infinite

digital systems

DVX I and DVX II
HYBRID KEY TELEPHONE SYSTEMS

GENERAL DESCRIPTION, INSTALLATION AND MAINTENANCE MANUAL

VODAVI
COMMUNICATIONS SYSTEMS

LIST OF FIGURES

LIST OF TABLES

ISSUE CONTROL SHEET

ISSUE	DATE	CHANGE
Issue 1	January, 1993	Initial Release of the *infinite* DVX ^{I} & DVX ^{II} Digital System General Description, Installation and Maintenance Manual

SECTION 100
INTRODUCTION

100.1 PURPOSE

This manual provides the information necessary to program, install, operate and maintain the *infinite* Digital Key Telephone System.

100.2 REGULATORY INFORMATION (U.S.A.)

The Federal Communications Commission (FCC) has established rules which allow the direct connection of the *infinite* Digital Key Telephone System to the telephone network. Certain actions must be undertaken or understood before the connection of customer provided equipment is completed.

A. Telephone Company Notification

Before connecting the *infinite* Digital Key Telephone System to the telephone network, the local serving telephone company must be given advance notice of intention to use customer provided equipment and provided with the following information:

- The telephone numbers to be connected to the system.
- The Ringer Equivalence Number also located on the KSU: 1.9
- The Universal System Ordering Code (USOC) jack required for direct interconnection with the telephone network: RJ21X

DVX I FCC Registration Numbers:

- For systems configured as a key system: (button appearances)
  DLPHKG-65152-KF-E
- For systems configured as a Hybrid system: (dial access codes)
  DLPHKG-65153-MF-E

DVX II FCC Registration Numbers:

- For systems configured as a key system: (button appearances)
  DLPHKG-65102-KF-E
- For systems configured as a Hybrid system: (dial access codes)
  DLPHKG-65101-MF-E

B. Incidence of Harm

If the telephone company determines that the customer provided equipment is faulty and possibly causing harm or interruption to the telephone network, it should be disconnected until repairs can be made. If this is not done, the telephone company may temporarily disconnect service.

C. Changes in Service

The local telephone company may make changes in its communications facilities or procedures. If these changes should affect the use of the *infinite* Digital Key Telephone System or compatibility with the network, the telephone company must give written notice to the user to allow uninterrupted service.

D. Maintenance Limitations

Maintenance on the *infinite* Digital Key Telephone System is to be performed only by the manufacturer or its authorized agent. The user may not make any changes and/or repairs except as specifically noted in this manual. If unauthorized alterations or repairs are made, any remaining warranty may be voided.

E. Notice of Compliance

The *infinite* Digital Key Telephone System complies with rules regarding radiation and radio frequency emissions by Class A computing devices. In accordance with FCC Standard 15 (Subpart J), the following information must be supplied to the end user:

CAUTION

"This equipment generates and uses RF energy and if not installed and used in accordance with the Instruction Manual, may cause interference to Radio Communications. It has been tested and found to comply with the limits for a Class A computing device, pursuant to Subpart J of Part 15 of the FCC Rules, which are designed to provide reasonable protection against such interference, when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference."

F. Hearing Aid Compatibility

All *infinite* Digital Terminals are Hearing Aid Compatible, as defined in Section 68.316 of Part 68 FCC Rules and Regulations.

G. OPX Circuit

The *infinite* Digital Key Telephone System may be equipped with Single Line Adapters (OPX) modules which provide a 48V FCC registered 2500-type single line off-premise extension interface port.

- Each OPX port when used to support an off-premise extension requires an OL13C network circuit.
- An FCC registered interface such as a RJ11C/W is also required to connect to the public network.

100.3 REGULATORY INFORMATION (CANADIAN)

- Department of Communications (DOC) Certification Number: 526 2933 A
- Load Number: 20
- Standard Connector: CA11A/CA21A
- Canadian Standards Association (CSA) File Number: LR57228

A. Notice

The Canadian Department of Communications' label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. This Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above condition may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

CAUTION

Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

B. Explanation of Load Number

The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the load numbers of all the devices does not exceed 100.

C. Maintenance Limitations

Maintenance on the *infinite* Digital Key Telephone System is to be performed only by the manufacturer or its authorized agent. The user may not make any changes and/or repairs except as specifically noted in this manual. If unauthorized alterations or repairs are made, any remaining warranty may be voided.

D. Notice of Compliance

The *infinite* Digital Key Telephone System complies with Class A or Class B limits of the Canadian Radio Interference Regulations. In accordance with FCC Standard 15 (Subpart J), the following information must be supplied to the end user:

CAUTION

"This equipment generates and uses RF energy and if not installed and used in accordance with the Instruction Manual, may cause interference to Radio Communications. It has been tested and found to comply with the limits for a Class A or Class B computing device, pursuant to Subpart J or Part 15 of the FCC Rules, which are designed to provide reasonable protection against such interference, when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference."

E. OPX Circuit

The *infinite* Digital Key Telephone System may be equipped with Single Line Adapters (OPX) modules which provide a 48V FCC registered 2500-type single line off-premise extension interface port.

- A DOC registered interface such as a CA11 is also required to connect to the public network.

100.4 UL/CSA SAFETY COMPLIANCE

The *infinite* Digital Key Telephone System has met all safety requirements and was found be in compliance with the Underwriters Laboratories (UL) 1459 Second Edition and Canadian Standards Association (CSA) C22.2, No. 225 Standard. The *infinite* Digital Key Telephone System is authorized to bear the UL and CSA marks.

100.5 TOLL FRAUD DISCLAIMER

"WHILE THIS DEVICE IS DESIGNED TO BE REASONABLY SECURE AGAINST INTRUSIONS FROM FRAUDULENT CALLERS, IT IS BY NO MEANS INVULNERABLE TO FRAUD. THEREFORE NO EXPRESS OR IMPLIED WARRANTY IS MADE AGAINST SUCH FRAUD INCLUDING INTERCONNECTION TO THE LONG DISTANCE NETWORK."

"WHILE THIS DEVICE IS DESIGNED TO BE REASONABLY SECURE AGAINST INVASION OF PRIVACY, IT IS BY NO MEANS INVULNERABLE TO SUCH INVASIONS. THEREFORE NO EXPRESS OR IMPLIED WARRANTY IS MADE AGAINST UNLAWFUL OR UNAUTHORIZED UTILIZATION WHICH RESULTS IN THE INVASION OF ONE'S RIGHT OF PRIVACY."

SECTION 200
GENERAL DESCRIPTION

200.1 SYSTEM TECHNOLOGY

The *infinite* family of digital key telephone systems is comprised of two fully digital hybrid key telephone systems, the DVX ^{I} and DVX ^{II}. These systems are designed to meet the telecommunications needs of a small to medium sized business offices. Both systems incorporate state of the art digital technology for command processing and voice switching utilizing a Pulse Code Modulation/Time Division Multiplexing (PCM/TDM) voice control module. The family of *infinite* Digital systems are also engineered to allow migration of the family of *infinite* digital terminals and terminal accessories throughout the entire product line. In addition, standard 2500-type telephone devices are supported by use of a 2x4 SLT Expansion Module on the *infinite* DVX ^{I} System, 4x8 SLT Interface Board (CSB) on the *infinite* DVX ^{II} System, or SLA (OPX) adapters.

The DVX ^{I} is the smallest member of the *infinite* Digital family and fully configured supports a maximum of 14 CO/PBX/Centrex lines and 28 digital station devices. The DVX ^{I} is a "flat pack", or single mother board system with plug on modules expanding the system via expansion and expander modules configured with either two CO/PBX/Centrex lines by four stations or four CO/PBX/Centrex lines by eight stations. A complete system capacity allows for use of up to 112 time slots for stations,CO Lines, DTMF Receivers, or data switching modules. This extends non-blocking access to all system resources.

The DVX ^{I} Basic KSU comes fully configured with power supply, Common control processor, PCM/TDM Voice switching matrix and interface circuits for four CO/PBX/Centrex lines and interface circuits for eight Digital terminal stations. The Basic system is also equipped with one RS-232C I/O port, one DTMF receiver, a connector for one Music-On-Hold channel that also provides for background music, and an on-board 300 baud modem that provides access to the system for data base programming or remote maintenance and or diagnostics. Modules to provide additional I/O ports, and an optional 1200 baud modem module can also be added to the system.

The DVX ^{II} system is the largest system in a family of Digital Hybrid Key Telephone systems and supports a maximum configuration of 28 CO/PBX/Centrex lines and 56 digital station devices. The DVX ^{II} is a typical KSU system with plug in PCB's. The system capacity is expanded by installing four circuit CO/PBX/Centrex lines by eight circuit station expansion PCB's. The complete system capacity allows for use of up to 112 time slots for stations, CO Lines, DTMF Receivers, or data switching Modules. This extends virtual non-blocking access to all system resources.

A Basic DVX ^{II} KSU ships complete with an on-board power supply. The CPB which is the only common equipment required for operation provides the microprocessor for command processing and Voice PCM/TDM switching. The CPB is also equipped with one modular RS-232C I/O port, a connector for one Music On Hold channel that also provides for background music, and an on-board 300 baud modem that provides access to the system for data base programming or remote maintenance and or diagnostics. Modules to provide additional I/O ports, and an optional 1200 baud modem module can also be added to the CPB.

Both systems are installed using industry standard blocks, jacks and skinny wire cabling. This combined with the ability to program the system using a key terminal (digital display terminal) reduces installation cost and maintenance requirements.

All CO interfaces are equipped with transformer barriers, for system classification as an FCC fully protected system. Each CO circuit supports rotary (out-pulse) dialing and loop supervision (disconnect detection) under software control. The DTMF tone signals and system supervisory tones can be generated in each keyset or on the main PCB. Both *infinite* Digital systems use a proprietary tone plan for providing internal progress tones with the exception of OPX stations which are provided with a "precise" tone plan.

The *infinite* family of digital terminals include a 33-button display and non-display stations, and an 8-button non-display station. Optional station terminals include a Digital DSS Console, and a Single Line Adapter (Off-Premise Extension (OPX) adapter) which are all upward and downward compatible to the entire *infinite* digital product line.

The system architecture allows system programming changes to be made without interrupting state event software control of normal communications. Call processing continues while the customer data base is updated. All programming changes to the customer data base programming are made either from a digital terminal (digital display terminal) connected to Port 01 or from a data terminal or PC connected to either a I/O port or remotely via the on-board modem.

The *infinite* product line is tailored to meet immediate and long term customer needs. Most commonly used features are activated by direct button selection. However, many functions may be alternately accessed by dialing specific codes or as another option by assigning these dial codes to a FLEX button on a digital terminal. This permits flexible use of the *infinite* Digital systems.

Future software enhancements and upgrades are easily retrofitted and installed in the system. This will in most cases provide backward compatibility with existing *infinite* Digital hardware further reducing the cost to upgrade or add features to an installed system.

200.2 COMMON EQUIPMENT FOR THE DVX I SYSTEM

A. Basic Key Service Unit with Power Supply (BKSU)

The DVX I Basic Key Service Unit (KSU) is a wall mountable cabinet that contains the main key service board (KSB), power supply and pre-wired connectors for stations and CO Line interfaces. The DVX I Digital Key Telephone System is a microprocessor (68000) controlled, solid state electronic switch which distributes communications using Pulse Code Modulation/Time Division Multiplexing (PCM/TDM) technology. All control, switching and interface circuitry is condensed onto a single printed circuit board (PCB), the main key service board (KSB), located inside the key service unit (KSU).

The Basic Key Service Unit (BKSU) is a system which comes fully configured for four CO/PBX/Centrex lines and eight stations. The Basic KSU also contains one RS-232C I/O port, one DTMF Receiver, one connector for Background Music and Music on Hold, an on-board 300 baud modem port, and one external page port. The Basic KSU also contains two connectors for adding a 2x4 Expander Module, or a 2x4 SLT Expander Module on connectors J9 and J10. An optional I/O Module that adds one additional RS-232C port and one RS-422 port, and an optional 1200 baud modem can be added to increase the speed of transmission of the on-board modem port. A Reset (Halt) switch and a background music volume control are also mounted on the PCB. In addition, two connectors are provided for adding an Expansion KSU which will allow the system to expand to a total of 14 CO/PBX/Centrex lines and 28 digital station ports. Refer to Figure 200-1 Main Key Service Board of the Basic KSU for the component layout and location of connectors.

Power Supply:

The power supply, installed in the Basic KSU at the time of manufacture, has an input voltage of 117V ac ±10%. The power supply provides power, a filtered/unregulated ±12V dc, to the main key service board. A slo-blow 1.5 amp fuse on the AC side of the transformer provides the necessary fire and overload protection. Power is regulated and distributed to stations/ circuitry in the system on the main key service board. The power supply and cabinet meet all safety requirements to comply with UL 1459 Second Edition and CSA C22.2 No. 225 standards.

CPU and Memory:

The DVX I system is controlled by a 16-bit (68000) main micro-processor which controls all system functions including the PCM/TDM voice switching under the direction of ROM and RAM software coding. The main key service board is responsible for all control functions, execution of all logic operations and control of system modules including control over the circuitry necessary for voice switching and conference connections. The main key service board is also responsible for all system tones, system timing, and station status control. In addition the main key service board provides software and hardware support of the following:

- Real Time clock.
- Watch dog timer and recovery.
- PCB status as to presence/absence of modules for automatic software configuration setup.
- State/event software design.

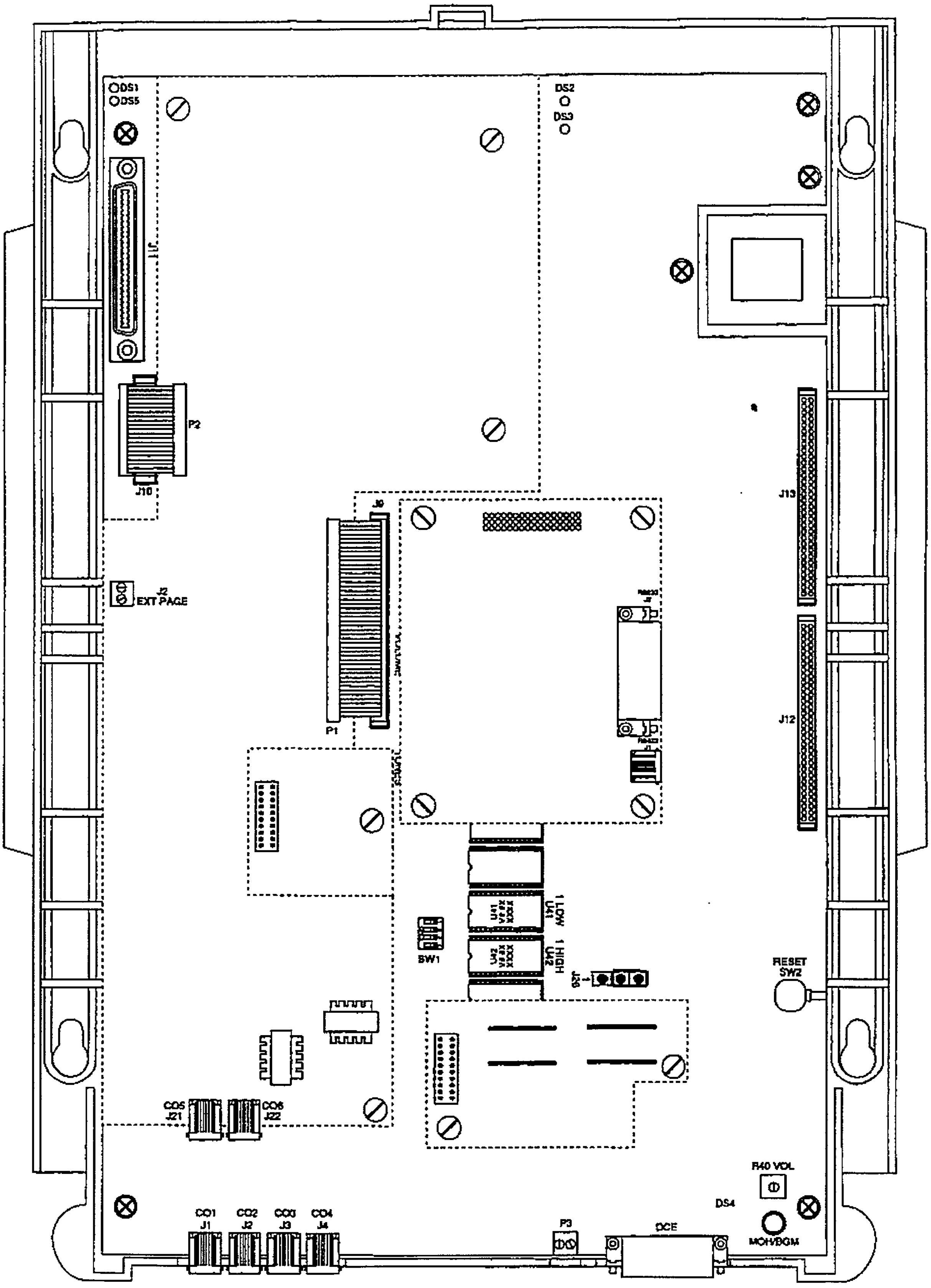


Figure 200-1 Main Key Service Board of the Basic KSU

- Backup of customer database RAM memory via a "Super Cap" (super capacitor).

System software is provided in EPROM memory and is installed on the main key service board. The system contains 512K of EPROM storage and is equipped with 128K of "battery"-backed static RAM. Provisions have been made on the card to address up to two megabytes of EPROM memory and up to two megabytes of static RAM.

LEDs & Indicators:

Four green LEDs are located on the main key service board along the top of the PCB. Two of the LEDs (DS2 & DS3) indicate the presence of +5V & -5V dc. LEDs DS1 and DS5 indicate the present of +12V dc used to supply power to the key stations (one LED per four stations). An extinguished LED indicates the absence of the associated voltage.

A red LED (DS4) located in the lower right portion of the main key service board provides a system "heart beat" indication.

CO Line/Station Interfaces:

The Basic Key Service Unit (BKSU) contains the necessary circuitry to connect four CO/Centrex/PBX loop start lines and eight digital key telephones to the system. This card also contains one additional voice (transmit) path for external paging.

The main key service board contains four Central Office, Centrex or PBX loop start, line interfaces. The protection circuitry to allow the system to be classified as a fully protected system are located on the card for each CO circuit. The CO circuits are equipped with current sensing circuitry that identifies distant end disconnect (loop supervision). Each CO line interface design also provides proper fusing or protection to comply with the requirements of UL 1459 Second Edition and CSA C22.2 No. 225 standards. CO lines are connected to the system via RJ-11 modular jacks mounted on the bottom of the main key service board.

The main key service board also provides the interface for eight Digital Key Telephones using two 64K channel arrangements. Stations connect to the board via the MDF through a 50-pin connector located inside the Basic KSU. Each station connection requires four wires to connect to the board.

A Digital DSS Console, Single Line Telephone Adapter (OPX) or other specifically designed adapter with a digital interface can be assigned to any one of the interface circuits. The key station interface circuits are protected from mis-wiring and overcurrent.

The main key service board also contains an on-board modem that is capable of transmitting data at a rate of 300 Baud. The modem supports and is compatible with the Hayes command protocol. The Bell System (Western Electric) standards 103 and 212A for modem design is incorporated into the design of this modem. The modem operates on-line in both Full and Half duplex modes. An optional 1200 Baud module may be added to the main key service unit to allow transmission at the rate of 1200 Baud.

B. DVX I Expansion KSU with Power Supply (EKSU)

The Expansion Key Service Unit (EKSU) is a unit which comes equipped with a power supply and circuitry providing four additional loop start CO/PBX/Centrex line ports and eight digital key telephone ports to the Expansion KSU. All processing and control functions as well as voice connections and switching are controlled by circuitry on the Basic KSU and transmitted to the Expansion KSU through the ribbon cables.

The main key service board on the Expansion KSU allows connection of one optional application module (i.e. DTMF Receiver) to the system and connector(s) for installing an additional 2x4 Expander Module, 2x4 SLT Expander Module or a 4x8 Expander Module. Refer to Figure 200-2 Main Key Service Board of the Expansion KSU

Power Supply

The power supply, installed in the Expansion KSU at the time of manufacture, has an input voltage of 117V ac ±10%. The power supply provides power, a filtered/unregulated ±12V dc, to the Expansion Key Service Board (EKSB). A slo-blow 1.5 amp fuse on the AC side of the transformer provides the necessary fire and overload protection. Power is regulated and distributed to stations/circuitry in the system on the main key service board on the Expan-

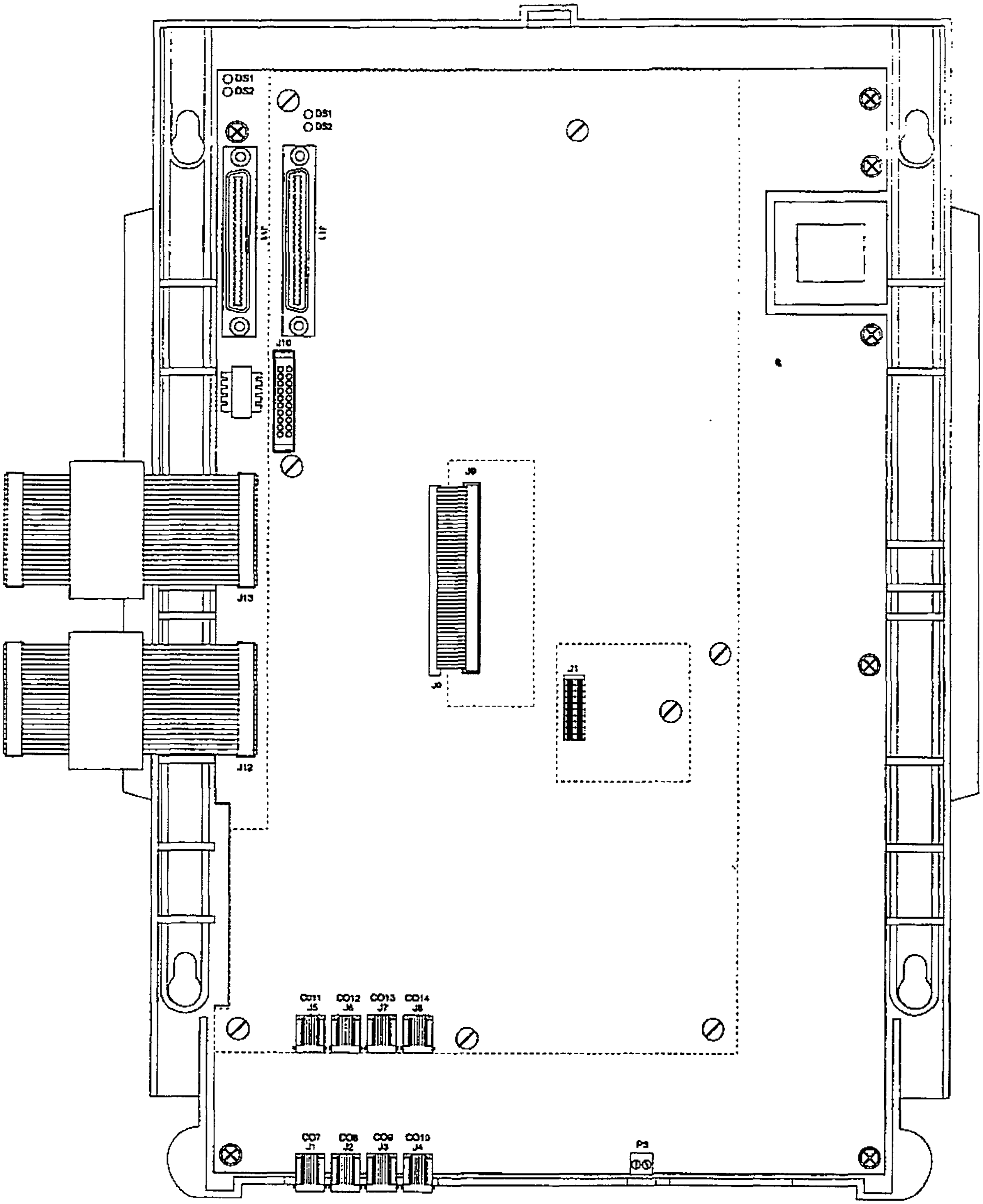


Figure 200-2 Main Key Service Board of the Expansion KSU

sion KSU. The power supply and cabinet meet all safety requirements to comply with UL 1459 Second Edition and CSA C22.2 No. 225 standards.

LEDs & Indicators:

Four green LEDs are located on the main key service board on the Expansion KSU. Two of the LEDs (DS2 & DS3) indicate the present of +5V & -5V. LEDs DS1 and DS5 indicate the present of +12V dc used to supply power to the key stations (one LED for every four stations). An extinguished LED indicates the absences of the associated voltage.

CO Line/Station Interfaces

The Expansion KSU contains the necessary circuitry to connect an additional four CO/Centrex/PBX loop start lines and eight digital key telephones to the system. This card also contains one additional voice (transmit) path for external paging.

The main key service board on the Expansion KSU contains four Central Office, Centrex or PBX loop start, line interfaces

The protection circuitry to allow the system to be classified as a fully protected system are located on the card for each CO circuit. The CO circuits are equipped with current sensing circuitry that identifies distant end disconnect (loop supervision). Each CO line interface design also provides proper fusing or protection to comply with the requirements of UL 1459 Second Edition and CSA C22.2 No. 225 standards. CO lines are connected to the system via RJ-11 modular jacks mounted on the bottom of the main key service board of the Expansion KSU.

The main key service board also provides the interface for eight digital key telephones using two 64K channel arrangements. Stations connect to the board via the MDF through a 50-pin connector located inside the Expansion KSU. Each station connection requires four wires to connect to the board.

A Digital DSS Console, a Single Line Telephone Adapter (OPX) or other specifically designed adapter with a digital interface can be assigned to any one of the interface circuits. The key station interface circuits are protected from mis-wiring and overcurrent.

C. 2x4 Expander Module

The 2x4 Expander Module is a two CO by four key station interface module that plugs onto the main key service board of the Basic KSU or the main key service board of the Expansion KSU through the use of two ribbon cables. This module is a combination board that contains the necessary circuitry to connect two CO/Centrex/PBX loop start lines and four digital key telephones to the system. This card also contains one additional voice (transmit) path for external paging, and a connector for adding one application module (i.e. DTMF Receiver) to the system.

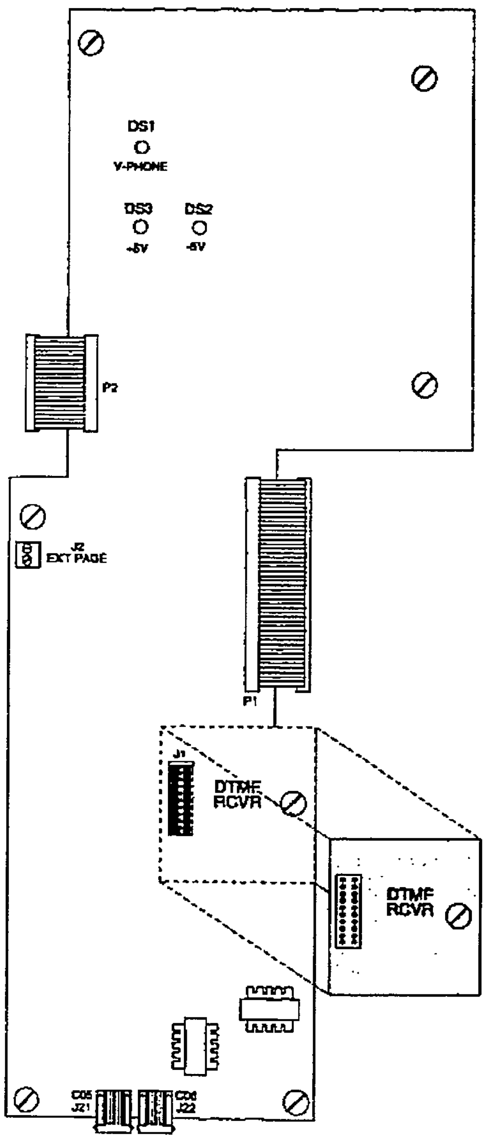


Figure 200-3 2x4 Expander Module

LEDs & Indicators:

Three green LEDs are located on the 2x4 Expander Module. Two of the LEDs (DS3 & DS2) indicate the presence of +5v & -5v dc. LED DS1 monitors the +12V dc used to supply power to the key stations. An extinguished LED indicates the absence of the associated voltage.

CO Line/Station Interfaces:

The 2x4 Expander Module provides the interface for two Central Office, Centrex or PBX loop start, lines. The protection circuitry necessary to allow the system to be classified as a fully protected system are located on the card for each CO circuit.

The CO circuits are equipped with current sensing circuitry that identifies distant end disconnect (loop supervision). The module design also provides proper fusing or protection to comply with the requirements of UL 1459 Second Edition and CSA C22.2 No. 225 standards. CO lines are connected to the system via RJ-11 modular connectors mounted on the bottom edge of the board. The 2x4 Expander module also provides the interface for four digital key telephones using two 64K channel arrangements. Stations connect to the board via the MDF through a 50-pin connector located on the main key service board inside the Basic KSU or a similar connector on the main key service board when installed in the Expansion KSU. Each station connection requires four wires to connect to the board.

A Digital DSS Console, a Single Line Telephone Adapter (OPX), or other specifically designed adapter with a digital interface can be assigned to any one of the interface circuits. The key station interface circuits are protected from mis-wiring and overcurrent.

D. 2x4 SLT Expander Module

The 2x4 SLT Expander Module is a two CO by four single line telephone Interface module that plugs onto the main key service board of the Basic KSU or the main key service board of the Expansion KSU through the use of two ribbon cables. This module is a combination board that contains the necessary circuitry to connect two CO/Centrex/PBX loop start lines and four single line telephones to the system. This card also contains a connector for adding one application module (i.e. DTMF Receiver) to the system.

Message Waiting capability comes installed on the 2x4 SLT Expander Module. This circuitry provides message waiting voltage to single line telephones equipped with message waiting lamps, and supports up to four single line telephones message waiting lamps at 90V dc typical across tip and ring.

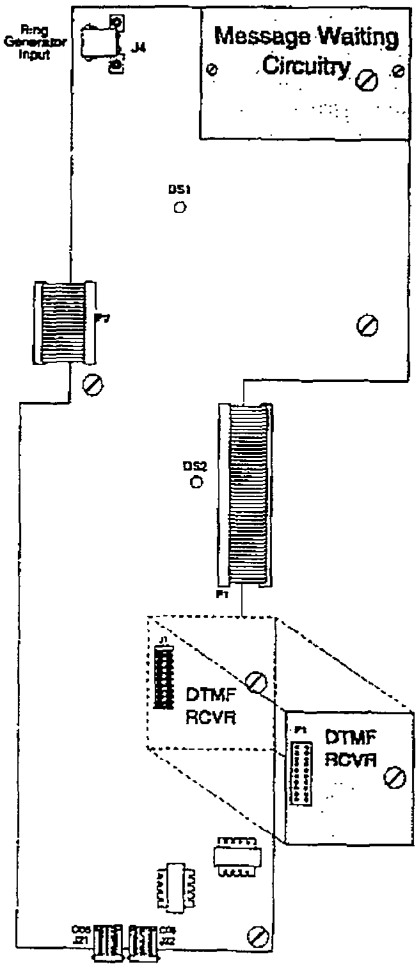


Figure 200-4 2x4 SLT Expander Module

LEDs & Indicators:

Two green LEDs indicate the presence of +5v & -5v dc. An extinguished LED indicates the absence of the associated voltage.

CO Line/Station Interfaces:

The 2x4 SLT Expander Module provides the interface for two Central Office, Centrex or PBX loop start, lines. The protection circuitry necessary to allow the system to be classified as a fully protected system are located on the card for each CO circuit. The CO circuits are equipped with current sensing circuitry that identifies distant end disconnect (loop supervision). The module design also provides proper fusing or protection to comply with the requirements of UL 1459 Second Edition and CSA C22.2 No. 225 standards. CO lines are connected to the system via RJ-11 modular connectors mounted on the bottom edge of the board.

The 2x4 SLT Expander module also provides the interface for four standard on-premise single line telephones (2500 type). Four 36v dc single line circuits are provided on the printed circuit board. These single line telephones can be equipped with a standard message waiting lamp (90V T&R) that operate on the "tip" and "ring" leads. Additionally, each circuit provides a loop interrupt (700ms duration) to the connected SLT or device. The card will support single line telephones up to 2000 feet from the Basic KSU. Refer to Table 200-4 - Loop Limits for additional wiring information. On-premise single line telephones should present a load to the port totaling a maximum ringer equivalence of 2.5.

A molex connector, J4 is located in the upper left corner of the 2x4 SLT Expander Module to provide ring generator capabilities. It is recommended that the Tellabs 8101, 30 Hz, 90VAC Ring Generator be used with this board.

E. 4x8 Expander Module

The 4x8 Expander Module is a four CO by eight digital key station Interface module that may plug onto the main key service board of the Expansion KSU only. This module is a combination board that contains the necessary circuitry to connect four CO/Centrex/PBX loop start lines and eight digital key telephones to the system. This card also contains one additional voice (transmit) path for external paging. and a connector for adding one application module (i.e. DTMF Receiver) to the system.

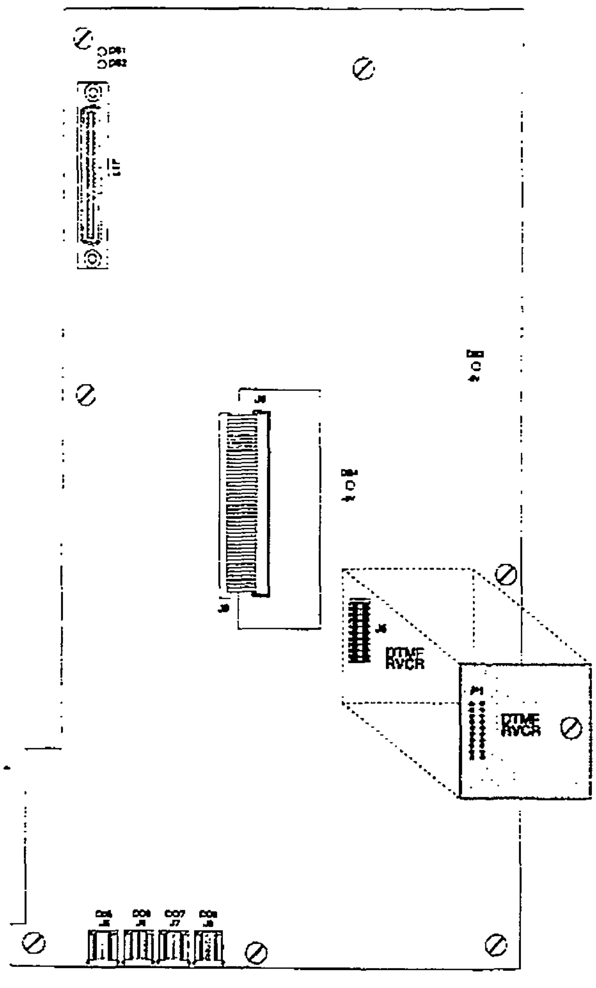


Figure 200-5 4x8 Expander Module

LEDs & Indicators:

Four green LEDs are located on the 4x8 Expander Module. Two of the LEDs (DS4 & DS3) indicate the presence of +5v & -5v dc. LEDs DS1 and DS2 indicate the presence of +12V dc used to supply power to the key stations (one LED for every four stations). An extinguished LED indicates the absence of the associated voltage.

CO Line/Station Interfaces

The 4x8 Expander Module provides the interface for four Central Office, Centrex or PBX loop start, lines. The protection circuitry necessary to allow the system to be classified as a fully protected system are located on the card for each CO circuit. The CO circuits are equipped with current sensing circuitry that identifies distant end disconnect (loop supervision). The module design also provides proper fusing or protection to comply with the requirements of UL 1459 Second Edition and CSA C22.2 No. 225 standards. CO lines are connected to the system via RJ11 modular connectors mounted on the bottom edge of the board.

The 4x8 Expander module also provides the interface for eight digital key telephones using two 64K channel arrangements. Stations connect to the board via the MDF through a 50-pin connector located on the board. Each station connection requires four wires to connect to the board.

A Digital DSS Console, a Single Line Telephone Adapter (OPX) or other specifically designed adapter with a digital interface can be assigned to any one of the interface circuits. The key station interface circuits are protected from mis-wiring and overcurrent.

200.3 COMMON EQUIPMENT FOR THE DVX II SYSTEM

The following components are necessary to operate the *infinite* Digital Key Telephone System. Refer to Appendix B for a complete *infinite* Digital Key Telephone System component list with Part #'s.

- Equipment Cabinet w/Power Supply (KSU)
- Central Processing Board (CPB)
- 4x8 Key Interface Board (CKB)
- 4x8 SLT Interface Board (CSB)

A. Equipment Cabinet With Power Supply (KSU)

The DVX II system main cabinet contains the power supply and mother board to support a fully configured system of 28 CO Lines and 56 Stations. The mother board has eight card slots. Card Slot J8 (the right most card slot) is used for the Central Processor Board (CPB) PCB. Card slots J1 through J7 each support a four CO line by eight station PCB's. Cable exits through the bottom of the KSU through a cable exit raceway near the back of the KSU. Refer to Figure 200-6 Basic KSU Equipment Cabinet

Power Supply

The power supply is installed in the KSU cabinet at the time of manufacture and ships with the KSU. The power supply input voltage is 117V ac ±10%. The power supply provides power distribution of filtered / unregulated 12V dc and a regulated -5V dc to the back plane bus. An ON/OFF switch is located on the front of the power supply along with a slo-blow 5 amp fuse on the AC side of the transformer. The power supply provides an input for a 48V dc source for future use. Power is regulated and distributed to stations/circuitry in the system on each printed circuit board. Three fuses located inside the power supply protect the system from over-current situations. The power supply and cabinet meet all safety requirements to comply with UL 1459 Second Edition and CSA C22.2 No. 225 standards.

B. Central Processor Board (CPB)

This plug-in card is the only common equipment card required to make the system operational and controls all system activity. The CPB contains the main microprocessor a 16-bit (68000) and a real time clock which controls all system functions including the PCM/TDM voice switching under direction of ROM and RAM software coding. The CPB is responsible for all control functions, execution of all logic operations and control of system modules including control over circuitry necessary for voice switching and conference connections. The CPB is also responsible for all system tones, system timing, and station status control. In addition the CPB also provides software and hardware support to ensure the following:

- Watch dog timer and recovery.
- PCB status as to presence/absence of cards for automatic software configuration setup.
- Interpret an ID code from each PCB so that card type can be determined automatically.
- State/event software design.
- Battery backup of customer database RAM memory.

The CPB contains the circuitry and connection (RCA type) for background music/music on hold, and the standard 300 baud modem. An optional 1200 baud modem can be installed on the CPB to allow the on-board modem to transmit at a 1200 baud rate. In addition there is one RS-232C (modular connector) input/output port on the CPB and a connector to support the use of an optional I/O expansion module. The I/O expansion module adds RS-232C I/O port and RS-422 I/O port to the system for a system total of three I/O ports. A reset (halt) push button switch and a BGM/MOH volume control pot is located on the front of the PCB. Refer to Figure 200-7 Central Processing Board (CPB) for the location of the Central Processing Board connectors.

System software is provided in EPROM memory and is installed on the CPB. The CPB contains 512k of EPROM storage and is equipped with 256K of battery-backed static RAM. Provisions have been made on the card to address up to four megabytes of EPROM memory and up to two megabytes of static RAM.

Modem Interface

The Central Processor Board (CPB) contains an on-board modem that is capable of transmitting data at a rate of 300 baud.

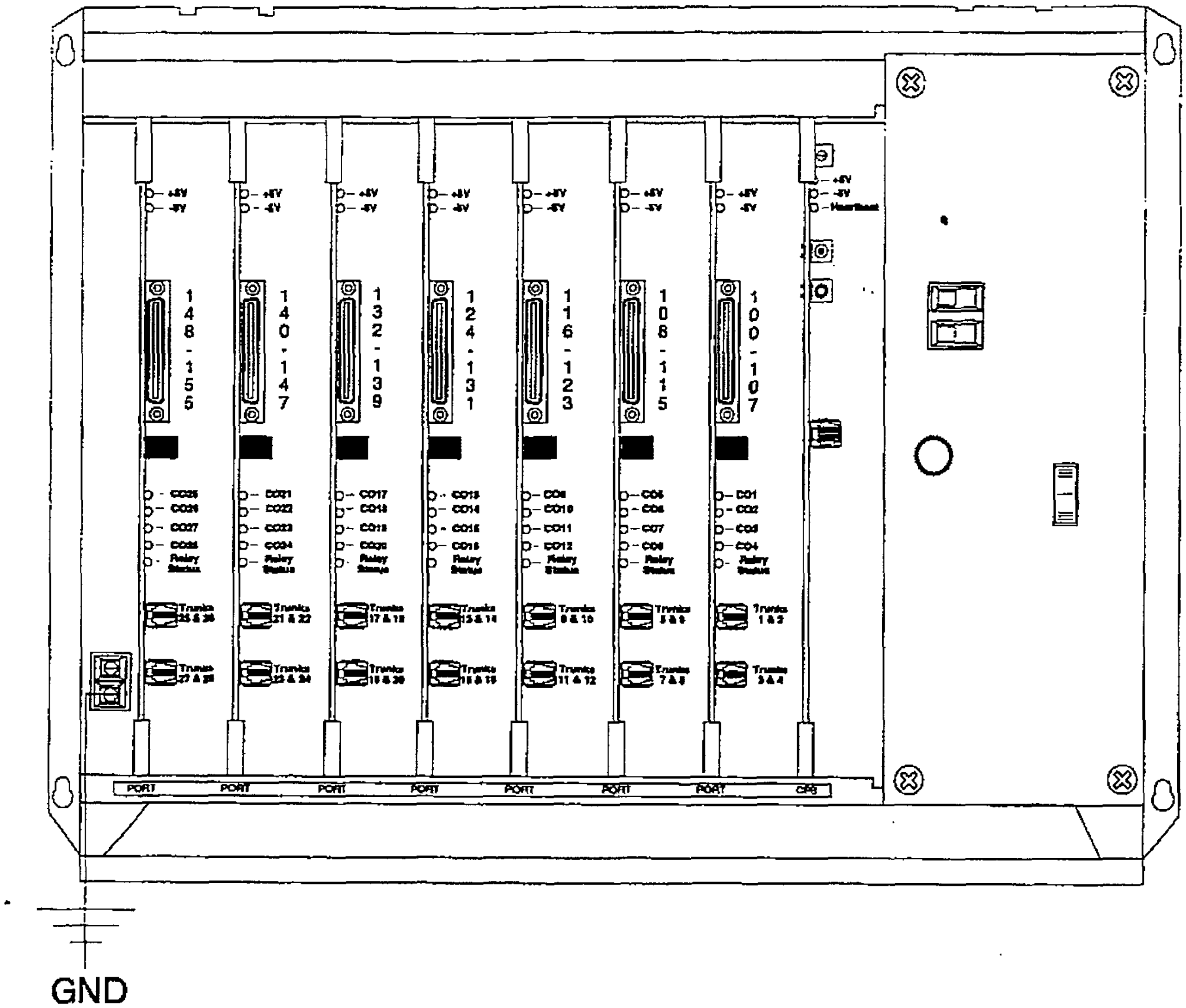


Figure 200-6 Basic KSU Equipment Cabinet

The modem supports and is compatible with the Hayes command protocol. The Bell System (Western Electric) standards 103 and 212A for modem design is incorporated into the design of this modem. The modem operates on-line in both Full and Half duplex modes. An optional 1200 baud module may be added to the CPB to allow transmission at the rate of 1200 baud.

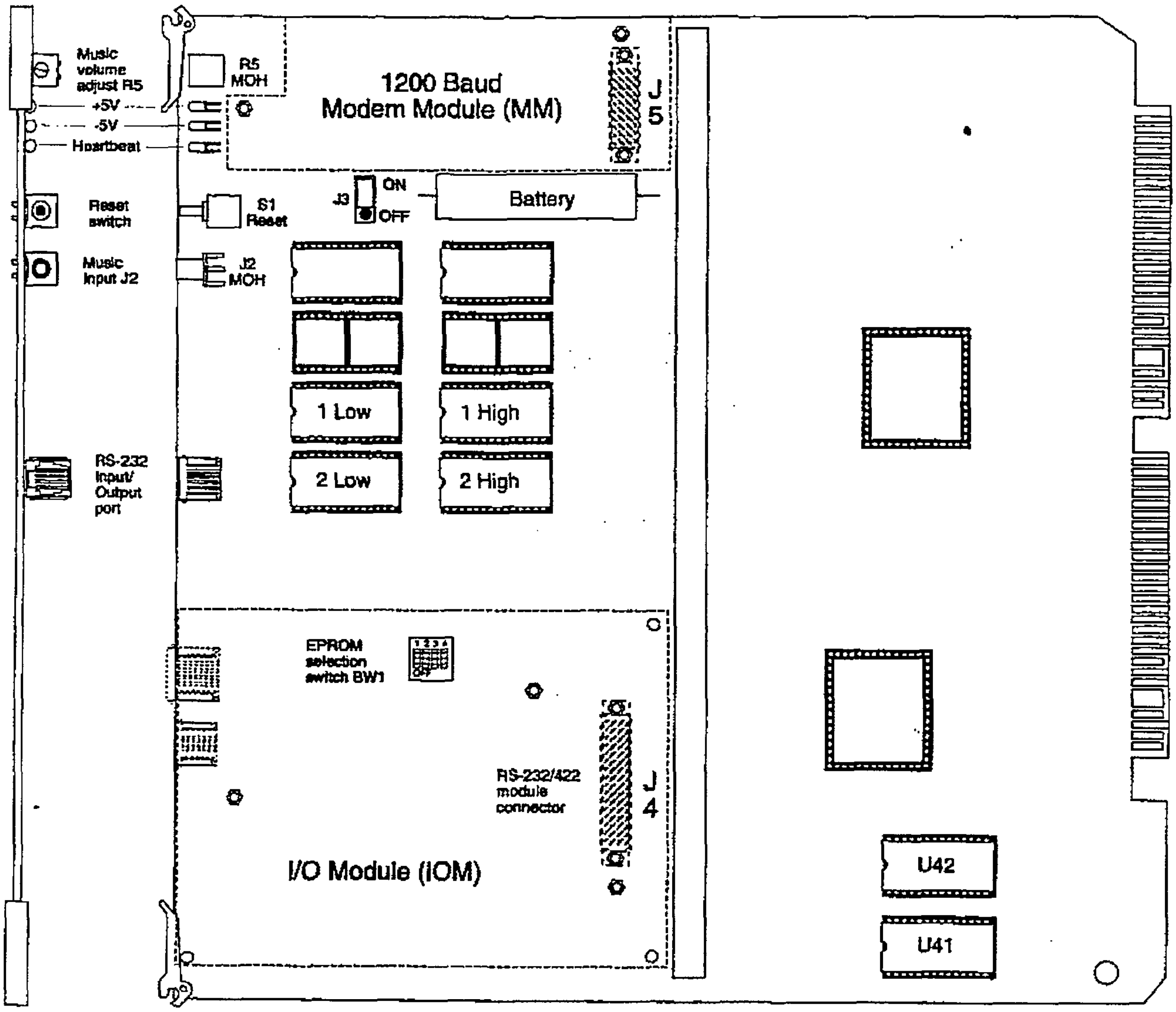


Figure 200-7 Central Processing Board (CPB)

C. 4 x 8 Key Interface Board (CKB)

The 4x8 Key Interface Board (CKB) is a four CO by eight digital key station interface board. The 4x8 Key Interface Board is a combination card that contains the necessary circuitry to connect four CO/Centrex/PBX loop start lines and eight digital key telephones to the system. This card also contains one additional voice (transmit) path for external paging, a multi purpose relay and a connector for adding one application module to the system. The 4x8 Key Interface Board may be installed into Basic KSU cabinet back plane using slots J7 through J1 and may be removed or inserted while power is applied to the Basic KSU (power on). Refer to Refer to Figure 200-8 4x8 Key Interface Board (CKB) for location of connectors.

LEDs & Indicators:

Five red LEDs are located along the front edge of the 4x8 Key Interface Board (CKB), one for each CO Line to indicate when it is in use and one LED that monitors the contact operation of the multi use contact located on the board. Two green LEDs also located along the front edge of the CKB indicate the presence of +5V & -5V dc.

CO Line/Station Interfaces:

The 4x8 Key Interface Board (CKB) provides the interface for four Central Office, Centrex or PBX loop start, lines. The protection circuitry necessary to allow the system to be classified as a fully protected system are located on the card for each CO circuit. The CO circuits are equipped with current sensing circuitry that identifies distant end disconnect (loop supervision).

The card also provides proper fusing or protection to comply with the requirements of UL 1459 Second Edition and CSA C22.2 No. 225 standards.

The 4x8 Key Interface Board also provides the interface for eight digital key telephones using two 64K channel arrangements. Stations connect to the board via the MDF through a 50-pin connector located on the front edge of the board. Each station connection requires four wires to connect to the board.

A Digital DSS Console, a Single Line Telephone Adapter (OPX), or other specifically designed adapter with a digital interface can be assigned to any one of the interface circuits. The Key Station interface circuits are protected from mis-wiring and overcurrent.

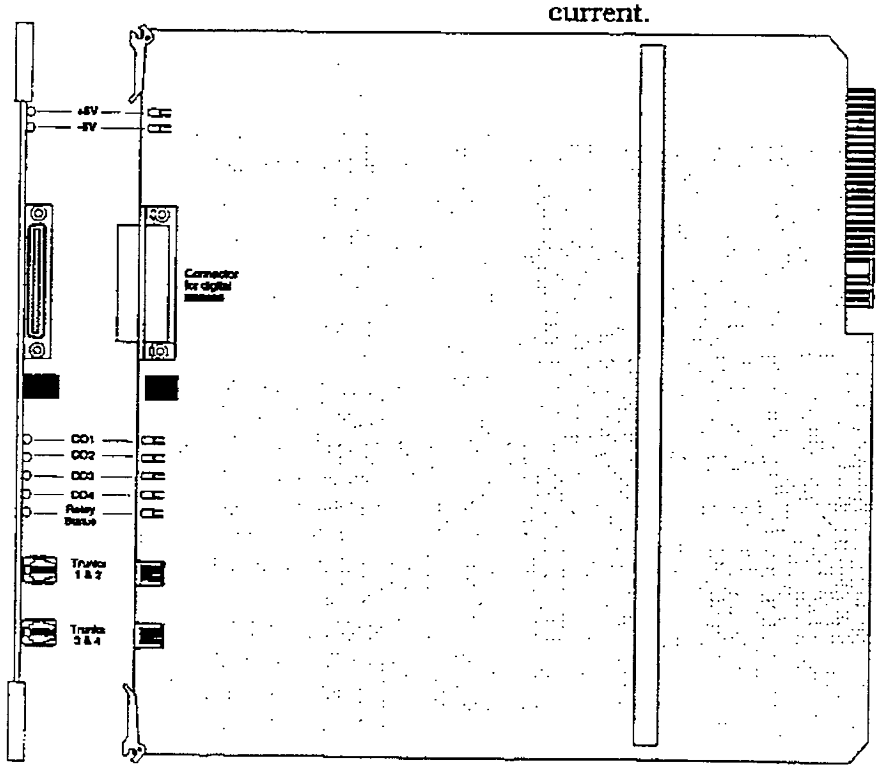


Figure 200-8 4x8 Key Interface Board (CKB)

D. 4x8 SLT Interface Board (CSB)

The 4x8 SLT Interface Board (CSB) is a four CO Line by eight single line telephone interface board. The card is a combination card that contains the necessary circuitry to connect four CO/Centrex/PBX loop start lines and eight standard on-premise single line telephone (2500 type) to the system. This card also contains one additional voice (transmit) path for external paging and a connector for adding one application module (i.e. DTMF Receiver or Dual DTMF/Talk-Back Page Module) to the system. The 4x8 SLT Interface Board can be removed or inserted with power on the KSU. Refer to Figure 200-9 4x8 SLT Interface Board (CSB) for location of connectors.

NOTE	*Paging is only possible if the optional Dual DTMF/Talk-Back Page Module (future) is installed.*

A molex connector is located on the 4x8 SLT Interface Board (CSB) to provide ring generator capabilities. It is recommended that the Tellabs 8101, 30 Hz, 90VAC Ring Generator be used with this board.

NOTE	*Only one Ring Generator is required per system. At least one DTMF Receiver MUST be installed in the system.*

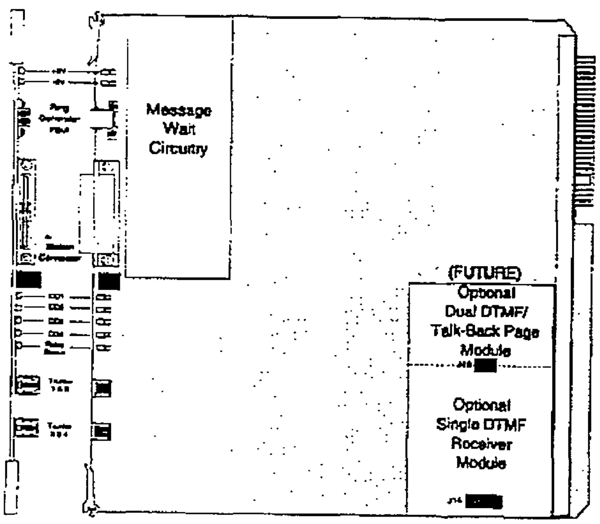


Figure 200-9 4x8 SLT Interface Board (CSB)

Message Waiting capability comes installed onto the 4x8 SLT Interface Board. This circuitry provides message waiting lamps to single line telephones equipped with message waiting lamps and supports up to eight Single Line Telephone Message Waiting lamps at 90V dc typical across tip and ring.

LEDs & Indicators:

Five red LEDs are located along the front edge of the 4x8 SLT Interface Board, one for each CO Line to indicate when it is in use and one LED that monitors the contact operation of the multi use relay located on the board. Two green LEDs also located along the front edge of the 4x8 SLT Interface Board (CSB) indicate the presence of +5V & -5V dc.

CO Line/Station Interfaces:

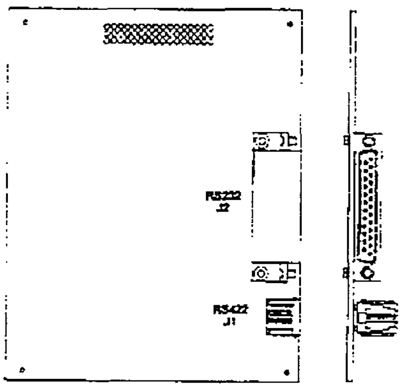
The 4x8 SLT Interface Board (CSB) provides the interface for four Central Office, Centrex or PBX loop start, lines. The protection circuitry necessary to allow the system to be classified as a fully protected system are located on the card for each CO circuit. The CO circuits are equipped with current sensing circuitry that identifies distant end disconnect (loop supervision). The card also provides proper fusing or protection to comply with the requirements of UL 1459 Second Edition and CSA C22.2 No. 225 standards. The 4x8 SLT Interface Board does not support data devices for data switching.

The 4x8 SLT Interface Board (CSB) provides the control and interface for eight standard single line telephones (2500 type). Eight 36V dc single line circuits are provided on the printed circuit board. These single line telephones can be equipped with a standard Message Waiting Lamp (90V T & R) that operate on the "tip" and "ring" leads. Additionally each circuit provides a loop interrupt (700ms duration) to the connected SLT or device. The card will support single line telephones up to 2000 feet from the Basic KSU cabinet. Refer to Table 200-4 - Loop Limits for additional wiring information. On-premise single line telephones should present a load to the port totaling a maximum ringer equivalence of 2.5.

200.4 APPLICATION MODULES

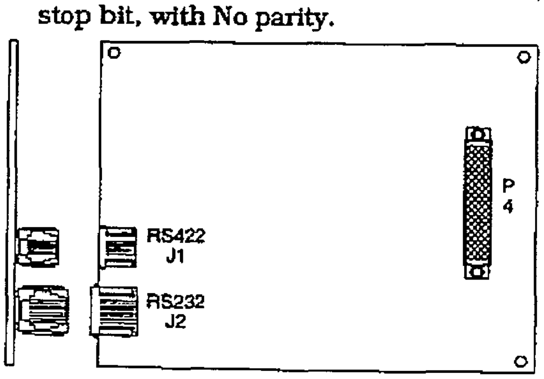
A. Expansion I/O Module (IOM) for the DVX^{I} System

The DVX^{I} contains one RS-232C, I/O port (female, DB-25 type connector) located on the main key service board (J5). This optional I/O module may be added to the main key service board (on connector J15) adding one additional RS-232C port (female, DB-25 type connector) and one RS-422 port (6 pin modular jack connector). Each I/O port on this module is capable of transmitting and receiving data at 300, 1200, 2400, 4800 and 9600 Baud rates.



B. Expansion I/O Module (IOM) for the DVX^{II} System

This module provides one RS-232C I/O port (8 pin modular jack) and one RS-422 I/O port (6 pin modular jack). This module is installed on the Central Processor Board printed circuit board and adds two I/O ports to the one RS-232C I/O port already on the Central Processor Board for a total of three I/O ports allowed in the system. Each port is independently programmed for its use and the rate of speed at which it transmits and receives data (baud rate). The options are 300, 1200, 2400, 4800, and 9600 Baud rates all at 8 data bits, 1 stop bit, with No parity.

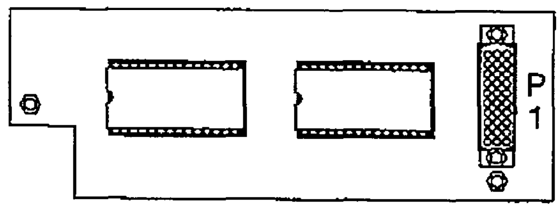


C. 1200 Baud Modem Module (MM)

This optional 1200 baud modem can be installed on either the DVX^{I} or the DVX^{II} systems to add the capability of communicating with the system from a remote site or location at the rate of 1200 baud. Both systems provide as standard an on-board modem capable of transmitting data at 300 baud. With this module installed, a transmission baud rate of 1200 baud can be selected. A programmable option allows for auto baud detection between 300 and 1200 baud.

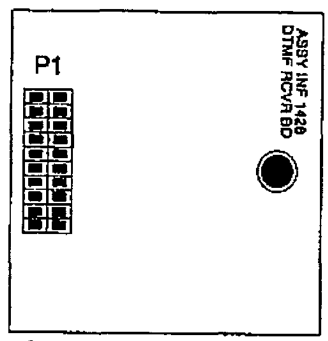
Connection to the modem is accomplished by simply calling into the system and connecting to the modem. This can be done by: ringing directly to the modem, by going through DISA, or after being answered by a station user and transferred to the modem port. Connection to the modem port is under software control.

The 1200 baud modem module maintains the compatibility with the Hayes command protocol and uses the Bell System (Western Electric) standards 103 and 212A for modem design. The modem operates on-line in both Full and Half duplex modes.



D. DTMF Receiver Module (RM)

This module is used to provide DTMF receivers in the system to support single line telephone and DISA applications.



Currently this module can be added to the DVX^{I} System Expansion KSU, 2x4 Expander Module, 2x4 SLT Expander Module and the 4x8 Expander Module. This module can also be added to the DVX^{II} System on each 4x8 Key Interface Board, and each 4x8 SLT Interface Board. Each DTMF Receiver Module contains 1 DTMF receiver. A maximum of three DTMF Receiver Modules can be installed in the DVX^{I} system for a total of four receivers for the system(one DTMF Receiver is located on the main key service board on the Basic KSU. A maximum of 13 DTMF Receivers can be installed in the DVX^{II} system, depending on whether the DTMF Receiver Module or the Dual DTMF/Talk-Back Page Module is installed.

NOTE	***The DVX^{I} Basic KSU is designed with one DTMF Receiver incorporated onto the main key service board.***

Generally, one receiver will support DISA and/or eight SLT stations under light to moderate traffic. If SLT and or DISA traffic is heavy, additional DTMF receivers should be added. It is also recommended to add additional DTMF Receivers when a Voice Mail or Auto Attendant is connected to the system.

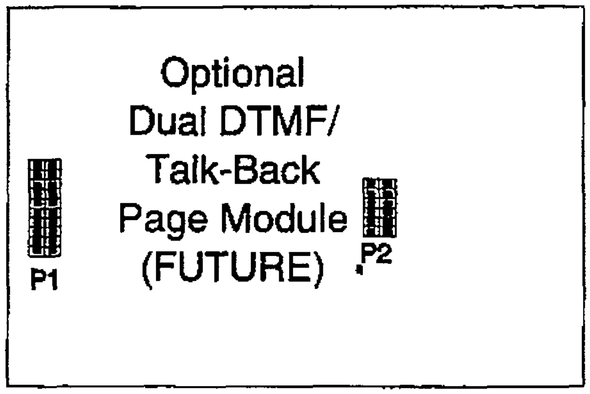
The DTMF Receiver Module plugs onto a 20-pin connector on the following printed circuit boards (one DTMF Receiver Module may be installed on each card):

- 2x4 Expander Module
- 2x4 SLT Expander Module
- Main Key Service Board of the Expansion Key Service Unit (EKSU)
- 4x8 Expander Module
- 4x8 Key Interface board (CKB)
- 4x8 SLT Interface board (CSB)

E. Dual DTMF/Talk-Back Page Module (Future)

This module is used to provide additional DTMF receivers in the system to support single line telephone and DISA applications along with two-way external paging capability. Currently this module can only be added to the DVX^{II} 4x8 SLT Interface Board (CSB). Each Dual DTMF/Talk-Back Page Module contains two DTMF Receivers. A maximum of six Dual DTMF/Talk-Back Page Modules can be installed in the DVX^{II} system, (A CKB must be installed in Slot 1 for programming from an Executive Digital Terminal (Only a single DTMF Receiver module can be installed on the CKB board), CSB boards can be installed in Slots 2 thru 7. Each CSB board having a Dual DTMF/Talk-Back Page Module installed, resulting in 13 DTMF Receivers in the system.

Generally, one receiver will support DISA and/or eight SLT stations under light to moderate traffic. If SLT and or DISA traffic is heavy, additional DTMF Receivers should be added. It is also recommended to add additional DTMF Receivers when a Voice Mail or Auto Attendant is connected to the system.



200.5 DIGITAL TERMINALS

A. 33-Button Executive (Display) Terminal

The 33-button Digital Terminal is one in a line of Digital electronic telephone terminals. The line consists of an Executive (Display) telephone, an Executive/PC Interface telephone, an Enhanced (non-display) telephone and an 8-button Basic telephone. These telephones are designed to operate with the new line of *infinite* Digital Key Systems and PBX Systems.

The 33-button and 8-button Digital Terminals are connected to the KSU via a four wire (two twisted pair) connections from an appropriate electronic terminal interface board.

LCD Display:

The 33-button Digital Display Terminal has a 48 character Liquid Crystal Display. The display provides information such as station extensions calling, Line ringing information, camp-on information, Message waiting information and so on. The LCD Display is a 48- character display divided into 3 fields:

- Field 1 = Current Status (top line, 24-characters)
- Field 2 = Date (Left half of bottom line, 12-characters)
- Field 3 = Time of day (Right half of bottom line, 12-characters)

These fields are separately maintained by the KSU processing to show current and pending station activity. Each field is recreated upon any display change except additional digits which are added to the end of the existing display.

The terminal communicates to the KSU through two 64K digital channel arrangements. One channel is used as the primary voice channel, a second is used for terminal to KSU command transmission. Power is also provided to the terminal via the four wire connection.

Buttons and LEDs:

The 33-button Digital terminal key board PCB provides long life "super bright" Light Emitting Diodes (LEDs) and button assemblies that protrude through the top housing. The buttons are small rectangular in shape with a clear end for proper LED visibility and diffusion. The 33-button Digital Terminal has 33-buttons all containing LEDs except the Pickup and Flash buttons plus a 12-key dial pad.

The 33-button Digital Terminal scans the key board for dial pad and button debounces and depressions for command transmission to the KSU. The keyset has the following buttons defined as follows:

Display and Non-Display

- 12 Dial Key Pad*
- 24 Flexible Buttons
- 1 ON/OFF button (fixed)
- 1 MUTE button (fixed)
- 1 SPEED button (fixed)
- 1 FLASH button (fixed)
- 1 TRANSfer button (fixed)
- 1 HOLD button (fixed)
- 1 CAMP-ON button (fixed)
- 1 MSG button (fixed)
- 1 PICKUP button (fixed)

* All buttons except the 12-key dial pad, Pickup and Flash button have an LED associated with it. Refer to Figure 200-10 33-Button Executive Digital Terminal.

