

Integration Notes-Switch # 925

Toshiba Strata DK24, DK56, or DK96 Release 2 or 3

OVERVIEW

Install a Toshiba PSTU single-line telephone interface card and a CRCU DTMF receiver card in the DK KSU.

Program the Toshiba DK to support the voice processing system (VPS).

Test the DK system programming and connect the VPS.

Program individual stations for call forwarding.

CONFIGURATION SUPPORT

Applications: Automated attendant/voice mail with call forwarding (release transfer)

Voice mail only (no transfer)

Message notification: Through message waiting lamps

On: ,63,X Off: ,64,X

Call forwarding: Supported

Easy message access: Supported

Operator's console: 200 (Default) Positive disconnect: Provided for internal calls

KSU HARDWARE NEEDED

One Standard Telephone Interface Unit (PSTU card) for each 8 VPS ports. If you are installing a 2-port VPS, you may prefer a Standard/Electronic Telephone Interface Unit (PESU card). This card provides 2 standard telephone ports (circuits 1 and 2) and 4 electronic telephone ports (5-8), making better use of available card slot space.

One DTMF Receiver Unit (CRCU-4) or (CRCU-8). The CRCU-4 unit provides 4 DTMF receivers, the CRCU-8 provides 8 DTMF receivers. Each VPS port should have its own DTMF dedicated DTMF receiver. The CRCU-8 is recommended if there are single-line devices in addition to the VPS



attached to the Toshiba.

CONNECTING CABLES NEEDED

One 25-pair cable with a male amphenol connector to connect the PSTU card to the Toshiba main distribution frame (MDF).

One RJ-14 modular jack and 4-conductor modular cord for each VPS port.

OTHER EQUIPMENT NEEDED

A Toshiba 6520SD 20-Key LCD Electronic telephone and programming template.

INSTALLING THE HARDWARE

1. If you are installing a CRCU unit, the KSU power must be off. Remove the PCTU or PCTUS1 (DK24 only) Common Control Unit card. Mate the CRCU connectors J1, J2, J3, and J4 with the PCTU connectors P2, P3, P8, and P9. Apply firm, even pressure to the CRCU to ensure proper mating of the connectors. Remount the PCTU card in the PCTU slot (00).@.@. Mount the PSTU or PESU card in the lowest-numbered empty card slot that follows the Toshiba PEKU boards. Note the slot number. There are two versions of the PSTU card labelled "version 1" and "version 2." The VPS works with either version. If you are installing a version 2 PESU card, set jumper P90 to "H" for high-level ringing voltage (190v P-P).
2. Connect the 25-pair cable from the PSTU or PESU card to the Toshiba MDF.

PROGRAMMING THE TELEPHONE SYSTEM

Connect the LCD phone to station port 05 (circuit 6). This port is located on the Electronic Telephone Interface Unit (PEKU card) installed in KSU slot 01.

Program DK system control settings as follows:

1. Enter System Programming

Press [SPKR]. When you hear intercom dial tone, press *###.

2. Program 03 Flexible PCB Slot Assignments

Press [SPKR] 03 [HOLD]. If you installed a CRCU-4 unit, press [SPKR] 00 92 [HOLD]. If you installed a CRCU-8 unit, press [SPKR] 00 93 [HOLD].

Press [SPKR]. Enter the 2-digit slot number for the PSTU or PESU card, followed by the card type ID number. Enter 31 to identify a PSTU card. Enter 25 to identify a PESU card without an attached EOCU unit (Off-Hook Call Announce) or 26 for a PESU with EOCU. Press [HOLD].



Press [SPKR] ## [HOLD] to end program 03. Press [SPKR] ## [HOLD] to end programming.

TURN THE KSU POWER OFF. Wait 5 seconds, and turn the power back on. This is necessary for the system to recognize the slot assignments.

Press [SPKR] then *## to re-enter system programming.

3. Program 10-1 System Assignments Part 1

Press [SPKR] 10 [HOLD] [SPKR] 1.

Press programming key 07 (Turn LED 07 On) to allow ring (release) transfers.

Turn LED 01 Off to enable voice-first calling to electronic phones systemwide. The VPS automatically selects tone-first calling when transferring callers via the automated attendant or when delivering messages to work phones. (Users can make a tone-first call by dialing "1" after the extension number.)

Press [HOLD] [SPKR] ## [HOLD] to store these settings and end program 10-1.

4. Program 10-2 System Assignments Part 2

Press [SPKR] 10 [HOLD] [SPKR] 2.

