at the monitored extension while it is being monitored.
- Call Coverage Keys on page 63
  - If you have a Call Coverage Key for an extension with Room Monitor enabled, you can press the key to monitor the extension.
- Call Forwarding on page 71
  - An extension user can forward their phone to an extension that has Room Monitor capability, but the forwarding will not go through if the destination has Room Monitor enabled.
- Hotline on page 285
  - If you have a Hotline Key for an extension with Room Monitor enabled, you can press the key to monitor the extension.
- Reverse Voice Over on page 427
  - If you have a Reverse Voice Over Key for an extension with Room Monitor enabled, you can press the key to monitor the extension.
- Single Line Telephones on page 444
  - Single line extensions can use Room Monitor.
- Transfer on page 497
  - You cannot Transfer a call to an extension that has Room Monitor enabled.
- User Programmable Features on page 508
  - User Programmable Features are not available at an extension that has Room Monitor enabled.

IntraMail Features

- None.

Programming Room Monitor

Setting Up Room Monitor
Allow an extension to Room Monitor another extension.

1. 1401-14: Allow Room Monitor [System: Class of Service: Features: Features (1401): Allow Room Monitor]

If enabled, this option allows an extension to Room Monitor another extension.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Save Number Dialed

Save the number you just dialed for quick redialing.

Description

Save Number Dialed permits an extension user to save their last outside number and easily redial it later on. For example, an extension user can recall a busy or unanswered number without manually dialing the digits. The system retains the saved number until the user stores a new one in its place.

Save Number Dialed saves in system memory a dialed number up to 20 digits. The system remembers the digits regardless of whether the call was answered, unanswered or busy. The system normally uses the same line as for the initial call. However, if that line is busy and is part of a Line Group, Save Number Dialed will automatically select the next line in the group. The user can also preselect a specific line if desired.

Save Number Dialed requires a uniquely programmed Feature Key on the extension or DSS Console.

Conditions and Defaults

Conditions

- None.

Default Setting

- No Save keys programmed.

Other Related Features

Features

- Account Codes on page 21 and Last Number Redial on page 299
  - Last Number Redial and Save do not store Account Codes. This means that the user must manually enter an Account Code to have it included with a call dialed using Last Number Redial and Save.
- Central Office Calls, Placing on page 128
  - Save an outside number, then easily redial it later on.
- Direct Station Selection (DSS) Console on page 187
  - A DSS Console can have a Save key.
- Last Number Redial on page 299
  - Last Number Redial also simplifies dialing important numbers.
- Line Queuing / Line Callback on page 309
  - If an extension user presses their Save key and hears busy, they can dial 2 to wait in line for the line to become available. The system will automatically redial the call. However, if the user hangs up to convert the queue to a Line Callback, the system will not redial the saved call once the line connects.
- Single Line Telephones on page 444

- Save Number Dialed is not available to SLTs.

- Toll Restriction on page 488
  - Save Number Dialed will not store a number denied by Toll Restriction.

IntraMail Features

- None.

Programming Save Number Dialed

Setting Up Save Number Dialed Feature Keys

1. Set up a Save Number Dialed key on an extension.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

For Save Number Dialed, assign key code 25 to an available extension Feature Key.

Options	Description
25	Save Number Dialed.
-	[Default] = no Save Number Dialed keys assigned.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

There is no key data required for this key type.

Options	Description
-	[Default] = no data assigned.

2. Set up a Save Number Dialed key on a DSS Console.

1. 2402-[01-60]: DSS Console Key Codes [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

For Save Number Dialed, assign key code 25 to an available DSS Console Feature Key.

Options	Description
25	Save Number Dialed.
-	[Default] = no Save Number Dialed keys assigned.

2. 2402-[01-60]: DSS Console Key Data [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

There is no key data required for this key type.

Options	Description
-	[Default] = no data assigned.

Selectable Display Messaging

While you're away from the phone, callers can receive personalized text messages you set up.

Description

An extension user can select a preprogrammed Selectable Display Message for their extension. Keyset callers see the selected message when they call the user's extension. Selectable Display Messaging provides personalized text messaging. For example, an extension user could select the message "GONE FOR THE DAY." Any keyset user calling the extension would see the message. Other than displaying the message, the system puts the call though normally.

The are 16 Selectable Display Messages (01-16) set up in system programming. Messages 01-09 are preset by default, but can be changed to meet the site requirements. Messages 10-16 are initially undefined. Any message can be appended by the extension user. For example, a user could select message 09 (OUT UNTIL) and append the time they are expected back (e.g., 5:00). The total length of the message plus any user appended entries cannot exceed 18. Selectable Display Messages cannot begin with numbers.

Conditions and Defaults

Conditions

- None.

Default Setting

- See the table above.

Other Related Features

Features

Call Forwarding on page 71

- Enabling or canceling Call Forwarding cancels an extension's Selectable Display Messaging.

Removing Lines and Extensions from Service on page 425

- Removing and returning an extension to service does not cancel an extension's Selectable Display Messaging.

Single Line Telephones on page 444

- SLTs cannot use Selectable Display Messaging.

Speed Dial on page 448

- Personal Speed Dial keys can store the codes that enable Selectable Display Messaging.

IntraMail Features

- None.

The Default Selectable Display Messages

Default Messages

Following are the 16 default Selectable Display Messages.

Default Selectable Display Messages	
Option	**Default**
Message 01	**CALL** (plus 15 user entries)
Message 02	**BACK BY** (plus 12 user entries)
Message 03	**MEETING IN ROOM** (plus 4 user entries)
Message 04	**OUT TO LUNCH** (plus 7 user entries)
Message 05	GONE FOR THE DAY (plus 3 user entries)
Message 06	**ON VACATION** (plus 8 user entries)
Message 07	**ON BUSINESS TRIP** (plus 3 user entries)
Message 08	**IN A MEETING** (plus 7 user entries)
Message 09	**OUT UNTIL** (plus 10 user entries)
Message 10	Undefined (up to 20 characters)
Message 11	Undefined (up to 20 characters)
Message 12	Undefined (up to 20 characters)
Message 13	Undefined (up to 20 characters)
Message 14	Undefined (up to 20 characters)
Message 15	Undefined (up to 20 characters)
Message 16	Undefined (up to 20 characters)

Programming Selectable Display Messaging

Setting Up Selectable Display Messaging
Enable Selectable Display Messaging and Enter Messages.

1. 1406-02: Allow Call Forwarding [System: Class of Service: Call Forward: Call Forward (1406): Internal Call Fwd]

   Use this option to enabsle Internal Call Forwarding. This option must be enabled if an extension user wants to use Selectable Display Messaging.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 2501-[01-16]: Selectable Display Messages [Stations: Text Messages: Setup: Text (2501): Function Type]

This option allows you to customize the extension's Selectable Display Messages.

Options	Description
	When programming Selectable Display Message, see also: • The Default Selectable Display Messages on page 441 for the default Selectable Display Messages. • Name Programming Chart on page 351

Silent Monitor

Available. See Monitor / Silent Monitor on page 341 for more.

Single Line Telephones

Connect analog devices such as single line telephones and fax machines to the system.

Description

The system is compatible with 500 type (dial pulse) and 2500 type (DTMF) analog telephone devices. This includes on-premises single line telephones (SLTs), fax machines, and modems.

In DSX-40, SLTs connect to analog ports in the main equipment cabinet. In DSX-80/160, SLTs connect to SLIU PCBs. Each analog port provides power and ring voltage for the connected SLT. The analog ports use DTMF receivers. Each system provides 10 DTMF receivers that are shared by all connected analog ports.

Message Waiting

Both DSX-40 and DSX-80/160 support FSK Message Waiting lamps. DSX-80/160 also provides support for high voltage Message Waiting lamps – while DSX-40 does not.

Ringing For Incoming Calls

Single line extensions ring according to the settings in 2132-[01-64]: Line Ringing Stations: Config: Ring Assign: Line Ringing (2132): Ring Assignment]. It is not necessary to assign single line sets to Ring Groups to make them ring for incoming calls; they follow Key Ring instead.

- In DSX-80/160 by default, the first 16 extensions (300-315) ring (option 2) for lines 1-12 and flash (option 1) for lines 13-64. All other extensions have lamp only (no ringing) for all lines.
- In DSX-40 by default, all extensions (including single line sets) have immediate ring for all lines.

Ringer Equivalence Number (REN) Considerations

DSX-40

Single line telephones assigned to Key Ring or the same Ring Group will ring simultaneously. This is also true for single line telephones connected to the same port. Since the Ringer Equivalence Numbers of connected single line telephones are cumulative, you must do the following:

- Add up the RENs of all connected single line telephones.
- Be sure the total REN does not exceed 4 on any single port ***or*** system-wide.

Note that a REN of 1 is normal for an industry standard 2500 set with electromechanical ringer. Many phones with electronic ringers have significantly lower RENs. Check the label on the bottom of each single line telephone for the REN value.

DSX-80/160

Single line telephones assigned to Key Ring or the same Ring Group ring in pairs according to their SLIU PCB port assignment. For example, ports 1 and 2 ring together, followed by 3 and 4, 5 and 6, and finally 7 and 8. If the system has more than one SLIU PCB installed, the respective port pairs ring simultaneously on each card (e.g., ports 1 and 2 ring simultaneously on each PCB). The SLIU provides the capability to support this ringing arrangement, and REN calculations are not required. In DSX-80/160, there is ***not*** a REN limitation.

Conditions and Defaults

Conditions

- Dial Pulse (500 type) single line telephones cannot access any features that require the user to dial # or *.

- The system provides a pool of 10 DTMF receivers that are dynamically allocated as required.

Default Setting

- See Description above.

Other Related Features

Features

- Background Music on page 55
  - Background Music is not available to single line telephones.
- Conference on page 144
  - Single line telephones can use Conference.
- Do Not Disturb on page 217
  - Single line telephones cannot use DND.
- Flash on page 256
  - The Class of Service option *1403-01: Flash for Single Line Set* (page 635) allows you to enable or disable hookflash for analog single line extensions.
- Handsfree and Handsfree Answerback on page 271
  - Single line telephones do not have Handsfree and Handsfree Answerback capability.
- Headset Compatibility on page 274
  - Single line telephones do not have headset capability.
- Intercom on page 292
  - All Intercom calls to single line telephones ring.
- Last Number Redial on page 299
  - Last Number Redial is not available at single line telephones.
- Paging on page 367
  - Single line telephones can make Paging announcements, but cannot receive Paging announcements.
- Prime Line Preference on page 406
  - Single line telephones can use Prime Line Preference.
- Save Number Dialed on page 438
  - Save Number Dialed is not available to single line telephones.

IntraMail Features

- None.

Programming Single Line Telephones

Setting Single Line Telephone Options
Set the options for single line telephones.

1. 1403-02: Single Ring for Single Line Set [System: Class of Service: SLTs: SLTs(1403): Single Ring]

This program allows a single line telephone to follow the ringing pattern of the incoming line.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 1403-06: Loop Disconnect for Single Line Set [System: Class of Service: SLTs: SLTs(1403): Loop Disconnect]

Enable this option if the single line telephone requires a loop disconnect signal.

This option may be required if the single line extension is an answering machine.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

3. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Soft Keys

Available. See Interactive Soft Keys on page 291 for more.

Speed Dial

Instead of dialing a long telephone number to reach a client or customer, use Speed Dial instead. Also, store Intercom digits for quick access to commonly used features.

- Speed Dial on Prime Line is available in software versions 3.01 or higher.

Description

Speed Dial gives an extension user quick access to frequently called numbers. There are two types of Speed Dial: System and Personal. Speed Dial numbers can be up to 32 digits long, using 0-9, # and *. Every Speed Dial can have a programmed name up to 18 characters long. The name shows in the telephone display as the Speed Dial number dials out.

Speed Dial can store outside numbers and Intercom digits. The capability to store Intercom digits provides the user with “one-touch” access to features they use most often. For example, a user can have a Speed Dial number that simplifies forwarding calls to voice mail or a co-worker.

System Speed Dial

System Speed Dial gives every extension access to the same set of stored numbers. The system provides 999 System Speed Dial numbers. Users can access these numbers by pressing a uniquely programmed System Speed Dial Feature Key or by dialing the Speed Dial number. Depending on the system option selected (see *Programming* below), users have dial access to either 9, 99 or 999 System Speed Dial numbers.

Personal Speed Dial

Personal Speed Dial provides extensions with 20 numbers stored privately for their own use. The Personal Speed Dial keys on a DSS Console access the same numbers as the extension to which it is attached.

Unique Speed Dial Entries

In addition to the digits 0-9, # and *, you can enter the following for additional dialing options(might need definitions for the options):

For this option:	From system programming, press this key:	From user programming, press this key:
Flash	Feature Key 1	**FLASH**
Wait (not used)	Feature Key 2	**DND**
Pause	Feature Key 3	**MUTE**

Storing Line Routing in a Speed Dial Bin

When you program a Speed Dial number, you can select either a line or a Line Group over which the call should route. For example, you can enter 1 for line 1 or 90 for Line Group 90.

- If you enter a Line Group number, the system will follow the Line Group programming and select an available line in the group for the call.
- If you enter a line number and the line is busy when the Speed Dial number tries to dials out, the user hears busy tone. If their extension has Line Queuing, they can dial 2 to queue for a line to become free. If they hang up, the system converts the queue to a Line Callback.

- The capability to dial 90-98 to select a Line Group for a Speed Dial call is a permanent feature and not affected by programming.

Centrex Compatibility

Speed Dial offers unique compatibility with connected Centrex services. A Speed Dial number can accommodate *both* placing a new call *and* outdialing the stored Speed Dial number on an active Centrex line. This enables features such as Centrex Transfer and Conference. Speed Dial adheres to the following rules.

1. When a user active on an outside call presses **TRANSFER** and selects a Speed Dial number (using any method), the system examines the contents of the stored Speed Dial bin.
2. If the first entry in the number is an **F** (Flash command), the system flashes the connected line and outdials the contents of the number (ignoring the line selection associated with the bin).

Note that this unique Centrex integration also pertains to voice mail ports accessing stored Speed Dial numbers.

Chaining numbers for Dialing Long Numbers

A Speed Dial number can be up to 32 digits long. The system allows this by automatically using the next adjacent number for entries longer than 16 digits. For example, assume you want to store a Personal Speed Dial number for a banking service (203-926 5400) followed by a pause and your 10 digit customer code (9876543210). If you store the entries in number 701, the following occurs:

- The system stores the first 16 digits (203 926 5400 Pause 98765) in number 701.
- The system stores the remaining digits (43210) in number 702.

Chaining Notes

- In the above example, number 702 is inaccessible for viewing, programming, or dialing. It only becomes available if you reprogram number 701 to be 16 digits or less.
- Since number 720 is the last Personal Speed Dial number, it can contain only 16 digits.

Manually Dialing After Speed Dial on T1 Lines

When using a tie line or an outgoing DID line for Speed Dial, Auto Redial, Last Number Redial, or Save, the user can manually dial additional digits as soon as the stored number dials out.

Answer Supervision

Answer Supervision is only available with T1 lines. It applies to:

- T1 E&M lines (tie line)
- T1 DID lines when used for outgoing calls

Answer Supervision is not available on analog lines. On these types of lines, the user can dial additional digits as soon as the last digit of the stored number dials out.

Speed Dial on Prime Line

[3.01] Speed Dial numbers have the option of dialing out over an extension's Prime Line (in addition to using the Intercom, Line, or Line Group selections). The Prime Line option is chosen when setting up the Speed Dial entry from either user or system programming. When the user selects the Speed Dial entry, the system will access the extension's Prime Line and dial the stored number.

The Prime Line option is available for both System and Personal Speed Dial. To select the Prime Line option for a Personal Speed Dial entry, the user dials ***** instead of selecting Intercom, Line, or Line Group.

If the Speed Dial entry has Prime Line specified, and the extension is using Intercom Prime Line, the stored number will dial out over the "dial 9" line group.

Conditions and Defaults

Conditions

- None.

Default Setting

- Dial access to 99 System Speed Dial numbers (201-299).
- All extensions can use System Speed Dial, but only extension 300 can program.
- All numbers are empty and no names are programmed.

Other Related Features

Features

- Account Codes on page 21
  - An extension user can store an Account Code in a Speed Dial number. See Using Account Codes and Speed Dial on page 21 for more.
- Central Office Calls, Placing on page 128
  - You can store outside numbers in Speed Dial numbers for quick access to frequently called numbers.
- Check Key on page 139
  - Check Personal Speed Dial number assignments.
- Direct Station Selection (DSS) Console on page 187
  - The DSS Console Personal Speed Dial numbers are the same as the extension to which the console is attached. This means that DSS Consoles that share the same block number still have unique Personal Speed Dial.
- Toll Restriction on page 488
  - The system enforces Toll Restriction on Speed Dial numbers as they are dialed, not as they are stored.
- Voice Over on page 521
  - An extension user can Voice Over after calling a co-worker by using Personal Speed Dial.

IntraMail Features

- None.

Programming System Speed Dial

Setting up numbers and Entering Numbers

1. Set the number of *dialable* System Speed Dial numbers.

1. 1701-01: # of SP Dials System: Speed Dial: Setup: Format (1701): Number of Dialable Speed Dials:

   The ***dialable*** number range can be one of the following:

   - 21-29 (9 numbers - option 1)
   - 201-299 (99 numbers - option 2)

- 2001-2999 (999 numbers - option 3)

Options	Description
1	9 system numbers (dialable numbers 21-29) • These correspond to numbers 001-009 set in 1702-[001-999]: Select System Speed Dial number to Program [N/A].
2	[Default] 99 system numbers (dialable numbers 201-299). • These correspond to numbers 001-099 set in 1702-[001-999]: Select System Speed Dial number to Program [N/A].
3	999 system numbers (dialable numbers 2001-2999). • These correspond to numbers 001-999 set in 1702-[001-999]: Select System Speed Dial number to Program [N/A].

2. The number of numbers set in 1701-01: # of SP Dials System: Speed Dial: Setup: Format (1701): Number of Dialable Speed Dials: only affects the number of ***dialable*** bins. The system always has 999 System Speed Dial numbers that you can program and set up under System Speed Dial keys.

2. Set up System Speed Dial numbers from system programming.

1. 1702-[001-999]: Select System Speed Dial number to Program [N/A]

   Use this option to select the number you want to program (001-999)

   By default, the ***dialable*** number range corresponds to the first 99 numbers (001-099).

Options	Description
001-999	Select the number you want to program.

2. 1702-[001-999]: System Speed Dial Type [System: Speed Dial: Setup: Assignment (1702): Type]

   For the selected bin, enter the number type (Intercom, Line, Line Group, or Extend).

Options	Description
0	[Default] None.
1	Intercom. (Go to step 5.)
2	Line. (Go to step 3.)
3	Line Group. (Go to step 4.)
4	Extend (the second number in a chained number).
5	*[3.01]* Prime (the number will be dialled on the extension's Prime Line).

3. 1702-[001-999]: System Speed Dial Line [System: Speed Dial: Setup: Assignment (1702): Line/Group]

   For number type 2 only , enter the line on which the stored System Speed Dial number will dial.

Options	Description
1-64	Lines 1-64. [Default] = line 1.

4. 1702-[001-999]: System Speed Dial Line Group [System: Speed Dial: Setup: Assignment (1702): Line/Group]

   For number type 3 only , enter the Line Group on which the stored System Speed Dial number will dial.

Options	Description
90-98	Line Groups 90-98. [Default] = group 90.

5. 1702-[001-999]: System Speed Dial Number [System: Speed Dial: Setup: Assignment (1702): Number]

   Use this option to enter the Speed Dial number for the selected bin.

   - A Speed Dial digit longer than 16 digits automatically overflows into the next adjacent bin.

Options	Description
Digits	Digits using 0-9, # and * (16 max without overflowing into next adjacent bin). [Default] = no entry.
Flash	Press Feature Key 1.
Wait	Press Feature Key 2.
Pause	Press Feature Key 3.

6. 1702-[001-999]: System Speed Dial Name [System: Speed Dial: Setup: Assignment (1702): Name]

   Use this option to enter the Speed Dial name (up to 18 characters).

   See Name Programming Chart on page 351for more.

Options	Description
Alphanumeric	Alphanumeric characters (18 max.). [Default] = no entry.

3. Set up the extension options for System Speed Dial.

1. 1401-01: Company Speed Dial Access [System: Class of Service: Features: Features (1401): System Speed Dial Access]

   Enable this option if the extension should be able to use System Speed Dial numbers.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15.

Options	Description
	[Default] for extension 300 = 1. [Default] for all other extensions = 2.

3. 2102-04: User Programming Access Level [Stations: Config: Setup: Access (2102): Program Level]

   Extensions with User Programming Access Level 4 or 5 can store System Speed Dial numbers.

Options	Description
1-5	Access levels 1-5. [Default] = 5 for 300, 3 for all other extensions.

4. Programming Outside Line Type, Access, and Ringing on page 130

   Check the extension's line access options.

5. Line Groups on page 305

   Check the extension's Line Group options.

Programming Personal Speed Dial

Entering Personal Speed Dial Numbers
1. Set up Personal Speed Dial numbers from system programming.

1. 2151-[01-20]: Personal Speed Dial Type Stations: Config: Speed Dials: Assignment (2151): Type]

   For the selected bin, enter the number type (Intercom, Line, Line Group, or Extend).

Options	Description
0	[Default] None.
1	Intercom. (Go to step 4.)
2	Line. (Go to step 2.)
3	Line Group. (Go to step 3.)
4	Extend (the second number in a chained number).
5	*[3.01]* Prime (the number will be dialled on the extension's Prime Line).

2. 2151-[01-20]: Personal Speed Dial Line Stations: Config: Speed Dials: Assignment (2151): Line/Group]

   For number type 2 only , enter the line on which the stored Personal Speed Dial number will dial.

Options	Description
1-64	Lines 1-64. [Default] = line 1.

3. 2151-[01-20]: Personal Speed Dial Group Stations: Config: Speed Dials: Assignment (2151): Line/Group]

   For number type 3 only , enter the Line Group on which the stored Personal Speed Dial number will dial.

Options	Description
90-98	Line Groups 90-98. [Default] = group 90.

4. 2151-[01-20]: Personal Speed Dial Number Stations: Config: Speed Dials: Assignment (2151): Number]

   Use this option to enter the Speed Dial number for the selected bin.

   - A Speed Dial digit longer than 16 digits automatically overflows into the next adjacent bin.

Options	Description
Digits	Digits using 0-9, # and * (16 max without overflowing into next adjacent bin). [Default] = no entry.
Flash	Press Feature Key 1.
Wait	Press Feature Key 2.
Pause	Press Feature Key 3.

5. 2151-[01-20]: Personal Speed Dial Name Stations: Config: Speed Dials: Assignment (2151): Name]

   Use this option to enter the Speed Dial name (up to 18 characters).

   See Name Programming Chart on page 351for more.

Options	Description
Alphanumeric	Alphanumeric characters (18 max.). [Default] = no entry.

3. Set up the extension options for Personal Speed Dial.

1. 2111-09: Personal Speed Dial Stations: Config: Options: Features (2111): Personal Speed Dial]

   Enable this option if the extension should be able to use Personal Speed Dial.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. Programming Outside Line Type, Access, and Ringing on page 130

   Check the extension's line access options.

3. Line Groups on page 305

   Check the extension's Line Group options.

Programming Speed Dial Feature Keys

Setting Up System Speed Dial Feature Keys

1. Set up System Speed Dial Feature Keys on an extension.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

Assign key code 14 to an available Feature Key.

Options	Description
14	System Speed Dial
-	[Default] = no System Speed Dial keys assigned.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

The key data for a System Speed Dial key is the number number (001-999).

Use the number number from 1702-[001-999]: System Speed Dial Number [System: Speed Dial: Setup: Assignment (1702): Number]. ***Do not*** use the dialable number number (201-299 by default).

Options	Description
001-999	System Speed Dial number number.
-	[Default] = no data assigned.

2. Set up System Speed Dial Feature Keys on a DSS Console.

1. 2402-[01-60]: DSS Console Key Codes [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

Assign key code 14 to an available Feature Key.

Options	Description
14	System Speed Dial
-	[Default] = no System Speed Dial keys assigned.

2. 2402-[01-60]: DSS Console Key Data [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

The key data for a System Speed Dial key is the number number (001-999).

Use the number number from 1702-[001-999]: System Speed Dial Number [System: Speed Dial: Setup: Assignment (1702): Number]. ***Do not*** use the dialable number number (201-299 by default).

Options	Description
001-999	System Speed Dial number number.
-	[Default] = no data assigned.

Setting Up Personal Speed Dial Feature Keys

1. Set up Personal Speed Dial Feature Keys on an extension.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

Assign key code 15 to an available Feature Key.