Speakerphone:

Each 33-button Digital Terminal is equipped with a unit that enables the telephone to be used handsfree in two-way conversations. The user activates the speakerphone by pressing the ON/OFF button (LED lights steady). To terminate a speakerphone call, the ON/OFF button is toggled OFF (LED extinguished). The MUTE feature is used in conjunction with the speakerphone option. To mute the speakerphone microphone, the MUTE button is pressed (LED lights steady). To reactivate the microphone, the MUTE button is pushed again (LED extinguished).

Several programmable options control the speakerphone operation. Each digital terminal can be programmed for full speakerphone operation, or monitor/On-Hook dialing capabilities with no full speaker phone operation.

When Automatic Pre-selection is enabled at the station when any button is pressed (i.e. CO, DSS, Page etc...) the station and speakerphone is automatically activated.

Volume Controls:

Separate "slide" switches are provided on the front of the *infinite* Digital Terminal to

Figure 200-10 33-Button Executive Digital Terminal adjust the volume of the voice and tones presented to the terminal speaker.

- The speaker volume (center switch) will control all voice signals sent to the speaker i.e. Speaker Phone conversations, BGM, and Page announcements.
- The ringing volume (right switch) will control all tone signals presented to the speaker i.e. Ringing, splash tones, Camp-On etc... Muted ringing will also be controlled by the ringing volume slide switch. The muted ringing volume will be proportionately quieter than normal ringing based on the current switch setting.

HF-PV-TN Switch:

A three position slide switch is located on the front of the Digital Display Terminal that controls the method of receiving intercom calls.

- The "HF" position allows intercom call announce with hands free reply.
- The "PV" position allows Call Announce intercom calls only.
- The "TN" position provides Tone only intercom ringing.

This switch allows users to set and control the method in which they receive their intercom calls. However, a dial code that users can dial before placing an intercom call can override a called station's switch setting of HF or PV to force the station to Tone ring.

Directory Tray:

Each 33-button Digital Terminal is equipped with a slide-out Directory Tray accessed from the front of the digital terminal.

Wall Mounting:

The 33-button Wall Mount Bracket is designed to allow the 33-button digital terminal to be wall mounted on industry standard 630 type wall jacks. A 4-inch line cord is also provided as a standard item with each wall bracket.

Handset/line Cords:

The 33-button Digital Terminal uses a color coordinated K-Style handset with a matching 12-foot handset cord. A 9-foot four conductor base line cord is included with every Terminal.

The 33-button Digital Terminal uses an electret type transmitter. Compatible headsets can be plugged into the Terminals handset jack for headset operation.

B. 33-Button Executive/PC Interface Terminal (ICLID)

The 33-button Executive/PC Interface Terminal is similar to the 33-button Executive Display model and all of the information listed above applies to the Executive/PC Interface model except this terminal is used to deliver specific data messages identifying call states to a device attached to the phone via a serial channel following the data transmission requirements of RS-232C. The interface parameters to be used are 2400bps, no parity, 8 data bits, and 1 stop bit. This feature will deliver ICLID data to a Personal Computer attached to the phone for look-up of customer records and subsequent processing by the individual answering the telephone call. Calls can also originate from the Personal Computer through the digital terminal.

The 33-button Executive/PC Interface terminal provides transmit, receive, and ground data lines from the phone microprocessor which are used on command from the KSU to output information. The use of this capability would be to output the ICLID information to a PC attached to the phone. The VODAVI Call Tracker software program is available to support these Caller ID applications. Future use could be made of this capability for low speed data provided to equipment attached to the phone.

C. 33-Button Digital Terminal (Enhanced)

The 33-button Enhanced Digital Terminal is similar to the 33-button Executive Digital Terminal and all of the information listed above applies except there is no LCD display.

Figure 200-11 33-Button Enhanced Digital Terminal

D. 8-Button Digital Terminal

The 8-button Digital Terminal is new to the line of digital electronic telephone terminals. This new telephone is designed to operate with the line of *infinite* Digital Key Systems and PBX Systems.

Buttons and LEDs:

The 8-button Digital terminal key board PCB provides long life "super bright" Light Emitting Diodes (LEDs) and button assemblies that protrude through the top housing. The buttons are small rectangular in shape with a clear end for proper LED visibility and diffusion. The 8-button Digital Terminal has eight buttons all containing LEDs plus a 12-key dial pad.

The 8-button Digital Terminal scans the key board for dial pad and button debounces and depressions for command transmission to the KSU. The keyset has the following buttons defined as follows:

- 12 Dial Key Pad*
- 8 buttons, 4 of which are flexible
- 1 DSS STA 100 button (flexible)
- 1 DSS STA 101 button (flexible)
- 1 LOOP button (flexible)
- 1 POOL button (flexible)
- 1 SPEED button (fixed)
- 1 ON/OFF button (fixed)
- 1 TRANSfer button (fixed)
- 1 HOLD button (fixed)

* All buttons except the 12 key dial pad, have an LED associated with it. Refer to Figure 200-10 33-Button Digital Terminal.

Speakerphone:

Each 8-button Digital Terminal is equipped with a unit that enables the telephone to be used handsfree in two-way conversations. The user activates the speakerphone by pressing the ON/OFF button (LED lights steady). To terminate a speakerphone call, the ON/OFF button is toggled OFF (LED extinguished). The MUTE feature is used in conjunction with the speakerphone option. To mute the speakerphone microphone, the pre-programmed MUTE flex button is pressed (LED lights steady). To reactivate the microphone, the MUTE button is pushed again (LED extinguished).

Several programmable options control the speakerphone operation. Each digital terminal can be programmed for full speakerphone operation, or monitor/On-Hook dialing capabilities with no full speaker phone operation.

When Automatic Pre-selection is enabled at the station when any button is pressed (i.e. CO, DSS, Page etc...) the station and speakerphone is automatically activated.

Volume Control:

A "slide" switch is provided on the front of the *infinite* 8-button Digital Terminal to adjust the volume of the voice and tones presented to the terminal speaker.

- The "slide" switch controls the speaker volume which controls all voice signals sent to the speaker i.e. Speaker Phone conversations, BGM, and Page announcements.
- The same "slide" switch also controls the ringing volume which controls all tone signals presented to the speaker i.e. Ringing, splash tones, Camp-On etc... Muted ringing is also controlled by the slide switch. The muted ringing volume will be proportionately quieter than normal ringing based on the current switch setting.

Directory Tray:

Each 8-button Digital Terminal is equipped with a slide-out Directory Tray accessed from the front of the digital terminal.

Wall Mounting:

The 8-button Wall Mount Bracket is designed to allow the 8-button Digital Terminal to be wall mounted on industry standard 630 type wall jacks. A 4-inch line cord is also provided as a standard item with each bracket.

Handset/line Cords:

The 8-button Digital Terminal uses a color coordinated K-Style handset with a matching 12-foot handset cord. A 9-foot four conductor base line cord is included with every Terminal.

The 8-button Digital Terminal uses an electret type transmitter. Compatible headsets can be plugged into the Terminals handset jack for headset operation.

Figure 200-12 8-Button Basic Digital Terminal

E. Digital DSS/DLS Console

The Digital Direct Station Selector /Direct Line Selector (DSS/DLS) Consoles can be installed in place of any digital terminal circuit. The DSS/DLS Digital Console was designed in a housing similar in looks to the 33-button digital terminal.

The Direct Station Selector/Direct Line Selector (DSS/DLS) Console to be used with the family of *infinite* digital systems is modular in nature. The DSS/BLF console provides 48 buttons (4 columns of 12 buttons) and requires a separate four-conductor line cord each connected to a digital terminal station port.

The DSS/DLS Console unit can access Stations, Direct Appearing CO Lines, or features that may be assigned to any of the flexible buttons.

NOTE	***The following features are NOT allowed to be programmed onto DSS/DLS Console flexible buttons: ACD Agent or Supervisor Login, Do Not Disturb (DND), Call Forward (FWD), Camp-On, Available/Unavailable, Personal Park, Voice Mail, and Headset mode. These features can however still be programmed onto keyset flexible buttons.***

A DSS/DLS unit may be assigned to one of the different MAP configurations available. Any one of the three MAP configurations may be assigned to a DSS/DLS and up to three maps may be assigned to one station. However, "duplicate" MAPs or appearances of Stations and/or CO lines between the MAPs are not allowed.

DSS/DLS Console Button Mapping:

The buttons on the DSS/DLS console can be mapped with either a combination of fixed and flexible or completely flexible buttons where the station user may change the button programming to suit their needs.

There are three pre-defined MAPs for the DSS Console with default Button Programming. Refer to Figure 200-14 DSS Console Map 1, Figure 200-15 DSS Console Map 2, and Figure 200-16 DSS Console Map 3 for a button layout of each DSS Console Button Map.

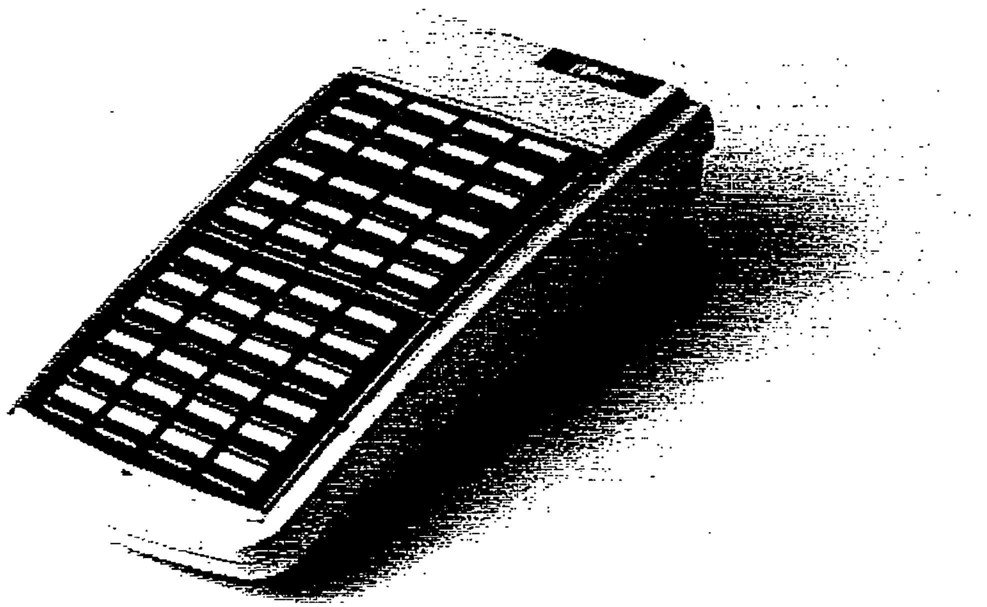


Figure 200-13 48-Button DSS/DLS Console

MAP #1 has by default the first 28 Stations (Stas 100-127), and 14 CO Lines, three Call Park locations, Release, Attendant Override, and an All Call Page button mapped to the buttons. All buttons except the 14 CO line buttons and Release button are flexible and can be changed by the station user.

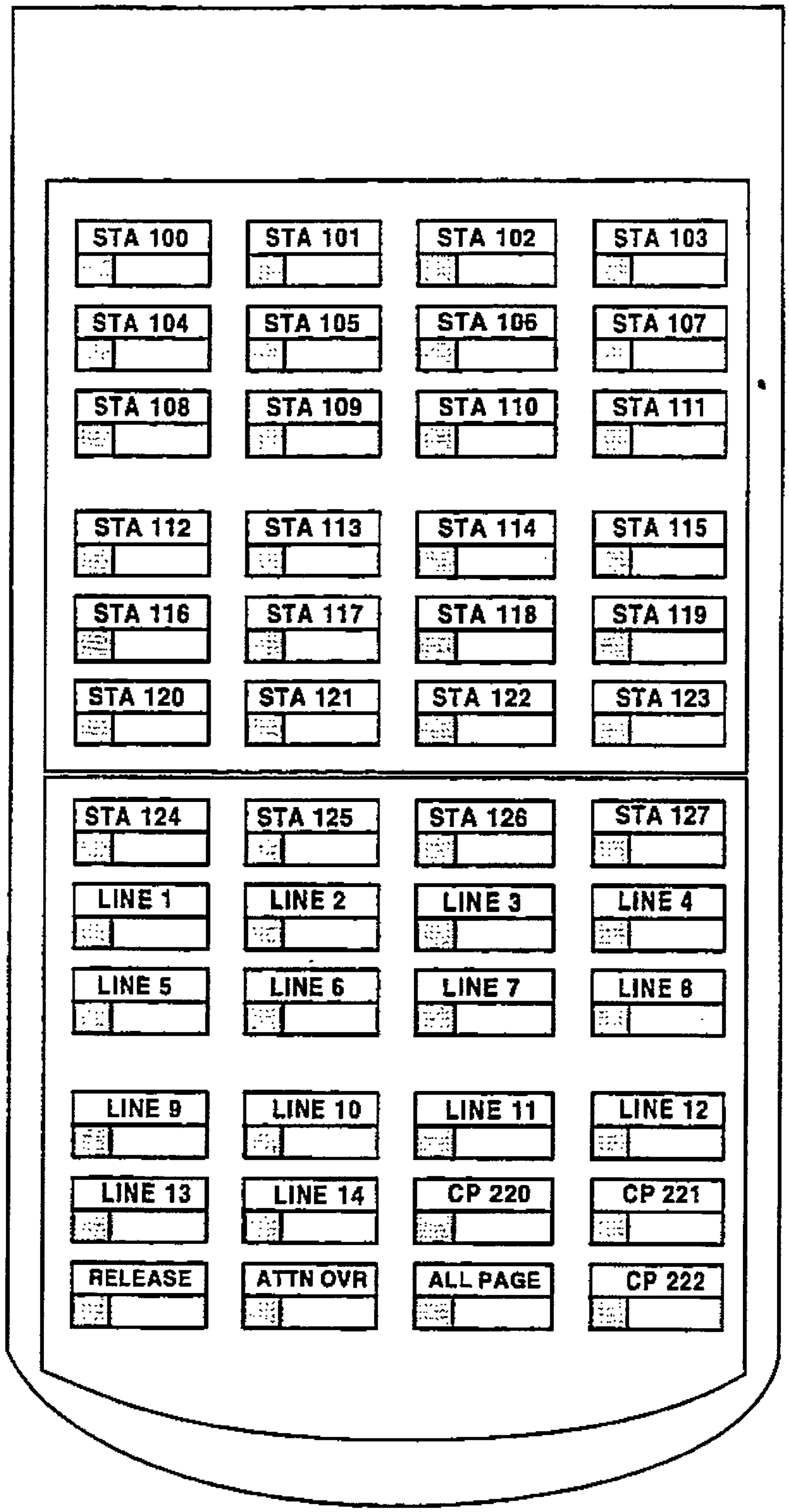


Figure 200-14 DSS Console Map 1

MAP #2 has by default all 28 CO lines, and the first 12 stations (Stas 100-111), followed by four Call Park locations, Release, Attendant Override, an All Call Page button, and the first Internal Page Zone mapped to the buttons. All buttons except the 28 CO line buttons and the Release button are flexible and can be changed by the station user.

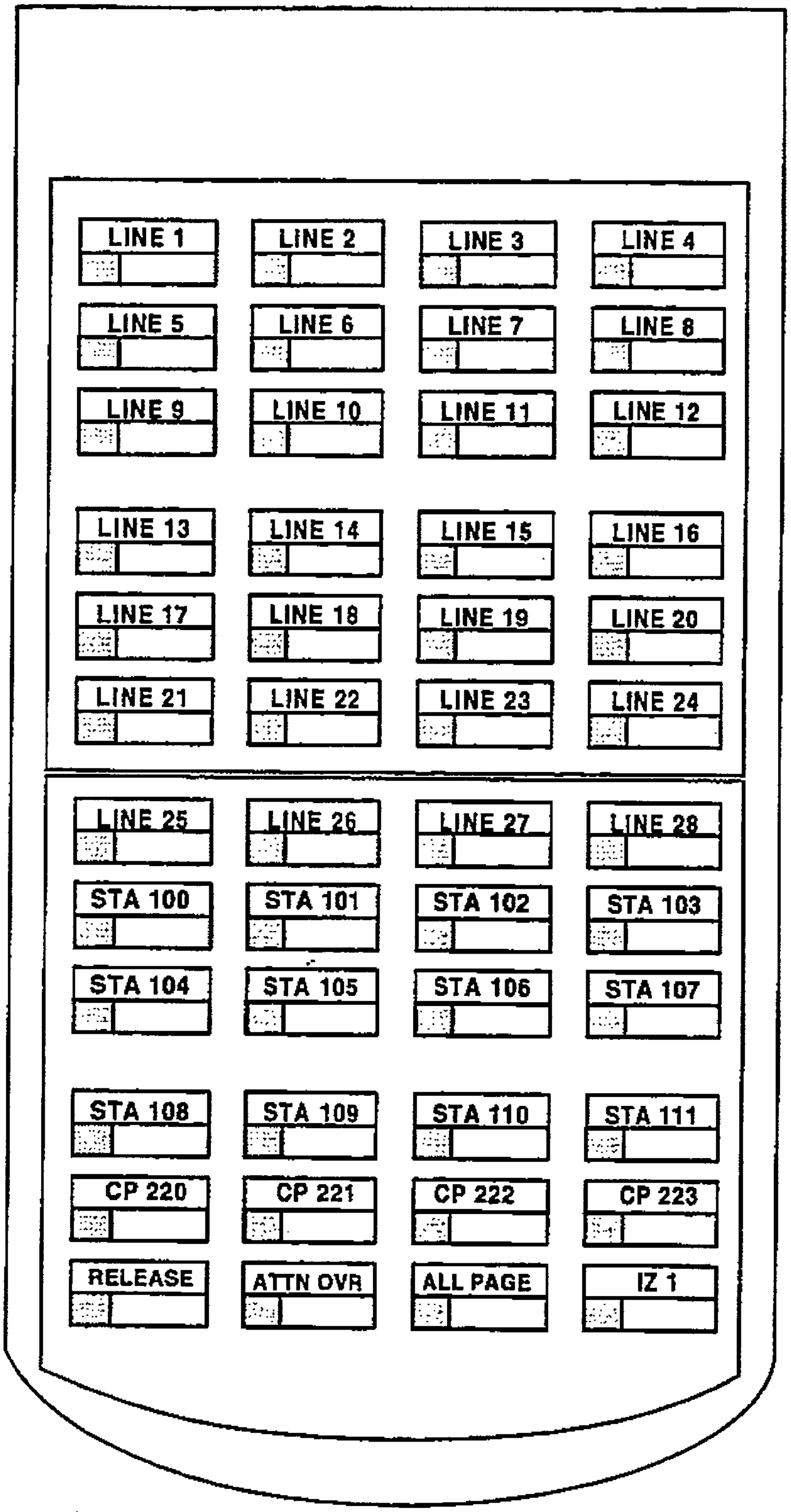


Figure 200-15 DSS Console Map 2

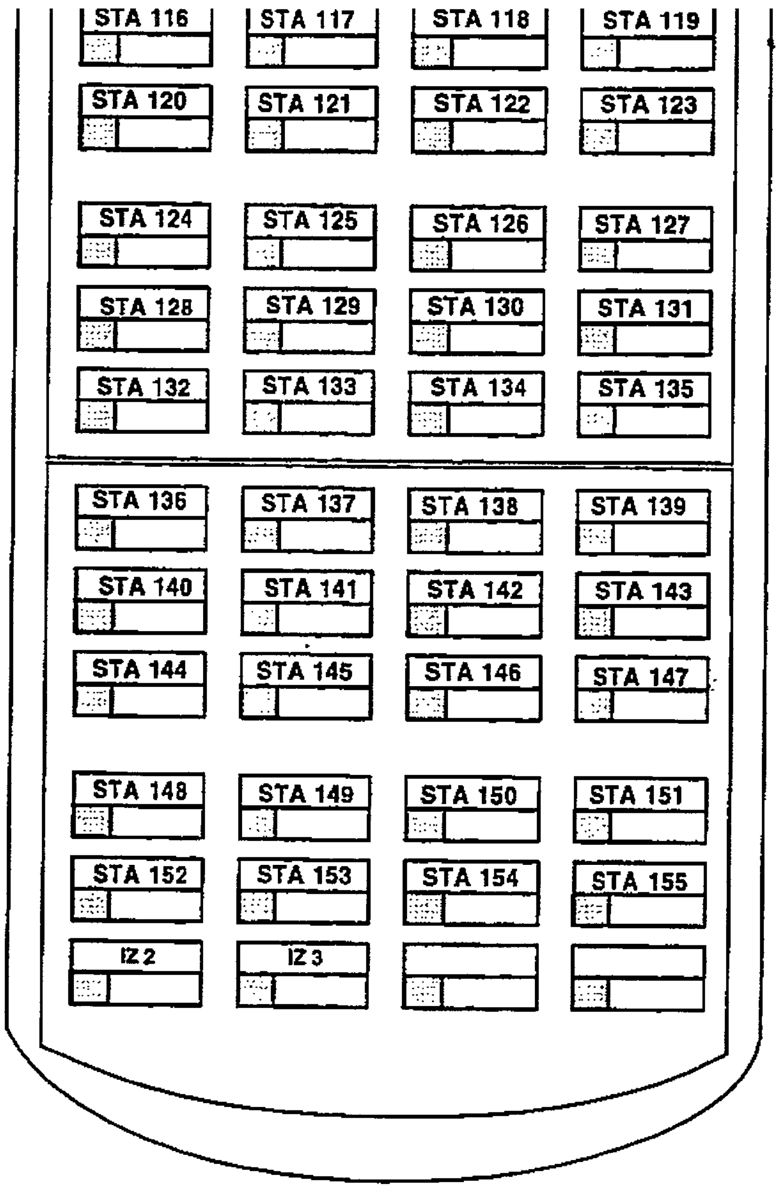


Figure 200-16 DSS Console Map 3

200.6 SLT ADAPTER / OFF-PREMISE EXTENSION MODULE

This external module provides the interface for one long loop (OPX) single line telephone (2500 type) extension. This module requires a sepa-

The OPX box meets the requirements of the FCC for connection to the telephone (Telco) network. Telephones connected to the OPX box must be DTMF only (2500 type).

This module also provides for one Power Fail

Figure 200-17 Off-Premise Extension (OPX) Module

200.7 RELAY / SENSOR INTERFACE MODULE

The Relay Sensor Interface Module connects to either the DVX ^{I} or DVX ^{II} systems using one digital station port and provides three relay activated contacts and three sensing circuits. The relays provide for applications such as Loud Bell Control contacts, CO Line control contacts, RAN Start contacts, Page Relays, Power Fail contact and additional applications as software will permit. The sensing circuits provide for such applications as RAN Stop (end of message) and other applications as developed and allowed by software.

An external power source is required to drive equipment connected to the relay contacts. The contacts are rated at 24V dc max at 1 amp.

200.10 SYSTEM SPECIFICATIONS AND CAPACITY

The DVX I Basic KSU is housed in a wall-mountable cabinet that contains the system power supply and the mother board for stations and CO lines. This Basic KSU supports a loaded capacity of 6 CO lines and 12 stations. DSS/DLS's can be installed in place of any Digital Key terminal. Standard single line tele-

Miscellaneous Specifications. Key Telephone, Single Line Telephone and OPX Audible Indications are listed in Table 200-9 - Digital Terminal Audible Signals, Table 200-10 - Single Line Telephone Audible Signals and Table 200-11 - OPX Telephone Audible Signals. Key Telephone Visual Indications are listed in Table 200-12 - DSS/BLF Button Visual Indicators, Table 200-13 - CO Line Button Visual Indicators, and Table 200-14 - Function Button Visual Indicators.

Table 200-1 - Digital System Capacities

DTMF Sender: (DVX I & DVX II)	1 per system (time shared)
I/O Ports:	3 (max) per system (1 RS-232C included on BKSU/CPB). 2 on optional I/O module (1-RS-232C and 1-RS-422)
Contacts (multi-purpose) (DVX II)	7 (max) per system (1 included on each CO/Station board) (additional relays may be used with the relay sensor module)
Contacts/Sensors (Relay Sensor Module) (DVX I & DVX II)	4 Relay / Sensor Modules per system. Each Relay/Sensor Module has 3 relays and 3 sensing circuits.
Conference:	
Circuits	4 Conference "bridges" per system
Parties per "bridge"	5 parties per "bridge"
DISA Circuits:	3 CO Lines may be programmed simultaneously.
Attendants:	Up to 3 stations can be designated as attendant(s).
DVX I Digital DSS/DLS Consoles:	21 (max) Up to 3 DSS/DLS units can be programmed to function with each station. (Each DSS/DLS unit reduced station capacity by 1)
DVX II Digital DSS/DLS Consoles:	42 (max) Up to 3 DSS/DLS units can be programmed to function with each station. (Each DSS/DLS unit reduced station capacity by 1)
Hunt Groups:	
Groups:	Software supports up to 8 groups.
Members:	Software supports up to 8 stations in each group.
Types:	Station or Pilot Hunting

Table 200-2 - Electrical Specifications

AC Input to Power Supply Power Consumption:	117V ac ± 10%, 60 Hz single phase 120V ac @1.5A max 180 watts maximum (DVX ^{I}) 600 watts maximum (DVX ^{II})
Power Supply Fuse - AC input	1.5A, 125V ac (DVX ^{I} BKSU and EKSU) 5A, 125V ac (DVX ^{II})
Longitudinal Balance:	Better than 60db from 200 Hz to 1,000 Hz

Table 200-4 - Loop Limits

Electronic Telephone: (including DSS/DLS Console)	1000 feet of 26 AWG Cable 1000 feet of 24 AWG Cable 1000 feet of 22 AWG Cable
Standard Single Line Telephones	2000 feet of 24 AWG Cable
Off-Premise Extensions (OPX) (Adapter to SLT)	1400 Ohms maximum loop, not including telephone.

Table 200-5 - Dialing Specifications

DTMF Dialing	
Frequency Deviation	±1%
Rise Time	3 msec.
Duration of DTMF Signal	75 msec. minimum
Interdigit Time	75 msec. minimum
PULSE Dialing	
Pulse Dialing Rate	10 or 20 pps.

Speech Dialing Memory: (DVX II)	
Station Speed Dial:	20 bins per station (24-digits)
System Speed Dial:	80 bins per system (24-digits)
Total speed dial bins:	1280 speed locations to be divided among all telephones.

Table 200-9 - Digital Terminal Audible Signals

TYPE OF SIGNAL	FREQUENCY	SIGNAL DURATION
<u>Key Telephone Signals:</u>		
Incoming CO Line	1215/1471	0.8s on/2.4s off; repeated
Intercom Tone Ringing	1215/1471	0.4s on/0.4s off/0.4s on/2.0s off
Intercom Call Announce	935	0.2s on/0.2s off (2 bursts)
CO Line Recall	30 Hz, 50-90V AC	2.0s on/4.0s off
CO Queue Call Back	30 Hz, 50-90V AC	2.0s on/4.0s off
<u>Single Line Confidence Tones:</u>		
Intercom Ringback	440+480	1.0s on/3.0s off; repeated
Call Announce	420	0.2s on/0.2s off (3 bursts)
Busy Tone	480+620	0.5s on/0.5s off; repeated
Error Tone	480+620	0.25s on/0.25s off; repeated
Intercom Dial Tone	420	Continuous
DND Tone	480+620	0.2s on/0.2s off, repeat 3x's, pause, 0.5s; repeated
Paging Time-out	480+620	0.5s on/0.5s off; repeated
Call FWD Warning Tone	420	0.2s on/0.2s off (six times)
Camp-on Tone	420	0.2s burst (1 time)
Conference Warning Tone	420	1 sec burst (1 time)
Confirmation Tone	420	1.4 sec burst (1 time)
DND Warning Tone	420	0.2s on/0.2s off (6 bursts)

Table 200-12 - DSS/BLF Button Visual Indicators

TYPE OF SIGNAL	INDICATOR FLASH RATES
Off-Hook/Busy (All Stations)	Steady
Incoming Intercom Ring (Destination)	120 ipm flutter
Call Announce (Destination)	steady
Message Waiting Call Back (Destination)	120 ipm flutter
Do Not Disturb (All Stations)	480 ipm triple wink
Automatic Call Back (Destination)	120 ipm flash
ACD/UCD Available/Unavailable	60 ipm flash

Table 200-13 - CO Line Button Visual Indicators

TYPE OF SIGNAL	INDICATOR FLASH RATES
Incoming CO Ring	30 ipm flash
Transferred CO Ring	120 ipm flash
Recall	480 ipm flutter

Ca
Ca
Ca
Ca
Ce
Ce
Ch
CO
CO
CO
CO
CO
CO
CO
CO
CO
Co
Co

D

Da
Da
Da
Da
De
Dia
Dia
Dia
Dir
Dir
Dir
Dir
Dis
Dis

S = S

Table 300-1 Key Station Feature Index (Cont'd)

FEATURE	AVAILABLE	INTERNAL EQUIPMENT REQUIRED	EXTERNAL EQUIPMENT REQUIRED
Do Not Disturb (DND) 300-17	S	N	N
One-Time Do Not Disturb (DND) 300-17	S	N	N
DTMF Sending 300-17	S	N	N
I			
ICLID Feature 300-20	O	Software	ICLID Keyset
Calling Number/Name Display 300-20	S	N	N
Incoming Number/Name for SMDR Records 300-20	S	N	N
Unanswered Call Management 300-20	S	N	N
Idle Speaker Mode 300-21	S	N	N
Incoming CO Lines Off-Net Forward via Speed Dial 300-21	S	N	N
Intercom Calling 300-21	S	N	N
Intercom Signaling Select 300-21	S	N	N

S = Standard Feature; O=Optional: Requires additional hardware; N=No additional hardware required

Table 300-1 Key Station Feature Index (Cont'd)

		INTERNAL	EXTERNAL
N			
Name in Display........ 300-23	S	N	Exec Keyset
Night Service Feature........ 300-23	S	N	N
Night Service Mode........ 300-23	S	N	N
Automatic Night Mode Operation........ 300-23	S	N	N
External Night Ringing........ 300-23	S	N	N
Manual Operation........ 300-23	S	N	N
Night Class of Service (COS)........ 300-23	S	N	N
Night Ringing Assignments........ 300-24	S	N	N
Universal Night Answer (UNA)........ 300-24	S	N	N
Weekly Night Mode Schedule........ 300-24	S	N	N
O			
Off Hook Voice Over (OHVO)........ 300-24	S	N	OHVO Keyset
Off-Hook Preference........ 300-24	S	N	N
Auto Feature Access........ 300-24	S	N	N
Auto Line Access........ 300-24	S	N	N
Hot Line/Ring Down........ 300-24	S	N	N
Intercom Access........ 300-24	S	N	N

S = Standard Feature; O=Optional: Requires additional hardware; N=No additional hardware required

R						
Range Programming	300-26	S	N	N		
Remote Administration	300-26	S	N	PC/Term/Modem		
Database Upload/Download	300-26	S	N	PC/Term/Modem		
Remote System Monitor & Maintenance	300-26	S	N	PC/Term/Modem		
Remote System Maintenance	300-26	S	N	PC/Term/Modem		
Remote System Monitor	300-27	S	N	PC/Term/Modem		
S						
Save Number Redial (SNR)	300-27	S	N	N		
Single Line Telephone (SLT) Compatibility	300-27	S	*	2500 Type		
* 2x4 SLT Expander Module, 4x8 SLT Interface Board (CSB), or Single Line Adapter (OPX) w/48v Supply can be used for SLT operations.						
Speakerphone	300-27	S	N	N		
Station Class of Service (COS)	300-27	S	N	N		
Station Message Detailed Recording	300-27	S	N	Printer/Terminal		
Station Relocation Feature	300-27	S	N	N		
Station Speed Dial	300-27	S	N	N		
System Capacity	300-28	S	N	N		
Up to 14x28 Configuration	300-28	S	N	N		
Up to 28x56 Configuration	300-28	S	N	N		
System Hold	300-28	S	N	N		
System Speed Dial	300-28	S	N	N		
T						
Text Messaging (Silent Response)	300-28	S	N	[illegible]		

on a call. The supervisor can use this display to determine why there are a lot of queued calls in a specific group.

D. Incoming CO Direct Ringing

CO Lines can be programmed to ring directly into a ACD group. When all agents are busy and RAN is enabled, the system will answer the caller and present the 1st RAN announcement automatically.

E. No-Answer Recall Timer

If a call routed to a station via ACD is not answered by the ACD Agent/Station before the No-Answer Recall timer expires, the call will be returned to ACD Queue with the highest priority. In addition, the station that failed to answer the ringing ACD call will be placed into an out of service (OOS)

tion after a specified time. The overflow station may not be one of the ACD group stations.

into one of the ACD groups. The Supervisor ID entered in the login process identifies the supervisor for the specific ACD group he is assigned to. This feature will allow a supervisor to log into any ACD group from any station in the system. However, to have the supervisor monitor with barge-in feature, the supervisor must log in at a station with monitor barge-in capability.

- Supervisor Identification: Each ACD Supervisor has a unique Supervisor ID code (0000-9999) which he uses during login and logout procedures. This unique ID code is not verified or stored as part of the system database.
- Supervisor Help Request: The HELP fea-

ACD group a supervisor. This supervisor station can receive the calls in queue display in real time, receives No Answer/Out of Service, receives "HELP" displays from the groups that the supervisor is assigned to and can barge in on active calls in his ACD group or groups.

I Supervisor/Agent Calls in Queue

Each station, key or SLT, may have their phone programmed to access a particular CO Line such as a private line or a line from a Group of CO lines upon going off-hook. This is useful in Centrex or PBX applications when station users have dedicated or individual lines. Outside line dial tone is received just by going off-hook, without the need to dial an access code.

300.6 AUTOMATIC NIGHT SERVICE

The system may optionally be programmed to go into and out-of night service automatically. This method does not require the attendant to activate or deactivate night service on a daily basis. The automatic night service is enabled and disabled on a programmable daily schedule including Saturday and Sunday schedules. A time can be set to enable Night Service and to

300.8 AUTOMATIC PRIVACY

Privacy is automatically provided on all calls. If one station is conversing, another station cannot intrude on that line. The Automatic Privacy

a NICAD battery is located on the Central Processing Board (CPB) of the *infinite* DVX II System to protect system memory in case of commercial power outage or the system power being turned off for a period of time. Battery Back-up Memory retains all system features including both system and station speed dial during a power outage.

300.12 BUSY LAMP FIELD (BLF)

When a button on a Digital Terminal is assigned as a DSS, it also serves as a Busy Lamp Field to display the status of that telephone.

300.13 CALL ANNOUNCE - PRIVACY

Each telephone user can set their intercom signaling switch to receive intercom call announcements without having the calling party

that Centrex users can utilize the *infinite* Digital Key Telephone System to enhance their Centrex

The *infinite* Digital Key Telephone System allows for private line assignment on an unlimited basis. Each station may have sole access to a particular outside line if desired and may also be assigned to receive incoming ringing on that line.

D. Programmable Flash Timer

CO line flash is a momentary opening on a CO line used for signaling. When using the *infinite* Digital Key Telephone System in a Centrex environment the CO line flash is to signal the intention to transfer a caller using Centrex transfer. The CO line flash timer is programmable on a per CO line bases to facilitate a mixture of Centrex and CO lines within the same system.

E. Programming "*", "#", and Hook-Flashes into Speed Dial

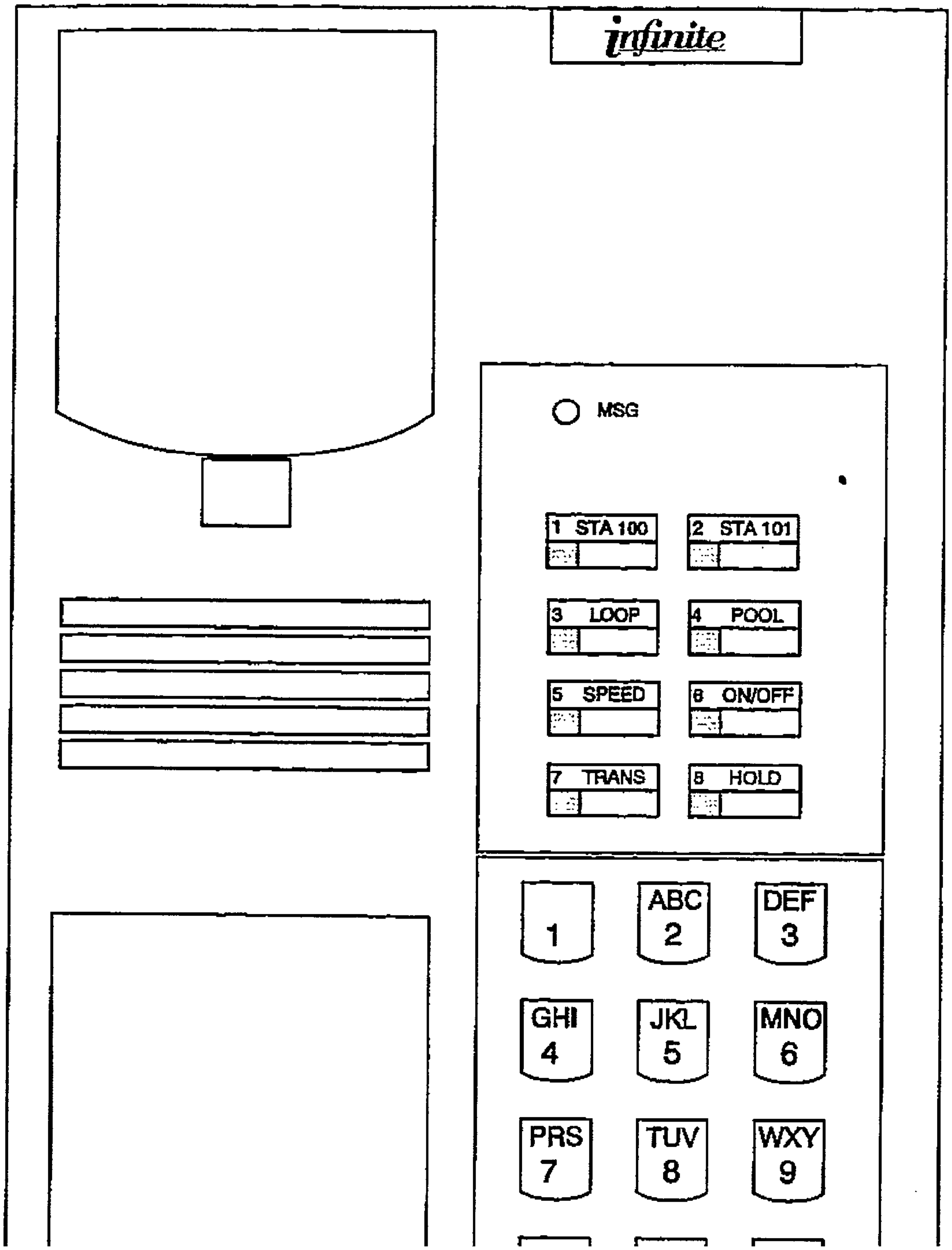
300.27 CHAINING SPEED BINS

Speed dial bins may be chained together by

control contacts, and seven control contacts on the *infinite* DVX II System which may be individually programmed as either CO Line Control (to control ancillary equipment) or Loud Bell Control to control a customer provided ringing device to external areas. When programmed as CO Line Control and assigned to a CO line, the corresponding contact will close whenever that CO line is accessed by a station. Since no "on-board" relay contacts are available on the DVX I for CO Line Control, the Relay/Sensor Interface module is used for this purpose. On the *infinite* DVX II System, there is one contact for each 4x8 port card.

300.31 CO LINE GROUPS

Outside lines can be placed in one of eight groups if the customer's business requires such


infinite
MSG
1 STA 100
2 STA 101
3 LOOP
4 POOL
5 SPEED
6 ON/OFF
7 TRANS
8 HOLD
1
ABC 2
DEF 3
GHI 4
JKL 5
MNO 6
PRS 7
TUV 8
WXY 9

pervisors or training personnel who require a service observing option.

A separate condition has been added to this feature which will allow or disallow an Executive to override an extension. This prevents an extension with override capability from overriding an Executive's station.

NOTE	*A change in volume may occur on the CO line or intercom call after the barge-in occurs.*

CAUTION

USE OF THIS FEATURE WHEN THE EXECUTIVE OVERRIDE WARNING TONE IS DISABLED MAY BE INTERPRETED AS A VIOLATION OF FEDERAL OR STATE LAWS,, AND AN

300.64 FLEXIBLE ATTENDANT

Any three Digital Terminals in the system can be assigned as attendant stations. These stations will receive recalls and can place the system into Night Service. The attendant stations must be either Enhanced or Executive stations.

300.65 FLEXIBLE BUTTON ASSIGNMENT

Each 33-button digital terminal has 24 flexible buttons which can be individually programmed. Each 8-button digital terminal has 4 flexible buttons which can be individually programmed. One of the following operations can be selected for each button. Refer to Section 400.37, Flexible Button Assignment.

- Outside line: Automatically accesses assigned line. (Assigned in database)

Week.

F. Daily Start Time Tables

The Daily Start Time tables allow the user to match the Time Periods discount structure to the carriers rate schedule.

G. Exception Tables

This table is used to route operator assisted calls and any other calls which would use a one- or two-digit number rather than a three-digit area code.

H. Default LCR Data Base

In an effort to decrease installation and set up time usually associated with LCR a default LCR database has been incorporated. The default LCR database will provide basic routing for all local and long distance dialing.

button is on a key set, the loop buttons may be conferenced together. If all programmed Loop buttons on a keyset are busy or have a CO call on hold, the party attempting to transfer a CO line to that station will receive busy tone and cannot transfer the call to that station. If a transfer is attempted, the CO line will recall the initiator immediately.

CO lines are also presented to a Loop when dialing out using LCR or when using speed dial to dial out and the line chosen does not appear on the key station.

300.89 MEET ME PAGE

Users may answer a page call from any phone in the system by dialing a special code. The party who initiated the page must remain off-hook.

300.103 ON LINE PROGRAMMING

Changes to the system database can be made

C. **Paging Access Restriction**

Programming on a per-station basis, can

of the functions mentioned above.

300.105 PAGING

A. **External Paging**

There are four external paging zones available in the DVX I and seven available in the DVX II systems. External Paging requires a three-digit dialing code. External paging requires an externally provided amplifier and paging system. One make and one break contact are provided with the page zone on the 4x8 Key Interface Board (CKB). Since no "on-board" relay contacts are available on the DVX I for external paging, the Relay/Sensor Interface module is used for this purpose.

If the 4x8 SLT Interface Board (CSB) installed in the DVX II System, the relay contact used to provide external paging is

able loop button to retrieve the parked call.

NOTE	***Only one call can be parked in a Personal Call Park location at one time. When dialing the Personal Park location and the location is already occupied, the initiating party will receive a busy tone. The user may then press the TRANS button to return to ICM dial tone and attempt to use a system park location.***

300.108 PBX DIALING CODES

The System will allow five one or two-digit access codes to be entered into memory. When one of these codes is dialed, this signals the KSU that toll restriction is to be applied at the next dialed digits after the code. If one of these codes is not dialed, toll restriction does not apply. This allows the dialing of PBX extensions 100, 110, 111, etc. This functions on lines marked as PBX type lines in programming.

circuits.

B. Up to 28x56 Configuration

The DVX^{II} system will support a maximum of 28 outside CO circuits and 56 station circuits.

300.125 SYSTEM HOLD

When a line is placed on System Hold, any station in the system with an appearance of that line can retrieve the call.

300.126 SYSTEM SPEED DIAL

Up to 80 commonly dialed numbers can be programmed into System Speed Dial for use by stations allowed this feature. These numbers can be up to 24-digits including pauses, flash commands, pulse-to-tone switchover, and no-display characters. The last 40 numbers will not be monitored by toll restriction.

Eight Uniform Call Distribution (UCD) groups can be programmed, each containing up to eight three-digit station numbers. Each group is assigned a pilot number. When this number is dialed, the first available agent in that group is rung. Calls are routed to the station that has been on-hook for the longest period of time.

A. Alternate UCD Group Assignments

An alternate UCD group can be programmed so that if stations in one group are busy, the alternate group will be checked for an available station.

B. Auto Wrap-Up w/Timer

After completion of a UCD call (on-hook) the agent will not be subjected to another UCD call for the duration of the Auto Wrap-Up timer (regardless of the number of calls in queue), allowing the agent to finish call

infinite Digital Key Telephone System. Each station is assigned a Class of Service for day mode operation and one for night mode opera-

message.

D. Incoming CO Direct Ringing

CO Lines can be programmed to ring directly into a UCD group. When all agents are busy and RAN is enabled, the system

prompt a supervisor that Agents in a group are having problems answering all their calls. The display will tell the agent and his supervisor how many calls are in queue,

pires. If the agent does not answer his next UCD call, he will again be taken out of service. This cycle will continue until the station answers calls, logs out, or goes unavailable.

G. Overflow Station Assignments

An overflow station may be assigned to route callers in queue to a designated station after a specified time. The overflow station may not be one of the UCD group stations.

H. Recorded Announcements (RAN)

Recorded announcement devices can be assigned to provide up to eight different messages, if all stations in a UCD group are busy. The eight messages are available to all eight UCD groups in different configurations.

any given UCD Group. To view the number of calls in queue the station user dials the Calls In Queue code (or presses a programmed FLEX button with this code) then enters the UCD group desired. The LCD will display, on a real time basis, the number of calls in queue for that group.

300.131 UNIVERSAL NIGHT ANSWER (UNA)

Incoming CO lines can be programmed for Universal Night Answer (UNA). Stations which do not have access to a line during the day can answer that line while the System in the Night Mode by dialing a UNA code. In order to utilize this feature, a loop button or an appearance of the trunk must be present on the station.

300.132 VOICE MAIL GROUPS (VM)

Single Line Telephone (SLT) Feature the Index.

310.1 ACCOUNT CODE

SLT stations may enter an account code, up to 12-digits in length, to identify calls for billing/tracking purposes. The account code may be entered either before the call or during the call (the outside caller is placed on hold while the account code is entered if during the call.). The account code is recorded on the SMDR printout. Account codes are non-verified and can vary in length from 1 to 12 digits.

310.2 AUTOMATIC LINE ACCESS

SLT's may have their station programmed to access a particular CO Line such as a private line or a line from a Group of CO lines upon going off-hook. This is useful in Centrex or PBX applications when station users have dedicated or individual lines. Outside line dial tone is received just by going off-hook, without the need to dial access codes.

310.3 CALL FORWARD

Single line telephones may direct intercom calls and transferred CO lines to be forwarded to another station. SLTs have access to all forwarding options that Key station users have:

- Call Forward - All Calls
- Call Forward - No Answer [7]
- Call Forward - Busy [8]
- Call Forward - Busy/No Answer [9]
- Call Forward - Off-Net [*]
- Preset Call Forward

310.4 CAMP ON

A busy station can be notified that an outside line is on hold and waiting for them. The busy

... between two outside (CO) calls. The Personal Park feature is used in conjunction with the SLT conference code to make this possible. A combination of features are derived from these dial codes (Personal Park, Flip/Flop, and Multi-line Conference).

310.7 DIRECT OUTSIDE LINE GROUP ACCESS

Single line telephones can access outside lines by dialing CO line group access codes 9 or 81-87.

310.8 DIRECT OUTSIDE LINE RINGING

Single line telephones can be set up to receive direct outside line ringing. SLTs may be programmed to receive incoming CO Ringing on more than one CO line. However, an SLT can answer only <u>ONE</u> call at a time. If a SLT is busy when a CO call rings in, camp-on tone will be given to that SLT station.

310.9 DIRECTED CALL PICK-UP

Tone ringing intercom calls, Initial Ringing CO calls and transferred outside line calls to specific stations can be picked up by single line telephones. For this type of pickup, the stations do not have to be in the same pickup group.

310.10 DO NOT DISTURB (DND)

Each telephone user can be allowed to place their phone in Do Not Disturb. The user will receive error tone if they are not allowed this feature. They will also receive a confidence tone when lifting the handset to remind them they are in Do Not Disturb. The attendant can override a station in DND.

310.11 GROUP CALL PICK-UP

Tone ringing intercom calls, transferred outside line calls, and initially ringing calls can be

Table 310-1 Single Line Telephone (SLT) Feature Index

FEATURE	AVAILABLE	INTERNAL EQUIPMENT REQUIRED	EXTERNAL EQUIPMENT REQUIRED
A			
Account Code 310-1	S	N	N
Automatic Line Access 310-1	S	N	N
C			
Call Forward 310-1	S	N	N
Camp-On 310-1	S	N	N
Conference 310-1	S	N	N
Conference w/Personal Park 310-1	S	N	N
D			
Direct Outside Line Access 310-1	S	N	N
Direct Outside Line Ringing 310-1	S	N	N
Directed Call Pick-Up 310-1	S	N	N
Do Not Disturb (DND) 310-1	S	N	N
G			
Group Call Pick-Up 310-1	S	N	N
I			
Intercom Calling 310-3	S	N	N
M			
Message Waiting/Call Back 310-3	S	N	N
Messages - Personalized 310-3	S	N	N
Custom Messages 310-3	S	N	N
N			
Night Service 310-3	S	N	N
O			
Off-Hook Preference 310-3	S	N	N
P			
Personal Park 310-3	S	N	N
Q			
Queuing 310-3	S	N	N
S			
Station Speed Dial 310-3	S	N	N
System Speed Dial 310-3	S	N	N
T			
Transfer 310-3	S	N	N

S = Standard Feature; O=Optional: Requires additional hardware; N=No additional hardware required

picked up by single line telephones by dialing a special pickup code. The telephones must be in the same pickup group.

310.12 INTERCOM CALLING

Single line telephones can make and receive intercom calls.

310.13 MESSAGE WAITING/CALL BACK

Single Line Telephones calling a station that is busy, idle, or in Do Not Disturb can leave a message waiting indication to signal the station to call back.

310.14 MESSAGES - PERSONALIZED

Each SLT station can select a pre-assigned message to be displayed on the LCD of the Digital Terminal receiving that message. There are ten possible messages which can be displayed:

- 00= Clears Messages
- 01= ON VACATION
- 02= RETURN AM
- 03= RETURN PM
- 04= RETURN TOMORROW
- 05= RETURN NEXT WEEK
- 06= ON TRIP
- 07= IN MEETING
- 08= AT HOME
- 09= ON BREAK
- 10= AT LUNCH

A. Messages - Custom

This feature allows the system administrator to enter up to ten custom messages for use by station users of the system. These messages may be specified and customized by the customer on a system-wide basis.

310.15 NIGHT SERVICE

When outside lines are marked UNA and the system is placed into night service, a single line telephone can answer incoming calls on lines it does not normally have access to by dialing [#3]. When External Night Ringing is enabled in database programming, ringing is outputted on the external page ports.

310.16 OFF-HOOK PREFERENCE

SLT's may have their station programmed to access a particular CO Line such as a private line or a line from a Group of CO lines upon going off-hook. This is useful in Centrex or PBX applications when station users have dedicated lines. Outside line dial tone is received just by going off-hook, without the need to dial access codes.

310.17 PERSONAL PARK

Single line telephones can be connected to two calls (Intercom or CO lines) at the same time and "flip/flop" between the two calls. This can be performed with originated or received calls. This feature is also used with SLT multi-line conference feature.

310.18 QUEUING

Single line telephones can be placed in a queue awaiting the first available outside line in a group to become available.

310.19 STATION SPEED DIAL

Each SLT user may program up to 20 individual speed dial numbers. Each speed dial number can be up to 24-digits in length.

310.20 SYSTEM SPEED DIAL

Each SLT user can be allowed access to system speed dial numbers on a programmable basis. The last forty system speed numbers override toll restriction.

310.21 TRANSFER

Outside lines may be transferred by or to single line telephones. These transfers can be either announced or unannounced.

SECTION 320
ATTENDANT FEATURE DESCRIPTION

The Attendant and Attendant(s) with DSS/DLS features of the *infinite* Digital Key Telephone System are listed and described below in alphabetical order. An abbreviated feature index is provided in Table 320-1 Attendant Feature Index.

320.1 ATTENDANT DISABLE OUTGOING ACCESS

The first attendant can disable CO lines, preventing outgoing access to those lines. This is useful for removing a faulty line from service, or for reserving CO lines for important use. All stations that can normally make calls on the lines are affected, but incoming calls are not affected. A CO line may be disabled while it is being used; when the trunk becomes idle, further outgoing access will be prevented.

320.2 ATTENDANT OVERFLOW

System programming allows the attendant station to be programmed so that if the attendant is busy or not there, the call will be automatically forwarded to another predetermined station, VM Group, Hunt Group, ACD or UCD group after a programmed period of time. (Refer to Call Forward, Station and Preset)

320.3 ATTENDANT OVERRIDE

Attendant stations may override a busy station or ring a station in DND. While busy, pressing the override key provides override tone and a five second delay before voice cut-through to the called party occurs, automatically placing any outside line call on Hold. The Attendant Override function may be programmed on to a flex button and can be enabled or disabled in programming.

320.4 ATTENDANT POSITION

The system identifies a maximum of three programmable stations as attendants for line recalls and attendant features. The first programmed attendant can enter system date and time information as well as System Speed numbers from this position without entering the programming mode. The *infinite* Digital Key Telephone System is placed in Night Service by any programmed attendant pressing the NIGHT (DND) button or dialing the NIGHT code.

320.5 ATTENDANT RECALL

A held CO call left unattended by a station will recall the attendant(s) after a programmable period of time has elapsed. A recalling CO line flashes at a distinctive rate and has an LCD display that identifies the originating station of the unanswered call.

320.6 AUTOMATIC NIGHT MODE

In addition to the attendants capability to place the system into and out of night mode manually, by pressing the Night key, an automatic night mode schedule has been added to the system. The automatic schedule is set in data base programming on a week day basis, including Saturday and Sunday. The Attendant can override the automatic schedule by pressing the NIGHT (DND) button.

320.7 INCOMING CO LINE OFF-NET FORWARD

Allows the first attendant to forward incoming CO calls to an Off-Net location. The attendant must have a direct appearance of the CO line to be forwarded. Forwarding can be established on a per CO line group basis, or all CO lines may be simultaneously forwarded to an off-net location.

320.8 NIGHT SERVICE FEATURE

The Night Service feature will provide a means to put the system in night mode from any keyset or remove the system from night mode from any keyset as long as the system was put in night mode by the night service feature flex button. If the system was placed in night mode by the attendant using her DND button or if the system was placed in night mode by the automatic schedule, the night service flex button can not remove the system from night mode.

320.9 TIME AND DATE PROGRAMMING

This feature allows the first programmed attendant to set the time and date without entering the programming mode.

Table 320-1 Attendant Feature Index

FEATURE	AVAILABLE	INTERNAL EQUIPMENT REQUIRED	EXTERNAL EQUIPMENT REQUIRED
A			
Attendant Disable Outgoing Access........... 320-1	S	N	N
Attendant Overflow.. 320-1	S	N	N
Attendant Override 320-1	S	N	N
Attendant Position... 320-1	S	N	N
Attendant Recall... 320-1	S	N	N
Attendant Search... 320-2	S	N	N
Automatic Night Mode 320-1	S	N	N
B			
Busy Lamp Field Indicators 320-2	S	N	N
D			
Direct Station Calling 320-2	S	N	N
I			
Incoming CO Line Off-Net Forward 320-1	S	N	N
M			
Mapping Options.. 320-2	S	N	N
Messages - Custom.. 320-3	S	N	N
N			
Night Service Feature....................................... 320-1	S	N	N
R			
Release Key 320-3	S	N	N
T			
Time and Date Programming 320-1	S	N	N

S = Standard Feature; O=Optional: Requires additional hardware; N=No additional hardware required

ATTENDANT W/DSS/DLS FEATURES

320.10 ATTENDANT SEARCH

Allows a user to make a series of intercom calls without hanging up the handset. An intercom connection is switched to another station whenever a DSS key is pressed. Pressing the next DSS key terminates the previous intercom call.

320.11 BUSY LAMP FIELD INDICATORS

Each station key on the DSS console has a corresponding indicator which shows whether the station is idle or busy. The indicator is lit when the station is busy and unlit if the station is idle. A station in DND mode is shown by a flashing indicator.

320.12 DIRECT STATION CALLING

Enables the user to make an intercom voice call to any Digital Terminal in the system. Permits you to automatically put an outside caller on hold and simultaneously make an intercom call to an internal station. Also allows you to transfer an intercom call or outside call that is on hold to another station.

320.13 MAPPING OPTIONS

The DSS/DLS Console unit can access Stations, Direct Appearing CO Lines, or features that may be assigned to any of the flexible buttons.

NOTE	*The following features are NOT allowed to be programmed onto DSS/DLS Console flexible buttons: ACD Agent or Supervisor Log-in, Do Not Disturb (DND), Call Forward, Camp-On, Available/Unavailable, Personal Park, Voice Mail, and Headset mode. These features can however still be programmed onto keyset flexible buttons.*

A DSS/DLS unit may be assigned to one of the different MAP configurations available. Any one of the three MAP configurations may be assigned to a DSS/DLS and up to three maps may be assigned to one station. However, "duplicate" MAPs or appearances of Stations and/or CO lines between the MAPs are not allowed.

There are three pre-defined MAPs for the DSS/DLS console with default button programming. Refer to Figure 320-1 DSS Console Map 1, Figure 320-2 DSS Console Map 2, and Figure 320-3 DSS Console Map 3 for a button layout of each DSS Console Button Map. Each Attendant may have up to three DSS/DLS Consoles assigned to work with one Attendant station.

320.14 MESSAGES - CUSTOM

This feature allows the first programmed attendant (system administrator) to enter up to ten custom messages for use by station users of the system. Up to 24-characters may be entered as the custom message (this will represent 48 digits entered). A station user may store any of the available messages under a flexible button assigned as a Message Access button. These messages may be specified and customized by the customer on a system-wide basis. Message status is stored in battery protected area of memory for retention in the event of a power failure or system reset (soft or hard).

320.15 RELEASE KEY

Allows the user to disconnect calls while off-hook, speeding up call handling time (MAP 1 and MAP 2 only).

MAP #1 has by default the first 28 Stations (Stas 100-127) and 14 CO lines, three Call Park locations, Release, Attendant Override, and an All Call Page button mapped to the buttons. All buttons except the 14 CO line buttons and Release button are flexible and can be changed by the station user.

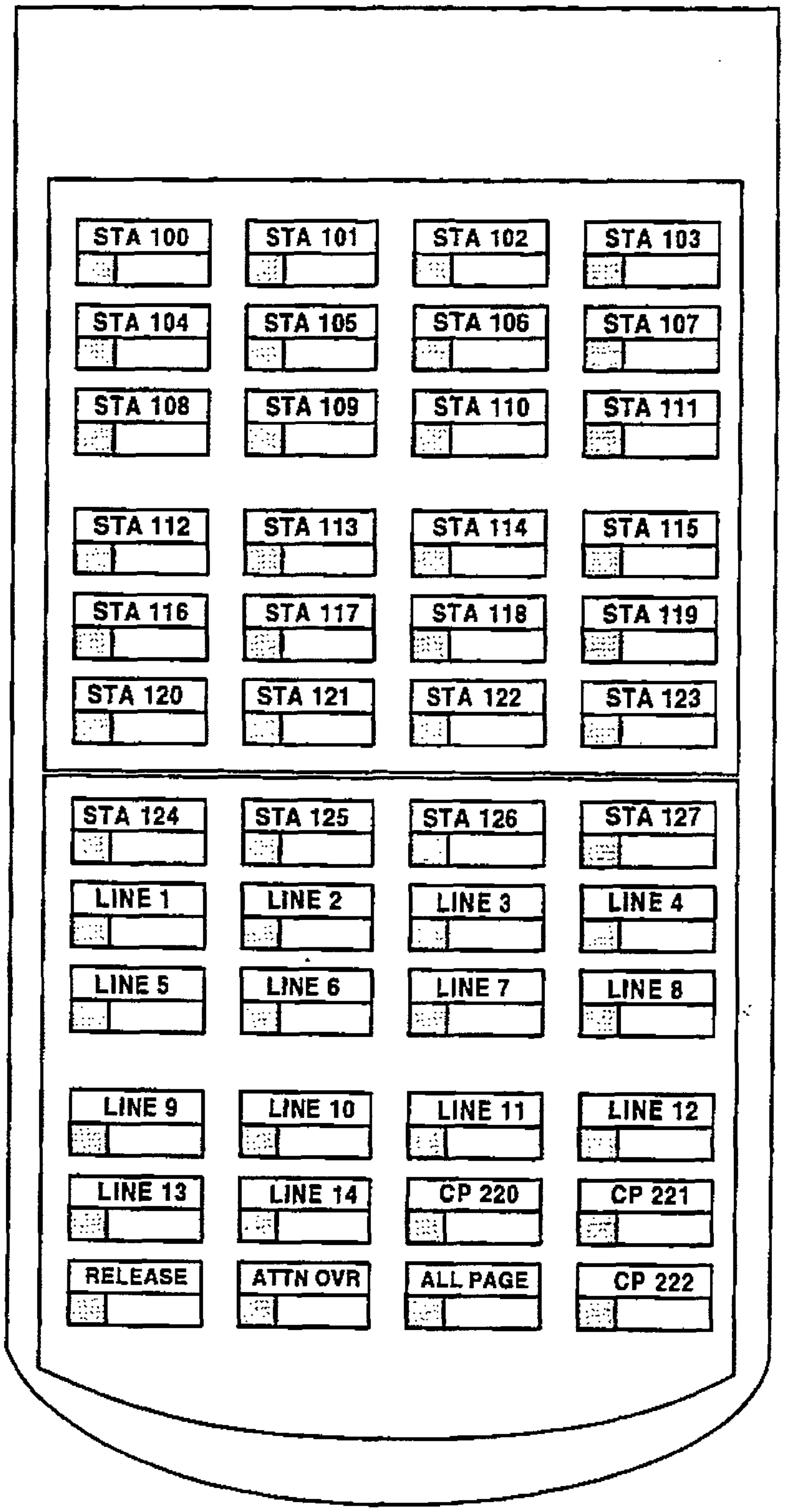


Figure 320-1 DSS Console Map 1

MAP #2 has by default all 28 CO lines, the first 12 Stations (Stas 100-111), followed by four Call Park locations, Release, Attendant Override, an All Call Page button, and the first Internal Page Zone mapped to the buttons. All buttons except the 28 CO line buttons and Release button are flexible and can be changed by the station user.