Turn LED 04 On to allow the VPS to cancel message waiting lamps by dialing 64 plus the extension number.

Turn LED 06 Off to select 160ms DTMF duration voice mail identification codes.

Turn LED 11 Off to enable DTMF tone return to voice mail ports on forwarded calls.

Press [HOLD] [SPKR] ## [HOLD] to store these settings and end program 10-2.

5. Program 15 Assigning DP/DTMF and Other Services to CO Lines

This program applies to Release 3 only. Release 2 users skip to the next program step.

Press [SPKR] 15 [HOLD] [SPKR] 0 to select the automatic release on voice mail calls feature.

Identify the CO lines available to the VPS. Press programming keys 1 through 20 (Turn the LED On) to select the corresponding CO line port number. (To select CO lines 21 to 36, take the handset off-hook.)



This causes the DK system to send a positive disconnect signal to the VPS if the DK receives an automatic release (AR) signal from the central office on the selected CO lines. (An AR signal indicates that the caller has hung-up prematurely.)

Press [HOLD] [SPKR] ## [HOLD] to store these settings and end program 15.

6. Program 30 Station Class of Service

Press [SPKR] 30 [HOLD] [SPKR]. Dial the 2-digit port number for VPS port 1 (based on the PSTU/PESU card slot number). Press * followed by the 2-digit port number for the last VPS port. Press #. This selects all VPS ports.

Turn LED 11 Off to ensure that DTMF dialing is active for the VPS ports.

Press [HOLD] [SPKR] ## [HOLD] to store these settings and end program 30.

7. Program 31 Station Class of Service

Press [SPKR] 31 [HOLD] [SPKR]. Dial the 2-digit port number for VPS port 1. Press * followed by the 2-digit port number for the last VPS port. Press #. This selects all VPS ports.

Turn LED 05 On to identify the VPS ports as belonging to Voice Mail Group 1.

Turn LED 09 On to disable voice conferencing on VPS ports.

Turn LED 15 On to enable voice mail integration DTMF "A" (answer) and "D" (disconnect) tones for VPS ports.

Turn LED 16 On to enable voice mail ID codes for VPS ports.

Turn LED 17 On to enable end-to-end conferencing for VPS ports.

Turn LED 18 On to enable executive and privacy override blocking. This prevents any other station from breaking into calls on the VPS ports.

Turn LEDs 19 and 20 Off to disable voice mail DTMF "B" (station) tones.

Release 3 users only: Turn LED 04 Off to disable voice mail to voice mail call blocking. This feature must be off for compatibility with release (blind) transfers.

Press [HOLD] [SPKR] ## [HOLD] to store these settings and end program 31.

8. Program 33 Station Hunting



Press [SPKR] 33 [HOLD] [SPKR].

Dial the 2-digit port number for VPS port 1 followed by #. Dial the 2-digit number for VPS port 2 followed by #. Press [HOLD]. This causes VPS port 1 to hunt to VPS port 2.

If applicable, set hunting for any remaining VPS ports (2 to 3, 3 to 4, and so on). Press [SPKR] and then repeat the procedure in the last step.

Press [SPKR]. Dial the 2-digit port number of the last VPS port. Press #. Dial the 2-digit port number for the operator's station. Press # [HOLD]. This causes calls to overflow to the operator when all VPS ports are busy.

Press [SPKR] ## [HOLD] to store these settings and end program 33.

9. Program 35 Station Class of Service

Press [SPKR] 35 [HOLD] [SPKR]. Dial the 2-digit port number for the first extension that will have voice mail service. This is usually "00" for the operator's station. Press #. Dial the 2-digit port number for the last extension that will have voice mail service. Press # [HOLD].

Turn LEDs 01, 02, and 04 On to allow message waiting indication. This is necessary so that the VPS can light message waiting lamps on electronic phones.

Press [HOLD] [SPKR] ## [HOLD] to store these settings and end program 35.

10. Program 37 Ring Transfer Recall Time

Press [SPKR] 37 [HOLD] [SPKR]. Dial the 2-digit port number for the first extension that will have voice mail service. This is usually "00" for the operator's station. Press #. Dial the 2-digit port number for the last extension that will have voice mail service. Press # [HOLD].

Dial 025 to set recall time for individual stations to 25 seconds (6 rings). This allows the VPS time to handle unanswered automated attendant calls before the DK performs a transfer recall.

Press [HOLD] [SPKR] ## [HOLD] to store these settings and end program 37.