Options	Description
15	Personal Speed Dial
-	[Default] = no Personal Speed Dial keys assigned.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

   The key data for a Personal Speed Dial key is the number number (01-20).

Options	Description
01-20	Personal Speed Dial number number.
-	[Default] = no data assigned.

2. Set up Personal Speed Dial Feature Keys on a DSS Console.

1. 2402-[01-60]: DSS Console Key Codes [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

   Assign key code 15 to an available Feature Key.

Options	Description
15	Personal Speed Dial
-	[Default] = no Personal Speed Dial keys assigned.

2. 2402-[01-60]: DSS Console Key Data [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

   The key data for a System Speed Dial key is the number number (01-20).

Options	Description
01-20	Personal Speed Dial number number.
-	[Default] = no data assigned.

Programming Other Speed Dial Options

Setting Up Timers That May Affect Speed Dial
Set timers for pause, Flash, and Dial Tone Detection.

1. 1602-04: Dial Pause Timer [System: Timers: Features: Outgoing (1602): Dial Pause]

   If a Speed Dial number contains a pause, check the duration and adjust this timer if necessary.

Options	Description
0	Disabled.
1-9999	1-9999 seconds. [Default] = 1 second.

2. 1612-04: PBX/Centrex Flash Timer [System: Timers: CO Interface Card: Outgoing (1612): Loop Flash Time]

   If a Speed Dial number contains a Flash, check the duration and adjust this timer if necessary.

Options	Description
16-4080	16-4080 mS. [Default] = 800 mS.

3. 1602-03: Dialtone Detect Timer [System: Timers: Features: Outgoing (1602): DialTone Detect]

If Speed Dial is having trouble detecting dial tone, check the duration and adjust this timer if necessary.

Options	Description
1-9999	1-9999 in 100 mS increments (e.g., 10 = 1 second, 100 = 10 seconds). [Default] = 20 (2 seconds).

Split (Alternate)

Switch between active calls without Conferencing the calls together.

Description

With Split, an extension user can split (alternate) between a current call and a new call. Split lets the extension user easily alternate between the calls without joining (Conferencing) the parties together.

Conditions and Defaults

Conditions

- None.

Default Setting

- Split disabled (no Split keys programmed).

Other Related Features

Features

- Call Waiting / Camp-On on page 93
  - Camp-On lets an extension user know that a call is waiting to be answered. The user can Split between the waiting call and their current call.
- Direct Station Selection (DSS) Console on page 187
  - A DSS Console can have a Split key.
- Off-Hook Signaling on page 362
  - An extension user can alternate between their active call and their waiting call.

IntraMail Features

- None.

Programming Split (Alternate)

Setting Up Split Feature Keys
1. Set up a Split key on an extension.

1. 2121-[01 to 24]: Feature Key Codes Stations: Config: Feature Keys: Assignment (2121): Function Type]

Assign key code 20 to an available Feature Key.

Options	Description
20	Split key.

Options	Description
-	[Default] No Split keys assigned.

2. 2121-[01 to 24]: Feature Key Data Stations: Config: Feature Keys: Assignment (2121): Function Type]

There is no key data required.

Options	Description
-	[Default] = no data assigned.

2. Set up a Split key on a DSS Console.

1. 2402-[01-60]: DSS Console Key Codes [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

Assign key code 20 to an available Feature Key.

Options	Description
20	Split key.
-	[Default] No Split keys assigned.

2. 2402-[01-60]: DSS Console Key Data [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type]

There is no key data required.

Options	Description
-	[Default] = no data assigned.

Station Key Telephones

System keysets provide a host of sophisticated extension features.

Description

The system offers 22-Button, 34-Button, and Super Display keyset telephones. All telephone models are available in two colors: black and white.

22-Button Display Telephone with Speakerphone

The 22-Button Display Telephone features a large 3 line- by-24 character alphanumeric display with 4 Interactive Soft Keys for intuitive feature access. It also provides 10 Personal Speed Dial number keys, 12 programmable Feature Keys and 12 fixed function keys for streamlined operation. Additionally, this telephone offers a headset jack and built-in speakerphone. Unique features include dual LEDs, built-in wall mounting, and an innovative two position angle adjustment.

34-Button Backlit Display Telephone with Speakerphone

The 34-Button Display Telephone features a large 3 line- by-24 character backlit alphanumeric display with 4 Interactive Soft Keys for intuitive feature access. It also provides 10 Personal Speed Dial number keys, 24 programmable Feature Keys and 12 fixed function keys for streamlined operation. Additionally, this telephone offers a backlit keypad, a headset jack, and built-in speakerphone. Unique features include dual LEDs, built-in wall mounting, and an innovative two position angle adjustment.

34-Button Backlit Super Display Telephone with Half-Duplex Speakerphone

The Super Display Telephone is the system's most sophisticated telephone instrument. It features a large 9 line-by-24 character backlit alphanumeric display with 12 Interactive Soft Keys for intuitive feature access. It also provides 10 Personal Speed Dial number keys, 24 programmable Feature Keys and 12 fixed function keys for streamlined operation. Additionally, this telephone offers a built-in half duplex speakerphone (with no external speaker or microphone required), a backlit keypad, and a headset jack. Unique features include dual LEDs, built-in wall mounting, and an innovative two position angle adjustment.

34-Button Backlit Super Display Telephone with Full-Duplex Speakerphone

This telephone is similar to the standard Super Display Telephone model except that it offers a built-in full-duplex speakerphone (with no external speaker or microphone required). To ensure the best possible speakerphone performance, the full-duplex option is automatically disabled for incoming voice-announced Intercom calls. Additionally, full-duplex operation can be turned off in programming if background noise levels preclude effective full-duplex operation.

Ring/Message Lamp

Each keyset has a Ring/Message Lamp. Located on the upper right of the keyset faceplate, the Ring/Message Lamp indicates for the following features:

For this feature:	The lamp does this:
Caller ID Logging	Double-wink on (green) when there is a new Caller ID record that has not been reviewed
Central Office Calls, Answering	Slow flash (green) as call rings
Direct Inward Line	Slow flash (green) as call rings
Hold	Slow flash (green) during Hold recall
Intercom	Slow flash (green) as call rings
Message Waiting	Fast flash (red) when user has a Message Waiting indication left
Park	Slow flash (green) during Park recall
Transfer	Slow flash (green as call rings) and during Transfer recall
Voice Mail	Fast flash (red) when messages are waiting in mailbox

Conditions and Defaults

Conditions

- None.

Default Setting

- Digital station ports automatically detect the type of connect device when the keyset is plugged in.

Other Related Features

- None.

Programming Station Circuit Types

Setting Up Station Circuit Types
Station Circuit Type Auto-ID

1. 2101-01: Station Type [Stations: Config: Setup: Type (2101): Type]

   The system automatically detects the following circuit types when a device is connected to a digital station port.

Options	Description
00	Undefined
01	DSX 22 Button
02	DSX 34 Button
03	DSX Super Display
04	DS 22 Button Non-display
05	DS 22 Button Display
06	DS 34 Button
07	DS Super Display
08	Cordless Telephone
09	Single Line Telephone
10	2PGDAD Module Analog Door Box
12	2PGDAD Module Audio Port

2.
3. For more on setting up 2PGDAD Modules, see Programming 2PGDAD Module Station Ports on page 390.

Station Message Detail Recording

SMDR provides a printed record of your calls.

Description

Station Message Detail Recording (SMDR) provides a record of the system's outside calls. Typically, the record outputs to a customer-provided printer, terminal or SMDR data collection device. SMDR allows you to monitor the usage at each extension and line. This makes charge-back and traffic management easier. SMDR includes both incoming and outgoing calls, and can be turned off system-wide or selectively for each line.

The SMDR call record outputs when the call completes. The system assigns the SMDR record to the last extension on the call. For example, if extension 306 answers the call, talks for 20 minutes, and then transfers the call to extension 302, extension 302 "owns" the entire call record as soon as they hang up.

SMDR requires a customer-provided data collection device connected to the system's RS-232 port. The default baud rate is 38,400. The data format is fixed at 8 data bits, no parity, with one stop bit (8N1). Connection requires:

- Adaptor P/N 1091014 to connect to the 9-pin RS-232 port on the data collection device.
- A standard 6-conductor line cord to connect the adaptor to the system's RS-232 port.

SMDR does not buffer records when the data collection device is disconnected.

Call Duration Independent of System Clock

The duration of a call on the SMDR report is calculated independently of the system clock. This prevents changes made to the system Time and Date from inaccurately reporting the call duration after the Time and Date change. The automatic Daylight Savings Time adjustment also will not affect the call duration.

Sample SMDR Report

Following is a sample SMDR report:

```
Station Message Detail Recording
09/07/2005 09:10P
---+---+-------------------------------+----------+----------+----------+----
Sta|Lin|        Number Dialed          |  Account |   Start   | Duration  |
T
---+---+-------------------------------+----------+----------+----------+----

306| 01|                   12039265400 |          | 09:10:18P | 00:00:05  |OUT
306| 01|                   19055072888 |          | 09:10:48P | 00:01:13  |OUT

301| 02|                             - |          | 09:12:13P | 00:01:12  |IN

304| 01|                             - |          | 09:12:07P | 00:01:20  |IN

306| 01|                   18003651928 |          | 09:15:38P | 00:00:14  |OUT
```

SMDR Report Definitions

SMDR Report Definitions	
Sta	The extension that placed or answered the call
Lin	The line used for the call

Number Dialed	For outgoing calls, the number dialed on the line (up to 20 digits)
Account	Account code
Start	The time the call was initially answered
Duration	The total duration of the call
T	OUT = Outgoing outside call IN = Incoming outside call RNA = line that rang but was not answered

SMDR Report Format

SMDR Report Format		
Line	**Character**	**Field**
Report Start Header		
1	1-32	STATION MESSAGE DETAIL RECORDING
	33,34	Carriage return, line feed
2	1-10	Date (mm/dd/yyyy)
	11	Space
	12-16	Time (hh:mm:ss)
	17	A (for am) or P (for pm)
	18,19	Carriage return, line feed
3	1,2	Carriage return, line feed
Call Record Header		
1	1-3	- characters
	4	+ character
	5-7	- characters
	8	+ character
	9-40	- characters
	41	+ character
	42-51	- characters
	52	+ character
	53-61	- characters
	62	+ character
	63-70	- characters
	71	+ character
	72-74	- characters
2	1-3	Sta

	4	| character
	5-7	Lin
	8	| character
	9-40	(9 spaces) Number Dialed (10 spaces)
	41	| character
	42-51	(2 spaces) Account (1 space)
	52	| character
	53-61	(2 spaces) Start (2 spaces)
	62	| character
	63-70	Duration
	71	| character
	72	Space
	73	T
	74	Space
3	1-3	- characters
	4	+ character
	5-7	- characters
	8	+ character
	9-40	- characters
	41	+ character
	42-51	- characters
	52	+ character
	53-61	- characters
	62	+ character
	63-70	- characters
	71	+ character
	72-74	- characters
Call Record		
1	1-3	Extension number
	4	| character
	5-7	Line number (2 digits, right justified, preceded by one space)
	8	| character
	9-40	Number dialed (up to 20 characters, right justified, preceded by spaces)

	41	| character
	42-51	Account Code (right justified, preceded by spaces)
	52	| character
	53-61	Start time of call (hh:mm:ssA or P)
	62	| character
	63-70	Duration of call (hh:mm:ss)
	71	| character
	72-74	Type of call

Conditions and Defaults

Conditions

- None.

Default Setting

- SMDR output disabled.

Other Related Features

Features

- Account Codes on page 21
  - Account Codes print on the SMDR report.
- Call Timer on page 89
  - The Call Timer also helps users keep track of their time on the phone.
- Caller ID on page 101
  - Caller ID prints out on the SMDR report.
- Language Selection on page 297
  - The language of the SMDR header and the data in the SMDR Call Type (T) field can be either English or Spanish.
- Time and Date on page 484
  - Time and date appear on the SMDR report.
- Transfer on page 497
  - The system assigns the SMDR record to the last extension on the call. For example, if extension 306 answers the call, talks for 20 minutes, and then transfers the call to extension 302, extension 302 “owns” the entire call record as soon as they hang up.

IntraMail Features

- None.

Programming SMDR

Setting Up the SMDR Options

1. Enable the SMDR port and set the speed.

1. 1541-01: SMDR Port [System: Options: Setup: SMDR (1541): SMDR Port]

Enable the SMDR port to output SMDR data.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	SMDR Enabled.

2. 1101-01: Baud Rate [System: Config: Communication: RS232 (1101): Baud Rate]

Use this option to set the SMDR port baud rate for compatibility with the connected data collection device.

Options	Description
1	2400 baud.
2	9600 baud.
3	19,200 baud.
4	[default] 38,400 baud.
5	57,600 baud.

2. Set the SMDR data options.

1. 1541-02: Print SMDR Headers [System: Options: Setup: SMDR (1541): SMDR Headers]

Enable this option if the SMDR report should include a header for each new day.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 3111-06: Station Message Detail Recording [Lines: Config: Options: Features (3111): SMDR]

Use this option to include or exclude individual lines from the SMDR report.

Options	Description
No (0)	Disabled - line excluded from SMDR report.
Yes (1)	[Default] Enabled - line included in SMDR report.

3. 1541-03: SMDR Language [System: Options: Setup: SMDR (1541): Language]

Set the SMDR header language (English or Spanish).

Options	Description
1	[Default] English.
2	Spanish.

System Administrator (PC Program)

Available. See PC Program (System Administrator) on page 387 for more.

System Identification

Store the site name, telephone number, and installation date in the system data base.

Description

The system administrator can enter the site name, telephone number, and installation date into the system data base. This information is saved into system memory.

Conditions and Defaults

Conditions

- None.

Default Setting

- No entries.

Other Related Features

- N/A

Programming System Identification

System Programming Backup and Restore

Use a CompactFlash Card to back up and restore the site data.

Description

To prevent the loss of essential custom site programming, use a CompactFlash Card plugged into the IntraMail CompactFlash slot to back up the system database. If the need arises, you can restore the system database saved on the card. You can store the system database on the IntraMail CompactFlash Card or on a separate FAT16 or FAT32 formatted CompactFlash card. The entire system database uses about 500 Kbytes Of Compact Flash memory.

Conditions and Defaults

Conditions

- N/A.

Default Setting

- N/A.

Other Related Features

- None.

Programming Backup and Restore

Backing Up and Restoring Site Data
Secure site data with the backup and restore options.

1. 9041-01: Backup to CompactFlash [Utilities: Database: Backup to CF]

Use this option to backup the site data to a CompactFlash card.

Options	Description
No (0)	[Default] Do not start site database backup.
Yes (1)	Start site database backup.

2. 9042-01: Restore from CompactFlash [Utilities: Database: Restore from CF]

Once backed up, use this option to restore the site data from a CompactFlash card.

Options	Description
No (0)	[Default] Do not start site database restore.
Yes (1)	Start site database restore.

System Programming Password Protection

Control access to system programming.

Description

The system controls access to the programmable options according to the programming password the administrator enters. There are three password levels:

Logging On with this Password:	Gives you access to these programs:
System Administrator 1 (level 1) Password = 0000	• 1001-01: System Type [See the Tool Bar] • 1001-02: Software Version [See the Tool Bar] • 1001-03: DSP Version [N/A] • 1011-01: System Name [System: Config: Setup: Name (1011): System Name] • 1011-02: Telephone Number [System: Config: Setup: Name (1011): Phone Number] • 1021-01: System Time [System: Config: Setup: Date&Time (1021): Time] • 1021-02: System Date [System: Config: Setup: Date&Time (1021): Month : Day: Year] • 1022-01: Automatic Daylight Savings Time Setting [System: Config: Setup: Time Zone (1022): Auto DST] • (For the level accessed.) • 1701-01: # of SP Dials System: Speed Dial: Setup: Format (1701): Number of Dialable Speed Dials: • 1702-[001-999]: Select System Speed Dial number to Program [N/A] • ../../program2000/program2121-01_to_24_feature_key_codes.xml • 2122-[01 to 24]: Key Ring Override Stations: Config: Key Ring: Assignment (2122): Ring Type] • 2123-[01 to 24]: DSS/BLF Key Assignments Stations: Config: DSS Keys: BLF Assignment (2123): Extension] • 2124-[01-12]: Idle Menu Soft Key Assignments (Super Display) Stations: Config: Soft Keys: Assignment (2124): Type] • 2151-[01-20]: Personal Speed Dial Group Stations: Config: Speed Dials: Assignment (2151): Line/Group] • 2401-01: DSS Owner [Stations: DSS Consoles: DSS1: Association (2401): DSS Owner] • 2402-[01-60]: DSS Console Key Data [Stations: DSS Consoles: DSS1: Assignment (2402): Function Type] • 2501-[01-16]: Selectable Display Messages [Stations: Text Messages: Setup: Text (2501): Function Type]
System Administrator 2 (level 1) Password = 9999	
Installer (level 3) Password = NECDSX (632379)	All

Conditions and Defaults

Conditions

- When programming passwords, the system will enforce the *higher* level password if there are duplicate entries. For example, if you inadvertently set the level 3 (Installer) password the same as either level 1 (System Administrator 1) or level 2 (System Administrator 2), the system will enforce the level 3 password.

Default Setting

- See the table above.

Other Related Features

Features

- System Programming Backup and Restore on page 471
  - Back up your system programming to provide a permanent, non-volatile backup of all the site's programming.

IntraMail Features

- None

Programming System Programming Password Protection

Modifying the Passwords
Changing the level 1, level 2, and level 2 passwords.

1. 1031-01: New Password [System: Config: Password: Password (1031): System Administrator 1: System Administrator 2: Installer]

Use this option to modify the system passwords.

Options	Description
Digits	8 digits max, using 0-9, # and * • Level 1 [Default] = 0000 • Level 2 [Default] = 9999 • Level 3 [Default] = 632379 (NECDSX) .

2. To protect the integrity of the system, you should change the site passwords after the initial installation.

T1 Lines

In DSX-80/160, provides for connection to advanced digital lines and simplifies installation.

Description

T1 lines require a unique T1 PCB (P/N 80061) and give the system a maximum of 24 lines in a single PCB slot. The available T1 line types include:

- Loop Start (DTMF and Dial Pulse)
- Ground Start (DTMF and Dial Pulse)
- Direct Inward Dial (DID) Wink Start (DTMF and Dial Pulse)
- Direct Inward Dial (DID) Immediate Start (DTMF and Dial Pulse)
- E&M Tie Line Wink Start (DTMF and Dial Pulse)
- E&M Tie Line Immediate Start (DTMF and Dial Pulse)

T1 gives the system the advantages of advanced digital calling as well as conserving PCB slots. For example, you can set up a system with 12 loop start lines, six tie lines, and six DID lines and use only a single PCB slot. Additionally, the T1 PCB has its own on-board processor and DSP so it minimally impacts other system resources.

Note: Although the T1 PCB can connect directly to the telco's T1 smart jack, your telco may require that you purchase and install a separate Channel Service Unit (CSU). This unit installs between the smart jack and the T1 PCB.

ANI/DNIS Support

The system is compatible with telco's T1 Automatic Number Identification (ANI) and Dialed Number Information Service (DNIS) services. ANI/DNIS services can be provided on T1 loop start, ground start, and DID lines (but not E&M). ANI/DNIS Compatibility provides:

- **Selectable Receive Format**
  - You can set up the system for compatibility with any combination of ANI, DNIS and Dialed Number (Address) data provided by the telco.
- **Flexible Routing for DID Lines**
  - For DID lines, the system can route the incoming call based on the received DNIS data and the entries stored in the DID Translation Table. See Direct Inward Line on page 177 for more.
- **Caller ID**
  - The system can use the received ANI data to display the caller's number on the called extension's display. The ANI data can be up to 10 digits long.

FSK Caller ID

The T1 PCB can also receive FSK-based Caller ID (if provided by the telco), the same as the COIU (analog) line cards. To receive this type of Caller ID, you must enable DSP Caller ID for the T1 line circuits in programming.

Conditions and Defaults

Conditions

- None.

Default Setting

- Disabled.

Other Related Features

Features

- Direct Inward Dialing on page 163
  - Directly dial system extensions from outside the system.
- Tie Lines on page 480
  - Link two systems together for inter-system Intercom calling and other features.

IntraMail Features

- None.

Programming T1 Lines

Setting Up T1 Lines
1. Set up the T1 basics.

1. Be sure your T1 PCB is installed and connected, and that your telco is providing T1 service.
2. Review Programming Outside Line Type, Access, and Ringing on page 130 to be sure the T1 lines have the correct circuit type and DTMF dialing option.

   Also review the following T1 timers for compatibility with the connected telco.

   - *1631: T1 Incoming Call Timers*
   - *1632: T1 Outgoing Call Timers*
   - *1641: T1 Ring Detect Timers*
   - *1642: T1 Call Control Timers*

2. Set the T1 Compatibility Options.

1. 1213-01: Number of PCM Channels [System: Ports: Slot x: T1/PRI Slot Configuration (1213): Channels]

   Use this option to specify the number of active T1 channels.

Options	Description
0	[Default] All channels active.
1-24	The number of active T1 channels.

2. 1213-02: Clock Control [System: Ports: Slot x: T1/PRI Slot Configuration (1213): Clock]

   Use this option to specify the T1 clock source (internal from the PCB or external from the connected circuit).

Options	Description
1	[Default] Master (PCB uses its own internal clock).
2	Slave (PCB uses the clock provided by the connected telco circuit).

3. 1213-03: Transmit Pulse Amplitude [System: Ports: Slot x: T1/PRI Slot Configuration (1213): Signaling Type]

Use this option to control the amplitude of the T1 signal transmitted by the PCB.

- Entries 0-4 correspond to the distance from the T1 PCB to either the telco's smart jack or your CSU (depending on your installation).
- Alternately, you can use entries 5-7 which are fixed attenuation entries.
- It should be helpful to consult with your service provider before changing this entry.

Options	Description
1	[Default] 0-133 feet (0 dB).
2	133-266 feet
3	266-399 feet
4	399-533 feet
5	533-655 feet
6	-7.5 dB
7	-15 dB
8	-22.5 dB

4. 1213-04: Framer Type [System: Ports: Slot x: T1/PRI Slot Configuration (1213): ESF]

This option sets the T1 framer type.

- If you disable this option, T1 circuits use D3/D4 (12-Frame Multiframe mode which supports AB signaling bits only).
- If you enable this option, T1 circuits use ESF (Extended Super Frame) mode. This is a 24-Frame mode which provides ABCD signaling bits and additional diagnostics).

Options	Description
No (0)	Disabled (D3/D4).
Yes (1)	[Default] Enabled (ESF).

5. 1213-05: Zero Suppression [System: Ports: Slot x: T1/PRI Slot Configuration (1213): B8ZS]

Use this option to enable or disable zero suppression for the PCB transmit path.

- If enabled, the PCB uses B8ZS zero suppression.
- If disabled, the PCB has no transmit zero suppression

Options	Description
No (0)	Disabled (no zero suppression).
Yes (1)	[Default] Enabled (B8Z5 zero suppression).

6. 1213-06: Loopback Mode [System: Ports: Slot x: T1/PRI Slot Configuration (1213): Loopback]

   Use this option to enable T1 PCB loopback. Although loopbacks are generally used for factory testing, you may find Remote and Payload Loopback helpful for on-site troubleshooting.

Options	Description
0	[Default] Loopback disabled.
1	Metallic
2	Digital
3	Remote
4	ST-Bus
5	Payload

3. Set up the T1 Caller ID Options.

1. For T1 lines compatible with ANI/DNIS service, review Programming Caller ID on page 104
2. Telco T1 circuits may also provide FSK-based Caller ID. This is programmed as Caller ID Type 1.

Tandem Calls / Unsupervised Conference

Join two callers in Conference, leave the call and let their conversation continue.

Description

Tandem Calls allows an extension user to join two outside callers in a line-to-line conference. The extension user can then drop out of the call, leaving the lines in an Unsupervised Conference. The extension user that established the Conference is not part of the conversation. The Conference continues until either outside party hangs up.

Tandem Calls uses a Conference circuit. The following table shows the system's Conference capacities:

Description	Capacity
Conference circuits	32
Maximum simultaneous users in Conference (total of all Conferences system-wide)	32
Maximum simultaneous conferences	8
Maximum parties in any one Conference (lines and/or extensions)	8

The system's 32 Conference circuits are dynamically allocated as users request them.

Conditions and Defaults

Conditions

- None.

Default Setting

- Tandem Calls are disabled.

Other Related Features

Features

- Forced Line Disconnect on page 261
  - An extension user can end an Unsupervised Conference by using Forced Line Disconnect on one of the lines in the tandem call.
- Single Line Telephones on page 444
  - Tandem Calling is available at Single Line extensions.