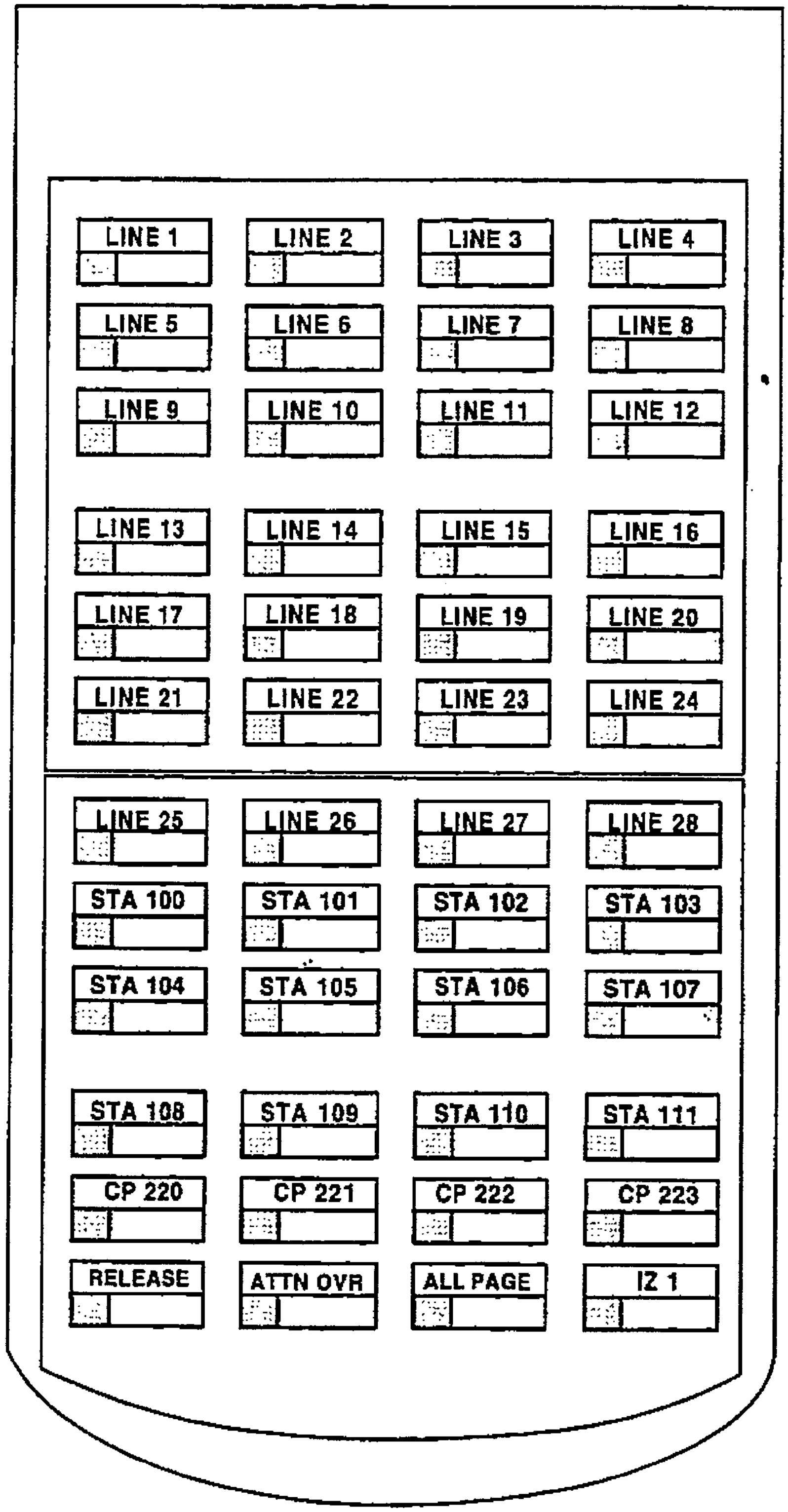


Figure 320-2 DSS Console Map 2

MAP #3 by default is intended to be used with Map #2 on a DVX II System, in that it has the remaining stations (Stas111-155) to provide a full CO line by Station mapping. Additionally, Internal Page Zones 2, and 3 appear and the last two buttons are unassigned. All of the buttons on Map #3 are flexible and can be changed by the user.
CO Line ringing on Map 1 and Map 2 is determined by CO Line Ringing Assignments.

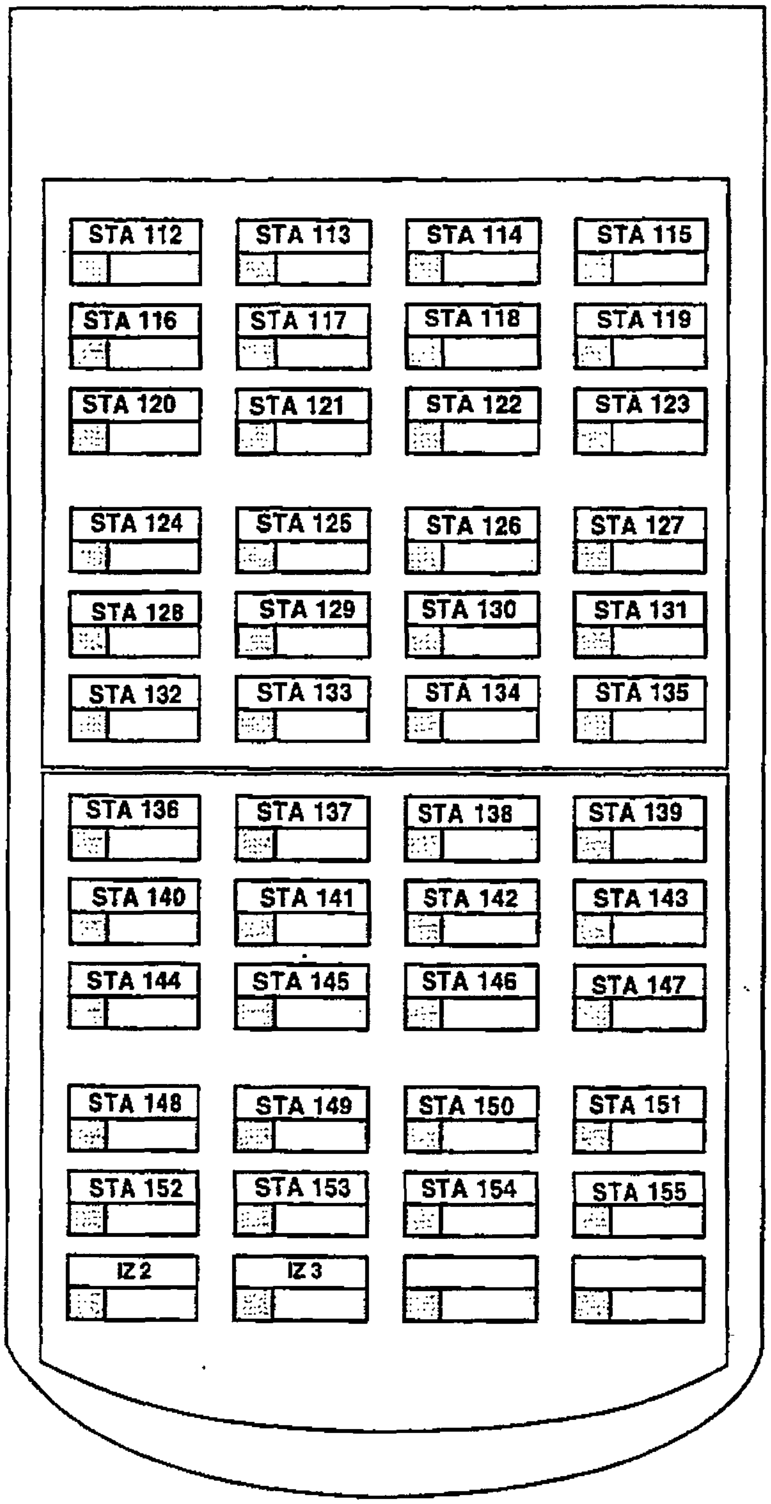


Figure 320-3 DSS Console Map 3

SECTION 400
STATION FEATURE OPERATION

400.1 INTRODUCTION

The *infinite* Digital Key Telephone System has a wide variety of features and flexible programming, allowing each telephone user to program his/her telephone to meet his/her own individual needs.

This section of the manual contains the operating instructions for Digital Key Terminals and includes an illustration of the key telephone used in the *infinite* Digital Key Telephone System and description of the keys on the telephones and their functions. It is designed to provide step-by-step instructions for operating the Digital Key Terminals in the system. Visual and audible cues which accompany the various steps in the operation of the features are also included.

Literature similar to these operating instructions has been prepared for use by the customer in the form of a Station User's Guides.

400.2 KEY TELEPHONE STATION FEATURES

Each *infinite* Digital Key Telephone System provides the following keys, indicators and features:

HANDSET AND SPEAKER are located at the left side of the front panel. A handset is provided to allow confidential conversation when desired. Lifting the handset from its cradle (going off-hook) disengages the station's built-in speaker.

The speaker is located directly below the center portion of the handset. The station may be operated with the handset on-hook. When this occurs, audio is transmitted to the station user through the station's speaker.

FLEXIBLE BUTTONS are used to access idle outside lines, provide DSS/BLF for internal stations, access speed dial number and activate features. These buttons are programmed by the individual station user. The default flex feature buttons are described below:

CALL BACK (flex) button allows you to initiate an automatic call back request to another busy station. As soon as that station becomes idle, the station that left the call back request is signaled. A flex button must be assigned to use this feature.

CALL FWD (flex) button allows you to forward your calls to another station.

DO NOT DISTURB (DND) (flex) button allows the user to place his/her telephone into a Do Not Disturb mode to eliminate incoming outside line ringing, intercom calls, transfers and paging announcements. The station in DND can use the telephone to make normal outgoing calls. On Attendant stations, this button becomes the system Night Mode button. A flex button must be assigned to use this feature.

CONFERENCE (CONF) (flex) button is used to establish and build conference calls.

FIXED FEATURE BUTTONS:

PICK-UP button allows you to pickup a tone ringing intercom call, transferred, incoming, or recalling outside line call to a specific unattended station either by group or directed call pick-up.

FLASH button is used to terminate an outside call and restore dial tone without having to hang up the handset. It is also used to transfer calls behind a PBX or Centrex within those systems.

MESSAGE WAIT (MSG) button allows you to initiate a message waiting indication at stations that are busy, unattended, or in Do Not Disturb. Message Waiting Callback request left at your station is indicated by a flashing Msg Wait LED.

TRANSFER (TRANS) button is used to transfer an outside call from one station to another.

SPEED button provides you with access to speed dialing, save number redial and last number redial. This button is also used to access speed dial and flex button programming.

CAMP-ON button enables you to alert a busy party that an outside line is on hold and waiting for them.

MUTE button allows you to switch the built-in microphone on or off when using the speakerphone, or the handset microphone when using the handset.

ON/OFF button enables you to make a telephone call without lifting the handset. It turns the telephone on and off when using the speakerphone.

HOLD button enables you to place an outside caller on hold.

OUTSIDE CALLS are announced by a tone signal repeated every 3.2 seconds. The corresponding outside line indicator will flash slowly.

INTERCOM CALLS can be tone ringing or voice announce. If it is voice announced, the receiving station will receive 2 bursts of tone prior to the announcement. If it is a tone ringing call, the receiving station will hear a tone ring every 2.4 seconds.

Figure 400-1 33-Button Digital Display Terminal

Table 400-1 Digital Terminal Numbering Plan

100-127	Station Intercom Numbers (DVX I)
100-155	Station Intercom Numbers (DVX II)
199	Modem via DISA access or transfer
22 [C]	Call Park Location 0-7 (system)
228	Personal Park
33 [H]	Hunt Group Pilot Numbers 0-7
420 [XXX]	Voice Mail enable MSG Wait
421 [XXX]	Voice Mail cancel MSG Wait
44 [V]	Voice Mail Group Pilot Numbers 0-7
55 [U]	ACD* or UCD Group Pilot Numbers 0-7
566	ACD* or UCD Available/Unavailable
567 55 [U]	ACD* or UCD Calls in Queue Display
570 [BB]	ACD* Call Qualifier
571	ACD* Agent Logout
572 55 [U]	ACD* Agent Login
573	ACD* Group Member Status
574	ACD* Agent Help
575	ACD* Supervisor Logout
576 55 [U]	ACD* Supervisor Login
577 55 [U]	ACD* Supervisor Queue Status Display
6# [XXX]	Tone Mode Ring Option
6*	Dial By Name
601	Attendant Override
602	Disable Outgoing CO Line Access
603	CO Line Off-Net Forward
604	Night Service
620	Camp-On
621	Line Queue
622	Call Back
623	Message Wait
624	Conference
625	Executive Override/ ACD* Supervisor Monitor Barge-In
626	LCR Queue Cancel
627	Account Code Enter
628	OHVO Enable
631	Do Not Disturb
632	Background Music
633 [#]	Personalized Message on a Flex Button
633 [ZZ]	Personalized Messages
633 [00]	Clear Personalized Messages
634	Headset Mode
635	ICLID Display - (unanswered calls)
636 [XXX]	Station Relocate
[FWD]	All Call Forward
[FWD]+[7]	No Answer - Call Forward
[FWD]+[8]	Busy - Call Forward
[FWD]+[9]	Busy/No Answer - Call Forward
[FWD]+[*]	Off-Net - Call Forward
680	Dial Speed Directory
690	Name in Display Programming
691 [BB]	Off-Hook Preference Programming
692	Time & Date Programming (1st programmed Attendant)
695	Distinctive Ringing
70	All Call Page (Internal & External)
71	Internal Page Zone 1
72	Internal Page Zone 2
73	Internal Page Zone 3
74	Internal Page Zone 4
75	Internal All Call Page
76 [0]	External All Call Page (All Zones)
76 [P]	External Page Zones 1-7
77	Meet-Me-Page Answer
81	CO Line Group 1 (If LCR is enabled)
82	CO Line Group 2
83	CO Line Group 3
84	CO Line Group 4
85	CO Line Group 5
86	CO Line Group 6
87	CO Line Group 7
88	All CO line Groups (CO Line Off-Net Forward)
9	LCR or CO Line Group 1 (if LCR is disabled)
0	Attendant
#0	Group Call Pick Up (Key & SLT)
#22 [C]	Call Park Pickup (Key and SLT)
#3	Universal Night Answer
[SPEED] [YY]	Speed Dial Access (00-19 Station) (20-99 System)
[SPEED]+[*]	Save Number Redial
[SPEED]+[#]	Last Number Redial
[*][*]+[3226]	Data Base Admin Manager (default [DBAM])

XXX = Intercom Station Numbers
YY = Speed Dial Bin numbers
ZZ = Personalized Messages
BB = Button Number
U = ACD* or UCD Group Number 0-7
C = Call Park Location 0-7
H = Hunt Group Number 0-7
V = Voice Mail Group Number 0-7
P = External Page Zone Number 1-7

* Features only if ACD system features software is purchased separately.

400.3 ANSWERING AN OUTSIDE CALL

a. Lift handset or press ON/OFF button.

b. Press slow flashing outside line button, or Loop button. (If your telephone is programmed with Preferred Line Answer, you may answer an outside line by lifting the handset, or pressing the ON/OFF button.)

400.4 PLACING AN OUTSIDE CALL ON HOLD

a. If your system is programmed for Exclusive Hold Preference, press HOLD button once for Exclusive Hold and twice for System Hold.

b. If your system is programmed for System Hold Preference, press HOLD button once for System Hold and twice for Exclusive Hold.

400.5 ANSWERING A RECALL

When an outside line has remained on hold for an extended period of time, you will be reminded with a recalling ring. (If Preferred Line Answer is enabled, skip step a.)

a. Press outside line, Loop or Pool button flashing at very fast rate.

b. Lift handset or press ON/OFF button to converse.

400.6 ACCOUNT CODES

When connected to an outside line call:

a. Press pre-programmed* ACCOUNT CODE button.

b. Dial account code up to 12-digits. (The other party will not hear the digits being dialed).

- If account code is less than 12-digits, an [*] must be entered to return to the call.
- If account codes are forced the account code must be entered prior to dialing the outside number.

*Refer to Sec. 400.37, Flexible Button Assignment.

400.7 DISABLE OUTGOING CO LINE ACCESS

The first attendant station can disable CO lines, preventing outgoing CO calls.

a. Lift handset or press ON/OFF button.

b. Dial [602] on the dial pad. Confirmation tone is heard

c. Depress the line button(s) of the CO Line(s) to be disabled. Confirmation tone is heard and the CO Line Button LED is flashing.

To re-activate the CO Line(s), repeat the steps followed to disable it.

400.8 PLACING AN OUTSIDE CALL (Automatic Line Selection)

a. Press outside line or Pool button. ON/OFF button LED will light and dial tone will be heard.

b. Dial the desired party.

c. When called party answers, lift handset to converse or use speakerphone.

Station user may also dial the individual trunk group access code to access an outside line.

400.9 AUTOMATIC CALL DISTRIBUTION (ACD)

The Basic ACD Software package is an optional software package available for the *infinite* Digital Systems. When purchased, Uniform Call Distribution (UCD) is not used and is replaced by the ACD functions identified in the following. Eight Automatic Call Distribution (ACD) groups can be programmed, each containing up to eight three-digit station numbers.

A. Agent Login/Logout Feature

The Agent Login/Logout feature provides a means for an agent to log into one of the ACD groups and receive calls. For an agent to be placed into an active ACD state, the agent must first login. The agent logs in by performing the following steps:

1. Dial the LOGIN CODE [572] on the dial pad, followed by the ACD group number (55x) that the agent is going to log into.
   or
   Press a pre-programmed* LOGIN flex button.
2. The agent enters his unique AGENT ID code (0000-9999). The LOGIN flex button LED will be lit steady. Confirmation tone is heard and the agent is logged onto the ACD group. The ON/OFF LED will extinguish if the agent started the sequence in the handsfree mode. When the agent logs in, an ACD login event is sent to the ACD SMDR port, if active.

NOTE	***The ACD Agent Log-in LED will only light for the ACD group that is assigned to that button.***

NOTE	***If a member is assigned to a specific ACD group and uses the login-logout codes to enter and exit an ACD group other than his assigned group, the database is changed to reflect the different group.***

For an agent to remove himself from the ACD group as an active agent:

1. Dial the LOGOUT CODE [571] on the dial pad,
   or
   Press a pre-programmed* LOGOUT flex button. LOGIN flex button LED will extinguish. When the agent logs out and removes himself from the ACD group, an ACD logout event is sent to the ACD SMDR port, if active.

Conditions:

- If an agent logs into an ACD group from a station that is logged into another ACD group, the station will be automatically removed from the previous ACD group.
- An agent may log out while in wrap-up, or unavailable.
- An agent logging in will first be placed in wrap-up mode before receiving an ACD call.
- If an agent attempts to log into an ACD group that already has eight members, that agent will receive error tone.
- The *infinite* Digital System will not verify agent's ID codes, other than requiring four digits to be entered.

*Refer to Sec. 400.37, Flexible Button Assignment.

B. ACD Agent "HELP" button

The ACD Agent "HELP" feature provides a means for an ACD agent to signal his assigned supervisor for assistance. A flex button must be programmed for this feature to operate. Refer to Sec. 400.37, Flexible Button Assignment.

While on a call in progress, the agent:

1. Presses his pre-programmed* "HELP" flex button. Confirmation tone will be heard by the agent. The agent will see his "HELP" button illuminate if a supervisor is logged into his ACD group. If no supervisor is logged in, the agent will receive a burst of error tone and his "HELP" button will not illuminate.
   The ACD supervisor station receives a "HELP" message if a member of one of the ACD groups he is assigned to initiates a "HELP" request. The "HELP" function also sends a Camp-On tone to the speaker of the supervisors keyset. The "HELP" message takes precedence over any other message and can be cleared by the supervisor by pressing his "HELP" button.
   At the time the supervisor receives a "HELP" request, he can press his "HELP" flex button followed by his override feature button to bridge onto the ACD group members call. The "HELP" button will place an intercom call to the station requesting "HELP". The "HELP" message will be cleared after the supervisor's "HELP" button is depressed. In addition, the "HELP" message will be cleared if the agent was on a call and went back on hook before the supervisor could respond. In this case, the "HELP" message will be converted to a message wait indication. The agent can also clear the "HELP" request by hitting his "HELP" button a second time.

Conditions:

- Up to five messages can be left at any supervisor station.
- The supervisor can cancel the "HELP" request signal by depressing his flashing "HELP" button. In addition, a call will be placed to the agent requesting "HELP". If the agent is on a call, the supervisor can press his barge-in button to monitor the call or give assistance on the call.

NOTE	*Only digital terminals can utilize this feature, since a flexible button is required to be programmed.*

C. ACD Call Qualification

The CALL QUALIFICATION feature provides a means for an Agent to enter codes on ACD type calls that identifies the call. This feature provides up to four digits for the ACD SMDR reporting function. This feature permits up to 12 digits to be entered, however only the first four digits are provided for ACD reporting.

The QUALIFY button is programmed using flex code [570#]. If the agent wishes to enter his qualify code in a speed bin, he can do so using the standard speed bin programming sequence. Then when he programs his flex button, he can enter 570 followed by the bin number. This will provide an agent with a series of buttons with qualify codes under them. Refer to Sec. 400.37, Flexible Button Assignment.

While on a call, the agent:

1. Presses the pre-programmed CALL QUALIFY flex button, followed by the four-digit qualify code. Enter a [*] to complete the sequence.

Conditions:

- The outside party will not hear the (qualify code) account code being entered.
- The qualify code uses the first four digits of the account code. Therefore the account code record in the SMDR will contain the qualify code in the first four digits.
- The qualify code must be entered during CO talk state.
- A [#] can be entered in the qualify code, however it will not be recognized by the ACD reporting package.
- Speed dial entries can contain all digits including the [*], which will terminate the entry and return the ACD agent to his CO party.

D. ACD Agent Queue Status Display

From an idle display key telephone:

1. Dial [567] on the dial pad, followed by the three-digit ACD group number (55x),
   or
   press pre-programmed* flex button. ON/OFF button LED lights steady.
   This display is an idle state display and will prompt a Supervisor that a group is having problems answering all their calls. The display will tell the agent and his supervisor how many calls are in queue, how many agent are available or logged into the group, and the length of time in minutes that the oldest call has been in queue. The agent will automatically receive the calls in queue display whenever their is a call in queue.
2. Hang up the handset or press the ON/OFF button to terminate the display.

NOTE	*This feature cannot be used with a call in progress and the station will be considered busy for incoming calls during this operation.*

*Refer to Sec. 400.37, Flexible Button Assignment.

E. ACD Available/Unavailable Mode

If you are a ACD agent, you may place your station in the Available mode to receive ACD type of calls or you may place your station in the Unavailable mode to block ACD type calls from ringing your station.

To go Available:

1. Dial [566] on the dial pad,
   or
   press the pre-programmed* Available/Unavailable button. You may now receive ACD calls.

To go Unavailable:

1. Dial [566] on the dial pad,
   or
   press the pre-programmed* Available/Unavailable button. You are now blocked from receiving ACD calls.

*Refer to Sec. 400.37, Flexible Button Assignment.

F. Supervisor Login/Logout Feature

The Supervisor Login/Logout feature provides a means for an supervisor to log into one of the ACD groups and monitor calls.

1. Dial the LOGIN CODE [576] on the dial pad, followed by the ACD group number (55x) that the supervisor is going to log into,
   or
   Press a pre-programmed* LOGIN flex button. (Flex button must have 576+55x programmed onto it.)
2. The supervisor enters his unique SUPERVISOR ID code (0000-9999). The LOGIN flex button LED will be lit steady. Confirmation tone is heard and the supervisor is logged onto the ACD group. The ON/OFF LED will extinguish if the supervisor started the sequence in the handsfree mode. When the supervisor logs in, an ACD login event is sent to the ACD SMDR port, if active.

For an supervisor to remove himself from the ACD group as an active supervisor:

1. Dial the LOGOUT CODE [575] on the dial pad, followed by the ACD group number (55x) that the supervisor is going to log out of,
   or
   Press a pre-programmed* LOGOUT flex button. (Flex button must have 575+55x programmed onto it). The LOGIN flex button LED will extinguish. When the supervisor logs out and removes himself from the ACD group, an ACD logout event is sent to the ACD SMDR port, if active.

NOTE	*The ACD Supervisor Log-in LED will only light for the ACD group that is assigned to that button.*

Conditions:

- If a supervisor logs into an ACD group from a station that is logged into another ACD group, the station will be automatically removed from the previous ACD group.

- A supervisor may log out while in wrap-up, or unavailable.
- A supervisor logging in will first be placed in wrap-up mode before receiving an ACD call.
- If a supervisor attempts to log into an ACD group that already has eight members, that supervisor will receive error tone.
- The *infinite* Digital System will not verify supervisor's ID codes, other than requiring four digits to be entered.

*Refer to Sec. 400.37, Flexible Button Assignment.

G. Supervisor Monitor With Barge-In

The Supervisor Monitor with Barge-In feature will provide a means for a ACD supervisor to monitor an agent's call in progress or provide assistance in training ACD personnel. When used, a supervisor may intrude onto an agent's call in a listen only mode or in a true conference mode. This feature is available with or without a warning tone.

The ACD supervisor can intrude on an agent's call in the listen only mode by:

1. Dial the three-digit station number of the agent's station. Upon hearing busy tone, press the pre-programmed* Barge-In flex button. The conversation in progress will be heard by the Supervisor on the handset receiver and the Supervisor's MUTE button LED is lit indicating that the Supervisor's transmit is muted. If the Supervisor wishes to participate in the conversation in a true conference mode, he can depress his MUTE button which removes mute.

NOTE	***The Executive Override Code, [625] is used to program Supv Monitor with Barge-In feature onto a flex button.***

NOTE	***Only digital terminals or SLT stations may be intruded using this feature.***

Conditions:

- Supervisors are granted the Barge-In option if they log in at a station with the Supervisor Barge-In flag enabled.
- Supervisors can only Barge-In on calls of members of the ACD group(s) that they are logged into.
- Warning tone is enabled and disabled using the Executive override warning tone option (FLASH 05, button 4).
- Supervisor stations must be digital terminals.

H. Supervisor Queue Status Display

The Supervisor Queue Status feature will provide a means for an ACD supervisor to view the status of their ACD group. This display is an idle state display and will prompt a Supervisor that a group is having problems answering all their calls. The display will tell the supervisor how many calls are in queue, how many agents are logged into the ACD group, and the length of time in minutes that the oldest call has been in queue.

The supervisor station logged onto the ACD group can obtain the Queue Status display by :

1. Dialing the Queue Status code [577] on the dial pad, followed by the ACD group (55x) the supervisor wants to observe,
   or
   Press the pre-programmed* flex button.

If the supervisor wants to change the display to a different group:

1. Dials the Queue Status code [577] on the dial pad, followed by the ACD group that he wishes to observe.
   or
2. Presses the pre-programmed* flex button

Conditions:

- To receive the Supervisor's Queue Status display, the station must be logged in as a Supervisor and dial the flex code for the appropriate group.
- ACD Supervisors will receive the Queue Status display in real time.
- The Queue Status display is only given when the ACD group member or Supervisor's station is not receiving a higher priority display, such as "HELP" or Out-Of-Service, or other applicable off-hook events are taking place at the station.
- The Supervisor's Queue Status display is saved in battery backed memory.
- When a Supervisor logs out of the group he is presently displaying, he must enter a new request for Queue Status display.
- The Supervisor's Queue Status display can be removed by dialing the Queue

Status display code followed by the group being observed. Dialing a different group will change the Queue Status display to a different group.

- The Queue Status display show the following information:

```
55x: CIQ: xx AL: xx OC: MMM
MM/DD/YY        HH:MM am
```

Where

- 55x = ACD Group (550-557)
- CIQ:xx = Calls in queue
- AL:xx = Agents logged in
- OC:mmm = Oldest call in minutes

I. ACD Group Member Status

The ACD Group Member Status feature provides a means for an ACD Supervisor/Agent to view the status of the eight ACD groups in the system. This display will tell the Supervisor/Agent which stations are logged into the group, and if the station logged in is Available/ Unavailable, Out-Of-Service, in DND, or busy on a call. The Supervisor/Agent could use this display to determine why there are a lot of queued calls in a specific group.

Any station (Supervisor or Agent) logged onto the ACD group can bring up the group members display by:

1. Dial the ACD Group Member Status code [573] on the dial pad,
   or
   Press the pre-programmed* flex button. The display now shows ACD Group 550.
2. Dial an [*] on the dial pad to scroll up to the next ACD Group,
   or
   Dial a [#] on the dial pad to scroll down to the previous ACD Group. To return to an idle display, the station (Supervisor/Agent) returns to on-hook condition.

Conditions:

- The ACD Group Members Status display will be updated at the time the code is dialed.
- The status of the ACD agent will be displayed with a letter following the station number that the agent is logged in at. The status will be displayed with the following priority:
  - (N) = Not Equipped
  - (D) = Do not Disturb
  - (O) = Out of service
  - (U) = Unavailable
  - (B) = Busy on a call
  - (A) = Available

i.e.: If an agent made a call while out of service his status would be out of service, not busy.

```
ACD55X:      110A  111A  112A
113O  114U  115D  116B  117N
```

400.10 BACKGROUND MUSIC (Optional)

a. Dial [632] on the dial pad,
   or
   press the pre-programmed* flexible button. (music is heard)

b. Dial [632] on the dial pad again,
   or
   press the pre-programmed* flexible button again, and music is discontinued.

c. When you pick up the handset
   or
   Press the ON/OFF button, music is discontinued automatically.

*Refer to Sec. 400.37, Flexible Button Assignment.

400.11 AUTOMATIC SELECTION

Pressing an outside line button, or pool button; a speed button; a station button; or dialing a number in the *infinite* Digital Key Telephone system numbering plan, will automatically activate the speakerphone and light the ON/OFF button, if your keyset is programmed as a speakerphone.

400.12 CALL BACK

If you dial a telephone that is busy and want to activate Call Back:

a. Press the pre-programmed* CALL BACK button.

b. Hang up.

c. When busy station hangs up, you will be signaled.

d. Answer the call; station you called will then be signaled. (If your station is busy when signaled, an automatic MSG will be left at your phone.)

NOTE	*When the Automatic Call Back Timer is enabled, a call back request will automatically be invoked anytime a user listens to busy tone for a preset period of time.*

NOTE	*Only one Call Back request can be left at a station; the second request will be converted to a message wait call back request.*

*A flex button must be programmed for this feature to operate. Refer to Sec. 400.37, Flexible Button Assignment.

400.13 CALL FORWARD: STATION

A. Call Forward - All Calls

If you have been given the ability to forward your calls:

1. Lift handset or press ON/OFF button.
2. Press the pre-programmed* FWD button.
3. Press DSS button of desired station,
   or
   Dial the three-digit extension number where calls are to be forwarded, including ACD or UCD, Voice Mail, and Hunt group pilot numbers.
4. Replace the handset or press the ON/OFF button.

Refer to Sec. 405.4, Call Forward-Stations for 8-button operation of this feature.

Conditions:

- Line Queue, Call back requests, message wait requests, and pre-selected messages are canceled when a station activates call forward.
- Call back requests are not allowed at a station where a call is forwarded.
- CO Line calls can be transferred by the receiving station back to the original forwarded station.
- A station in the call forward mode may still make outgoing calls.

To remove Call Forwarding:

1. Lift handset or press ON/OFF button.
2. Press the pre-programmed* FWD flex button. Confirmation tone will be heard and the CALL FWD LED is extinguished.

*Refer to Sec. 400.37, Flexible Button Assignment.

B. Call Forward - No Answer

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.
2. Press the pre-programmed* FWD button.
3. Dial the Call Forward No-Answer code [7] on the dial pad.
4. Dial the three-digit extension number where calls are to be forwarded. Confirmation tone will be heard.
5. Replace the handset or press the ON/OFF button.

Refer to Sec. 405.4, Call Forward-Stations for 8-button operation of this feature.

To remove Call Forwarding:

1. Lift the handset or press the ON/OFF button.
2. Press the pre-programmed* FWD button. Confirmation tone will be heard and the CALL FWD LED is extinguished.

*Refer to Sec. 400.37, Flexible Button Assignment.

C. Call Forward - Busy

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.
2. Press the pre-programmed* FWD button.
3. Dial the Call Forward Busy code [8] on the dial pad.
4. Dial the three-digit extension number where calls are to be forwarded. Confirmation tone will be heard.
5. Replace the handset or press the ON/OFF button.

Refer to Sec. 405.4, Call Forward-Stations for 8-button operation of this feature.

To remove Call Forwarding:

1. Lift the handset or press the ON/OFF button.
2. Press the pre-programmed* FWD button. Confirmation tone will be heard and the CALL FWD LED is extinguished.

*Refer to Sec. 400.37, Flexible Button Assignment.

D. Call Forward - Busy/No Answer

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.
2. Press the pre-programmed* FWD button.
3. Dial the Call Forward Busy/No Answer code [9] on the dial pad.
4. Dial the three-digit extension number where calls are to be forwarded. Confirmation tone will be heard.
5. Replace the handset or press the ON/OFF button.

Refer to Sec. 405.4, Call Forward-Stations for 8-button operation of this feature.

To remove Call Forwarding:

1. Lift the handset or press the ON/OFF button.
2. Press the pre-programmed* FWD button. Confirmation tone will be heard and the CALL FWD LED is extinguished.

*Refer to Sec. 400.37, Flexible Button Assignment.

E. Call Forward - Off-Net (via speed dial)

This feature allows stations to forward intercom and transferred CO calls to an off-net location.

In a speed dial bin, store the number of the off-net location where calls are to be forwarded. Follow instructions provided for storing station or system speed dial numbers.

1. Lift handset or press ON/OFF button.
2. Press the pre-programmed* FWD button.
3. Dial [*] on the dial pad. Dial the speed bin number that contains the number where calls are to be forwarded,
   or
   Press the pre-programmed* flex button for the speed bin.
4. Confirmation tone is heard. FWD button LED is flashing.
5. Replace the handset or press the ON/OFF button.

Refer to Sec. 405.4, Call Forward-Stations for 8-button operation of this feature.

Conditions:

- Line Queue, Call back requests, message wait requests, and pre-selected messages are canceled when a station activates call forward.
- Call back requests are not allowed at a station where a call is forwarded.
- CO Line calls can be transferred by the receiving station back to the original forwarded station.
- A station in the call forward mode may still make outgoing calls.

To remove Off-Net Forwarding

1. Lift handset or press ON/OFF button.
2. Press the pre-programmed* FWD button. Confirmation tone will be heard and the CALL FWD button LED is extinguished.

*Refer to Sec. 400.37, Flexible Button Assignment.

F. Call Forward - ACD or UCD Groups

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.
2. Press the pre-programmed* FWD button.
3. Dial the desired code:
   [7] = no answer calls
   [8] = busy calls
   [9] = busy and no answer calls.

NOTE	*Skip the preceding step for immediate forwarding.*

4. Dial the three-digit ACD or UCD group pilot number (550-557) for the group (1-8) where calls are to be forwarded. Confirmation tone will be heard.
5. Replace the handset or press the ON/OFF button.

Refer to Sec. 405.4, Call Forward-Stations for 8-button operation of this feature.

*Refer to Sec. 400.37, Flexible Button Assignment.

To remove Call Forwarding:

1. Lift the handset or press the ON/OFF button.
2. Press the pre-programmed* FWD button. Confirmation tone will be heard and the CALL FWD LED is extinguished.

*Refer to Sec. 400.37, Flexible Button Assignment.

G. Call Forward - Voice Mail Groups

Intercom and Transferred CO callers may be routed directly to your mail box by forwarding your phone to a voice mail group. Callers will then be greeted by your personal voice mail greeting if available.

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.
2. Press the pre-programmed* FWD button.
3. Dial the desired code:
   [7] = no answer calls
   [8] = busy calls
   [9] = busy and no answer calls.

NOTE	*Skip the preceding step for immediate forwarding.*

4. Dial the three-digit Voice Mail group pilot number (440-447) for the group (1-8) where calls are to be forwarded. Confirmation tone will be heard.

5. Replace the handset or press the ON/OFF button.

Refer to Sec. 405.4, Call Forward-Stations for 8-button operation of this feature.

To remove Call Forwarding:

1. Lift the handset or press the ON/OFF button.
2. Press the pre-programmed* FWD button. Confirmation tone will be heard and the CALL FWD LED is extinguished.

*Refer to Sec. 400.37, Flexible Button Assignment.

H. Call Forward - Hunt Groups

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.
2. Press the pre-programmed* FWD button.
3. Dial the desired code:
   - [7] = no answer calls
     [8] = busy calls
     [9] = busy and no answer calls.

NOTE	*Skip the preceding step for immediate forwarding.*

4. Dial the three-digit Hunt group pilot number (330-337) for the group (1-8) where calls are to be forwarded. Confirmation tone will be heard.
5. Replace the handset or press the ON/OFF button.

Refer to Sec. 405.4, Call Forward-Stations for 8-button operation of this feature.

To remove Call Forwarding:

1. Lift the handset or press the ON/OFF button.
2. Press the pre-programmed* FWD button. Confirmation tone will be heard and the CALL FWD LED is extinguished.

*Refer to Sec. 400.37, Flexible Button Assignment.

400.14 CALL FORWARD: PRESET

If a CO Line forwarded by Preset Call Forward encounters a manually forwarded station (Call Forward - Station), or a station in DND, then the incoming CO Line will bypass that station and forward to the next in the chain. If that station is the last in the chain, then the call will not forward any further and will continue to ring at that station until answered or terminated.

400.15 CALL FORWARD: CO LINES

A. Incoming CO Lines Off-Net (via speed dial)

This feature allows the first attendant station to forward incoming CO calls to an off-net location.

In a speed dial bin, store the number of the off-net location where calls are to be forwarded. Follow instructions provided for storing station or system speed dial numbers.

1. Dial [603] on the dial pad.
2. Dial the CO group access code for the CO Line group to be forwarded,
   or
   Press an individual CO Line button.

   81=CO Group 1
   82=CO Group 2
   83=CO Group 3
   84=CO Group 4
   85=CO Group 5
   86=CO Group 6
   87=CO Group 7
   88=All CO Line
3. Dial the speed bin number that contains the number where calls are to be forwarded,
   or
   Press the pre-programmed* flex button for the speed bin. Confirmation tone is heard.

To remove Off-Net Forwarding

a. Dial [603] on the dial pad.
b. Dial the CO group access code,
   or
   press an individual CO Line button.
c. Dial [#] on the dial pad. Confirmation tone is heard.

400.16 CALLING STATION TONE MODE OPTION

Allows a calling station to override a called stations HF or PV intercom switch settings.

When placing a call to a station and Tone ringing is desired:

a. Dial [6#] on the dial pad.
b. Dial the three-digit extension number,
   or
   Press DSS button of desired station. (call tone rings station).

400.17 CALL PARK

To place an outside call in park and consult with, page, or call an internal party:

While connected to an outside line:

a. Press TRANS button. The caller is put on Exclusive hold.

b. Dial parking location (220 to 227). Confirmation tone is heard.

c. If you hear busy tone, press TRANS and dial another parking location.

Retrieving a Parked Call

a. Lift handset or press ON/OFF button.

b. Press the pound [#] button.

c. Dial parking location (220 to 227) where the call was parked.

400.18 CALL PICK-UP: GROUP

When intercom tone ringing, transferred outside line ringing, recall ringing or initially ringing call is heard at an unattended telephone:

a. Lift the handset or press the ON/OFF button.

b. Dial [#0] on the dial pad,
or
press the pre-programmed* PICK UP button to be connected to the calling party.

NOTE	*You must be in the same pick up group as the ringing telephone to pick up the call.*

400.19 CALL TRANSFER

Outside lines can be transferred from one phone to another within the system. The transfer can be either screened (announced) or unscreened to either an idle or busy station, ACD or UCD Group, or Hunt Group.

Screened Transfer

While connected to an outside line:

Press station button where call is to be transferred (if programmed on your telephone),
or
press TRANS button and dial three-digit station number (100 to 155).

a. The called extension signals according to the intercom signal switch position.

b. When that extension answers, announce the transfer.

c. Hang up to complete transfer.

Unscreened Transfer

When the called extension begins to signal, hang up to transfer the call (Recall timer starts).

Transfer Search

When attempting to locate a party:

a. Press a station button to signal the desired station.

b. If the party is not located, press another station button to continue the search.

If the party is not located:

c. Press another station button to continue the search.

d. When the called party answers, hang up to complete the transfer.

Answering a Screened Transfer

a. Your intercom will be signaling according to the intercom signal switch position.

b. Answer the intercom and receive the transfer notice.

c. Press the outside line button or loop button flashing on hold.

400.20 TRANSFERRING CO CALLS TO A STATION FORWARDED TO VM

While connected to a CO line:

a. Press the TRANS button and dial the extension number of the station forwarded to voice mail.

b. The transferring station hangs up. The CO call will be directed to the mailbox of the forwarded station.

NOTE	*If the transferring station attempts to supervise the transfer or just waits until the voice mail system answers, then it becomes necessary to re-access the CO line and re-transfer them and go on-hook before the voice mail system answers. This will ensure that the CO party will hear the personal greeting of the mailbox user and any applicable instructions.*

400.21 CAMP-ON

If you call a station that is busy and wish to alert them to your call:

a. Press the pre-programmed* CAMP ON button. Called station will receive one-burst of ringing. Wait for their response

b. When called party answers, consult with them or hang up to transfer the call.

NOTE	*If a station is in DND, only the attendant can Camp On using the attendant override feature.*

Answering a Camp On

If you are on a connected call, hear one burst of muted ringing, and your CAMP ON button is flashing, you have a call waiting for you.

To answer:

a. Press the CAMP ON button. Any outside line you are connected to will be placed on hold. You may converse with the station placing the call.

b. Press flashing outside line button, if a call is being transferred.

If you do not have a pre-programmed* Camp-On button either:

a. Go on-hook with present call. Camp-On will ring through,
or
place present call on hold. Then go on-hook. Camp-On will ring through.

*Refer to Sec. 400.37, Flexible Button Assignment.

400.22 CO LINE ACCESS

To access outside line:

a. Press idle CO line button, Pool button,
or
dial CO line group access code or LCR access code.

b. Dial number desired for outside call.

c. Lift handset to converse or use speaker-phone.

400.23 CO LINE QUEUING

A station can queue only one line at a time. If you see that a particular outside line is busy and you wish to be placed on a list waiting for that line to become available:

To Place a Queue

a. Press desired busy outside line button,
or
pool button. (Busy tone is heard)

b. Press pre-programmed* LINE QUEUE button.

c. Hang up.

To Answer a Queue

If you hear ringing and an outside line of the line group (or a Loop or Group Key), you queued onto is rapidly flashing:

a. Lift handset or press ON/OFF button.

b. Press flashing outside line button to answer.

NOTE	*If your station has been programmed for Preferred Line Answer, you will have the line automatically upon lifting the handset.*

*A flex button must be programmed for this feature to operate. Refer to Sec. 400.37, Flexible Button Assignment.

400.24 CONFERENCE COMBINATIONS

Only stations that have conference enabled will be able to institute a conference.

- Add-on Conference: Four internal and one external or five party internal
- Multi-Line Conference: One internal and two external.

NOTE	*A maximum of five parties can be included in a conference.*

Establishing a Conference

a. Lift handset.

b. Select intercom station or dial desired outside party.

c. When called party answers, press the pre-programmed* CONF button.

d. Add next conference party by selecting another outside line or intercom station.

e. When party answers, press the pre-programmed* CONF button twice.

f. All parties are connected.

Exiting a Conference (Controller only)

There are three methods of exiting a conference:

1. Press the ON/OFF button to ON, press the MUTE button, and replace the handset (to monitor a conference).

Use the following method only if multi-line conference is in progress:

2. Press HOLD button to place outside parties on hold. Hold timer starts. If one of the two parties is internal, that party will be dropped.

3. Press the pre-programmed* CONF and hang up or press the ON/OFF button to leave the other conference parties still connected in an unsupervised conference. CONF button will flash and timer will start. There will be a warning tone before the other parties are dropped.

Re-entering a Conference

When the controller re-enters the conference, the disconnect timer is reset.

a. Lift handset to re-enter a monitored conference.

b. To re-enter a conference placed on hold, repeat steps for establishing a conference.

c. To re-enter an unsupervised conference, lift handset and press flashing pre-programmed* CONF button. The CONF button lights steady and confirmation tone will be heard.

Terminating a Conference

To terminate a conference the conference initiator who is actively in the conference replaces handset or push ON/OFF button to OFF. To terminate an unsupervised conference, press the flashing pre-programmed* CONF button while on hook, all parties will be dropped.

*Refer to Sec. 400.37, Flexible Button Assignment.

400.25 DATA FEATURE

The Data Feature is a time division switched, point to point data transmission capability which permits simultaneous voice and data communications (within the same system but not the same port). The Data Feature offers the ability to transmit data information between personal computers, printers, plotters, modems, CRT terminals, and main frame computer ports.

To establish a Data call a Digital Data Interface Unit (DDIU) is required to be connected to each data communications device. Data information can be switched through the system at speeds of 300, 1200, 2400, 4800, 9600, 19.2K and 38.4K baud asynchronous.

To establish a connection to any idle data port:

a. A user with an associated DDIU dials the station number of the DDIU or the group access number of the groups that the DDIU has been inserted into or depresses a DSS button representing the DDIU. The key system will then determine the baud rate setting for the called DDIU and convert the user's associated DDIU to the same baud rate. The system will then complete the connection.

A second method to establish a connection between two DDIU is done by the first attendant.

a. The first attendant dials the extension number of one data unit. Dial tone is received and the display will show the BAUD RATE.

b. The first attendant then dials the station number of the second data unit. Confirmation tone is heard. This connection will be maintained until the first attendant dials the station number of one DDIU followed by pressing the FLASH button.

To break down an established connection:

a. The user dials his associated DDIU number or depress the DSS button for the associated DDIU.

b. Press the "FLASH" button.

A station user can configure his associated DDIU by:

a. Dialing the DDIU access code [637] on the dial pad.

b. Enter the three-digit extension number of the DDIU. The display will show the Baud Rate setting, the character length (8 or 9), and the number of stop bits (1 or 2).

To change the Baud Rate:

a. Press the HOLD button. Then enter the desired one-digit Baud Rate.
   - 1= 300
   - 2= 1200
   - 3= 2400
   - 4= 4800
   - 5= 9600
   - 6= 19.2K
   - 7= 38.4K

b. Press the SPEED button to save any changes made.

To change the character length:

a. Press the TRAN button. Then enter the desired one-digit character length, either 8 or 9.

b. Press the SPEED button to save any changes made.

To change the number of stop bits:

a. Press the MUTE button. Then enter the desired one-digit stop bit, 1 or 2.

b. Press the SPEED button to save any changes made.

Refer to Station Attributes Programming, 730.2, Station Identification for programming the Station ID of the Digital Data Interface Unit (DDIU). Also refer to Sec. 730.3, Digital Data Interface Unit (DDIU) for programming the parameters of the Digital Data Interface Unit (DDIU).

Conditions:

- The system is transparent to the devices being connected. Therefore each DDIU must be configured with a specific baud rate, number of data bits and number of stop bits. This configuration will be done by the first attendant or in the case of an associated data unit can be configured by the user.

- Data ports can be arranged in ACD/UCD Groups or Hunt Groups.
- Data ports do not have to be associated with a keyset, however to connect two DDIU devices one of them must be associated with a keyset unless the connection is made by the first attendant.
- When the data connection has been completed, the baud rate used in the connection will be displayed on the keyset.
- Non associated DDIU connections can be broken down by the first attendant.
- A DDIU has a DCE interface. Therefore a straight through RS-232C cable can be used connect to a DTE device (printer, PC, etc.).
- Each DDIU requires a digital terminal port.

400.26 DIAL BY NAME

The system will allow station users to dial extension numbers by entering a name of a person that has been programmed for that station. The system database will allow entry of a name (alphanumeric) up to 24-characters in length for each station. This programmed name can be used for dialing-by-name station users and in some cases LCD displays.

To dial a station user by name:

a. Dial the Dial-By-Name code [6*] on the dial pad,
   or
   press the pre-programmed* DIAL-BY-NAME flex button.

b. Dial the desired person's name using the keys on the key pad. For example: if you wanted to call Linda Murphy, and last names were entering into the directory dialing list, you would press the digit 6 (M), then the digit 8 (U), then the digit 7 (R), the digit 7 again (P), the digit 4 (H) and finally the digit 9 (Y).

ALPHA NUMERIC CHARACTER	DIGIT
A,B,C	2
D,E,F	3
G,H,I	4
J,K,L	5
M,N,O	6
P,Q*,R,S	7
T,U,V	8
W,X,Y,Z*	9
*does not appear on dial pad.	

- When the system finds a unique numeric match (MURPHY=687749) to the name being dialed, the call will be placed to the station matching the name. The intercom call will signal the station according to the HF-TN-PV switch setting. If fewer than 8 digits are dialed, the numeric match will be dialed after a 10 sec. interdigit time-out occurs, or if a "#" (pound), is pressed.

*Refer to Sec. 400.37, Flexible Button Assignment.

Conditions:

- The system will dial the station that matches the dialed name when a unique match is found. If multiple names are located (found) after 8 digits, the first one is dialed.
- The names will be entered as a part of the system attributes database. Numbers may be entered as part of a name. To avoid conflicts, all names must have a unique numerical sequence.

400.27 DIRECTED CALL PICK-UP

When incoming, transferred, or recalling outside line ringing, intercom ringing, or Camp On ringing is heard at an unattended telephone:

a. Dial the station number of the known ringing telephone. Receive ringback tone, or call announce tone.

b. Press the pre-programmed* PICK UP button to answer the call.

*A flex button must be programmed for this feature to operate. Refer to Sec. 400.37, Flexible Button Assignment.

Conditions:

- User must have access to the specific outside line or a Loop button to do a directed call pickup.

400.28 DIRECTORY DIALING - Stations

Directory dialing allows station users to obtain a directory of station users and have the system dial the extension that is currently on the display. The *infinite* DVX I System provides locations for up to 100 names, while the *infinite*

DVX II System provides locations for up to 200 names.

Directory dialing also allows users to program a "name" along with a speed dial bin for use in later locating a speed dial number. When prompted to do so, the system will display the name associated with a speed dial number on the LCD display so that when the desired name is shown, the user may then have the system dial the number.

Directory dialing also allows users to associate a "name" with an entry in the local number/name translation table. When prompted to do so, the system will display the name associated with the table on the LCD display so that when the desired name is shown, the user may then have the system dial the number. The *infinite* DVX I System provides locations for up to 100 names, while the *infinite* DVX II System provides locations for up to 200 names.

The Directory Dialing list may be programmed and maintained at the first assigned attendant station in one of two ways, however this admin routine provides a means for the directory list to be maintained by the system programmer either locally (at Station 100) or remotely via modem access.

Directory dialing may also be used to transfer a call from one station to another.

To view the directory list:

a. Dial the Directory List dial code [680] on the dial pad,
or
press the pre-programmed* flex button programmed as a directory dialing button.

b. Press a button on the key pad, once, twice or three times, to represent the letter of the alphabet, to begin viewing the list of names. (i.e. the first depression of the digit "2" produces the names beginning with an "A". The second depression of the digit "2" produces the names beginning with a "B", while the third depression of the digit "2" produces the names beginning with a "C".) The letters of the alphabet are represented on the key pad as follows:

ALPHA NUMERIC CHARACTER	DIGIT
A,B,C	2
D,E,F	3
G,H,I	4
J,K,L	5
M,N,O	6
P,Q*,R,S	7
T,U,V	8
W,X,Y,Z*	9
*does not appear on dial pad.	

c. Names beginning with the letter chosen will appear on the LCD display.

NOTE	*If there are no names in the Directory List beginning with the desired letter, a name with the next higher letter will be shown on the LCD display.*

d. Dial an [*] on the dial pad to scroll up (next entry) through the list,
or
Dial a [#] on the dial pad to scroll down (previous entry) through the list,
or
press another button to view the list for a different letter of the alphabet.

e. When the desired name is shown on the LCD display, pressing the SPEED button will automatically dial the destination station or outside phone number (via speed dial).

Conditions:

- If the desired party is an intercom station, that station will be signaled according to that station's intercom selector switch (SLT stations will tone ring).
- If the desired party is associated to a speed dial bin, the system will select a CO line and dial the number programmed into the speed dial bin. Call progress tones will then be heard.

To Transfer a Call using Directory Dialing:

While on a call:

a. Press the TRAN button.

b. Dial the Directory Dial Code [680] on the dial pad,
or
press a pre-programmed* flex button programmed for directory dialing.

c. Press the SPEED button to automatically dial the destination station.

d. Hang up to complete the transfer.

NOTE	*Calls may only be transferred to internal stations only. An attempt to transfer a call off-net (via a Speed dial bin) will result in the call recalling upon going on-hook.*

*Refer to Sec. 400.37, Flexible Button Assignment.

400.29 DIRECT INWARD SYSTEM ACCESS (DISA)

a. Call the phone number the system administrator specified as the DISA line. The system answers and returns intercom dial tone.

b. Enter the DISA access code also specified by the system administrator, if applicable. Dial tone is returned.

To place an outgoing call:

a. Dial a group access code: 9, 81 - 87. CO Dial tone is returned.

b. Dial the desired telephone number.

> NOTE: ***LCR cannot be accessed from DISA. If LCR is enabled, DISA users may dial 81 to access lines in trunk group 1.***

> NOTE: ***The conference timer (Refer to Sec. 710.1, System Timers) will monitor a DISA "trunk-to-trunk" call and release the lines one (1) minute after the time expires.***

To reach an internal station:

a. Dial the three-digit station number. Ring-back tone will be heard.

b. Converse when party answers.

> NOTE: ***If the station dialed is unattended, busy or in DND, intercom dial tone will be returned. (after the Preset Call Forward Timer expires) Refer to Sec. 710.1, System Timers.***

400.30 DISTINCTIVE RINGING

The tone ring signal used to notify stations of an incoming call can be changed by each station user to provide distinctive ringing among a group of stations. Each station user may select a distinctive ringing tone that will be used to ring their station. The system provides 81 different ring patterns that each station user may select from.

To select a distinctive ring tone for a station:

a. Dial the Tone Ring program code [695] on the dial pad.

b. Enter the two-digit tone number. The telephone speaker will sound a steady tone that correlates to the two digit entry.

c. When the desired tone is selected, press the SPEED button to save this as the tone to be presented when the station is tone rung. Confirmation tone will be heard. This tone will be presented as a result of an incoming CO or intercom call, recalling CO line or Transferred CO line or at any other time the station is tone rung (refer to conditions below).

The 81 ringing choices are as follows:

TONE #	FREQ	DURATION
00	1209/1477	50ms/50ms
01	697/770	50ms/50ms
02	697/852	50ms/50ms
03	697/941	50ms/50ms
04	697/1209	50ms/50ms
05	697/1336	50ms/50ms
06	697/1477	50ms/50ms
07	697/1633	50ms/50ms
08	697/OFF	burst
10	770/697	50ms/50ms
11	770/770	50ms/50ms
12	770/852	50ms/50ms
13	770/941	50ms/50ms
14	770/1209	50ms/50ms
15	770/1336	50ms/50ms
16	770/1477	50ms/50ms
17	770/1633	50ms/50ms
18	770/OFF	burst
20	852/697	50ms/50ms
21	852/770	50ms/50ms
22	852/852	50ms/50ms
23	852/941	50ms/50ms
24	852/1209	50ms/50ms
25	852/1336	50ms/50ms
26	852/1477	50ms/50ms
27	852/1633	50ms/50ms
28	852/OFF	burst
30	941/697	50ms/50ms
31	941/770	50ms/50ms
32	941/852	50ms/50ms
33	941/941	50ms/50ms
34	941/1209	50ms/50ms
35	941/1336	50ms/50ms
36	941/1477	50ms/50ms
37	941/1633	50ms/50ms
38	941/OFF	burst
40	1209/697	50ms/50ms
41	1209/770	50ms/50ms
42	1209/852	50ms/50ms
43	1209/941	50ms/50ms
44	1209/1209	50ms/50ms
45	1209/1336	50ms/50ms
46	1209/1477	50ms/50ms
47	1209/1633	50ms/50ms
48	1209/OFF	burst
50	1336/697	50ms/50ms
51	1336/770	50ms/50ms
52	1336/852	50ms/50ms

53	1336/941	50ms/50ms
54	1336/1209	50ms/50ms
55	1336/1336	50ms/50ms
56	1336/1477	50ms/50ms
57	1336/1633	50ms/50ms
58	1336/OFF	burst
60	1477/697	50ms/50ms
61	1477/770	50ms/50ms
62	1477/852	50ms/50ms
63	1477/941	50ms/50ms
64	1477/1209	50ms/50ms
65	1477/1336	50ms/50ms
66	1477/1477	50ms/50ms
67	1477/1633	50ms/50ms
68	1477/OFF	burst
70	1633/697	50ms/50ms
71	1633/770	50ms/50ms
72	1633/852	50ms/50ms
73	1633/941	50ms/50ms
74	1633/1209	50ms/50ms
75	1633/1336	50ms/50ms
76	1633/1477	50ms/50ms
77	1633/1633	50ms/50ms
78	1633/OFF	burst
80	OFF/697	50ms/50ms
81	OFF/770	50ms/50ms
82	OFF/852	50ms/50ms
83	OFF/941	50ms/50ms
84	OFF/1209	50ms/50ms
85	OFF/1336	50ms/50ms
86	OFF/1477	50ms/50ms
87	OFF/1633	50ms/50ms
88	No ring	No ring

Conditions:

- Station users may listen to all tones by dialing the two-digit codes one after another. The tone that is sounding when the SPEED button is pressed will be saved as that station's tone ringing selection.
- A station's tone ringing selection will be maintained in a battery protected area of memory. Therefore if a system experiences a power failure, or a soft or hard restart, a station's tone ringing selection will be restored.
- The tone selected will be used to provide "TONE" ringing normal or muted to the station whenever the station is commanded to tone ring. (i.e. this does not apply to camp-on tone programming confirmation tone or other specific tones that are not considered "TONE" ringing.)
- The selected tone will be used to notify the station in the following cases:
  - Incoming CO Call
  - Incoming Intercom Call
  - Transferred CO Line
  - Recalling CO Line
  - Call Back Notification
  - Message Wait Call Back
  - All types of forwarded calls
  - Executive/Secretary calls
  - Message Wait Reminder Tone
  - Alarm/Reminder Signaling
  - Line Queue Call Back
  - LCR Queue Call Back

400.31 DO NOT DISTURB

If you have been given the ability to place your phone in Do Not Disturb:

a. Press the pre-programmed* DND button. DND button lights steady.

The DND button can be pressed while the phone is ringing to stop the ringing. (Refer to One-Time Do Not Disturb below.)

Removing Do Not Disturb

a. Press the pre-programmed* DND button. The button LED extinguishes and DND is canceled.

*A flex button must be programmed for this feature to operate. Refer to Sec. 400.37, Flexible Button Assignment.

A. One-Time Do Not Disturb

Allows you to prevent calls from ringing at your station while you're on a call. The One-Time DND condition will automatically cancel when you end your call.

a. Press the pre-programmed* DND button while you're off-hook and connected to a CO line or intercom call. The DND button LED lights and off-hook tones at your station are canceled.

To cancel:

a. Replace the handset. The DND button LED extinguishes and DND is canceled.

*A flex button must be programmed for this feature to operate. Refer to Sec. 400.37, Flexible Button Assignment.

400.32 EXCLUSIVE HOLD

When a line is placed on Exclusive Hold, no other station in the system can retrieve this call. Exclusive Hold may be programmed to be activated on the first or second depression of the Hold button. CO Lines while in a transfer hold are always placed in an Exclusive Hold condition.

400.33 EXECUTIVE OVERRIDE

Allows stations designated as "Executive" the ability to override and "barge in" on other keysets engaged in conversation.

If you call a busy station:

a. Press the pre-programmed* EXECUTIVE OVERRIDE button. Executive station will be bridged onto the CO line conversation in progress at the called station. Optional warning tone is heard and presented to all parties prior to cut-thru.

b. Replace handset at Executive station to terminate the override.

Conditions:

- An error tone will occur:
  - if the called party is in a conference.
  - if the called party is already on an OHVO call.
  - if the called party has a Camp-On at his station
- If the Executive joins a call and one of the members does a hook-flash or depresses his transfer button, the Executive will be dropped.
- If the Executive does a hook-flash or depresses his transfer button, it will be ignored.
- When the Executive jumps in on an intercom call or CO call and the Executive is not in a mute condition, and any member of the party hangs up, the call will be converted to a two-party conversation.
- When the Executive jumps in on an intercom call or CO call and the Executive is in the mute condition and either of the two parties in the intercom call hang up, the call will be dropped. If the Executive hangs up, the call will remain as a two-party conversation.

*A Flex button must be programmed for this feature to operate. Refer to Sec. 400.37, Flexible Button Assignment.

CAUTION

USE OF THIS FEATURE WHEN THE EXECUTIVE OVERRIDE WARNING TONE IS DISABLED MAY BE INTERPRETED AS A VIOLATION OF FEDERAL OR STATE LAWS, AND AN INVASION OF PRIVACY. CONSULT COUNSEL WITH RESPECT TO APPLICABLE LAWS BEFORE INTRUDING ON CALLS USING THIS FEATURE.

NOTE ***A change in volume may occur on the CO line or intercom call after the barge-in occurs.***

400.34 EXECUTIVE/SECRETARY TRANSFER

- If you are designated the Executive station and your phone is busy or in DND, all calls will be routed to the Secretary station.
- If you are the designated Secretary station, you can signal the Executive that is busy or in DND by using the Camp On feature.

400.35 FLASH

When connected to an outside line:

a. Press FLASH button to disconnect outside line and re-seize outside line dial tone.

400.36 FLASH ON INTERCOM

When connected to a page zone or another internal party, press FLASH button to disconnect page or intercom call. Intercom dial tone will be heard.

400.37 FLEXIBLE BUTTON ASSIGNMENT

If you have buttons on your telephone which have NOT been assigned as CO lines, Pooled group, or Loop buttons, you may program them to suit your own individual needs. There are five possible functions you may assign to these buttons:

- DSS/BLF: This button, when pressed, will automatically signal the assigned intercom station. DSS/BLF buttons are programmed by the station user.
- FEATURES: This button can be programmed so that when pressed it will activate a particular feature, thus eliminating the need for dialing the feature code. Some features require a flex button to be programmed for that feature to be accessible to the station user. Where this is the case it is so designated in this Feature Operation Section and user guide. Feature buttons are programmed by

the station user. Refer to Table 400-2 Flex Button Programming Codes for a complete listing of code/features that may be programmed onto a flexible button.

- SPEED DIAL: This button can be programmed to automatically access a speed number location for one-step operation. PBX and Centrex codes can be programmed into a speed dial bin and accessed by one button depression.
- POOLED GROUP ACCESS: A group of outside lines can be placed under one button. When this button is pressed, the system will select an available line from this group for the user to place a call on. Pool buttons are assigned in database administration.
- LOOP: This button will act as the direct appearing button for outside lines that do not appear on the user's individual telephone. Any phone that doesn't have all lines appear on it must have a loop button. There is NO limit to the number of LOOP buttons a station may have. Loop buttons are assigned in database administration.

To program flexible buttons:

a. Press the SPEED button twice.

b. Press the assigned button to be programmed (it must be programmed in database as a multi-function button).

c. Dial the desired code. Refer to Table 400-2 Flex Button Programming Codes.

To erase a flexible button:

a. Press the SPEED button twice.

b. Press the button to be erase

c. Press the FLASH button.

d. Replace the handset or press the ON/OFF button.

Table 400-2 Flex Button Programming Codes

100-127	Station Intercom Numbers (DVX I)	631	Do-Not Disturb
100-155	Station Intercom Numbers (DVX II)	632	Background Music
22 [C]	Call Park Location 1-7 (system)	633 [ZZ]	Personalized Messages
228	Personal Park	633 00	Clear Personalized Messages
33 [H]	Hunt Group Pilot Numbers 0-7	634	Headset Mode
44 [V]	Voice Mail Group Pilot Numbers 0-7	635	ICLID Display (unanswered calls)
55 [U]	ACD/UCD Group Pilot Numbers 0-7	640	All Call Forward
566	ACD/UCD Available/Unavailable	695	Distinctive Ringing
567	ACD/UCD Calls in Queue Display	70	All Call Page (Internal & External)
571	ACD Agent Logout	71	Internal Page Zone 1
572 55 [U]	ACD Agent Login	72	Internal Page Zone 2
573	ACD Group Member Status	73	Internal Page Zone 3
574	ACD Agent Help	74	Internal Page Zone 4
575	ACD Supervisor Logout	75	Internal All Call Page
576 55 [U]	ACD Supervisor Login	76 [0]	External All Call Page(All Ext Zones)
577 55 [U]	ACD Supervisor Queue Status	76 [P]	External Page 1-7
601	Attendant Override	77	Meet-Me-Page Answer
602	Disable Outgoing CO Line Access	9	Least Cost Routing Access
603	CO Line Off-Net Forward	#0	Group Call Pick Up
604	Night Service	#3	Universal Night Answer (UNA)
620	Camp-On	[SPEED] YY	Speed Dial Access
621	Line Queue		(00-19 Station) (20-99 System)
622	Call Back	[SPEED]+[*]	Save Number Redial
623	Message Wait	[SPEED]+[#]	Last Number Redial
624	Conference		*YY = Speed Dial Bin numbers,*
625	Executive Override/Monitor Barge-In		*ZZ = Personalized Messages,*
626	LCR Queue Cancel		*U = UCD Group Number 0-7,*
627	Account Code Enter		*C = Call Park Location 0-7*
628	OHVO On		*H = Hunt Group Number 0-7,*
629	MUTE feature		*V = Voice Mail Group Number 0-7*
			P = External Page Zone Number 1-7

400.38 GROUP LISTENING

All digital key stations have built in speakerphones. Station users may use the speaker to monitor a call while using the handset to converse with the outside party. This enables other people in the room to listen to both parties in the conversation.

a. While conversing, on the handset, press the ON/OFF button. Both parties of the conversation can then be heard on the digital station's speaker. The speakerphone microphone will be muted while the handset is off-hook.

