

Starplus
Dispatch

Revised Technical Manual

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ISSUE CONTROL SHEET

ISSUE	DATE	CHANGES
Issue 1	December, 1997	Initial Release of the STARPLUS Dispatch™ Technical Manual.
Issue 1a	April, 1998	Re-release of the STARPLUS Dispatch™ Technical Manual after extensive revisions

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SECTION 100 INTRODUCTION

100.1 OVERVIEW

The STARPLUS Dispatch™ voice processing system is a standalone, compact, full-featured PC-compatible voice mail system. It is a self-contained system, and is designed to be easy to install.

The STARPLUS unit connects directly to any Private Branch Exchange (PBX) or key phone system that supports analog extensions or single line telephones (SLTs). STARPLUS Dispatch™ can also connect to standard loop start Central Office (CO) lines.

100.2 QUICK START

To install STARPLUS Dispatch™ as quickly as possible, follow these steps:

1. Hardware Installation:

See Sections 200.1 - 200.3 for instructions on unpacking and installing the STARPLUS Dispatch™ unit.

2. Select Phone System:

STARPLUS Dispatch™ must be configured for your particular phone system. There are two methods by which this can be done:

- a. Telephone-based administration (see Section 500.3).
- b. Laptop-based administration (see Section 600).

3. Set the Date & Time:

Refer to Section "500.8 SYSTEM ADMINISTRATION", "D. System Date and Time" and/or Section "600.9 PULL-DOWN MENUS" for instructions.

100.3 SYSTEM UNIT

Figure 100-1 shows the STARPLUS Dispatch[™] front panel, and Figure 100-2 shows the STARPLUS Dispatch[™] back panel.

- When lit, red LEDs on the front panel indicate system status, port configuration as well as boot-up sequence.

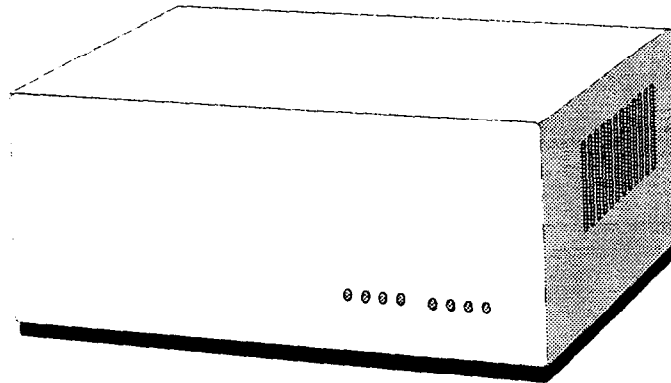


Figure 100-1: STARPLUS Dispatch[™] Front Panel

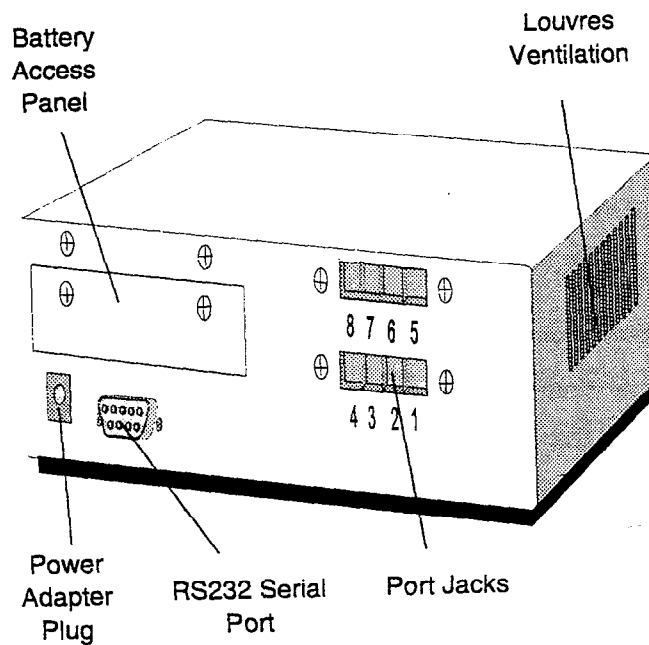


Figure 100-2: STARPLUS Dispatch[™] Back Panel

- The DC adapter supplied with the system connects to AC power.
- The RS-232 serial port can be used to connect to a PC, laptop or to a customer provided 9600bps or better modem.
- Four or eight line connectors connect the STARPLUS Dispatch™ to a PBX or key system and to CO lines. On 2 port systems, there are 4 jacks, but only 1 and 2 are active and jacks 3 and 4 are inactive. On 6 port systems, jacks 1 through 6 are active and jacks 7 and 8 are inactive.
- Battery compartment that holds 8 AA batteries that will retain the system clock in case of a power failure (batteries not included).