The following features also allow different types of multiple party calls:

- Barge In (Intrusion) on page 58
- Conference on page 144
- Group Listen on page 266

- Meet-Me Conference on page 331
- Monitor / Silent Monitor on page 341
- Privacy Release Groups on page 415

IntraMail Features

- None.

Programming Tandem Calls / Unsupervised Conference

Setting Up the Tandem Calls Options
Enable Tandem Calls for lines and extensions.

1. 3103-04: Tandem Calls [Lines: Config: Setup: Settings (3103): Tandem Calls]

Use this option to enable Tandem Calls for the line.

- This allows the line to be included in a Tandem Call.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 1411-05: Unsupervised Conference [System: Class of Service: Lines: Lines (1411): Unsupervised Conference]

Enable this Class of Service option if the extension should be able to set up a Tandem Call.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

3. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Tie Lines

In DSX-80/160, link two systems together for inter-system Intercom calling and other features.

Description

Tie lines directly link a local DSX-80/160 telephone system with one or more remote DSX-80/160 systems. The link is independent of the telco's switched network. When a local system user seizes a tie line, they hear Intercom dial tone from the remote system. The user can then use many of the features normally available to the remote system's single line telephones, including:

- Dialing Intercom extensions in the remote system.
- Using the remote system's lines for outgoing calls.
- Accessing System Speed Dial numbers in the remote system.
- Using the remote system's Paging.

Tie Lines require a T1 PCB and Tie Line service from the telco.

Conditions and Defaults

Conditions

- None.

Default Setting

- Disabled.

Other Related Features

Features

- Direct Inward Dialing on page 163
  - Directly dial system extensions from outside the system.
- Station Message Detail Recording on page 463
  - The SMDR record for an outgoing tie line call also includes the line access codes dialed.
- T1 Lines on page 474
  - T1 provides advanced digital lines and simplifies installation. T1 is required for Tie Lines.

Available Single Line Features

The following single line telephone features are available over tie lines.

- Call Waiting / Camp-On
- Central Office Calls Placing (Line Group Access)
- Direct Line Access
- Door Box (calling)
- Hold (retrieve a call on Hold in the remote system)

- Intercom
- Night Service (*0 pick up)
- Speed Dial (System - dialing)
- Transfer
- Voice Mail (leave message in remote mailbox)

Unavailable Single Line Features

The following single line telephone features are not available over tie lines.

- Barge In
- Call Forwarding
- Callback
- Central Office Calls, Answering
- Central Office Calls, Placing (Line Dial-up)
- Conference
- Directed Call Pickup
- Flash
- Forced Line Disconnect
- Group Call Pickup
- Hold (cannot place a line in the remote system on Hold)
- Last Number Redial
- Meet Me Conference
- Message Waiting
- Page
- Park
- Removing Lines and extensions from service
- Speed Dial (Personal)
- Split (between two calls in the remote system)
- Tandem Calls (in the remote system)

IntraMail Features

- None.

Programming Tie Lines

Setting Up Tie
1. Set up the T1 basics.

1. Be sure your T1 PCB is installed and connected, and that your telco is providing T1 service.
2. Review Programming Outside Line Type, Access, and Ringing on page 130 to be sure the T1 lines have the correct circuit type and DTMF dialing option.

   Tie line circuit types are:

   - ***05*** *for E&M Wink Start.*
   - *06 for E&M Immediate Start.*

3. Also review Programming T1 Lines on page 475.

2. Set up the tie line dialing options.

1. 3141-02: Tie Line Caller's Operator Extension [Lines: Config: TIE Lines: Dialing (3141): Operator Ext]

   Use this option to specify the extension reached in the local system when an incoming (remote) tie Line caller dials 0.

Options	Description
Extension	Extension number. [Default] = 300.

2. 3141-01: Tie Line Caller's Outbound Dial 9 Group [Lines: Config: TIE Lines: Dialing (3141): Dial 9 Group]

   This option sets the Line Group reached (90-98) when an incoming tie line caller dials 9 to place an outgoing call.

Options	Description
90-98	Line Groups 90-98. [Default] = 90.

3. 3142-[01-64]: Tie Line Caller's Outbound Line Access [Lines: Config: TIE Lines: Line Access (3142): Line Access]

   Assign access for ***each line*** incoming tie line callers can use for placing an outgoing calls.

Options	Description
0	No access.
1	Incoming only access.
2	Outgoing only access.
3	[Default] Full access.

4. 3143-[90-98]: Tie Line Caller's Outbound Line Group Access [Lines: Config: TIE Lines: Line Groups (3143): Group xx]

   Allow or deny access for each ***Line Group*** incoming tie line callers can use for placing outgoing calls.

   You can deny outgoing access to individual lines within the group in the previous step.

Options	Description
-	For each line, make an entry for each Line Group.
No (0)	Disabled.
Yes (1)	[Default] Enabled.

3. Set up the tie line Class of Service options.

1. *1400: Class of Service*

   Allow or restrict Class of Service options as required.

2. 3102-01: Line Class of Service [Lines: Config: Setup: Access (3102): Class of Service Level]

   Use this option to assign Class of Service to lines.

Options	Description
1-15	Line Class of Service level. [Default] = 1 for all lines.

4. Set up the tie line Toll Restriction options.

1. *3500: Toll Restriction*

Set up the Toll Restriction options for tie lines as required.

2. 3102-02: Line Toll Level [Lines: Config: Setup: Access (3102): Toll Level]

Assign the tie line's Toll Level.

Options	Description
0-7	Line Toll Level. [Default] 0 for all lines.

Time and Date

The Time and Date shows on telephone displays and prints on system reports.

Description

The system Time and Date appears on display telephones and Station Message Detail Recording reports. The system administrator can change the time and date from the system programming mode. In addition, extension users can change the time and date from the User Programmable Features. Although the data is entered in 24-hour format, it always displays in 12-hour format (e.g., 1300 = 1:00PM).

Automatic Daylight Saving Time Adjustment

The system can automatically adjust the time for Daylight Saving Time. If enabled, the system will automatically set the time back 1 hour at 2:00 AM on the first Sunday in November ***and*** set the time forward 1 hour at 2:00 AM on the second Sunday in March. If disabled, this adjustment will not occur.

Internet Time Service

Internet Time Service allows the DSX to use a server on the internet as its time source. The system is compatible with Time Protocol (RFC-868) which by default is provided by the NIST server at *time-a.nist.gov*. For more on Time Protocol and RFC-868, visit the NIST web site at *http://tf.nist.gov/service/its.htm*.

Internet Time Service requires that the DSX have access to the internet on TCP port 37. ***Be aware that opening ports in the site router to the internet may pose a security risk*** . If you are not familiar with the installation of network equipment and security, please contact a professional. It is not recommended that you connect the DSX directly to the internet.

Important
The DSX system uses Internet Time Service (RFC-868). The system does not use Network Time Protocol (RFC-1305) or Simple Network Time Protocol (RFC-2030). If you must change the time server for the system from its default setting, be sure the server you choose is compatible with Internet Time Service (RFC-868).

Time Synchronization from the System Administrator

While connected, you can use the System Administrator to synchronize the system with either the PC time or Internet Time Service.

- If you synchronize the system time to the PC time, the system reads the Coordinated Universal Time (UTC) in the PC and offsets the time according to the 1022-01: Automatic Daylight Savings Time Setting [System: Config: Setup: Time Zone (1022): Auto DST].
- If you synchronize the system time to the internet time server set in 1023-01: Time Server Enable [System: Config: Setup: Time Server (1023): Enable], the system reads the UTC time from the time server and then offsets

the time according to the 1022-01: Automatic Daylight Savings Time Setting [System: Config: Setup: Time Zone (1022): Auto DST] setting.

- If you set the time zone to *Local* in this option, synchronization is disabled and the system uses its own internal Real Time Clock (RTC) based on the time you manually set (in 1021-01: System Time [System: Config: Setup: Date&Time (1021): Time] or from the telephone).

Conditions and Defaults

Conditions

- The system retains the time and date after a system reset or short term power failure.

Default Setting

- The automatic Daylight Saving Time adjustment is enabled.
- Internet Time Service is disabled.
- The default time zone is Eastern.

Other Related Features

Features

- Battery Backup on page 61
  - The battery on the CPU PCB backs up the CPU Real Time Clock for 10-14 days.
- Station Message Detail Recording on page 463
  - Time and date appear on the SMDR report.

IntraMail Features

- None.

Programming Time and Date

Setting Up the Time and Date Options
1. Set the time, date, format, and DST options.

1. 1021-01: System Time [System: Config: Setup: Date&Time (1021): Time]

Set the system time.

Options	Description
Time	HH:MM:SS (system time in 24-hour format).

2. 1021-02: System Date [System: Config: Setup: Date&Time (1021): Month : Day: Year]

Set the system date.

Options	Description
Date	MM/DD/YY • MM for month (1-12) • DD for day (1-31) • YYYY for year (e.g., 2009)

3. 1511-02: Clock Display Format [System: Options: Setup: Display (1511): Date/Time Display Format]

   Set the clock display format.

Clock Display Format Options	
(Using Tuesday, 3/28/2006, 4:44PM as an Example)	
Option	**Display Format**
1 [Default]	**Tue March 28 4:44 PM**
2	**4:44 PM Tue March 28**
3	**Tue March 28 16:44**
4	**16:44 Tue March 28**
After changing the entry for the Clock Display Format, an extension user must either lift and replace the handset or receive an incoming call before their display will show the new format.	

Options	Description
1-4	Clock display formats 1-4. [Default] = 1.

4. 1022-01: Automatic Daylight Savings Time Setting [System: Config: Setup: Time Zone (1022): Auto DST]

   Use this option to enable or disable the Automatic Daylight Saving Time adjustment.

   - If enabled, the system will automatically set the time back 1 hour at 2:00 AM on the first Sunday in November and set the time forward 1 hour at 2:00 AM on the second Sunday in March.
   - If disabled, this adjustment will not occur.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. Set the Internet Time Service options.

1. 1023-01: Time Server Enable [System: Config: Setup: Time Server (1023): Enable]

This option enables or disables Internet Time Service.

Internet Time Service requires that the DSX have access to the internet on TCP port 37. ***Be aware that opening ports in the site router to the internet may pose a security risk.*** If you are not familiar with the installation of network equipment and security, please contact a professional. It is not recommended that you connect the DSX directly to the internet.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. 1023-02: Network Time Server Name [System: Config: Setup: Time Server (1023): Server Name]

This option is the IP address of the time server. Normally, you should not change the default entry.

If you choose an alternate time server, be sure it is compliant with Time Protocol (RFC-868).

Options	Description
Alphanumeric	48 characters max. [Default] = time-a.nist.gov.

3. 1022-01: Automatic Daylight Savings Time Setting [System: Config: Setup: Time Zone (1022): Select Time Zone]

Use this option to specify the time zone in which the system is installed.

- The system must know the time zone in which it is installed so it can properly offset the time received from time server.

Options	Description
0	Local (not for use with Internet Time Service).
1	Atlantic
2	[Default} Eastern
3	Central
4	Mountain
5	Pacific
6	Alaska

Toll Restriction

Use Toll Restriction to help you control the costs of outgoing long distance calls.

Description

Toll Restriction limits the numbers an extension user may dial. By allowing extensions to place only certain types of calls, the system administrator can control long distance costs. The system applies Toll Restriction according to an extension's Toll Restriction Level. For each of the 7 Toll Restriction Levels, the administrator can enable or disable the following options.

Active Key Pad (Continuous Dialing)

Active Key Pad continuously enables the telephone key pad. This is important if co-workers typically use dial-up services (such as automated banking) or frequently dial into voice mail systems. With Active Key Pad disabled, the system disables the telephone key pad 6 seconds after the user has dialed their last digit. Toll Restriction controls Active Key Pad for both incoming and outgoing calls.

N11 Dialing

N11 Dialing enables or disables an extension's ability to use N11 services such as directory assistance (411) and repair (611). Consider enabling this option if the connected telco charges by the call (i.e., meters) these services. ***Note that the system never restricts a user from dialing 911 or 1 + 911.***

0 + Dialing

0 + Dialing enables or disables an extension's ability to manually dial 0 + (operator assisted) calls. These calls typically include collect calls and credit card calls. Be sure to disable this option if you don't want co-workers making these types of calls. The setting of 0 + Dialing does not affect the operation of international dialing (see the option immediately following).

International (011) Dialing

Use the International Dialing option to restrict extension access to high-cost international (011) dialing. You can, for example, enable international dialing for high priority users and executives while disabling international dialing for all other co-workers.

Equal Access (1010 + XXX) Dialing

Equal Access allows users to select long distance carriers other than your primary carrier. Your primary carrier is the long distance provider you access when you seize a line and dial 1. To reach another provider, dial 1010 and that provider's three-digit code (e.g., 1010220). The system does not restrict the numbers dialed after the Equal Access code, but can prevent users from dialing specific Equal Access codes.

1 + Dialing

This type of Toll Restriction can restrict: - 1 + 3-digit (1 + NPA and 1 + NXX) dialing. - 1 + 6-digit (1 + NPA + NXX) dialing.

Dialing without a Leading 1

This type of Toll Restriction can restrict: - 3-digit (NPA and NXX) dialing. - 6-digit (NPA + NXX) dialing.

The Toll Restriction Tables

There are 5 separate tables for each Toll Restriction Level. Each table can hold up to 96 entries. The Toll Restriction Tables can individually restrict:

- Equal Access Dialing.
- Calls dialed *with* a leading 1 (1 + Dialing).

- Calls dialed *without* a leading 1.

The following chart summarizes these tables.

Toll Restriction Tables		
Dialing Type	**Program**	**Description**
Equal Access Dialing	3521-01: Initialize Table [Utilities: Initialize Toll Restriction]	Lookup table that restricts 1010 + XXX dialing. Can be set up as an allow or deny table. • *Example*[1] : **1010 220** 203 926 5400
1 + Dialing	3531-01: 1+XXX Dialing Restriction [Tool Bar: Default]	3-digit lookup table that handles restriction for 1 + NPA and 1 + NXX dialing. Can be set up as an allow or deny table. • *Example*[1] : 1 **203** 926 5400
	3541-01: 1+XXXXXX Dialing Restriction [Tool Bar: Default]	6-digit lookup table that handles 1 + NPA + NXX dialing. Can be set up as an allow or deny table. • *Example*[1] : 1 **203 926** 5400
Dialing without a leading 1	3551-01: XXX Dialing Restriction [Tool Bar: Default]	3-digit lookup table that handles NPA and NXX dialing. Can be set up as an allow or deny table. • Example[1]: **203** 926 5400
	3561-01: XXXXXX Dialing Restriction [Tool Bar: Default]	6-digit lookup table that handles NPA + NXX dialing. This is a deny-only table. • *Example*[1] : **203 926** 5400
[1] The **underline bold** digits are the digits looked up by the specified table for the type of call dialed.		

Toll Restriction Overview

- *When you dial:* **Telephone Banking**
  - *Continued Dialing* (Active Key Pad) is enabled or disabled by the setting of 3511-01: Active Key Pad [Lines: Toll Restriction: Options: Settings (3511): Active Dial Pad].
- *When you dial:* **411, 811**
  - *N11 Dialing* is enabled or disabled by the setting of 3512-04: Allow N11 Dialing [Lines: Toll Restriction: Options: US/Domestic Options (3512): Allow N11 Dialing:.
- *When you dial:* **0 203 926 5400**
  - *0+ Dialing* is enabled or disabled by the setting of 3512-01: Allow 0 + XXX Operator Assisted Dialing [Lines: Toll Restriction: Options: US/Domestic Options (3512): Allow 0+XXX Dialing].
- *When you dial:* **011 International Calls**

- *International (011) Dialing* is enabled or disabled by the setting of 3512-02: Allow 011 + XXX International Dialing [Lines: Toll Restriction: Options: US/Domestic Options (3512): Allow 011+XXX Dialing].

- *When you dial:* **1015 220 203 926 5400**
  - *Equal Access (101X XXX) Dialing* is enabled or disabled in 3512-03: Allow 101x Equal Access Dialing [Lines: Toll Restriction: Options: US/Domestic Options (3512): Allow 101X Dialing].
    - This option restricts Equal Access Codes 1011 through 1019 and has no affect on the more common 1010 XXX Equal Access Codes.

- *When you dial:* **1010 220 203 926 5400**
  - *Equal Access (101 **0** XXX) Dialing* is controlled by the Equal Access codes entered in 3521-01: Initialize Table [Utilities: Initialize Toll Restriction].
    - The table entries have no affect on the less common 101X XXX Equal Access dialing.

- *When you dial:* **1 800 365 1928, 1 900 555 1212, 1 926 5400**
  - *1 + NPA and 1 + NXX* dialing is controlled by the entries in:
    - 3531-01: 1+XXX Dialing Restriction [Tool Bar: Default]
    - 3541-01: 1+XXXXXX Dialing Restriction [Tool Bar: Default]
    - These tables work together. For example, you can deny an NPA in *353x* and allow a specific NPA + NXX combination in *354x*.

- *When you dial:* **203 926 5400, 926 5400**
  - NPA and NXX dialing (without the leading 1) is controlled by the entries in:
    - 3551-01: XXX Dialing Restriction [Tool Bar: Default]
    - 3561-01: XXXXXX Dialing Restriction [Tool Bar: Default]
    - These tables work together. For example, you can allow an NPA in *355x* and deny a specific NPA + NXX combination in *356x*.

Default Toll Restriction Configuration

When you assign a Toll Level to an extension, the extension has the following Toll Restriction by default:

Default Toll Restriction Configuration	
Option	**Default**
Active Key Pad	Enabled.
N11 Dialing	Enabled.
0 + Dialing	Enabled.
International (011) Dialing	Enabled.
Equal Access (101X + XXX) Dialing	Enabled.
Equal Access (1010 + XXX) Dialing	Enabled without restriction because the *1010 + XXX Equal Access Table* is a deny table with no entries (i.e., it denies nothing).
1 + NPA/NXX Dialing	Enabled without restriction because the *1 + NPA/NXX Dialing 3-Digit and 1 + NPA + NXX Dialing 6-Digit*

	Tables are deny tables with no entries (i.e., they deny nothing).
NPA/NXX Dialing	Enabled without restriction because the *NPA/NXX Dialing 3-Digit Table* is a deny table with no entries (i.e., it denies nothing). In addition, the *NPA + NXX Dialing 6- Digit Table* does not restrict because it is a deny table with no entries (i.e., it also denies nothing)
NPA + NXX Dialing	

Conditions and Defaults

Conditions

- None.

Default Setting

- See Default Toll Restriction Configuration.

Other Related Features

Features

- Direct Line Access on page 181
  - Direct Line Access does not bypass Toll Restriction.
- Flash on page 256
  - When an extension user with Toll Restriction enabled flashes a line, the system enforces Toll Restriction on any digits the user dials from the new dial tone. For example, if an extension user cannot dial 203 926 5400 before they flash, they cannot dial 203 926 5400 after they flash.
- Forced Line Disconnect on page 261
  - Forced Line Disconnect does not bypass Toll Restriction.
- Last Number Redial on page 299
  - Last Number Redial will not store a number denied by Toll Restriction.
- Private Line on page 417
  - Toll Restriction restricts Private Lines just like any other line.
- Regional Defaults on page 424
  - Changing the Regional Default to Latin America automatically enables the Latin American Toll Restriction package. ***Latin American Toll Restriction is not included in this manual.***
- Save Number Dialed on page 438
  - Save Number Dialed will not store a number denied by Toll Restriction.
- Speed Dial on page 448
  - The system enforces Toll Restriction on Speed Dial numbers as they are dialed, not as they are stored.

IntraMail Features

- None.

Programming the Toll Restriction Basics

Setting the Basic Toll Restriction Options
1. Set the Basic Toll Restriction Options

1. 3501-01: Toll Restriction Country Type See the Tool Bar

Use this option to set the Toll Restriction type (domestic or international).

- ***For systems installed in North America, you should select US Domestic (1).***

Options	Description
1	[Default] US Domestic (North American) Toll Restriction.
2	Latin American Toll Restriction

2. 2102-02: Station Toll Level (Day) [Stations: Config: Setup: Access (2102): Day Toll Level]

Set the extension's day Toll Restriction Level.

Options	Description
0	[Default] Toll Restriction disabled.
1-7	Toll Restriction levels 1-7.

3. 2102-03: Station Toll Level (Night) [Stations: Config: Setup: Access (2102): Night Toll Level]

Set the extension's night Toll Restriction Level.

Options	Description
0	[Default] Toll Restriction disabled.
1-7	Toll Restriction levels 1-7.

4. 3511-01: Active Key Pad [Lines: Toll Restriction: Options: Settings (3511): Active Dial Pad]

For the selected Toll Level, use this option to enable or disable Active Dial Pad (Continuous Dialing).

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

5. 3512-04: Allow N11 Dialing [Lines: Toll Restriction: Options: US/Domestic Options (3512): Allow N11 Dialing:

For the selected Toll Level, use this option to enable or disable N11 dialing.

Options	Description
No (0)	Disabled.

Options	Description
Yes (1)	[Default] Enabled.

6. 3512-01: Allow 0 + XXX Operator Assisted Dialing [Lines: Toll Restriction: Options: US/Domestic Options (3512): Allow 0+XXX Dialing]

   For the selected Toll Level, use this option to enable or disable 0+ (Operator Assisted) dialing.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

7. 3512-02: Allow 011 + XXX International Dialing [Lines: Toll Restriction: Options: US/Domestic Options (3512): Allow 011+XXX Dialing]

   For the selected Toll Level, use this option to enable or disable 011 (International) dialing.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

8. 3512-03: Allow 101x Equal Access Dialing [Lines: Toll Restriction: Options: US/Domestic Options (3512): Allow 101X Dialing]

   For the selected Toll Level, use this option to enable or disable basic Equal Access dialing.

   - If enabled, the Toll Restriction Level can dial Equal Access Codes 1011 through 1019.

   For more comprehensive Equal Access Dialing control, see 3521-01: Initialize Table [Utilities: Initialize Toll Restriction]

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

Programming Toll Restriction Tables

Setting Up the Toll Restriction Tables

1. Review the guidelines before you begin.

1. ***Be sure to initialize a table before programming it for the first time.***
2. Review the table type options.

   You have the following options when setting the table type:

   - You can make the table a deny table and enter just the codes you want to restrict.
   - You can make the table an allow table and enter just the codes you want to allow.
   - By default, all Toll Restriction tables are deny tables with no entries. This means there is no restriction (since there is nothing to deny).

- If you change a table to an allow table and make no entries, the table denies everything.

2. Set up the Equal Access 1010 + XXX Dialing Table.

1. 3521-01: Initialize Table [Utilities: Initialize Toll Restriction]

   Use this option to initialize the table.

2. 3521-02: Table Type (Allow or Deny) [Lines: Toll Restriction: 1010+XXX: Allow/Deny (3521):

   Use this option to set up the table as an allow table or a deny table.

3. 3522-xx: Table Data [Lines: Toll Restriction: 1010+XXX: Dial Codes (3522): 1-96]

   Use this option to enter data into the table.

3. Set up the 1 + XXX (1 + NPA or 1 + NXX) Dialing Table.

1. 3531-01: 1+XXX Dialing Restriction [Tool Bar: Default]

   Use this option to initialize the table.

2. 3531-02: Table Type (Allow or Deny) [Lines: Toll Restriction: 1+XXX: Allow/Deny (3531)]

   Use this option to set up the table as an allow table or a deny table.

3. 3532-xx: Table Data [Lines: Toll Restriction: 1+XXX: Dial Codes (3532): 1-96]

   Use this option to enter data into the table.

4. Set up the 1 + XXX + XXX (1 + NPA + NXX) Dialing Table.

1. 3541-01: 1+XXXXXX Dialing Restriction [Tool Bar: Default]

   Use this option to initialize the table.

2. 3541-02: Table Type (Allow or Deny) [Lines: Toll Restriction: 1+XXXXXX: Allow/Deny (3541)]

   Use this option to set up the table as an allow table or a deny table.

3. 3542-xx: Table Data [Lines: Toll Restriction: 1+XXXXXX: Dial Codes (3542): 1-96]

   Use this option to enter data into the table.

4. Set up the XXX (NPA or NXX) Dialing Table.

1. 3551-01: XXX Dialing Restriction [Tool Bar: Default]

   Use this option to initialize the table.

2. 3551-02: Table Type (Allow or Deny) [Lines: Toll Restriction: XXX: Allow/Deny (3531)]

   Use this option to set up the table as an allow table or a deny table.

3. 3552-xx: Table Data [Lines: Toll Restriction: XXX: Dial Codes (3552): 1-96]

   Use this option to enter data into the table.