To deactivate Group Listening while off-hook, the ON/OFF button must be depressed.

Conditions:

- While talking using the speaker phone, then lifting the handset will turn off of the speakerphone. To activate group listening, the ON/OFF button must be pressed (to ON) while the handset is off-hook.
- While in group listening mode, pressing the MUTE button will cause the transmit from the handset to be muted (the speakerphone microphone is already muted). However the distant end can still be

If you wish to use a headset and have been given the ability to do so in programming.

To activate Headset Mode:

a. Dial [634] on the dial pad,
or
press pre-programmed* HEADSET MODE button. LED will light steady.

NOTE	*While Headset mode is active, the ON/OFF button will activate the headset and disable speakerphone and intercom call announce operation at your station.*

To de-activate Headset Mode:

a. Dial [634] on the dial pad,
or
press the pre-programmed* HEADSET MODE button. LED will extinguish.

*Refer to Sec. 400.37, Flexible Button Assignment.

400.40 ICLID UNANSWERED CALL MANAGEMENT TABLE

The ICLID Software Package is an optional software package available for the *infinite* Digital Systems which must be purchased separately for this feature to be available. An Unanswered Call Management Table with 50 entry capacity for the *infinite* DVX I system, and 100 entry capacity for the *infinite* DVX II system is maintained in the system. The calling number/name information pertaining to any unanswered call will be placed in this table at the time the system has determined that the call has been abandoned.

This table may be interrogated from any station user so that the unanswered calls may be reviewed and handled by the end user. Upon entry into the review process, the functions available to a phone are:

Attendant(s) Station(s) to clear the list one entry at a time.

To interrogate the ICLID Unanswered Call Management Table from any station in the system:

a. Dial the access code [635] on the dial pad.

b. When the desired list entry is displayed on the LCD, press the SPEED button to automatically dial the list entry.

To review the next item in this entry:

a. Press the MUTE button to toggle to the next item.

b. Press the ON/OFF button to exit the review function.

To review the next list entry:

a. Press the HOLD button.

To review the previous list entry:

a. Press the TRANS button.

400.41 INTERCOM CALLING

Placing an Intercom Call

a. Press the DSS button of the party to be called (if programmed at your phone).
or
Dial the three-digit extension number (100 to 155).

NOTE	*Dialing a number in the numbering plan activates the telephone automatically.*

b. You will hear ringing if called station is in the "TN" answering mode; or two bursts of tone if called station is in the "HF" or "PV" position.

c. Lift the handset or use the speakerphone, after the two tone bursts stop.

d. Hang up to end the call.

Answering an Intercom Call

With your intercom signal switch in the TN (right) mode, you will hear repeated bursts of intercom tone ringing and the HOLD button will slow flash.

a. Lift the handset or press the ON/OFF button to answer.
or
Move the intercom signal switch to the "HF" mode to reply.

b. Replace the handset to end the call.

In the "PV" mode, you will hear two bursts of tone and one-way announcement. The HOLD button will slow flash and the calling party cannot hear conversations in progress.

a. Lift the handset or press the ON/OFF button to answer,
or
Move the intercom signal switch to the "HF" mode to reply.

In the "HF" mode, you will hear two bursts of tone and an announcement. Reply handsfree or lift the handset for privacy.

400.42 INTERCOM TRANSFER

Intercom transfer without DSS buttons:

a. Receive or make an intercom call

c. Dial the station where the call is to be transferred.

d. When the 2nd station answers, you are in a supervised transfer mode (1st station is staged for transfer).

e. Hang up (station 1 and 2 are connected).

Intercom transfer using DSS buttons:

a. Receive or make an intercom call using a DSS button.

b. Press the TRANS button. Intercom dial tone is heard.

c. Press the DSS button where call is to be transferred.

d. Hang up (station 1 and 2 are connected).

400.43 KEYSET SELF TEST

The *infinite* Digital Key System contains a test mode feature that supports the off line testing of digital keysets and DSS units. The term off line means that the unit under test is disconnected from the switch during the test operation. Keysets not under test continue to operate in the normal manner. Tests are provided to verify the keyset and DSS LED, LCD, and keyboard button operations.

a. The test mode is entered by taking a keyset's handset off hook.

b. Press the SPEED button and dial [7#] on the dial pad. This keystroke sequence disconnects the keyset from the system and brings up the Test Mode Menu on the keyset's LCD. The test mode is exited by putting the handset back on hook. This reconnects the keyset to the system.

```
SELECT 1:LCDLED 2:KEYBTN
3:DSSBTN
```

Test Mode Menu: The menu allows the operator to select a test mode by pressing the mode number at the dial pad. The operator can always return to the main test menu by pressing [##].

A. Keyset LCD/LED Test

This test outputs a series of continuously repeated LCD string messages to LCD lines 1 and 2. The set of strings consists of the letters 'A' through 'X' and 'a' through 'x'. The next set of strings are:

Answering a Meet Me Page

a. Go to the nearest telephone and dial [77] on the dial pad,
or
press the pre-programmed* MEET ME PAGE ANSWER button. You will be connected to the party that paged you.

*Refer to Sec. 400.37, Flexible Button Assignment.

400.47 MESSAGE WAITING

Leaving a Message Waiting Indication:

If you dial a station that is busy, unattended, or in DND, you can leave a message waiting indication.

a. Dial the Message Waiting Code [623] on the dial pad,
or
Press the MSG button. Called party's MSG button will slow flash.

b. Replace the handset to end the call.

NOTE	*Up to five messages can be left at any Station.*

Answering a Message Waiting Indication

If your MSG button is flashing at a slow rate, you have a message waiting for you. The first message left will be the first one called.

a. Press flashing MSG button. Station that left message will be signaled with tone ringing.

b. If called station does not answer, press MSG button once to leave message.

400.48 MUTE KEY

The MUTE button provides privacy during speakerphone or handset operation by disabling the microphone.

a. Press the MUTE button while off-hook on speakerphone or handset to activate.

b. Press the MUTE button again to deactivate.

The mute feature automatically deactivates upon call termination.

400.49 NIGHT SERVICE FEATURE

The Night Service feature will provide a means to put the system in night mode from any keyset or remove the system from night mode from any keyset as long as the system was put in night mode by the Night Service feature flex button. If the system was placed in night mode by the attendant using her Night Service (DND) button or if the system was placed in night mode by the automatic schedule, the Night Service flex button can not remove the system from night mode.

From an idle station:

a. Dial the Night Service feature code [604] on the dial pad,
or
Press the pre-programmed* Night Service flex button. The system is now in the Night Service Mode.

To remove the Night Service Mode:

b. Dial the Night Service feature code [604] on the dial pad again,
or
Press the pre-programmed* Night Service flex button again. The system is now removed from the Night Service Mode.

400.50 OFF-HOOK PREFERENCE

If your phone has been programmed for Off-Hook Preference, you will access an outside line, or a feature by going off-hook or pressing the ON/OFF button.

While Off-Hook Preference is enabled, you may access internal intercom dial tone by:

a. Pressing your pre-programmed* ICM button,
or
dial your own three-digit intercom number. (Do not lift handset or press ON/OFF button before dialing intercom number.) LED lights steady and intercom dial tone will be heard.

b. You may now dial an internal station or Feature Access code.

*Refer to Sec. 400.37, Flexible Button Assignment.

400.51 OFF HOOK VOICE OVER (OHVO)

This feature allows users, off-hook on a call (CO or Intercom), to receive a voice announcement through the handset receiver without interrupting the existing call. The Voice Over is muted so as not to "override" or "drown" out the existing conversation. The overridden party may then respond to the calling party using CAMP-ON procedures to talk to the calling party or may use Silent Text Messaging to respond to the calling party via LCD Displays.

Placing an Off-Hook Voice Over (OHVO) call:

When an OHVO station calls a busy OHVO station, and busy tone is received,

a. The calling OHVO station dials the OHVO code [628] on the dial pad,
or
presses a pre-programmed* OHVO button

to initiate an OHVO announcement. The HOLD button LED will flash at the called OHVO station.

b. Both OHVO stations will receive a one-beep warning tone. The station receiving the OHVO call must be off-hook and in the "HF" mode, and then the calling OHVO party may begin the voice announcement to the called OHVO party. The called OHVO station's existing conversation will not be interrupted and the voice over announcement will not "drowned" out the existing conversation. The calling OHVO station will not be connected to or otherwise be able to hear the called station's conversation (the connection will only allow the calling station to transmit to the called station).

NOTE	*The calling station is placed in a one-time DND mode upon initiating the Voice Over. One-Time DND cannot be toggled during the OHVO call. The station receiving the OHVO*

- The calling (originating) station and receiving station (STA B) must be OHVO digital terminals.
- When the dialed station responds via Camp-On all conditions and options available to Camp-On apply (refer to the feature description for Camp-On).
- OHVO may be used to notify the called party of a transferred call (CO Line or Intercom) by announcing the call, then releasing to complete the transfer. When this occurs, the receiving station does not need to respond to the OHVO.
- When a call is transferred via OHVO, the receiving station will not receive muted ringing after the transfer is complete.
- Any messages including "CANNED", "CUSTOM", or "SILENT RESPONSE" text messaging may be used to respond to an OHVO call. The message will appear on

automatically. This method, then follows Camp-On procedures and operation.

2. The called station may respond to the calling station by using the Silent Text Messaging (this feature is only available to digital key terminals, and the calling station must be a digital display terminal.) The called OHVO station may press pre-programmed Message button to respond to the voice over announcement without being released from the current call, (i.e. by pressing a flex button pre-programmed for the message "IN MEETING"), the calling station will receive this message on the calling station's LCD display.

NOTE	*If the call is an intercom call, the intercom call will be dropped and an intercom call will be established between the calling and called stations*

Conditions

- The station receiving the OHVO call MUST be off-hook and in the "HF" mode.

other party.

- The receiving station must be programmed to allow OHVO calls.
- When silent messaging is used to respond to an OHVO call, the existing call on the called station will not be disconnected, while the messages are being sent to the calling station.
- The calling station of an OHVO call must remain off-hook to receive silent messages. The calling station's voice transmit will remain connected to the called station and may respond verbally to the text messages. The OHVO call ends when the calling station goes on-hook.
- If the receiving station is on-hook in speakerphone mode and a calling party initiates OHVO, the receiving station will receive a Camp-On warning tone and normal Camp-On procedures are followed.

- The called station may send (multiple messages) and even after sending a message, may press the Camp-On button to talk to the calling station. Each time a message is sent, the splash tone will be heard and both displays will be updated.
- LED's will follow Camp-On LED lamping sequences.

Each station can be programmed to allow receiving OHVO calls as part of Station Programming. Each station may be programmed for OHVO in one of two ways, as follows:

- OHVO disallowed (may not receive OHVO calls).
- May receive OHVO calls.

400.52 PAGING

If you have been given the ability to make page announcements:

a. Lift the handset or press the ON/OFF button.

b. Dial the two-digit or three-digit paging code, or
press pre-programmed* PAGE button.

70= All Call - Internal & External
71= Internal Zone 1
72= Internal Zone 2
73= Internal Zone 3
74= Internal Zone 4
75= Internal All Call
76[0]= External All Call (All Ext Zones)
76[Z]= External Zone
(DVX I 1-4, DVX II 1-7)

c. Speak in normal tone of voice to deliver message.

NOTE	*Stations off-hook or in DND will not hear the internal page announcement.*

When making a zone page or All Call page

c. Hang up to complete transfer.

400.54 PERSONAL PARK

Each station in the system (digital terminals and SLT's can place a call into a personal park location and then later retrieve that call from the originating station.

While connected to an outside line:

a. Press the TRANS button. The caller is put on Exclusive Hold.

b. Dial the Personal Park location (228) on the dial pad. Confirmation tone will be heard.

Retrieving a Parked Call:

a. From the station that parked the call, dial the Personal Call Park location code [228] on the dial pad. Both the station and the call will receive a warning tone and then a talk path is established between the two parties.

Conditions:

- Only one call can be parked in a Personal Call Park location at one time. When dialing the personal park location and that location is already occupied, the initiating party receives a busy tone. The user may then press the TRANsfer button to return to intercom dial tone to try a system park location
- Intercom calls and CO line calls can be placed into the station's personal park location.
- Calls parked in a personal park location are subject to the "system" call park recall timer.
- A call parked in a personal call park location will recall to the station that parked the call when the call park recall timer expires. The call will ring into this station until the system hold timer expires. The call will then recall to the

grammed Personal Call Park button.

400.55 PERSONALIZED MESSAGES

Each station can select a pre-assigned message to be displayed on the LCD of any key telephone calling that station.

There are ten possible messages which can be left.

a. Dial [633] on the dial pad,
or
press a pre-programmed* MSG button.

b. Dial the two-digit code for the message which will appear.

00	clears message
01	ON VACATION
02	RETURN AM
03	RETURN PM
04	RETURN TOMORROW
05	RETURN NEXT WEEK
06	ON TRIP
07	IN MEETING
08	AT HOME
09	ON BREAK
10	AT LUNCH

NOTE *This feature is not available to the attendant(s).*

A. Personalized Message - Date & Time Entry

As an enhancement to the original canned messages, station users can activate certain messages that will allow the user to enter a specific time or a date of return. These messages will appear on calling station's display to alert them of the desired party's return time or date.

Users may activate the following messages and be prompted to enter a time or date of return:

11	VACATION UNTIL: *MM/DD*
12	RETURN: *HH:MM xm* or *MM/DD*
13	ON TRIP UNTIL: *MM/DD*
14	MEETING UNTIL: *HH:MM xm*
15	AT HOME UNTIL: *HH:MM xm*
16	ON BREAK UNTIL: *HH:MM xm*
17	AT LUNCH UNTIL: *HH:MM xm*

To activate a message with a custom return time or date, the station user:

a. Dials the Message Access code [633] on the dial pad.

b. Then dial the desired message number [11 - 17].

c. Enter the date/time by using buttons on the dial pad as follows:

A =21	M =61	1 =1#	" =01
B =22	N =62	2 =2#	, =02
C =23	O =63	3 =3#	? =03
D =31	P =71	4 =4#	/ =04
E =32	Q =74	5 =5#	! =*1
F =33	R =72	6 =6#	$ =*2
G =41	S =73	7 =7#	% =*3
H =42	T =81	8 =8#	& =*4
I =43	U =82	9 =9#	* =*#
J =51	V =83	0 =0#	(=#1
K =52	W =91	Space =11	) =#2
L =53	X =92	: =12	+ =#3
	Y =93	- =13	= =#4
	Z =94	' =14	# =##

d. Press HOLD to enter message. Confirmation tone is received. *

To cancel the message:

a. The station user dials the Message Access Code [633] + [00] and hangs up.

B. Personalized Messages - Custom

Each station can select from ten possible custom messages to be displayed on the LCD of any key telephone calling that station. These messages are programmed from the first attendant station.

1. Dial [633] on the dial pad,
or
press a pre-programmed* MSG button.
2. Dial the desired two-digit code (21-30) for the custom message desired. The first attendant should provide a list of messages to each station user.

C. Personalized Message Code On A Flex Button

You can program the code [633] onto a flexible button to speed access of pre-selected messages.

1. Press the SPEED button twice.
2. Press the desired flex button. LED flashes.
3. Dial [633] + [#] on the dial pad. Confirmation tone is heard. The user can now press that flex button and dial the two-digit canned message number (00-10), or the two-digit custom message number (21-30) to activate or deactivate the message. Confirmation tone will be heard.

Conditions:

- The telephone receiving the message must be a display telephone.

the message is canceled.

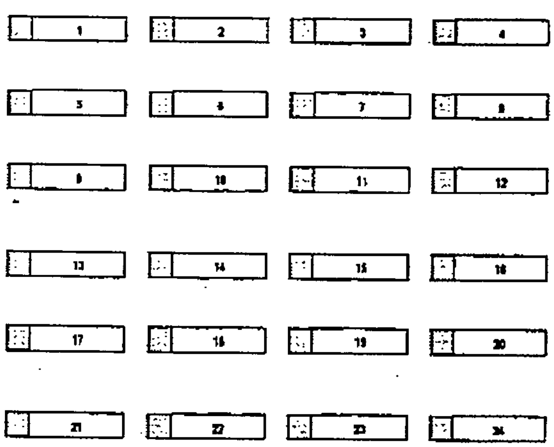
- Message Access (with a desired message) may be assigned to a flex button.
- Messages may be entered while off-hook on a call if an intercom call is ringing in or has camped-on to the station. This will cause the station calling to see the message.
- Messages are retained in battery protected area of memory in the event of power failure or system reset.

400.56 PRIME FLEX BUTTON PROGRAMMING

If your phone is programmed for Off-Hook Preference and have been given the ability to enable or change the prime flex button.

a. Dial [691] on the dial pad

b. Dial the two-digit button number. Refer to following chart.



To disable Off-Hook Preference:

a. Dial [691] on the dial pad.

b. Dial [00] on the dial pad.

B =22	N =62	2 =2#	, =02
C =23	O =63	3 =3#	? =03
D =31	P =71	4 =4#	/ =04
E =32	Q =74	5 =5#	! =*1
F =33	R =72	6 =6#	$ =*2
G =41	S =73	7 =7#	% =*3
H =42	T =81	8 =8#	& =*4
I =43	U =82	9 =9#	* =*#
J =51	V =83	0 =0#	(=#1
K =52	W =91	Space =11	) =#2
L =53	X =92	: =12	+ =#3
	Y =93	- =13	= =#4
	Z =94	' =14	# =##

c. Press the SPEED button to complete the programming process.

To erase your name:

a. Dial [690] on the dial pad.

b. Press the SPEED button.

400.58 PULSE-TO-TONE SWITCHOVER

The signaling on an outside line can be changed from dial pulse to tone (DTMF) manually while dialing out.

To perform the change-over

a. Dial an [*] on the dial pad. The remaining digit(s) will be sent using DTMF.

The Pulse to Tone Switchover command may also be included into a speed dial bin. Refer to Sec. 400.63, Storing Speed Numbers for Speed Dial programming.

400.59 SAVE NUMBER REDIAL

If you wish to save the last number you dialed for use later:

a. After placing an outside call, keep handset off-hook.

b. Press the SPEED button twice.

To Dial a number that was saved using the steps above:

a. Press the SPEED button.

b. Dial the asterisk [*] button.
- System will automatically select the original line used to place the call and redial the number.
- If that line is busy, the system will automatically select another line from the same group and redial the number.
- If no lines are available in the same group, station will receive busy tone and can queue for a line.
- If the station user preselects a line before activating SNR, the preselection will override the line which was used originally.

400.60 PROGRAMMING PBX/CENTREX CODES ONTO FLEX BUTTON

For easy one-button access to Centrex or PBX features, perform the following steps:

a. Program the Centrex or PBX code into a station or system speed dial bin, including hook-flash (flash key), [*], and [#] commands. Refer to station or system speed dial programming.

b. Program that speed bin onto a flexible* button.

*Refer to Sec. 400.37, Flexible Button Assignment.

400.61 SPEAKERPHONE

400.62 STATION RELOCATION FEATURE

The Station Relocation Feature will provide a means to allow a user to unplug their station and plug it in at another location. Then by dialing a simple code followed by his old station number, bring all the station attributes including extension number, button mapping, speed dial, and class of service to the new location.

a. A station can be relocated by unplugging it and then plugging it in at a new location.

b. Dial [636] on the dial pad. Then dial the extension number of the station being relocated. Once this is done, all station attributes are copied to the current station.

NOTE	*If a station is assigned to a specific port and that user unplugs his station and plugs it in at another location, the database administration programming will be updated to reflect the new port change.*

Conditions:

- The station number that is dialed as the relocated station must be currently out of service.
- The relocated station will be given the station attributes of the station doing the relocating. The two stations have traded station numbers and station attributes.
- If a keyset is plugged into the relocated position it will have all the station attributes of the relocating station.
- This feature only is applicable to keysets.
- If a call is on hold at the relocating station or the relocated station is in service, error tone will be received.

400.63 STATION SPEED DIAL

If no outside line has been specified in programming, one will be chosen automatically or you can choose one now.

keyset users. System Speed numbers must be entered by the first programmed attendant. If no attendant is specified, enter at Station 100.

a. Press the SPEED button once.

b. Press a desired outside line button or pool button

or

select an outside line automatically by pressing the SPEED button a second time.

c. Dial the speed bin location.
- 00 to 19 for Station Speed numbers;

- 20 to 99 for System Speed numbers.

d. Dial the desired telephone number. (including special codes described below)
   - TRANS - Pressing the TRANS button during number entry initiates a Pulse-To-Tone switchover.
   - HOLD - Pressing the HOLD button during number entry inserts a Pause.
   - FLASH - Pressing the FLASH button inserts a Flash into the speed number.
   - TRANS - Pressing the TRANS button as the first entry in the speed bin inserts a no-display character causing the numbers stored in the bin not to appear on the Digital Terminals display when the bin is accessed.

e. Press the SPEED button.

f. Replace the handset to end the speed bin programming.

To program several speed numbers in a row, press the SPEED button twice to conclude programming a number and then just enter the next speed number bin to be programmed. If the station has no line appearance for the line programmed into the speed bin, that line will come up under the Loop button or Pool button when accessed.

400.65 SYSTEM SPEED DIAL

If no outside line has been specified in programming, one will be chosen automatically or you can choose one now.

a. Press the SPEED button.

b. Dial the speed bin location,
   or
   press pre- programmed* speed bin button.
   - System Speed numbers are 20 to 99.

c. When the called party answers, pick up the handset or use the speakerphone to converse.

*Refer to Sec. 400.37, Flexible Button Assignment.

400.66 TEXT MESSAGING (Silent Response)

This a feature allows a station user to use text messages to respond to a caller that has either Camped-On or has used the Off-Hook Voice Over feature to alert a busy station user of a waiting call or message. The "camped-on" station may respond to the caller via the canned

While receiving a Camp-On, or OHVO call:

a. The called party may press a pre-programmed* Text Message button with a specific message [633+xx]. Example : [633] + [38] means that a telephone calling the station will receive the message "WHO IS IT?".

The additional messages (with their codes) listed below can also be sent as a text response:

31	I WILL TAKE CALL
32	TAKE MESSAGE
33	TRANSFER TO SECRETARY
34	PUT CALL ON HOLD
35	CALL BACK
36	ONE MOMENT PLEASE
37	I WILL CALL BACK
38	WHO IS IT?
39	IS IT LONG DISTANCE?
40	IS IT PERSONAL?
41	IS IT AN EMERGENCY?
42	IS IT IMPORTANT?
43	IS IT URGENT?
44	SEND CALL TO VOICE MAIL
45	PARK CALL
46	OUT OF OFFICE
47	PUT CALL THROUGH
48	I AM BUSY
49	O.K.
50	NO
51	YES

Conditions:

- If the station receiving the text message response was doing a camp-on, he will first receive a short burst of tone on the speaker, then the display will show the message that has been activated by the called station.
- If the station receiving the text message response is on an OHVO call, no tone will be received.
- All canned and custom messages may be used to respond to a calling party.
- Text response messages will automatically clear when the calling station (station receiving the messages) goes on-hook.
- A station can receive only one message

then be greeted by your personal voice mail greeting if available (Refer to Call Forward - Voice Mail Operation)

Retrieving Voice Messages

If your Message Waiting button or programmed Voice Mail group button is flashing, you may have a voice message waiting for you.

To enter the voice mail system to check for mail:

a. Dial the Voice Mail group number,
   or
   press the pre-programmed* voice mail group button or flashing Message Wait button.

b. You will immediately be prompted to enter your password for your mail box.

Receiving a Voice Mail Message Wait

To receive a message waiting indication that a voice message has been taken for you, the Voice Mail system must be programmed to provide such an indication.

After the voice mail system receives a voice message for a station user:

a. The voice mail must go off-hook and dial the voice mail message wait code [420] on the dial pad.

b. Dial the three-digit extension number of the station user who received a voice message.

Turning the Message Waiting Lamp Off

When a station user retrieves the voice messages from the voice mail system, the voice mail system must:

a. Be programmed to go off-hook and dial the message cancel code [421] on the dial pad.

b. Dial the three-digit extension number of the station user who retrieved the voice message.

*Refer to Sec. 400.37, Flexible Button Assignment.

A. Voice Mail Transfer with ID

This feature provides an Attendant or station user a way to transfer a caller directly mail, then the attendant or a station user may initiate a Voice Mail Transfer.

While on a call and the distant end wishes to leave a Voice Message for a VM user

a. The initiating station presses the TRANS button.

b. Dial the Voice Mail Group number,
   or
   press the pre-programmed* VM group button.

c. Dial the VMID (Mail Box location) of the desired party and go on-hook. The system will then make the connection to an available Voice Mail port and send the Leave Mail Prefix (if any) + the digits dialed as the VM ID number + then the Leave Mail Suffix digits (if any). The system will then cut through the transferred caller.

NOTE	*The VMID (mail box location) MUST be a valid station in the system.*

Conditions:

- CO Trunks and Internal Calls may be transferred into Voice Mail using this feature.
- If no VM ID digits are dialed by the transferring station then the identification digits of the transferring station will be sent to the VM.

B. VM Tone Mode Calling Option

Allows the Voice Mail system to override a called stations "HF" or "PV" intercom switch settings.

When placing a call to a station and Tone ringing is desire (the Voice Mail system MUST be programmed to:

a. Dial [6#] on the dial pad.

b. Dial the three-digit station extension (call tone rings station).

400.70 VOLUME CONTROLS

There are two volume control slide switches on the front of the 33-button digital key terminal. Sliding the switch to the left decreases the

SECTION 405
8-BUTTON KEYSET FEATURE OPERATION

405.1 INTRODUCTION

The *infinite* Digital Key Telephone System has a wide variety of features and flexible programming, allowing each telephone user to program his/her telephone to meet his/her own individual needs.

This section of the manual contains the operating instructions for features that work differently on the 8-button digital key telephone than on the 33-button display key telephone. Also included is an illustration of the 8-button digital key telephone used in the *infinite* Digital Key Telephone System and description of the keys on the telephone and its functions. It is intended that this section be used in conjunction

by the station user. By default, flex buttons 1 and 2 are set for Stations 100 and 101.

LOOP (flex) button will act as the direct appearing button for outside lines that do not appear on the user's individual telephone. Any digital terminal that doesn't have all lines appear on it must have a loop button. There is NO limit to the number of LOOP buttons a station may have. Loop buttons are assigned in database administration.

POOL (flex) button enables a group of outside lines to be placed under one button. When this button is pressed, the system will select an available line from this group

TURES

The *infinite* Digital Key Telephone System provides the following keys, indicators and features on the 8-button digital terminal:

HANDSET AND SPEAKER are located at the left side of the front panel. A handset is provided to allow confidential conversation when desired. Lifting the handset from its cradle (going off-hook) disengages the station's built-in speaker.

The speaker is located directly below the center portion of the handset. The station may be operated with the handset on-hook. When this occurs, audio is transmitted to the station user through the station's speaker.

FLEXIBLE BUTTONS are used to access idle outside lines, provide DSS/BLF for internal stations, access speed dial number and activate features. These buttons are programmed by the individual station user. The default flex feature buttons are described below:

DSS/BLF (flex) button allows you to automatically signal the assigned intercom station. DSS/BLF buttons are programmed

access speed dial and flex button programming.

ON/OFF button enables you to make a telephone call without lifting the handset. It turns the telephone on and off when using the speakerphone.

HOLD button enables you to place an outside caller on hold.

MSG LAMP indicates Message Waiting Callback requests left at you station.

OUTSIDE CALLS are announced by a tone signal repeated every 3.2 seconds. The corresponding outside line indicator will flash slowly.

INTERCOM CALLS can be tone ringing or voice announce If it is voice announced, the receiving station will receive 2 bursts of tone prior to the announcement. If it is a tone ringing call, the receiving station will hear a tone ring every 2.4 seconds.

Table 405-1 Digital System 8-Button Numbering Plan

100-127Station Intercom Numbers (DVX I)	640 [9]Busy/No Answer - Call Forward
100-155Station Intercom Numbers (DVX II)	640 [*]Off-Net - Call Forward
22 [C]Call Park Location 0-7 (system)	660Flash Command to CO Line
228Personal Park	662Clear - Call Forward, DND, Personal Messages
33 [H]Hunt Group Pilot Numbers 0-7	663Message Wait return
44 [V]Voice Mail Group Pilot Numbers 0-7	664Conference W/ Personal Park
55 [U]ACD*/UCD Group Pilot Numbers 0-7	690Name in Display Programming
566ACD*/UCD Available/Unavailable	70All Call Page (Internal & External)
567 55 [U]ACD*/UCD Calls in Queue Display	71Internal Page Zone 1
570 [BB]ACD* Call Qualifier	72Internal Page Zone 2
571ACD* Agent Logout	73Internal Page Zone 3
572 55 [U]ACD* Agent Login	74Internal Page Zone 4
573ACD* Group Member Status	75Internal All Call Page
574ACD* Agent Help Request	76 [0]External All Call Page (All Zones)
6# [XXX]Tone Mode Ring Option	76 [P]External Page Zones 1-7
620Camp-On	77Meet-Me-Page Answer
621Line Queue	9LCR or CO Line Group 1 (if LCR is disabled)
622Call Back	0Attendant
623Message Wait	#0Group Call Pick Up
624Conference	#1Directed Call Pick-up
626LCR Queue Cancel	#22 [C]Call Park Pickup
629MUTE Button	#3Universal Night Answer
631Do Not Disturb	
633 [ZZ]Personalized Messages	XXX = Intercom Station Numbers
633 [00]Clear Personalized Messages	YY = Speed Dial Bin numbers
640All Call Forward	ZZ = Personalized Messages
640 [7]No Answer - Call Forward	U = ACD/UCD Group Number 0-7
640 [8]Busy - Call Forward	

405.3 AUTOMATIC CALL DISTRIBUTION (ACD)

The Basic ACD Software package is an optional software package available for the *infinite* Digital Systems. When purchased, Uniform Call Distribution (UCD) is not used and is replaced by the ACD functions identified in the following. Eight Automatic Call Distribution (ACD) groups can be programmed, each containing up to eight three-digit station numbers.

A. Agent Login/Logout Feature

The Agent Login/Logout feature provides a means for an agent to log into one of the ACD groups and receive calls. For an agent to be placed into an active ACD state, the agent must first login. The agent logs in by performing the following steps:

1. Dial the LOGIN CODE [572] on the dial pad, followed by the ACD group number (55x) that the agent is going to log into.
   or
   Press a pre-programmed* LOGIN flex button.
2. The agent enters his unique AGENT ID code (0000-9999). The LOGIN flex button LED will be lit steady. Confirmation tone is heard and the agent is logged onto the ACD group. The ON/OFF LED will extinguish if the agent started the sequence in the handsfree mode. When the agent logs in, an ACD login event is sent to the ACD SMDR port, if active.

NOTE	*If a member is assigned to a specific ACD group and uses the login-logout codes to enter and exit an ACD group other than his assigned group, the database is changed to reflect the different group.*

For an agent to remove himself from the ACD group as an active agent:

1. Dial the LOGOUT CODE [571] on the dial pad,
   or
   Press a pre-programmed* LOGOUT flex button. The LOGIN flex button LED will extinguished. When the agent logs out and removes himself from the ACD group, an ACD logout event is sent to the ACD SMDR port, if active.

Conditions:

- If an agent logs into an ACD group from a station that is logged into another ACD group, the station will be automatically removed from the previous ACD group.
- An agent may log out while in wrap-up, or unavailable.
- An agent logging in will first be placed in wrap-up mode before receiving an ACD call.
- If an agent attempts to log into an ACD group that already has eight members, that agent will receive error tone.
- The *infinite* Digital System will not verify agent's ID codes, other than requiring four digits to be entered.

*Refer to Sec. 400.37, Flexible Button Assignment.

B. ACD Agent "HELP" button

The ACD Agent "HELP" feature provides a means for an ACD agent to signal his assigned supervisor for assistance. A flex button must be programmed for this feature to operate. Refer to Sec. 400.37, Flexible Button Assignment.

While on a call in progress, the agent:

1. Presses his pre-programmed* "HELP" flex button. Confirmation tone will be heard by the agent. The agent will see his "HELP" button illuminate if a supervisor is logged into his ACD group. If no supervisor is logged in, the agent will receive a burst of error tone and his "HELP" button will not illuminate.

   The ACD supervisor station receives a "HELP" message if a member of one of the ACD groups he is assigned to initiates a "HELP" request. The "HELP" function also sends a Camp-On tone to the speaker of the supervisors keyset. The "HELP" message takes precedence over any other message and can be cleared by the supervisor by pressing his "HELP" button.

   At the time the supervisor receives a "HELP" request, he can press his "HELP" flex button followed by his override feature button to bridge onto the ACD group members call. The "HELP" button will place an intercom call to the station requesting "HELP". The "HELP" message will be cleared after the supervisor's "HELP" button is depressed. In addition, the "HELP" message will be cleared if the agent was on a call and went back on hook before the supervisor could respond. In this case, the "HELP" message will be converted to a message wait indication. The agent can also clear the "HELP" request by hitting his "HELP" button a second time.

Conditions:

- Up to five messages can be left at any supervisor station.
- The supervisor can cancel the "HELP" request signal by depressing his flashing "HELP" button. In addition, a call will be placed to the agent requesting "HELP". If the agent is on a call, the supervisor can press his barge-in button to monitor the call or give assistance on the call.
- The "HELP" feature access code (FA-CODE) will permit a single line telephone to access the "HELP" feature. The SLT after hook-flashing while on a call can dial the FLEX CODE [574] to leave the "HELP" message. The SLT will be returned to his call after the code is dialed.

NOTE	***Only digital terminals can utilize this feature, since a flexible button is required to be programmed.***

C. ACD Call Qualification

The CALL QUALIFICATION feature provides a means for an Agent to enter codes on ACD type calls that identifies the call. This feature provides up to four digits for the ACD SMDR reporting function. This feature permits up to 12 digits to be entered, however only the first four digits are provided for ACD reporting.

The QUALIFY button is programmed using flex code [570#]. If the agent wishes to enter his qualify code in a speed bin, he can do so using the standard speed bin programming sequence. Then when he programs his flex button, he can enter 570 followed by the bin number. This will provide an agent with a series of buttons with qualify codes under them. Refer to Sec. 400.37, Flexible Button Assignment.

While on a call, the agent:

1. Presses the pre-programmed CALL QUALIFY flex button, followed by the four-digit qualify code. Enter a [*] to complete the sequence.

Conditions:

- The outside party will not hear the (qualify code) account code being entered.
- The qualify code uses the first four digits of the account code. Therefore the account code record in the SMDR will contain the qualify code in the first four digits.
- The qualify code must be entered during CO talk state.
- A [#] can be entered in the qualify code, however it will not be recognized by the ACD reporting package.
- Speed dial entries can contain all digits including the [*], which will terminate the entry and return the ACD agent to his CO party.

D. ACD Available/Unavailable Mode

If you are a ACD agent, you may place your station in the Available mode to receive ACD type of calls or you may place your station in the Unavailable mode to block ACD type calls from ringing your station.

To go Available:

1. Dial [566] on the dial pad,
   or
   press the pre-programmed* Available/Unavailable button. You may now receive ACD calls.

To go Unavailable:

1. Dial [566] on the dial pad,
   or
   press the pre-programmed* Available/Unavailable button. You are now blocked from receiving ACD calls.

*Refer to Sec. 400.37, Flexible Button Assignment.

405.4 CALL FORWARD: STATION

A. Call Forward - All Calls

If you have been given the ability to forward your calls:

1. Lift handset or press ON/OFF button.
2. Dial the Call Forward code [640] on the dial pad,
   or
   Press the pre-programmed* FWD flex button.
3. Press DSS button of desired station,
   or
   dial the three-digit extension number where calls are to be forwarded, including ACD or UCD Group, Voice Mail Group, and Hunt group pilot numbers.
4. Replace the handset or press the ON/OFF button.

Conditions:

- Line Queue, Call back requests, message wait requests, and pre-selected messages are canceled when a station activates call forward.

- Call back requests are not allowed at a station where a call is forwarded.
- CO Line calls can be transferred by the receiving station back to the original forwarded station.
- A station in the call forward mode may still make outgoing calls.

To Remove Call Forwarding:

1. Lift handset or press ON/OFF button.
2. Dial the Call Forward Cancel code, [662] on the dial pad,
   or
   Press the pre-programmed* FWD flex button. Confirmation tone will be heard.

*Refer to Sec. 400.37, Flexible Button Assignment.

B. Call Forward - No Answer

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.
2. Dial the Call Forward code [640] on the dial pad,
   or
   Press the pre-programmed* FWD flex button.
3. Dial the Call Forward No-Answer code [7] on the dial pad.
4. Dial the three-digit extension number where calls are to be forwarded. Confirmation tone will be heard.
5. Replace the handset or press the ON/OFF button.

To cancel Call Forwarding:

1. Lift the handset or press the ON/OFF button.
2. Dial the Call Forward Cancel code, [662] on the dial pad,
   or
   Press the pre-programmed* FWD flex button. Confirmation tone will be heard.

*Refer to Sec. 400.37, Flexible Button Assignment.

C. Call Forward - Busy

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.
2. Dial the Call Forward code, [640] on the dial pad.
   or
   Press the pre-programmed* FWD flex button.
3. Dial the Call Forward Busy code [8] on the dial pad.
4. Dial the three-digit extension number where calls are to be forwarded. Confirmation tone will be heard.
5. Replace the handset or press the ON/OFF button.

To cancel Call Forwarding:

1. Lift the handset or press the ON/OFF button.
2. Dial the Call Forward Cancel code, [662] on the dial pad.
   or
   Press the pre-programmed* FWD flex button. Confirmation tone will be heard.

*Refer to Sec. 400.37, Flexible Button Assignment.

D. Call Forward - Busy/No Answer

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.
2. Dial the Call Forward code, [640] on the dial pad,
   or
   Press the pre-programmed* FWD flex button.
3. Dial the Call Forward Busy/No Answer code [9] on the dial pad.
4. Dial the three-digit extension number where calls are to be forwarded. Confirmation tone will be heard.
5. Replace the handset or press the ON/OFF button.

To cancel Call Forwarding:

1. Lift the handset or press the ON/OFF button.
2. Dial the Call Forward Cancel code, [662] on the dial pad,
   or
   Press the pre-programmed* FWD flex button. Confirmation tone will be heard.

*Refer to Sec. 400.37, Flexible Button Assignment.

E. Call Forward - Off-Net (via speed dial)

In a speed dial bin, store the number of the off-net location where calls are to be forwarded. Follow instructions provided for storing station or system speed dial numbers.

This feature allows stations to forward intercom and transferred CO calls to an off-net location.

1. Lift handset or press ON/OFF button.
2. Dial the Call Forward code, [640] on the dial pad,
   or
   Press the pre-programmed* FWD flex button.
3. Dial [*] on the dial pad. Then dial the speed bin number that contains the number where calls are to be forwarded,
   or
   Press the pre-programmed* flex button for the speed bin. Confirmation tone is heard. FWD button LED is flashing.
4. Replace the handset or press the ON/OFF button.

Conditions:

- Line Queue, Call back requests, message wait requests, and pre-selected messages are canceled when a station activates call forward.
- Call back requests are not allowed at a station where a call is forwarded.
- CO Line calls can be transferred by the receiving station back to the original forwarded station.
- A station in the call forward mode may still make outgoing calls.

Canceling Off-Net Forwarding

1. Lift handset or press ON/OFF button.

NOTE	*Skip the preceding step for immediate forwarding.*

4. Dial the three-digit ACD or UCD group pilot number (550-557) for the group (1-8) where calls are to be forwarded. Confirmation tone will be heard.
5. Replace the handset or press the ON/OFF button.

*Refer to Sec. 400.37, Flexible Button Assignment.

To cancel Call Forwarding:

1. Lift the handset or press the ON/OFF button.
2. Dial the Call Forward Cancel code, [662] on the dial pad,
   or
   Press the pre-programmed* FWD flex button. Confirmation tone will be heard.

*Refer to Sec. 400.37, Flexible Button Assignment.

G. Call Forward - Voice Mail Groups

Intercom and Transferred CO callers may be routed directly to your mail box by forwarding your phone to a voice mail group. Callers will then be greeted by your personal voice mail greeting if available.

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.

Assignment.

405.10 MESSAGE WAITING

If you dial a station that is busy, unattended, or in DND, you can leave a message waiting indication.

a. Lift the handset or press the ON/OFF button.

b. Dial the desired intercom station. Busy tone or DND tone is heard.

c. Press the TRANS button. Transfer dial tone is heard.

d. Dial the Message Wait code [623] on the dial pad, Confirmation tone is heard.

e. Replace the handset.

NOTE	***Up to five messages can be left at any Station.***

Answering a Message Waiting Indication

If your MSG WAIT lamp is flashing, you have a message waiting for you. The first message left will be the first one called.

a. Lift the handset or press the ON/OFF but-

While connected to an outside line (PBX/Centrex):

this 400. Tw (this) Tj 0 1nTD 3 Tr Tr 5on 4*252

a. Press the TRANsfer button. Receive transfer dial tone.

b. Dial [660] on the dial pad. A flash command will be presented to the PBX or Centrex line. PBX or Centrex studder tone will be heard.

c. Dial desired outside number.

d. Replace handset to complete transfer.

405.13 PERSONAL PARK (Flip-Flop)

While connected to first call:

a. Press the TRAN button. The caller is put on Exclusive Hold.

b. Dial the Personal Park code [228] on the dial pad,
or
Press a pre-programmed* flex button. (call is placed in personal park). Confirmation tone will be heard.

NOTE	***The user can alternately connect to the***

Table 410-1 Digital System SLT Numbering Plan

100-127	Station Intercom Numbers (DVX I)	662	SLT Clear - Call Forward, DND, Personal Messages
100-155	Station Intercom Numbers (DVX II)	663	Message Wait return
22 [C]	Call Park Location 0-7 (system)	664	SLT Conference W/ Personal Park
228	Personal Park	666 [YY]	SLT Speed Dial Access
33 [H]	Hunt Group Pilot Numbers 0-7	690	Name in Display Programming
44 [V]	Voice Mail Group Pilot Numbers 0-7	70	All Call Page (Internal & External)
420 [XXX]	Voice Mail Enable MSG Wait	71	Internal Page Zone 1
421 [XXX]	Voice Mail Cancel MSG Wait	72	Internal Page Zone 2
55 [U]	ACD/UCD Group Pilot Numbers 0-7	[illegible]	[illegible]
[illegible]	[illegible]		

sends a Camp-On tone to the speaker of the supervisors keyset. The "HELP" message takes precedence over any other message and can be cleared by the supervisor by pressing his "HELP" button.

At the time the supervisor receives a "HELP" request, he can press his "HELP" flex button followed by his override feature button to bridge onto the ACD group members call. The "HELP" button will place an intercom call to the station requesting "HELP". The "HELP" message will be cleared after the supervisor's "HELP" button is depressed. In addition, the "HELP" "HELP" message will be converted to a message wait indication.

Conditions:

- Up to five messages can be left at any supervisor station.
- The supervisor can cancel the "HELP" request signal by depressing his flashing "HELP" button. In addition, a call will be placed to the agent requesting "HELP". If the agent is on a call, the supervisor can press his barge-in button to monitor the call or give assistance on the call.

switch.

b. Dial [622] on the dial pad.

c. Replace handset.

NOTE	*Only one Call Back request can be left at a station; the second request will convert to Message Waiting Request.*

410.5 CALL FORWARDING

To call forward calls to another station:

a. Lift handset.

b. Dial [640] on the dial pad.

c. Skip Step c. for immediate forwarding, otherwise dial the appropriate code:

[7] = Call Forward No Answer
[8] = Call Forward Busy
[9] = Call Forward Busy/No Answer
[*] = Call Forward Off-Net (via speed dial)

d. Dial the three-digit extension number or speed bin number where calls are to be forwarded. Confirmation tone will be heard.

e. Replace handset

a. Choose desired call (hang up on present call and take the new one, or ignore the Camp-on signal). (also see Personal Park)

410.8 CALL PARK (System)

To place an outside call on hold and consult with, page, or call an internal party before transferring the outside call.

While connected to an outside line:

a. Depress and release the hookswitch. The caller is put on Exclusive hold.

b. Dial parking location (220 to 227) on the dial pad. Confirmation tone is heard.

c. If you hear busy tone, depress and release the hookswitch and dial another parking location.

Retrieving a Parked Call

a. Lift handset.

b. Dial a pound [#] on the dial pad.

c. Dial parking location (220 to 227) where the call was parked.

410.19 PLACING CALLS ON EXCLUSIVE HOLD

While connected to an outside line:

a. Briefly press and release the hookswitch. (Call is placed on Exclusive Hold).

To retrieve the call:

a. Press and release the hookswitch again.

410.22 MESSAGE WAITING

Leaving a Message Waiting Indication

a. Lift handset.

b. Dial the desired intercom station. Receive no answer, or DND tone.

c. Briefly depress and release the hook-switch.

d. Dial [633] on the dial pad

If all lines available to you are busy, remain off-hook for four seconds to automatically be queued onto LCR for an available line.

If an LCR Queue Callback has been activated:

a. When telephone is signaled, answer the call.

b. Desired telephone number will automatically be re-dialed.

NOTE	*Only one LCR Queue Call Back request may be initiated by a station. When a second request is made, the first request is canceled.*

If an LCR Queue Callback has been activated and you wish to cancel that callback request:

a. Dial the LCR Queue Cancel code, [626] on the dial pad.

b. Replace the handset or press the ON/OFF button.

phone calling that station. To select one of the ten available messages:

a. Dial [633] on the dial pad.

b. Dial the two-digit code for the message which will appear.

00	clears message
01	ON VACATION
02	RETURN AM
03	RETURN PM
04	RETURN TOMORROW
05	RETURN NEXT WEEK
06	ON TRIP
07	IN MEETING
08	AT HOME
09	ON BREAK
10	AT LUNCH

NOTE	*This feature is not available to the attendant(s).*

tions. It is intended that this section be used in conjunction with the Station Operation section to provide step-by-step instructions for operating the Attendant(s) Digital Terminal(s) in the system. Visual and audible cues which accompany the various steps in the operation of the features are also include

Literature similar to these operating instructions has been prepared for use by the customer in the form of an Attendant User's Guide.

420.2 ATTENDANT KEY TELEPHONE STATION FEATURES

Each *infinite* Digital Key Telephone System provides the following keys, indicators and features:

HANDSET AND SPEAKER are located at the left side of the front panel. A handset is provided

becomes the system Night Mode button. A flex button must be assigned to use this feature.

CONFERENCE (CONF) (flex) button is used to establish and build conference calls.

FIXED FEATURE BUTTONS:

PICK-UP button allows you to pickup a tone ringing intercom call, transferred, incoming, or recalling outside line call to a specific unattended station either by group or directed call pick-up.

FLASH button is used to terminate an outside call and restore dial tone without having to hang up the handset. It is also used to transfer calls behind a PBX or Centrex within those systems.

the speakerphone, or the handset microphone when using the handset.

ON/OFF button enables you to make a telephone call without lifting the handset. It turns the telephone on and off when using the speakerphone.

HOLD button enables you to place an outside caller on hold.

OUTSIDE CALLS are announced by a tone signal repeated every 3.2 seconds. The corresponding outside line indicator will flash slowly.

INTERCOM CALLS can be tone ringing or voice announce. If it is voice announced, the receiving station will receive two bursts of tone prior to the announcement. If it is a tone ringing call, the receiving station will hear a tone ring every 2.4 seconds.

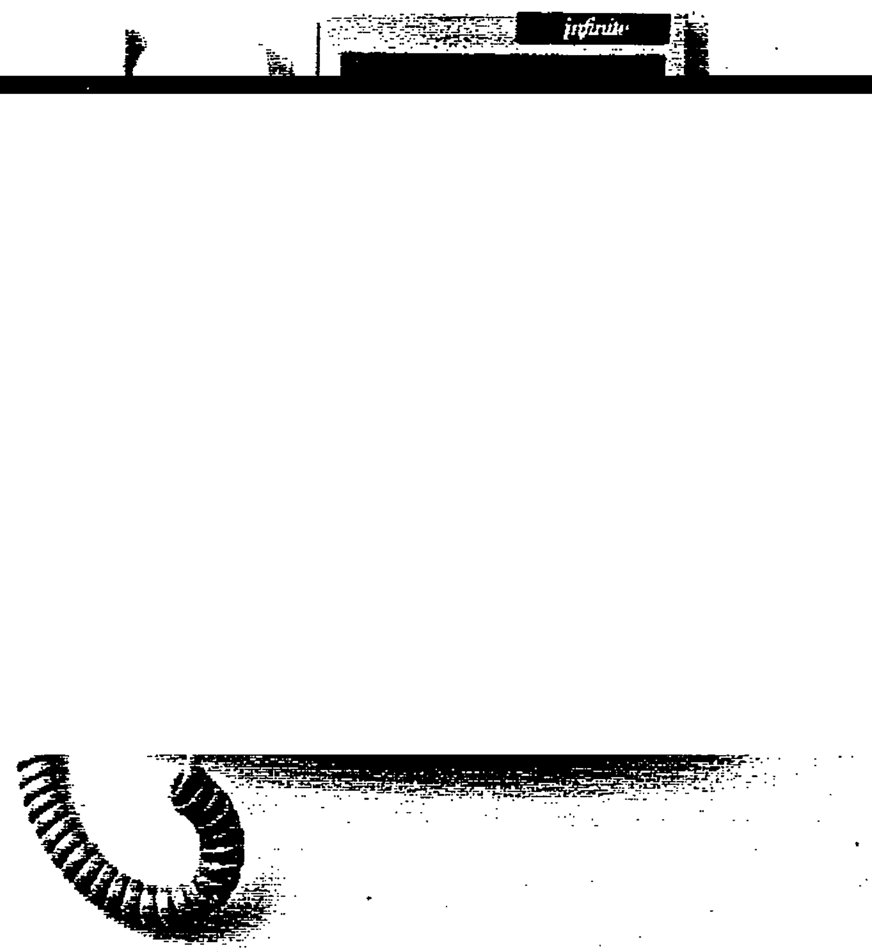


Figure 420-1 33-Button Attendant Display Terminal

Table 420-1 Digital System Attendant Numbering Plan

100-127	Station Intercom Numbers (DVX I)	692	Time & Date Programming (1st programmed Attendant)
100-155	Station Intercom Numbers (DVX II)		
199	Modem via DISA access or transfer	693	Directory List program code
92 [C]	Call Park Location 0-7 (system)	694	Custom Message(s) program code

626	DCR Queue Cancel
627	Account Code Enter
628	OHVO Enable
631	Do Not Disturb
632	Background Music
633 [ZZ]	Personalized Messages
633 [00]	Clear Personalized Messages
634	Headset Mode
635	ICLID* Unanswered Calls Display
636 [XXX]	Station Relocate
FWD	All Call Forward
[FWD]+[7]	No Answer - Call Forward
[FWD]+[8]	Busy - Call Forward
[FWD]+[9]	Busy/No Answer - Call Forward
[FWD]+[*]	Off-Net - Call Forward
680	Dial Speed Directory
690	Name in Display Programming
691 [BB]	Off-hook Preference Programming

[SPEED] YY Speed Dial Access
(00-19 Station) (20-99 System)
[SPEED]+[*]Save Number Redial
[SPEED]+[#]Last Number Redial

XXX = Intercom Station Numbers
YY = Speed Dial Bin numbers
ZZ = Personalized Messages
BB = Button Number
U = ACD* or UCD Group Number 0-7
C = Call Park Location 0-7
H = Hunt Group Number 0-7
V = Voice Mail Group Number 0-7
P = External Page Zone Number 1-7
*Features only if ACD system features or ICLID software is purchased separately.
Refer to Sec. 400.37, Flexible Button Assignment for programming flexible buttons.

S

Hold Preference, press HOLD button once for System Hold and twice for Exclusive Hold.

420.5 ANSWERING A RECALLING OUTSIDE LINE

When an outside line has remained on hold for an extended period of time, you will be reminded with a recalling ring.

a. Press outside line button flashing at very fast rate.

b. Lift handset to converse.

420.6 ATTENDANT DISABLE OUTGOING ACCESS

The attendant station can disable CO lines, preventing outgoing CO calls.

a. Lift handset or press ON/OFF button.

b. Dial [602] on the dial pad. Confirmation tone is heard.

c. Depress the line button(s) of the CO Line(s) to be disable. Confirmation tone is heard.

fast rate.

b. Lift handset to converse.

420.9 DATA FEATURE

The Data Feature is a time division switched, point to point data transmission capability which permits simultaneous voice and data communications (within the same system but not the same port). The Data Feature offers the ability to transmit data information between personal computers, printers, plotters, modems, CRT terminals, and main frame computer ports.

To establish a Data call, a Digital Data Interface Unit (DDIU) is required to be connected to each data communications device. Data information can be switched through the system at speeds of 300, 1200, 2400, 4800, 9600, 19.2K and 38.4K baud asynchronous.

To establish a connection between two DDIU:

a. The first attendant dials the extension

tion used to provide distinctive ringing among a group of stations. Each station user may select a distinctive ringing tone that will be used to ring their station. The system provides 81 different ring patterns that each station user may select from.

To select a distinctive ring tone for a station:

a. Dial the Tone Ring program code [695] on the dial pad.

b. Enter the two-digit tone number. The telephone speaker will sound a steady tone that correlates to the two digit entry.

c. When the desired tone is selected, press the SPEED button to save this as the tone to be presented when the station is tone rung. Confirmation tone will be heard. This tone will be presented as a result of an incoming CO or intercom call, recalling CO

32	941/852	50ms/50ms
33	941/941	50ms/50ms
34	941/1209	50ms/50ms
35	941/1336	50ms/50ms
36	941/1477	50ms/50ms
37	941/1633	50ms/50ms
38	941/OFF	burst
40	1209/697	50ms/50ms
41	1209/770	50ms/50ms
42	1209/852	50ms/50ms
43	1209/941	50ms/50ms
44	1209/1209	50ms/50ms
45	1209/1336	50ms/50ms
46	1209/1477	50ms/50ms
47	1209/1633	50ms/50ms
48	1209/OFF	burst

Press the pre-programmed* button for the speed bin. Confirmation tone is heard.

*Refer to Sec. 400.37, Flexible Button Assignment.

Canceling Off-Net Forwarding

a. Dial [603] on the dial pad,
or
Press pre-programmed* CO Off-Net Forward button.

b. Dial the CO group access code,

- In addition, all the LEDs are flashed at the rate of 15 IPM.

B. Keyset Button Test

a. Pressing a keyset button turns on the LED and displays an LCD message identifying the key number.

PRESS KEYSET BUTTONS
******* *******

In addition switching the HTP switch from

keyset's LCD. The test mode is exited by putting the handset back on hook. This reconnects the keyset to the system.

SELECT 1:LCDLED 2:KEYBTN
3:DSSBTN

Test Mode Menu: The menu allows the operator to select a test mode by pressing the mode number at the dial pad. The operator can always return to the main test menu by pressing [##].

A. Keyset LCD/LED Test

This test outputs a series of continuously repeated LCD string messages to LCD lines 1 and 2. The set of strings consists of the letters 'A' through 'X' and 'a' through 'x'. The next set of strings are:

"PICKUP TRUCK SPEED ZONE!"
**** STANDING BACK ****

- The strings are alternately displayed on lines 1 and 2 of the LCD display.

******* *******

If no DSS unit is associated wit the keyset, the keyset display will indicate "NO DSS". The DSS LED test will cause all the LEDs to flash at a 15 IPM rate. Once started the DSS LED test will continue until a DSS flex button is depressed. Pressing a DSS flex button turns on the flex key LED and displays an LCD message on the associated keyset identifying the flex key number (01 to 48). In addition, it turns off the previously selected flex LED.

Conditions

- Test mode interrupts the normal operation of a keyset or DSS.

Method Two:

This method may be used to enter names that will be associated to the Local Number/Name Translation Table only.

To Select a different entry in the Directory List:

NOTE *The Local Number/Name Translation Table can be used to enter additional speed dial numbers which can be used for directory dial or dial by name. The name entered into the local number/name translation table is not relevant when used with directory dialing and dial by name. In addition, it*

A =21	M =61	1 =1#	" =01
B =22	N =62	2 =2#	, =02
C =23	O =63	3 =3#	? =03
D =31	P =71	4 =4#	/ =04
E =32	Q =74	5 =5#	! =*1
F =33	R =72	6 =6#	$ =*2
G =41	S =73	7 =7#	% =*3
H =42	T =81	8 =8#	& =*4
I =43	U =82	9 =9#	* =*#
J =51	V =83	0 =0#	(=#1
K =52	W =91	Space =11	) =#2
L =53	X =92	: =12	+ =#3
	Y =93	- =13	= =#4
	Z =94	' =14	# =##

3. Press the SPEED button when finished. Confirmation tone will be heard.

be entered) by using keys on the dial pad as follows:

A =21	M =61	1 =1#	" =01
B =22	N =62	2 =2#	, =02
C =23	O =63	3 =3#	? =03
D =31	P =71	4 =4#	/ =04
E =32	Q =74	5 =5#	! =*1
F =33	R =72	6 =6#	$ =*2
G =41	S =73	7 =7#	% =*3
H =42	T =81	8 =8#	& =*4
I =43	U =82	9 =9#	* =*#
J =51	V =83	0 =0#	(=#1
K =52	W =91	Space =11	) =#2
L =53	X =92	: =12	+ =#3
	Y =93	- =13	= =#4
	Z =94	' =14	# =##

3. Press the SPEED button when finished. Confirmation tone will be heard and the display will update.

This feature allows users, off-hook on a call (CO or Intercom), to receive a voice announcement through the handset receiver without interrupting the existing call. The Voice Over is muted so as not to "override" or "drown" out the existing conversation. The overridden party may then respond to the calling party using CAMP-ON procedures to talk to the calling party or may use Silent Text Messaging to respond to the calling party via LCD Displays.

Placing an Off-Hook Voice Over (OHVO) call:

a. When an OHVO station calls a busy OHVO station, and busy tone is received, the calling OHVO station can dial the OHVO code [628] on the dial pad,
   or

ing station by using the Silent Text Messaging (this feature is only available to digital key terminals, and the called station must be a digital display terminal.) The called OHVO station may press pre-programmed Message button to respond to the voice over announcement without being released from the current call, (i.e. by pressing a flex button pre-programmed for the message "IN MEETING"), the calling station will receive this message on the calling station's LCD display.

NOTE	*If the call is an intercom call, the intercom call will be dropped and an intercom call will be established between the calling and called stations*

	One-Time DND cannot be toggled during the OHVO call. The station receiving the OHVO call must be off-hook and in the "HF" mode.

"CUSTOM", or "SILENT RESPONSE" text messaging may be used to respond to an OHVO call. The message will appear on the calling station and called station LCD displays.

- If the calling station is a non-LCD terminal, the called station will receive error tone when responding via text messaging.

YYMMDDHHMM
YY = year 00-99
MM = month 01-12
DD = day 01-31
HH = hour 00-23

receive a Camp-On warning tone and normal Camp-On procedures are followed.

- The called station may send (multiple messages) and even after sending a message, may press the Camp-On button to talk to the calling station. Each time a message is sent, the splash tone will be heard and both displays will be updated.
- LED's will follow Camp-On LED lamping sequences.

Each station can be programmed to allow receiving OHVO calls as part of Station Programming. Each station may be programmed for OHVO in one of two ways, as follows:

- OHVO disallowed (may not receive OHVO calls).
- May receive OHVO calls.

Pressing the FLASH key inserts a Flash into the speed number.

- Pressing the TRANS button as the first entry in the speed bin inserts a no-display character causing the numbers stored in the bin not to appear on the Digital Terminals display when the bin is accessed.

Speed Bin numbers 60-99 are NOT monitored by Toll Restriction.

420.23 TEXT MESSAGING (Silent Response)

This a feature allows a station user to use text messages to respond to a caller that has either Camped-On or has used the Off-Hook Voice Over feature to alert a busy station user of a waiting call or message. The "camped-on" station may respond to the caller via the canned,

c. When called party answers, lift handset to converse or use speakerphone

420.26 CALL PARK

While connected to an outside line:

a. Press programmed CALL PARK button. The caller is put on Exclusive hold.

b. At this time, you can page or call another

If the party is not located:

c. Press another station button to continue the search.

d. When the called party answers, hang up to complete the transfer.

420.30 CAMP-ON

While connected to an outside line:

phone),
or
press TRANS button and dial station number (100 to 155).

b. The called extension signals according to the intercom signal switch position.

c. When that extension answers, announce the transfer.

d. Hang up to complete transfer.

Unscreened Transfer:

When the called extension begins to signal, hang up to transfer the call (Recall timer starts).

Transfer Search:

When attempting to locate a party:

a. Press a station key to signal a station.

b. If the party is not located, press another station key to continue the search.

a. Go to the nearest telephone and dial [77] on the dial pad.

b. You will be connected to the party that paged you.

*Refer to Sec. 400.37, Flexible Button Assignment.

420.33 PAGING

A. External Paging

1. Dial the two-or three-digit External paging code. Wait for page warning tone.

76 [0] = External All Call (Zones 1-7)
76 [1] = External Zone 1
76 [2] = External Zone 2
76 [3] = External Zone 3
76 [4] = External Zone 4
76 [5] = External Zone 5
76 [6] = External Zone 6
76 [7] = External Zone 7

or

press the pre-programmed* PAGE button.

2. Speak in normal tone of voice to deliver message.
3. Replace handset to terminate page announcement.

*Refer to Sec. 400.37, Flexible Button Assignment.

420.34 RELEASE BUTTON

All DSS/DLS maps contain a Release button that may be pressed to disconnect or terminate an intercom call, transfer sequence, page announcement or CO call.

430.1 LCD DISPLAYS

The display is arranged into an upper and lower field. The upper field displays the current activity of the telephone. The lower field is divided into two sections. The left section of the lower field displays the date,speed bin number, con-

The right section of the lower field displays the current time or elapsed time on an outside call. The following Table shows what will appear on the LCD displays based on the function performed.

Call Pickup	CALL TO STA XXX PICKED UP BY STA XXX HH:MM am	FROM STA XXX HH:MM am TRANSFER FROM STA XXX LINE XX HH:MM am
Exclusive Hold	LINE HOLDING LINE XX HH:MM am	

Table 430-1 LCD Displays (Cont'd)

FUNCTION	CALLING STATION'S DISPLAY	CALLED STATION'S DISPLAY
Do Not Disturb	DO NOT DISTURB STA XXX MM/DD/YY HH:MM am	STATION IN DO NOT DISTURB MM/DD/YY HH:MM am

SECTION 500
INSTALLATION

500.1 SITE PLANNING

Selection of a suitable location is the most basic, yet most critical consideration in the installation of a telephone system. The following should be considered when choosing an appropriate location for equipment installation:

- Ample space must be allowed to remove

from equipment that causes electromagnetic interference (EMI) or radio frequency interference (RFI). Examples of electrical noise are rotating electrical machinery and arc welding equipment, refrigerators, copy machines, etc. Floor coverings that generate static electricity should also be avoided.

relative humidity range of 5 to 90% (non-condensing) must be provided.

- Area lighting should be adequate for installation and maintenance of the system. Hazardous or flammable materials should be removed from the vicinity. The immediate area must not be subject to flooding or excess moisture. The KSU should be isolated from areas of moving machinery or equipment. It is also recommended that static electricity-producing carpets not be installed in this area.
- A separately fused, dedicated 117V ac, ±10%, 15 Amp., 60 Hz, single phase, 3-wire (parallel blade with ground) power outlet should be located within 5 feet (1.5 meters) of the system power

pipe, a ground rod or other source may be used. A No.12 AWG copper wire should be used between the ground source and the KSU (25 feet maximum). The farther from the ground source, the larger the ground wire used should be. The wire should be kept as short as possible and can be connected to the ground lug provided on the lower left side of the backplane on the KSU with the cover off.

B. Lightning Protection

The *infinite* Digital Key Telephone System should have Central Office lines, Single Line Telephones and Off-Premise Extension stations protected with proper lightning surge arrestors. This will provide protection from damaging surges on sensitive cabling by non-direct lightning strikes.