A. PRODUCT FEATURES

The STARPLUS Dispatch™ system contains a rich feature set and has high storage capacity. It is wall-mountable, and is completely self-contained (no monitor or keyboard required). STARPLUS Dispatch™ also features laptop administration through a serial port and modem support for remote administration. An external modem must be customer provided.

Benefits of the STARPLUS Dispatch™ system include the following:

- Economical compared to conventional PC platforms
- Preconfigured software saves time on installation and setup

The STARPLUS Dispatch™ voice processing system comes equipped with 8 LED indicators. When the system is on, these lights are on. When operating correctly, the number of LED indicators lit corresponds to the port size (i.e., 6 LEDs for a 6-port, 2 LEDs for a 2-port, etc.) When a call comes in, the line handling the call blinks and then lights steadily once again when the call terminates.

100.4 COMPANY CONTACT

This section contains important product support information. Please use this information to contact Vodavi Communications Systems.

E-Mail Support:

For e-mail support, contact our technical services department at:

techsupport@vodavi.com.

Phone Support:

If you have a problem you cannot solve, call Vodavi Communications Systems Technical Support, Monday through Friday, during the hours of 6:00 am - 5:00 p.m. PT.

The Technical Support number is:

(800) 356-7279

Follow the instructions to reach the proper support department.

Fax Support:

Our direct fax line for sending your registration or support information is:

(602) 443-6102

Product Replacement Program:

In the event that STARPLUS Dispatch™ is found to be defective in materials or workmanship as stated in the Limited Product Warranty, please contact Vodavi Communications Systems, Inc., for a return authorization. We will then give you instructions on returning the defective product for replacement.

100.5 FCC INFORMATION**User's Responsibility:**

If a need arises in the future, the telephone company will call the user and request the following information for any terminal equipment being connected to the Public Switched Telephone Network:

Information For This Equipment

Manufacturer: Vodavi Communications Systems, Inc.

- Model Number: (unit label)
 - DHD-2(2 port)
 - DHD-4 (4 port)
 - DHD-6 (6 port)
 - DHD-8(8 port)
- Registration Number: 5HEUSA-24953-VM-T
- Ringer equivalence: 0.4 A
- Jack (s) Which May Be Used With unit: RJ-11

Registration

Note that FCC registration does not constitute an expressed or implied guarantee on performance. Only the manufacturer's warranty set forth in this booklet covers the performance of the unit.

Telephone Company Rights and Responsibilities

If your unit causes harm to the Telephone Network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But, if advance notice is not practical, you will be notified as soon as possible. You will be given the opportunity to correct the situation and you will be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operation, or procedures that could affect the proper functioning of your unit. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted service.

Repair Instructions

If you experience trouble with the unit, follow the procedure outlined below:

1. Determine whether the problem is your unit. If the problem is in your unit, refer to the following guidelines for obtaining service:
 - a. If the unit is covered by the manufacturer's warranty, follow the procedure set forth in the warranty (purchaser's responsibility) for obtaining repair or replacement of the unit.

- b. If the unit is no longer covered by the manufacturer's warranty, you may return the unit to the manufacturer for repair or refurbishment. You will be billed for any repairs. Manufacturer's policy and procedure on repair and refurbishment is available upon request by writing to or calling:

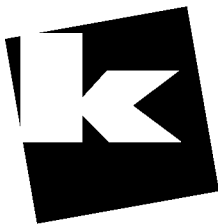
Vodavi Communications Systems, Inc.
8300 East Raintree Drive
Scottsdale, AZ 85260
MRA: 800-825-4020
FAX: (602)443-6102

Repair to this equipment can only be made by the above manufacturer and its authorized agents, and by others who may be authorized by the FCC. Any product received without the MRA number and proper paperwork will be returned freight collect.