11. Program 40 Station CO Line Access

Press [SPKR] 40 [HOLD] [SPKR]. Dial the 2-digit port number for VPS port 1. Press * followed by the 2-digit port number for the last VPS



port. Press #. This selects all VPS ports.

Identify the CO lines available to the VPS. Press programming keys 1 through 20 (Turn the LED On) to select the corresponding CO line port number. (To select CO lines 21 to 36, take the handset off-hook.)

Press [HOLD] [SPKR] ## [HOLD] to store these settings and end program 40.

12. Program 41 Station Outgoing Call Restriction

Press [SPKR] 41 [HOLD] [SPKR]. Dial the 2-digit port number for VPS port 1. Press * followed by the 2-digit port number for the last VPS port. Press #. This selects all VPS ports.

Ensure that the CO lines available to the VPS have no outgoing call restrictions. Make sure that the LEDs for programming keys 1 through 20 are OFF for the corresponding CO line port number. (To check CO lines 21 to 36, take the handset off-hook.)

Press [HOLD] [SPKR] ## [HOLD] to store these settings and end program 41.

13. Program 81 Day Immediate Ringing

If the VPS is the primary attendant, enable immediate day ringing for each CO line the VPS is to answer:

Press [SPKR] 81 [HOLD] [SPKR].]. Assign line 1 to port 1, line 2 to port 2 etc...

Identify the CO lines available to the VPS. Press programming keys 1 through 20 (Turn the LED On) to select the corresponding CO line port number. (To select CO lines 21 to 36, take the handset off-hook.)

Press [HOLD] [SPKR] ## [HOLD] to store these settings and end program 81.

14. Program 82 Day Delay 1 Ringing

If the VPS is the secondary attendant, enable delayed day ringing (delay 1 = 24 seconds) for each CO line the VPS is to answer:

Press [SPKR] 82 [HOLD] [SPKR]. Assign line 1 to port 1, line 2 to port 2 etc..

Identify the CO lines available to the VPS. Press programming keys 1 through 20 (Turn the LED On) to select the corresponding CO line port number. (To select CO lines 21 to 36, take the handset off-hook.)

Press [HOLD] [SPKR] ## [HOLD] to store these settings and end program 82.

If the VPS is the primary attendant, enable delayed day ringing for the operator on each CO line the VPS is to answer:



Press [SPKR] 82 [HOLD] [SPKR]. Dial the 2-digit port number for the operator's station (usually 00). Press #.

Identify the CO lines available to the VPS. Press programming keys 1 through 20 (Turn the LED On) to select the corresponding CO line port number. (To select CO lines 21 to 36, take the handset off-hook.)

Press [HOLD] [SPKR] ## [HOLD] to store these settings and end program 82.

15. Program 87 Night Immediate Ringing

Enable immediate night ringing for each CO line the VPS is to answer during night-mode service:

Press [SPKR] 87 [HOLD] [SPKR].]. Assign line 1 to port 1, line 2 to port 2 etc..

Identify the CO lines available to the VPS. Press programming keys 1 through 20 (Turn the LED On) to select the corresponding CO line port number. (To select CO lines 21 to 36, take the handset off-hook.)

Press [HOLD] [SPKR] ## [HOLD] to store these settings and end program 81.

Press [SPKR] ## [HOLD] to end system programming.

CONNECTING AND TESTING THE SINGLE-LINE PORTS AND THE VPS

Follow the wiring instructions given in the VPS installation guide to cross-connect the Toshiba single-line ports to the RJ-14 jacks. Use a single-line phone to complete any KSU port tests given in the guide. These tests ensure that both the single-line ports and the Toshiba system programming are working properly. After you test the single-line ports, follow the VPS installation guide to connect and test the VPS.

PROGRAMMING INDIVIDUAL STATIONS

Follow-Along ID

Each extension must be set to send a "follow-along ID" for calls forwarded to the VPS. This identifies which extension has forwarded a particular call. Program each extension as follows:

Press [INT]. Dial 656 the 6 followed by the extension number. Press [INT].

Call Forwarding

To set an individual extension to call forward (with hunting allowed) to the VPS on busy or no answer:

Press [INT]. Dial 603. Dial the lead VPS extension number. Press [INT].



Easy Message Access

You may program Message Access on Toshiba electronic phones using the [MW/FL] key. To do this:

Press [INT]. Dial 657. Dial the lead VPS extension number.

Dial 7 followed by the extension number and the subscriber's security code, if desired.

Press [INT].