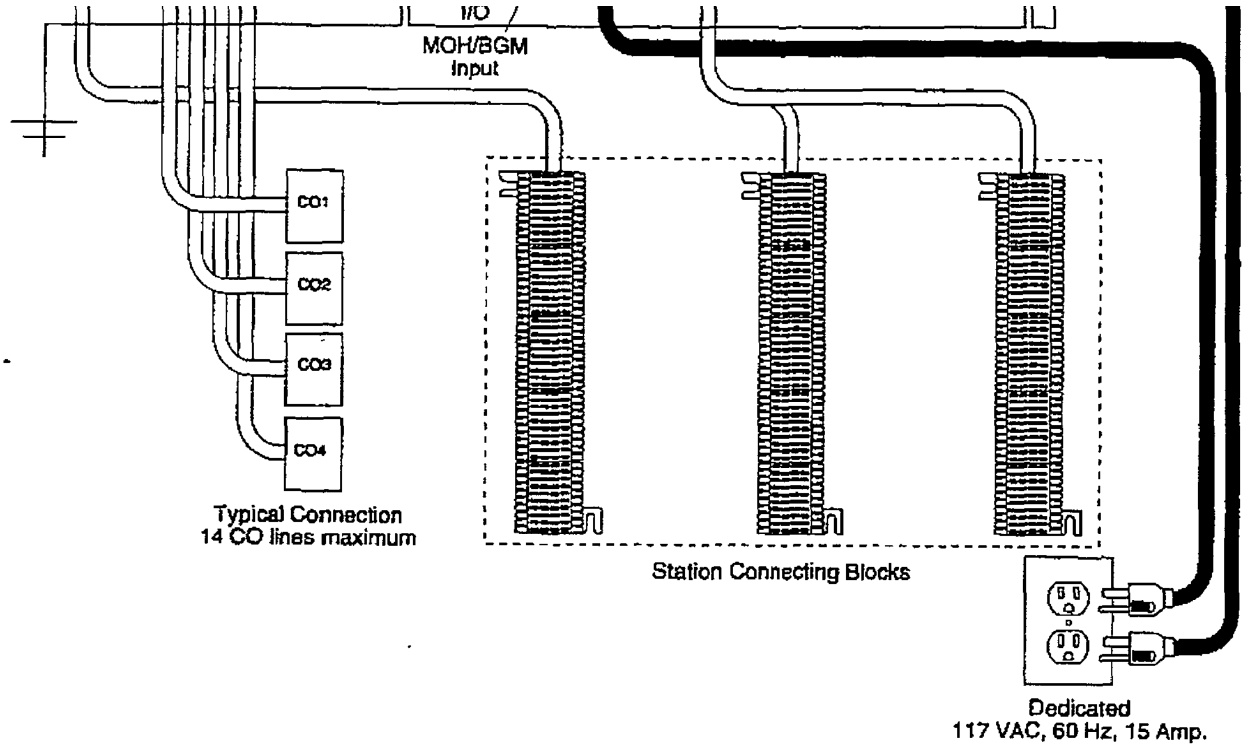


Figure 500-1 Digital Flatpack Mounting Arrangements

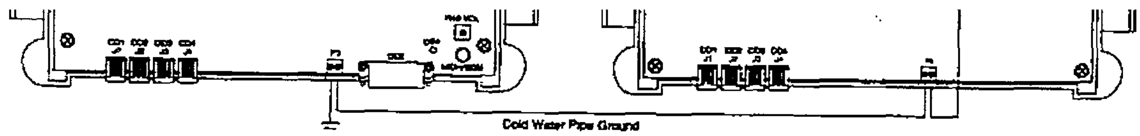


Figure 500-2 Digital Flatpack Mounting Dimensions

ice board. The power supply and cabinet meet all safety requirements to comply

key service unit and is accessible through the bottom of the KSU. One terminal posi-

stations and CO Line interfaces. Once the area for the telephone equipment has been selected, mount a plywood back board to the wall. The back board size will vary depending upon the size of the MDF. The entire system and frame can be mounted on a 4' x 6' x 3/4" plywood. If mounting the Basic KSU alone, the minimum back board size is 25" x 17" x 3/4". A fully loaded KSU can weigh approximately 15 lbs. Make certain proper mounting procedures are followed.

NOTE	***Check local building and electrical codes before mounting the system. For example, certain areas may require a flame retardant plywood back board.***

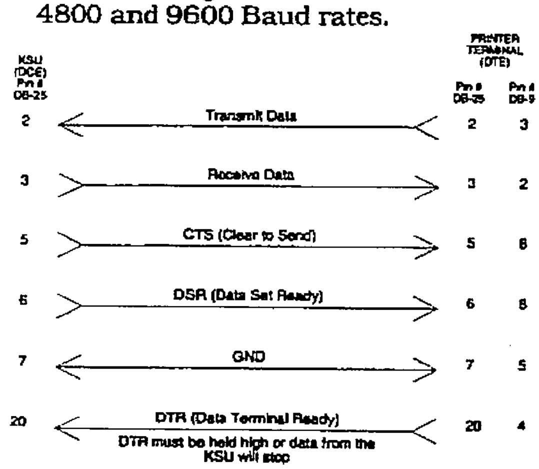
1. Mount the KSU to the plywood using 3/4" #12 pan-head sheet metal screws such that the top of the KSU is approximately

vides software and hardware support of the following:

- Real Time clock.
- Watch dog timer and recovery.
- PCB status as to presence/absence of modules for automatic software configuration setup.
- State/event software design.
- Backup of customer database RAM memory via a "Super Cap" (super capacitor).

System software is provided in EPROM memory and is installed on the main key service board. The system contains 512K of EPROM storage and is equipped with 128K of "battery"-backed static RAM. Provisions have been made on the card to

This I/O port is capable of transmitting and receiving data at 300, 1200, 2400, 4800 and 9600 Baud rates.



RS-232C PINOUT

Data Communication Requirements are:

A) Serial Port Compatible
B) ASCII Code Compatible
C) 8 Data Bits and 1 Stop Bit
D) No Parity
E) Flow Control Method: Xon/Xoff

NOTE: Arrows show flow control direction

Figure 500-4 Digital Flatpack RS-232C Connections

An optional I/O module may be added to the main key service board (KSB) on connector J15 adding one additional RS-232C

9	34	RD/BN	Port 05	Xmt Tip
	9	BN/RD		Xmt Ring
10	35	RD/SL		Rcve Tip
	10	SL/RD		Rcve Ring
11	36	BK/BL	Port 06	Xmt Tip
	11	BL/BK		Xmt Ring
12	37	BK/OR		Rcve Tip
	12	OR/BK		Rcve Ring
13	38	BK/GN	Port 07	Xmt Tip
	13	GN/BK		Xmt Ring
14	39	BK/BN		Rcve Tip
	14	BN/BK		Rcve Ring
15	40	BK/SL	Port 08	Xmt Tip
	15	SL/BK		Xmt Ring
16	41	YL/BL		Rcve Tip
	16	BL/YL		Rcve Ring
17	42	YL/OR	Port 09*	
	17	OR/YL		
18	43	YL/GN		
	18	GN/YL		
19	44	YL/BN	Port 10*	
	19	BN/YL		
20	45	YL/SL		
	20	SL/YL		
21	46	VI/BL	Port 11*	
	21	BL/VI		
22	47	VI/OR		
	22	OR/VI		
23	48	VI/GN	Port 12*	

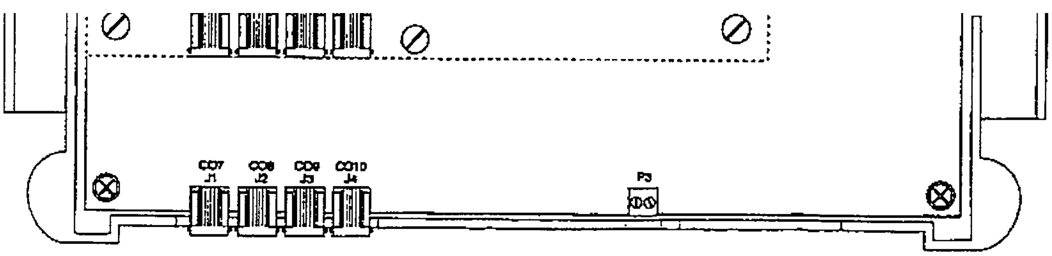


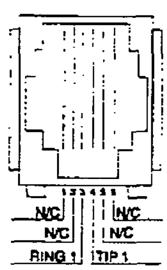
Figure 500-5 Main Key Service Board of the Expansion KSU

The protection circuitry to allow the system to be classified as a fully protected system are located on the card for each CO circuit. The CO circuits are equipped with current sensing circuitry that identifies distant end disconnect (loop supervision). Each CO

are protected from mis-wiring and over-current.

CO Lines Connections:

CO Lines are connected to the system via modular RJ-11 connectors accessed through the bottom of the Expansion KSU. The Expansion KSU connects CO Line ports 9, 10, 11, and 12 to the system through modular connectors J1, J2, J3, and J4 respectively. The pinouts of the modular connector are as follows:



Stations Connections:

The station ports are wired to the main distribution frame via a 25-pair, (50-pin) male amphenol-type connector located on the main key service board on the Expansion KSU on connector J11. A 25-pair cable with a 50-pin female amphenol-type

Table 500-2 Expansion KSU J11 Station Connections

PAIR	PIN	COLOR	DESIG	
1	26	WH/BL	Port 13	Xmt Tip
	12	OR/BK		Rcve Ring
13	38	BK/GN	Port 19	Xmt Tip
	13	GN/BK		Xmt Ring
14	39	BK/BN		Rcve Tip
	14	BN/BK		Rcve Ring
15	40	BK/SL	Port 20	Xmt Tip
	15	SL/BK		Xmt Ring
16	41	YL/BL		Rcve Tip
	16	BL/YL		Rcve Ring
17	42	YL/OR	Port 21*	
	17	OR/YL		
18	43	YL/GN		
	18	GN/YL		
19	44	YL/BN	Port 22*	
	19	BN/YL		
20	45	YL/SL		
	20	SL/YL		
21	46	VI/BL	Port 23*	
	21	BL/VI		
22	47	VI/OR		
	22	OR/VI		
23	48	VI/GN	Port 24*	
	23	GN/VI		
24	49	VI/BN		
	24	BN/VI		
25	50	VI/SL	External Page Tip	
	25	SL/VI	External Page Ring	

C. 2x4 Expander Module

board of the Basic KSU or main key service board of the Expansion KSU.

2. Locate the J9 connector on the main key service board on the Basic KSU or main key service board on the Expansion KSU and the P1 connector on the 2x4 Expander Module. Refer to Figure 500-18 Basic KSU Application Card Locations.
3. Gently push the cable from the P1 connector on the 2x4 Expander Module onto the J9 connector on the main key service board of the Basic KSU or the main key service board of the Expansion KSU.
4. Locate the J10 connector on the main key service board of the Basic KSU or main key service board of the Expansion KSU and the P2 connector on the 2x4 Expander Module. Refer to Figure 500-18 Basic KSU Application Card Locations.
5. Gently push the cable from the P2 connector on the 2x4 Expander Module onto the J10 connector on the main key service board of the Basic KSU or main key service board of the Expansion KSU.
6. Secure the six screws attached to the 2x4 Expander module to the main key service

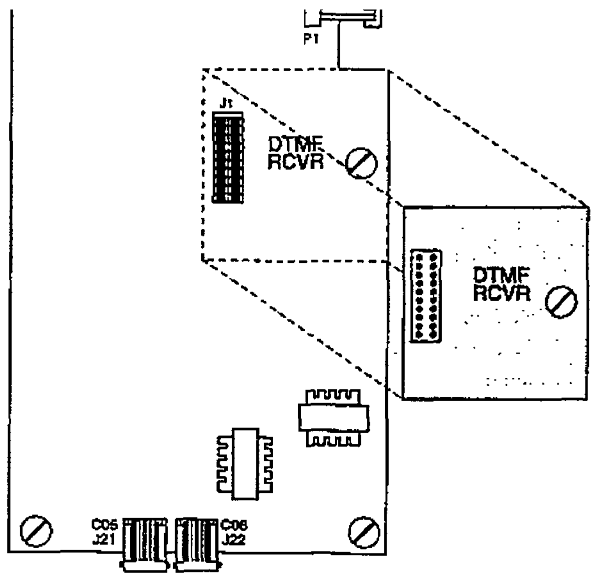


Figure 500-6 2x4 Expander Module

Table 500-4 2x4 Expander Module J11 EKSU Connections

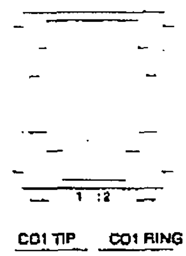
PAIR	PIN	COLOR	DESIG	
17	42	YL/OR	Port 21	Xmt Tip
	17	OR/YL		Xmt Ring
18	43	YL/GN		Rcve Tip
	18	GN/YL		Rcve Ring
19	44	YL/BN	Port 22	Xmt Tip
	19	BN/YL		Xmt Ring
20	45	YL/SL		Rcve Tip
	20	SL/YL		Rcve Ring
21	46	VI/BL	Port 23	Xmt Tip
	21	BL/VI		Xmt Ring
22	47	VI/OR		Rcve Tip
	22	OR/VI		Rcve Ring
23	48	VI/GN	Port 24	Xmt Tip
	23	GN/VI		Xmt Ring
24	49	VI/BN		Rcve Tip
	24	BN/VI		Rcve Ring
25	50	VI/SL	External Page Tip	
	25	SL/VI	External Page Ring	

Paging Connections:

A two position terminal strip J2 mounted on the 2x4 Expander Module provides connection to the external one-way transmit voice path page port provided for on the

CO Line/Station Interfaces:

The 2x4 SLT Expander Module provides the interface for two Central Office, Centrex or PBX loop start, lines. The protection circuitry necessary to allow the system to be classified as a fully protected system are located on the card for each CO circuit. The CO circuits are equipped with current sensing circuitry that identifies distant end disconnect (loop supervision). The module design also provides proper fusing or pro-



Currently ALL CO Line modular cables must pass through a 1.2" thick, 2-3/8" diameter, round ferrite core three times prior to

single line telephones can be equipped with a standard message waiting lamp (90V T&R) that operate on the "tip" and "ring" leads. Additionally, each circuit provides a loop interrupt (700ms duration) to the connected SLT or device. The card will support single line telephones up to 2000 feet from the Basic KSU. On-premise single line telephones should present a load to the port totaling a maximum ringer equivalence of 2.5.

A molex connector, J4 is located in the upper left corner of the 2x4 SLT Expander Module to provide ring generator capabilities. It is recommended that the Tellabs 8101, 30 Hz, 90VAC Ring Generator be used with this board.

CO Lines Connections:

CO Lines are connected to the system via modular RJ-11 connectors mounted on the 2x4 SLT Expander Module and accessed on the bottom of the Basic KSU. The 2x4 SLT Expander Module connects CO Line ports 5 and 6 (when installed on the Basic KSU) or ports 13 and 14 (when installed in the Expansion KSU) to the system through modular connectors J21 and J22 respectively. The pinouts of the modular connector are as follows.

is required to extend the station ports to the main distribution frame. The pinouts for the stations on the 2x4 SLT Expander Module activate ports 009 through 012 on connector J11 as shown in Table 500-5 2x4 SLT Expander Module J11 BKSU Connections when installed on the main key service board in the Basic KSU. Also refer to Table 500-1 Basic KSU J11 Station Connections.

Table 500-5 2x4 SLT Expander Module J11 BKSU Connections

PAIR	PIN	COLOR	DESIG	
17	42	YL/OR	Port 09	SLT Tip
	17	OR/YL		SLT Ring
18	43	YL/GN		
	18	GN/YL		
19	44	YL/BN	Port 10	SLT Tip
	19	BN/YL		SLT Ring
20	45	YL/SL		
	20	SL/YL		
21	46	VI/BL	Port 11	SLT Tip
	21	BL/VI		SLT Ring
22	47	VI/OR		
	22	OR/VI		
23	48	VI/GN	Port 12	SLT Tip
	23	GN/VI		SLT Ring
24	49	VI/BN		
	24	BN/VI		

Expander Module. Two of the LEDs (DS4 & DS3) indicate the presence of +5V & -5V dc. LEDs DS1 and DS2 indicate the presence of +12V dc used to supply power to the key stations (one LED for every four stations). An extinguished LED indicates the absence of the associated voltage.

4x8 Expander Module Installation:

1. Remove power from the Expansion KSU.
2. Locate the J9 connector on the main key service board of the Expansion KSU and the J9 connector on the 4x8 Expander Module. Refer to Figure 500-18 Basic KSU Application Card Locations.
3. Gently push the cable from the J9 connector on the 4x8 Expander Module onto the J9 connector on the main key service board of the Expansion KSU.
4. Secure the seven screws attached to the 4x8 Expander module to the main key service board of the Expansion KSU.
5. Secure the ground wire from the 4x8 Expander Module to the two position terminal strip (P3) located along the bottom edge of the main key service board of the Expansion KSU.
6. Restore power to the Expansion KSU.

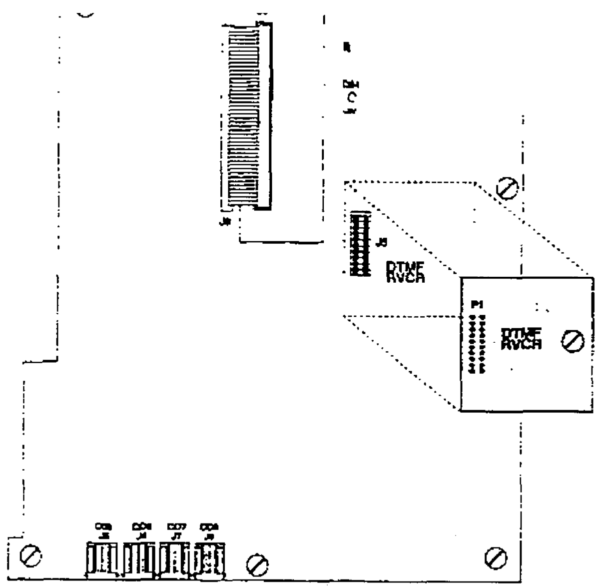


Figure 500-8 4x8 Expansion Module

pander Module to the Expansion KSU.

CO Line/Station Interfaces:

The 4x8 Expander Module provides the interface for four Central Office, Centrex or PBX loop start, lines. The protection circuitry necessary to allow the system to be classified as a fully protected system are located on the card for each CO circuit. The CO circuits are equipped with current sensing circuitry that identifies distant end disconnect (loop supervision). The module design also provides proper fusing or protection to comply with the requirements of UL 1459 Second Edition and CSA C22.2 No. 225 standards. CO lines are connected to the system via RJ-11 modular connectors mounted on the bottom edge of the board.

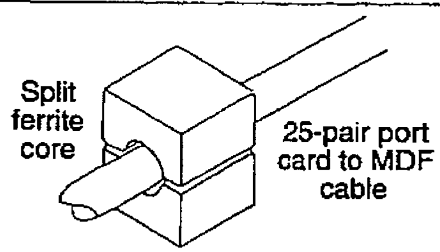
The 4x8 Expander module also provides the interface for eight digital key telephones using two 64K channel arrangements. Stations connect to the board via the MDF through a 50-pin connector located on the board. Each station connection requires four wires to connect to the board.

A Digital DSS Console, a Single Line Telephone Adapter (OPX) or other specifically

and J4 respectively. The pinouts of the

nol type connector located on the 4x8 Expander module, connector J11. A 25-pair cable with a 50-pin female amphenol-type connector is required to extend the station ports to the main distribution frame. The pinouts are shown in Table 500-7 4x8 Expander Module Station Connection.

NOTE	***The 25-pair cable used to extend the stations to the MDF does not have to be shielded. However, the 25-pair cable must pass through a 3/8" diameter ferrite core before exiting the KSU again to comply with FCC Part 15 regulations.***



External Paging Connections:

The 4x8 Expander Module is equipped with an external (one-way transmit voice path) page port. This port is wired to the J11 connector (50-pin male amphenol-type connector) using the Violet/Slate, Slate/Violet pair of wires (pin's 50 and 25). Refer to Table 500-7 4x8 Expander Module

Table 500-7 4x8 Expander Mo
Station Connection

PAIR	PIN	COLOR	DE
1	26	WH/BL	Port 21
	1	BL/WH	
2	27	WH/OR	
	2	OR/WH	
3	28	WH/GN	Port 22
	3	GN/WH	
4	29	WH/BN	
	4	BN/WH	
5	30	WH/SL	Port 23
	5	SL/WH	
6	31	RD/BL	
	6	BL/RD	
7	32	RD/OR	Port 24
	7	OR/RD	
8	33	RD/GN	
	8	GN/RD	
9	34	RD/BN	Port 25
	9	BN/RD	
10	35	RD/SL	
	10	SL/RD	
11	36	BK/BL	Port 26
	11	BL/BK	
12	37	BK/OR	
	12	OR/BK	
13	38	BK/GN	Port 27
	13	GN/BK	
14	39	BK/BN	
	14	BN/BK	
15	40	BK/SL	Port 28
	15	SL/BK	
16	41	YL/BL	
	16	BL/YL	
17	42	YL/OR	
	17	OR/YL	
18	43	YL/GN	
	18	GN/YL	
19	44	YL/BN	
	19	BN/YL	
20	45	YL/SL	
	20	SL/YL	
21	46	VI/BL	
	21	BL/VI	
22	47	VI/OR	
	22	OR/VI	
23	48	VI/GN	
	23	GN/VI	
24	49	VI/BN	
	24	BN/VI	
25	50	VI/SL	External P
	25	SL/VI	External P

way near the back of the KSU cabinet. Refer to Figure 500-9 Basic KSU Equipment Cabinet for circuit board layout

in the cabinet, and the power supply card is removable from the cabinet, the AC connections are made directly to the system

source for future use. Power is regulated and distributed to stations/circuitry in the system on each printed circuit board. Three fuses located inside the power supply protect the system from over-current situations. The power supply and cabinet meet all safety requirements to comply with UL 1459 Second Edition and CSA C22.2 No. 225 standards.

The power supply is installed inside the system cabinet, on the right side, in the first card slot (J9). The power supply is designed to be an integral, structural part of the system. Do not attempt to install the system, or interface cards unless the power supply is installed with all four screws securely in place. The cabinet, includes the power supply already installed. The power supply is recognized under the Component Program of Underwriters Laboratories Inc.

NOTE *Make certain a 1/2 inch diameter ferrite core is in place on the power cord at a point as close to the power supply as possible. If this ferrite core is not in place, it is shipped with the cabinet and must be installed before operating the system. Refer to Figure*

ENCLOSURE PROVIDE THE ONLY PROTECTION FROM SHOCK HAZARD WHILE THE AC POWER CORD IS PLUGGED IN. There are very few instances when the power supply card should be removed. If an instance arises where it must be removed, ALWAYS unplug the system AC power cord FIRST.

The power supply cord plugs into an isolated, dedicated, (with dedicated ground) 117V ac outlet for power. This is necessary to prevent possible voltage spikes and transients that may be caused by equipment sharing the same AC circuit.

The AC connection to the power supply requires a parallel blade with a ground receptacle. A three wire to two wire isolation adapter should not be used. The use of a surge suppressor is required.

Grounding:

A No. 12 AWG copper wire should be used to connect a ground between the ground source and the KSU (25 feet maximum). A two position terminal strip (J10) is located

mately three feet (1 meter) from the ceiling, and bottom is four feet (1.2 meters) from the floor. Make certain before mounting the cabinet that circuit cards slide easily in and out of their respective card slots.

2. Use the mounting template supplied with the cabinet to locate the mounting holes. Also refer to Figure 500-10 Basic KSU Cabinet Mounting Dimensions.
3. Drill the holes and mount the cabinet.

C. Central Processor Board (CPB)

This plug-in card is the only common equipment card required to make the system operational and controls all system activity. The CPB contains the main microprocessor a 16-bit (68000) and a real time clock which controls all system functions including the PCM/TDM voice switching under direction of ROM and RAM software coding. The CPB is responsible for all control functions, execution of all logic operations and control of system modules including control over circuitry necessary for voice switching and conference connections. The CPB is also responsible for all system tones, system timing, and station status

ometer is located on the front of the printed circuit board. Refer to Figure 500-9 Basic KSU Equipment Cabinet for CPB layout and location of connectors.

System software is provided in EPROM memory and is installed on the CPB. The CPB contains 512K of EPROM storage and is equipped with 256K of battery-backed static RAM. Provisions have been made on the card to address up to four megabytes of EPROM memory and up to two megabytes of static RAM.

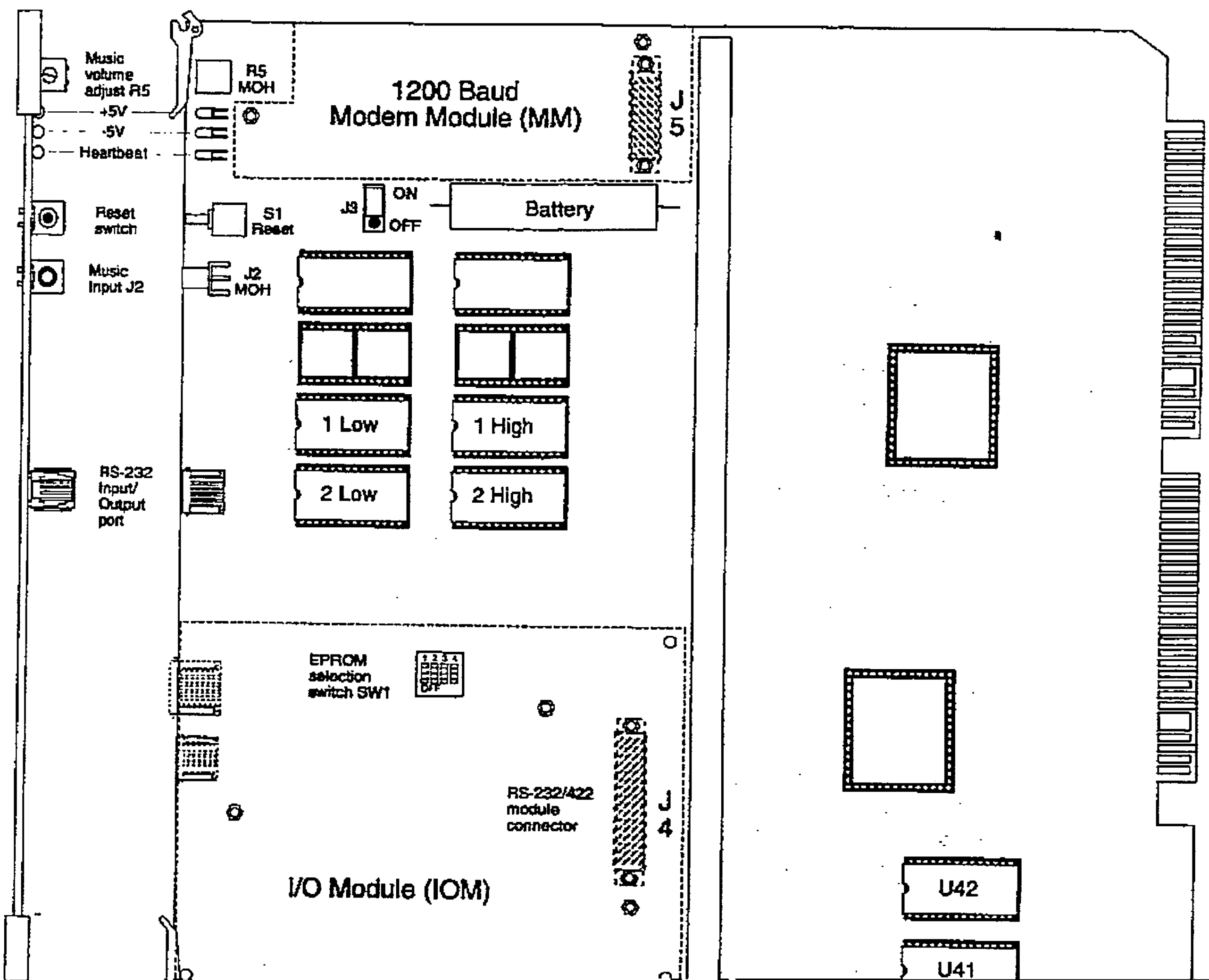
An option "dip" switch located on the CPB allows the system EPROM memory to be configured utilizing different size EPROM chips. 1 Megabit, 2 Megabit, 4 Megabit and 8 Megabit chips may be used to provide the generic software. Refer to Section 800, Maintenance and Troubleshooting for "dip" switch settings for various allowable configurations.

The CPB allows the use of either 1 Megabit or 4 megabit static RAM chips to be used for RAM memory. The size and type of memory used is automatically determined and set by the system.

RAM memory.

The CPB contains the circuitry and connection (RCA type) for background music/music on hold, and the standard 300 Baud Modem. An optional 1200 Baud Mo-

slot with components on the card facing the right. This board must NOT be installed with the power on. The edge connector on the CPB is offset to prevent it from being installed in an incorrect slot. Do not force the card into


Music volume adjust R5
+5V
-5V
Heartbeat
Reset switch
Music Input J2
RS-232 Input/ Output port
R5 MOH
1200 Baud Modem Module (MM)
J 5
J3
ON
OFF
Battery
S1 Reset
J2 MOH
1 Low
1 High
2 Low
2 High
EPROM selection switch SW1
RS-232/422 module connector
J 4
I/O Module (IOM)
U42
U41

tains an on-board modem that is capable of transmitting data at a rate of 300 baud. The modem supports and is compatible with the Hayes command protocol. The Bell System (Western Electric) standards 103 and 212A for modem design is incorporated into the design of this modem. The modem operates on-line in both Full and Half duplex modes. An optional 1200 baud module may be added to the CPB to allow transmission at the rate of 1200 baud.

I/O Port(s) Connections:

The Central Processor Board (CPB) contains one RS-232C, I/O port (8 pin modular jack type connector) located near the front edge of the board. This I/O port is capable of transmitting and receiving data at 300, 1200, 2400, 4800, and 9600 baud rates. The pinouts and communication requirements are shown in Figure 500-12 Basic KSU CPB RS-232C Connections.

NOTE	***RS-232C modular cables must pass through a 1.2" thick, 2-3/8" diameter, round ferrite core three times prior to exiting the KSU in order to comply with FCC regulations. Up to five cables can be wrapped around one ferrite core.***

connected to the system via an RCA type connector, J2 is located on the front edge of the Central Processor Board (CPB). A potentiometer labeled R5, accessible from the front of the CPB, allows for volume adjustment for Music-On-Hold.

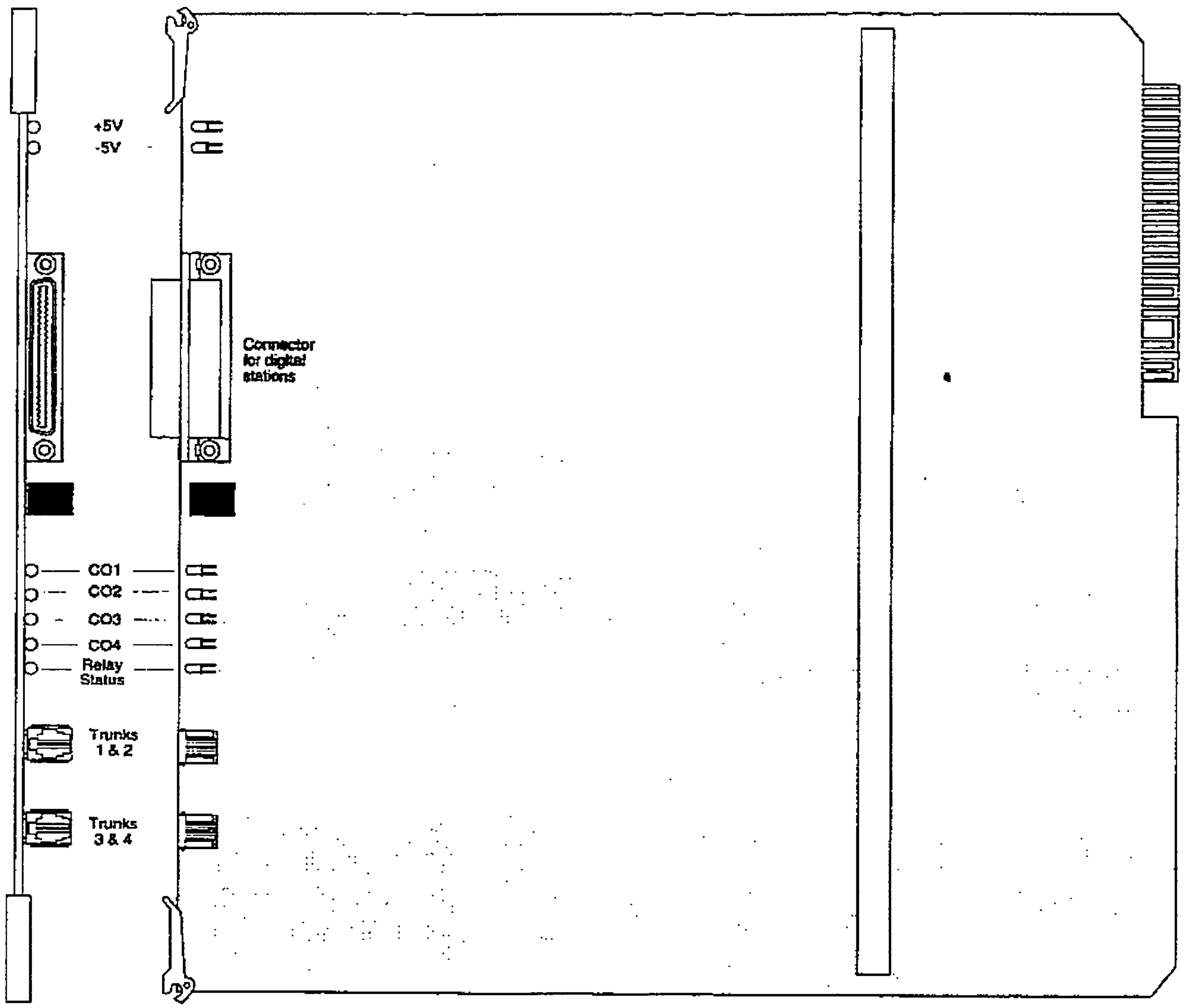
D. 4x8 Key Interface Board (CKB)

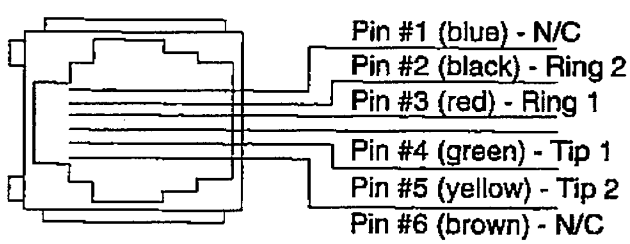
The 4x8 Key Interface Board (CKB) is a four CO line by eight digital key station interface board. The 4x8 Key Interface Board is a combination card that contains the necessary circuitry to connect four CO/Centrex/PBX loop start lines and eight digital key telephones to the system. This card also contains one additional voice (transmit) path for external paging, a multi purpose relay and a connector for adding one application module to the system. The 4x8 Key Interface Board may be installed into Basic KSU cabinet backplane using slots J7 through J1 and may be removed or inserted while power is applied to the Basic KSU (power on). Refer to Figure 500-9 Basic KSU Equipment Cabinet for component layout and location of connectors.

LEDs & Indicators:

connector) and one RS-422 port (6 pin modular jack connector). Refer to Section 500.6, Application Module(s) Installation for the pinouts and communication requirements for the

system are located on the card for each CO circuit. The CO circuits are equipped with current sensing circuitry that identifies distant end disconnect (loop supervision).





RJ-14 Modular Jack Pinouts for 4x8 Key Interface Board (CKB)

Figure 500-13 4x8 Key Interface Board (CKB)

The card also provides proper fusing or protection to comply with the requirements of UL 1459 Second Edition and CSA C22.2

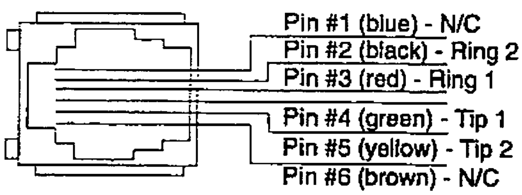
Stations Connections:

The station ports of the 4x8 Key Interface Board (CKB) are wired to the main distri-

designed adapter with a digital interface can be assigned to any one of the interface circuits. The Key Station interface circuits are protected from mis-wiring and over-current.

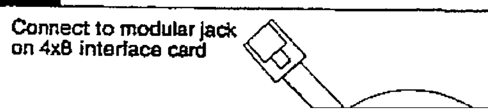
CO Lines Connections:

CO Lines are connected to the system via modular RJ-14 connectors mounted to the front edge of the 4x8 Key Interface Board (CKB) and accessed through the bottom of the KSU. Each card connects four CO Line ports to the system through modular connectors J2 and J3 found on each 4x8 Key Interface Board. The pinouts of the modular connector are as follows:

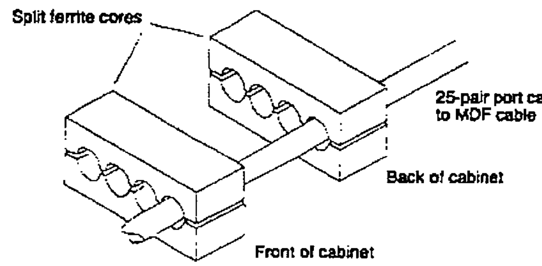


CKB RJ-14 Modular Jack Pinout

NOTE	***Currently ALL CO Line modular cables must pass through a 1.2" thick, 2-3/8" diameter, round ferrite core <u>three</u> times prior to exiting the KSU in order to comply with FCC regulations. Up to five cables can be wrapped around one ferrite core.***



NOTE	***the stations to the MDF must be shielded, with the exposed end of the shield closest to the Basic KSU cabinet. This cable must be used to comply with FCC Part 15 regulations. In addition the 25-pair cable must pass through a ferrite core before exiting the Basic KSU cabinet again to comply with FCC Part 15 regulations. Refer to Figure 500-14 Shielded Cable Terminations.***

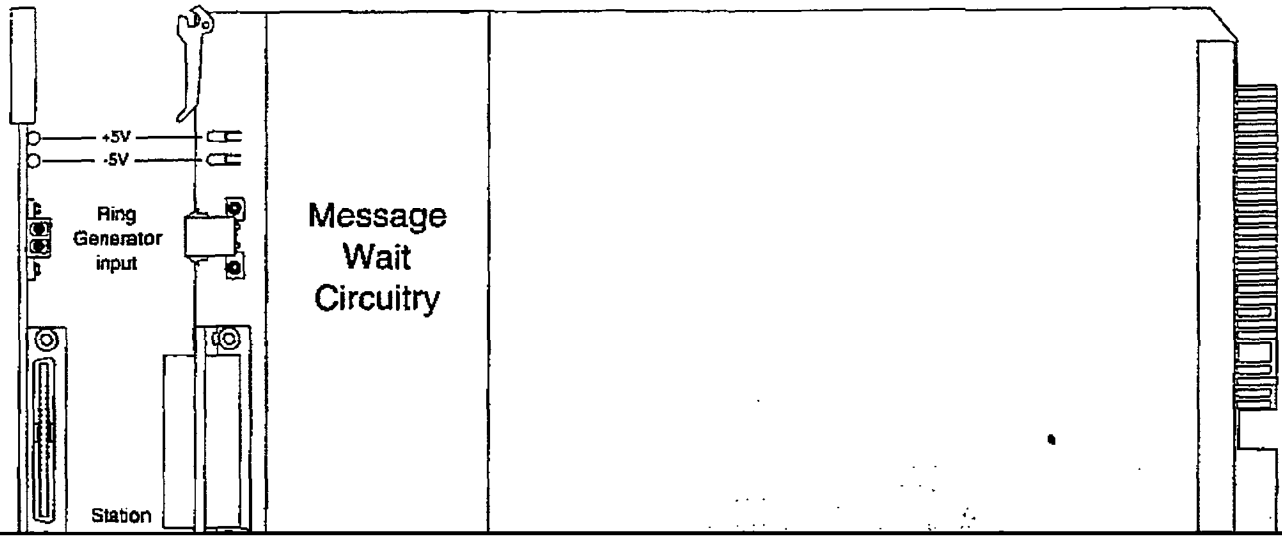


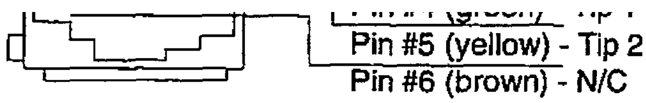
External Paging Connections:

The 4x8 Key Interface Board (CKB) is equipped with an external page port (a one-way, transmit voice path) that is wired to the J1 connector (50-pin male amphenol-type connector) on the Violet/Slate, Slate/Violet pair of wires (pin's 50 and 25). Refer to Table 500-8 4x8 Key Interface Board (CKB) for wiring information.

Miscellaneous Relay Connections:

Each 4x8 Key Interface Board (CKB) also contains a miscellaneous relay (K1) that can be used as for External Paging, Loud Bell, CO Line control, Power Fail, RAN,





4x8 SLT Interface Board RJ-14 Modular Jack Pinouts

Figure 500-15 4x8 SLT Interface Board (CSB)

Stations Connections:

The station ports of the 4x8 SLT Interface Board (CSB) are wired to the main distribution frame via a 25-pair, (50-pin) female amphenol type connector located on the front edge of the board, connector J1. A 25-pair cable with a 50-pin male amphenol-type connector is required to extend the station ports to the main distribution frame. The pinouts are shown in Figure 500-9 Basic KSU Equipment Cabinet.

NOTE *Currently the 25-pair cable (supplied with the 4x8 SLT Interface Board) used to extend the stations to the MDF must be shielded, with the exposed end of the shield closest to the Basic KSU cabinet. This cable must be used to comply with FCC Part 15 regulations. In addition the 25-pair cable*

ture) is installed. When this module is installed onto the 4x8 SLT Interface Board, it is wired to the J1 connector (50-pin male amphenol-type connector) on the Violet/Slate, Slate/Violet pair of wires (pin's 50 and 25). Refer to Table 500-9 4x8 SLT Interface Board (CSB) for wiring information.

Miscellaneous Relay Connections:

Each 4x8 SLT Interface Board contains a miscellaneous relay (K1) that can be used for Loud Bell, CO Line control, Power Fail, RAN, and other functions as software will allow. The relay provides both an Open and a Closed loop upon activation. Therefore, each relay may be used for various applications. The relay provides a dry output and is rated for 1 AMP at 24V dc. The relay is wired to the MDF via the J1 connector (50-pin male amphenol-type connector) on the Violet/Orange, Violet/Green and Brown/Violet wires(pin's 47, 48 and 24). Refer to Table 500-9 4x8 SLT Interface Board (CSB) for wiring information.

Table 500-9 4x8 SLT Interface Board (CSB)

PAIR	PIN	COLOR	DESIG	
1	26	WH/BL	Port 01	SLT Tip
	1	BL/WH		SLT Ring
2	27	WH/OR		
	2	OR/WH		
3	28	WH/GN	Port 02	SLT Tip
	3	GN/WH		SLT Ring
4	29	WH/BN		
	4	BN/WH		
5	30	WH/SL	Port 03	SLT Tip
	5	SL/WH		SLT Ring
6	31	RD/BL		
	6	BL/RD		
7	32	RD/OR	Port 04	SLT Tip
15	40	BK/SL	Port 08	SLT Tip
	15	SL/BK		SLT Ring
16	41	YL/BL		
	16	BL/YL		
17	42	YL/OR		
	17	OR/YL		
18	43	YL/GN		
	18	GN/YL		
19	44	YL/BN		
	19	BN/YL		
20	45	YL/SL		
	20	SL/YL		
21	46	VI/BL		
	21	BL/VI		
22	47	VI/OR	Misc. Relay N.C.	
	22	OR/VI		
23	48	VI/GN	Misc. Relay N.O.	
	23	GN/VI		
24	49	VI/BN		
	24	BN/VI	Misc. Relay Common	
25	50	VI/SL	External Page Tip*	
	25	SL/VI	External Page Ring*	

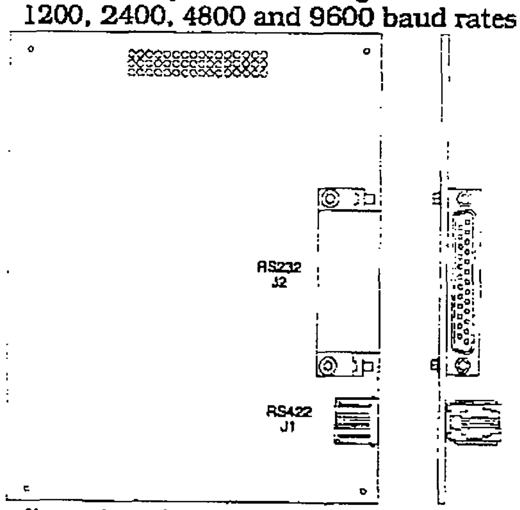
*Active only when the Dual DTMF/Talk-Back Page Module (future) is installed.

tion modules.

500.6 APPLICATION MODULE(S) INSTALLATION:

A. Expansion I/O Module (IOM) for the DVX [I] System

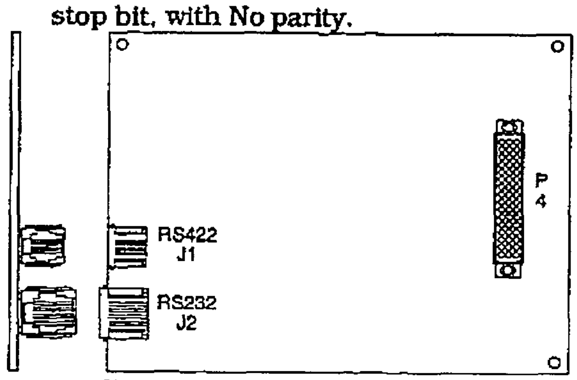
The DVX [I] contains one RS-232C, I/O port (female, DB-25 type connector) located on the main key service board (J5). This optional I/O module may be added to the main key service board (on connector J15) adding one additional RS-232C port (female, DB-25 type connector) and one RS-422 port (6 pin modular jack connector). Each I/O port on this module is capable of transmitting and receiving data at 300, 1200, 2400, 4800 and 9600 baud rates.



Installing the I/O Module onto the main key service board of the DVX [I] Basic KSU:

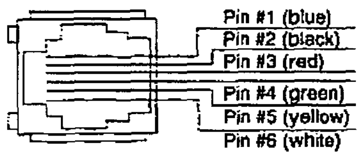
1. Remove power from the Basic KSU.
2. Locate the J15 connector on the main key

I/O port (6 pin modular jack). This module is installed on the Central Processor Board printed circuit board and adds two I/O ports to the one RS-232C I/O port already on the Central Processor Board for a total of three I/O ports allowed in the system. Each port is independently programmed for its use and the rate of speed at which it transmits and receives data (baud rate). The options are 300, 1200, 2400, 4800, and 9600 baud rates all at 8 data bits, 1 stop bit, with No parity.



To install the I/O Module onto the Central Processor Board of the DVX [II] System:

1. Remove power from the Basic KSU.
2. Remove the Central Processor Board (CPB) from the Basic KSU cabinet.
3. Locate the J4 connector on the CPB board and the P4 connector on the I/O Module. Refer to Figure 500-11 Central Processor Board (CPB).
4. Gently push the P4 connector on the I/O Module onto the J4 connector on the CPB board.



Expansion I/O Module, 6 Pin Modular Jack Pinout

KSU (DCE) Pin # DB-25	Direction	Signal	Printer Terminal (DTE) Pin # DB-25	Printer Terminal (DTE) Pin # DB-9
2	←	Transmit Data	2	3
3	→	Receive Data	3	2
5	→	CTS (Clear to Send)	5	8
6	→	DSR (Data Set Ready)	6	6
7	↔	GND	7	5
20	←	DTR (Data Terminal Ready) DTR must be held high or data from the KSU will stop	20	4

RS-232C PINOUT

Data Communication Requirements are:

A) Serial Port Compatible
B) ASCII Code Compatible
C) 8 Data Bits and 1 Stop Bit
D) No Parity
E) Flow Control Method: Xon/Xoff

NOTE: Arrows show flow control direction

KSU (DCE) Pin # 6 Pin Mod Jack	Direction	Signal	Printer Terminal (DTE) Pin # DB-25	Printer Terminal (DTE) Pin # DB-9
1 (blue)	←	Signal Ground	*	*
2 (black)	→	Transmit Data (-)	*	*
3 (red)	←	Receive Data (-)	*	*
4 (green)	↔	Receive Data (+)	*	*
5 (yellow)	→	Transmit Data (+)	*	*
6 (white)	↔	no connection	*	*

RS-422 PINOUT

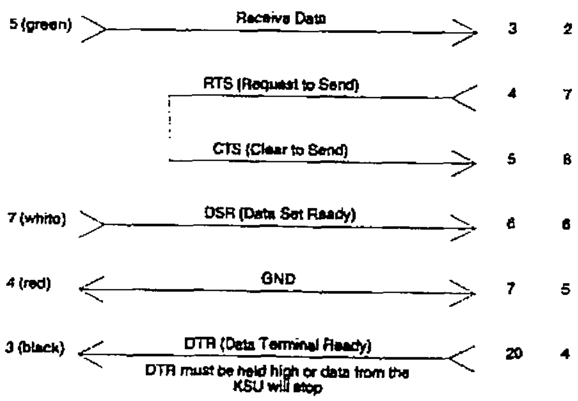
Data Communication Requirements are:

A) Serial Port Compatible
B) ASCII Code Compatible
C) 8 Data Bits and 1 Stop Bit
D) No Parity
E) Flow Control Method: Xon/Xoff

NOTE: Arrows show flow control direction.
* If required by the printer or terminal

* There is no set standard for pins to be used with RS-422 connectors. Refer to your particular terminal installation guide for proper hook-up.

Figure 500-16 DVX I Expansion I/O Module Pin-outs

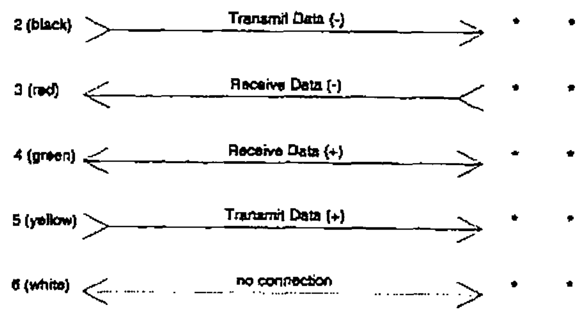


RS-232C PINOUT

Data Communication Requirements are:

A) Serial Port Compatible
B) ASCII Code Compatible
C) 8 Data Bits and 1 Stop Bit
D) No Parity
E) Flow Control Method: Xon/Xoff

NOTE: Arrows show flow control direction.
* If required by the printer or terminal



RS-422 PINOUT

Data Communication Requirements are:

A) Serial Port Compatible
B) ASCII Code Compatible
C) 8 Data Bits and 1 Stop Bit
D) No Parity
E) Flow Control Method: Xon/Xoff

NOTE: Arrows show flow control direction.
* If required by the printer or terminal

* There is no set standard for pins to be used with RS-422 connectors. Refer to your particular terminal installation guide for proper hook-up.

Figure 500-17 DVX II Expansion I/O Module Pin-outs

NOTE	***Currently ALL RS-232C modular cables must pass through a 1.2" thick, 2-3/8" diameter, round ferrite core three times prior to exiting the KSU in order to comply with FCC Regulations.***

Installing the 1200 Baud Modem Module onto the main key service board of the DVX I Basic KSU:

1. Remove power from the Basic KSU.

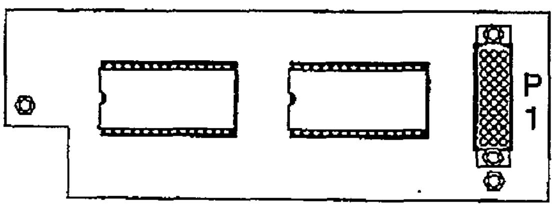
or location at the rate of 1200 baud. Both systems provide as standard an on-board modem capable of transmitting data at 300 baud. With this module installed a transmission baud rate of 1200 baud can be selected. A programmable option allows for auto baud detection between 300 and 1200 baud.

Connection to the modem is accomplished by simply calling into the system and connecting to the modem. This can be done by:

1. Ringing directly to the modem,
2. Going through DISA,
3. After being answered by a station user and transferred to the modem port.

Connection to the modem port is under software control.

The 1200 baud modem module maintains the compatibility with the Hayes command protocol and uses the Bell System (Western Electric) standards 103 and 212A for modem design. The modem operates on-line in both Full and Half duplex modes.



tem Cabinet:

1. Remove power from the Basic KSU.
2. Remove the Central Processor Board (CPB) from the Basic KSU.
3. Locate the J5 connector on the CPB board and the P1 connector on the Modem Module. Refer to Figure 500-11 Central Processor Board (CPB).
4. Gently push the P1 connector on the Modem Module onto the J5 connector on the CPB board.
5. Secure with the screws provided on the module.
6. Re-insert the CPB board in the Basic KSU cabinet.

Connections:

Connection is under system software control.

D. Installing the DTMF Receiver Module (RM)

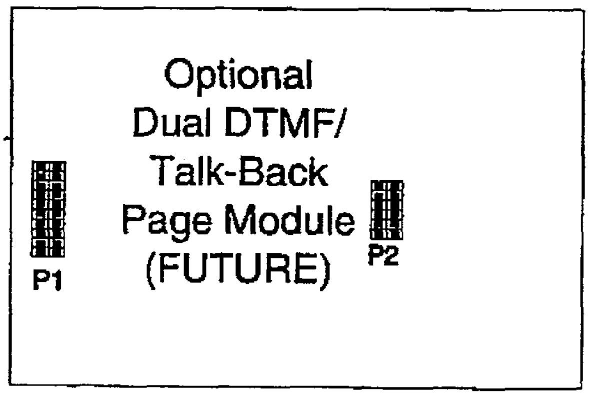
This module is used to provide DTMF receivers in the system to support single line telephone and DISA applications. Currently this module can be added to the DVX I System Expansion KSU, 2x4 Expander Module, 2x4 SLT Expander Module and the 4x8 Expander Module. This module can also be added to the DVX II System on each 4x8 Key Interface Boards, and each 4x8 SLT Interface Boards. Each DTMF Receiver Module contains one DTMF receiver. A

Installing the DTMF Receiver Module onto the 4x8 SLT Interface Board (CSB):

1. Locate the J1 connector on the 4x8 SLT Interface Board (CSB) and the P1 connector on the DTMF Receiver Module. Refer to

1. Locate the P1 and P2 connectors on the 4x8 SLT Interface Board (CSB) and the J14 and J16 connectors on the Dual DTMF /Talk-Back Page Module.
2. Take the Dual DTMF/Talk-Back Page

Executive Digital Terminal (Only a single DTMF Receiver module can be installed on the CKB board), CSB boards can be installed in Slots 2 thru 7. Each CSB board having a Dual DTMF/Talk-Back Page Module installed, resulting in thirteen DTMF Receivers in the system.



Generally, one receiver will support DISA and/or 8 SLT stations under light to moderate traffic. If SLT and or DISA traffic is heavy, additional DTMF Receivers should be added. It is also recommended to add additional DTMF Receivers when a Voice Mail or Auto Attendant is connected to the system.

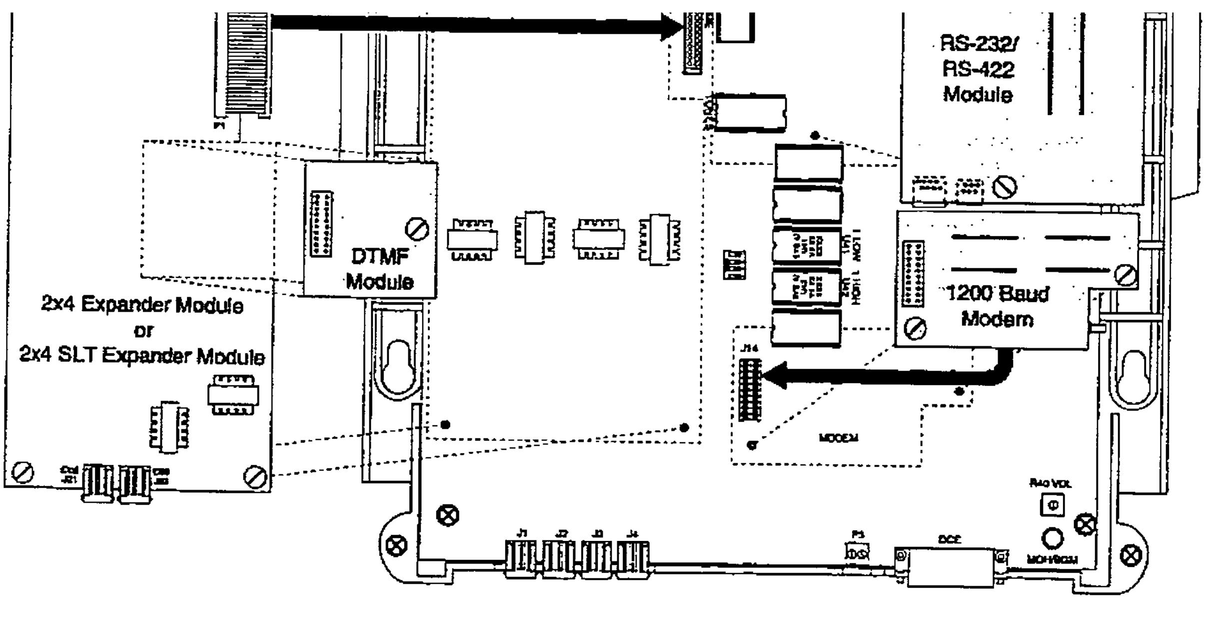


Figure 500-18 Basic KSU Application Card Locations

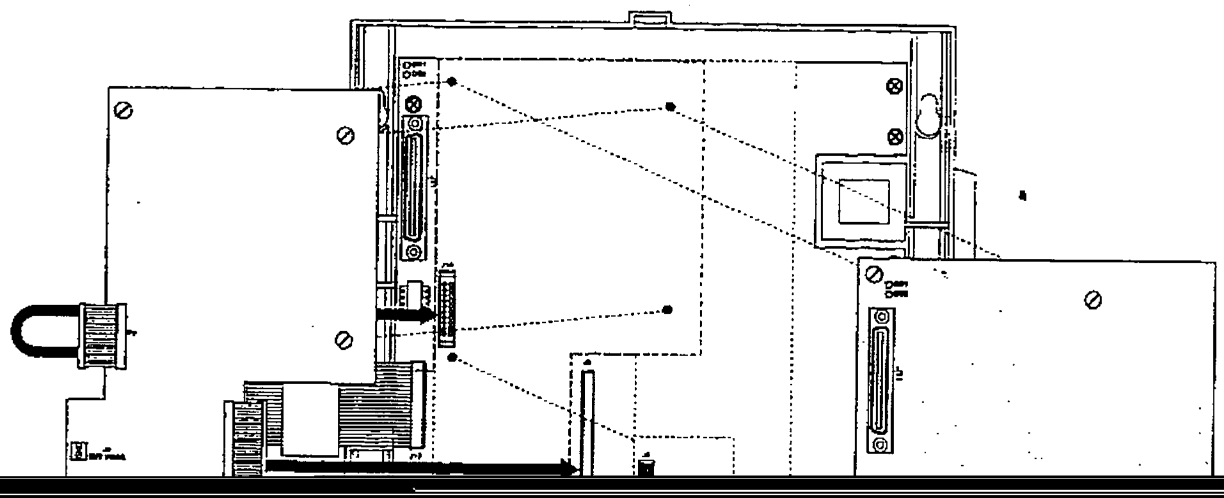


Figure 500-19 Expansion KSU Application Card Locations

500.7 DIGITAL TERMINALS

A. Digital Terminal Installation:

The Digital Terminals are interfaced with the DVX I Basic KSU or Expansion KSU main key service board which provides eight circuits. Each of the eight circuits are interfaced from the J11 connector on the Basic KSU or Expansion KSU main key service board to the MDF. The digital terminals are interfaced with the DVX II 4x8 Key Interface Board (CKB) and 4x8 SLT Interface Board (CSB) which each have eight circuits per board. Each 4x8 Key Interface Board interface is extended from the Basic KSU or the Expansion KSU to the

channels. The primary channel is used for voice communications only. The secondary channel is used to provide a secondary path for data switching applications (future).

The installer should exercise caution when connecting a digital terminal while system power is on. Each digital terminal station circuit is overload protected by internal circuitry on the 4x8 Key Interface Board (CKB) or 4x8 SLT Interface Board (CSB), however the proper polarity of the wired connections must be maintained for proper operation.

The standard Single Line Telephone, Single Line Telephone Adapter (OPX), and

1000 feet. It is recommended that the station cable contain 4 pairs of wires. Refer to Figure 500-20 Digital Terminal Modular Block Wiring.

- Station cable is connected to the MDF at one end, and a modular connecting block at the other end. The modular line cord of the telephone is then plugged into the connecting block.

NOTE ***Only one station may be connected to a port. It is NOT possible to bridge station ports.***

The system communicates with each phone using 4 wires. Two of the wires are used to send digital information (voice and control signals) from the system to the telephone, and two wires are used by the

DSS/DLS Console to the MDF in a "home run" manner. The DSS/DLS Console end of the cable is terminated on a three-pair modular jack and the MDF is "punched down" on a terminal block for cross connection to the appropriate station cable. Refer to Figure 500-20 Digital Terminal Modular Block Wiring.

Since the system supplies power to the DSS/DLS Console, no transformer or external power device is required.

C. Wall Mounting the 33-Button Digital Terminal

To wall mount the *infinite* Digital Terminal, it is necessary to use the 33-Button Wall Mount bracket and one standard-type jack

slots on the base plate with the lugs on the 630-A type jack. Align the modular connector and slide telephone into place. Refer to Figure 500-21 Digital Terminal Wall Mounting.

D. Wall Mounting the 8-Button Digital Terminal

To wall mount the *infinite* Digital Terminal, it is necessary to use the 8-Button Wall Mount bracket and one standard-type jack assembly designed for normal wall hanging applications.

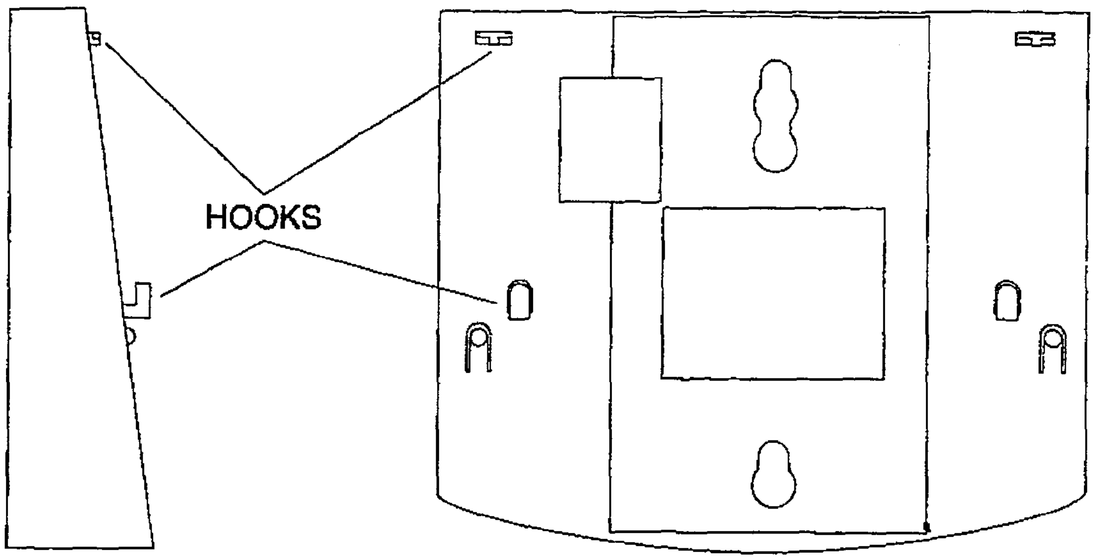
1. Unplug the line cord from the phone. A 4-foot line cord is supplied with the wall bracket.
2. Line up the hooks at the bottom of the bracket so that they engage with the slots cut in the bottom of the telephone base. Tilt the telephone back and lock the telephone into the hooks at the top of the bracket. The bracket will snap in place.
3. Route the line cord from the wall jack and plug into the connector on the back of the telephone. Now match the two key hole slots on the base plate with the lugs on the 630-A type jack. Align the modular connector and slide telephone into place. Refer

The Dual DTMF / Talk Back Page Module can ONLY be installed onto the 4x8 SLT Interface Board and provides two DTMF receivers. DTMF receivers can be added to the system to support Single Line Telephones. If SLT traffic is heavy or a Voice Mail system is being installed, it is recommended that additional DTMF Receiver Modules be installed in the system.