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INSTALLATION



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SECTION 200 INSTALLATION

200.1 HARDWARE REQUIRED

To install STARPLUS Dispatch™, you must have the following hardware:

- 4 screws and screwdriver (to mount on the wall)
- PBX phone switch or telephone service
- Power connector supplying 110v AC
- 8 AA batteries (not supplied)

200.2 UNPACKING UNIT

When unpacking the unit, be sure you have the following:

- STARPLUS Dispatch™ system unit
- Power supply (see Figure 200-1 below)

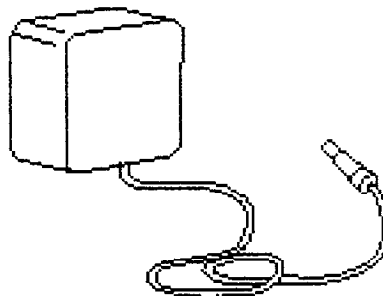


Figure 200-1: Low Voltage Power Supply

- Windows Administration diskette
- 9-pin null modem cable for laptop administration
- STARPLUS Dispatch™ manual

200.3 HARDWARE INSTALL

Installing Batteries:

The STARPLUS Dispatch™ requires (8) eight AA batteries to be installed so that if power is shut off, the system will properly retain the date and time. In an unpowered unit, the (8) eight AA batteries will last approximately (8) eight weeks. In a powered unit, they will remain unaffected.

Placement and Mounting:

The battery compartment has pull-tabs attached. Pull them to open the battery compartment. With the battery tray open, insert the batteries, slide the tray in, and snap the tabs shut.

The STARPLUS Dispatch™ can be placed on any sturdy, flat surface, or it can be wall-mounted using the screw slots located on the bottom of the unit. The units can be stacked, or a monitor can be placed on top of the unit. Wall mounting is preferred for safety reasons.

Unit must be oriented with ventilation slots on top and bottom. Screw slots only allow one orientation. Locate the unit so that the LEDs are not blocked from view. If a console or PC will be permanently connected, a screw-lock connector is recommended.

For wall mounting, the (2) two upper holes and the (2) two lower holes are 8 3/8" apart and the distance between the upper and lower holes is 12 1/2".

NOTES

Make sure there are (2) two inches of free space all around to ensure adequate ventilation.

Connecting Phone Lines:

Connect the phone lines by plugging each line into an RJ-11 jack, just as you would a normal phone line. With STARPLUS Dispatch™, this can be done regardless of whether the unit is on or off.

While the unit will have four or eight RJ-11 line connectors on the back, only the number of ports ordered will be active.

Connecting Serial Cable or Modem:

When connecting to the STARPLUS Dispatch™ directly (or locally), you will use the serial RS232 connection at the rear of the STARPLUS Dispatch™ and connect the supplied 9-pin null modem cable to the PC or laptop. If you will be attaching a modem to the STARPLUS Dispatch™, then you will need to supply the necessary straight-through, 9-pin to 25-pin cable to match your modem. When connecting cables, consider the STARPLUS Dispatch™ as a PC or other Data Terminal Equipment (DTE) device.

NOTES

The modem that is attached to STARPLUS Dispatch™ needs to have DIP switches that allow it to be set for auto-answer and suppress result codes. In order to work with STARPLUS Dispatch™, the modem MUST have switches that allow these two features to be set.

Connecting Power:

When installing, the STARPLUS Dispatch™, connect the 18V AC power supply from the unit to a dedicated 120V AC, 60 Hz grounded power outlet, as shown in Figure 100-2. When the unit is ready, the number of LED indicators (Figure 100-1) corresponds to the port size (i.e., 6 LEDs for a 6-port, 2 LEDs for a 2-port, etc.) If there are any other LEDs on, refer to "SECTION 800 TECHNICAL/TROUBLESHOOTING".

Some cautions to keep in mind when connecting STARPLUS Dispatch™:

- Do not make phone line connections during a lightning storm.
- Use only the power supply that came with STARPLUS Dispatch™. Other power supplies could damage the system.
- Be sure to route the connecting cables so that they are free of tension.

200.4 SELECTING PHONE SYSTEM INTEGRATION

Table 200-1 lists the available STARPLUS Dispatch™-compatible PBX (Private Branch Exchange) phone systems, with their corresponding PBX number and the section in which they appear in this manual.