5. Set up the XXX + XXX (NPA + NXX) Dialing Table.

1. 3561-01: XXXXXX Dialing Restriction [Tool Bar: Default]

   Use this option to initialize the table.

2. 3561-02: Table Type (Allow or Deny) [Lines: Toll Restriction: XXXXXX: Allow/Deny (3561)]

   Use this option to set up the table as an allow table or a deny table.

3. 3562-xx: Table Data [Lines: Toll Restriction: XXXXXX: Dial Codes (3562): 1-96]

   Use this option to enter data into the table.

Toll Restriction Examples

Note that the following 4 examples can be simultaneously programmed in the same system – just don't rein- initialize the Toll Restriction Tables in examples 2-4.

Setting Up Some Toll Restriction Examples

Example 1: Allowing Only Local Calling.

This example allows users to dial only 7-digit and 10-digit local numbers. All 1 + 7 digit, 1 + 10 digit, 0+, and Equal Access dialing is restricted.

1. Make sure the following are disabled.

   3512-01: Allow 0 + XXX Operator Assisted Dialing [Lines: Toll Restriction: Options: US/Domestic Options (3512): Allow 0+XXX Dialing]

   3512-02: Allow 011 + XXX International Dialing [Lines: Toll Restriction: Options: US/Domestic Options (3512): Allow 011+XXX Dialing]

   3512-03: Allow 101x Equal Access Dialing [Lines: Toll Restriction: Options: US/Domestic Options (3512): Allow 101X Dialing]

2. For Toll Level 1, be sure the following tables are set as allow tables with no entries. (This setting blocks all calls of the type specified by each table.)

   3521-02: Table Type (Allow or Deny) [Lines: Toll Restriction: 1010+XXX: Allow/Deny (3521):

   3531-02: Table Type (Allow or Deny) [Lines: Toll Restriction: 1+XXX: Allow/Deny (3531)]

   3541-02: Table Type (Allow or Deny) [Lines: Toll Restriction: 1+XXXXXX: Allow/Deny (3541)]

3. In 3551-02: Table Type (Allow or Deny) [Lines: Toll Restriction: XXX: Allow/Deny (3531)], make the table a deny table with no entries. (This will allow unrestricted dialing of 7-digit and 10-digit local numbers.)

4. In 3561-02: Table Type (Allow or Deny) [Lines: Toll Restriction: XXXXXX: Allow/Deny (3561)], make the table a deny table with no entries.

Example 2: Setting Up 10-Digit Local Calling

Restrict 1 + 203 calls in a neighboring (foreign) area code, but allow 203 10-digit calls in the home area code.

1. For Toll Level 2, be sure Toll Restriction Tables *352x* through *356x* are deny tables with no entries. (This will allow unrestricted dialing.)
2. In 3532-xx: Table Data [Lines: Toll Restriction: 1+XXX: Dial Codes (3532): 1-96], add code 203.
3. In the following programs, assign Toll Level 2 to extensions.

   2102-02: Station Toll Level (Day) [Stations: Config: Setup: Access (2102): Day Toll Level]

   2102-03: Station Toll Level (Night) [Stations: Config: Setup: Access (2102): Night Toll Level]

Example 3: Preventing 1 + 900 Pay-Per-Call Charges

Restrict 1 + 900 calls.

1. For Toll Level 3, be sure Toll Restriction Tables *352x* through *356x* are deny tables with no entries. (This will allow unrestricted dialing.)
2. In 3532-xx: Table Data [Lines: Toll Restriction: 1+XXX: Dial Codes (3532): 1-96], add code 900.
3. In the following programs, assign Toll Level 3 to extensions.

   2102-02: Station Toll Level (Day) [Stations: Config: Setup: Access (2102): Day Toll Level]

   2102-03: Station Toll Level (Night) [Stations: Config: Setup: Access (2102): Night Toll Level]

Example 4: Permitting Only Toll-Free Dialing

Allow only 1 + 800 long distance calls.

1. For Toll Level 4, be sure Toll Restriction Tables *352x* and *0354x* through *0356x* are deny tables with no entries. (This will allow unrestricted dialing.)
2. In 3531-02: Table Type (Allow or Deny) [Lines: Toll Restriction: 1+XXX: Allow/Deny (3531)], set this table up as an allow table and add code 800.
3. In the following programs, assign Toll Level 4 to extensions.

   2102-02: Station Toll Level (Day) [Stations: Config: Setup: Access (2102): Day Toll Level]

   2102-03: Station Toll Level (Night) [Stations: Config: Setup: Access (2102): Night Toll Level]

Transfer

Send the outside call you are on to a co-worker.

Description

Transfer permits an extension user to send (i.e., extend) an active call to any other extension in the system, a Ring Group, UCD Group or voice mail. With Transfer, any extension user can quickly send a call to the desired co-worker. A call a user transfers automatically recalls if not picked up at the destination extension. If a transferred outside call is still unanswered, the call diverts to Key Ring. This assures that users do not lose or inadvertently abandon their transfers. An extension user can Transfer both outside calls and Intercom calls.

The system allows the following types of transfers:

- **Screened Transfer** The transferring user announces the call to the destination before hanging up.
- **Unscreened Transfer** The transferring party extends the call without an announcement.

Distinctive Flash Rate on Recall

Transfer recall features a distinctive flash rate for line keys (see the chart below). This allows the keyset extension user to easily differentiate new calls that are ringing from transferred calls that are recalling.

Distinctive Flash Rate on Transfer Recall	
For this type of call:	**You see this flash rate:**
Call that you transferred	Slow Flash (red)
Call that you initially transferred recalling your phone	Double Wink On (green)

Transfer Recall Display

The Transfer recall display occurs as the call is ringing the extension that initially transferred it as well as after the call diverts to Key Ring. It identifies:

- The type of call recalling the extension.
- The extension to which the call was initially transferred.

Handsfree Transfer

Handsfree Transfer allows an extension user to Transfer an outside call directly to a co-worker's speakerphone.

Hotline Automatic Transfer

With Hotline Automatic Transfer, the extension can Transfer their call to a co-worker just by pressing their Hotline key and hanging up. Without Hotline Automatic Transfer, the user must press **TRANSFER** *before* pressing the Hotline key. If the user frequently uses their Hotline key for one-button Transfer to co-workers, Hotline Automatic Transfer is recommended. If the user prefers to consult with their Hotline partner rather than Transfer, disabling Hotline Automatic Transfer would be helpful.

Conditions and Defaults

Conditions

- None.

Default Setting

- Enabled
- Music On Hold for transferred callers is disabled.

Other Related Features

Features

- Call Coverage Keys on page 63
  - An extension user can use a Call Coverage key to Transfer a call to the covered extension.
- Call Forwarding on page 71
  - Call Forwarding will reroute transferred calls.
- Call Waiting / Camp-On on page 93
  - Transfer can automatically Camp-On to a busy extension.
- Direct Station Selection (DSS) on page 183
  - You can press your DSS key to Transfer a call instead of dialing a co-worker's extension number.
- Do Not Disturb on page 217
  - DND blocks Transfer.
- Door Box on page 223
  - An extension user cannot Transfer a call to a Door Box.
- Extended Ringing on page 231
  - With Extended Ringing enabled, transferred outside calls ring the destination extension for the *Number of Extended Rings* before recalling the transferring extension.
- Extension Hunting on page 233
  - Outside calls transferred to a Terminal or Circular Hunting group member activate hunting. In addition, outside calls transferred to a UCD Group master number activate hunting.
- Group Call Pickup on page 263
  - An outside call transferred to an extension in a Pickup Group activates Group Call Pickup.
- Group Ring on page 268
  - An extension user can Transfer a call to a Ring Group master number. If unanswered, the call will recall the extension from which it was transferred.
- Hold on page 278
  - If an extension receiving a screened Transfer answers the screen and immediately hangs up (before the transferring extension), the call goes on Exclusive Hold at the transferring extension.

- Hotline on page 285
  - An extension user can Transfer a call to their Hotline partner by pressing their Hotline key.
- Intercom on page 292
  - The system cannot Transfer Intercom calls.
- Key Ring on page 295
  - An unanswered call transferred to an extension diverts to Key Ring if unanswered at the transferring extension.
- Music on Hold on page 344
  - With Music on Hold enabled, transferred callers can optionally listen to ringback or MOH while their call waits at the transfer destination. Music on Hold will also play to transferred callers camped-on to a busy UCD Group.
- Off-Hook Signaling on page 362
  - An extension user can Transfer their current call to a co-worker or voice mail and then answer the waiting call. In addition, transferred calls can initiate Off-Hook Signaling.
- Reverse Voice Over on page 427
  - While idle, an extension user can use their Reverse Voice Over key to Transfer calls.
- Station Message Detail Recording on page 463
  - The system assigns the SMDR record to the last extension on the call. For example, if extension 306 answers the call, talks for 20 minutes, and then Transfers the call to extension 302, extension 302 “owns” the entire call record as soon as they hang up.
- Voice Mail (IntraMail) on page 516
  - Pressing **TRANSFER** + Call Coverage Key can Transfer a call to an uninstalled extension’s mailbox (if the mailbox is enabled).
  - Pressing a Hotline key can also Transfer a call to an uninstalled extension’s mailbox (if the mailbox is enabled).
- Voice Over on page 521
  - An extension user can Voice Over after making a Screened Transfer and hearing busy/ring tone.

IntraMail Features

- None.

Transfer Recall Interaction with Forwarding and Hunting

Description

The following chart shows how the system handles Transfer Recall call routing when both Call Forwarding and Extension Hunting are enabled at the destination extension. ***Call Forwarding has priority over Extension Hunting.***

Interaction with Call Forwarding and Type 1 Extension Hunting

	Destination Extension		
Forwarding Type	**Ring No Answer**	**Busy**	**In DND**

Busy/No Answer *32	• Call rings destination for the 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]. • If unanswered, it rings the forwarding destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]. • If still unanswered, it rings the initial transferring destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer] and then diverts to Key Ring.	• Call rings the forwarding destination for the 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]. • If unanswered, it rings the initial transferring destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer] and then diverts to Key Ring.
Immediate *34	• Call rings the forwarding destination for the 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]. • If unanswered, it rings the initial transferring destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer] and then diverts to Key Ring.	
No Answer *36	• Call rings destination for the 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]. • If unanswered, it rings the forwarding destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]. • If still unanswered, it rings the initial	• Call Camps-On to the destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]. • If unanswered, call rings the forwarding destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]. • If still unanswered, it rings the initial transferring destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer] and then diverts to Key Ring.

	transferring destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer] and then diverts to Key Ring.	
Forwarding Off *30	• Call rings destination for the 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]. • If unanswered, it rings the hunt destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]. • If still unanswered, it rings the initial transferring destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer] and then diverts to Key Ring.	• Call Camps-On to the destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]. • If unanswered, call rings the hunt destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]. • If still unanswered, it rings the initial transferring destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer] and then diverts to Key Ring.

Interaction with Call Forwarding and Types 2 and 3 Extension Hunting

	Destination Extension		
Forwarding Type	**Ring No Answer**	**Busy**	**In DND**
Busy/No Answer *32	• Call rings destination for the 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall].	• Call rings the forwarding destination for the 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]. • If unanswered, it rings the initial transferring destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer] and then diverts to Key Ring.	

	• If unanswered, it rings the forwarding destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]. • If still unanswered, it rings the initial transferring designating for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer] and then diverts to Key Ring.	
Immediate *34	• Call rings the forwarding destination for the 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]. • If unanswered, it rings the initial transferring destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer] and then diverts to Key Ring.	
No Answer *36	• Call rings destination for the 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]. • If unanswered, it rings the forwarding destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]. • If still unanswered, it rings the initial transferring destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601):	• Call Rings the hunt destination for the 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]. • If unanswered, it rings the initial transferring destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer] and then diverts to Key Ring.

	CFWD No Answer] and then diverts to Key Ring.	
Forwarding Off *30	• Call rings destination for the 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]. • If unanswered, it rings the hunt destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]. • If still unanswered, it rings the initial transferring destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer] and then diverts to Key Ring.	

Interaction with Call Forwarding and Type 4 Extension Hunting

	Destination Extension		
Forwarding Type	**Ring No Answer**	**Busy**	**In DND**
Busy/No Answer *32	• Call rings destination for the 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]. • If unanswered, it rings the forwarding destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features:	• Call rings the forwarding destination for the 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]. • If unanswered, it rings the initial transferring destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer] and then diverts to Key Ring.	

	Incoming (1601): CFWD No Answer]. • If still unanswered, it rings the initial transferring designating for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer] and then diverts to Key Ring.	
Immediate *34	• Call rings the forwarding destination for the 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]. • If unanswered, it rings the initial transferring destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer] and then diverts to Key Ring.	
No Answer *36	• Call rings destination for the 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]. • If unanswered, it rings the forwarding destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]. • If still unanswered, it rings the initial transferring destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer] and then diverts to Key Ring.	• Call Rings the hunt destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]. • If unanswered, it rings the initial transferring destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer] and then diverts to Key Ring.
Forwarding Off *30	• Call rings destination for the 1603-01: Transfer Recall Timer	

	[System: Timers: Features: Recall (1603): Transfer Recall]. • If unanswered, it rings the initial transferring destination for the 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer] and then diverts to Key Ring.	

Programming Transfer

Setting Up the Transfer Options

1. Set up the Transfer Recall timers.

1. 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall]

Use this timer to set how long an unanswered Transfer rings an idle extension or Ring Group before recalling the extension that initially transferred it

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 20 seconds.

2. 1601-03: Call Forward No Answer Timer [System: Timers: Features: Incoming (1601): CFWD No Answer]

For non-operator extensions, this timer sets how long an unanswered Transfer wait at a busy destination extension before recalling the extension that initially transferred it.

For operator extensions, use 1603-01: Transfer Recall Timer [System: Timers: Features: Recall (1603): Transfer Recall] instead.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 10 seconds.

3. 1601-01: Line No Answer Timer [System: Timers: Features: Incoming (1601): Line No Answer]

If a transferred call is not picked up and recalls the transferring extension, this timer sets how long the recall rings before the call diverts to Key Ring.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 15 seconds.

4. 1601-04: UCD No Answer Timer [System: Timers: Features: Incoming (1601): UCD No Answer]

   If a user transfers a call to a UCD Group and it is not picked up, this timer sets how long the call waits before overflowing to the overflow destination.

Options	Description
0	Disabled.
1-9999	Seconds. [Default] = 60 seconds.

2. Set up Music on Hold for transferred callers.

1. Set up Music on Hold. See Music on Hold on page 344 for more.
2. 1521-02: Music on Hold for Transferred Calls [System: Options: Setup: Music On Hold/Background Music (1521): Music On Hold on Transfer]

   To enable Music on Hold for transferred calls, enter 1.

   To enable ringback for transferred calls, enter 0.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

3. Optionally Enable Hotline Automatic Transfer

This allows the user to be able to press a Hotline key (without first pressing **TRANSFER**) to Transfer the call

1. 1401-13: Hotline Automatic Transfer [System: Class of Service: Features: Features (1401): Hotline Auto Transfer]

   Use this Class of Service option to enable or disable Hotline Automatic Transfer.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

   Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.

Unsupervised Conference

Available. See Tandem Calls / Unsupervised Conference on page 478 for more.

User Programmable Features

Extension users can set up their telephones to meet their own unique requirements.

- The enhanced *User Level Programming* is available in software versions 3.01 or higher.
- *User Programmable End-User Features* allow users to set up their telephones to meet their own unique requirements.
- *User Programmable Maintenance Features* let on-site service technicians get important information about the system. The maintenance features are available in software versions 2.01 and higher.

User Level Programming

[3.01] User Level Programming using the soft keys has an extensive face lift and functional overhaul in Version 3. The new, more intuitive interface uses all three lines of the telephone display to provide the extension user with better guidance when selecting options and setting preferences.

The Main Menu consists of 10 sub-menus which group similar options into the same sub-menu. When setting up their telephone or using a feature, the user can just scroll through the soft key menus and options rather than remembering feature codes.

Keyset User Level Programming		
Menu	Description	Available in Access Levels
00:	**Admin**	4 and 5
10:	**Volume Preferences**	1-5
20:	**Display Preferences**	1-5
30:	**Feature Preferences**	1-5
40:	**Ring Preferences**	1-5
50:	**Key Assignments**	3-5
60:	**Call Forwarding**	1-5
70:	**Speed Dial**	Personal Speed Dial in 1-5. System Speed Dial in 4 and 5 only.
80:	**Name and Language**	1-5
90:	**Option Preferences**	1-5

Shortcuts for Power Users

An extensive system of shortcuts is built into the soft key interface which allows "power users" to quickly jump to the option they want to customize. Each sub-menu has a numeric equivalent (see the chart above) that takes the user directly to the menu or even to an option within a menu. For example, the following shows two ways to get to the Display Language option:

Normal User

1. Press **Menu**.
2. Press **Next** until you see **50:Key Assignments**.
3. Press **Select**. You then see **51:Feature Keys**.

Power User

- Press **Menu** and dial **51**.

User Programmable Features (#)

User Programmable Features allow an extension user to dial mnemonics to customize the way certain features work on their telephone. With User Programmable Features, there is no need to rely on a System Administrator or Communications Manager to set up each phone. These User Programmable Features include:

- Call Forwarding Clear All
  - See Call Forwarding on page 71 for more.
- Direct Station Selection (DSS) Assignment
  - See Direct Station Selection (DSS) on page 183 for more.
- Feature Key Assignment
  - See Feature Keys on page 247 for more.
- Feature Key Ringing for Call Coverage Keys, Group Call Pickup Keys, and Line Keys
  - See Call Coverage Keys on page 63 for more.
  - See Group Call Pickup on page 263 for more.
  - See Line Keys on page 307 for more.
- Headset Mode
  - See Headset Compatibility on page 274 for more.
- Hotline Key Assignment
  - See Hotline on page 285 for more. (Note that a keyset user with a DSS Console can use the **#HL** user-programmable procedure to change the Hotline assignments on their console.)
- Off Hook Signaling Setup (including Camp-On, Off Hook Ringing for outside calls, and Voice Over for Intercom calls)
  - See Off-Hook Signaling on page 362 for more.
- Paging (Incoming)
  - See Paging on page 367 for more.
- Prime Line Assignment
  - See Prime Line Preference on page 406 for more.
- Programmable Idle Menu Soft Keys (Super Display)
  - See Programmable Idle Menu Soft Keys (Super Display) on page 419 for more.
- Ringing Line Preference
  - See Ringing Line Preference on page 432 for more.
- Speed Dial number Setup (Personal and System)
  - See Speed Dial on page 448 for more.
- Time and Date
  - See Time and Date on page 484 for more.

- Voice Announce (For incoming Intercom calls)
  - See Intercom on page 292 for more.

User Programmable End-User Features				
To program a feature, press **#** and the feature's code. For example, to enable incoming Paging, press **#** and dial **V P Y,** then **SPEAKER** to hang up. By default, Call Forwarding Clear All, System Speed Dial, and Time and Date are only available to attendant.				
Feature	**Mnemonic**	**Numeric**	**Operation**	**Access Level**
Call Forwarding Clear All	**#CC**	**#22**	**#CC** + **Y** to clear (cancel) forwarding or **N** to exit without clearing + **SPEAKER** to hang up.	4 and 5
Headset Mode	**#HS**	**#47**	**#HS** + **Y** to enable or **N** to disable + **SPEAKER** to exit.	3-5
Hotline	**#HL**	**#45**	**#HL** + Press flashing Hotline key + Enter extension for new Hotline partner + **HOLD** + Program another Hotline key or **SPEAKER** to exit.	3-5
Off Hook Signaling	**#OHS**	**#647**	**#OHS** + Select mode (**1** = Outside line, **2** = Hotline partner, **3** = Intercom) + Select option (see below) + **SPEAKER** to exit. *For outside lines:* **1** = Camp-On tone, **2** = Off-hook Ringing, **CLEAR** = None *For Hotline partner:* **1** = Camp-On, **2** = Voice Over, **CLEAR** = None, *For Intercom:* **1** = Camp-On, **2** = Voice Over, **CLEAR** = None	3-5
Paging (Incoming)	**#VP**	**#87**	**#VP** + **Y** to enable or **N** to disable + **SPEAKER** to exit.	3-5
Prime Line Assignment	**#PLA**	**#752**	**#PLA** + Press one of your flashing	3-5

			programmable keys, **INTERCOM**, or **CLEAR** for none + **SPEAKER** to exit.	
Feature Key Assignments	**#KP**	**#57**	**#KP** + Press key you want to program + **HOLD** + **INTERCOM** + Press **Volume Up** or **Volume Down** to select key option + **HOLD** + (Enter any additional data if required1 + **HOLD**) + Press **Volume Up** or **Volume Down** to select another key to program, or **SPEAKER** twice to exit.	3-5
			To set up a System Night key, press **CLEAR** instead of entering additional data	
Feature Key Ringing	**#RAC**	**#722**	*Call Coverage Keys:* **#RAC** + Call Coverage Key repeatedly to select ringing mode + **SPEAKER** to exit. Call Coverage Keys flash as follows: Lamp only = On red, Immediate ring = On green, Delay ring = Fast flash green.	2-5
	#RAL	**#725**	*Outside Line Keys:* **#RAL** + Line Key repeatedly to select ringing mode + **SPEAKER** to exit. Line keys flash as follows: Lamp only = On red, Immediate ring = On green, Delay ring = Fast flash green, Night ring = Slow flash green.	

	#RAP	**#727**	*Group Call Pickup Keys:* **#RAP** + Group Call Pickup Key repeatedly to select ringing mode + **SPEAKER** to exit. Group Call Pickup Keys flash as follows: Lamp only = On red, Immediate ring = On green, Delay ring = Fast flash green.	
Programmable Idle Menu Soft Keys (Super Display)	**#SM**	**#76**	Press the soft key you want to program (or press **Volume Up** or **Volume Down** to scroll through the keys) + **HOLD** + **INTERCOM** + **Volume Up** or **Volume Down** to select key option + **HOLD** + **SPEAKER** to exit.	1-5
Ringing Line Preference	**#RLP**	#757	**#RLP** + **Y** to enable or **N** to disable + **SPEAKER** to exit.	2-5
Speed Dial, Personal	**#SP**	#77	**#SP** + Press key (for numbers 701-710) or dial the key (701-720) + **HOLD** + Dial outside line (e.g., 1), Line group (e.g., 90-98), or ICM for Intercom feature + **HOLD** + Number to store + **HOLD** twice + Name + **HOLD** + Press another key or **SPEAKER** to exit.	1-5
Speed Dial, System	**#SP**	#77	**#SP** + Dial System Speed Dial number (e.g., 201) + **HOLD** + Dial outside line (e.g., 1), Line group (e.g., 90-98), or **INTERCOM** for Intercom feature +	4 and 5

			HOLD + Number to store + **HOLD** twice + Name + **HOLD** + Dial another System Speed Dial number or **SPEAKER** to exit.	
System Program Access	#*#*		**#*#*** + Enter programming password	3-5
Time and Date	**#TD**	#83	**#TD** + Enter time in 24-hour clock using hours (2 digits), minutes (2 digits) and seconds (2 digits) + **HOLD** + Enter date using month (2 digits), day (2 digits) and year (4 digits) + **HOLD** + **SPEAKER** to exit.	4 and 5
Intercom Voice Announce (for incoming Intercom calls)	**#VA**	#82	**#VA** + **V** for voice announce or **R** for ring + **SPEAKER** to exit.	3-5

User Programmable Maintenance Features (##)

User Programmable Maintenance Features allow the on-site service technician to quickly obtain important data about the system without having to connect the System Administrator or use telephone programming. The service technician can dial mnemonics (normally from extension 300) to get the following information:

- System IP Address
  - See 1104-01: System IP Address [System: Config: Communication: Ethernet (1104): IP Address] for more.
- Built-In Modem Extension Number
  - See 1316-01: Internal Modem Extension Number [System: Numbering: Modem: Assignments(1316): Extension] for more.
- System Type and Version Number (see the following for more):
  - 1001-01: System Type [See the Tool Bar]
  - ../../program1000/program1001-02.xml
  - The System Administrator Tool Bar
- Slot Information and Firmware Version Number
  - 1201-01: Card Type [System: Ports: Slot x: Station Port Configuration (1201/1202/1203): Card Type]

User Programmable Maintenance Features

To use a feature, press ## and the Maintenance Feature code. For example, to check the Built-In Modem extension number, press ## and dial M D, then SPEAKER to hang up. By default, the Maintenance Features are only available to the attendant.