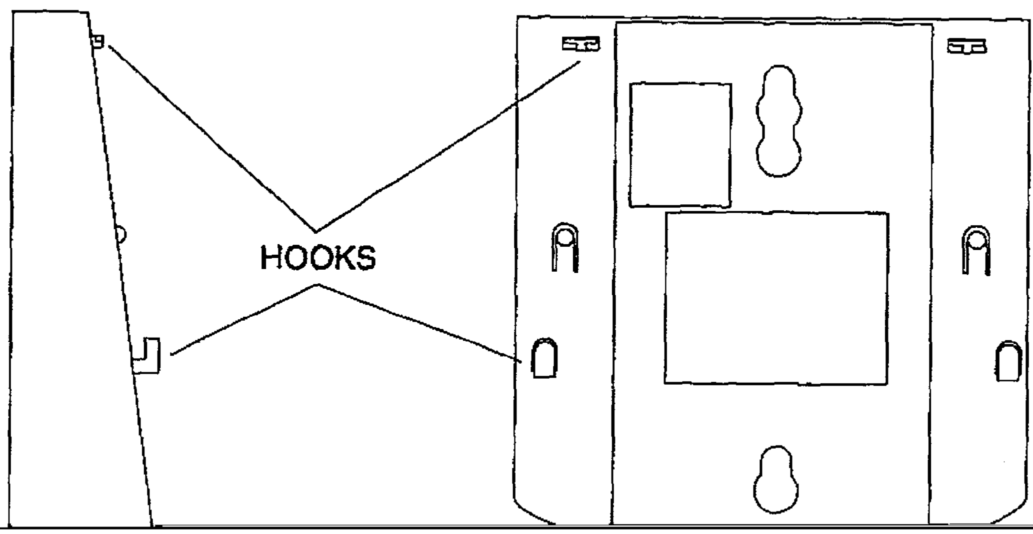
Each SLT requires one-pair cable. The cable should be placed from the telephone location to the MDF in a "home run" manner. The telephone end of the cable run should be terminated in a modular jack. Refer to Figure 500-1 Digital Flatpack Mounting Arrangements and/or Figure 500-9 Basic KSU Equipment Cabinet. The MDF end should be "punched down" on a terminal block for cross connection to the appropriate station cable. Refer to Table 500-9 4x8 SLT Interface Board (CSB) for SLT wiring connections.

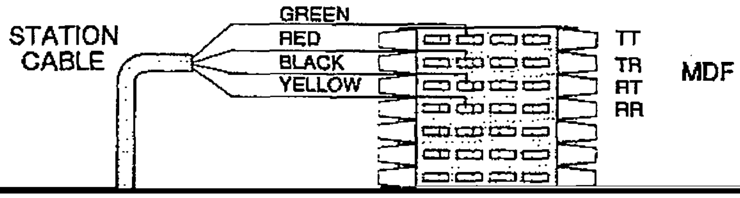
F. SLT Adapter / Off-Premise Extension Module (OPX)

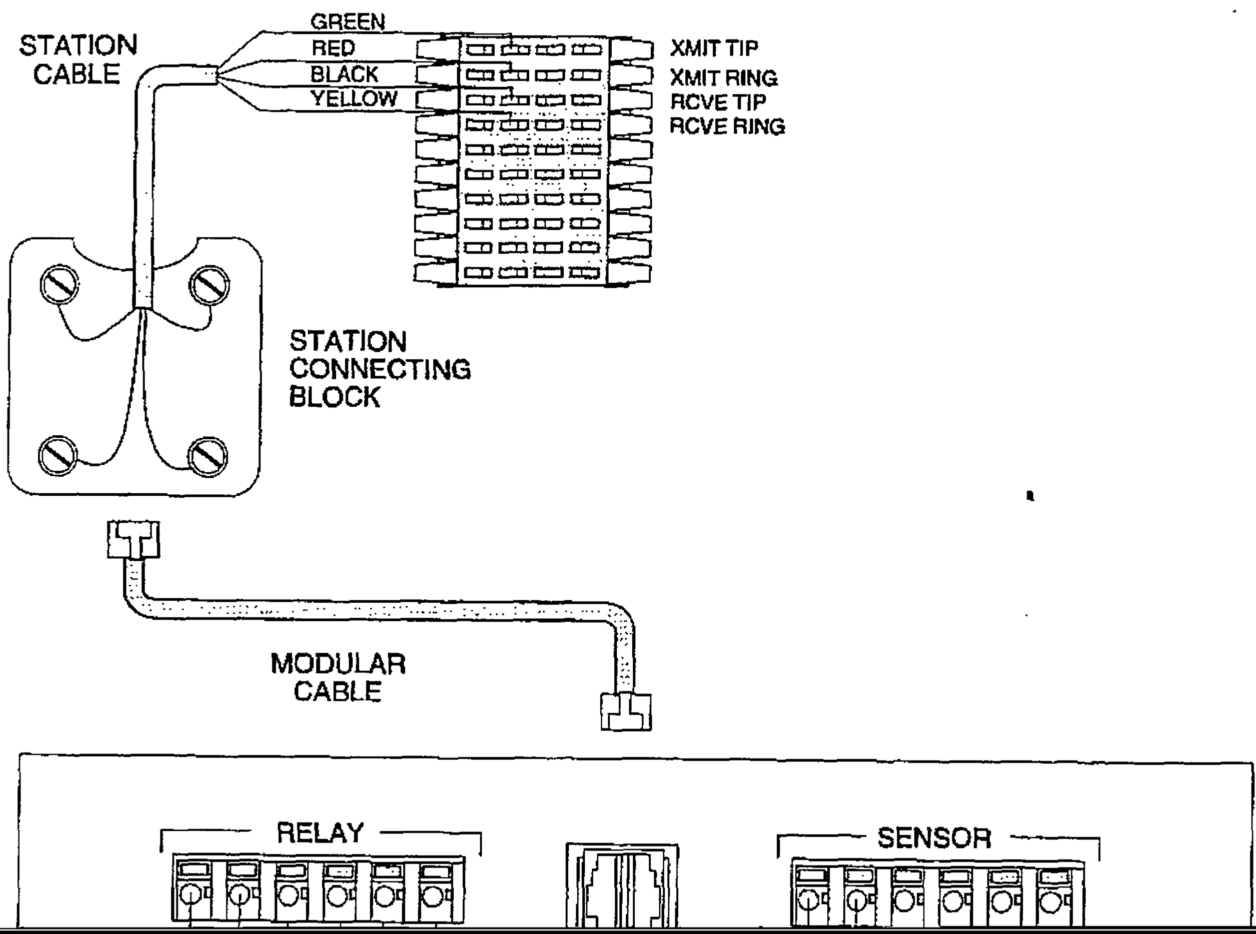
This external module provides the interface for one long loop (OPX) single line telephone (2500 type) extension. This mod-



33-Button Wall Mount Bracket




STATION CABLE
GREEN
RED
BLACK
YELLOW
TT
TR
RT
RR
MDF


STATION CABLE
GREEN
RED
BLACK
YELLOW
XMIT TIP
XMIT RING
RCVE TIP
RCVE RING
STATION CONNECTING BLOCK
MODULAR CABLE
RELAY
SENSOR

Refer to Station Attributes Programming, 730.2, Station Identification for programming the Station ID of the Digital Data Interface Unit (DDIU). Also refer to Sec. 730.3, Digital Data Interface Unit (DDIU) for programming the parameters of the Digital Data Interface Unit (DDIU).

4. Make certain that the nicad battery is set to "ON". Switch J3 on the DVX II Central Processor Board (CPB).
5. Make sure that plug-ended MDF cables connected to the KSU are secure and are plugged into the correct position.

Table 600-1 Power Supply Tests

VOLTAGE DESIGNATIONS	VOLTAGE READING	TEST POINT LOCATION	REMARKS
117 VAC	+117 VAC ±10%	Commercial Power Source	

The power supply is pre-set at the time of manufacturing, but should be checked at system initialization with a digital volt meter having an accuracy of ±1%.

Codes) associated with system, station, and CO line features as well as enter specific data that requires a numeric entry. Flexible buttons are used to toggle on or off features or allow entry into specific data fields. LED's and the LCD display provide visual indication of entered data and their value.

Programming can also be performed by using an ASCII terminal, or a computer capable of emulating an ASCII terminal. This form of programming can be done either locally (on-site) by connecting the terminal directly to the RS-232C connector on the CPB or can be performed remotely (off-site) through the use of the on-board modem located on the CPB. The method

was made.

When this occurs, re-enter the data field and re-enter the information. Until new data is entered and accepted, the system will continue to operate under default or previously entered values.

The system database is updated on a real-time basis as new data is entered, by pressing the Hold button. The system continues to operate with the current database and is updated with any newly entered or changed data without interruption to telephone operation or call processing in progress. However, if for example a station's attributes are changed while that sta-

data field is entered but nothing is changed, or changed but not entered, the previous data will remain intact upon leaving that data field. Data

When using a data terminal (I/O device) to program the system, the following chart presents the data terminal characters that are equivalent to the keyset buttons.

```
adm>?
 REMOTE ADMIN KEY DEFINITIONS

 Keyset Term  Keyset    Term Keyset     Term
 ------------------------------------------
 0       0    FLEX 1    Q    FLEX 11    A
 1       1    FLEX 2    W    FLEX 12    S
 2       2    FLEX 3    E    FLEX 13    D
 3       3    FLEX 4    R    FLEX 14    F
 4       4    FLEX 5    T    FLEX 15    G
 5       5    FLEX 6    Y    FLEX 16    H
 6       6    FLEX 7    U    FLEX 17    J
 7       7    FLEX 8    I    FLEX 18    K
```

tinue to function normally.

700.3 PROGRAM MODE ENTRY (Data Terminal or PC)

A data terminal connected to the RS-232C port on the CPB or remotely through the on-board modem can be used for database programming.

When using a data terminal (ASCII or PC capable of emulating an ASCII terminal) on-site or locally, to program the System:

a. Press the [Enter] key on the terminal.

b. Enter the password [VODAVI], and press return again. Proper entry of the password will result in the ADM> prompt. Proceed with programming referring to Figure 700-1 for terminal characters that represent the keyset buttons. By entering a [?] from the terminal, a HELP screen will appear.

When entering the system remotely via a data

e. Repeat from step a. until all data has been entered into memory.

700.5 INITIALIZATION

The system has been pre-programmed with certain features which are called default data (Refer to Table 700-1). These features are loaded into memory when the system is initialized.

NOTE	***The system should be initialized when installed or at any time the database has been corrupted.***

Use the procedures below to return the system database to default values:

a. Enter the programming mode.

b. Press FLASH button and dial [80].

c. Press the System Reset flexible button (Button #8).

d. Press HOLD button to initialize the system

700.6 CUSTOMER DATA WORKSHEETS

Before any attempt at programming is made, it is strongly recommended that customer data worksheets be prepared (Refer to Appendix A). These worksheets should become part of the permanent record of customer programming. Refer to the following sections when preparing the worksheets.

700.7 DATA BASE FIELDS

cable from the RS-232C connector on the Central Processor Board of the DVX II System to the desired Comm Port on the Personal Computer.

NOTE ***Pins 2 & 3 on the Personal Computer end of the RS-232C serial cable MUST be reversed. Pins 6 & 20 MUST be jumpered together for proper operating of the upload/download routing .***

2. Load a communication software package

NOTE ***Maintenance Event Traces, etc.) MUST be turned off before any download is performed!***

A. Using the PC to Upload/Download thru Remote Administration

A Personal Computer must be connected to the RS-232C port on the DVX I Main Key Service Board or on the DVX II System Central Processor Board (CPB) can be used for database programming.

When entering the system remotely via a Personal Computer, access to the on-board modem is accomplished by accessing Port [199] either through a direct ringing assignment or through DISA or by being transferred to Port [199] by any internal station.

1. Connect one end of an RS-232C Serial cable from the RS-232C connector on the DVX I Main Key Service Board to the desired Comm Port on the PC.
   or
   Connect one end of an RS-232C Serial

Item J: LF Translation (upload)	None
Item K: CR Translation (download)	None
Item L: LF Translation (download)	None
PROTOCOL OPTIONS	
General Protocol Options:	
Item C: Abort xfer if CD lost	NO
NOTE: Item C appears in Procomm Plus Version 2.01 or higher	

```
1428 Digital Key-System
Eng. Ver. 2.0a15 DATE: 08/14/92  TIME: 09:11:43
ENTER PASSWORD:
```

4. Enter the password [VODAVI], and press the [Enter] key again. Proper entry of the password will result in the ADM> prompt. Proceed with programming referring to Figure 700-1 for terminal characters that represent the keyset buttons. By entering a [?] from the terminal, a HELP screen will appear. Refer to the previous screen capture and enter the information shown.
5. Enter the information on the following screen capture.

```
PROCOMM PLUS Ready!

1428 Digital Key-System
Eng. Ver. 2.0a15 DATE: 08/14/92  TIME: 14:17:12
ENTER PASSWORD:
adm>,
   ENTER PROGRAM NO
adm>86
 LOAD DATABASE ROUTINE
ENTER BUTTON NUMBER
adm>w
 DOWNLOAD DATABASE
 PRESS HOLD
adm>
```

6. Press the [Enter] key after entering the above information. Press the [Alt] + [F1] keys. This will bring up the log screen on the PC monitor. Enter a path for the database file to be sent to or press [Enter] and the database file will be sent to the destination shown in the communications package default settings area.

```
Enter log filename (CR for default):
```

7. On the PC, press the [Enter] key to begin the downloading routine. Confirmation tone will be heard when the database is completely downloaded.
8. On the PC, press the [Alt] + [F1] keys again to turn the log file off.

The download file will contain a series of ASCII strings which will contain a checksum at the end of the string. The checksum will be verified when the system receives the string back. An error in the checksum will result in rejection of the string. In addition an error message will be sent to the PC when a string is received with an error. When transmission of the download file is complete, a confirmation tone will be heard.

The following is a list of strings and the order that they will received in:

1.	DB_VERSION
2.	SYS_TIMERS
3.	DB_VERSION
4.	RELAY_BOX (1 thru 7)
5.	NIGHT_MODE
6.	HUNT_GROUP (330 thru 337)
7.	CO_LINE (1 thru 28)
8.	STATION (100 thru 155)
9.	KEYSET_BUTTONS (100 thru 155) where equipped
10.	DSS_BUTTONS (100 thru 155) where equipped
11.	UCD_GRP (550 thru 557)
12.	UCD_TIMERS
13.	VOICE_MAIL_GRP (440 thru 448)
14.	VOICE_MAIL_OUTPULSE
15.	ALLOW_TABLE_A
16.	ALLOW_TABLE_B
17.	DENY_TABLE_A
18.	DENY_TABLE_B
19.	OFFICE_CODE_TABLE
20.	AREA_CODE_TABLE
21.	3_DIGIT_ROUTE_TABLE
22.	6_DIGIT_ROUTE_TABLE (table entry)
23.	EXCEPTION_CODE_TABLE
24.	ROUTE_LIST_TABLE (table entry)
25.	INS/DEL_TABLE (table entry)
26.	DAILY_START_TABLE
27.	WEEKLY_START_TABLE
28.	ROUTE_FOR_555-1212

29.	SYSTEM_SPEED_BIN
30.	STA_SPEED_BIN (station 100 thru 155)
31.	SPEED_DIR (directory entry)
32.	ICLID_TRANS_TABLE (trans table entry)
33.	ICLID_UAC_TABLE (uac table entry)
34.	SPECIAL_TABLE
35.	PORT_TO_STATION
36.	PORT_TO_CO LINE
37.	STATUS_REQUEST
38.	END_OF_FILE

Forward and backward compatibility will be maintained. If the file being uploaded from the PC contains less information in a string then is required by the system database, the system will maintain default information in the area not covered by the string. If the file being uploaded from the PC contains more information in a string than is required by the system database, the system will ignore the additional information.

To upload a database file:

1. On the PC, enter the following information after the first ADM> prompt. Then press the [Enter] key.

```
PROCOMM PLUS Ready!

1428 Digital Key-System
Eng. Ver. 2.0a15 DATE: 08/14/92  TIME: 16:11:06
ENTER PASSWORD:
adm>,
    ENTER PROGRAM NO
adm>86
 LOAD DATABASE ROUTINE
ENTER BUTTON NUMBER
adm>q
 UPLOAD DATABASE
 PRESS HOLD
adm>
```

2. On the PC, press the [Alt] + [C] keys to clear the screen. Press the [PgDn] key to bring up the upload screen. Enter an "A" to set the upload as an ASCII upload file.

3. This will bring up the ASCII upload file screen on the PC monitor.

```
Upload Protocols

X) XMODEM                        A) ASCII
2) ZMODEM                        R) RAW ASCII
Y) YMODEM (Batch)                T) TELINK
G) YMODEM-G (Batch)              M) MODEM7
O) 1K-XMODEM                     W) WXMODEM
E) 1K-XMODEM-G                   I) IMODEM
C) COMPUSERVE B+                 1) [EXT 1]
K) KERMIT                        2) [EXT 2]
S) SEALINK                       3) [EXT 3]

Your Selection:    (press ENTER for ASCII)
```

4. Enter the path for the file to be uploaded to the system and press the [Enter] key. The file will now be uploaded to the system. Confirmation tone will be heard at the completion of the upload routine. If the [Enter] key was pressed during the download routine without a filename entered, the default filename will be: PCPLUS.LOG.

```
    ENTER PROGRAM NO
adm>m
exiting admin...


DATE: 08/14/92 TIME: 16:24:53
exiting maintenance utility...
```

5. After the file is uploaded to the system, the ADM> prompt will be returned to the PC monitor. Enter an "M" at the prompt and press the [Enter] key.

6. On the PC, press the [Alt] + [X] keys. Press the [Enter] key to exit Procomm and return to the DOS prompt.

SECTION 710
SYSTEM PARAMETERS PROGRAMMING

710.1 SYSTEM TIMERS

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode. Refer to Sec. 700.2 , Program Mode Entry (Key Station).

If any System Timers are to be changed:

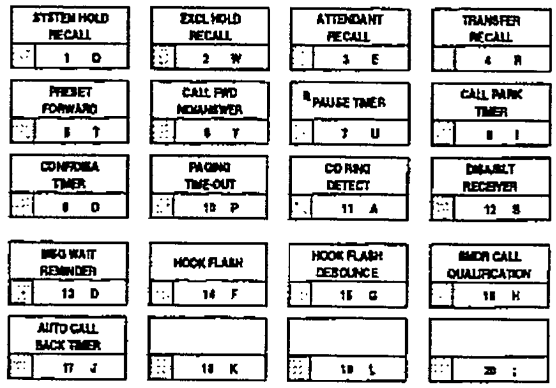
1. Press FLASH and dial [01]. The following message is shown on the display phone:

```
SYSTEM TIMERS
ENTER BUTTON NUMBER
```

Description

This section describes the procedures and steps necessary to program system timers.

The buttons on the digital terminal are defined as shown below when entering the System Timers programming.



PROGRAM CODE	FLEX BUTTON	FEATURE	DEFAULT VALUE (after initializing)
SYSTEM TIMERS:			
FLASH 01	1	System Hold Recall	060 seconds
	2	Exclusive Hold Recall	180 seconds
	3	Attendant Recall Timer	01 minutes
	4	Transfer Recall Timer	045 seconds
	5	Preset Forward Timer	10 seconds
	6	Call Forward No Answer	015 seconds
	7	Pause Timer	2 seconds
	8	Call Park Timer	180 seconds
	9	Conference/DISA Timer	10 minutes
	10	Paging Timeout Timer	15 seconds
	11	CO Ring Detect Timer	300 milliseconds
	12	SLT DTMF Receiver Timer	020 seconds
	13	MSG Wait Reminder Tone	000 minutes
	14	SLT Hook-flash Timer	10 (1 seconds)
	15	SLT Hook-flash Debounce	010 (.1 second)
	16	SMDR Call Qualification Timer	30 seconds
	17	Auto Call Back Timer	00 seconds (disabled)

SYSTEM TIMERS (Cont'd)

A. System Hold Recall Timer

Programming Steps

If this timer is to be changed:

1. Press the SYSTEM HOLD RECALL TIMER flexible button (Button #1). The following message is shown on the display phone:

```
SYS HOLD RECALL        000-300
              060
```

2. Enter a three-digit timer value on the dial pad which corresponds to 001-300 seconds.

Description

This timer determines the amount of time before a call placed on System Hold will recall the station placing the hold. If unanswered by that station, the call will recall the attendant.

Default: By default, the System Hold Recall Timer is set for 60 seconds and is variable from 001 to 300 seconds.

An entry of 000 will disable the timer and there will be no recall.

Related Programming: Refer to Sec. 710.2, Hold Preference for selecting System Hold Preference; Refer to Sec. 710.3, Attendant Station

```
EXC HOLD RECALL        000-300
              180
```

2. Enter a three-digit timer value on the dial pad which corresponds to 001-300 seconds.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Timer is set for 180 seconds and is variable from 001 to 300 seconds.

An entry of 000 will disable the timer and there will be no recall.

Related Programming: Refer to Sec. 710.2, Hold Preference for selecting Exclusive Hold Preference; Refer to Sec. 710.3, Attendant Station Assignment for assigning the Attendant(s) to receive recalls.

SYSTEM TIMERS (Cont'd)

C. Attendant Recall Timer

Programming Steps

If this timer is to be changed:

1. Press the ATTENDANT RECALL TIMER flexible button (Button #3). The following message is shown on the display phone:

```
ATND RECALL TIMER        00-60
            01
```

2. Enter a two-digit timer value on the dial pad which corresponds to 00-60 minutes.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

This timer determines the amount of time a recalling call will ring at the attendant station(s) before the system will release the line.

When a CO Line recalls to the Attendant station and is still unanswered, the system will release the line at the expiration of this timer and automatically place the line back to an idle condition.

Default: By default, the Attendant Recall Timer is set for 1 minute and is variable from 00 to 60 minutes.

An entry of 00 will cause the Attendant(s) to ring until answered.

Related Programming: Refer to Sec. 710.3, Attendant Station Assignment; Refer to Sec.

sage is shown on the display phone:

```
TRANSFER RECALL        000-300
            045
```

2. Enter a three-digit timer value on the dial pad which corresponds to 001-300 seconds.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

This timer determines the amount of time a transferred call rings at the station receiving the transfer before it recalls the station making the transfer. If unanswered by that station, the call recalls the attendant.

Default: By default, the Transfer Recall Timer is set for 45 seconds and is variable from 001 to 300 seconds.

A 000 entry disables the timer and there will be no recall.

Related Programming: Refer to Sec. 710.3, Attendant Station Assignment for assigning the Attendant(s) to receive recalls.

SYSTEM TIMERS (Cont'd)

E. Preset Forward Timer

Programming Steps

If this timer is to be changed:

1. Press the PRESET FORWARD TIMER flexible button (Button #5). The following mes-

Description

This timer determines the amount of time an outside line will ring before being forwarded to a predetermined station. This entry works with Preset Forward station assignments in Station Forward Programming for instruction on assigning a preset forward destination to a station.

F. Call Forward No/Answer Timer

Programming Steps

If this timer is to be changed:

1. Press the CALL FORWARD NO/ANSWER TIMER flexible button (Button #6). The following message is shown on the display phone:

```
CALL FWD NO ANS        000-600
          015
```

2. Enter a three-digit timer value on the dial pad which corresponds to 000-600 seconds.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

This timer is used when a station in the system specifies that "no answer" calls be forwarded to another station. The timer determines how long an intercom or transferred call will ring before it is considered a "no-answer" call. The call will then forward to the designated station for handling.

NOTE	***Initial incoming CO lines will follow the Preset Call Forward Timer when encountering a station in the Forward/No answer mode. Refer to Section 710.1 for instructions on setting the Preset/Forward Timer***

Default: By default, the Call Forward No/Answer Timer is set for 15 seconds and is variable from 000-600 seconds.

Related Programming: Refer to Sec. 710.1, System Timers, Preset Forward Timer; Refer to 730.1, Station Attributes Programming, Call Forwarding option.

SYSTEM TIMERS (Cont'd)

G. Pause Timer

Programming Steps

If this timer is to be changed:

1. Press the PAUSE TIMER flexible button (Button #7). The following message is shown on the display phone:

```
PAUSE TIMER        1-9
          2
```

2. Enter a one-digit timer value on the dial pad which corresponds to 1-9 seconds.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

This timer determines the length of the pause when programmed for use with speed dialing and LCR Insert Tables.

Default: By default, the Pause Timer is set at 2 seconds and is variable from 1 to 9 seconds. There is no 0 entry.

H. Call Park Recall Timer

Programming Steps

If this timer is to be changed:

1. Press the CALL PARK RECALL TIMER flexible button (Button #8). The following message is shown on the display phone:

```
CALL PARK TIMER        000-600
          180
```

2. Enter a three-digit timer value on the dial pad which corresponds to 001-600 seconds.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

This timer determines the amount of time before a call placed in the call park location will recall the station placing the call park. If unanswered by that station, the call will recall the attendant.

Default: By default, the Call Park Recall Timer is set at 180 seconds and is variable from 001 to 600 seconds.

A 000 entry disables the timer and there will be no recall.

Related Programming: Refer to Sec. 710.3, Attendant Station Assignment for assigning the Attendant(s) to receive recalls.

SYSTEM TIMERS (Cont'd)

I. Conference/DISA Timer

Programming Steps

If this timer is to be changed:

will now update.

Description

This timer determines the amount of time an

one minute later the system will automatically release both trunks. The Conference Timer does not affect or control a DISA-to-Station call.

Related Programming: Refer to Sec. 720, CO Line Programming for DISA Trunk-to-Trunk (Per CO Line) programming; Loop Supervision Programming; and DISA Programming. Also refer to Sec. 730.1, Station Attributes Programming, Conference Enable/Disable (Per Station) option.

J. Paging Timeout Timer

Programming Steps

If this timer is to be changed:

1. Press the PAGING TIMEOUT TIMER flexible button (Button #10). The following message is shown on the display phone:

```
PAGING TIME-OUT          00-60
            15
```

2. Enter a two-digit timer value on the dial pad which corresponds to 01-60 seconds.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

This timer determines the maximum length of a page announcement (internal, external or all call). The system will automatically disconnect the page at the end of this time unless the person making the page has already hung up.

Default: By default, the Paging Timeout Timer is set at 15 seconds and is variable from 01 to 60 seconds.

A 00 entry disables the timer and pages will not be limited in length.

Related Programming: Refer to Sec. 730.1, Station Attributes Programming for allowing stations access to the system paging resources.

SYSTEM TIMERS (Cont'd)

K. CO Ring Detect Timer

Programming Steps

If this timer is to be changed:

1. Press the CO RING DETECT TIMER flexible button (Button #11). The following message is shown on the display phone:

```
CO RING DETECT          2-9
            3
```

2. Enter a one-digit timer value on the dial pad which corresponds to 2 (200 msec) -9 (900 msec.) milli-seconds.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

This timer controls the time necessary to detect an outside line as ringing into the system.

Default: By default, the CO Ring Detect Timer is set at 3 (300 msec), and is variable from 2 (200) msec. to 9 (900) msec. There is no 0 or 1 entry.

L. SLT DTMF Receiver Timer

Programming Steps

If this timer is to be changed:

1. Press the SLT DTMF RECEIVER TIMER flexible button (Button #12). The following message will be shown on the display.

```
SLT RCVR TIMER        005-100
            020
```

2. Enter a three-digit timer value on the dial pad which corresponds to 005-100 seconds.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

Single line telephones require the use of a DTMF receiver when going off-hook and dialing. When SMDR or toll restriction, (via COS assignments) is enabled in the system a DTMF receiver will monitor and screen an SLT's digits for the duration of this timer. By adjusting this timer the system administrator may either free up system DTMF receivers sooner if system SLT traffic is heavy or provide for a longer monitoring period if toll restriction becomes a problem. It should be understood that when LCR is enabled the DTMF receivers are released when the expected number of digits are dialed as entered in the LCR database.

Default: By default, the SLT DTMF Receiver Timer is set at 20 seconds and is variable from 005 to 100 seconds.

Related Programming: Refer to Sec. 710.10, SMDR Programming; Sec. 720.1, CO Line Programming, Class of Service (COS) Programming; Sec. 730.1, Station Attributes Programming, Station Class of Service (COS) options. Also refer to Sec. 765.1, LCR Tables Programming.

SYSTEM TIMERS (Cont'd)

M. Message Wait Reminder Tone

Programming Steps

If this feature is to be changed:

1. Press the MESSAGE WAIT REMINDER TONE flexible button (Button #13). The following message is shown on the display phone:

```
M/W TONE TIMER          000-104
            000
```

2. Enter a three-digit timer value on the dial pad which corresponds to 000 to 104 minutes.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

This timer determines the amount of time between repeated reminder tones to a key telephone with a message waiting.

Digital key station users may be reminded of a message waiting on their telephone with an audible signal presented at a timed interval.

Default: By default, the Message Wait Reminder Tone is set at 000 (disabled) and is variable from 000 to 104 minutes.

N. SLT Hook Flash Timer

Programming Steps

If this timer is to be changed:

1. Press the SLT HOOK FLASH TIMER flexible button (Button #14). The following message is shown on the display phone:

```
HOOK SWITCH TIME        05-20
            10
```

2. Enter a two-digit timer value on the dial pad which corresponds to 0.5-2.0 seconds.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

This timer determines how long an SLT user should press the hook switch in order for it to be considered a valid on hook (disconnect) request. An on-hook shorter in duration (but longer than the Hook Switch Bounce Timer) will be considered a Hook Flash (transfer) request. Refer to Figure 710-1 Hook Switch Activity.

Default: By default, the SLT Hook Flash Timer is set at 10 (one second) as is variable from 0.5 (05) seconds to 2.0 (20) seconds.

NOTE	*Some Single Line telephones have a fixed or programmable Flash Timer (Flash or Tap button). This Hook Switch Timer (DVX[I] and DVX[II] Timer) must be set longer than the SLT Flash timer to allow Hook Flash transfer.*

SYSTEM TIMERS (Cont'd)

O. SLT Hook Flash Debounce Timer

Programming Steps

If this timer is to be changed:

1. Press the SLT HOOK FLASH DEBOUNCE TIMER flexible button (Button #15). The following message is shown on the display phone:

```
HOOK SWT BOUNCE          000-100
              010
```

2. Enter a three-digit timer value on the dial pad which corresponds to 0-1 second in 10 msec increments.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

This timer determines the length of time that is needed to determine a valid on-hook or off-hook condition for single line telephones. On-Hook or Off-Hook signals that are shorter in duration than this timer will be ignored by the system. Refer to Figure 710-1 Hook Switch Activity.

Default: By default, the SLT Hook Flash Debounce Timer is set to 0.10 sec. and is variable from 0 to 1 second in 10 msec increments. This entry is a three-digit entry where 010 equals .1 second.

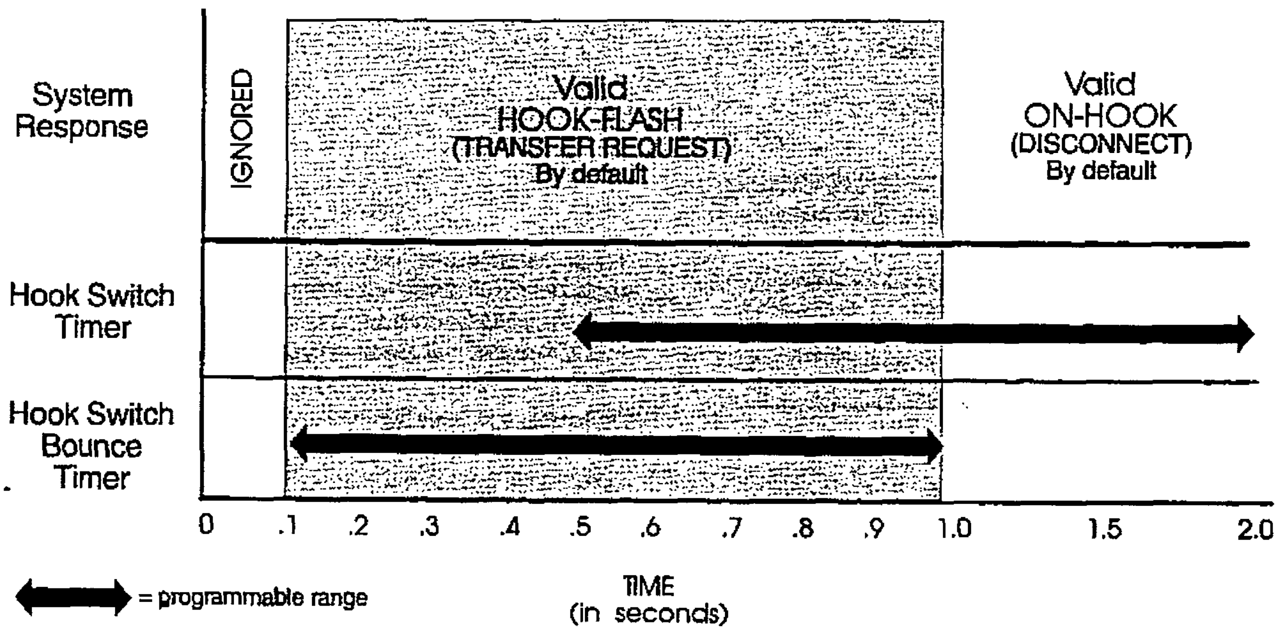


Figure 710-1 Hook Switch Activity

SYSTEM TIMERS (Cont'd)

P. SMDR Call Qualification Timer

Programming Steps

If this timer is to be changed:

1. Press the SMDR CALL QUAL TIMER flexible button (Button #16). The following message is shown on the display phone:

SMDR CALL QUAL	00-60
30	

2. Enter a two-digit timer value on the dial pad which corresponds to 00-60 seconds in 1 sec increments.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

This timer determines the length of time that is needed to determine a valid SMDR call for SMDR reporting purposes.

Default: By default, the SMDR Call Qualification Timer is set to 30 sec. and is variable from 00 to 60 seconds in 1 sec increments.

Q. Automatic Call Back Timer

Programming Steps

If this timer is to be changed:

1. Press the AUTO CALL BACK TIMER flexible button (Button #17). The following message is shown on the display phone:

AUTO CALL BACK	00-99
00	

2. Enter a two-digit timer value on the dial pad which corresponds to 00-99 seconds in 1 sec increments.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

To accommodate the reduced number of buttons on the *infinite* 8-button keyset, a Call Back Feature has been added to system. This feature will invoke a call back anytime a user listens to busy tone for a preset period of time.

Default: By default, the Automatic Call Back Timer is set for 00 seconds (disabled), and is variable from 00 to 99 seconds.

An Automatic Call Back will not occur when this timer is disabled.

710.2 SYSTEM FEATURES PROGRAMMING

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode. Refer to Sec. 700.2, Program Mode Entry (Key Station)

If any System Features are to be changed:

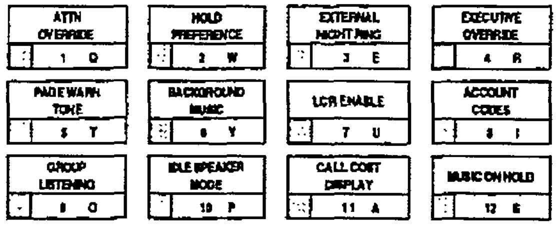
1. Press FLASH and dial [05]. The following message is shown on the display phone:

```
SYS_FEAT AO SY ENR EO PW
BGM LCR AC G S CG MH
```

Description

This section describes the procedures and steps necessary to program System Features.

The buttons on the digital terminal are defined as shown below when entering the System Features programming area.



PROG CODE	FLEX BTN	FUNCTION	DEFAULT	CUSTOMER DATA
FLASH 05	1	Attendant Override	Disabled	
	2	Hold Preference	System	
	3	External Night Ring	Disabled	
	4	Executive Warning Tone	Enabled	
	5	Page Warning Tone	Enabled	
	6	Background Music	Enabled	
	7	LCR Enable	Disabled	
	8	Account Codes	Disabled	
	9	Group Listening	Disabled	
	10	Idle Speaker Mode	Yes	
	11	Call Cost Display Feature	Disabled	
	12	Music On Hold	Enabled	
FLASH 10		Attendant Station Assignment	100	
FLASH 11	1-4	Time/Date Format	12 HR:M/D	
FLASH 12	1-5	PBX Dialing Codes	None	
FLASH 13	1	Exec/Secy Pair 1	None	
	2	Exec/Secy Pair 2	None	
	3	Exec/Secy Pair 3	None	
	4	Exec/Secy Pair 4	None	
FLASH 14	1-7	Page/Contact Programming	None	
FLASH 15	1	Port #1 ("On-Board" RS-232C)	2400	
	2	Port #2 ("On-Board Modem)	300	
	3	Port #3 (I/O Expander Module RS-232C		
	4	Port #4 (I/O Expander Module RS-422)		

PROG CODE	FLEX BTN	FUNCTION	DEFAULT	CUSTOMER DATA
FLASH 21	1	SMDR Enable/Disable	Disabled	
	2	Call Type	LD Only	
	3	Print Columns	80	
	4	Baud Rate	2400	
	5	Port	1	
FLASH 22	1	Night Mode Operation Auto/Manual	Manual	
	2	ANM Schedule - Monday	0	/
	3	ANM Schedule - Tuesday	1	/
	4	ANM Schedule - Wednesday	2	/
	5	ANM Schedule - Thursday	3	/
	6	ANM Schedule - Friday	4	/
	7	ANM Schedule - Saturday	5########	/
	8	ANM Schedule - Sunday	6########	/
FLASH 23	1-4	Directory Dialing Table		

SYSTEM FEATURES (Cont'd)

A. Attendant Override

Programming Steps

If this feature is to be changed:

1. Press the ATTN OVERRIDE flexible button (Button #1). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED off = Attendant Override is disabled
   - LED on = Attendant Override is enabled
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
SYS_FEAT AO SY ENR EO PW
BGM LCR AC G S CC MH
```

Description

When this feature is enabled, it allows the attendant to override a busy station or a station in DND.

Default: By default, Attendant Override is disabled.

Related Programming: Refer to Sec. 710.3, Attendant Station Assignment for designating a station as an Attendant.

NOTE	***Attendant override will function ONLY when the Attendant station is assigned a flex button assigned as Attendant Override.***

B. Hold Preference

Programming Steps

If this feature is to be changed:

1. Press the HOLD PREF flexible button (Button #2). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED off = Exclusive Hold is preferred
   - LED on = System Hold is preferred
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
SYS_FEAT AO SY ENR EO PW
BGM LCR AC G S CC MH
```

Description

The system may be programmed to have either Exclusive or System Hold preferred. If Exclusive Hold is preferred, the user will press the HOLD button once for Exclusive Hold and twice for System Hold. If System Hold is preferred, the user will press the HOLD button once for System Hold and twice for Exclusive Hold.

Refer to System Timer programming for recall times for both System and Exclusive Hold.

Default: By default, Hold Preference is System Hold.

Related Programming: Refer to Sec. 710.1, System Timers for the System Hold Recall Timer and Exclusive Hold Recall Timer.

SYSTEM FEATURES (Cont'd)

E. Page Warning Tone

Programming Steps

If this feature is to be changed:

1. Press the PAGE WARN TONE flexible button (Button #5). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = Page Warning Tone is enabled
   - LED off = Page Warning Tone is disabled
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
SYS_FEAT  AO  SY  ENR  EO  PW
BGM  LCR  AC  G  S  CC  MH
```

Description

Determines whether a page warning tone will be sounded over the Key Telephone speakers or external paging speakers, prior to a page announcement.

Default: By default, Page Warning Tone is enabled.

Related Programming: Refer to Sec. 730.1, Station Attributes Programming for Paging Access and Page Group Assignments.

F. Background Music Channel

Programming Steps

If Background Music is to be enabled/disabled:

1. Press the BACKGROUND MUSIC flexible button (Button #6). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = Background Music is enabled

Description

The system can be programmed to allow stations to activate Background Music at their stations, in addition to Music-On-Hold. A music source must be connected to the BGM/MOH connector on the CPU.

Default: By default, the Background Music

SYSTEM FEATURES (Cont'd)

I. Group Listening

Programming Steps

If Group Listening is to be assigned:

1. Press the GROUP LISTENING flexible button (Button #9). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = Group Listening is enabled
   - LED off = Group Listening is disabled
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
SYS_FEAT  AO  SY  ENR  EO  PW
BGM  LGR  AC  G  S  CG  MH
```

Description

All digital key terminals have built-in speakerphones. Station users may use the speaker to monitor a call while using the handset to converse with the outside party. This enables other people in the room to listen to both parties in the conversation. Group listening is not available when the station is in the headset mode.

Default: By default, Group Listening is disabled.

J. Idle Speaker Mode

Programming Steps

If the speaker mode needs to be assigned.

1. Press the IDLE SPEAKER MODE flexible button (Button #10). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = 1st digit dialed is heard.
   - LED off = 1st digit dialed is muted.
2. Press the HOLD button to save the entry. Confirmation tone is heard.

Description

This feature allows the system to determine whether the first digit dialed is heard over the digital key terminal speaker. This feature can be allowed or denied on a system-wide basis in programming.

Default: By default, idle speaker mode is disabled.

MISC. SYSTEM PARAMETERS

710.3 ATTENDANT STATION ASSIGNMENT

Programming Steps

If Attendant Station(s) are to be changed:

a. Press FLASH and dial [10]. The following message is shown on the display phone:

```
ATND STA ASSIGNMENT
100, ###, ###
```

b. Enter up to three three-digit station number(s) on the dial pad.

c. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

The system will identify an attendant station for the purpose of receiving recalls and activating night service. The system can have up to three attendant(s) programmed.

Entering three pounds [###] will remove that attendant assignment or different station numbers can be programmed.

Default: By default, Station 100 is assigned as the first attendant.

Related Programming: Refer to Sec. 710.1, System Timers for the System Hold Recall Timer, Exclusive Hold Recall Timer, Call Park Recall Timer, and Attendant Recall Timer; Sec. 710.2, System Features Programming, Attendant Override; Sec. 710.11, Weekly Night Mode Schedule programming.

710.4 SYSTEM TIME AND DATE

Programming Steps

To set the time and date which appears on

and date as follows (twelve digits):

YYMMDDHHMMSS

d. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

NOTE	*The Time and Date can be changed or set by the First Attendant station using dial code [692]*

Description

The date can be displayed in either the US

lowing data:

- YY (year) = 00 to 99
- MM (month) = 01 to 12
- DD (day) = 01 to 31
- HH (hour) = 00 to 23
- MM (minute) = 00 to 59
- SS (second) = 00 to 59 (optional)

Default: By default, the date is set for month/day format and the time is in the 12 hour format.

Related Programming: Sec. 420.18, Setting System Time and Date from the first programmed attendant; Sec. 710.3, Attendant Station Assignment.

MISC. SYSTEM PARAMETERS (Cont'd)

710.5 PBX DIALING CODES

Programming Steps

If PBX Dialing Codes are to be assigned:

a. Press FLASH and dial [12]. The following message is shown on the display phone:

```
PBX DIAL CODES
##, ##, ##, ##, ##
```

b. Enter five two-digit code numbers, one right after the other, on the dial pad up to a maximum of ten digits.

c. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

Five one or two-digit PBX access codes can be programmed into memory. When dialed, these codes signal the system so that toll restriction is applied at the next dialed digit. When a single digit code [9] is entered, it must be followed by the pound [#] as the second digit.

To delete an entry, enter two pounds [##] and press the HOLD button.

Lines must be programmed as PBX lines before these codes will apply.

Default: By default, no PBX dialing codes are assigned.

Related Programming: Refer to Sec. 720, CO Line Programming for assigning a CO Line(s) as PBX Line(s).

710.6 EXECUTIVE/SECRETARY PAIRS

Programming Steps

If Executive/Secretary pairs are to be assigned:

a. Press FLASH and dial [13]. The following message is shown on the display phone:

```
EXEC SECY PAIRINGS
###,###     PAIR 1
```

b. The top left button in the flexible button field will be lit indicating the first pair may be programmed.

c. Enter the three-digit Executive station number.

d. Enter the three-digit Secretary station number.

e. Press the HOLD button to save the data. Confirmation tone is heard and the display will now update.

f. To program a second pair, press the second flexible button in the flexible button field and enter station numbers as in steps c., d., and e.

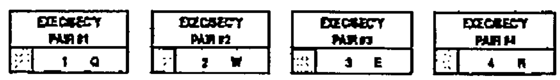
g. To program a third pair, press the third button in the flexible button field and enter station numbers as in steps c., d., and e.

h. To program a fourth pair, press the fourth button in the flexible button field and enter station numbers as in steps c., d., and e.

Description

There are four Executive/Secretary pairs available. When an Executive station is busy or in DND, intercom calls and transfers will be automatically routed to the designated Secretary.

The buttons on the key telephone are defined as shown below when entering the Executive/Secretary programming area:



The assigned secretary may, however, Camp-On to the Executive Station when the station is busy or in Do-Not-Disturb.

There can be only one pairing of stations, with no duplicates. You cannot pair Executive 100 to Secretary 101 and then pair Secretary 101 to Executive 100. You can have the same Secretary station for more than one Executive station (101 to 105 and 102 to 105).

An entry of six pounds [######] will remove the assignments. Individual pairs may be changed by pressing the associated flexible button.

Default: By default, no Exec/Sec'y pairs are assigned.

"On-Board" relay programming. The following message is shown on the display phone:

```
ON BOARD RELAY PROG
RELAY 1 = NONE
```

To program "On-Board" relays:

a. Press the "On-Board" Relays (Flex Button #11) to indicate the system is in the "On-Board" relay programming mode.

b. Press the desired flex button that corresponds to the relay to be programmed and follow the steps outlined in the following section.

To program relays on the Relay/Sensor Module:

a. Press the appropriate flex button 12 thru 15 to indicate which Relay/Sensor Interface Module is to be programmed.

b. Press flex buttons (1-3) to indicate the relay to be programmed.

To program Sensing circuits on a Relay/Sensor Module:

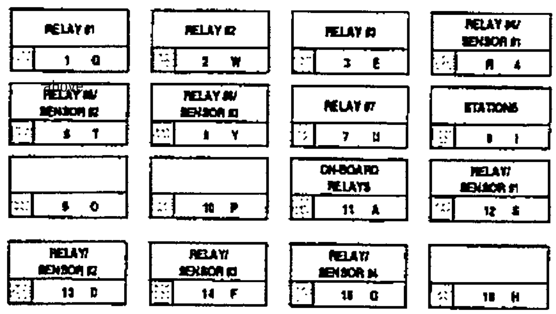
a. Press the appropriate flex button 12 thru 15 to indicate which Relay/Sensor Interface Module is to be programmed.

b. Press flex buttons (4-6) to select the sensing circuit to be programmed.

It is necessary to assign a station number

interface modules may be installed on either system. Each Relay/Sensor Interface module contains three independent relays and three sensing input circuits. In addition, the DVX II 4x8 Key Interface boards (CKB) each contain a Relay Contact (for up to seven "on-board" relays) that may also be assigned to any of the functions mentioned above.

The buttons on the digital terminal are defined as shown below when entering the Relay/Sensor programming area:



Where:

- Button #11 = On-Board Relay programming (Relays on the 4x8 Key Interface Board (CKB)
- Button #12 = Relay/Sensor Interface Module #1 programming
- Button #13 = Relay/Sensor Interface Module #2 programming
- Button #14 = Relay/Sensor Interface Module #3 programming
- Button #15 = Relay/Sensor Interface

RELAY/SENSOR PROGRAMMING (Cont'd)

A. Programming relay for External Paging:

Programming Steps

1. Press the flex button that corresponds to the desired relay to be programmed.
2. Dial [1] on the dial pad.
3. Enter a one-digit page zone number (1-4)
4. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

```
ON BOARD RELAY
RELAY 1 = EXT PAGE ZGX
```

Where:

- X= Page Zones 1 thru 4

Description

EXTERNAL PAGE RELAY: When assigning a relay as an External Page relay, the relay will activate when the external page zone the relay is assigned to is accessed. The relay will remain activated during the page announcement until the station hangs up or the page timer expires and releases the page zone.

To disable a relay or sensor circuit:

a. Press the desired flex button that corresponds to the relay or sensor circuit to be disabled.
b. Dial [0] on the dial pad.
c. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

B. Programming relay for RAN Starting:

Programming Steps

1. Press the flex button that corresponds to the desired relay to be programmed.
2. Dial [2] on the dial pad.
3. Enter a one-digit RAN Table number (1 thru 8) the relay should be associated to.
4. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

```
ON BOARD RELAY
RELAY 1 = RAN START X
```

Where:

- X= RAN Table number

Description

RAN START RELAY: When a CO line port is used for a ground start application, a 24V dc power source must be connected to the CO line port for talk battery. A Loud Bell Control contact assigned to that CO line port in programming would provide contact closure to start the Recorded Announcement device.

When an SLT port is used, the RAN device must be configured for ring trip operation (loop start). The 90V ac voltage sent to the SLT port will be recognized by the RAN device which will then answer the call.

To disable a relay or sensor circuit:

a. Press the desired flex button that corresponds to the relay or sensor circuit to be disabled.
b. Dial [0] on the dial pad.
c. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Related Programming: Refer to Sec. 740.1, Automatic Call Distribution (ACD), ACD Recorded Announcement Assignment(s); or Sec. 745.1, Uniform Call Distribution (UCD), UCD Recorded Announcement Assignment(s) for RAN Table programming.

RELAY/SENSOR PROGRAMMING (Cont'd)

C. Programming relay for Power Failure Transfer:

Programming Steps

1. Press the flex button that corresponds to the desired relay to be programmed.
2. Dial [3] on the dial pad.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

```
ON BOARD RELAY
RELAY 1 = POWER FAIL
```

Description

POWER FAILURE TRANSFER: When the *infinite* Power Failure Transfer Unit is used for Power Failure, it provides the relay transfer circuits for up to 12 CO lines in the event of a power or processor failure. Activation of the PFT relays is controlled by a multi-use relay on any 4x8 Key Interface Board (CKB) or Relay/Sensor Module. A customer provided 12 volt DC power supply is required to operate the unit.

With loss of power to the system or a failure of system processing, the PFTU will automatically connect up to twelve (12) CO lines to pre-wired 500/2500 type telephones. When power is restored, the PFTU will automatically restore the CO trunks and stations to normal operation. These SLT stations do not have to be used for intercom, but can be if so desired.

To disable a relay or sensor circuit:

a. Press the desired flex button that corresponds to the relay or sensor circuit to be disabled.
b. Dial [0] on the dial pad.
c. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

RELAY/SENSOR PROGRAMMING (Cont'd)

D. Programming relay for Loud Bell Control:

Programming Steps

1. Press the flex button that corresponds to the desired relay to be programmed.
2. Dial [4] on the dial pad.
3. Enter the three-digit station number (100-155)
4. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

```
ON BOARD RELAY
RELAY 1 = LOUD BELL XXX
```

Where:

- XXX= Station number

Description

LOUD BELL CONTROL: There are three control contacts on the Relay/Sensor Module, which can be individually programmed as Loud Bell Control to control a customer provided ringing device to external areas.

There are seven control contacts on the DVX II, which can be individually programmed as Loud Bell Control to control a customer provided ringing device to external areas. One contact for each 4x8 Key Interface Board (CKB).

Loud Bell Control contacts can be assigned to any station and will follow the ringing assignments of that station including tone ringing intercom, and transferred CO lines.

Remember to assign ringing to any station programmed for Loud Bell Control.

To disable a relay circuit:

a. Press the desired flex button that corresponds to the relay or sensor circuit to be disabled.
b. Dial [0] on the dial pad.
c. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

RELAY/SENSOR PROGRAMMING (Cont'd)

E. Programming relay for CO Line Control:

Programming Steps

1. Press the flex button that corresponds to the desired relay to be programmed.
2. Dial [5] on the dial pad.
3. Enter a two-digit CO Line number (01-28)
4. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

CO LINE CONTROL: There are three control contacts on the Relay/Sensor Module, which can be individually programmed as CO Line Control to control customer provided ancillary equipment.

There are seven control relay contacts on the DVX II, which can be individually programmed as Loud Bell Control to control customer pro-

sponds to the relay or sensor circuit to be disabled.

b. Dial [0] on the dial pad.

c. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

F. Assign Relay/Sensor Interface Module to a station:

Programming Steps

1. Press the STA flex button (Button #8).
2. Enter the three-digit station assignment of the relay sensor.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

```
RELAY/SENSOR    YYY
SENSOR 1 =      NONE
```

Where:

- YYY= Station Assignment

Description

STATION ASSIGNMENTS: The programming of this station represents the station port that the Relay/Sensor Module is associated to.

To delete a station assignment:

a. Press the STA flex button (Button #8).

b. Press the TRANSfer button.

c. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Related Programming: It is necessary to assign a station ID to the station port used for a Relay/Sensor Interface module in Sec. 730.1, Station Attributes Programming.

RELAY/SENSOR PROGRAMMING (Cont'd)

G. Program sensing circuit as a RAN Sensing (RAN END) circuit:

Programming Steps

a. Dial [6] on the dial pad.

b. Enter a one-digit RAN Table number (1-8) the sensing circuit should be associated to.

c. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

RELAY/SENSOR	YYY
SENSOR 1 =	RAN END X

Where:

- X= RAN Table number

Description

RAN SENSING (RAN END): The Recorded Announcement feature (RAN) is used with the Automatic Call Distribution (ACD) feature or the Uniform Call Distribution (UCD) feature to provide unanswered incoming CO calls or calls in queue with a Recorded Announcement while waiting for an available ACD or UCD station. The system may be programmed to provide this announcement on specified RAN output ports on the system (unused SLT and CO ports). The system can be programmed to connect the waiting caller to a different RAN port for the second, and subsequent RAN messages.

When a CO line port is used for a ground start application, a 24V dc power source must be connected to the CO line port for talk battery. A Page/Relay contact assigned to an announcement table in programming would provide contact closure to start the Recorded Announcement device.

To disable a sensor circuit:

a. Press the desired flex button that corresponds to the relay or sensor circuit to be disabled.

b. Dial [0] on the dial pad.

c. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Related Programming: Refer to Sec. 740.1, Automatic Call Distribution (ACD), ACD Recorded Announcement Assignment(s); or Sec. 745.1, Uniform Call Distribution (UCD), UCD Recorded Announcement Assignment(s) for RAN Table programming.

MISC. SYSTEM PARAMETERS (Cont'd)

710.8 BAUD RATE ASSIGNMENTS

Programming Steps

If Baud Rate(s) are to be assigned:

Description

The *infinite* Digital (DVX) Key Telephone Sys-

1 Q | 2 W | 3 E | 4 R

To program the Baud Rate(s) for Ports #1, #3 or #4:

Programming Steps

1. Press the desired PORT # flexible button (Buttons #1, #3 or #4) to determine the port to be programmed.
2. Enter a one-digit number for the Baud Rate:
   - 1= 300 Baud
   - 2= 1200 Baud
   - 3= 2400 Baud
   - 4= 4800 Baud
   - 5= 9600 Baud
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

PORT #1: Port #1 is the "On-Board" RS-232C port on either the DVX I and DVX II systems.

PORT #3: Port #3 is the RS-232C connector on the I/O Expander Module used in the *infinite* Digital Key Telephone systems.

PORT #4: Port #4 is the RS-422 connector on the I/O Expander Module used in the *infinite* Digital Key Telephone systems.

Default: By default, Port #1 (CPB RS-232C), Port #3 (RS-232C) and Port #4 (RS-422) Baud Rate(s) are 2400 Baud.

Related Programming: Refer to Sec. 710.10, SMDR Programming features; Refer to Sec. 750.1, ICLID Programming.

To verify Port #2 Baud Rate:

Programming Steps

1. Press the PORT #2 flexible button (Button #2). to verify the baud rate of the "On-Board" modem. The following message is shown on the display phone:

```
PORT  BAUD
2     300
```

Description

PORT #2: Port #2 is the "On-Board" modem which is included in either DVX I or DVX II Digital systems. The baud rate will be 300 Baud for the "On-Board" modem or 1200 Baud for the optionally installed 1200 Baud modem.

Default: By default, the "On-Board" modem Baud Rate is 300 Baud.

MISC. SYSTEM PARAMETERS (Cont'd)

710.9 ACCESS CODES

Programming Steps

If the system is in the programming mode

message is shown on the display phone:

```
ACCESS CODES
ENTER BUTTON NUMBER
```

Description

This section describes the procedures and

A. DISA Access Code

Programming Steps

If this feature is to be assigned:

1. Press the DISA ACCESS CODE flexible button (Button #1). The following message is shown on the display phone:

```
DISA ACCESS CODE
100
```

2. Enter a three-digit value on the dial pad which corresponds to the first attendant station. A maximum of 3 stations can be entered.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

This allows a three-digit access code to be assigned to the system. Anyone calling in on a DISA line must use the access code in order to gain access to system features.

To disable the DISA access code, enter three pounds (###).

Default: By default, 100 is assigned as the access code.

Related Programming: Refer to Sec. 710.1, System Timers for the Preset Forward Timer, and Conference/DISA Timer; Sec. 720.1, CO Line Programming, for DISA Trunk-to-Trunk (Per CO Line). A CO Line(s) must be assigned for DISA operation. Also refer to Sec. 720.1, CO Line Programming for CO Line Privacy and Conference options.

ACCESS CODE PROGRAMMING (Cont'd)

B. Database Admin. Password

Programming Steps

If this feature is to be assigned:

1. Press the ADMIN PASSWORD flexible button (Button #2). The following message is shown on the display phone:

```
ADMIN PASSWORD
3226
```

2. Enter a four-digit value on the dial pad which corresponds with 0000-9999.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

The password used to enter customer database programming can be individualized by each customer. This allows the system administrator to block unauthorized personnel from entering database admin.

CAUTION

Care should be taken when changing the programming password so not to "lockout" authorized personnel that may prevent or delay them from making necessary programming changes.

Default: By default, the Admin password [3226] (DBAM) is assigned.

MISC. SYSTEM PARAMETERS (Cont'd)

710.10 STATION MESSAGE DETAIL RECORDING (SMDR)

Programming Steps

If Station Message Detail Recording is to be used:

1. Press FLASH and dial [21]. The following message is shown on the display phone:

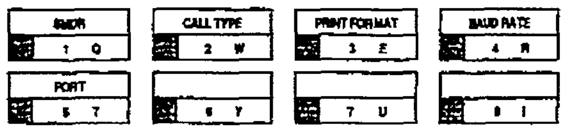
```
SDR TPE PNT BAUD PORT
NO  LD  80  2400  1
```

2. To program SMDR features, use the flexible button(s) as defined in the following procedures.
3. The SMDR, TYPE, and PRINT features will toggle on and off with each depression, and the display will update with each depression.
4. After all entries are made, press the HOLD button to save the entry. Confirmation tone is heard.

Description

The *infinite* Digital Key Telephone Systems can provide SMDR output to either the standard RS-232C "On-Board" connector on the DVX I BKSU or CPB board or to the optional RS-232C/422 I/O Expander Module connector(s). When SMDR is desired, the following system-wide parameters will determine how the SMDR information will be reported.

The buttons on the digital terminal are defined as shown below when entering the SMDR programming area.



Related Programming: Refer to Sec. 710.5, PBX Dialing Codes; Sec. 710.1, SLT DTMF Receiver timer; Sec. 730.1, Station Class of Service (COS); and Sec. 760.1, Exception Tables Programming.

A. SMDR Enable/Disable

Programming Steps

1. Press the SMDR flexible button (Button #1). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED ON = SMDR is enabled
   - LED OFF = SMDR is disabled
2. Press the HOLD button to save the entry. Confirmation tone is heard

Description

A call accounting device can be installed allowing the system to track calls by outside line number, number dialed, time of day, date, station that placed or received the call, and duration of the call.

Refer to Sec. 710.1 for further instruction regarding the relationship between SLT Receivers and SMDR.

Default: By default, SMDR is disabled.

B. Long Distance/Local Assignment

Programming Steps

1. Press the CALL TYPE flexible button (Button #2) to determine the type of calls to be recorded. This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED ON = Long Distance is enabled
   - LED OFF = All Calls is enabled
2. Press the HOLD button to save the entry. Confirmation tone is heard.

Description

The system can be set to record either all outgoing calls or only outgoing long distance calls. Long Distance calls are defined as either beginning with a '1' or '0' or containing 8 or more digits. Incoming calls are only recorded if TYPE is set for all calls.

Default: By default, the system is set to record long distance (LD) calls only.

STATION MESSAGE DETAIL RECORDING (Cont'd)

C. Character Print Assignment

Programming Steps

1. Press PRINT FORMAT flexible button (Button #3) to determine the print format of SMDR records. This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED ON = 80-Character is enabled
   - LED OFF = 30-Character is enabled
2. Press the HOLD button to save the entry. Confirmation tone is heard.

Description

The system can be programmed to print individual SMDR records in either a 1-line 80-character format or a 3-line 30 character format.

Default: By default, the 1-line 80-character format is selected.

D. Baud Rate Display

Programming Steps

The SMDR Baud Rate is programmed using Flash 15, Baud Rate Assignments. Button #4 will return error tone when pressed. The LCD displays the current baud rate based on which Port number is assigned to the SMDR Port number.

Description

The *infinite* Digital Key Telephone Systems can provide SMDR output to either the standard RS-232C "On-Board" connector on the DVX I BKSU or DVX II CPB board or to the optional RS-232C/422 I/O Expander Module connector(s). The Baud Rate will be displayed as either 300 baud, 1200 baud, 2400 baud, 4800 baud, 9600 baud.

Related Programming: Refer to 710.8, Baud Rate Assignments for programming SMDR Baud Rate Assignment.

E. SMDR Port Assignments

Programming Steps

1. Press the PORT flexible button (Button #5) to determine which port is to be used for SMDR information.
2. Enter a one-digit number for the SMDR Port number:
   - 1= Port #1 ("On-Board" RS-232C)
   - 2= Port #2 ("On-Board" Modem)
   - 3= Port #3 (I/O Expander Module RS-232C)
   - 4= Port #4 (I/O Expander Module RS-422)
3. The LCD displays the current baud rate based on which Port number is assigned to the SMDR Port number.
4. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

Port #1 refers to the standard RS-232C "On-Board" connector on the DVX I Basic KSU or the CPB board on the DVX II.

Port #2 refers to the "On-Board" 300 Baud modem provided with the system.

Port #3 refers to the RS-232C connector on the I/O Expander Module.

Port #4 refers to the RS-422 connector on the same I/O Expander Module installed in either *infinite* Digital system.

Default: By default, Port #1 is used for SMDR.

MISC. SYSTEM PARAMETERS (Cont'd)

710.11 WEEKLY NIGHT MODE SCHEDULE

Programming Steps

If entries or changes need to be made to this schedule:

a. Press FLASH and dial [22]. The following message will then be shown on the display:

DAY	END	START	AUTO
MON	0800	1700	YES

Description

The *infinite* Digital Key Telephone System can be programmed so that the system is automatically placed into and out of night mode. A programmable weekly time schedule allows the system administrator to preset the time the system is put into night mode and the time to remove night mode on a daily basis including weekend operation.

The buttons on the digital terminal are defined as shown below when entering the Weekly Night Mode Schedule programming area.

AUTO/MANUAL 1 Q	MONDAY 2 W	TUESDAY 3 E	WEDNESDAY 4 R
THURSDAY 5 T	FRIDAY 6 Y	SATURDAY 7 U	SUNDAY 8 I

A. Automatic/Manual Operation

Programming Steps

1. Press the AUTO/MANUAL flexible button (Button #1). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on= Automatic Night Mode
   - LED off= Manual operation.
2. If no other changes are to be made, press the HOLD button to save the entry. Confirmation tone is heard.