NOTES

You may use either the laptop administration or the telephone based administration to configure the STARPLUS Dispatch™.

The default PBX is set to:

Default Setting: 000 (3 digits, blind transfers)

You can select the PBX you want by entering the 3-digit number of the PBX configuration file you want to load. Note that settings 000 and 005 are the same.

To select a PBX phone system via telephone-based administration, first follow these steps for calling into the system:

1. Dial any of the extension numbers connected to the STARPLUS Dispatch[™] or dial the voice mail hunt group number.
2. The system will answer with the following prompt: "Thank you for calling. If you know your party's extension, you may dial it now. If you know your party's name but not their extension, please dial [4]. To reach an operator, dial [0] or remain on the line. To listen to the instructions again, dial [*]."

If the system is in night mode, then the system will play the following: "Thank you for calling. Our offices are closed. Please call back at a later time."

If the menu greeting has been rerecorded, a different prompt will be played.

3. To access voice mail, press [7].
4. Enter mailbox number.
5. Press [*] followed by the mailbox's password. The default password is 0000.
6. Press [7] to access administrator functions. If the mailbox is not in the supervisor Class of Service, then the system will ask for the administrator password. The default administrator password is 2275.
7. Press [8] for system administration.
8. Press [2] to select a phone system.
9. The system will then prompt you for a PBX number. Select the number for the system listed in Section 200.5 that best matches your phone system.
10. System will confirm your input and then reset.
11. Once your system restarts, STARPLUS Dispatch[™] will be configured for your particular phone system.

After selecting a phone system, the next step is to set the date and time on the STARPLUS Dispatch[™]. Refer to Section "500.8 SYSTEM ADMINISTRATION", "D. System Date and Time" and/or Section "600.9 PULL-DOWN MENUS" for instructions.

200.5 VODAVI PBX SYSTEMS

The following is a table of the PBX systems that are compatible with the STARPLUS Dispatch™ system, along with each PBX's identification number and the referenced section and page in this manual. Refer to "APPENDIX A COMPATIBLE PBX SYSTEMS" for a table of available compatible PBX systems.

Table 200-1: VODAVI PBX Systems

PBX NAME	PBX NUMBER	SECTION	PAGE
Default: 3 digit, blind transfers Same as 005	000	A.1.A.	Appndx A-3
Generic: 1 digit, blind transfers	001	A.1.A.	Appndx A-3
Generic: 1 digit, supervised	002	A.1.A.	Appndx A-3
Generic: 2 digit, blind transfers	003	A.1.A.	Appndx A-3
Generic: 2 digit, supervised	004	A.1.A.	Appndx A-3
Generic: 3 digit, blind transfers	005	A.1.A.	Appndx A-3
Generic: 3 digit, supervised	006	A.1.A.	Appndx A-3
Generic: 4 digit, blind transfers	007	A.1.A.	Appndx A-3
Generic: 4 digit, supervised	008	A.1.A.	Appndx A-3
Vodavi STARPLUS® 2448EX	100	200.5.A.	200-6
Vodavi STARPLUS® 96EX	101	200.5.B.	200-9
Vodavi STARPLUS® SPD 612	102	200.5.C.	200-11
Vodavi STARPLUS® SPD 1428	103	200.5.D.	200-15
Vodavi STARPLUS® SPD 2856	104	200.5.E.	200-18
Vodavi STARPLUS® SPD 4896	105	200.5.F.	200-21
Vodavi STARPLUS® DHS	106	200.5.G.	200-24
Vodavi STARPLUS® Triad 1	107	200.5.H.	200-26

Table 200-1: VODAVI PBX Systems (Continued)

Vodavi STARPLUS® Triad 2	108	200.5.I.	200-28
Vodavi STARPLUS® Triad 3	109	200.5.J.	200-31

**A. Vodavi STARPLUS®
2448EX (100)**

Hardware Requirements:

The following are the hardware requirements for the STARPLUS® 2448EX in-band integration:

- One SLT port per STARPLUS Dispatch™ voice port. Each SLT card provides (8) eight ports.
- One APB card in the system. There are (2) two DTMF receivers built on the APB card.
- One SLU module. The SLU is installed on the APB card. The SLU provides (4) four additional DTMF receivers for a system total of six.
- One ring generator (RGU) unit is needed for the system.