Feature	Mnemonic	Numeric	Operation	Access Level
System IP Address	**##IP**	**##47**	**##IP** to display the system IP address + **SPEAKER** to hang up.	4 and 5
Modem Extension Number	**##MD**	**##63**	**##MD** to display the Built-In Modem extension number + **SPEAKER** to hang up.	4 and 5
System Type and Version Number	**##V#**	**##8#**	**##V#** to display the system type (DSX-80/160 or DSX-40) and the software revision number + **SPEAKER** to hang up.	4 and 5
Slot Information and Firmware Version Number	**##V1** through **##V8**	**##81** through **##88**	**##V1** through **##V8** to display the PCB type plugged into each slot and its PCB firmware revision + SPEAKER to hang up.	4 and 5

Conditions and Defaults

Conditions

- None.

Default Setting

- Extension 300 has its access level fixed at 5. (This means that by default only extension 300 can dial #TD to change the system time and date and use the User Programmable Maintenance Features.)
- All other extensions have access level 3.

Other Related Features

- See *Description* above.

Programming User Programmable Features

Setting Up the Access Level for User Programmable Features

Set each extension's Access Level.

1. 2102-04: User Programming Access Level [Stations: Config: Setup: Access (2102): Program Level]

Use this option to assign an extension's Access Level.

Access level 5 has the most capability. Access Level 1 has the least capability.

Options	Description
1-5	Access Level. [Default] 5 for extension 300, 3 for all other extensions.
Yes (1)	Enabled.

2. The User Programmable Maintenance Features require Access Level 4 or 5.

Voice Mail (IntraMail)

IntraMail Voice Mail with Automated Attendant ends the frustration and cost of missed calls, inaccurate written messages and telephone tag, freeing up the company's receptionists and secretaries for more production work.

See *IntraMail Features* for more.

Description

IntraMail Voice Mail with Automated Attendant provides users with comprehensive voice mail and Automated Attendant features. Automated Attendant automatically answers the system's incoming calls. After listening to a customized message, an outside caller can dial a system extension or use voice mail.

IntraMail Voice Mail with Automated Attendant enhances the system with the following features:

Call Forwarding to Voice Mail

An extension user can forward their calls to voice mail. Once forwarded, calls to the extension connect to that extension's mailbox. The caller can leave a message in the mailbox instead of calling back later. Forwarding can occur for all calls immediately, for unanswered calls or when the extension is busy, or just for unanswered calls.

Leaving a Message

Voice mail lets a keyset extension user easily leave a message at an extension that is unanswered, busy, or in Do Not Disturb. The caller just presses **V-MAIL** to leave a message in the called extension's mailbox. There is no need to call back later.

Transferring to Voice Mail

By using Transfer to Voice Mail, an extension user can Transfer a call to the user's own or a co-worker's mailbox. After the Transfer goes through, the caller can leave a message in the mailbox. The caller will hear the entire mailbox greeting after the Transfer goes through.

Conversation Record

While on a call, an extension user can have voice mail record the conversation. The keyset user just presses their Record key. Once recorded, the voice mail stores the conversation as a new message in the user's mailbox. After calling their mailbox, a user can save, edit or delete the recorded conversation. The ability to use Conversation Record is controlled by an extension's Class of Service.

Caution
The use of monitoring, recording, or listening devices to eavesdrop, monitor, retrieve, or record telephone conversations or other sound activities, whether or not contemporaneous with transmission, may be illegal in certain circumstances under federal or state laws. Legal advice should be sought prior to implementing any practice that monitors or records any telephone conversation. Some federal and state laws require some form of notification to all parties to a telephone conversation, such as using a beep tone or other notification methods or requiring the consent of all parties to the telephone conversation, prior to monitoring or recording the telephone conversation. Some of these laws incorporate strict penalties.

Conversation Record Key for a Co-worker's Mailbox

An extension user can have a Record key for a co-worker's mailbox. While on a call, the user can press the key to record their conversation directly into the co-worker's mailbox. The user can set up the Record key to record into

any valid Subscriber Mailbox (including IntraMail Group Mailboxes and Master Mailboxes programmed as Subscriber Mailboxes). This could help a dispatcher, for example, that wants to record a conversation with a client right into the responsible technician's mailbox.

An extension can have multiple Record keys, each associated with a different mailbox. In addition, setting up a Record key for a co-worker's mailbox is also available on DSS Consoles.

Personal Answering Machine Emulation

Refer to Live Call Screening. You may find that Call Screening better meets your requirements.

A keyset user can have their idle extension emulate a personal answering machine. This lets voice mail screen their calls, just like their answering machine at home. If activated, the extension's incoming calls route to the user's Subscriber Mailbox. Once the mailbox answers, the user hears the caller's incoming message. The keyset user can then:

- Let the call go through to their mailbox.
- Intercept the call before it goes to their mailbox.

Personal Answering Machine Emulation will intercept the following types of calls:

- Intercom calls
- Direct Inward Lines to the extension
- Automated Attendant Unscreened Transfers
- Automated Attendant Screened Transfers

Personal Answering Machine Emulation will not intercept a call manually transferred to an extension.

Voice Mail Overflow

Voice mail can be the *overflow destination* for the following types of calls (refer to the individual features for the specifics):

- Direct Inward Line on page 177
  - A line that directly rings an extension can overflow to voice mail.
- Extension Hunting on page 233
  - A line that rings an Extension Hunting group can overflow to voice mail.
- Group Ring on page 268
  - A line that rings a group of extensions can overflow to voice mail.
- Key Ring on page 295
  - A line ringing an extension's line keys can overflow to voice mail.

Message Center Mailbox

A Message Center Mailbox is a mailbox shared by more than one extension. Any keyset that has a Message Center Key for the shared mailbox can:

- Listen to the messages stored in the mailbox.
- Transfer calls to the shared mailbox.
- Use many other voice mail features previously available only at an extension's individual mailbox.

A Message Center Mailbox helps co-workers that work together closely - such as members of the same Pickup Group. For example, the group supervisor can send important messages to the shared Message Center Mailbox, to

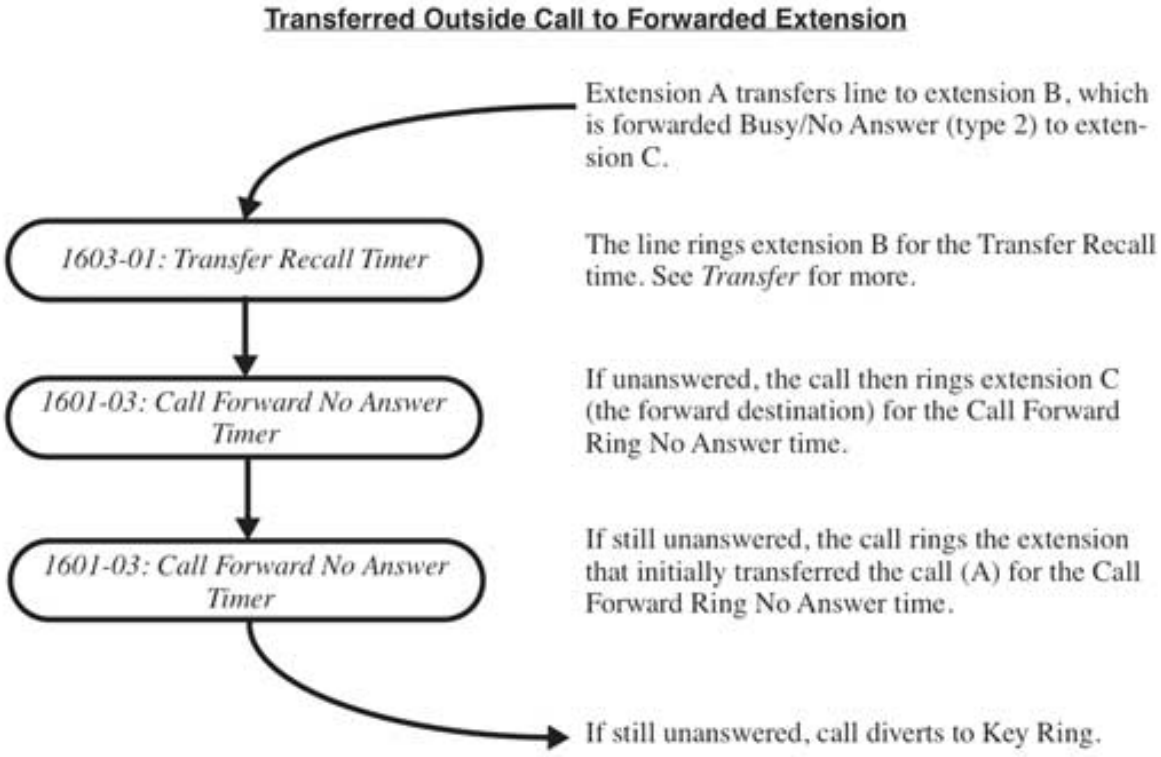
which any group member can respond when time allows. Each group member's Message Center Key flashes (green) when messages are waiting.

Interactive Soft Key Shows New Messages

The telephone's interactive soft keys show the number of new messages in the user's mailbox. For example, if a Display Telephone user has 2 new messages in their mailbox, their voice mail soft key shows: **VM02**. If a Super Display Telephone user has 2 new messages in their mailbox, their voice mail soft key shows **V-Mail 02**. The new message count resets to 00 as soon as the user calls their mailbox (regardless of whether the new messages were listened to). The message count returns when the system updates the Ring/Message lamp on the phone.

Call Forwarding Timers and Voice Mail

The following diagram shows how the system handles an outside call transferred to an extension that is forwarded to voice mail.



Conditions and Defaults

Conditions

- If an extension has a flashing Ring/Message lamp and the system resets or power fails, the lamp continues to flash after the system restarts.
- When the system rings an idle voice mail port, it will continue to ring the port until answered. The call will not cycle to a another member of the UCD Group (as it will for voice calls).
- The system will never send a loop supervision disconnect signal (i.e., drop pulse) to voice mail ports.

Default Setting

- If IntraMail is installed in a new system, it automatically activates on initial startup.

Other Related Features

Features

Account Codes on page 21

- Voice mail callout features (such as Message Notification) may interact with Account Codes if the callout number contains # characters.

Attendant Position on page 36

- STRF transfers to the attendant from the voice mail Automated Attendant flash the Operator Call key and the Ring Indicator lamp. The call does not flash a line/loop key. (Note that Ringing Line Preference will not pick up a call ringing the attendant's Operator Call key.)
- UTRF transfers to the attendant from the voice mail Automated Attendant flash the line's line/loop key and the Ring Indicator lamp.

Call Forwarding on page 71

- You can forward calls voice mail.

Caller ID on page 101

- Caller ID fully integrates with voice mail.

Direct Inward Line on page 177

- The voice mail Automated Attendant will answer a DIL terminated to the voice mail Master Number.
- If a DIL is terminated to the voice mail master number, a System Mode key (code 18 + the voice mail number) controls the night mode status of the DIL.

Direct Station Selection (DSS) Console on page 187

- A DSS Console can have voice mail Record and Message Center keys.

Extension Hunting on page 233

- To set up extension overflow to voice mail:
  - In 2115-01: Hunt Type Stations: Config: Options: Hunt/Overflow (2115): Hunt Type:, enter Hunt Type 3.
  - In 2115-01: Hunt Destination Stations: Config: Options: Hunt/Overflow (2115): Hunt Master/Destination:, designate the voice mail master number as the Hunt Destination.
  - Unanswered calls, in addition to calls to the extension while it is busy or in DND, route to the extension's mailbox.
- For Terminal and Circular Hunting, unsupervised transfers (UTRF) from the voice mail Automated Attendant route like outside calls. Supervised transfers (STRF) from the voice mail Automated Attendant route like Intercom calls. In either case, unanswered calls eventually route to the initially called extension's mailbox.
- When an extension user with Ring No Answer/Busy Terminal Hunting to voice mail parks a call at a co-worker's extension, the call recalls to them if not picked up. If still unanswered, the call diverts to Key Ring.

Message Waiting on page 335

- A system can have either voice mail or Message Waiting activated — not both.

Ringdown Extension on page 430

- If the Ringdown destination is the voice mail master number, the Ringdown Extension user hears the voice mail remote logon prompt ("*Please enter your mailbox number*") after the call connects.

Transfer on page 497

- Pressing **TRANSFER** + Call Coverage Key can Transfer a call to an uninstalled extension’s mailbox (if the mailbox is enabled).
- Pressing a Hotline key can also Transfer a call to an uninstalled extension’s mailbox (if the mailbox is enabled).

IntraMail Features

- None.

Voice Over

Get through to a co-worker busy on a handset call — without interrupting their call.

Description

Voice Over lets a user get through to a keyset extension user busy on a handset call. With Voice Over, the busy keyset extension user hears an alert tone followed by the voice of the interrupting party. The keyset extension user can respond to the interrupting party without being heard by the original caller. If desired, the keyset extension user can easily switch between their original caller and the interrupting co-worker. The original caller and the interrupting party can never hear each other's conversation.

Voice Over could help a lawyer, for example, waiting for an urgent call. While on a call with another client, the lawyer's paralegal could announce the urgent call as soon as it comes in. The lawyer could then give the paralegal instructions on how to handle the situation — all without the original client hearing the conversation.

Either a keyset or SLT can initiate a Voice Over, but only a keyset can receive a Voice Over.

Voice Over uses a system Conference circuit. The following table shows the system's Conference capacities:

Description	Capacity
Conference circuits	32
Maximum simultaneous users in Conference (total of all Conferences system-wide)	32
Maximum simultaneous conferences	8
Maximum parties in any one Conference (lines and/or extensions)	8

The system's 32 Conference circuits are dynamically allocated as users request them.

Conditions and Defaults

Conditions

- None.

Default Setting

- Disabled.

Other Related Features

Features

Attendant Position on page 36

- An operator cannot receive a Voice Over from a co-worker since their extension is never busy to Intercom callers.

Call Coverage Keys on page 63

- An extension can Voice Over after calling a co-worker by pressing their Call Coverage key.

Conference on page 144

- An extension user cannot Voice Over to a co-worker busy on a Conference call.

Direct Station Selection (DSS) on page 183

- An extension can Voice Over after using Direct Station Selection to call a co-worker.

Headset Compatibility on page 274

- An extension user cannot Voice Over to a co-worker in the headset mode.

Hotline on page 285

- An extension can Voice Over after calling a co-worker by pressing their Hotline key.

Intercom on page 292

- An extension user can Voice Over to a co-worker busy on an Intercom call.

Message Waiting on page 335

- An extension user cannot leave a Message Waiting after using Voice Over.

Off-Hook Signaling on page 362

- When a user is busy on a call, Off-Hook Signaling indicates that another caller is trying to get through.

Single Line Telephones on page 444

- An SLT can initiate a Voice Over but cannot receive a Voice Over.

Speed Dial on page 448

- An extension user can Voice Over after calling a co-worker by using Personal Speed Dial.

Transfer on page 497

- An extension user can Voice Over after making a Screened Transfer and hearing busy/ring tone.

IntraMail Features

- None.

VoIP Extensions

DSX IP Keysets are available on-premise in a managed network or as remote IP extensions. DSX IP also supports compliant third-party SIP phones, soft phones, and ATAs.

- Available in software versions 3.01 and higher.
- Requires the installation of a VoIP Daughter Board (VOIPDB). The VOIPDB (P/N 1091044) provides 8 maximum VoIP gateway ports on DSX-40; 16 maximum on DSX-80/160. Available gateway ports may be restricted by licensing.
- Up to 32 VoIP extensions are supported.

Setting up DSX Remote IP Keysets using ***NAT Traversal*** requires the purchase of a Lynksys WRT54GL or WRT160NL router for each remote site. Additionally, port 5060 at the system-side router must be forwarded to the system IP address. Depending on your experience level, this may require the services of an IT professional.

If setting up DSX Remote IP Keysets using ***VPN*** (Virtual Private Network), it requires the purchase of third-party VPN routers and the services of an IT professional.

Description

DSX IP Keysets

There are two available DSX IP Keysets: the *34-Button Backlit Display IP Telephone with Full-Duplex Speakerphone* and the *34-Button Backlit Super Display IP Telephone with Full-Duplex Speakerphone*.

34-Button Backlit Display IP Telephone with Full-Duplex Speakerphone (P/N 1090034)

The 34-Button Display IP Telephone features a large 3 line- by-24 character backlit alphanumeric display with 4 Interactive Soft Keys for intuitive feature access. It also provides 10 Personal Speed Dial keys, 24 programmable Feature Keys and 12 fixed function keys for streamlined operation. Additionally, this telephone offers a backlit keypad, a headset jack, and built-in Full-Duplex Speakerphone. Unique features include dual LEDs, built-in wall mounting, and an innovative two position angle adjustment.

The 34-Button Display IP Telephone has the same features and ease of use as the digital "TDM" model.

34-Button Backlit Super Display IP Telephone with Full-Duplex Speakerphone (P/N 1090035)

The Super Display IP Telephone features a large 9 line-by-24 character backlit alphanumeric display with 12 Interactive Soft Keys for intuitive feature access. It also provides 10 Personal Speed Dial keys, 24 programmable Feature Keys and 12 fixed function keys for streamlined operation. Additionally, this telephone offers a built-in Full-Duplex Speakerphone, a backlit keypad, and a headset jack. Unique features include dual LEDs, built-in wall mounting, and an innovative two position angle adjustment.

The 34-Button Super Display IP Telephone has the same features and ease of use as the digital "TDM" model.

VoIP Installation

You can install a DSX IP Keyset on-premise in a managed network or as a remote IP extension. The DSX IP Keyset supports common CODECs (G.711A, G.729, and G.722) which let you easily balance voice quality with available bandwidth.

Setting up DSX Remote IP Keysets using ***NAT Traversal*** requires the purchase of a Lynksys WRT54GL or WRT160NL router for each remote site. Additionally, port 5060 at the system-side router must be forwarded to the system IP address. Depending on your experience level, this may require the services of an IT professional.

If setting up DSX Remote IP Keysets using ***VPN*** (Virtual Private Network), it requires the purchase of third-party VPN routers and the services of an IT professional.

The DSX IP Keyset uses a single CAT5 ethernet cable to the desktop which connects to the compact, unobtrusive DSX IP Adaptor. The adaptor connects to the LAN, the IP keyset, and a PC, as well as provide the power required by the telephone. A separate power supply and cable are not required. If the router to which the keyset is connected is Power Over Ethernet (PoE 802.3af) compliant, the DSX IP Adaptor power supply is not required because telephone power can be provided by the router.

DSX IP Adaptor (P/N 1091045)

Third Party SIP Extensions

Third party SIP extensions compliant with SIP VoIP RFC 3261 can be installed on-site or remotely. The SIP extension should provide all the features available at a single line telephone unless dial pad keys are "hijacked" by the SIP extension. For example, if a SIP extension uses * as a setup command, it won't be able to use Directed Call Pickup.

Emergency (911) Calls and Remote IP Extensions

When a remote IP extension user dials 911, the call routes to the 911 service for the location in which the main system is installed. The emergency call ***does not*** route to the 911 service for the remote location.

Common VoIP Terms

Term	Description

NAT Traversal	Network Address Translation Traversal • Allows a Remote IP Keyset behind an inexpensive off-the-shelf router to connect to the DSX over the public internet. Without NAT Traversal, the remote site would have to implement VPN.
SOHO Router	Small Office Home Office Router • Usually refers to an inexpensive off-the-shelf NAT router typically found in a small office or home. Can be wired or wireless. The management interface provides basic features like DHCP setup, port forwarding, and basic security.
VPN	Virtual Private Network • VPN sets up a private, secure, nailed-up connection (called a tunnel) between a Remote IP Keyset and the DSX system. This effectively puts the remote keyset and the DSX system on the same network. This is an alternative to NAT Traversal and requires network administration knowledge to set up.

Conditions and Defaults

Conditions

- You should always check the readiness of the LAN or remote site before installing VoIP. See VoIP Readiness Test Tools for more.

Default Setting

- Station ports 101-128 (extensions 401-428) are assigned as IP station ports.
- No passwords are defined for IP extensions.
- VoIP Profile 1 is preset for on-premise (LAN) connections. This is the default assignment for all IP station ports.
- VoIP Profile 2 is preset for remote connections.

Other Related Features

Features

- DSX IP Keysets have the same feature set as on-premise digital "TDM" keysets.

IntraMail Features

- DSX IP Keysets have the same feature set as on-premise digital "TDM" keysets.

Installing the VoIPDB in DSX-80/160

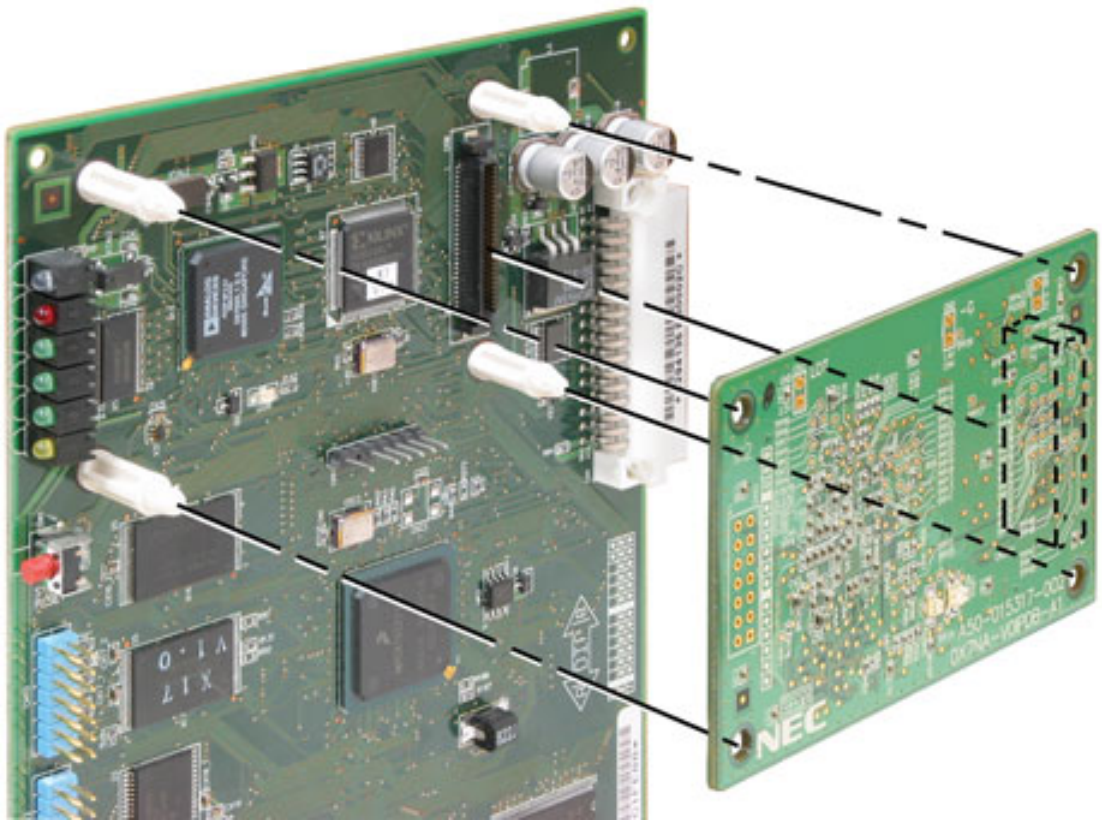
How to Install the VoIPDB in DSX-80/160

1. Power down the system and remove the cabinet cover.

1. Following the guidelines in the system *Hardware Manual*, power down the system by turning off the Main Equipment Cabinet power switch.
2. Remove the cabinet cover.

2. Remove the CPU Card and Install the VoIPDB

1. Be sure to take adequate anti-static precautions.
    1. You should always wear a grounded wrist strap when installing or removing DSX cards.
    2. Be sure the wrist strap is attached to a known electrical service ground (such as the earth ground lug on the cabinet).
    3. Discharge any built-up static electricity by touching a ground point.
2. Remove the card bracket that secures the CPU card to the cabinet.
3. Carefully remove the CPU card and place it on a flat, anti-static surface.
4. Install the plastic stand-offs.
    1. There are four plastic stand-offs included in the package with each VoIPDB.
    2. Following the illustration below, snap the stand-offs into the CPU card.
5. Following the illustration below, snap the VoIPDB into the CPU card.



3. Reinstall the CPU Card and Power UP

1. Slide the CPU card back into the Main Equipment Cabinet.
2. Reinstall the card bracket.
3. Reinstall the cabinet cover.
4. Power up the system.