Description

If the system is operated in the automatic night mode the attendant(s) can override the automatic mode by pressing the night key on the attendant(s) phone. The schedule will not go back into effect until the attendant(s) press the night key again.

When the system is placed into night mode CO line ringing will follow the Night ringing assignments and stations will be governed by their respective night COS.

Default: The default times for automatic night mode is as follows:

Monday thru Friday 08:00 17:00
(day time operation 8:00am to 5:00pm)

Saturday and Sunday ##:## ##:##
(24 hour night mode operation)

An entry of "00:00 23:59" would indicate 24 hours of day mode

Related Programming: Refer to Sec. 720.1, CO Line Programming, CO Line Ringing Assignments; Sec. 730.1, Station Attributes Programming, Station Class of Service (COS) assignments. Also refer to Sec. 710.3, Attendant Station Assignment for Attendant station assignments.

B. Day of Week programming

Programming Steps

1. The MONDAY flexible button (Button #2) LED is lit.
2. To change days of the week, press the appropriate flexible button (buttons 3-8) and perform the following procedures.
3. Enter the four-digit entry to indicate the hour and minutes to end night mode.
4. Enter the four-digit entry to indicate the hour and minutes for the system to go into the night mode for that particular day.
5. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

MISC. SYSTEM PARAMETERS (Cont'd)

710.12 DIRECTORY DIALING

Programming Steps

Enter, Change, Erase or to just View entries in the Directory Dialing list:

1. Press FLASH and dial [23].The following message will then be shown on the display:

```
DIR LST  AAA  BIN/ICM: XXX
nnnnnnnnnnnnnnnnnnnnnnnn
```

Where:

- AAA= Directory List Entry Number (000-199)
- XXX= Either a Station Number, a System Speed dial bin Number, or Local Number/Name Translation Table number.
- nnn= Programmed Name (blank if none).

To select a particular list entry:

1. Press Flexible Button #20 for a directory list entry.
2. Dial the three-digit directory list entry number (000-199)
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

To scroll through the list:

1. Press the NEXT flexible button (Button #18) to scroll up (next entry);
   or
   Press the PREV flexible button (Button #19) to scroll backwards (previous entry).

Description

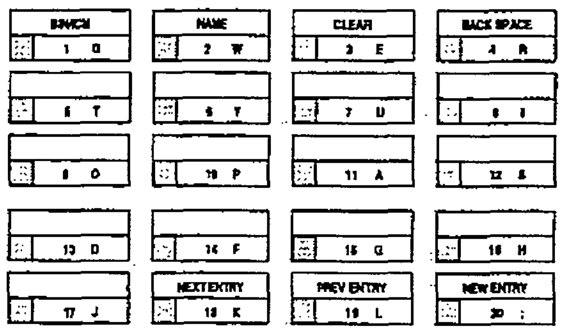
Directory dialing allows station users to obtain a directory of station users and have the system dial the extension that is currently on the display. The *infinite* DVX I System provides locations for up to 100 names, while the *infinite* DVX II System provides locations for up to 200 names.

Directory dialing also allows users to program a "name" along with a speed dial bin for use in later locating a speed dial number. When prompted to do so, the system will display the name associated with a speed dial number on the LCD display so that when the desired name is shown, the user may then have the system dial the number.

Directory dialing also allows users to associate a "name" with an entry in the local number/name translation table. When prompted to do so, the system will display the name associated with the table on the LCD display so that when the desired name is shown, the user may then have the system dial the number. The *infinite* DVX I System provides locations for up to 100 names, while the *infinite* DVX II System provides locations for up to 200 names.

The Directory Dialing list may be programmed and maintained at the first assigned attendant station in one of two ways, however this admin routine provides a means for the directory list to be maintained by the system programmer either locally (at Station 100) or remotely via modem access.

The buttons on the digital terminal are defined as shown below when entering the Directory Dialing programming area.



MISC. SYSTEM PARAMETERS (Cont'd)

DIRECTORY DIALING (Cont'd)

To enter the Intercom number or system speed dial bin to be associated to the name:

Programming Steps

1. Press the BIN/ICM flexible button (Button #1).
2. Enter a three-digit station intercom number (100-155) or
   Enter a three-digit System speed dial number (020-099).
   Enter a three-digit Local Number/Name Translation Table number (300-499).
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

BIN/ICM - Each entry in the directory dialing list must be associated to either a system speed dial bin (for calling a destination outside of the system) or to an intercom station (for calling internal station including CO line transfers).

C =23	O =63	3 =3#	? =03
D =31	P =71	4 =4#	/ =04
E =32	Q =74	5 =5#	! =*1
F =33	R =72	6 =6#	$ =*2
G =41	S =73	7 =7#	% =*3
H =42	T =81	8 =8#	& =*4
I =43	U =82	9 =9#	* =*#
J =51	V =83	0 =0#	(=#1
K =52	W =91	Space =11	) =#2
L =53	X =92	: =12	+ =#3
	Y =93	- =13	= =#4
	Z =94	' =14	# =##

3. If an error is made while entering the name, press the BACK SPACE flexible button (Button #4). This button may be pressed to backspace one character at a time.
4. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

or to have several different names all associated to the same speed dial bin.

MISC. SYSTEM PARAMETERS (Cont'd)

DIRECTORY DIALING (Cont'd)

To clear an entry:

Programming Steps	Description
1. Press the CLEAR flexible button (Button #3). 2. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update. The entry will be erased (both the BIN/ICM assignment and the programmed name).	**CLEAR** - Entries in the table may be erased and cleared from the table allowing another entry to be placed into the list. When a system speed dial bin has been deleted or changed the name associated to the bin must also be erased. As multiple table listing may be associated to one system speed dial bin it may be necessary to clear more than one entry.

MISC. SYSTEM PARAMETERS (Cont'd)

710.14 LOCAL NUMBER/NAME TRANSLATION TABLE

Programming Steps

If changes need to be made to Local Number/Name Translation Table:

1. Press FLASH and dial [55]. The following message is shown on the display phone:

```
S - XXX  ##
```

Where:

- XXX= Table Number 300-499
- ##= Route Number 00-19

2. The ROUTE NUMBER LED is lit. Enter the

3. Press the PREV TABLE flexible button (Button #19) to go back to a previous index that is already programmed.

To locate an existing index for editing:

1. Press the TABLE NUMBER flexible button (Button #20). The following message is shown on the display phone:

```
ENTER TABLE NUMBER
```

2. Enter a two-digit number which corresponds to the index numbers 00-99.
3. Press the HOLD button to complete the entry.

Description

An administerable table in the KSU provides a local translation from a received calling number to a name. This is administerable by the customer from the attendant console position. This table is also shared by the ICLID features. In cases of conflict between the name delivered from the CO and that in the local translation table, the local translation table shall rule. 100 entries are provided in this table for the *infinite* DVX I system, 200 entries are provided in this table for the *infinite* DVX II system.

The buttons on the digital terminal are defined as shown below when entering the ICLID Local Name Translation programming area:

	and/or stored in the unanswered call table.
NOTE	***Entry of phone numbers and names from a terminal require keystrokes corresponding to a keyset keystroke. Example: to enter a "1" from the terminal, an entry of "1#" is required or to enter an "A", the terminal programmer must enter "21".***

Related Programming: Refer to Sec. 750.1, ICLID Programming for additional information about ICLID features.

MISC. SYSTEM PARAMETERS (Cont'd)

LOCAL NAME TRANSLATION (Cont'd)

Programming Steps

To program a phone number into the Local Number/Name Translation table:

1. Press the PHONE NUMBER flexible button (Button #2) to enter the desired phone number into the translation table. Maximum length of phone number is 14-digits, including hyphens.

A =21	M =61	1 =1#	" =01
B =22	N =62	2 =2#	, =02
C =23	O =63	3 =3#	? =03
D =31	P =71	4 =4#	/ =04
E =32	Q =74	5 =5#	! =*1
F =33	R =72	6 =6#	$ =*2
G =41	S =73	7 =7#	% =*3
H =42	T =81	8 =8#	& =*4

Description

If any CO line features are to be changed:

a. Press FLASH and dial [40]. The following message is shown on the display phone:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

b. Enter a four-digit number for the range of lines being programmed. If only one line is being programmed, enter that number twice (0101).

c. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update. Flexible button #20 (New Range) will be lit. The following message is shown on the display phone to indicate current programming of that line or group of lines.

```
CO  XX-XX   DT   CO   DNA C  P
LSO  DSA  FL10  GRP1  COS1
```

Where:

- XX-XX= The CO Line Range being programmed. (01-28)

or one specific CO Line.

Range programming allows the programmer to change a specific parameter or a few parameters for an entire range of CO Lines leaving intact the remaining data fields that do not require change. Those data fields will continue to operate with the previously programmed data. For example if CO lines are programmed into several CO line groups with different Class of service etc... but it is desired to enable Loop Supervision (SUPV) on all CO Lines the programmer may enter as the range ALL CO lines (01-28) and enable loop supervision, then exit programming. This will enable loop supervision for all CO lines leaving intact the various CO line group programming and COS data for the range.

The buttons on the digital terminal are defined as shown below when entering the CO Line Attribute programming area.

DTMF/DIAL PULSE 1 Q	COPBX 2 W	UNA 3 E	DISA TRK-TO-TRK 4 R
PRIVACY 5 T	LOOP SUPV 6 Y	DISA 7 U	FLASH TIMER 8 I
CO LINE GROUP 9 O	LINE COS 10 P	RING ASSIGNMENTS 11 A	CO LINE IDENTIFICATION 12 S
13 D	14 F	15 G	16 H
DISPLAY RING ASSIGNMENTS 17 J	NEXT ENTRY 18 K	PREVIOUS ENTRY 19 L	NEW RANGE 20 ;

- Button #17 [Ring Display] will display the ringing assignments for the CO line.
- Button #18 [Next Entry] will take you to the next higher CO line.
- Button #19 [Previous Entry] will take you to the next lower CO line.
- Button #20 [Select Range] will prompt for a new CO Line range.

CO LINE ATTRIBUTES (Cont'd)

A. DTMF/Dial Pulse Programming

Programming Steps

1. Press the DTMF/DIAL PULSE flexible button (Button #1). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = DTMF enabled
   - LED off= Dial Pulse enabled
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
CO XX-XX DT CO UNA C P
LSO DSA FL10 GRP1 COS1
```

Description

DTMF/DIAL PULSE. Each individual outside line can be programmed to be either DTMF (tone) or dial pulse. When a line is assigned as dial pulse, you can program the break/ make ratio and dial speed.

Default: By default, all lines are set for DTMF.

Related Programming: Refer to Sec. 720.2, Dial Pulse Parameters; and Sec. 710.1, System Timers, CO Ring Detect Timer.

B. CO/PBX Programming

Programming Steps

1. Press the CO/PBX flexible button (Button #2). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = CO type is enabled
   - LED off= PBX is enabled
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
CO XX-XX DT CO UNA C P
LSO DSA FL10 GRP1 COS1
```

Description

CO/PBX. Each individual outside line connected to the system may be programmed as either a CO or PBX line. Also use the PBX mark when identifying Centrex lines.

Default: By default, all lines are assigned as CO lines.

Related Programming: Refer to Sec. 710.5, PBX Dialing Codes; Sec. 710.1, System Timers, CO Ring Detect Timer; Also refer to Sec. 720.1, CO Line Programming, Flash Timer Programming later in this section.

depression, and the display will update with each depression.

- LED on = UNA is enabled
- LED off= UNA is disabled

2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
CO XX-XX DT CO UNA C P
LS0 DSA FL10 GRP1 COS1
```

in system parameters, then when a CO line rings into the system, a ring tone is generated over all external page zones.

Default: By default, UNA is enabled

Related Programming: Refer to Sec. 710.1, System Timers, External Night Ring; and Sec. 710.7, Relay/Sensor Programming.

D. DISA Trunk-to-Trunk (Per CO Line)

Programming Steps

If the CO line DISA Trunk-to-Trunk (Conference) attributes is to be changed:

1. Press the DISA TRK-TO-TRK flexible button (Button #4). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = DISA Trunk-to-Trunk is enabled (a "C" is displayed)
   - LED off = DISA Trunk-to-Trunk is disabled
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
CO XX-XX DT CO UNA C P
LS0 DSA FL10 GRP1 COS1
```

Description

DISA TRK-TO-TRK. The DISA Trunk-to-Trunk (or Conference) mark on the CO line governs a DISA callers ability to access other outside lines. CO lines must have DISA Trunk-to-Trunk enabled to allow a DISA caller to establish an outgoing trunk-to-trunk connection. This allows for specific CO line access restriction on DISA calls.

A station with conference enable will be allowed to initiate a Conference on CO lines regardless of the CO line DISA Trunk-to-Trunk marking.

Default: By default, DISA Trunk-to-Trunk is enabled for all CO lines.

Related Programming: Refer to Sec. 730.1, Station Attributes Programming, Conference Enable/Disable (Per Station).

The CO line DISA Trunk-to-Trunk flag affects a DISA callers ability to access outgoing CO lines as shown in the following table:

Incoming DISA Trunk	Trunk DISA caller attempts to access	
	T-t-T Enabled	T-t-T Disabled
T-t-T Enabled	Call Allowed	Call Denied
T-t-T Disabled	Call Denied	Call Denied

CO LINE ATTRIBUTES (Cont'd)

E. Privacy

Programming Steps

If CO Line privacy is to be changed:

1. Press the PRIVACY flexible button. (Button #5. This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = Privacy is enabled
   - LED off = Privacy is disabled
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
CO XX-XX DT GD UNA C P
LSD DSA FL10 GRP1 COS1
```

Description

PRIVACY. If desired, the system can be programmed to eliminate CO Line privacy, allowing another station to join in on existing outside line conversations.

- Stations must have a direct CO line appearance to join CO line conversations in progress.
- A station must also have Privacy disabled before the system will allow that station to enter into an existing conversation.
- Both parties will hear an alert tone just prior to a station joining the call.
- When privacy is disabled, only one other station may join in on an existing conversation.

Default: By default, Privacy is enabled for all CO Lines.

Related Programming: Refer to Sec. 730.1, Station Attributes Programming, Privacy (Per Station) option and Sec. 730.2, Page "B" Programming, Flexible Button Programming for button assignments.

The CO line Privacy flag affects a station users ability to access CO lines already engaged in conversation by another station in the system as shown in the following table:

Station Attempting to Access CO Line	CO Line In use by another Station	
	Privacy Enabled	Privacy Disabled
Privacy Enabled	Private (No Cut-through	Private (No Cut-through)
Privacy Disabled	Private (No Cut-through	Privacy Released Cut-through Allowed

CO LINE ATTRIBUTES (Cont'd)

F. Loop Supervision Programming

Programming Steps

1. Press the LOOP SUPV flexible button (Button #6).
2. Enter a one-digit timer value on the dial pad between 1 and 9 which corresponds to 100-900 msec.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

```
CO  XX-XX  DT  GD  UNA  G  P
 LSO  DSA  FL10  GRP1  COS1
```

Description

LOOP SUPV. Loop supervision is used primarily with DISA, Voice Mail/Auto Attendant and with unsupervised conference applications. It provides the system with the ability to detect when loop current has been broken and an outside line is no longer being used. To determine timer value for loop supervision, consult your local serving central office for type and duration of loop supervision signal.

It is recommended that Loop Supervision be enabled, especially when connecting a Voice Mail or Auto Attendant to the *infinite* Digital Key Telephone Systems. The duration of the Loop interrupt is 700 msec.

Default: By default, Loop Supervision is disabled for all CO Lines.

Related Programming: Refer to Sec. 710.1, System Timers, CO Ring Detect Timer; Sec. 720.1, CO Line Programming, DISA Programming; Sec. 755.1, Voice Mail Groups (VM), and Sec. 755.2, Voice Mail Outpulsing Table.

CO LINE ATTRIBUTES (Cont'd)

G. DISA Programming

Programming Steps

1. Press the DISA flexible button (Button #7).
2. Enter a one-digit value on the dial pad to indicate type of DISA desired.
   - 1= 24 hour
   - 2= Night only
   - 0= no DISA (disable DISA)
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

```
CO  XX-XX  DT  CO  UNA  C  P
LSD  DSA  FL10  GRP1  COS1
```

NOTE ***A DTMF Receiver must be installed in the system.***

Description

DISA. A line can be assigned as a DISA line during night service only or on a 24- hour basis.

A maximum of three DISA lines can be programmed into the system. A DISA access code can also be programmed. Incoming DISA callers may dial any valid internal station or access outside line groups. DISA callers will be subjected to the Class of Service placed on the line accessed for outdialing. It is recommended that Loop Supervision be enabled when setting up DISA line(s). Sec. 710.1, System Timers , Conference/DISA Timer allows the system administrator to control the length of time a DISA caller is allowed after establishing a "Trunk-to-Trunk" call. After expiration of the Conference Timer, a tone will be presented to both DISA parties, then one minute later the system will automatically release both trunks. The Conference Timer does not affect or control a DISA-to-Station call.

Default: By default, there are no outside lines assigned as DISA lines.

Related Programming: Refer to Sec. 720.1, CO Line Programming, Conference/DISA Timer; Sec. 710.9, Access Codes; Sec. 720.1, CO Line Programming, Loop Supervision Programming, DISA Trunk-to-Trunk (Per CO Line), and Class of Service (COS) Programming. Also refer to Sec. 760.1, Exception Tables Programming.

CO LINE ATTRIBUTES (Cont'd)

H. Flash Timer Programming

Programming Steps

1. Press the FLASH TIMER flexible button

Description

FLASH TIMER. Flash is a programmable open-

I. Line Group Programming

Programming Steps

1. Press the CO LINE GROUP flexible button (Button #9).
2. Enter a one-digit value on the dial pad between 0-7 which corresponds to Groups 0-7.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

```
CO XX-XX DT CO UNA G P
LSD DSA FL10 GRP1 COS1
```

Description

CO LINE GROUP. Eight line groups are available for CO line assignment. Groups should be assigned according to type (local, FX, WATS, etc.) Line group 0 is used for programming a line(s) as a private line.

Line Grouping affects Line Queuing, Pooled Group access (Pool Buttons), Speed Dial, and LCR features.

Default: By default, All lines are placed in Line Group 1.

Related Programming: Refer to Sec. 730.1, Station Attributes Programming, Flexible Button Programming - Pool Buttons. Also refer to Sec. 765.2, LCR Route List Table.

CO LINE ATTRIBUTES (Cont'd)

J. Class of Service (COS) Programming

Programming Steps

1. Press the LINE COS flexible button (Button #10).
2. Enter a one-digit value on the dial pad between 1-5 which corresponds to five possible class of service to which a line may be assigned:
   - COS1= No restrictions.
   - COS2= Table A governs, Station COS 2 and 4 are monitored.
   - COS3= Table B governs, Station COS 3 and 4 are monitored.
   - COS4= Restricts 0,1,*,# dialed as first digit and places a seven digit dialing limitation. In addition, 1-800, 1911, and 1611 are allowed and 411, 976, and 555 numbers are denied.
   - COS5= Overrides station COS 2,3,4, and 5 and allows unrestricted dialing.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

```
CO XX-XX DT GD UNA G P
LSO DSA FL10 GRP1 COS1
```

Description

LINE COS. Through assignments of a CO Class of Service the assigned CO line will either interact with a station Class of Service, provide a "canned" restriction or provide unrestricted dialing capabilities. (When a CO line is marked PBX, COS restrictions apply to the station only if one of five codes are dialed first.)

Refer to Table 720-1 Class of Service (COS) for CO to Station Class Of Service relationship.

Default: By default, all CO lines are assigned Class of Service 1.

Related Programming: Refer to Sec. 730.1, Station Attributes Programming, Station Class of Service (COS) options. Also refer to Sec. 760.1, Exception Tables Programming.

Table 720-1 Class of Service (COS)

		CO LINE CLASS OF SERVICE				
		1	2	3	4	5
STATION COS	1	Unrestricted	Unrestricted	Unrestricted	Canned Restriction*	Unrestricted
	2	Table A	Table A	Unrestricted	Canned Restriction*	Unrestricted
	3	Table B	Unrestricted	Table B	Canned Restriction*	Unrestricted
	4	Tables A&B	Table A	Table B	Canned Restriction*	Unrestricted
	5	Canned Restriction*	Canned Restriction*	Canned Restriction*	Canned Restriction*	Unrestricted
	6	Intercom only	Intercom only	Intercom only	Intercom only	Intercom only

* Canned Restriction= No '0', 1, #, '*' as a first dialed digit, and 7 digits maximum plus 1-800, 1911, 1611 are allowed and 411, 976, and 555 numbers are denied.

CO LINE ATTRIBUTES (Cont'd)

K. CO Line Ringing Assignments

Programming Steps

Each CO line in the system may be assigned initial incoming ringing to one of the following destinations:

- one or more stations (keyset or SLT)
- to an ACD, UCD, Voice Mail or Hunt Group
- Off-Net (via speed dial)

1. Press the RING ASSIGNMENT flexible button (Button #11) to toggle to the Ringing Assignment display. The display will show the following information:

```
CO RING ASSIGNMENT
ENTER DDDR
```

2. Enter the three-digit destination (DDD) and the one-digit ring type (R) followed by the HOLD button. Confirmation tone is heard and the display will now update.
3. Press Button #17 to display ring assignments. Assignments will be displayed in sets of 8 up to the number programmed. Press Button #17 additional times to cycle to the next group of 8 ring assignments.

The following format is used to display the assignments:

```
DDDR DDDR DDDR DDDR
DDDR DDDR DDDR DDDR
```

Where:

- DDD= Destination
- R= D for Day
- N= Night
- B= Both Day & Night.

Deleting a station (entering a 0 for ring type) only removes that station from the ring assignment.

Ring assignments will be continuous and will be displayed in order of the destination number from 001 to 557.

Description

RING ASSIGNMENT. When ringing is assigned as a part of the CO line parameters, ringing of a station is independent of that stations button configuration. However, Stations that are assigned for initial ring-in **MUST HAVE** a LOOP button(s) to answer the call(s) if a direct CO appearance is not available.

Multiple station assignments are allowed for a particular CO line in a mixture of Day, Night, or Day & Night ring types. An incoming CO line may be programmed to any number of stations but it cannot be programmed to ring a mixture of stations and groups (i.e. a Hunt Group and four stations, or more than one Hunt Group).

Incoming calls directed Off-Net will be connected to an outgoing system speed bin.

CO lines assigned to ring multiple stations will not follow any stations' forward to a UCD, ACD, Voice Mail, Hunt Group or Off-Net. Forwarding to another station will be allowed.

Valid 3 digit destinations are:

- 020-099 = System Speed Bins 20-99, for off-net ringing.
- 100-155 = Station extension Numbers
- 199 = Direct Ringing to Modem Group
- 330-337 = Hunt Groups 1-8
- 440-447 = Voice Mail Groups 1-8
- 550-557 = ACD or UCD Groups 1-8

Valid Ring types are:

- 0 = unassigned (to delete a station)
- 1 = Day Ringing
- 2 = Night Ringing
- 3 = Day & Night Ringing

Multiple station assignments are accomplished by assigning another destination with ring status, DDDR, and pressing the HOLD button. This can be done for up to the maximum number of stations on the system.

Default: By default, all CO lines are assigned to ring at the first programmed attendant, Station 100.

Related Programming: Refer to Sec. 750.2, ICLID Ringing Assignment.

CO LINE ATTRIBUTES (Cont'd)

L. CO Line Identification Display

Programming Steps

Each CO line in the system can be programmed to have a name associated to it in database programming.

1. Press the CO LINE IDENTIFICATION flexible button (Button #12). The following message is shown on the display phone:

```
ENTER CO ID
LINE 01
```

2. Enter the name by using keys on the dial pad as follows. Valid alpha-numeric characters are: A-Z, 0-9, *, #, - [spaces] and other ASCII characters as listed below. The name may be entered in any combination up to 12-characters in length (this represents 24-digits entered).

A =21	M =61	1 =1#	" =01
B =22	N =62	2 =2#	, =02
C =23	O =63	3 =3#	? =03
D =31	P =71	4 =4#	/ =04
E =32	Q =74	5 =5#	! =*1
F =33	R =72	6 =6#	$ =*2
G =41	S =73	7 =7#	% =*3
H =42	T =81	8 =8#	& =*4
I =43	U =82	9 =9#	* =*#
J =51	V =83	0 =0#	(=#1

Description

This feature allows a name to be entered into the database programming for each individual line (trunk) connected to the system.

Once entered into the database, LCD phones including the attendant stations will receive the programmed line "name" in place of the default "LINE XX" message. This applies to all line call processing conditions where the current "LINE XX" message appears.

SMDR will continue to print out the line number in place of the programmed name.

If the line name has not been programmed, then the current "LINE XX" display will be used as the default.

A programmable data field is available for each line in the system. Line names may be programmed using the range programming.

A message similar to the following will be used for all CO line displays when a name has been programmed for a CO line.

```
LINE RINGING
NNNNNNNNNNNN        HH:MM am
```

CO LINE ATTRIBUTES (Cont'd)

720.3 FLEXIBLE PORT ASSIGNMENT FEATURE

Programming Steps

If the CO Line numbers need to be relocated to different ports:

a. Press FLASH and dial [42]. The following message is shown on the display phone:

```
CO 01 02 03 04
```

b. The buttons 1 through 7 indicate cards 1 through 7. When the relocation program is initially entered, Button #1 will be lit indicating that the user is programming the CO Line numbers on the first card (CO Ports 1 through 4). The LCD will display the CO Line numbers presently assigned to the first four ports.

To change the CO Line number assigned to any port:

a. Dial the position number on the display (01 through 04), followed by the CO Line number desired.

Example:

- If 0103 were dialed, the CO line number of the first entry on the display would be changed to 03. In addition, since 03 was shown as the third entry on the display, that entry would be blank (##).
- In the DVX I System, if a 2x4 Expander Module were installed, the entry would be 01 for CO5, followed by the CO Line number desired.

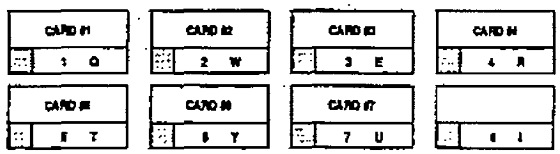
To select another card in the system:

a. Press the button associated with that card.

Description

The Flexible Port Assignment feature will provide a means to assign CO line numbers to any CO line port in the system. This provides complete flexibility in determining CO line numbers within the system as long as they stay within the system numbering plan. A CO line can be assigned any number between 01 and 14 on the *infinite* DVX I system and any number between 01 and 28 on the *infinite* DVX II system. This restriction is required to minimize memory requirements on the smaller systems.

The buttons on the digital terminal are defined as shown below when entering the Flexible Port Assignment feature programming area:



All CO line numbers entered are stored in a temporary database area which is uploaded to the main database when the system is reset.

PAGE "A" STATION ATTRIBUTES (Cont'd)

A. Paging Access

Programming Steps

1. Press the PAGE ACCESS flexible button (Page A, Button #1). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = Paging is allowed
   - LED off= Paging is denied
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
XXX-XXX  A  PA  DD  CF  _A  PR
  SP  OU  PL  OH  FW  LC  SB
```

Description

PAGE ACCESS. Stations can individually be allowed or denied the ability to make pages. This applies to all internal and external zone paging. A station denied access to paging may still answer a meet-me page announcement. (Station COS 6 will not deny a station the ability to make a page.)

Default: By default, Paging is allowed at all stations.

B. Do Not Disturb

Programming Steps

1. Press the DO NOT DISTURB flexible button (Page A, Button #2). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = Do Not Disturb is allowed
   - LED off= Do Not Disturb is denied
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
XXX-XXX  A  PA  DD  CF  _A  PR
  SP  OU  PL  OH  FW  LC  SB
```

Description

DO NOT DISTURB. Stations can be individually allowed or denied the ability to place their telephone in Do Not Disturb.

Default: By default, Do Not Disturb is allowed at all stations.

PAGE "A" STATION ATTRIBUTES (Cont'd)

C. Conference Enable/Disable (Per Station)

Programming Steps

1. Press the CONFERENCE flexible button (Page A, Button #3). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = Conference is enabled
   - LED off = Conference is disabled
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
XXX-XXX  A  PA  DD  CF  _A  PR
SP  OU  PL  OH  FW  LC  SB
```

Description

CONFERENCE. This feature allows the system to be programmed on a per Station basis for the ability to initiate a conference.

Only stations that have Conference enabled will be able to initiate a conference.

A station that is denied conferencing capabilities in programming can be a party to another stations conference provided that station does have conferencing privileges.

Default: By default, Conference is enabled for all stations.

Related Programming:

D. Executive Override

Programming Steps

1. Press the EXECUTIVE OVERRIDE flexible button (Page A, Button #4). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = Executive Override is allowed

CAUTION

USE OF THIS FEATURE WHEN THE EXECUTIVE OVERRIDE WARNING TONE IS DISABLED MAY BE INTERPRETED AS A VIOLATION OF FEDERAL OR STATE LAWS, AND AN INVASION OF PRIVACY. CONSULT COUNSEL WITH RESPECT TO APPLICABLE LAW BEFORE INTRUDING ON CALLS USING THIS FEATURE.

Description

EXECUTIVE OVERRIDE. This feature allows certain stations to be designated as "Executive" stations with the ability to override and "barge-in" on other keysets engaged in a CO line or intercom conversation.

An optional warning tone is programmed on a

capability from overriding an Executive's station. Refer to Item M. Executive Override Blocking later in this section.

Default: By default, Executive Override is disabled for all stations.

Related Programming: Refer to Sec. 710.2, System Features Programming, Exec Override Warning Tone. Also refer to Sec. 730.1, ACD Supervisor Monitor w/Barge-in.

PAGE "A" STATION ATTRIBUTES (Cont'd)

E. Privacy (Per Station)

Programming Steps

To program station(s) for Automatic Privacy:

1. Press the PRIVACY flexible button (Page A, Button #5). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = Privacy is enabled on Stations(s)
   - LED off = Privacy is disabled on Station(s)
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
XXX-XXX A PA DD CF _A PH
SP OU PL OH FW LC SB
```

Description

PRIVACY. The system provides privacy on all communications in the system which prevents other stations from accidentally entering an existing conversation. However, if desired, the system will allow on a per station basis the ability for a station to join an existing outside CO line conversation. Each station can be granted the privilege to join an existing CO line conversation by simply pressing the CO line button of a CO line in use.

Both the station and the CO line must have privacy disabled before the system will allow cut-thru.

If privacy is disabled and a station joins an existing call, both parties will hear an alert tone.

If privacy is disabled, only one other station may join in on an existing conversation.

Default: Privacy is enabled for all stations in default.

Related Programming: Refer to Sec. 720.1, CO Line Programming, Privacy in CO Line Attributes programming.

The Station Privacy flag affects a station users ability to access CO lines already engaged in conversation by another station in the system as shown in the following table:

Station Attempting to Access CO Line	CO Line In Use by Another Station	
	Privacy Enabled	Privacy Disabled
Privacy Enabled	Private (No Cut-through)	Private (No Cut-through)
Privacy Disabled	Private (No Cut-through)	Privacy Released (Cut-through Allowed)

PAGE "A" STATION ATTRIBUTES (Cont'd)

F. System Speed Dial Access

Programming Steps

1. Press the SPEED flexible button (Page A, Button #6). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = System Speed Dialing access is allowed
   - LED off= System Speed Dialing access is denied
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
XXX-XXX A PA DD CF _A PR
SP QU PL OH FW LC SB
```

Description

SYSTEM SPEED DIALING ACCESS. Stations can be individually allowed or denied the ability to use system speed dial (20-99) numbers. The last 40 system speed numbers are not monitored by toll restriction. Stations can not be prevented from using station speed dial.

Default: By default, System Speed Dialing is allowed at all stations.

Related Programming: Refer to Sec. 760.1, Exception Tables Programming.

G. Line Queuing

Programming Steps

1. Press the QUEUING flexible button (Page A, Button #7). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = Queuing is allowed
   - LED off= Queuing is denied
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
XXX-XXX A PA DD CF _A PR
SP QU PL OH FW LC SB
```

Description

LINE QUEUING. Stations can be allowed or denied the ability to manually queue for a busy group of CO lines. Even when disabled, stations will have automatic LCR queuing privileges.

Default: By default, CO Line Queuing is allowed at all stations.

PAGE "A" STATION ATTRIBUTES (Cont'd)

H. Preferred Line Answer

Programming Steps

1. Press the PREF LINE ANSWER flexible button (Page A, Button #8). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = Preferred Line Answer is allowed
   - LED off= Preferred Line Answer is denied
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
XXX-XXX  A  PA  DD  CF  _A  PR
SP  OD  PL  OH  FW  LC  SB
```

Description

PREF LINE ANSWER. Stations can be given the ability to answer incoming outside line calls, transferred and recalling lines and line queues by simply going off-hook. (Preferred Line Answer)

Default: By default, Preferred Line Answer is disabled on all stations.

I. Off-Hook Voice Over

Programming Steps

1. Press the OHVO flexible button (Page A, Button #9). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = Off-Hook Voice Over is allowed
   - LED off= Off-Hook Voice Over is denied
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
XXX-XXX  A  PA  DD  CF  _A  PR
SP  OD  PL  OH  FW  LC  SB
```

Description

OHVO. This feature allows a station to receive OHVO calls. Only OHVO Digital Terminals may receive an OHVO call. A station can be denied the ability to receive OHVO calls by disabling the OHVO option.

Default: By default, Off-Hook Voice Over is disabled for all stations.

Related Programming:

PAGE "A" STATION ATTRIBUTES (Cont'd)

J. Call Forwarding

Programming Steps

1. Press the CALL FORWARD flexible button (Page A, Button #10). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = Call Forwarding is allowed
   - LED off= Call Forwarding is denied
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
XXX-XXX A PA DD CF _A PR
SP OD PL OH FW LC SB
```

Description

CALL FORWARD. Stations can be allowed or denied the ability to have incoming CO calls, intercom, transferred outside lines forwarded to another station, ACD, UCD, Hunt or Voice Mail group or Off-Net Forward via speed dial.

Default: By default, Call Forwarding is allowed at all stations.

K. Forced Least Cost Routing (LCR)

Programming Steps

1. Press the FORCED LCR flexible button (Page A, Button #11). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = Least Cost Routing is forced
   - LED off= Least Cost Routing is optional
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
XXX-XXX A PA DD CF _A PR
SP OD PL OH FW LC SB
```

Description

FORCED LCR. Stations may be forced to place outgoing CO calls by use of LCR (dial [9]) to access an outside line). This allows the system administrator to control dialing patterns and the lines used for outgoing CO calls more effectively. This can be enabled/disabled on a per station basis for additional flexibility and control.

Default: Forced LCR is optional for all stations.

Related Programming: Refer to Sec. 730.1, LCR Class of service (COS); Sec. 710.2, LCR Enable; 765.1, Least Cost Routing (LCR) Programming.

PAGE "A" STATION ATTRIBUTES (Cont'd)

L. ACD Supervisor Monitor w/Barge-In

Programming Steps

1. Press the SUPV BARGE-IN flexible button (Page A, Button #12). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = ACD Supv Barge-in is allowed
   - LED off= ACD Supv Barge-in is denied
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
XXX-XXX A PA DD CF _A PR
SP OU PL OH FW LG SB
```

Description

This feature is ONLY available when the Basic ACD Software Package is purchased separately.

The ACD Supervisor Monitor with Barge-In feature provides a means for an ACD Supervisor to monitor an agents call in progress or provide assistance in training ACD personnel. When used, a supervisor may intrude onto an agents call in a listen only mode or in a true conference mode. This feature is available with or without a warning tone.

NOTE	*Executive Override is a System feature and therefore takes precedence over this feature. If Supervisor Monitor with Barge-In is to be used properly, Executive Override MUST be disabled otherwise the Barge-In is performed with the MUTE button OFF!*

Default: By default, the Supervisor Monitor w/Barge-In feature is not allowed.

Related Programming: Refer to Sec. 730.1, Executive Override.

M. Executive Override Blocking

Programming Steps

1. Press the EXECUTIVE OVERRIDE BLOCKING flexible button (Page A, Button #13). This feature will toggle on and off with each depression, and the display will update with each depression.
   - LED on = Blocking is denied.
   - LED off= Blocking is allowed.
2. Press the HOLD button to save the entry. Confirmation tone is heard.

```
XXX-XXX A PA DD CF _A PR
SP OU PL OH FW LG SB
```

Description

The Executive Override Feature has a separate condition added to it which will allow or disallow an Executive to override an extension. This prevents an extension with override capability from overriding an Executive's station. Refer to Item D., Executive Override earlier in this section.

Default: By default, Executive Override is allowed at all stations.

Related Programming: Refer to Sec. 710.2, System Features Programming, Executive Override.

PAGE "B" STATION ATTRIBUTES (Cont'd)

730.2 PAGE "B" INTRODUCTION

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode. Refer to 700.2, Program Mode Entry (Key Station).

If station features are to be changed:

a. Press FLASH and dial [50]. The following message is shown on the display phone:

```
STATION ATTRIBUTES
SELECT A STATION RANGE
```

b. Enter a six-digit number (100-155) for station range being programmed. If only one station is being programmed, enter that number twice i.e. (100100).

c. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update. Flexible button #20 (New Range) will be lit.

d. Press [PG B] button. The display of current programming for those features will appear as follows:

```
XXX-XXX B IDD COS1 1 SPO
AAAA BBBB CCC DDDDDDD LO
```

Where:

- XXX= Station Range
- B= Page "B" Features
- ID= Station Identification (0-7)
- COS= Class of Service (1-6)
- SPK= Speakerphone Option (0-2)
- AAAA= Pickup Group (1-4)
- BBBB= Paging Zone (1-4)
- CCC= Preset Forward Destination
- DD....DD= CO Line Group access(0-7)
- LO= LCR Class of Service (0-6)

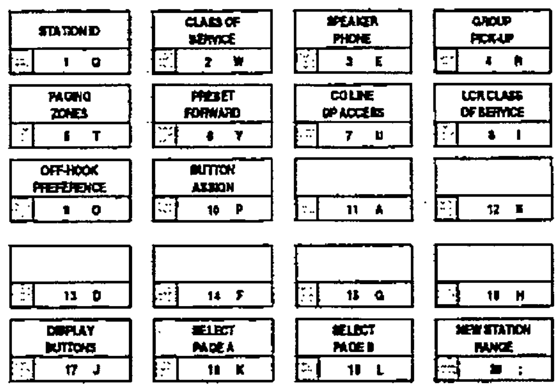
Description

This section describes the steps and procedures necessary to program the Page "B" station attributes for stations connected to the *infinite* Digital Key Telephone System. When entering the Station attributes portion of the database, the programmer may decide to enter information for either a range of stations or one specific station.

Range programming allows the programmer to change a specific parameter or a few parameters for an entire range of stations leaving intact the remaining data fields, that do not require change. Those data fields will continue to operate with the previously programmed data.

NOTE	***Features programmed in Page "B" require a numeric entry after pressing the flexible button.***

When programming the Page "B" features, the flexible buttons are mapped as follows:



- Button #18 [PAGE "A"] selects Page "A" and displays Page "A" parameters.
- Button #19 [PAGE "B"] selects Page "B" and displays Page "B" parameters.
- Button #20 [Select Range] will prompt for a new Station range.

PAGE "B" STATION ATTRIBUTES (Cont'd)

A. Station Identification

Programming Steps

1. Press the STATION ID flexible button (Page B, Button #1).

To program the Station ID for a Digital Terminal:

1. Dial a [0] on the dial pad.
2. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

```
XXX-XXX  B  IB0  COS1  1  SPO
AAAA  BBBB  CCC  DDDDDDD  LD
```

Description

STATION ID. Each system port must be programmed to identify the type of station that will operate on that port. Each station type must be identified.

Default: By default, all 4x8 Key Interface Cards default to ID 0 (Digital Terminal), all SLTs default to ID 5 (SLT or OPX).

NOTE	*When identifying a station as a DSS/DLS Console, you must also enter the station number of the Key Telephone the DSS/DLS Console is attached to.*

```
XXX-XXX  B  IB1  COS1  1  SPO
AAAA  BBBB  CCC  DDDDDDD  LD
```

tons and appear in sequential order with 6 buttons programmed as features.

MAP #3. Stations 112-155 are flexible buttons and appear in sequential order with the bottom 4 buttons programmed as either features or

mode. These features can however still be programmed onto keyset flexible buttons.

Related Programming: Refer to Sec. 720.1, CO Line Programming, CO Line Programming for CO Line ringing assignments on Map 1 and Map 2.

PAGE "B" STATION ATTRIBUTES (Cont'd)

Station Identification (Cont'd)

To program the Station ID for a Relay/Sensor Module:

Programming Steps

1. Dial a [4] on the dial pad.
2. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

RELAY/SENSOR MODULE: The Relay Sensor Interface Module connects to the system using one digital station port and provides three relay activated contacts and three sensing circuits.

Related Programming: Refer to Figure 500-22 Off-Premise Extension (OPX) Module

This module also provides for one Power Fail circuit in the event of an AC power failure.

PAGE "B" STATION ATTRIBUTES (Cont'd)

Station Identification (Cont'd)

To program the Station ID for a SLT w/Message Waiting Lamp:

Programming Steps

1. Dial a [6] on the dial pad.
2. Press the HOLD button to save the entry. Confirmation tone is heard and the display

Description

SINGLE LINE TELEPHONE (SLT): The *infinite* Digital Key Telephone System supports industry standard 2500 Type (DTMF) single line in-

232C) to be connected to the *infinite* Digital system. Data information can be switched through the system at speeds of 300, 1200, 2400, 4800, 9600, 19.2K and 38.4K baud asynchronous.

PAGE "B" STATION ATTRIBUTES (Cont'd)

B. Station Class of Service (COS)

Programming Steps

1. Press the CLASS OF SERVICE flexible button (Page B, Button #2).
2. Enter a two-digit Class of Service entry as f...

Description

CLASS OF SERVICE. Each stations must be assigned a certain COS for day mode operation, and also be assigned a COS for night mode operation. The night COS goes into affect when

N COS	4	Tables A&B	Table A	Table B	Canned Restriction*	Unrestricted
	5	Canned Restriction*	Canned Restriction*	Canned Restriction*	Canned Restriction*	Unrestricted
	6	Intercom only	Intercom only	Intercom only	Intercom only	Intercom only
	* Canned Restriction= No '0', 1, #, '*' as a first dialed digit, and 7 digits maximum plus 1-800, 1911, 1611 are allowed and 411, 976, and 555 numbers are denied.					

PAGE "B" STATION ATTRIBUTES (Cont'd)

C. Speakerphone/Headset Programming

Programming Steps	Description
1. Press the SPEAKERPHONE flexible button	**SPEAKERPHONE.** Each telephone's speaker-

- 1= Group 1
- 2= Group 2
- 3= Group 3
- 4= Group 4

3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

```
XXX-XXX  B  IDD  COS1  1  SP0
AAAA  BBBB  CCC  DDDDDDD  IO
```

PAGE "B" STATION ATTRIBUTES (Cont'd)

E. Paging Zone(s) Programming

Programming Steps

1. Press the PAGING ZONES flexible button (Page B, Button #5).
2. Enter a one-to-four digit number to program paging zone(s).
   - 0= no zone (no pages received)

Description

PAGING ZONES. Each station is assigned to internal paging zones. A station can be in any or all zones or in no zone at all.

All Call is all page zones combined. If a station is not in any internal zone, it will not receive any

PAGE "B" STATION ATTRIBUTES (Cont'd)

Flexible Button Programming (Cont'd)

Programming Steps

UNASSIGN: To unassign a button, enter:

BB [#] HOLD

If SLT stations are to be programmed for Off-Hook Preference, it is necessary to program the desired CO line, or CO line group, the SLT is to

Description

UNASSIGN (locked out). Specific buttons may be designated as unused or locked out. When a button is programmed as unused, the button may not be programmed by the station user using flex button programming procedures.

Default: By default, Station 100 will ring on a

PAGE "B" STATION ATTRIBUTES (Cont'd)

730.3 Digital Data Interface Unit (DDIU)

Programming Steps

To program a Digital Data Interface (DDIU) unit:

a. Press FLASH and dial [51]. The following message is shown on the display phone:

- 3= 2400 Baud
- 4= 4800 Baud
- 5= 9600 Baud
- 6= 19.2K Baud
- 7= 38.4K Baud

3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

The Data Feature offers the ability to transmit data information between personal computers, printers, plotters, modems, CRT terminals, and main frame computer ports. To establish a data call, a Digital Data Interface Unit (DDIU) is

Page "B" Programming, Station Identification for associating a DDIU to a station.

Digital Data Interface Unit (DDIU) (Cont'd)

B. Character Length Option

Programming Steps

1. Press the CHARACTER LENGTH flexible button (Button #2).
2. Enter a one-digit number for the character length of the digit string

Description

CHARACTER LENGTH: Eight bit characters are typically used, without the need for parity. The important point is that the character length settings match those of the attached computer

SECTION 740
AUTOMATIC CALL DISTRIBUTION (ACD)

740.1 ACD GROUP PROGRAMMING

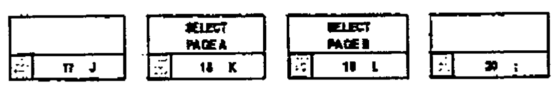
Programming Steps

If the system is in the programming mode,

0 (550). To change ACD groups or enter further ACD groups (550 to 557), press the appropriate flexible button and perform the following procedures.

Description

This feature is ONLY available when the ACD



Default: By default, ACD Group Tables are empty.

Related Programming: Refer to Sec. 740.2, ACD Timers for setting the ACD Ring Timer, ACD Message Interval Timer, ACD Overflow Timer, ACD No-Answer Recall Timer, and ACD No-Answer Retry Timer; Also refer to Sec. 740.3, ACD RAN Announcement Tables for assigning RAN device ports and message times.

AUTOMATIC CALL DISTRIBUTION (Cont'd)

3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

```
ACD 55X A  ALT  OVR  AN  SUPV
           AAA  BBB  CC  DDD
```

ACD group will overflow to the overflow station when RAN tables have not been assigned.

To delete an Overflow Station, press the pound key three times [###] and press the HOLD button.

AUTOMATIC CALL DISTRIBUTION (Cont'd)

C. ACD Recorded Announcement Assignment(s) (RAN)

Programming Steps — Description

1. Press the ACD SUPV flexible button (Button #12.
2. Enter the three-digit station number of the desired ACD Supervisor station.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

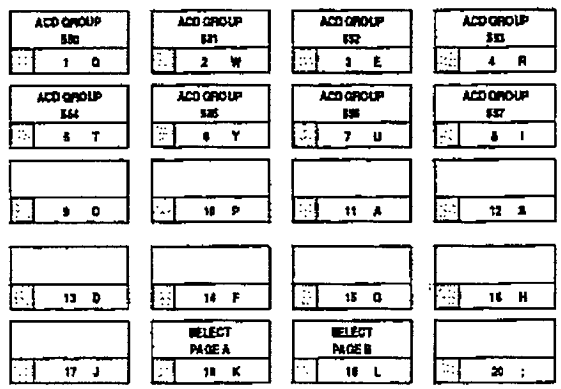
```
ACD 55X A  ALT  OVR  AN  SUPV
           AAA  BBB  CC  DDD
```

tion assignment feature provides a means to assign each ACD group a supervisor. This Supervisor Station can receive the calls in queue display in real time, receives No Answer/Out of Service conditions, "HELP" displays from the groups that the supervisor is assigned to and can barge-in on active calls in his ACD Group or groups.

A supervisor can be assigned in ADMIN to a group or groups to receive the help request and out of service (OOS) messages. If a supervisor station is assigned in ADMIN, it is considered logged in. In addition, a supervisor can dial a supervisor login code followed by the ACD group that the supervisor is logging into and his four-digit ID number. For maximum compatibility with the *infinite* PC-ACD Reporting package, the supervisor assignment should be left blank and the supervisor login-logout feature used.

- ###= ACD Station assignments

2. The top left button in the flexible button field will be lit for programming ACD group 0 (550). To change ACD groups or enter further ACD groups (550 to 557), press the appropriate flexible button and perform the following procedures.
3. Enter the three-digit station numbers of the stations in the ACD group in the order in which they will be checked. A maximum of eight stations may be entered.
4. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.



To erase all stations, press the pound key three times [###] and press HOLD.

NOTE	*If an ACD member is assigned to a specific ACD group and uses the login-logout codes to enter and exit an ACD group other than his own assigned group, the database programming for ACD stations will be automatically changed to reflect the different group.*

E. ACD No-Answer Recall Timer

Programming Steps

To make a change to the ACD No-Answer Recall Timer:

1. Press the NO-ANSWER RECALL TIMER flexible button (Button #5). The following message is shown on the display phone:

NO-ANS RECALL	000-300
000	

2. Enter the three-digit value on the dial pad which corresponds to 000-300 seconds.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Description

ACD NO-ANSWER RECALL TIMER. If a call routed to a station via ACD is not answered by the ACD Agent/Station before the No-Answer Recall timer expires, the call will be returned to ACD Queue with the highest priority. In addition, the station that failed to answer the ringing ACD call will be placed into an out of service (OOS) state.

Default: By default, the ACD No-Answer Timer is at 000 (disabled) and is variable from 000 to 300 seconds.

AUTOMATIC CALL DISTRIBUTION (Cont'd)

740.3 ACD RAN ANNOUNCEMENT TABLES

Programming Steps

If Recorded Announcement devices are installed to operate with ACD, these tables must be programmed:

d. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

> **NOTE** ***When a CO port is designated as a RAN port, a relay and/or sensor should be programmed as a RAN start for Announcement Table 1 through 8.***

To clear entries in a Table:

a. Press the pound key once [#] followed by the HOLD button.

Description

Determines the type, index (port) number and message length for the eight available Recorded Announcements (RAN). There are eight RAN

d. Enter message duration (000-300 sec.)

Example:

To program a table for an SLT port:

a. Press the TABLE X flexible button (Buttons 1-8).

b. Dial [2] for SLT port interface.

c. Dial [100 to 155] for SLT station used.

d. Enter Message duration (000-300 sec.)

Related Programming: Refer to Sec. 740.1, ACD Group Programming; 740.2, ACD Timers; Also refer to Sec. 500.9, Installing Recorded Announcement Device (RAN).

AUTOMATIC CALL DISTRIBUTION (Cont'd)

```
ACD_EVT_TRACE  I/O  BAUD
     NO         X   YYYY
```

AUTOMATIC CALL DISTRIBUTION (Cont'd)

PC/ACD INTERFACE TRACE (Cont'd)

B. Trace Port Assignment

Programming Steps	Description
1. Press the PC/ACD PRINT PORT flexible button (Button #2) to determine which port is to be used for the PC/ACD Interface Trace.	**Port #1** refers to the standard RS-232C "On-Board" connector on the DVX I Basic KSU or the CPB board on the DVX II System.
	Port #2 refers to the "On-Board" 300 Baud

The following message will be shown on the display phone:

```
ACD_EVT_TRACE  I/O  BAUD
      NO        X   YYYY
```

the connector(s). The Baud Rate will be displayed as either 300 baud, 1200 baud, 2400 baud, 4800 baud, or 9600 baud.

Related Programming: Refer to Sec. 710.8, Baud Rate Assignments.

SECTION 745
UNIFORM CALL DISTRIBUTION (UCD)

745.1 UCD GROUP PROGRAMMING

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to

the following procedures.

Description

There can be eight UCD groups of no more than eight stations each. The UCD groups use a pilot

Default: By default, UCD Group Tables are empty.

Related Programming: Refer to Sec. 745.2, UCD Timers for setting the UCD Ring Timer, UCD Message Interval Timer, UCD Overflow Timer, UCD Answer Recall Timer, and UCD No-Answer Retry Timer; Also refer to Sec. 745.3, UCD RAN Announcement Tables for assigning RAN device ports and message times.

UNIFORM CALL DISTRIBUTION (Cont'd)

A. Alternate UCD Group Assignment

Programming Steps	Description
	ALTERNATE UCD GROUP. An alternate UCD

Confirmation tone is heard and the display will now update.

```
UCD 55X  A  ALT  OVR  AN
            AAA  BBB  CC
```

To delete an Overflow Station, press the pound key three times [###] and press the HOLD button.

UNIFORM CALL DISTRIBUTION (Cont'd)

C. UCD Recorded Announcement Assignment(s) (RAN)

Programming Steps

To program a Recorded Announcement:

1. Press the ANNOUNCEMENT TBLS flexible button (Button #11.
2. Enter one of the following digit sequences:

Description

UCD ANNOUNCEMENT TABLES. An optional Recorded Announcement device may be connected to the system to provide an announcement if all stations in a UCD group are busy. Up to eight ports in the system may be

ICLID PROGRAMMING (Cont'd)

750.2 ICLID RINGING ASSIGNMENT

Programming Steps

If ICLID Ringing Assignments need to be assigned or changed:

1. Press FLASH and dial [43]. The following

Description

ICLID Ringing Assignments will provide a means to change the ring assignment based on the incoming number received. This feature permits the user to select one of 20 ringing

4. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.
5. Press Button #17 to display ring assignments. Assignments will be displayed in sets of 8 up to the number programmed. Press Button #17 additional times to cycle to the next group of 8 ring assignments.

The following format is used to display the assignments:

```
DDDR DDDR DDDR DDDR
DDDR DDDR DDDR DDDR
```

Where:

- DDD= Destination
- R= D for Day
  N = Night
  B = Both Day & Night.

CO line ringing will be applied to ICLID ringing. The same ringing types applied to CO line ringing will also be applied to ICLID ringing.

Default: By default, no destinations or ringing assignments exist.

ICLID PROGRAMMING (Cont'd)

750.3 ICLID FEATURES

Programming Steps

If ICLID is to be used:

1. Press FLASH and dial [56]. The following message is shown on the display phone:

```
ICLID NAME BAUD PORT
NO    YES  2400  1
```

Description

The *infinite* Digital Key Telephone Systems can provide ICLID output to either the standard RS-232C connector on the DVX I Basic KSU motherboard or DVX II CPB board or to the optional RS-232C/422 I/O Module connector(s). When ICLID is desired, the following system-wide parameters will determine how the ICLID information will be distributed.

B. Name in Display

Programming Steps

1. Press the NAME flexible button (Button #2) to determine whether the name will appear in the LCD display instead of the incoming telephone number. This feature will toggle on and off with each depression and the display will update with each depression.
   - LED ON = Name will appear in display
   - LED OFF = Telephone number will appear in display
2. Press the HOLD button to save the entry. Confirmation tone is heard.

Description

The system can be set to display either the incoming telephone number or the person's name on the LCD display.

Default: By default, the system will show the telephone number on the LCD display.

ICLID PROGRAMMING (Cont'd)

- 3= Port #3 (I/O Expander Module RS-232C)
- 4= Port #4 (I/O Expander Module RS-422)

The LCD displays the current baud rate based on which Port number is assigned to the ICLID Port number.

3. Press the HOLD button to accept the data. The display will now update.

Port #4 refers to the RS-422 connector on the same I/O Expander Module installed in either *infinite* Digital system.

Default: By default, Port #1 is used for ICLID operation.

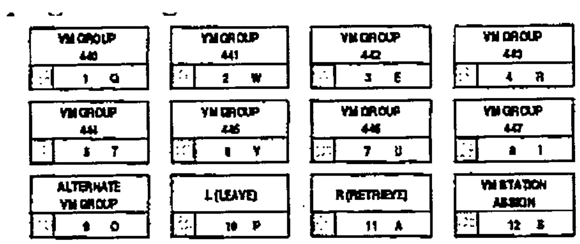
SECTION 755
VOICE MAIL GROUPS (VM)

755.1 VOICE MAIL PROGRAMMING

– R = "Retrieve" mail index from out-pulsing table for retrieving messages (0-7)
– XXX = Voice Mail station numbers (ports).(up to 8 max.)

2. The top left button in the flexible button field will be lit for programming voice mail group 440. To change Voice Mail groups or enter further Voice Mail groups, press the appropriate flexible button 1-8 (440-447) and perform the following procedures.

NOTE	***Certain programming will be required in the Voice Mail system connected to the infinite Digital Key Telephone System for proper operation.*** ***1. Mail Box numbers must match Infinite Digital Key Telephone System station extension numbers. (100-155)*** ***2. Tone Mode Calling option (6#) must be programmed as leading digits in transfer sequence(s) to force tone ringing to key telephone.***



Related Programming: Refer to Sec. 755.2, Voice Mail Outpulsing Table, Voice Mail In-Band Signaling for incoming CO calls; 720.1, CO Line Programming, CO Line Ringing Assignments.

To specify the "Leave" mail index (outpulsing table) to be accessed by a Voice Mail group:

1. Press the LEAVE flexible button (Button #10).
2. Enter the one-digit outpulsing table number (0-7) on the dial pad.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

LEAVE. The "Leave" mail index specifies the outpulsing Table where the "in-band" digits required to connect a caller, forwarded into Voice Mail, to the called stations mail box are stored. Refer to Sec. 755.2 for programming entries into an outpulsing table.

To delete a "Leave" mail index entry, enter one pound [#] on the keypad and press the HOLD button.

Programming Steps

To program the stations in the Voice Mail group:

1. Press the STATION ASSIGN flexible button (Button #12).
2. Enter the three-digit station numbers (100-155). A maximum of eight SLT stations may be entered.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

```
VM 446 AAA L R XXX, XXX,
XXX, XXX, XXX, XXX, XXX, XXX
```

Description

Up to eight SLT or OPX port extension numbers may be programmed into a Voice Mail group.

The ports will be designated as two-way ports by directing calls to any one of the ports and allowing any one of the ports (or all ports) to be used as VM out dial and/or VM notify ports.

A flexible button may be programmed with a Voice Mail group pilot number. This button will then act as a DSS for that Voice Mail group when pressed and also serves as the message waiting indication for that VM group.

priate flexible button (Buttons 2-8) and perform the following procedures.

3. Dial one of the following, if required:
   - 0 = if a prefix is required
   - 1 = if a suffix is required
   - # = if entry is to be deleted
4. Enter up to 12 digits required including '*' and '#'. TRAN button = pause.
5. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

Build a table ("0" for example) for any additional digits other than the Station Extension Number (Voice Mail Box Number)needed for a caller to leave a message in a station's mailbox. ("Leave")

Build another table ("1" for example) for any additional digits needed for a mailbox holder to retrieve a message ("Retrieve").

To clear entries in a Table, press the pound key once [#], followed by the HOLD button.

NOTE	***Entries are not required in the Outpulsing Table, however a table must be referenced when setting up the Voice Mail groups, Sec. 755.1 for both Leave and Retrieve data fields, if In-Band signaling is desired.***

Related Programming: Refer to Sec. 755.1, Voice Mail Groups (VM); Sec. 755.2, Voice Mail In-Band Signaling on incoming CO Calls.

- LED on = ID digits are enabled
- LED off = ID digits are disabled

2. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

```
VM FEATURES ICID AFWD
```

"In-Band" signaling. Alternately, when disabled, callers will be answered by the Voice Mail or Auto Attendant Main greeting.

Incoming CO callers can be Station Call Forwarded into voice mail only when the ringing CO line is programmed to ring at one station. Additionally CO lines programmed to ring at an attendant station will station call forward into the Voice Mail system (if programmed to ring only at one attendant station) and be presented to the main greeting (not the attendant stations mail box) even when ID digits are enabled.

Default: By default, ID digits for incoming CO calls is enabled.

Related Programming: Refer to Sec. 755.1, Voice Mail Programming; and Sec. 755.2, Voice Mail Outpulsing Table

SECTION 760
EXCEPTION TABLES PROGRAMMING

760.1 EXCEPTION TABLES PROGRAMMING

Programming Steps

The *infinite* Digital Key Telephone System offers

tables allow a maximum of eight digits to be entered as allow or deny digits. This allows for entry of certain area codes or office codes or a combination of area code plus office code that can specifically be allowed or denied. For exam-

with CO Line COS assignments to provide several different types of dialing privileges (Refer to CO/Station COS matrix below).

The Allow and Deny tables allow entries of either general or specific allow and deny codes such as allowing all [1-800] type calls, and/or denying all [1]+ or [0]+ calls. The allow and deny

tables, the allow table is searched first and if a match is found, it is allowed. If a match is not found, the deny table is searched and if a match is found there, the call is denied. If the number does not match an entry in either table, it is allowed.

Table 760-1 Class of Service (COS)

		CO LINE CLASS OF SERVICE				
		1	2	3	4	5
STATION COS	1	Unrestricted	Unrestricted	Unrestricted	Canned Restriction*	Unrestricted
	2	Table A	Table A	Unrestricted	Canned Restriction*	Unrestricted
	3	Table B	Unrestricted	Table B	Canned Restriction*	Unrestricted
	4	Tables A&B	Table A	Table B	Canned Restriction*	Unrestricted
	5	Canned Restriction*	Canned Restriction*	Canned Restriction*	Canned Restriction*	Unrestricted

DVX [II] System, for monitoring SLT dialing. If a system has heavy SLT usage toll restriction may inhibit dialing by SLT stations. Two options are available to help alleviate

760.3 TOLL RESTRICTION PROGRAMMING

A. Entering Toll Table Programming

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode. Refer to Sec. 700.2, Program Mode Entry (Key Station).

	It is recommended that the Exception

Description

All toll tables have been conveniently placed under one program code to allow entry of all toll restriction data.

The buttons on the digital terminal are defined as shown below when entering the Toll Restriction programming area.

This is done by pressing the appropriate "AREA-CODE TBL" button and assign the area code.

NOTE	***Special Table 4 is reserved for the home area code and does not require an area code entry.***

4. To display entries in any of the tables, press the DISPLAY TABLES button (button #12). Entries in the allow/deny tables will display two at a time. Entries in the special tables will be displayed six at a time in ascending order.

in the next allow or deny table that is to be checked. The system will not return to the table that sent the call to the special table.

> **NOTE** ***Bin 19 be reserved for referencing special table number 3; Bin 20 be reserved for referencing the Home area code table, special table number 4.***

3. Enter the allow code:

where:

- 0 to 9, *, # = corresponding allow digits (numbers)
- MUTE = Don't Care digit ("D")
- TRANS = search special table ("S")

4. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.
5. When all entries for one table are complete, press the flexible button for the next table.

The following rules should be applied when making entries that will reference the special tables:

- Allow table B is referenced and looked at first (before the deny table B) when Station COS is 3 and CO line COS is either 1 or 3.
- When station COS is 4 and CO line COS is 1 both allow tables are looked at first (allow table A first then allow table B) then both deny tables (deny table A first then deny table B).

Don't Care digits specify that the system should consider any digit dialed in that position as a match. Don't Care digits should not be entered as the last digit in an entry, as this would be an unnecessary or meaningless command.

Search Special Table commands must be entered in a specific manner and should always be placed as the last entries in the Allow table.

where:

- 0 to 9, *, # = corresponding deny digits (numbers)
- MUTE = Don't Care digit

4. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.
5. When all entries for one table are complete, press the flexible button for the next table.

only after the allow table B is checked when Station COS is 3 and CO line COS is either 1 or 3.

- When station COS is 4 and CO line COS is 1 both allow tables are looked at first (allow table A first then allow table B) then both deny tables (deny table A first then deny table B).

Don't Care digits specify that the system should consider any digit dialed in that position as a match. Don't Care digits should not be entered as the last digit in an entry.

Search Special table commands can not be entered into the Deny tables.

To erase a bin, enter the two-digit bin number followed by pressing the HOLD button.

2. Enter the three-digit area code.

3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

To enter office codes into the special table:

4. Press the SPECIAL TABLE (1-4) flexible button (button #5 - #8) that corresponds to the area code programmed above. The following message is shown on the display phone:

```
SPECIAL TABLE 1   AC   XXX
```

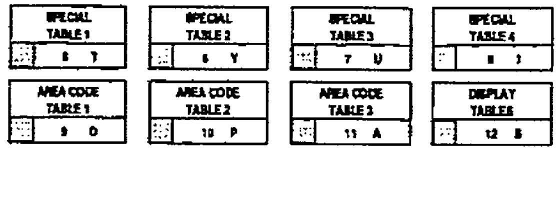
Where:

- XXX= Area Code

5. Enter the three-digit office codes that are to be allowed followed by a [1] which means to allow this code. To remove a code from the allow list enter the three-digit office code followed by a [0] which will remove the office codes will be allowed. By default no codes are on the allow list.