Supported Features:

The supported features of the STARPLUS® 2448EX include:

- Station forward to a personal greeting.
- Message waiting On/Off LEDs.
- Outdial (to pager or specific number).
- Multiple Return to Operator.

Configuring the 2448 EX:

Perform the following steps to configure the 2448EX with the STARPLUS Dispatch™ automated voice processing system:

1. On the single line telephone ports that are to be assigned to the VM group, disable the conference feature. [Flash 50 XX-XX, Page "A", Button 6], LED should be ON. Where XX-XX are the SLT extension range numbers to be assigned to the VM group.
2. Enter VM Group 1 (690) programming. [Flash 36, button 1] should be lit for Steps 3-4.

3. Enter the single line telephone ports into the VM Group 690. [Flash 36, Button 12].
4. Enter the desired Leave and Retrieve Tables for the VM group. [Flash 36, Buttons 10 and 11]. Program the Leave Table as Table 0; program the Retrieve Table as Table 1.

Note that Steps 5 and 6 are accomplished in the Flash 37 programming field.

5. Leave Table Programming:
 - a. Enter a [0] + [0] + [TRAN] button + [7].
 - The first 0 is the table number assigned,
 - The second 0 indicates a prefix digit,
 - The [TRAN] button represents a pause based on the system pause timer.
 - The 7 is used in conjunction with the 100 and 120 menus provided on the STARPLUS Dispatch™
 - b. Press the [HOLD] button.
6. Retrieve Table Programming:
 - a. Enter a [1] + [0] + [TRAN] button, + [7].

Where:

 - The 1 is the table number assigned,
 - 0 indicates a prefix digit,
 - The [TRAN] button represents a pause based on the system pause timer.
 - The 7 is used in conjunction with the 100 and 120 menus provided on the STARPLUS Dispatch™.
 - b. Press the [HOLD] button.
7. Press the [HOLD] button.
 - a. Enter a [1] + [1] + [*].

Where:

 - The first 1 is the table number assigned,
 - The second 1 indicates a suffix digit,
 - * is the digit that informs the STARPLUS Dispatch™ that this is a subscriber.
 - b. Press the [HOLD] button.

8. Enter [8] + [0] + [#9999999].

Where:

- 8 is the disconnect table,
 - 0 is required,
 - #9999999 is the disconnect code used by the STARPLUS Dispatch™.
- a. Press the [HOLD] button to update.
9. Enable Loop Supervision for all co lines (Flash 40, Button 4).
 - a. Dial [4] on the dialpad.
 - b. Press the [HOLD] button.

To ring CO lines directly to voice mail, program the voice mail extensions into a UCD group in addition to the voice mail group.

10. Enter UCD Group programming [Flash 19, Button 11].
 - a. Enter the station numbers into the UCD Group.
 - b. Press the [HOLD] button.

To program the CO lines to ring the UCD Group:

11. Enter CO Line programming [Flash 40].
 - a. Enter the CO Line range. Press the [HOLD] button.
 - b. Press Button 9 and enter the UCD Group number [890].
 - c. Press the [HOLD] button.
12. Press [FLASH] + [90] + [HOLD] to update and exit the programming mode.
13. At each station, perform the following:
 - a. Press the [SPEED] button twice.
 - b. Press the desired flexible button to be programmed.
 - c. Dial [690] on the keypad.
 - d. Press the [ON/OFF] button.

Note: Disconnect digits are not sent for internal calls. They are only sent for disconnecting CO calls when Loop Supervision is enabled.

**B. Vodavi STARPLUS®
96EX (101)****Hardware Requirements:**

The following are the hardware requirements for the STARPLUS® 96EX in-band integration:

- One SIB port per STARPLUS Dispatch™ voice port. Each SIB card provides (8) eight ports.
- One APL card in the system. There are (2) two DTMF receivers built on the APL card.
- One SLU module. The SLU is installed on the APL card. The SLU provides (4) four additional DTMF receivers for a system total of (6) six.
- One Ring Generator (RG) unit is needed for the system.

Supported Features:

The supported features of the STARPLUS® 96EX include:

- Station forward to a personal greeting.
- Message waiting On/Off LEDs.
- Outdial (to pager or specific number).
- Multiple Return to Operator.