Installing the VoIPDB in DSX-40

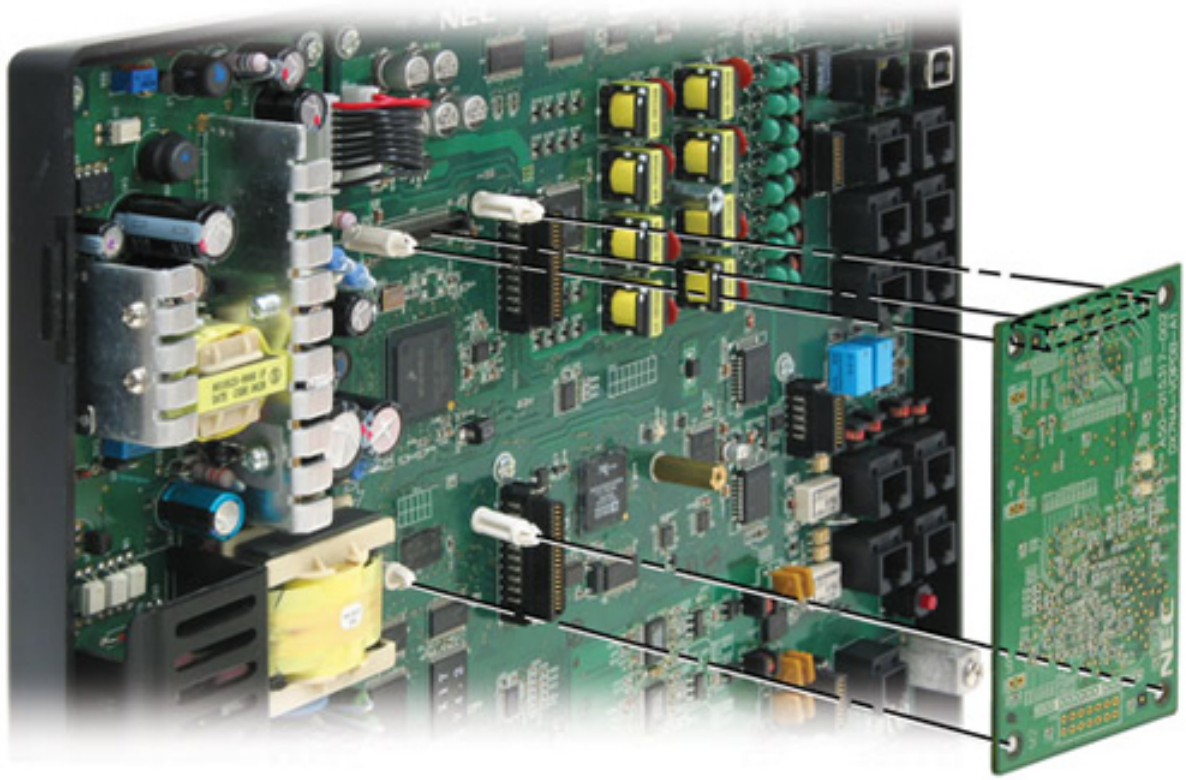
How to Install the VoIPDB in DSX-40

1. Power down the system and remove the cabinet covers.

1. Following the guidelines in the system *Hardware Manual*, power down the system by turning off the Main Equipment Cabinet power switch.
2. Remove the DSX-40 from the installation backboard and place it on a flat surface.
3. Remove the cabinet cover.
4. Remove the DSX-40 top panel.

2. Install the VoIPDB

1. Be sure to take adequate anti-static precautions.
    1. You should always wear a grounded wrist strap when installing or removing DSX cards.
    2. Be sure the wrist strap is attached to a known electrical service ground (such as the earth ground lug on the cabinet).
    3. Discharge any built-up static electricity by touching a ground point.
2. Install the plastic stand-offs.
    1. There are four plastic stand-offs included in the package with each VoIPDB.
    2. Following the illustration below, snap the stand-offs into the DSX-40 CPU card.
3. Following the illustration below, snap the VoIPDB into the DSX-40 CPU card.



3. Reinstall the Panels and Power UP

1. Replace the DSX-40 top panel.
2. Reinstall the cabinet cover.
3. Reinstall the cabinet onto the installation backboard.
4. Power up the system.

QUICK START: DSX On-Premise IP Keyset

How to Set Up an On-Premise DSX IP Keyset

1. The Basics

1. Be sure your LAN has a DHCP server connected and that your DSX system is connected to the LAN.
2. Assign a fixed IP address to the DSX system.
3. Follow QUICK START: DSX IP Adapter (IPA) on page 534 and connect your DSX IP keyset to the LAN.
4. By default for DSX IP extensions:
   a) Extension numbers are **401**-**428**.
   b) All extensions are assigned **VoIP Profile 1** (Local LAN).
   c) DHCP is enabled.

Part 2: Telephone System Setup

1. In 2106-02: Password [Stations: Config: Setup: VoIP: Password], assign a password to the extension number you want to use.
   a) Example: Enter **123456** for extension 401.

2. At any DSX keyset on the system, press **CHECK** + **DND** and make a note of the system's IP address.

Part 3: DSX IP Keyset Setup

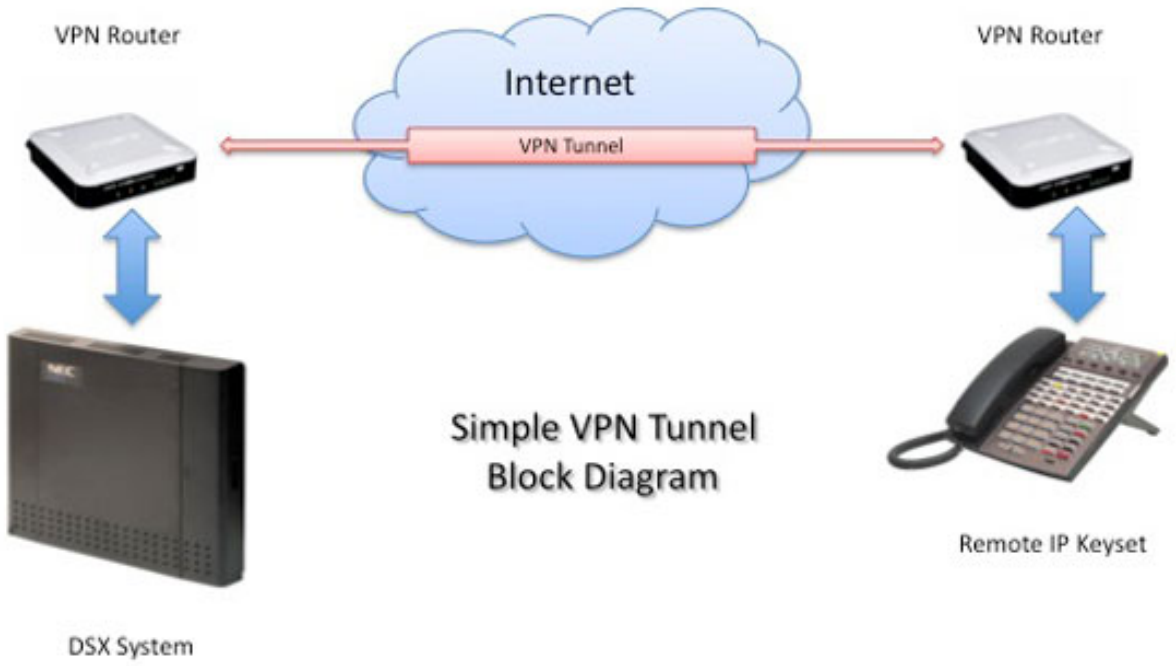
1. When the keyset display shows **DHCP Connecting** or **SIP Server Not Found**, press **HOLD** + **CONF** and dial *** #**.
   a) User Name = **ADMIN**
   b) Password = **632379** (necdsx)
2. Select **2: SIP Settings** to set up the SIP settings for the extension.
   a) Select **1: SIP User** + **1: User ID** + Enter the IP keyset's extension number (401 in this example) + **OK**.
   a) Select **2: Password** + Enter the password set for the extension in *2106-02: Password* (**123456** in this example) + **OK**.
   a) Select **3: Extension Number** and enter the IP keyset's extension number (**401** in this example) + **OK** + **Back**.
   a) Select **2: Server Address** + **1: 1st Server Address** + Enter the DSX system's IP address + **OK** + **Back** + **Back** + **Save**.
3. The DSX IP Keyset will automatically initialize and connect to the system.

QUICK START: DSX Off-Premise IP Keyset using VPN

How to Set Up an Off-Premise DSX IP Keyset using VPN

1. VPN Basics

DSX IP Keysets can connect to the system over a VPN (Virtual Private Network). A VPN is a private, secure network connection that "tunnels" through the public internet.



Consult an IT Professional
Setting up a VPN requires the purchase of third-party network equipment and the services of an IT Administrator. If you don't have this knowledge, you should always consult with a trained IT professional.

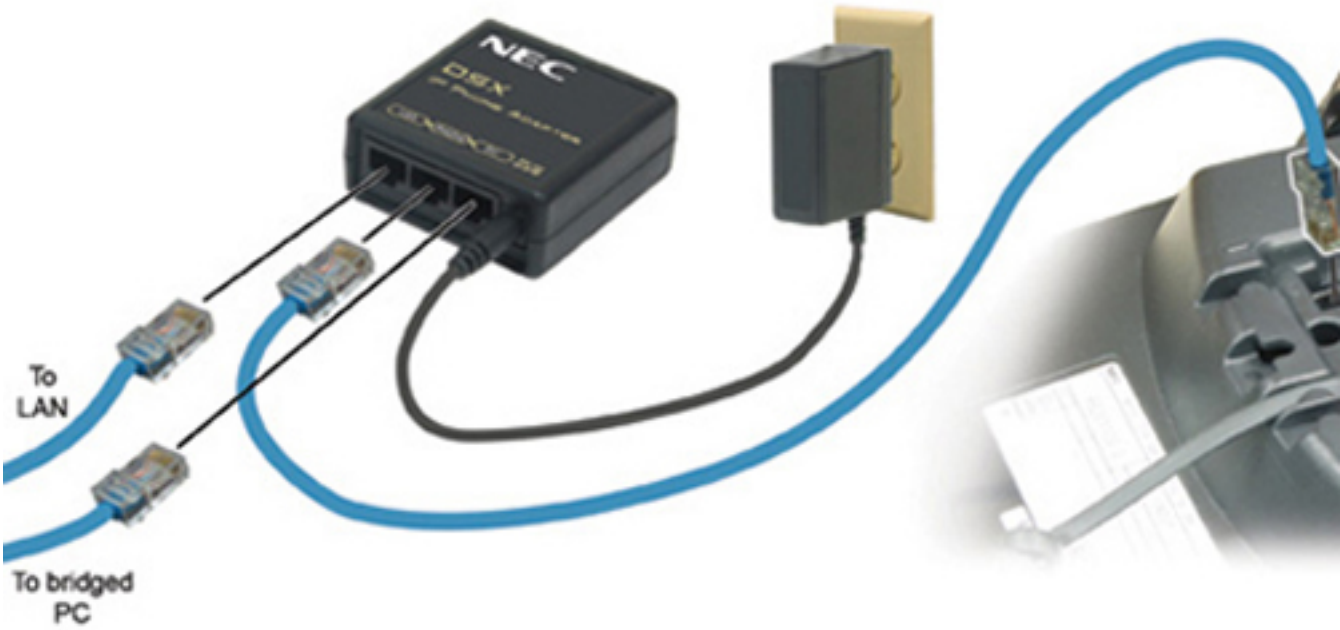
An incorrectly configured VPN tunnel could pose a security risk.
NEC Technical Services cannot assist you with your VPN setup. If you do not have IT expertise, always consult a trained IT professional. Optionally, you may be able to call the router manufacturer for installation and troubleshooting support.

To set up a VPN:

1. Install a VPN router at the remote location.
   - The LAN side of the remote router connects to the IP keyset.
   - The WAN side of the remote router connects to the public internet.
2. Install another VPN router at the system location.
   - The LAN side of this router connects to the system.
   - The WAN side of this router connects to the public internet.
3. Set up a VPN tunnel between the two routers.
   - Once the tunnel is set up, the remote IP keyset is part of the local LAN to which the system is connected. Set up the remote IP keyset as you would an on-premise IP keyset.
   - Due to bandwidth limitations and other performance variations in the public internet, you should normally choose *Profile 2* in 2106-01: VoIP Profile [Stations: Config: Setup: VoIP (2106): Profile] for your remote keysets.

DSX IP Keyset Setup
1. Connect and power-up the keyset.

1. Following the illustration below, plug the DSX IP Adapter power supply cord into the 48VDC jack on the adapter.



2. Plug the DSX IP Adapter power supply into a convenient 115 VAC receptacle.
3. Plug one end of a CAT5 cable into the PHONE jack on the adapter.
4. Using a separate CAT5 cable, connect the LAN jack on the adapter to the

5. Plug the other end of the network cable into the LAN jack on the telephone.
   Do not plug the LAN jack on the adapter into your LAN. That will come later.
6. Wait about 20 seconds for the IP keyset to initialize and start up.

2. Enter the setup data into the DSX IP Keyset.

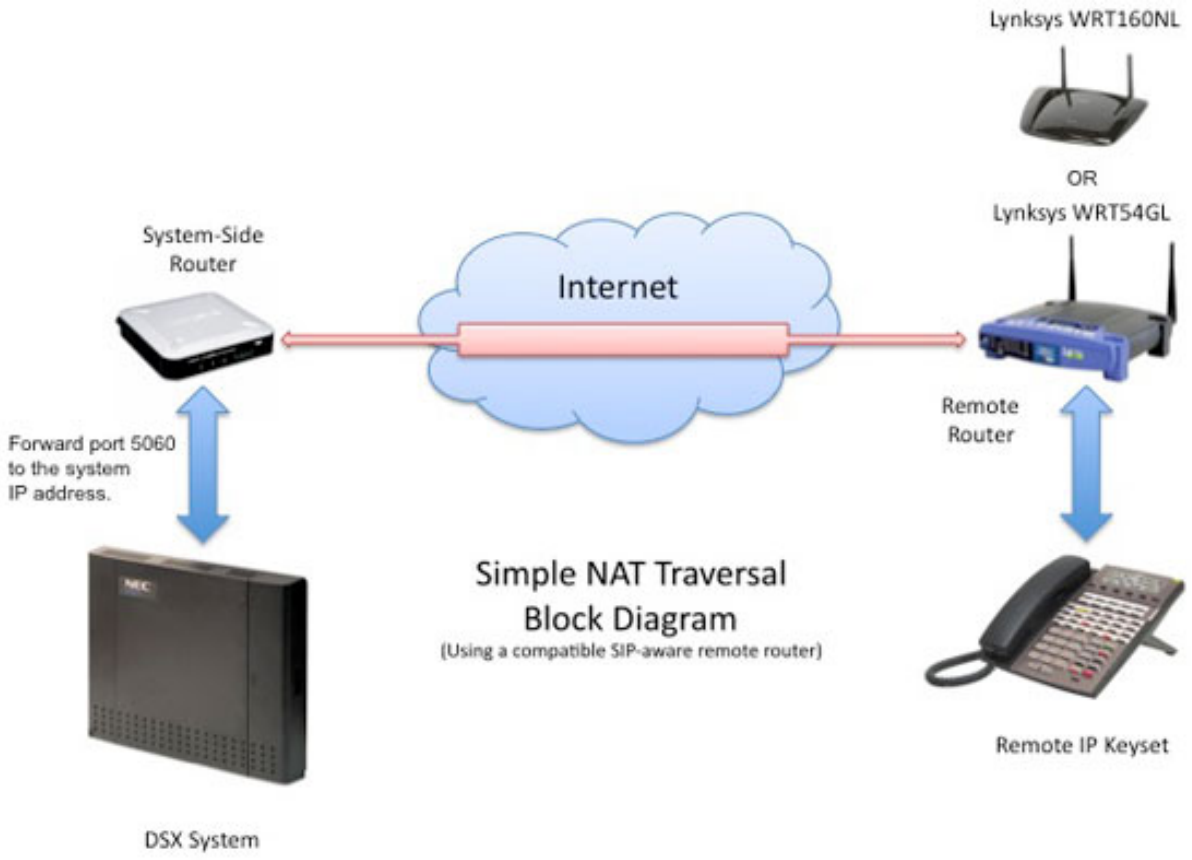
1. When the keyset display shows **Connecting** or **SIP Server Not Found**, press **HOLD CONF * #**.
2. When you see the setup menu opening screen, enter the setup mode password (**necdsx** or **632379**) + **HOLD**.
3. Dial **21** to access the SIP User options.
   1. Dial **1**, enter the IP keyset user ID, and press **OK**.
      - This is the IP keyset's extension number (e.g., 401 for the first IP keyset installed). See 1221-(01-64): VoIP Assignment [System: Ports: IP Stations: Assignment (1221/1222)] for more.
   2. Dial **2**, enter the IP keyset password, and press **OK**.
      - This is the password you entered for the IP extension in 2106-02: Password [Stations: Config: Setup: VoIP: Password]
   3. Dial **3**, enter the IP keyset extension number, and press **OK**.
      - This is the same as the User ID entered above.
4. Press **Exit** to back up to the setup menu main screen.
5. Dial **21** and enter the IP address of the system to which the keyset should connect + **OK**.
6. Press **Exit** twice + **Save** to save the data you just entered into the keyset.
   - The DSX IP Keyset with automatically reset.
   - After about 30 seconds, the IP keyset will register with the DSX system and begin to operate normally.

QUICK START: DSX Off-Premise IP Keyset using NAT Traversal

How to Set Up an Off-Premise DSX IP Keyset using NAT Traversal

NAT Traversal Basics

If you have an NEC-recommended SIP-aware compatible router installed at the remote site (currently the Lynksys WRT54GL or WRT160NL), you can connect the DSX IP Keysets at the remote site without the need for a VPN.



Consult an IT Professional
Setting up DSX Remote IP Keysets using ***NAT Traversal*** requires the purchase of a compatible router for each remote site. Additionally, port 5060 at the system-side router must be forwarded to the system private IP address. Depending on your experience level, this may require the services of an IT professional.
Incorrectly configured port forwarding can pose a security risk.
NEC Technical Services cannot assist you with your NAT Traversal setup. If you do not have IT expertise, always consult a trained IT professional. Optionally, you may be able to call the router manufacturer for installation and troubleshooting support.

To set up NAT Traversal:

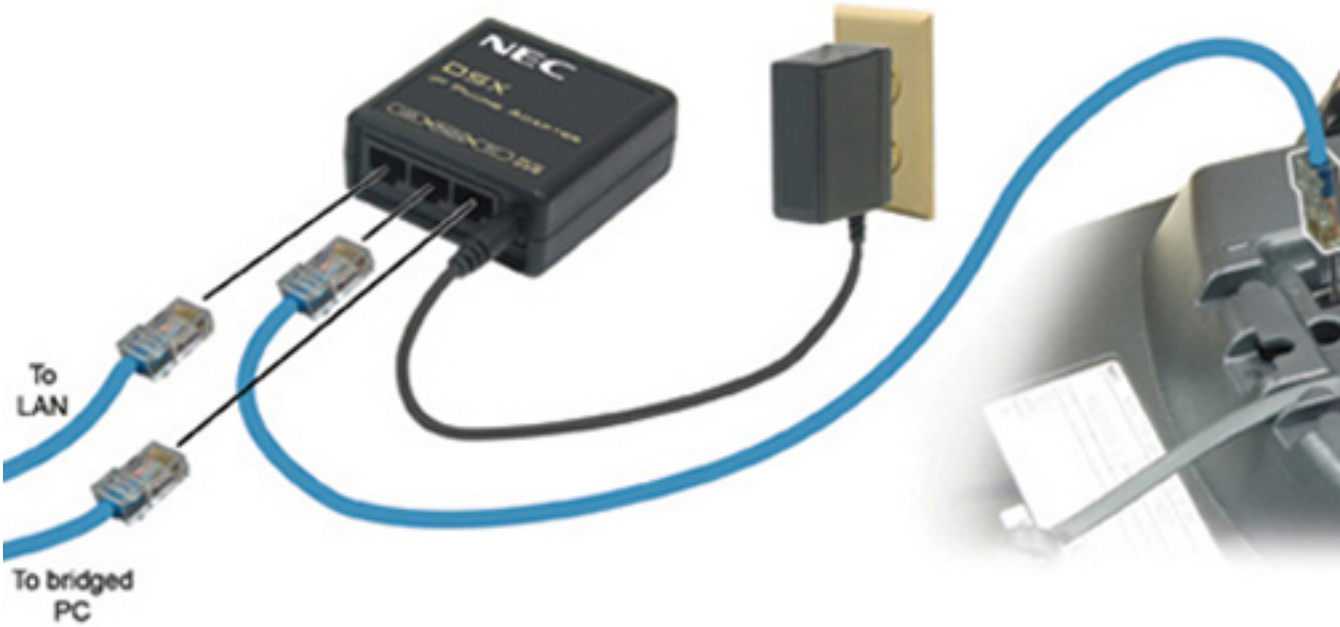
1. Install a compatible router at the remote location.
   - The LAN side of the remote router connects to the IP keyset.
   - The WAN side of the remote router connects to the public internet.
2. Install another router at the system location.
   - The LAN side of this router connects to the system.
   - The WAN side of this router connects to the public internet.
   - You do not have to install a SIP-aware compatible router at the system location.
3. In the system-side router, port forward port 5060 to the system's IP address.
4. Verify that RTP ports in the system side router that correspond to the system's RTP port range are not given any special treatment. Normally, this is ports 1024-1088.
5. When setting up the SIP server address in the remote IP keyset, enter the WAN address of system-side router. Do not enter the system's private IP address. See DSX IP Keyset Admin Menu Setup Options on page 537for more.

- Due to bandwidth limitations and other performance variations in the public internet, you should normally choose *Profile 2* in 2106-01: VoIP Profile [Stations: Config: Setup: VoIP (2106): Profile] for your remote keysets.

DSX IP Keyset Setup

1. Connect and power-up the keyset.

1. Following the illustration below, plug the DSX IP Adapter power supply cord into the 48VDC jack on the adapter.



2. Plug the DSX IP Adapter power supply into a convenient 115 VAC receptacle.
3. Plug one end of a CAT5 cable into the PHONE jack on the adapter.
4. Using a separate CAT5 cable, connect the LAN jack on the adapter to the
5. Plug the other end of the network cable into the LAN jack on the telephone.
   Do not plug the LAN jack on the adapter into your LAN. That will come later.
6. Wait about 20 seconds for the IP keyset to initialize and start up.

2. Enter the setup data into the DSX IP Keyset.

1. When the keyset display shows **Connecting** or **SIP Server Not Found**, press **HOLD CONF * #**.
2. When you see the setup menu opening screen, enter the setup mode password (**necdsx** or **632379**) + **HOLD**.
3. Dial **21** to access the SIP User options.
   1. Dial **1**, enter the IP keyset user ID, and press **OK**.
      - This is the IP keyset's extension number (e.g., 401 for the first IP keyset installed). See 1221-(01-64): VoIP Assignment [System: Ports: IP Stations: Assignment (1221/1222)] for more.
   2. Dial **2**, enter the IP keyset password, and press **OK**.
      - This is the password you entered for the IP extension in 2106-02: Password [Stations: Config: Setup: VoIP: Password]

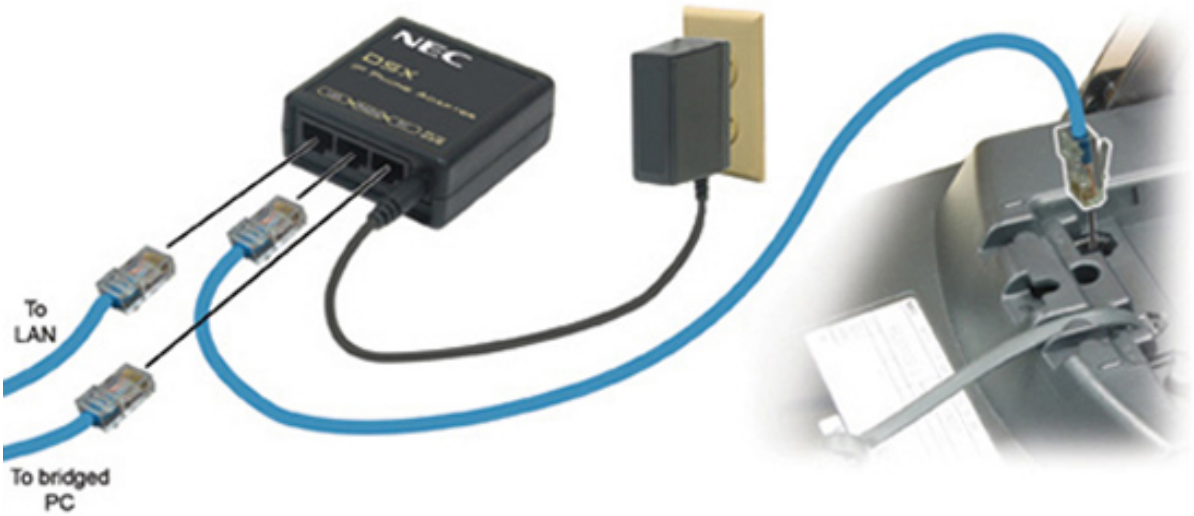
3. Dial **3**, enter the IP keyset extension number, and press **OK**.
   - This is the same as the User ID entered above.