Codes can be added to the allow list or removed from the list. When a special table is checked for a match, to a three digit code, but not found the system will then continue to search the next allow deny table that is to be checked. The system does not return to the allow table which routed the call to the special table.

The buttons on the digital terminal are defined as shown below when entering the Special Table programming area.



LCR PROGRAMMING (Cont'd)

A. 3-Digit Area/Office Code Table

Programming Steps

1. Press 3-DIGIT TABLE flexible button (Button # 1). The following message will be shown on the display phone:

```
3 DIGIT ROUTING TABLE
ENTER 1 NNN RRY PP HOLD
```

Description

3-Digit Area/Office Code Table. This table is divided into two sections - Leading 1 (a [1] is dialed before the number) and Non Leading 1 (no [1] is dialed before the number). This gives the system the ability to handle call routing in areas that require a [1] before a long distance number, as well as in areas that do not require

0				0			
1				1			
0				0			
1				1			
0				0			
1				1			
0				0			
1				1			
0				0			
1				1			
0				0			
1				1			
0				0			
1				1			
0				0			

Figure 765-1 Ex: 3-Digit Area/Office Code Table Pgm Form

LCR PROGRAMMING (Cont'd)

B. 6-Digit Office Code Table

Programming Steps

1. Press the 6-DIGIT TABLE flexible button (Button # 2). The following message is shown on the display phone:

```
6 DIGIT ROUTING TABLE
ENTER S AAA RR NNN HOLD
```

Where:

- S = [0] to remove codes
  [1] to add codes
- AAA = area code
- RR = route number 00-15
- NNN = office code

2. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.
3. Enter additional office codes to be programmed into the same Area Code/ Route Table, pressing hold after each office code entry.
4. Press a flexible button to program a different table.

Description

6-Digit Office Code Table. This table is used to determine a route for one or a group of individual office codes within an area code. Certain office codes within an area code can be given unique or special routing. If the office code dialed is not found in the 6-Digit Office Code Table, the call is then routed according to the route list table as was entered in the 3-Digit Table.

The system allows for 20 6-Digit Area/Office code tables that may be used to route specific office codes within an area code. Each table will route calls for a common area code to a specified route. All entries made into a table will route those office codes to the specified route list table. An area code may be entered into more than one 6-Digit table with different routes specified.

To delete all entries in an Area Code/Route table, enter [0 AAA RR ###].

Appendix A-14 6-Digit Office Code Table

AREA CODE	ROUTE					

Figure 765-2 Ex: 6-Digit Office Code Table Pgm Form

LCR PROGRAMMING (Cont'd)

C. Exception Code Table

Programming Steps

1. Press EXCEPTION TABLES flexible button (Button #3). The following message will be shown on the display phone:

```
EXCEPTION CODE TABLE
ENTER  S  XX  RR  HOLD
```

Where:

- S = [0] to remove code from table, [1] to add code to table
- XX= exception codes for single digit codes, press MUTE button as 2nd digit). The digits [*] and [#] may be entered as valid digits.
- RR= route table number, 00-15

2. Press the HOLD button to save the entry. Confirmation tone is heard and the display

Description

Exception Table. This table is used for operator calls and any other calls which would use a one-digit or two-digit entry, rather than a three-digit area code.

2			12		
3			13		
4			14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		

Figure 765-3 Ex: Exception Code Table Pgm Form

LCR PROGRAMMING (Cont'd)

D. Route List Table

Programming Steps

1. Press the ROUTE LIST TABLE flexible button (Button #4). The following message will be shown on the display phone:

```
ROUTE LIST TABLE
ENTER  RR  T  G  DD  L  HOLD
```

Where:

- RR = Route List Table number 00-15
- T = Time Period Route list 1-4

Description

Route List Table. Up to 16 different Route list tables can be programmed. Each route list table contains four time period routing lists, one for each of the available (four) daily start time periods. Within each time period route list up to seven CO (outside) line groups and their corresponding Insert/Delete Table if any and LCR class of service priority are programmed on a per line group basis.

When routing a CO call through LCR, CO Line groups are accessed in sequence so that the first line group entered represents the least

DD L HOLD

To enter data for a different time period route list:

1. Press program button 4 and enter all data (RR T G DD L).
2. Repeat above to program a new Route Number 00 to 15 or press a flexible button to program other LCR information.

The following message will be shown on the display when the Call Cost feature has been enabled in Flash 05, Button #11.

```
ROUTE LIST TABLE
ENTER  RR  T  CCC  G  DD  L  HOLD
```

Where:

- RR = Route List Table number 00-15
- T = Time Period Route list 1-4
- CCC = Cost for one minute $0.00-$9.99
- G= CO Line Group 1-7
- DD = Insert/Delete Table reference 00-19 (## for none)
- L= LCR Class of Service (LCOS)

mines which Time Period Route list should be used within the Route List Table.

The system then begins to check for idle lines in the first entered CO line group and will proceed until an idle line is found. While it is searching for an idle CO line the Station LCR COS is checked against the entries for LCR COS Priority of the specific CO line groups (see LCR COS Priority explanation below). Once an idle CO line is found with a LCR priority equal to or higher than the stations LCR COS then a final check is made to determine if an Insert/Delete table should be referenced. Once all of the tables and entries are checked the system then processes the call on the outside CO line.

NOTE	*Make sure you have made entries into all Time Period Route List that are referenced in the weekly schedule table.*

Related Programming: Refer to Sec. 710.2, System Features Programming, Call Cost Display Feature programming.

3-6).

Table 765-1 LCR Class of Service Table

Allowed Access to Route		LCR CO Line Group Priority						
		0	1	2	3	4	5	6
STA LCR COS	0	Y	Y	Y	Y	Y	Y	Y
	1	N	Y	Y	Y	Y	Y	Y
	2	N	N	Y	Y	Y	Y	Y
	3	N	N	N	Y	Y	Y	Y
	4	N	N	N	N		Y	Y
	5	N	N	N	N	N	Y	Y
	6	N	N	N	N	N	N	Y

N= Cannot use Line Group
Y= Has access to Line Group

LCR PROGRAMMING (Cont'd)

E. Insert/Delete Table

Programming Steps

1. Press INSERT/DELETE TABLE flexible button (button #5). The following message will be shown on the display phone:

```
DIGIT INSERT/DELETE
ENTER TT X DDD NNNN
```

(2) Post-insert numbers (insert digits behind number dialed)

- DDD = digits (up to 16-digits may be deleted from the beginning of the number dialed and up to 40 digits can be inserted (20 pre and 20 post)).

2. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update.

To add and delete numbers in the same table, enter the different insertion/deletion tables in step 1 and enter as separate entries using the same table number.

In the Insert Tables for LCR programming:

1. Press the TRANS button for a pause.
   - The [*] and [#] digits are allowed as valid digits for inserting digits dialed over the network.
   - The [*] and [#] are valid entries for adding digits in both the pre (in front of) or post (behind the number) tables.
   - The [*] and [#] can not be used as delete characters in the Delete Tables.

To delete a Table, enter the Table number followed by the HOLD button.

Description

Insert/Delete Table. Digits can be either added or deleted when dialing a number. For instance, if a user dials a long distance call that should be placed on a foreign exchange (FX) line, the digit [1] and the three-digit area code (NPA) dialed by the user must be deleted before the call can be placed on that FX line. An

20-post) and up to 16-digits can be deleted. Digits can be inserted before or after the number dialed but can be deleted only from the start of the number dialed.

Appendix A-12 Insert/Delete Tables

TABLE		DIGITS DIALED
00	INSERT PRE	
	INSERT POST	
	DELETE (PRE)	
01	INSERT PRE	
	INSERT POST	
	DELETE (PRE)	
02	INSERT PRE	
	INSERT POST	
	DELETE (PRE)	
03	INSERT PRE	
	INSERT POST	
	DELETE (PRE)	
04	INSERT PRE	
	INSERT POST	
	DELETE (PRE)	
05	INSERT PRE	
	INSERT POST	
	DELETE (PRE)	
06	INSERT PRE	
	INSERT POST	
	DELETE (PRE)	
07	INSERT PRE	
	INSERT POST	
	DELETE (PRE)	
08	INSERT PRE	
	INSERT POST	
	DELETE (PRE)	
09	INSERT PRE	
	INSERT POST	
	DELETE (PRE)	
10	INSERT PRE	
	INSERT POST	
	DELETE (PRE)	
11	INSERT PRE	
	INSERT POST	
	DELETE (PRE)	
12	INSERT PRE	
	INSERT POST	
	DELETE (PRE)	

Figure 765-4 Ex: Insert/Delete Pgm Form

HHMM HHMM HHMM HHMM HOLD

2. Enter times in military form (2400 Hours) in succession.
3. Press the HOLD button to save the entry. Confirmation tone is heard and the display will now update. Default times are 0800, 1700, 2300 (8 AM, 5 PM, and 11 PM), and the fourth time is disabled (####). To change a start time all times must be re-entered. Four pounds [####] will be displayed if nothing is entered for a specific time.

often called the day rate. The first discount period usually starts at 5:00 pm and runs until 11:00 pm, often called Evening Rates. The remaining time (from 11:00 pm until 8:00 am) in this example is referred to as night time rates which usually has the biggest discount. With the wide selection of Common Carriers the least costly route for a particular area code may be different at different times of the day. To accommodate this situation, this table and the Weekly Schedule Table work together, dividing the day into four possible time periods. By default these tables are set at the standard divisions of 8AM, 5PM, and 11PM. However, these times can be changed.

The entries in the Daily Start Time table are used to select the time period to reference in the weekly schedule. Based on the time a call is placed the daily start time table selects the time period to choose in the weekly schedule. The weekly schedule is then used to determine the time period route list in the Route List Table to use for routing the call for a particular day of the week.

The times are entered in the 24 hour format.

Time Call is placed ______

ENTRY	Daily Start Time Table (default values)
1	0800 (8:00 am)
2	1700 (5:00 pm)
3	2300 (11:00 pm)

ENTRY	Weekly Schedule (default values)						
	Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	1	3	3
2	2	2	2	2	2	3	2
3	3	3	3	3	3	3	3

= Time Period Route List used ______

LCR PROGRAMMING (Cont'd)

H. LCR Routing for Toll Information

Programming Steps

1. Press TOLL INFO flexible button (button #8) The following message will be shown on the display phone:

```
LCR ROUTE FOR 555-1212
ENTER ROUTE
```

2. Enter the two-digit Route List number (00-15) for the Route to be referenced in the Route List Table.
3. Press the HOLD button after programming the Route number. Confirmation tone is heard and the display will now update.
4. Enable LCR at this point. Refer to Sec. 710.2, System Features Programming,

Description

This feature adds provisions to the LCR call processing which will allow common call routing for all toll information calls. 1-(XXX)555-1212, (XXX)555-1212, 1-555-1212 and 555-1212 calls will all be intercepted and sent to a selected route in the Route List Table. Numbers dialed will be integrated and if it is determined to be a toll information call, either preceded with an area code or without or with a leading digit 1 or not, the call will be sent to the route designated in programming.

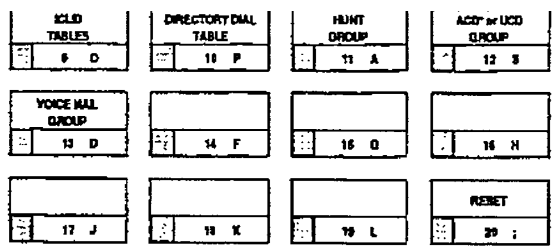
Default: By default, Toll Information Calls will be to Route List Table zero (0) which will allow toll information calls to be placed on the system at default.

A Toll Information route will be chosen over a 3-Digit or 6-Digit route assignment if both are

LCR PROGRAMMING (Cont'd)

I. Default LCR Database

Programming Steps	Description
	In an effort to decrease installation and set up time, usually associated with LCR, a default LCR database has been incorporated. The default LCR database will provide basic routing for local and long distance dialing. Default entries have been made in the 3-Digit Table for local office codes (NNX's) and all area codes (NPA's). Two routes have been established with the default database for routing of all calls under default. The entire default database is shown in Figure 775-8 DB Printout of LCR Default.
	The 3-Digit tables contain a default where all Long distance (numbers requiring an area code) with a leading digit "1" are routed to Route table 00. Route Table 00 will route calls on lines in group 1 for all time periods. All Local calls (numbers that are dialed without an area code) with or without a leading digit "1" are routed to route list table 01. Route list table 01 also routes calls using lines in line group 1 for all time periods.



* This feature only available if Basic ACD Software Package was purchased separately.

INIT DATABASE PARAMETERS (Cont'd)

A. Initialize System Parameters

Programming Steps

If System Parameters need to be initialized:

1. Press the System Parameters flexible button (Button #1). The following message will

Description

The system parameters may be initialized setting all data fields to their original, default values. The following data fields are returned to

	7	Pause Timer	2 seconds
	8	Call Park Timer	180 seconds
	9	Conference/DISA Timer	10 minutes
	10	Paging Timeout Timer	15 seconds
	11	CO Ring Detect Timer	300 milliseconds
	12	DISA/SLT Receiver Timer	020 seconds
	13	MSG Wait Reminder Tone	000 minutes
	14	SLT Hook-flash Timer	10 (1 seconds)
	15	SLT Hook-flash Debounce	010 (.1 second)
	16	SMDR Call Qualification Timer	30 sec.
	17	Auto Call Back Timer	00 sec. (disabled)
SYSTEM FEATURES:			
FLASH 05	1	Attendant Override	disabled
	2	Hold Preference	System HOLD
	3	External Night Ringing	disabled
	4	Executive Warning Tone	enabled
	5	Page Warning Tone	enabled
	6	Background Music	enabled
	7	LCR Enable	disabled
	8	Forced Account Codes	disabled
	9	Group Listening	disabled
	10	Idle Speaker Mode	disabled
	11	Call Cost Display Feature	disabled
	12	Music On Hold	enabled

INIT. DATABASE PARAMETERS (Cont'd)

Initialize System Parameters (Cont'd)

Programming Steps | Description

PROGRAM CODE	FLEX	FEATURE	DEFAULT VALUE
	2	ANM Schedule - Mon.	08:00/17:00
	3	ANM Schedule - Tues.	08:00/17:00
	4	ANM Schedule - Wed.	08:00/17:00
	5	ANM Schedule - Thur.	08:00/17:00
	6	ANM Schedule - Fri.	08:00/17:00
	7	ANM Schedule - Sat.	##:##/##:##
	8	ANM Schedule - Sun.	##:##/##:##
FLASH 23	1-4	Directory Dialing Table	None

INIT. DATABASE PARAMETERS (Cont'd)

B. Initialize CO Line Attributes

Programming Steps

If CO Line Attributes need to be initialized:

1. Press the CO Line Attributes flexible button (Button #2). The following message will

Description

The CO Line parameters may be initialized setting all data fields to their original, default values. The following data fields are returned to

	6	Loop Supervision	NO (disabled on all lines)
	7	DISA Operation	NO (disabled on all lines)
	8	Flash Time	10 (1 second)
	9	Line Group Assignment	All Lines are in Group 1
	10	Line Class of Service	All Lines assigned COS1
	11	CO Line Ring Assignment	All Lines Ring at STA 100
	12	CO Line Identification	None
FLASH 41	1	Dial Pulse Break/Make Ratio	60/40
	2	Dial Pulse Dialing Speed	10 pps

INIT. DATABASE PARAMETERS (Cont'd)

C. Initialize Station Attributes

Programming Steps

If Station Attributes need to be initialized:

1. Press the Station Attributes flexible button (Button #3). The following message will be shown on the display phone:

```
INITIALIZE STATIONS
PRESS HOLD
```

2. To initialize the Station Attributes, press the HOLD button. Confirmation tone will be heard.

Description

The Station parameters may be initialized setting all data fields to their original, default values. The following data fields are returned to their default value upon initializing the Station parameters.

PROGRAM CODE	FLEX BUTTON	FEATURE	DEFAULT VALUE (after initializing)
	B/1		All Single Line Telephones and OPX's default to ID 5 (SLT w/o MSG Wait)
	B/2	Station Class of Service	All Stations assigned COS 1
	B/3	Speakerphone Option	All Stations assigned option 1
	B/4	Pick-Up Group(s)	All Stations assigned into Group 1
	B/5	Paging Zone(s)	All Stations assigned into Zone 1
	B/6	Preset Forward Destination	None assigned
	B/7	CO Line Group Access	All Stations assigned access to Group 1
	B/8	LCR Class of Service	All Stations given an LCR COS of 0
	B/9	Off-Hook Preference	Is allowed to all stations with the ability to change the assignment
	B/10	Flex Button Assignment	See default button assignment

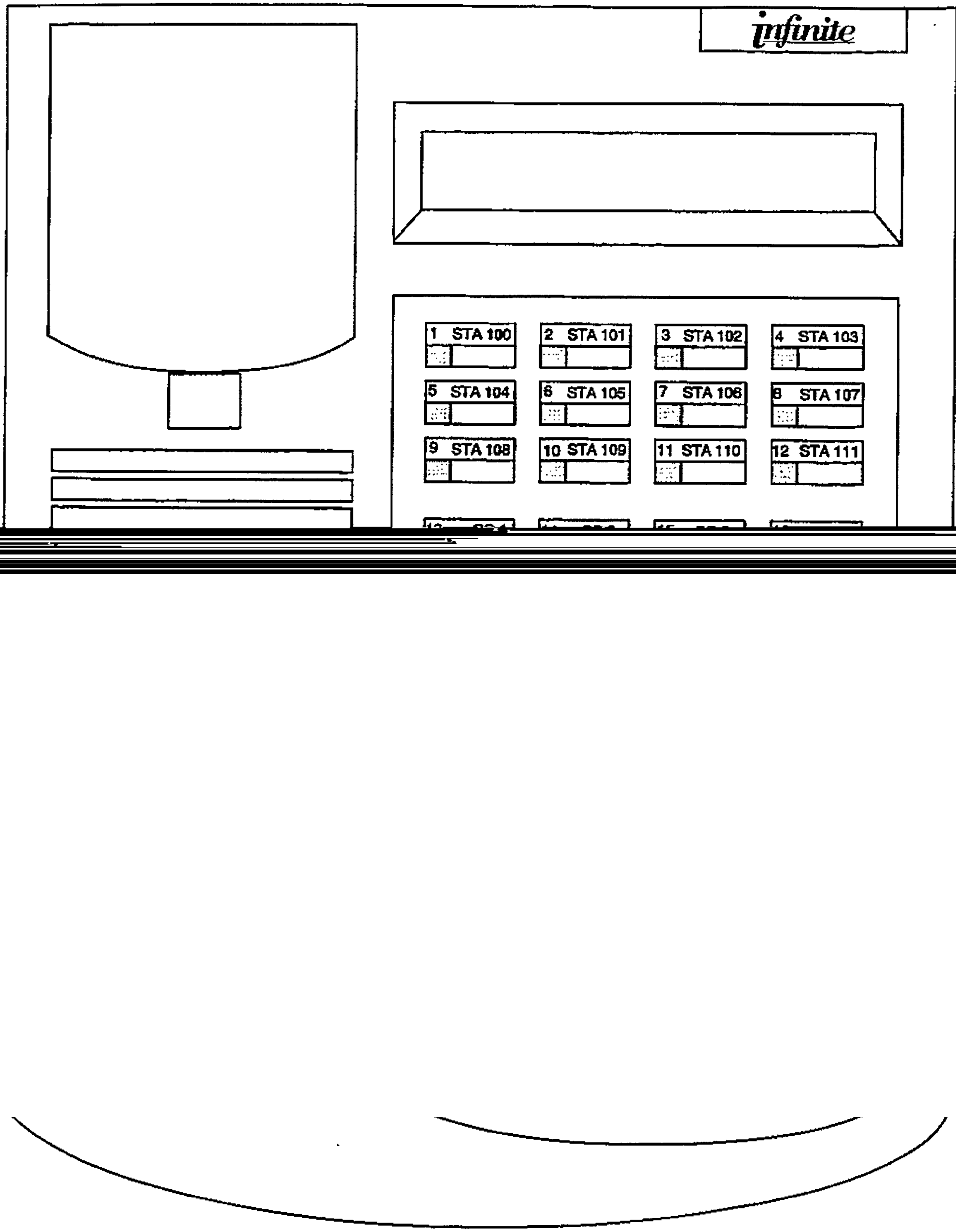


Figure 770-1 33-Button Default Button Mapping

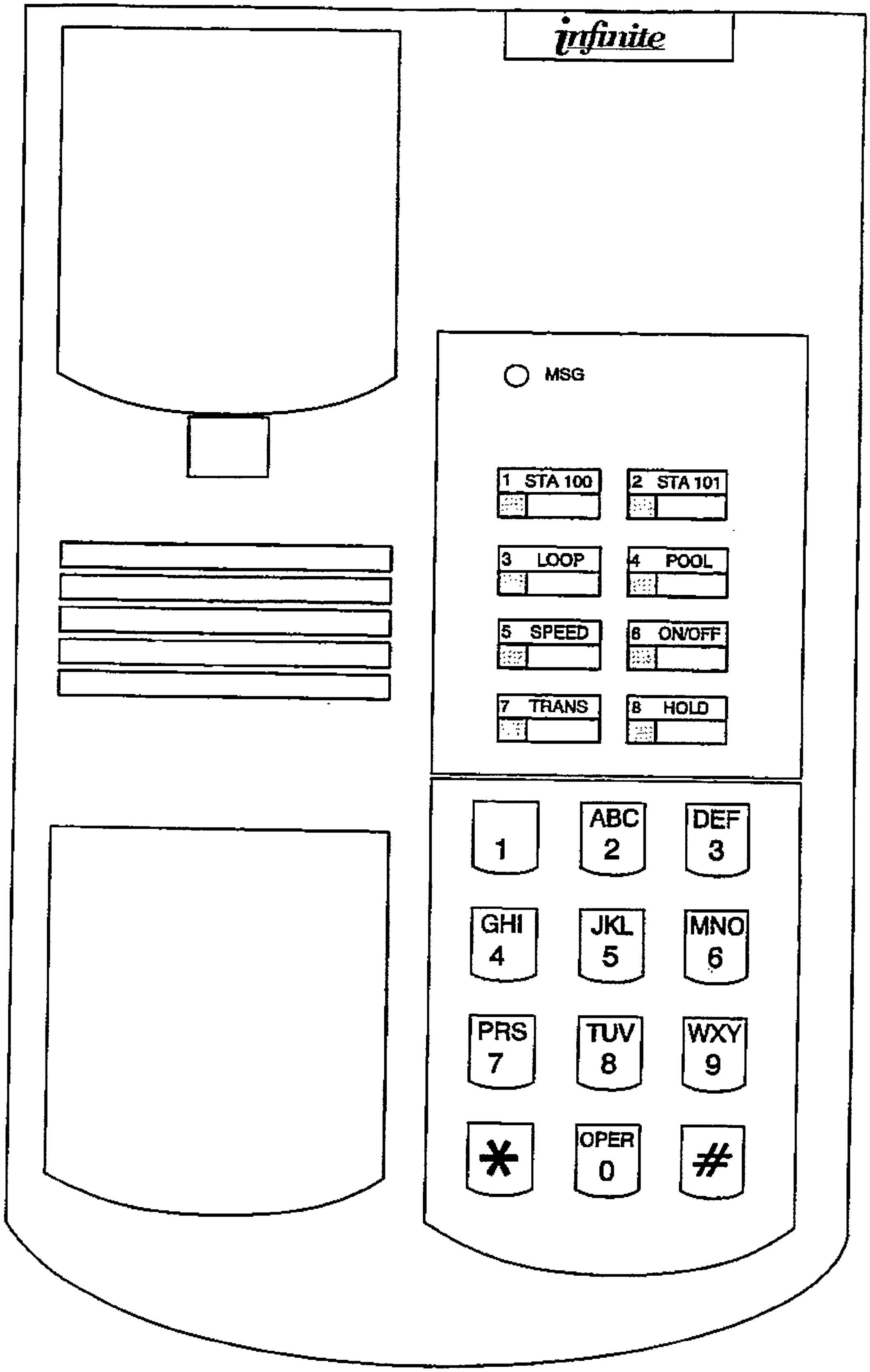


Figure 770-2 8-Button Default Button Mapping

sage will be shown on the display phone:

```
INITIALIZE PORT - STA/CO
PRESS HOLD
```

2. To initialize the Station/CO Port parameters, press the HOLD button. Confirmation tone will be heard.

upon initializing the CO/Station Port parameters.

INIT. DATABASE PARAMETERS (Cont'd)

E. Initialize Exception Tables

Programming Steps

If Exception Tables need to be initialized:

1. Press the Exception Tables flexible button (Button #5). The following message will be shown on the display phone:

```
INITIALIZE EX TABLES
PRESS HOLD
```

2. To initialize the Exception Tables, press the HOLD button. Confirmation tone will be heard.

Description

The Exception Table parameters including the Allow/Deny Tables and the Special Tables may be initialized setting all tables to their original, default values. The following Tables are cleared returning to their default value upon initializing the Exception Tables parameters:

TABLE	DEFAULT VALUE (after initializing)
ALLOW TABLE - A	Table Cleared [illegible]

heard.

- Weekly Schedule
- Toll Information Route

INIT. DATABASE PARAMETERS (Cont'd)

H. Initialize Entire System and Reset (all parameters)

Programming Steps

If System needs to be initialized:

1. Press the System and Reset flexible button (Button #8). The following message will be shown on the display phone:

```
INITIALIZE DATA-BASE
PRESS HOLD
```

2. To initialize the entire system database, press the HOLD button. The system will perform a hard reset.

Description

To completely initialize the database area including all non-programmable parameters held in Dynamic RAM (DRAM) and reset the system also clearing any meantime errors that may exist this command may be used. The system will require reprogramming of any customer specific data after using this command. This provides an easy way to re-initialize the system and clearing any meantime errors that may have accumulated inhibiting system operation or performance.

INIT. DATABASE PARAMETERS (Cont'd)

J. Initialize Directory Dialing Table Parameters

Programming Steps

If Directory Dialing Table Parameters need to be initialized:

1. Press the Directory Dialing Table Parameters flexible button (Button #10). The following message will be shown on the display phone:

```
INITIALIZE DIR-DIAL
PRESS HOLD
```

2. To initialize the Directory Dialing Table parameters, press the HOLD button. Confirmation tone will be heard.

Description

The Directory Dialing Table parameters may be initialized setting all data fields to their original, default values.

sage will be shown on the display phone:

```
INITIALIZE HUNT GROUP
PRESS HOLD
```

2. To initialize the Hunt Group parameters, press the HOLD button. Confirmation tone will be heard.

PROGRAM CODE	FLEX BUTTON	FEATURE	DEFAULT VALUE (after initializing)
FLASH 30	1-8	Hunt Groups 330-337	No Hunt Groups established
	9	Station or Pilot Hunting	All Hunt Groups default using Pilot Hunting

PROGRAM CODE	FLEX BUTTON	FEATURE	DEFAULT VALUE (after initializing)
FLASH 60	A/1-8	ACD/UCD Groups 550-557	No UCD groups established
	A/9	Alternate ACD/UCD Group Assign	No UCD Alternates group assignments is made
	A/10	ACD/UCD Overflow Assignment	No Overflow assignment is made
	A/11	ACD/UCD RAN Announcement Table Assignments	No RAN tables are specified
	A/12	ACD Supervisor Programming	No Supervisor assigned
	B/1-8	ACD or UCD Station Assignments	No stations are assigned
FLASH 61	1	ACD or UCD Ring Timer	060 seconds
	2	ACD or UCD Message Interval Timer	060 seconds
	3	ACD or UCD Overflow Timer	060 seconds
	4	ACD or UCD Wrap-Up Timer	004 seconds
	5	ACD or UCD No Answer Recall	000 seconds (disabled)
		ACD or UCD No Answer Retry	300 seconds
FLASH 62	1-8	RAN Tables 1 through 8	No RAN parameters set

INIT. DATABASE PARAMETERS (Cont'd)

M. Initialize VM Group Parameters

Programming Steps

If VM Group Parameters need to be initialized:

1. Press the VM Group Parameters flexible

Description

VM Group parameters may be initialized setting all data fields to their original, default values.

	12	VM Station Assignments	NO stations are assigned
FLASH 66	1-7	Voice Mail Out-Pulsing Tables for in-band signaling	Out-pulse tables are empty by default
	8	Voice Mail Disconnect Table	Disconnect table is empty
FLASH 67	1	In-Band Digits for Incoming CO Calls	Disabled by default
	2	Voice Mail Transfer/Forward	Disabled by default

INIT. DATABASE PARAMETERS (Cont'd)

N. System Reset

Programming Steps

If the system needs to be reset but not initialized:

1. Press the RESET flexible button (Button #20). The following message will be shown on the display phone:

```
RESET SYSTEM
PRESS HOLD
```

2. To reset the system without initializing the database, press the HOLD button. No Confirmation tone will be heard and the system will now reset.

Description

This feature provides a hard system reset from the keyset instead of the KSU. This is useful in cases where miscellaneous data errors have occurred and the system needs to be reset without initializing the entire database.

will be shown on the display phone:

PRINT STATIONS
PRESS HOLD

2. To print data for all stations, press the HOLD button. To print Station data for a specified Station Range enter six digits to specify the Station range (three digits for the first station within the range and three digits for the last station in the range i.e. [100109]). If a print out of only one station is desired enter that station twice (i.e. [101101]). Then press the HOLD button.
3. The following message will be shown on the display phone and the requested information will be printed:

PRINTING STATIONS

When the system has finished sending the requested information to the printer, confirmation tone will be heard.

allows either a range of station data or all stations data information to be "dumped" as a permanent record which can serve as a hard copy of the station attribute database .

The system Baud rate must match that of the printer or receiving device.

When printing the Station attributes the following data is printed;

- All current station parameters

Refer to the following Figure for an example of a Station attribute database print out.

Default: None

Related Programming: Refer to Sec. 710.8, Baud Rate Assignments, for setting the baud rate of the RS-232C port on either the DVX I Basic KSU or the Central Processor Board (CPB) on the DVX II system.

Definition of Terms for Stations Printout

PAGE= Paging Access
DND= Do Not Disturb
CONF= Conference
EOR=Executive Override
PRI= Privacy
SPD= System Speed Dial Access
QUE= Line Queue Access
PLA= Preferred Line Answer
OHVO=Off-Hook Voice Over

SID= Station ID
AID= Associated ID (DSS/DLS Console)
DCOS= Day Class of Service
NCOS= Night Class of Service
SPK= Speakerphone Option
PICKUP= Pickup Groups
PAGE= Paging Groups
PREFWD= Preset Forward Assignment
LCOS= LCR Class of Service

sage will be shown on the display phone:

```
PRINT PORT-STA/CO
PRESS HOLD
```

2. To print the CO/Station Port parameters, press the HOLD button. The following message will be shown on the display phone:

```
PRINTING PORT-STA/CO
```

When the system has finished sending the requested information to the printer, confirmation tone will be heard.

printed or "uploaded" into a file. This command allows either a range of station data or all stations data information to be "dumped" as a permanent record which can serve as a hard copy of the station attribute database .

The system Baud rate must match that of the printer or receiving device.

Refer to the following Figure for an example of a Station attribute database print out.

Default: None

Related Programming: Refer to Sec. 710.8, Baud Rate Assignments, for setting the baud rate of the RS-232C port on either the DVX I Basic KSU or the Central Processor Board (CPB) on the DVX II system.

```
CARD        CO
----   -------
 01  - 01 02 03 04
 02  - 05 06 ## ##
 03  - 07 08 09 10
 04  - 11 12 13 14

CARD                  STA
----   ------------------
```

System DataBase Printouts (Cont'd)

F. Printing System Speed Bins

Programming Steps

If a printout of the System speed dial entries are desired:

1. Press the SYSTEM SPEED flexible button (Button #6). The following message will be shown on the display phone:

```
PRINT SYS SPEED NO
```

Description

With a printer connected to the RS-232C port of the Basic KSU or on the DVX II CPB board, the currently stored customer database can be printed or "uploaded" into a file. This command allows either a range of system speed dial bins or all bins can be "dumped" as a permanent record which can serve as a hard copy of the system speed dial database.

```
SYSTEM SPEED NUMBERS

20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45

46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
...and so on thru Speed No 99
```

Figure 775-6 DB Printout of System Speed Numbers

button. The following will be shown on the display phone.

PRINTING LCR TABLES

bles, the following data is printed:

- Exception Table
- Route List Table
- Insert/Delete Table
- Daily Time Table

Basic KSU or the Central Processor Board (CPB) on the DVX^{II} system.

EXCEPTION CODE TABLE

CODE	ROUTE NO

ROUTE LIST TABLE

RT	TIME	COST	CO GRP	INS/DEL GRP	PR
0	1	026	1	##	1
	2	026	1	##	1
	3	026	1	##	1
	4	026	1	##	1
1	1	000	1	##	1
	2	000	1	##	1
	3	000	1	##	1
	4	000	1	##	1
2	1	010	1	##	1
	3	106	1	##	1
	4	106	1	##	1
6	1	277	1	##	1
	2	277	1	##	1
	3	277	1	##	1
	4	277	1	##	1

DIGIT INS/DEL TABLE

TABLE	DIGITS

DAILY START TIME TABLE

TABLE	TIME
1	800
2	1700
3	2300

441	2	8	N	1	7	N	494	2	8	N	1	7	N
442	2	8	N	1	7	N	495	2	8	N	1	7	N
443	2	8	N	1	7	N	496	2	8	N	1	7	N
444	2	8	N	1	7	N	497	2	8	N	1	7	N
445	2	8	N	1	7	N	498	2	8	N	1	7	N
446	2	8	N	1	7	N	499	2	8	N	1	7	N
447	2	8	N	1	7	N	500	0	11	N	##	##	N
448	2	8	N	1	7	N	501	0	11	N	##	##	N
449	2	8	N	1	7	N	502	0	11	N	##	##	N
450	2	8	N	1	7	N	503	0	11	N	##	##	N
451	2	8	N	1	7	N	504	0	11	N	##	##	N
452	2	8	N	1	7	N	505	0	11	N	##	##	N
453	2	8	N	1	7	N	506	3	11	N	##	##	N
454	2	8	N	1	7	N	507	0	11	N	##	##	N
455	2	8	N	1	7	N	508	0	11	N	##	##	N
456	2	8	N	1	7	N	509	0	11	N	##	##	N
457	2	8	N	1	7	N	510	0	11	N	##	##	N
458	2	8	N	1	7	N	512	0	11	N	##	##	N
459	2	8	N	1	7	N	513	0	11	N	##	##	N
460	2	8	N	1	7	N	514	3	11	N	##	##	N

Figure 775-8 DB Printout of LCR Default (Cont'd)

515	0	11	N	##	##	N	568	2	8	N	1	7	N
516	0	11	N	##	##	N	569	2	8	N	1	7	N
541	2	8	N	1	7	N	594	2	8	N	1	7	N
542	2	8	N	1	7	N	595	2	8	N	1	7	N
543	2	8	N	1	7	N	596	2	8	N	1	7	N
544	2	8	N	1	7	N	597	2	8	N	1	7	N
545	2	8	N	1	7	N	598	2	8	N	1	7	N
546	2	8	N	1	7	N	599	2	8	N	1	7	N
547	2	8	N	1	7	N	600	0	11	N	##	##	N
548	2	8	N	1	7	N	601	0	11	N	##	##	N
549	2	8	N	1	7	N	602	0	11	N	##	##	N
561	2	8	N	1	7	N	615	0	11	N	##	##	N
562	2	8	N	1	7	N	616	0	11	N	##	##	N
563	2	8	N	1	7	N	617	0	11	N	##	##	N
564	2	8	N	1	7	N	618	0	11	N	##	##	N
565	2	8	N	1	7	N	619	0	11	N	##	##	N
566	2	8	N	1	7	N	620	2	8	N	1	7	N
567	2	8	N	1	7	N	621	2	8	N	1	7	N

Figure 775-8 DB Printout of LCR Default (Cont'd)

622	2	8	N	1	7	N	675	2	8	N	1	7	N
623	2	8	N	1	7	N	676	2	8	N	1	7	N
624	2	8	N	1	7	N	677	2	8	N	1	7	N
625	2	8	N	1	7	N	678	2	8	N	1	7	N
626	2	8	N	1	7	N	679	2	8	N	1	7	N
627	2	8	N	1	7	N	680	2	8	N	1	7	N
628	2	8	N	1	7	N	681	2	8	N	1	7	N
629	2	8	N	1	7	N	682	2	8	N	1	7	N
630	2	8	N	1	7	N	683	2	8	N	1	7	N
631	2	8	N	1	7	N	684	2	8	N	1	7	N
632	2	8	N	1	7	N	685	2	8	N	1	7	N
633	2	8	N	1	7	N	686	2	8	N	1	7	N
634	2	8	N	1	7	N	687	2	8	N	1	7	N
635	2	8	N	1	7	N	688	2	8	N	1	7	N
636	2	8	N	1	7	N	689	2	8	N	1	7	N
637	2	8	N	1	7	N	690	2	8	N	1	7	N

729	2	8	N	1	7	N
730	2	8	N	1	7	N
731	2	8	N	1	7	N
732	2	8	N	1	7	N
733	2	8	N	1	7	N
734	2	8	N	1	7	N
735	2	8	N	1	7	N
736	2	8	N	1	7	N
737	2	8	N	1	7	N
738	2	8	N	1	7	N
739	2	8	N	1	7	N
740	2	8	N	1	7	N
741	2	8	N	1	7	N
742	2	8	N	1	7	N
743	2	8	N	1	7	N
744	2	8	N	1	7	N
745	2	8	N	1	7	N
746	2	8	N	1	7	N
747	2	8	N	1	7	N
748	2	8	N	1	7	N
749	2	8	N	1	7	N
750	2	8	N	1	7	N
751	2	8	N	1	7	N
752	2	8	N	1	7	N
753	2	8	N	1	7	N
754	2	8	N	1	7	N
755	2	8	N	1	7	N
756	2	8	N	1	7	N
757	2	8	N	1	7	N
782	2	8	N	1	7	N
783	2	8	N	1	7	N
784	2	8	N	1	7	N
785	2	8	N	1	7	N
786	2	8	N	1	7	N
787	2	8	N	1	7	N
788	2	8	N	1	7	N
789	2	8	N	1	7	N
790	2	8	N	1	7	N
791	2	8	N	1	7	N
792	2	8	N	1	7	N
793	2	8	N	1	7	N
794	2	8	N	1	7	N
795	2	8	N	1	7	N
796	2	8	N	1	7	N
797	2	8	N	1	7	N
798	2	8	N	1	7	N
799	2	8	N	1	7	N
800	0	11	N	##	##	N
801	0	11	N	##	##	N
802	0	11	N	##	##	N
803	0	11	N	##	##	N
804	0	11	N	##	##	N
805	0	11	N	##	##	N
806	0	11	N	##	##	N
807	3	11	N	##	##	N
808	0	11	N	##	##	N
809	5	11	N	##	##	N
810	0	11	N	##	##	N

System Da

H. Printi

If a comple
desired:

1. Press
(Butto
the dis

PR
PR

2. To pri
HOLD
indica
being

PRINTII

PRIN

PR

PR

PRIN

PRINTIN

When the
tire databa
will be hea

System DataBase Printouts (Cont'd)

I. Printing ICLID Tables

Programming Steps

Description

If the ICLID Table(s) need to be printed:

1. Press the ICLID TABLE flexible button (Button #9). The following message will be shown on the display phone:

```
PRINT ICLID TABLE
PRESS HOLD
```

2. To print the ICLID Table(s), press the HOLD button. The following message will be shown on the display phone:

```
PRINTING ICLID
```

When the system has finished sending the requested information to the printer, confirmation tone is heard.

on

When the system has finished sending the requested information to the printer, confirmation tone will be heard.

HUNT GROUPS

HG0..330	PILOT HUNT
HG1..331	PILOT HUNT
HG2..332	PILOT HUNT
HG3..333	PILOT HUNT
HG4..334	PILOT HUNT
HG5..335	PILOT HUNT
HG6..336	PILOT HUNT
HG7..337	PILOT HUNT

System DataBase Printouts (Cont'd)

N. Abort Printing

Programming Steps	Description

If you need to abort a printout:

in

D

F.

Fl
ar
a.
m

wr

Co

Co

Co
Pu
Co
CO

Iss

APPENDIX A

CUSTOMER DATABASE PROGRAMMING

Appendix A-1 System Parameters

PROG CODE	FLEX BTN	FUNCTION	FORMAT	DEFAULT	CUSTOMER DATA
FLASH 01	1	System Hold Recall	000-300 s	060 s	
	2	Exclusive Hold Recall	000-300 s	180 s	
	3	Attendant Recall Timer	00-60 min	01 min	
	4	Transfer Recall	000-300 s	045 s	
	5	Preset Forward Timer	00-99 s	10 s	
	6	Call Forward No/Answer	000-600 s	015 s	
	7	Pause Timer	1-9 s	2 s	
	8	Call Park Timer	000-600 m	180 s	
	2	Exec/Secy Pair 2	Sta #, Sta #	None	
	3	Exec/Secy Pair 3	Sta #, Sta #	None	
	4	Exec/Secy Pair 4	Sta #, Sta #	None	
FLASH 14	1-7	Page/Contact Programming		None	

Appendix A-1 System Parameters (Cont'd)

PROG CODE	FLEX BTN	FUNCTION	FORMAT	DEFAULT	CUSTOMER DATA
FLASH 15		Baud Rate Assignments			
	1	Port #1 ("On-Board" RS-232C)		2400	
	2	Port #2 ("On-Board" Modem)		300	
	3	I/O Exp Module RS-232C		2400	
	4	I/O Exp Module RS-422		2400	
FLASH 20	1	DISA Access Code	100-999	100	
			Time / Time		
	6	ANM Schedule - Friday	Off Time / On Time	4	/
	7	ANM Schedule - Saturday	Off Time / On Time	5########	/
	8	ANM Schedule - Sunday	Off Time / On Time	6########	/
FLASH 23	1-4	Directory Dialing Table			
FLASH 41	1	Dial Pulse	60/40, 66/33	60/40	
	2	Dialing Speed	10/20 pps	10 pps	
FLASH 42	1-7	Flexible Port Assignment		Cards 1-7	
FLASH 43	1	ICLID Ringing Assignment		None	

Appendix A-2 Hunt Group, ACD and UCD Group Parameters

PROG CODE	FLEX BTN	FUNCTION	PILOT OR STATION	STATIONS (up to 8 Stations)
FLASH 30	1	Hunt Group 0 (330)		
	2	Hunt Group 1 (331)		
	3	Hunt Group 2 (332)		
	4	Hunt Group 3 (333)		
	5	Hunt Group 4 (334)		
	6	Hunt Group 5 (335)		
	7	Hunt Group 6 (336)		
	8	Hunt Group 7 (337)		

PROG CODE	FLEX BTN	FUNCTION	ALT	OVR	RAN	STATIONS (up to 8 Stations)
FLASH 60	1	ACD or UCD Group 0 (550)				
	2	ACD or UCD Group 1 (551)				
	3	ACD or UCD Group 2 (552)				
	4	ACD or UCD Group 3 (553)				
	5	ACD or UCD Group 4 (554)				
	6	ACD or UCD Group 5 (555)				
	7	ACD or UCD Group 6 (556)				
	8	ACD or UCD Group 7 (557)				

PROG CODE	FLEX BTN	FUNCTION	FORMAT	DEFAULT	CUSTOMER DATA
FLASH 61	1	ACD/UCD Ring Timer	000-300	060	
	2	ACD/UCD Message Timer	000-300	060	
	3	ACD/UCD Overflow Timer	000-300	060	
	4	ACD/UCD Wrap-up Timer	000-999	004	
	5	ACD/UCD No-Answer Recall Timer	000-300	000	
	6	ACD/UCD No-Answer Retry Timer	000-999	30	

PROG CODE	FLEX BTN	FUNCTION	FORMAT	DEFAULT	CUSTOMER DATA
FLASH 62	1	RAN Announcement Table 1	YXXXMMM	None	
	2	RAN Announcement Table 2	YXXXMMM	None	
	3	RAN Announcement Table 3	YXXXMMM	None	
	4	RAN Announcement Table 4	YXXXMMM	None	
	5	RAN Announcement Table 5	YXXXMMM	None	
	6	RAN Announcement Table 6	YXXXMMM	None	
	7	RAN Announcement Table 7	YXXXMMM	None	

Appendix A-3 Voice Mail Group Parameters

PROG CODE	FLEX BTN	FUNCTION	ALT	OVR	RAN	
FLASH 65	1	Voice Mail Group 0 (440)				
	2	Voice Mail Group 1 (441)				
	3	Voice Mail Group 2 (442)				
	4	Voice Mail Group 3 (443)				
	5	Voice Mail Group 4 (444)				
	6	Voice Mail Group 5 (445)				
	7	Voice Mail Group 6 (446)				
	8	Voice Mail Group 7 (447)				

PROG CODE	FLEX BTN	FUNCTION	OUTPULSING DIGITS	L or R
FLASH 66	1	VM Outpulsing Table 0	Prefix	
			Suffix	
	2	VM Outpulsing Table 1	Prefix	
			Suffix	
	3	VM Outpulsing Table 2	Prefix	
			Suffix	
	4	VM Outpulsing Table 3	Prefix	
			Suffix	
	5	VM Outpulsing Table 4	Prefix	
			Suffix	
	6	VM Outpulsing Table 5	Prefix	
			Suffix	
	7	VM Outpulsing Table 6	Prefix	
			Suffix	
	8	VM Outpulsing Table 7	Prefix	
			Suffix	
	9	VM Disconnect Table 8	Disconnect	

PROG CODE	FLEX BTN	FUNCTION	
FLASH 67	1	Voice Mail ID digits for Incoming CO Calls	
	2	Voice Mail Transfer/Forward	

Appendix A-4 CO Line Programming (Flash 40)

CO LINE	FLEXIBLE BUTTONS										
	1	2	3	4	5	6	7	8	9	10	11
	TONE/ PULSE	CO/ PBX	UNA	CONF	PRIV	LOOP SUPV	DISA	FLASH TIMER	LINE GRP	LINE COS	RING*
CO 01											
CO 02											
CO 03											
CO 04											
CO 05											
CO 06											
CO 07											
CO 08											
CO 09											
CO 10											
CO 11											
CO 12											
CO 13											
CO 14											
DEF	TONE	CO	YES	YES	YES	NO	NO	10	1	1	

* Refer to CO Line Ringing Assignments

Appendix A-4 CO Line Programming (Flash 40) (Cont'd)

CO LINE	CO LINE NAME FOR IDENTIFICATION
CO 1	
CO 2	
CO 3	
CO 4	
CO 5	
CO 6	
CO 7	
CO 8	
CO 9	
CO 10	
CO 11	
CO 12	
CO 13	
CO 14	

Appendix A-5 CO Line Ringing Assignment Chart

CO LINE:	DAY RINGING	CO LINE:	DAY RINGING
TYPE:	NIGHT RINGING	TYPE:	NIGHT RINGING
NUMBER:		NUMBER:	
CO LINE:	DAY RINGING	CO LINE:	DAY RINGING
TYPE:	NIGHT RINGING	TYPE:	NIGHT RINGING
NUMBER:		NUMBER:	
CO LINE:	DAY RINGING	CO LINE:	DAY RINGING
TYPE:	NIGHT RINGING	TYPE:	NIGHT RINGING
NUMBER:		NUMBER:	
CO LINE:	DAY RINGING	CO LINE:	DAY RINGING
TYPE:	NIGHT RINGING	TYPE:	NIGHT RINGING
NUMBER:		NUMBER:	

Button #11 = Enter Ringing Assignments
Button #17 = Display Ringing Assignments

Ringing Assignments:
0 = No Ring (deletes station from Ringing Assignments
1 = D (Day Ringing)
2 = N (Night Ringing)
3 = B (Both Day and Night Ringing)

Appendix A-6 Station Programming (Flash 50)

DATA FIELD	PAGE/ BTN	STATION NUMBER								DEFAULT
PAGE ACCESS	A/1									Enabled
DO NOT DISTURB	A/2									Enabled
CONFERENCE	A/3									Enabled
EXECUTIVE OVERRIDE	A/4									Disabled
PRIVACY	A/5									Enabled
SYSTEM SPEED	A/6									Enabled
QUEUING	A/7									Enabled
PREF LINE ANSWER	A/8									Disabled
OHVO	A/9									Disabled
CALL FORWARD	A/10									Enabled
FORCED LCR	A/11									Disabled
ACD* SUPV BARGE-IN	A/12									Disabled
OVERRIDE BLOCKING	A/13									Allowed
Page "A" is selected by pressing Button #18 of the flexible buttons										
STA ID (0-7)	B/1									0
COS (1-6)	B/2									1
SPEAKERPHONE (0-2)	B/3									0
PICKUP GROUP (1-4)	B/4									1
PAGING ZONES (1-4)	B/5									1
PRESET FORWARD	B/6									None
CO LINE GROUP (0-7)	B/7									1
LCR CLASS OF SERVICE (0-6)	B/8									0
OFF-HOOK PREFER	B/9									00
BUTTON ASSIGN	B/10	Refer to Button Assignment Chart								
Page "B" is selected by pressing Button #19 of the flexible buttons										

* This feature is ONLY available when the Basic ACD software package has been purchased separately.

Appendix A-7 Button Assignment Chart (Flash 50)

STA # ________ PORT # ________

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24

STA # ________ PORT # ________

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24

This chart is to be used to assign each flexible button a function. By default, Buttons 1 through 12 are assigned as Stations 100 through 111, Buttons 13 through 18 are assigned as CO Lines 01 through 06. Buttons 19-24 are flexible buttons with features assigned to them.

WHERE:

BB = Button Number (01 through 24)
LL = CO Line Number (01 through 28)
G = Line Group (1 through 7)

KEY STATION BUTTON PROGRAMMING:

1. To assign a button as a multi-function button (user programmable) enter:
   BB [0] HOLD
2. To assign a button as a CO Line button, enter:
   BB [1] LL HOLD
3. To assign a button as a loop button, enter:
   BB [2] HOLD
4. To enter a button as a pooled group button (refer to Section 630.1 for CO Line Group numbers) enter:
   BB [3] G HOLD
5. To unassign a button, enter:
   BB [#] HOLD

SLT ENTRY: (Off-Hook Preference)

1. When an SLT is being assigned for Off-Hook Preference, enter:
   00 [1] LL HOLD for a specific CO Line

Appendix A-8 System Speed Dial Numbers

Programmed from the first Attendant station.
Monitored by Toll Restriction (COS)

BIN #	Telephone Number
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	

BIN #	Telephone Number
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	

Appendix A-8 System Speed Dial (Cont'd)

Programmed from the first Attendant station.

Overrides Toll Restriction (COS)

BIN #	Telephone Number
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
70	
71	
72	
73	
74	
75	
76	
77	
78	
79	

BIN #	Telephone Number
80	
81	
82	
83	
84	
85	
86	
87	
88	
89	
90	
91	
92	
93	
94	
95	
96	
97	
98	
99	

Appendix A-9 Exception Tables (Flash 70)

Allow Table A	
BIN 1	
BIN 2	
BIN 3	
BIN 4	
BIN 5	
BIN 6	
BIN 7	
BIN 8	
BIN 9	
BIN 10	
BIN 11	
BIN 12	
BIN 13	
BIN 14	
BIN 15	
BIN 16	
BIN 17	
BIN 18	
BIN 19	
BIN 20	

Allow Table B	
BIN 1	
BIN 2	
BIN 3	
BIN 4	
BIN 5	
BIN 6	
BIN 7	
BIN 8	
BIN 9	
BIN 10	
BIN 11	
BIN 12	
BIN 13	
BIN 14	
BIN 15	
BIN 16	
BIN 17	
BIN 18	
BIN 19	
BIN 20	

Deny Table A	
BIN 1	
BIN 2	
BIN 3	
BIN 4	
BIN 5	
BIN 6	
BIN 7	
BIN 8	
BIN 9	
BIN 10	

Deny Table B	
BIN 1	
BIN 2	
BIN 3	
BIN 4	
BIN 5	
BIN 6	
BIN 7	
BIN 8	
BIN 9	
BIN 10	

Appendix A-9 Exception Tables (Flash 70) (Cont'd)

Special Table 1
AREA CODE: ________ OFFICE CODES:

Special Table 2
AREA CODE: ________ OFFICE CODES:

Special Table 3
AREA CODE: ________ OFFICE CODES:

Special Table 4
AREA CODE: ________ OFFICE CODES:

Appendix A-10 Least Cost Routing (Flash 75)

CO LINE GROUPS						
1	2	3	4	5	6	7

Enter what type lines are programmed in each

DAILY START TIME TABLE		
START TIME	DEFAULT TIME	CHANGED TIME
1	0800	
2	1700	
3	2300	
4	####	

WEEKLY SCHEDULE TABLE							
START TIME (From Daily Start Table)	TIME PERIOD ROUTE LIST						
	MON	TUE	WED	THU	FRI	SAT	SUN
1							
2							
3							
4							

TOLL INFORMATION ROUTE LIST TABLE	DEFAULT 00	

Appendix A-11 Route List Table

Route	Time	1st Group	Insert/ Delete	PRIO	2nd Group	Insert/ Delete	PRIO	3rd Group	Insert/ Delete	PRIO	4th Group	Insert/ Delete	PRIO	5th Group	Insert/ Delete	PRIO	6th Group	Insert/ Delete	PRIO	7th Group	Insert/ Delete	PRIO
00	1																					
	2																					
	3																					
	4																					
01	1																					
	2																					
	3																					
	4																					
02	1																					
	2																					
	3																					
	4																					
03	1																					
	2																					
	3																					
	4																					

Appendix A-11 Route List Table (Cont'd)

Route	Time	1st Group	Insert/ Delete	PRIO	2nd Group	Insert/ Delete	PRIO	3rd Group	Insert/ Delete	PRIO	4th Group	Insert/ Delete	PRIO	5th Group	Insert/ Delete	PRIO	6th Group	Insert/ Delete	PRIO	7th Group	Insert/ Delete	PRIO
04	1																					
	2																					
	3																					
	4																					
05	1																					
	2																					
	3																					
	4																					
06	1																					
	2																					
	3																					
	4																					
07	1																					
	2																					
	3																					
	4																					

Appendix A-11 Route List Table (Cont'd)

Route	Time	1st Group	Insert/ Delete	PRIO	2nd Group	Insert/ Delete	PRIO	3rd Group	Insert/ Delete	PRIO	4th Group	Insert/ Delete	PRIO	5th Group	Insert/ Delete	PRIO	6th Group	Insert/ Delete	PRIO	7th Group	Insert/ Delete	PRIO
08	1																					
	2																					
	3																					
	4																					
09	1																					
	2																					
	3																					
	4																					
10	1																					
	2																					
	3																					
	4																					
11	1																					
	2																					
	3																					
	4																					

Appendix A-11 Route List Table (Cont'd)

Route	Time	1st Group	Insert/ Delete	PRIO	2nd Group	Insert/ Delete	PRIO	3rd Group	Insert/ Delete	PRIO	4th Group	Insert/ Delete	PRIO	5th Group	Insert/ Delete	PRIO	6th Group	Insert/ Delete	PRIO	7th Group	Insert/ Delete	PRIO
12	1																					
	2																					
	3																					
	4																					
13	1																					
	2																					
	3																					
	4																					
14	1																					
	2																					
	3																					
	4																					
15	1																					
	2																					
	3																					
	4																					

Appendix A-12 Insert/Delete Tables

TABLE	DIGITS DIALED		
00	INSERT	PRE	
		POST	
	DELETE	(PRE)	
01	INSERT	PRE	
		POST	
	DELETE	(PRE)	
02	INSERT	PRE	
		POST	
	DELETE	(PRE)	
03	INSERT	PRE	
		POST	
	DELETE	(PRE)	
04	INSERT	PRE	
		POST	
	DELETE	(PRE)	
05	INSERT	PRE	
		POST	
	DELETE	(PRE)	
06	INSERT	PRE	
		POST	
	DELETE	(PRE)	
07	INSERT	PRE	
		POST	
	DELETE	(PRE)	
08	INSERT	PRE	
		POST	
	DELETE	(PRE)	
09	INSERT	PRE	
		POST	
	DELETE	(PRE)	
10	INSERT	PRE	
		POST	
	DELETE	(PRE)	
11	INSERT	PRE	
		POST	
	DELETE	(PRE)	
12	INSERT	PRE	
		POST	
	DELETE	(PRE)	

Appendix A-12 Insert/Delete Tables (Cont'd)

TABLE	DIGITS DIALED		
13	INSERT	PRE	
		POST	
	DELETE	(PRE)	
14	INSERT	PRE	
		POST	
	DELETE	(PRE)	
15	INSERT	PRE	
		POST	
	DELETE	(PRE)	
16	INSERT	PRE	
		POST	
	DELETE	(PRE)	
17	INSERT	PRE	
		POST	
	DELETE	(PRE)	
18	INSERT	PRE	
		POST	
	DELETE	(PRE)	
19	INSERT	PRE	
		POST	
	DELETE	(PRE)	

Appendix A-13 3-Digit Area/Office Code Route List Table

NON-LEADING (0) LEADING (1)	CODE (NNN)	RTE (RR)	6-DIG (Y/N)	# DIG	NON-LEADING (0) LEADING (1)	CODE (NNN)	RTE (RR)	6-DIG (Y/N)	# DIG
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				

Appendix A-14 6-Digit Office Code Table

AREA CODE	ROUTE					

Appendix A-15 LCR Exception Code Table

CODE #	EXCEPTION CODES (XX)	ROUTE (00-15) (RR)	CODE #	EXCEPTION CODES (XX)	ROUTE (00-15) (RR)
1			11		
2			12		
3			13		
4			14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		

APPENDIX B
DIGITAL SYSTEMS PART NUMBERS

Appendix B-1 Digital System Component List

Description	Part No.
infinite DVX I Components:	
4x8 Basic System (BKSU)	IN1400-00
2x4 Expansion Module	IN1431-00
4x8 Expansion KSU (EKSU)	IN1402-00
4x8 Expansion Module	IN1432-00
2x4 SLT Expansion Module	IN1433-00
RS-232/422 I/O Module	IN1437-00
infinite DVX II Components:	
Key Service Unit w/Power Supply (KSU)	IN2800-00
Central Processor Board (CPB)	IN2830-00
4x8 Key Interface Board (CKB)	IN2831-00
4x8 SLT Interface Board (CSB)	IN2833-00
RS-232/422 I/O Module	IN2837-00
infinite DVX I and DVX II Digital Terminals:	
33-Button Executive (Display) Telephone	IN1414-XX*
33-Button Executive/PC Interface Telephone	IN1418-XX*
33-Button Enhanced (Non-Display) Telephone	IN1412-XX*
8-Button Basic Telephone	IN1411-XX*
DSS/DLS Console Unit	IN1410-XX*
Handset Assembly	IN1464-XX*
33-Button Wall Mount Bracket	IN1440-XX*
8-Button Wall Mount Bracket	IN1442-XX*
Single Line Adapter (SLA)	IN1484-00
infinite Digital Systems Manuals:	
Description, Installation and Maintenance Manual	IN1450-00
8-Button Station Users Guide	IN1451-00
Station Users Guide	IN1452-00
SLT Users Guide	IN1453-00
Attendant Users Guide	IN1454-00
Automatic Call Distribution (ACD) Users Guide	IN1455-00
infinite Digital Systems Optional Components:	
DTMF Receiver Module	IN2834-00
1200 Baud Modem Module	IN2837-10
Relay/Sensor Interface Module	IN1435-00
Digital Data Interface Unit (DDIU)	IN1485-00
infinite Optional Software Packages:	
ICLID Software	IN1420-09
Basic ACD Software	IN1420-0A
ICLID and Basic ACD Software	IN1420-0B
Basic ACD and ACD RS-232C Software	IN1420-1A
ICLID and Basic ACD and ACD RS-232C Software	IN1420-1B

* Colors: 51= Charcoal, 62 = Bone

APPENDIX C
ICLID GENERAL DESCRIPTION

1. INTRODUCTION

This specification provides the functional and implementation definition for the addition of the ICLID feature to the *infinite* Digital Key Telephone Systems.

2. SYSTEM CONFIGURATION

The following illustration depicts the configuration presumed for the implementation of the ICLID feature for the system. The phones are presumed to be in an ACD or UCD group in order to allow proper operation with the system.

3. FUNCTIONAL PERFORMANCE

The ICLID (Incoming Calling Line IDentification) feature has been added to the *infinite* Digital Key Systems as a first step in providing it generally. The key system operation of this feature is dependent on the feature first being activated from the central office so that the numbers of the calling party will be delivered over the individual tip and ring of the CO lines during the first silent interval between ringing.

The features implemented are:

1. Display of calling number/name on initial ring-in of a line on the display keysets.
2. Recording of incoming call number/name on the SMDR printout.
3. Management of an "unanswered call" table from a display phone with appropriate privilege level to allow tracking of unanswered calls for statistical information and return call management.
4. Local translation of incoming numbers to names according to a table of number/name equivalences which can be administered by the system.

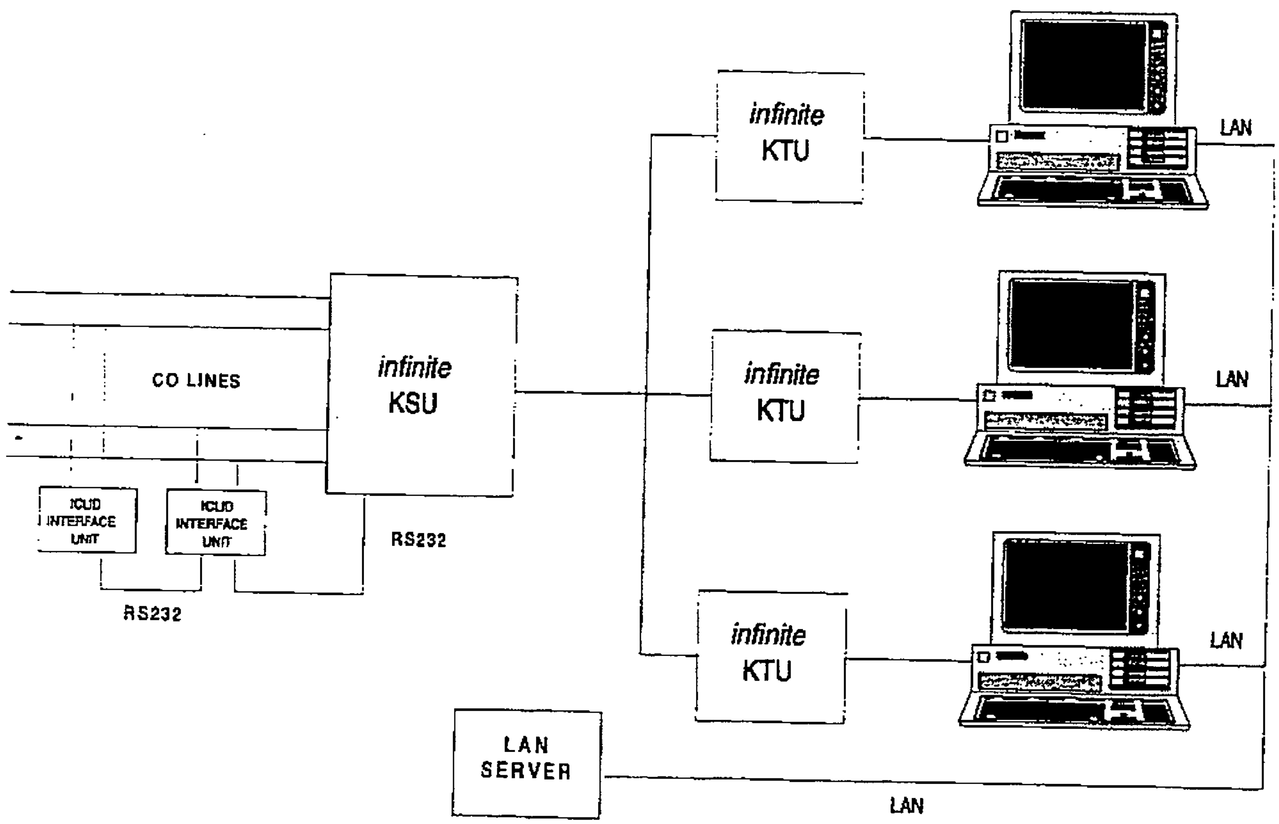


Figure 1 ICLID System Configuration