Configuring the 96 EX:

Perform the following steps to configure the 96EX with the STARPLUS Dispatch™ automated voice processing system:

1. On the single line telephone ports that are to be assigned to the VM group, disable the conference feature. [Flash 50 XXX-XXX, Button 13], LED should be OFF, where XXX-XXX are the SLT extension range numbers to be assigned to the VM group. Press [HOLD] to save.
2. Enter VM Group 1 (690) programming. [Flash 36, button 1] should be lit for Steps 3-4.
3. Enter the single line telephone ports into the VM Group 690. [Flash 36, button 12].

4. Enter the desired Leave and Retrieve Tables for the VM group. [Flash 36, buttons 10 and 11]. Program the Leave Table as Table 0; program the Retrieve Table as Table 1.

Note that steps 5 and 6 are accomplished in the Flash 37 programming field.

5. Leave Table Programming:
 - a. Enter a [0] + [0] + [TRAN] button + [7].
Where:
 - The first 0 is the table number assigned,
 - The second 0 indicates a prefix digit,
 - The [TRAN] button represents a pause based on the system pause timer.
The 7 is used in conjunction with the 100 and 120 menus provided on the STARPLUS Dispatch™.
 - b. Press the [HOLD] button.
 - c. Retrieve Table Programming:
 - d. Enter a [1] + [0] + [TRAN] button + [7].
Where:
 - The 1 is the table number assigned,
 - 0 indicates a prefix digit,
 - The [TRAN] button represents a pause based on the system pause timer.
 - The 7 is used in conjunction with the 100 and 120 menus provided on the STARPLUS Dispatch™.
 - e. Press the [HOLD] button to update.
 - f. Enter a [1] + [1] + [*].
Where:
 - The first 1 is the table number assigned,
 - The second 1 indicates a suffix digit,
 - * is the digit that informs the STARPLUS Dispatch™ that this is a subscriber.
 - g. Press the [HOLD] button to update.
 - h. Enter [8] + [0] + [#9999999],
where:
 - 8 is the disconnect table,

- 0 is required,
- #99999 is the disconnect code used by the STARPLUS Dispatch™. Press the [HOLD] button.

To ring CO lines directly to voice mail:

6. Enter CO Line programming [Flash 40].
 - a. Enter the CO Line range. Press the [HOLD] button.
 - b. Press Button 9, then Button 1 to program ringing assignments
 - c. Enter [690] + [3] on the dial pad, where:
 - 690 is the voice mail group
 - 3 is for day & night ringing
 - d. Press the [HOLD] button.
7. Enable Loop Supervision for all CO lines (Flash 40, Button 4).
 - a. Enter CO Line programming [Flash 40].
 - b. Enter the CO Line range. Press the [HOLD] button.
 - c. Press Button 4 to enable Loop Supervision.
 - d. Press the [HOLD] button.
8. At each station, perform the following:
 - a. Press the [SPEED] button twice.
 - b. Press flexible button to be programmed.
 - c. Dial [690] on the keypad.
 - d. Press the [ON/OFF] button.

Note: Disconnect digits are not sent for internal calls. They are only sent for disconnecting CO calls when Loop Supervision is enabled.

C. Vodavi STARPLUS® SPD 612 (102)

Hardware Requirements:

The following are the hardware requirements for the STARPLUS® SPD 612 in-band integration:

- One 2 x 4 SLT expander card. Each card provides (4) four SLT circuits. Or (1) one OPX box per VM port can be used. Each OPX box decreases DKT ports by one.

- One DTMF receiver module must be installed on the 2 x 4 SLT card. This provides (1) one DTMF receiver on the system. OPX boxes contain their own DTMF receiver internally.
- One ring generator unit is needed when using the 2 x 4 SLT card.
- A 48 volt power supply is needed if using the OPX box to connect to the STARPLUS Dispatch™. Each OPX box draws 500 ma of current.