4. Press **Exit** to back up to the setup menu main screen.
5. Dial **21** and enter the IP address of the system to which the keyset should connect + **OK**.
6. Press **Exit** twice + **Save** to save the data you just entered into the keyset.
   - The DSX IP Keyset with automatically reset.
   - After about 30 seconds, the IP keyset will register with the DSX system and begin to operate normally.

QUICK START: DSX IP Adapter (IPA)

How to Quickly Set Up the DSX IP Adapter
To install the DSX IP Adapter:

1. Plug the DSX IP Adapter power supply cord into the **48V DC** jack on the adapter.
2. Plug the DSX IP Adapter power supply into a convenient 115V AC receptacle.
3. Connect a CAT5e cable (4-pair) from the **PHONE** jack on the IPA to the **LAN** jack on the telephone.
4. Using another CAT5e cable, connect the **LAN** jack on the IPA to your LAN.
   a) You can optionally connect a PC to the **PC** jack on the IPA. The telephone ***must*** be connected.
   b) If connected to a PoE 802.3af compliant switch, you can omit the IPA power supply.



Setting up the System Options for an On-Premise DSX IP Keyset

Verify the site LAN capabilities.
1. Check to be sure the site LAN has a DHCP server.

1. DHCP greatly simplifies IP keyset setup since the keyset will automatically get an IP address when you plug it in.
2. DHCP client is enabled by default in the DSX IP keysets.

2. Verify that the LAN has adequate bandwidth available to support IP calls.

1. Installing a modest number of DSX IP keysets on a managed LAN should pose few bandwidth challenges. For example, four IP keysets (80KB worst case per keyset) would only require 320KB available bandwidth. Significant delays in a well-managed LAN are normally minimal.
2. There are a variety of LAN performance testing and monitoring tools available to help you check bandwidth and delay, with some at little or no cost. One such example is Softperfect's NetWorx, but there are many more available.

Setting the System Options

1. Check the VoIP station port assignments.

1. 1221-(01-64): VoIP Assignment [System: Ports: IP Stations: Assignment (1221/1222)]

   Verify the system's IP station port assignments.

   - By default, IP stations use:
     - **Ports 101-128**.
     - **Extension numbers 401-428**.

Options	Description
Station Port	Assign an IP port (1-64) to a station port (1-128) [Default] IP ports 1-28 are assigned to station ports 101-128 (extensions 401-428).

2. Leaving the port assignments at default will make the initial installation easier.

2. Enter a password for the IP extension.

1. 2106-02: Password [Stations: Config: Setup: VoIP: Password]

   Enter the password for the extension (24 characters maximum).

Options	Description
Alphanumeric	Extension's password (24 characters maximum). [Default] = no password entered. See the Name Programming Chart on page 351.

2. For security to protect unwanted access into the system, the password you enter in this option must also be entered into the IP keyset.

3. Assign the extension's VoIP profile and check the VoIP port range.

1. 2106-01: VoIP Profile [Stations: Config: Setup: VoIP (2106): Profile]

   For on-premise VoIP keysets, select VoIP profile 1.

   There are four VoIP profiles.

   - Profile 1 is preset for on-premise IP keysets.
   - Profile 2 is preset for remote IP keysets.
   - Profiles 3 and 4 are not preset, but contain the default value for each option.

Each profile contains dozens of detailed VoIP parameters that you customize. However, it is highly recommended that you adjust the parameters ***only if you are a qualified IT administrator*** . For more on each of these parameters, see the following:

- 1812: Codecs
  - 1812-(01-06): Codec Type [System: VoIP: Profile (1-4): Codecs (1812): Codec]
  - 1812-(01-06): Frame Size [System: VoIP: Profile (1-4): Codecs (1812): Frame Size]
  - 1812-(01-06): Jitter Minimum [System: VoIP: Profile (1-4): Codecs (1812): Jitter Minimum]
  - 1812-(01-06): Jitter Standard [System: VoIP: Profile (1-4): Codecs (1812): Jitter Standard]
  - 1812-(01-06): Jitter Maximum [System: VoIP: Profile (1-4): Codecs (1812): Jitter Maximum]
  - 1812-(01-06): Silence Compression [System: VoIP: Profile (1-4): Codecs (1812): Silence Compression]
- 1813: Settings
  - 1813-01: Jitter Mode [System: VoIP: Profile (1-4): Settings (1813): Jitter Mode]
  - 1813-02: Silence Threshold [System: VoIP: Profile (1-4): Settings (1813): Silence Threshold]
  - 1813-03: Idle Noise [System: VoIP: Profile (1-4): Settings (1813): Idle Noise]
  - 1813-04: Transmit Gain [System: VoIP: Profile (1-4): Settings (1813): Tx Gain]
  - 1813-05: Transmit Gain [System: VoIP: Profile (1-4): Settings (1813): Rx Gain]
- 1814: Echo Canceller
  - 1814-01: Echo Cancel [System: VoIP: Profile (1-4): Echo Canceller (1814): Echo Cancel Enable]
  - 1814-02: Echo Tail [System: VoIP: Profile (1-4): Echo Canceller (1814): Echo Tail]
  - 1814-03: NLP Enable [System: VoIP: Profile (1-4): Echo Canceller (1814): NLP Enable]
  - 1814-04: NLP Noise Mode [System: VoIP: Profile (1-4): Echo Canceller (1814): NLP Noise Mode]
  - 1814-05: Auto Gain Control [System: VoIP: Profile (1-4): Echo Canceller (1814): Auto Gain Control]
- 1815: DTMF
  - 1815-01: DTMF Relay [System: VoIP: Profile (1-4): DTMF (1815): DTMF Relay Enable]
  - 1815-02: DTMF Payload Type Number [System: VoIP: Profile (1-4): DTMF (1815): DTMF Payload]
  - 1815-03: ILBC Payload Type Number [System: VoIP: Profile (1-4): DTMF (1815): ILBC Payload]
  - 1815-04: G.726 Payload Type Number [System: VoIP: Profile (1-4): DTMF (1815): G.726 Payload]

Options	Description
1	[Default] VoIP profile for on-premise DSX IP keysets.
2	VoIP profile for off-premise DSX IP keysets.
3	VoIP profile 3.
4	VoIP profile 4.

2. Now that the system programming is complete, go to Connecting and Setting up the DSX IP Keyset Options.

DSX IP Keyset Admin Menu Setup Options

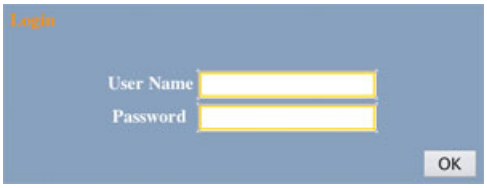
The Admin Menu

1. To access the Admin Menu from the IP keyset:

1. Press **HOLD** + **CONF** + ***** + **#**.
   a) This option is not available while the keyset is starting or initializing.
2. Press **Volume Down** to go to the *Password* field.
3. Enter the password (**632379** by default) + Push **OK**.
   a) When entering data from the IP keyset, dialing * shifts that data entry mode from *caps* to *lowercase* to *numeric*.

2. To access the Admin Menu from your web browser:

1. Type the IP keyset IP address into your browser address line + **Enter**.
   a) To get the keyset's IP address (from the keyset): Press **CHECK** for 2 seconds + **2.System Information** + **1.Network Settings** + **Next**.
   See DSX IP Keyset CHECK Menu Options on page 542 for more on understanding the **CHECK** key menu.
2. In the Login box:



   a) *User Name* = **ADMIN**.
   b) *Password* = **632379**.
3. Press **Volume Down** to go to the Password field.
4. Enter the password (**632379** by default) + Push **OK**.

DSX IP Keyset Admin Menu Setup Options			
1: Network Settings			
	1: DHCP Mode	Enable or disable the IP keyset as a DHCP client. If enabled, the following entries for IP Address, Default Gateway, Subnet Mask, and DNS Address are not required. **[Default] = enabled**.	
		1: Enable	Enable the IP keyset as a DHCP client. If enabled, ***do not*** make entries below for IP Address, Default Gateway, Subnet Mask, and DNS Address.
		2: Disable	Disable the IP keyset as a DHCP client. If disabled, you need to make entries below for IP Address, Default Gateway, Subnet Mask, and DNS Address.
	2: IP Address	If DHCP for the IP keyset is disabled, enter the keyset's IP address here. Be sure the address you choose is reserved as a fixed address on the LAN and not part of the DHCP pool. **[Default] = no entry**.	

	3: Default Gateway	If DHCP for the IP keyset is disabled, enter the IP address of your LAN's router. This differentiates internal (LAN) addresses from external (WAN) addresses. **[Default] = no entry**.		
	4: Subnet Mask	If DHCP for the IP keyset is disabled, the mask determines which digits of an internal (LAN) IP address are used for routing. Most small networks use a 24-bit mask (255.255.255.0) and route on the last "octet" only. **[Default] = no entry**.		
	5: DNS Address	If DHCP for the IP keyset is disabled, you need to specify the IP address of the Domain Name Server (DNS) so URLs from the keyset are converted to numeric routing addresses. (Currently, IP keysets do not send URLs.) Normally, you should enter the same DNS as used by your LAN. **[Default] = no entry**.		
2: SIP Settings				
	1: SIP User			
		1: User ID	Enter the IP keyset's extension number. **[Default] = no entry**.	
		2: Password	Enter the password entered for the extension in 2106-02: Password [Stations: Config: Setup: VoIP: Password]. **[Default] = no entry**.	
		3: Extension Number	Enter the IP keyset's extension number. **[Default] = no entry**.	
	2: SIP Server			
		1: Server Address	Enter the IP address of the DSX system to which the IP keyset is connected. **[Default] = no entry**.	
		2: Server Port	Leave this setting at default. **[Default] = 5060**. This option also shows the RTP port range (1024-65535).	
		3: SIP Local Port	This is the IP telephone's SIP port. Normally, you should leave this setting at default. **[Default] = 5060**. This option also shows the SIP port range (1024-65535).	
		4: RTP Local Port	This is the IP telephone's RTP port. Normally, you should leave this setting at default. **[Default] = 3462**. This option also shows the RTP port range (1024-65535).	
3: Maintenance				
	1: Download Menu			
		1: Download Files	Specify the type of file you want to download to your IP keyset.	
			1: Config	Not used.
			2: Boot & Program	Select this entry when you want to update the firmware

				in the IP keyset. The firmware download is hosted by NEC. **[Default] = no entry**.
			3: Flash Memory Image	Not used.
		2: Download Address	Address of the server hosting the file you want to download. When downloading the latest IP keyset firmware from NEC, enter 69.37.115.61. **[Default] = 69.37.115.61**.	
		3: Protocol	Download protocol (FTP or TFTP). When downloading IP keyset firmware from NEC, Select FTP. **[Default] = FTP.**	
		4: FTP Settings	Enter the username, password, and source folder for FTP downloads to your IP keyset.	
			1: User ID	FTP username for downloading files. When downloading IP keyset firmware from NEC, enter DSX. **[Default] = DSX**.
			2: Password	FTP password for downloading files. When downloading IP keyset firmware from NEC, enter FIRMWARE. **[Default] = FIRMWARE**.
			3: Folder	This is the folder on the server which contains the file you want to download. When downloading IP keyset firmware from NEC, leave this entry blank. **[Default] = no entry**.
	2: Reset	Select to restart the IP keyset. All your admin entries remain intact.		
	3. Data Clear	Select the type of IP keyset data you want to clear (initialize).		
		1: Factory Settings	Select to return all admin menu entries to their default values and additionally reset some low-level IP keyset resources.	

		2: Phone Settings	Select to return all admin menu entries to their default values. Normally, you cause use options 1 and 2 interchangeably.	
	4. Simple Test	Make some simple, self-contained tests right from the IP keyset. These tests are not available from the web interface.		
		1: Call Test	Select to set up a peer-to-peer test call to the IP keyset specified in the following option. **[Default] = no entry**.	
		2: Call Test Address	Enter the IP address of the IP keyset to which you want to set up a peer-to-peer test call. **[Default] = no entry**.	
		3: Key Test 1 (Random)	Press any key on the IP keyset to display its function. • Press the selected key repeatedly to test the key's LED. • The numbers to the left and right on the third line of the display are the ambient light sensor readings. • Lift and replace the handset to exit the test.	
		3: Key Test 2 (Sequential)	Press the keys on the IP keyset according to the sequence shown on the display. Use this test to verify the keys, available tones, LEDs, and display elements. • The numbers to the left and right on the third line of the display are the ambient light sensor readings. • Lift and replace the handset to exit the test.	
		5: Loop Back Test		
			1: Handset - Handset	Connects the handset microphone (transmitter) to the handset speaker (receiver).
			2: Handset - Speaker	Connects the handset microphone to the telephone speaker.
			3: Headset - Headset	Connects the headset microphone (transmitter) to the headset speaker (receiver).
			4: Headset - Speaker	Connects the headset microphone

				to the telephone speaker.
			5: MIC - Handset	Connects the Handsfree microphone to the handset speaker (receiver).
			6: MIC - Headset	Connects the Handsfree microphone to the headset speaker (receiver).
			7: MIC - Speaker	Connects the Handsfree microphone to the telephone speaker.
		6: Speaker Test		
			1: America	Plays a short beep followed by standard US dial tone.
4: Security				
	1: Web Programming			
		1: Disable		Select to disable the web interface for the admin menu programming. The telephone interface will continue to function. **[Default] = enabled**.
		2: Enable		Select to enable the web interface for the admin menu programming. **[Default] = enabled**.
	2: Admin Password			
		Old Pswd		Use this option to change the admin password (normally 632379). You need to enter your old password here. **[Default] = 632379**.
		New Pswd		Use this option to change the admin password (normally 632379). You need to enter your new password here. **[Default] = 632379**.
		Re-Enter		If you entered a new admin in the previous option, reenter here as well. The new password will take effect only if you enter it identically in this option ***and*** the New Pswd option.
5: Information				

	Hardware Version	This entry displays the IP keyset hardware revision level. In the web interface, this option is shown on the toolbar.
	MAC Address	This entry displays the IP keyset MAC address. In the web interface, this option is shown on the toolbar.
	Firmware Version	This entry displays the version of firmware currently installed in the IP keyset. In the web interface, this option is shown on the toolbar.

DSX IP Keyset CHECK Menu Options

The CHECK Menu
To access the IP Keyset CHECK Menu:

1. Press **CHECK** for two seconds.
   a) This option is not available while the keyset is starting or initializing.
2. The CHECK options menu displays.

DSX IP Keyset CHECK Key Options Menu			
1.Qos			
	1.Lost Packets	While you are on a call, this selection keeps track of lost voice packets.	
	2.Codec	While on a call, this selection shows the CODEC used for the call.	
	3.Frame Size	While on a call, this selection shows the frame size of the RTP voice packets (also called *P Time*).	
2.System Information			
	1.Network Settings		
		DHCP Mode	Shows if DHCP for the IP keyset is on or off.
		IP Address	This is the keyset's IP address. The display also indicates the method used to obtain the address (e.g., DHCP).
		Default Gateway	Default Gateway is the address of the router to which the IP keyset is connected. This differentiates internal (LAN) addresses from external (WAN) addresses.
		Subnet Mask	The Subnet Mask determines which digits of an internal (LAN) IP address are used for

			routing. The display also indicates the method used to obtain the address (e.g., DHCP).
		DNS Address	DNS (Domain Name Server) is the address of the server that converts URLs to numeric routing addresses. (Currently, IP keysets do not send URLs.)
	2.SIP Settings		
		User ID	The User ID is the IP keyset's extension number.
		Keyset URL	This expression is the extension number@keyset IP address:sip port number. • For extension 401 at 172.25.181.60 on port 5060, this expression would be: sip:401@172.25.181.60:5060 • Push **>>** to see the entire expression. **P0** and **P1** show which display page you are viewing.
		Connected SIP Server	This is the SIP server to which you are connected, and will be the system's IP address.
		Server Address	This is the system's IP address.
		Server Port	This is the SIP port, and will be 5060.
	3.Keyset Information		
		Hardware Version	This selection provides information about your IP keysets hardware and firmware.
		MAC Address	This is the MAC (Media Access Control) hardware address of the IP keyset.
		Firmware Version	This is the version of firmware installed in the IP keyset.

		Option Module	Indicates if you have an option module (such as the WHA Wireless Headset Adapter) installed on your IP keyset.
3.Ping			
	Address?	Enter the IP address you want to ping and push **OK**. • The keyset will send four pings to the entered address. • **NG** Indicates a failed ping. **OK** indicates a successful ping.	

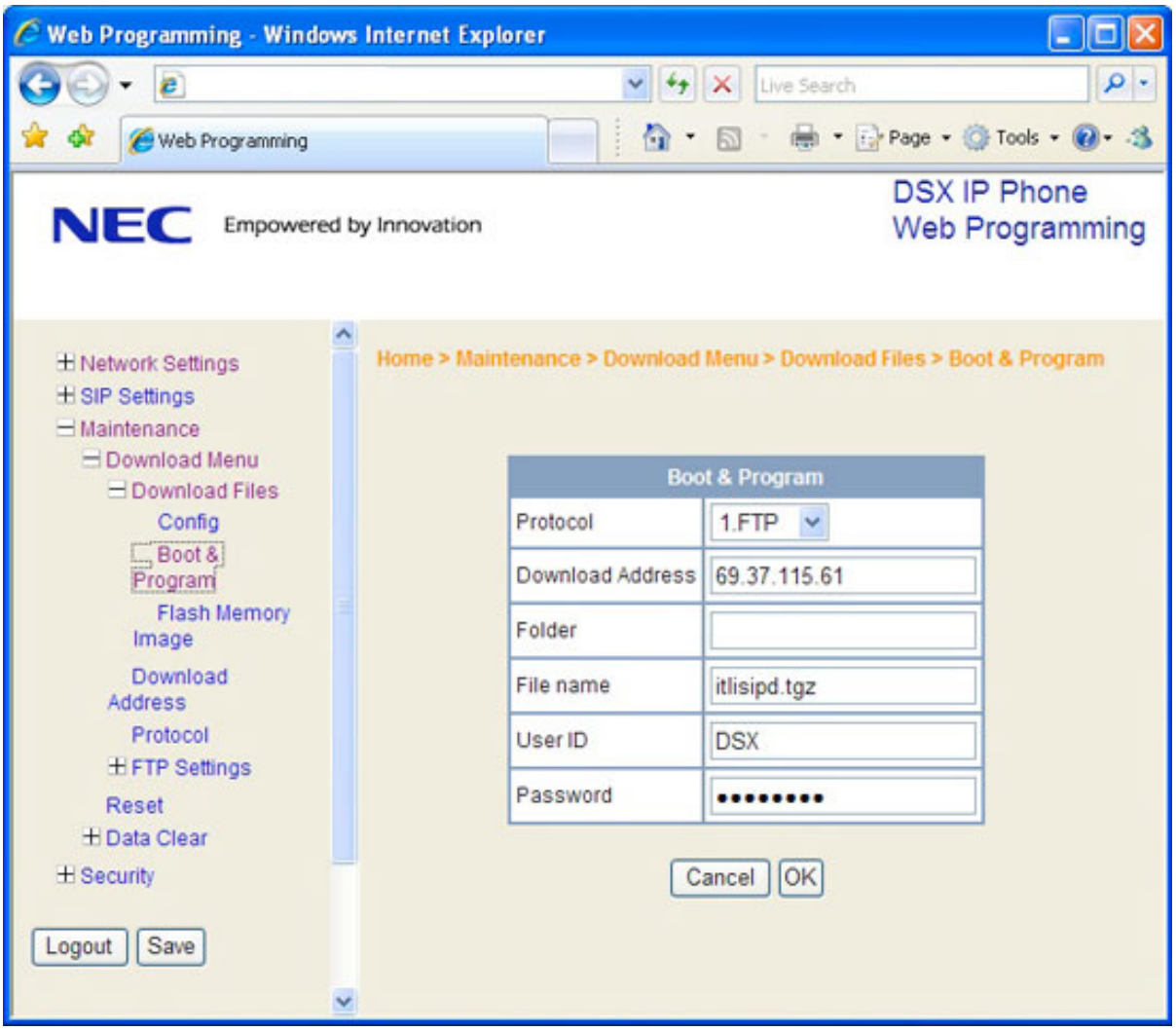
DSX IP Telephone Firmware Update

Updating the DSX IP Telephone Firmware
1. Updating the Firmware from the Telephone

1. Be sure you are connected to the internet. We host the new firmware on our ftp server, and you must be connected to the internet to reach the server.
2. Press **HOLD** + **CONF** and dial ***** **#**.
   a) This option is not available while the keyset is starting or initializing.
3. Log onto the telephone as an administrator. By default:
   a) *User Name* = ADMIN
   b) *Password* = necdsx (632379)
4. Select *3:Maintenance*: *1:Download Menu*: *2:Download Address*.
   a) Enter **69*37*115*61** and push **OK**.
   b) This is the default entry.
5. Select *3:Protocol*.
   a) Choose *1:FTP* and push **OK**.
   b) This is the default setting.
6. Select *4:FTP Settings*.
   a) For *1:User ID*, enter **DSX** and push **OK**.
   b) For *2:Password*, enter **FIRMWARE** and push **OK**.
   c) Make sure *3:Folder* has no entry.
   d) These are the default entries.
7. Push **Back** to back up to the *Download Menu*.
8. Select *1:Download Files* + *2:Boot & Program*.
   a) Accept the default displayed entry and push **Exec**.
   b) The telephone display flashes *Downloading. . .*, then shows the *Saving...* progress bar.
9. When the update completes (about 5 minutes), push **Exit** to reset the telephone.
   a) The telephone will restart with the new firmware.

2. Updating the Firmware from your Web Browser

1. Be sure you are connected to the internet. We host the new firmware on our ftp server, and you must be connected to the internet to reach the server.
2. Type the telephone's IP address into your browser's address line.
   a) To find out the telephone's IP address, press **CHECK** for 2 seconds + *2.System Information* + *1.Network Settings* + Push **Next**.
3. Log onto the telephone as an administrator. By default:
   a) *User Name* = ADMIN
   b) *Password* = 632379

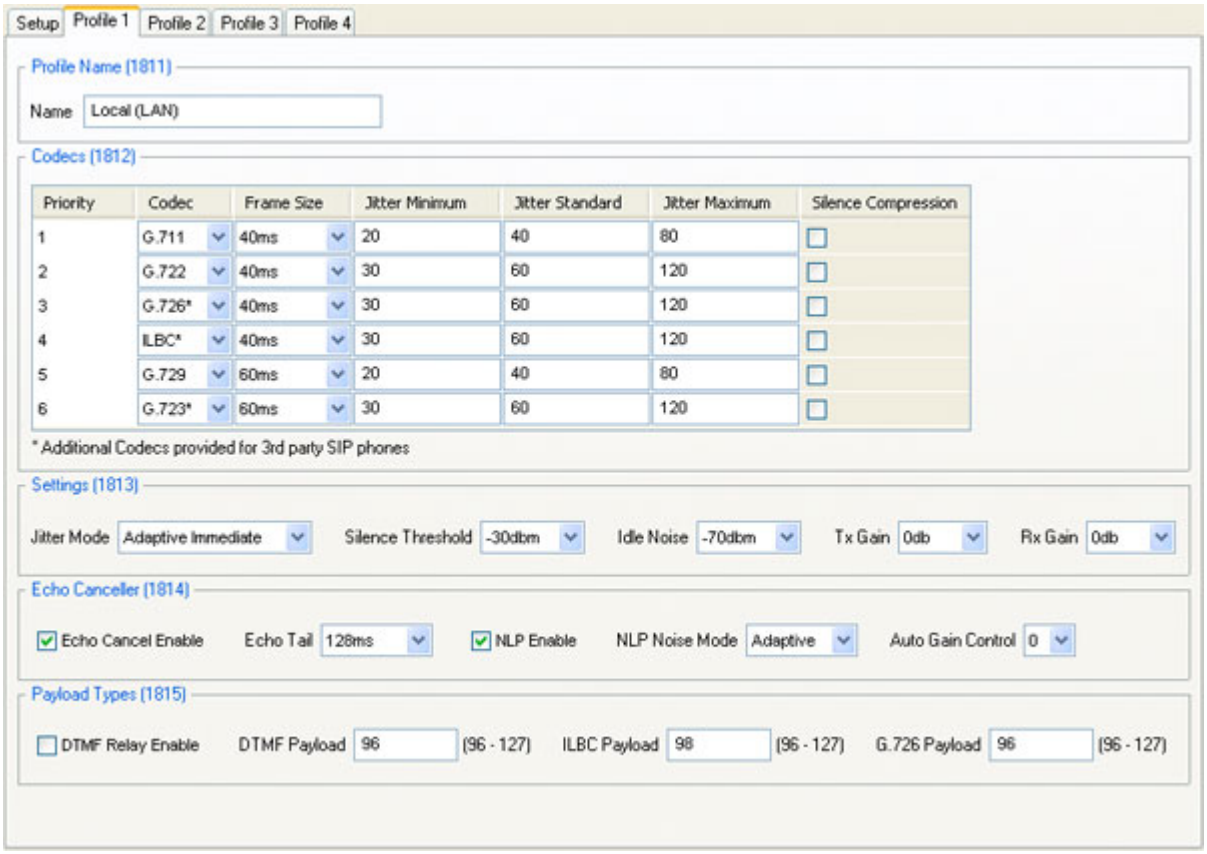


4. Select *Maintenance Settings: Download Menu: Download Files: Boot & Program*.
5. In the Boot & Program screen:
   a) *Protocol* = 1.FTP
   b) *Download Address* = 69.37.115.61
   c) *Folder* = (no entry)
   d) *File name* = (always use the default displayed entry)
   e) *User ID* = DSX
   f) Password = FIRMWARE
   g) These are the default settings.

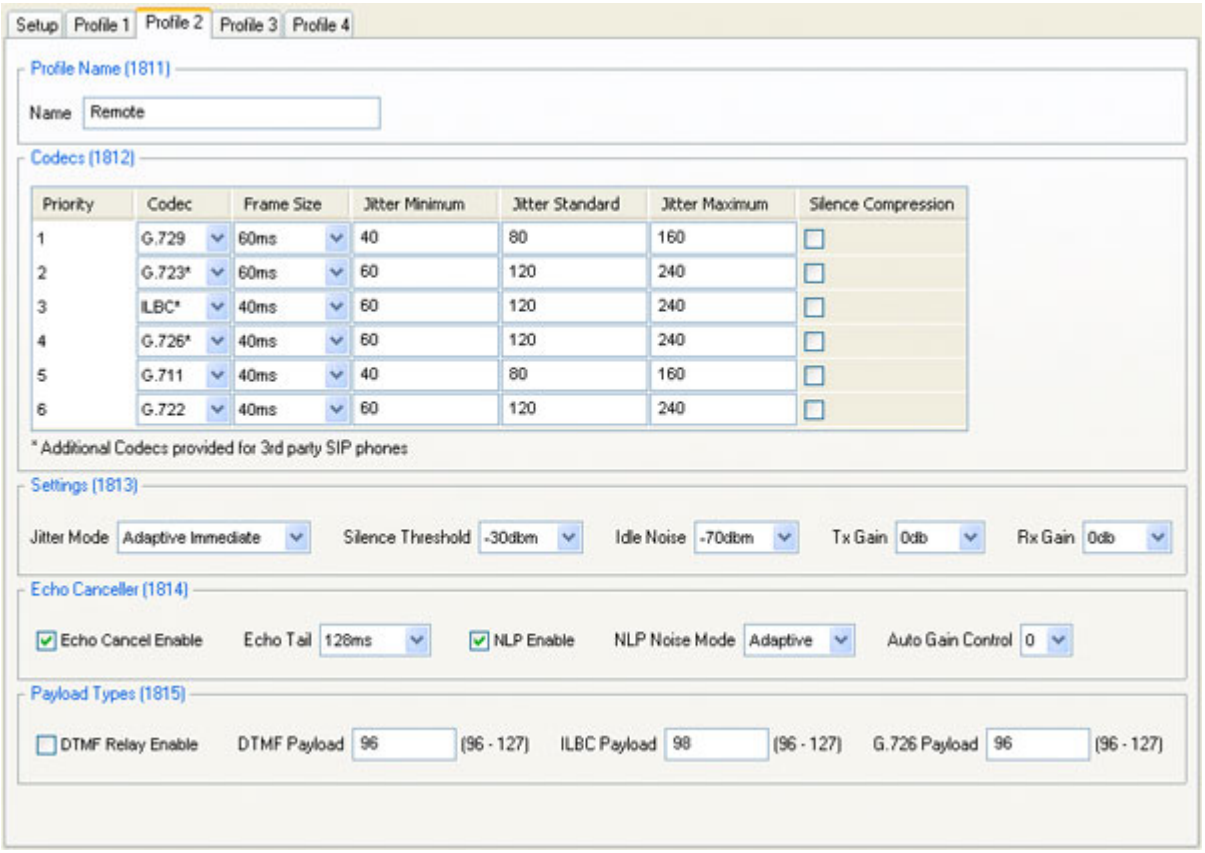
6. Click **OK**, then click **OK** again when you see a download confirmation screen.
   a) Your browser screen shows: *Downloading...*
   b) The telephone display shows *Downloading...*, then the *Saving...* progress bar.
7. When the update completes (about 5 minutes), click **OK** to reset the telephone.
   a) The telephone will restart with the new firmware.

VoIP Profile Defaults

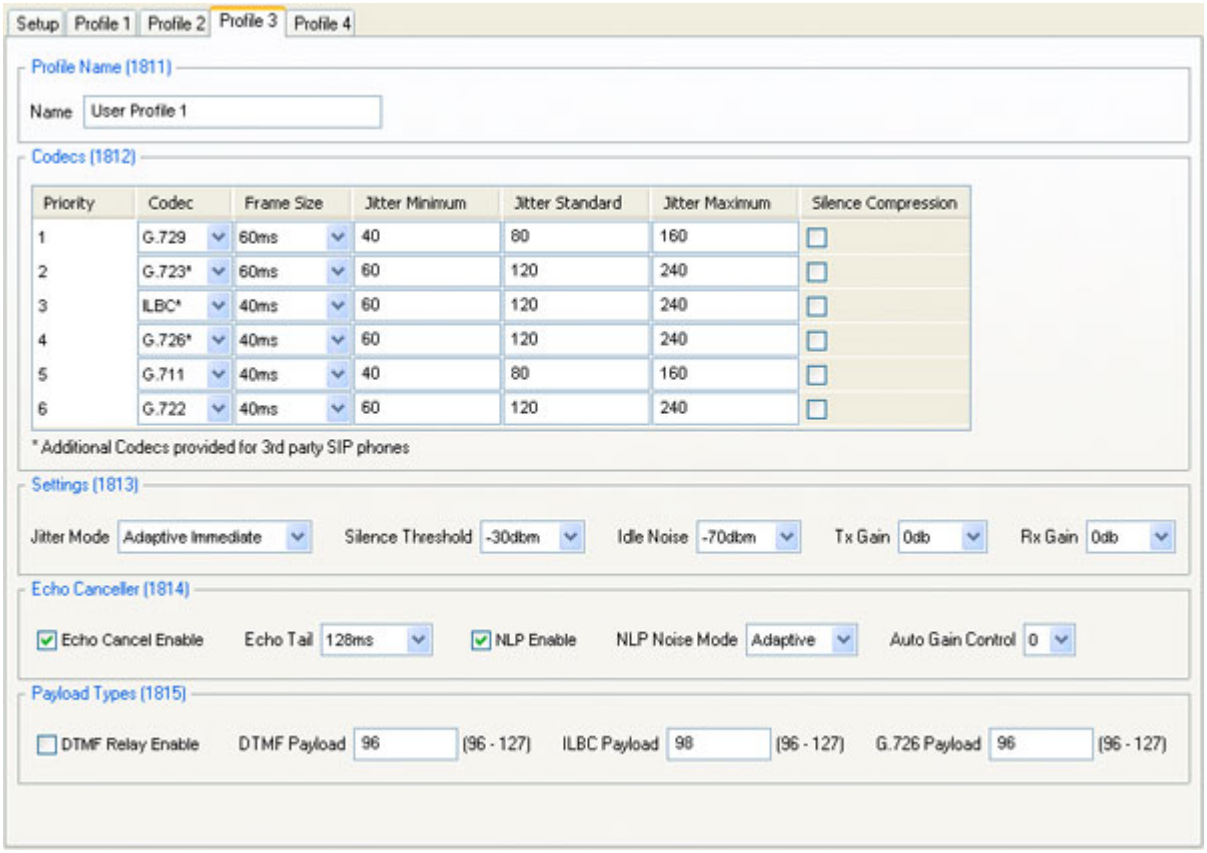
VoIP Profile 1 Defaults



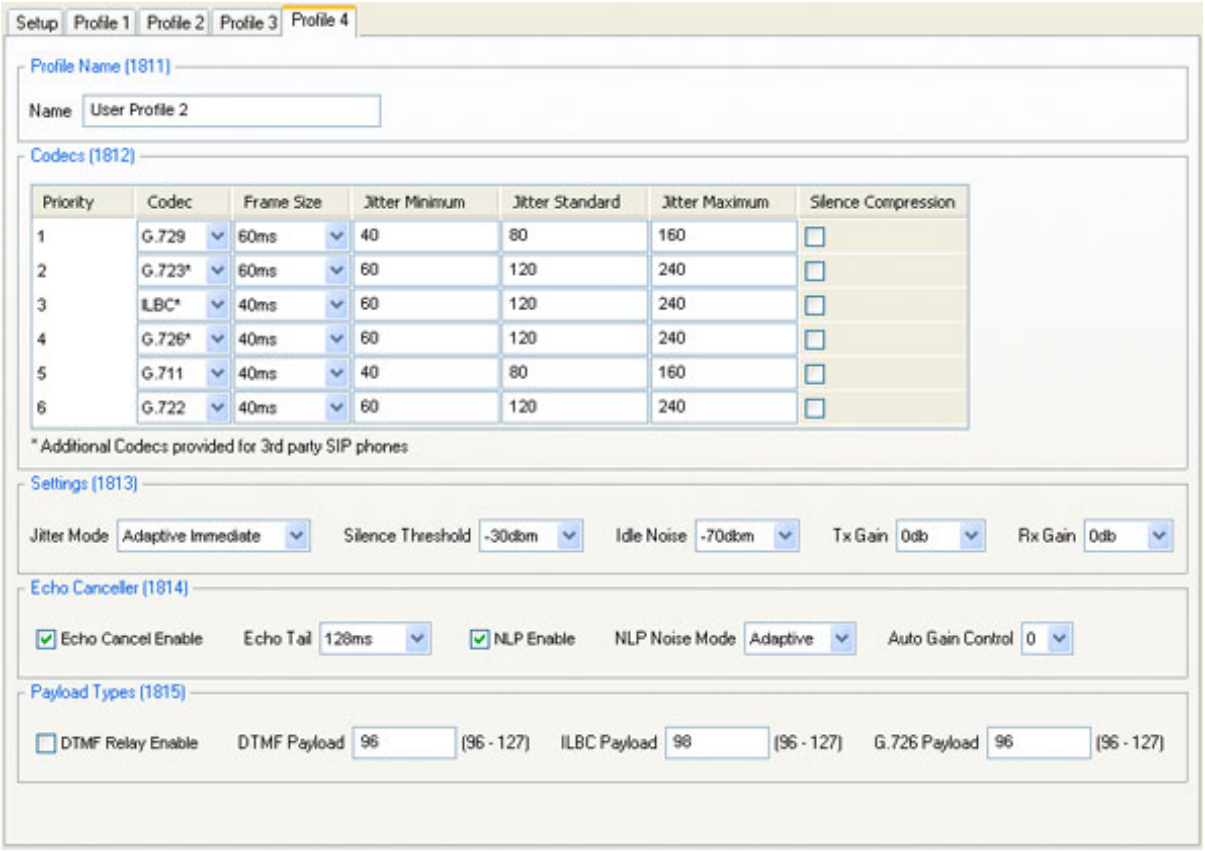
VoIP Profile 2 Defaults



VoIP Profile 3 Defaults



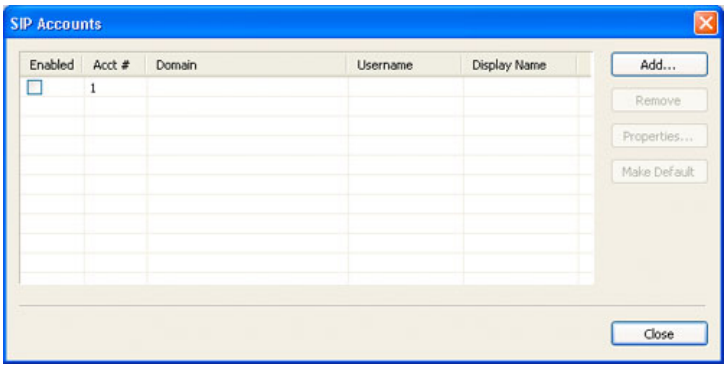
VoIP Profile 4 Defaults



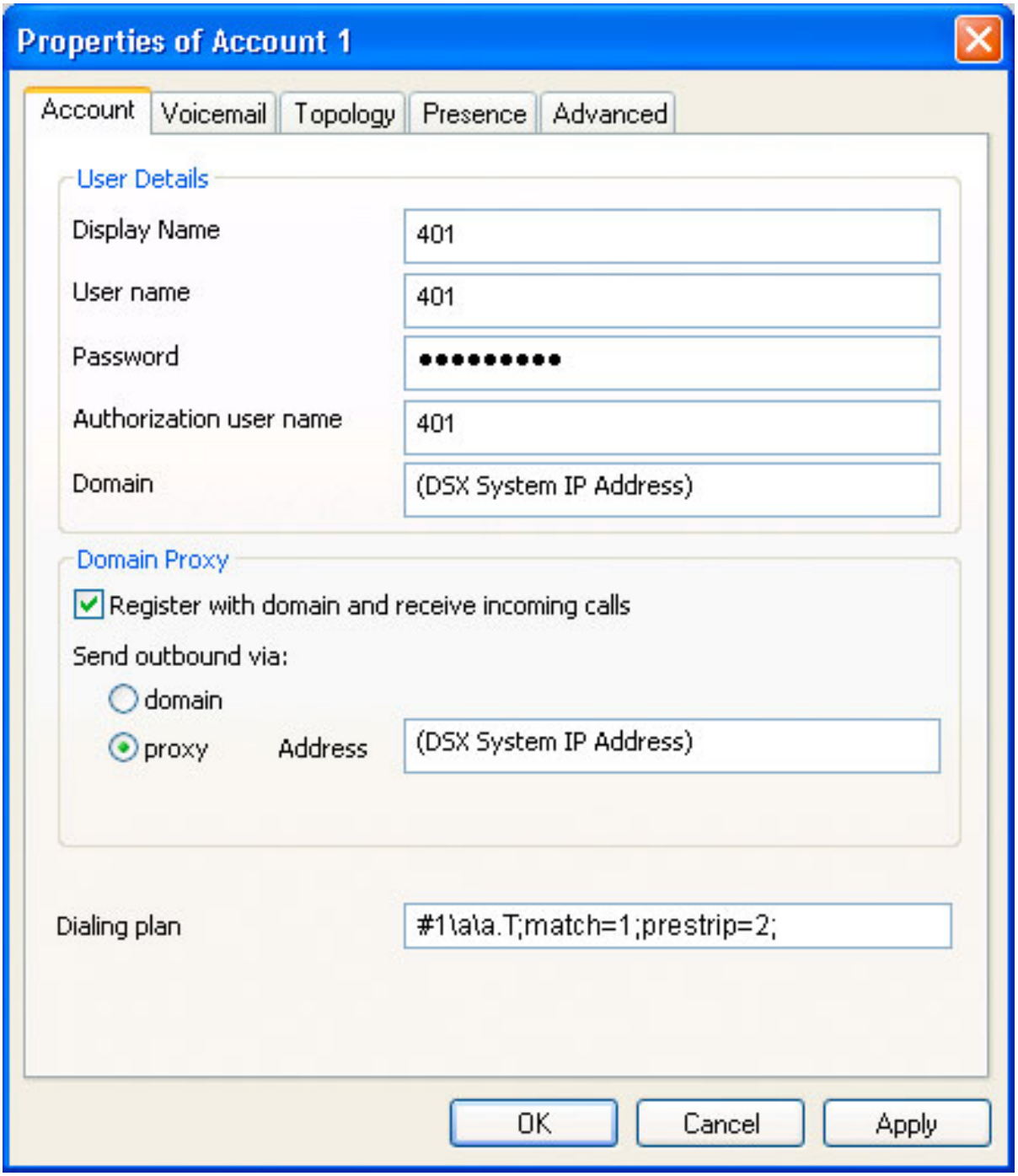
QUICK START: Setting up the X-Lite Soft Phone

X-Lite Soft Phone Setup
Download, install, and set up the X-Lite soft phone.

1. Download the X-Lite soft phone, available free from CounterPath.
2. Following the instructions provided with your download, install the X-Lite soft phone.
3. Launch X-Lite and go to *SIP Account Settings*.



4. In the *SIP Accounts* screen, click *Add* and set up a new account as shown below (using extension 401 as an example).

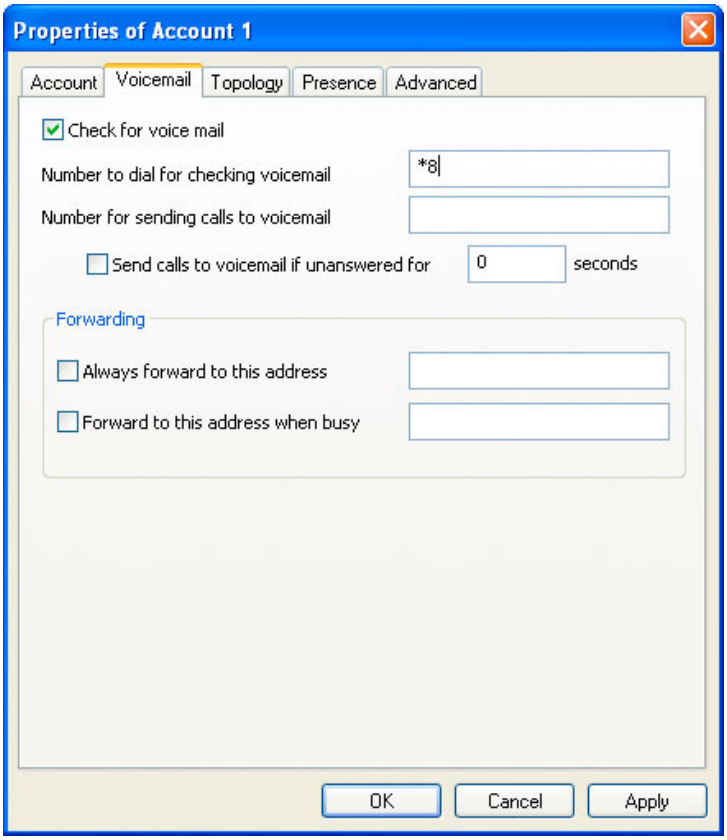


5. Click *OK* to save the account settings.
6. In the *SIP Accounts* screen, make sure the new account is enabled and then close the screen.
7. As soon as the X-Lite soft phone registers with the system, you are ready to place and answer calls.

   Note that by default the X-Lite will reregister once an hour. To change this setting, see *Register Settings* in the *Advanced* tab of the *Properties* screen.

To enable voice mail for the X-Lite soft phone:

1. In the *SIP Accounts* screen, select your account and click *Properties*.
2. Click the *Voicemail* tab.



3. In the *Voicemail* options:
   a) Click the *Check for voice mail* checkbox.
   b) In *Number to dial for checking voicemail*, enter ***8**
4. Click *OK* to have X-Lite accept your entires, then *Close* to close the *SIP Accounts* screen.
5. When you receive a new voice mail message, you'll see an envelope in the X-Lite screen.

Volume, Brightness, and Contrast Controls

Easily adjust the volume of ringing, Paging, and other features.

Description

A keyset user can press **Volume Up** and **Volume Down** to interactively adjust the volume of the following features while they are active:

- Intercom handset calls
- Intercom Handsfree calls
- Outside handset calls
- Outside Handsfree calls
- Paging receive volume
- Background Music
- Ringing
- Off-Hook Ringing

There are nine steps in the Volume Control adjustment range. This makes it easier for the keyset user to set up just the right volume levels. The settings a user makes are retained after a system reset or power-down.

Volume Control Presets

The volume control presets allow the keyset user to preset the default volume for Ringing, Off-Hook Ringing, and incoming Page announcements while their telephone is idle. Presets for the remaining volume controls are not required since the user can easily adjust those volumes while idle. For example, to adjust the volume of Background Music, just press **HOLD** to active BGM and then adjust the volume.

Display Brightness and Contrast Control

While a keyset is idle, pressing **Volume Up** or **Volume Down** adjusts the contrast of the display. There are eight user-selectable contrast control values. The value a user sets is “remembered” by the system and automatically restored in the event of a power down or system reset.

Display Brightness and Contrast Control Presets

The brightness and contrast control presets let the keyset user preset the default active brightness, idle brightness, and contrast for their keyset display. The brightness presets are not available to a 24-button key- set since it doesn’t offer a backlit display.

Conditions and Defaults

Conditions

- None.

Default Setting

- Enabled.

Other Related Features

Features

- Alphanumeric Display on page 30
  - While a feature is active, pressing a **VOLUME** key adjusts the volume of the active feature. While the telephone is idle, pressing a **VOLUME** key adjusts the display contrast. A system reset or power down returns the user-set contrast setting to a median level.
- Call Waiting / Camp-On on page 93
  - The extension user cannot adjust the volume of incoming Camp-On tones.
- Intercom on page 292
  - The default Intercom (station-to-station) gain is 0 dB. While on an Intercom call, use **Volume Up** and **Volume Down** to change this setting.

IntraMail Features

- None.

Programming Retain Line Volume

Setting the Retain Line Volume Option
The system can "remember" the line volume setting.

1. 2111-07: Retain Line Volume Setting [Stations: Config: Options: Features (2111): Retain Line Volume]

If enabled, the system should remember the user volume settings for outside calls.

Options	Description
No (0)	Disabled.
Yes (1)	[Default] Enabled.

2. If this option is disabled, the system uses a median handset and Handsfree volume setting each time the user places an outside call.

Walking Class of Servce

An extension user can temporarily use their Toll Restriction and Class of Service options at a co-worker's phone.

Description

Walking Class of Service allows an extension user to temporarily implement their Toll Restriction and Class of Service settings at a co-worker's keyset. This is normally used to override dialing restrictions at a telephone. For example, an executive with an unrestricted phone can walk to any keyset in the building, implement Walking Class of Service, and dial without restriction. ***After the keyset goes idle, Walking Class of Service remains in effect for 10 seconds.*** This permits the user to make multiple calls before the keyset returns to its normal restrictions.

Walking Class of Service and Extension Locking

Walking Class of Service overrides Extension Locking. For example:

- Extension 301 is permitted by their Class of Service and Toll Restriction to use Paging and place long distance calls.
- Extension 306 locks their extension. While locked, Class of Service 15 prevents Paging and Toll Level 7 prevents long distance calls. These features are no longer available at extension 306.
- The extension 301 user goes to extension 306 and implements Walking Class of Service.
- The extension 301 user can then use 306 to make long distance calls and Page (even though 306 was locked to prevent those features).

Conditions and Defaults

Conditions

- None.

Default Setting

- Day and Night Walking Class of Service disabled in an extension's Class of Service.

Other Related Features

Features

Extension Locking on page 245

- Extension Locking and Walking Class of Service share the same PIN code.

Single Line Telephones on page 444

- Walking Class of Service is not available to single line telephone users.

Station Message Detail Recording on page 463

- When an extension user implements Walking Class of Service and places an outside call, the system assigns the SMDR record to the users's extension. The system does not assign the record to the extension at which the call was placed. For example, if the extension 301 user walks to extension 306, implements Walking Class of Service and dials an outside call, the SMDR record is assigned to extension 301. It is not assigned to extension 306.

IntraMail Features

- None.

Programming Walking Class of Service

Enabling the Walking Class of Service Option
Enable Walking Class of Service in day and/or night mode.

1. 1412-01: Walking Class of Service (Day) [System: Class of Service: Toll Restriction: Toll Restriction (1412): Day Walking COS]

Use this option to enable Walking Class of Service in the day mode.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

2. 1412-02: Walking Class of Service (Night) [System: Class of Service: Toll Restriction: Toll Restriction (1412): Night Walking COS]

Use this option to enable Walking Class of Service in the night mode.

Options	Description
No (0)	[Default] Disabled.
Yes (1)	Enabled.

3. 2102-01: Class of Service [Stations: Config: Setup: Access (2102): Class of Service]

Assign Class of Service to extensions.

Options	Description
1-15	Class of Service level 1-15. [Default] for extension 300 = 1. [Default] for all other extensions = 2.