Supported Features:

The supported features of the STARPLUS® SPD 612 include:

- Station forward to a personal greeting.
- Message waiting on/off LEDs.
- Stations can transfer a caller directly to a mailbox without supervising the call.
- Outdial (to pager or specific number).
- Multiple Return to Operator

Configuring the SPD 612:

Perform the following steps to configure the SPD 612 with the STARPLUS Dispatch™ automated voice processing system:

1. On the single line telephone ports that are to be assigned to the VM group, disable the conference feature. [Flash 50 XXX-XXX, Button 3], LED should be OFF, where XXX-XXX are the SLT extension range numbers to be assigned to the VM group.

Note that if you are using the supervised transfer feature, leave conference disabled on these ports.

2. Enter the VM group programming for VM group 1 (440). [Flash 65, button 1]. This button should be lit for Steps 3-4.
3. Enter the single line telephone ports into a VM group (440-447). [Flash 65, button 12].

4. Enter the desired leave and retrieve tables for the VM group. [Flash 65, button 10] is the leave table and button 11 is the retrieve table. Program the Leave Table as Table 0, program the Retrieve Table as Table 1.

Note that steps 5-6 are accomplished in the Flash 66 programming field.

5. Leave Table Programming:
 - a. Press [button 1] (Table 0).
 - b. Enter a [0] + [TRAN] button + [7] on the keypad, where:
 - 0 indicates a prefix digit,
 - The [TRAN] button represents a pause based on the system pause timer.
 - The 7 is used in conjunction with the 100 and 120 menus provided in the STARPLUS Dispatch™.
 - c. Press the [HOLD] button.
6. Retrieve Table Programming:
 - a. Press [button 2] (Table 1).
 - b. Press [0] + [TRAN] button + [7] on the keypad, where:
 - 0 indicates a prefix digit,
 - The [TRAN] button represents a pause based on the system pause timer.
 - The 7 is used in conjunction with the 100 and 120 menus provided in the STARPLUS Dispatch™.
 - c. Press the [HOLD] button.
 - d. Press [button 2] (Table 1).
 - e. Enter a [1] + [*] on the keypad, Where:
 - 1 indicates a suffix digit,
 - * is the digit that informs the STARPLUS Dispatch™ that this is a subscriber.
 - f. Press the [HOLD] button to update.
 - g. Press [button 9] (disconnect table).

7. Enter [#9999999].

where:

– #9999999 is the disconnect code used by the STARPLUS Dispatch™.

a. Press the [HOLD] button.

To ring CO lines directly to voice mail:

8. Enter CO Line programming [Flash 40].

a. Enter the CO Line range. Press the [HOLD] button.

b. Press Button 11 to program ringing assignments

c. Enter [440] + [7] on the dial pad, where:

– 440 is the Voice Mail group

– 7 is for day & night ringing

d. Press the [HOLD] button.

9. Enable Loop Supervision for all CO lines (Flash 40, Button 6).

a. Enter CO Line programming [Flash 40].

b. Enter the CO Line range. Press the [HOLD] button.

c. Press Button 6 and dial [4] to enable Loop Supervision.

d. Press the [HOLD] button.

10. Assign VM flexible buttons (440) on the stations. At each station perform the following:

a. Press the [SPEED] button twice.

b. Press the desired flexible button to be programmed.

c. Dial [440] on the keypad.

d. Press the [ON/OFF] button.

Note that you can adjust the volume level on each SLT port by using the volume up or down code. This provides additional control for both internal and external calls into the voice mail system. (Handset Receiver Gain feature MUST be turned on, Flash 05, Button 13).

**D. Vodavi STARPLUS®
SPD 1428 (103)****Hardware Requirements:**

The following are the hardware requirements for the STARPLUS® SPD 1428 digital in-band integration:

- One SLT port per STARPLUS Dispatch™ voice port. Each 2 x 4 SLT card provides (4) four ports.
- One DTMF Receiver module. The DTMF is installed on the 2 x 4 SLT card. The DTMF provides (1) one additional DTMF receiver for a system total of (2) two. If the system has an expansion KSU and 2 x 4 or 4 x 8 card installed, an additional DTMF receiver can be installed on these. This would bring the system total to (4) four DTMF receivers. OPX boxes contain their own DTMF receiver internally. A 48V power supply is needed.
- One Ring Generator unit is needed for the system.

Supported Features:

The supported features of the STARPLUS® 1428 SPD include:

- Station forward to a personal greeting.
- Message waiting On/Off LEDs.
- Stations transfer caller directly to mailbox.
- Outdial (to pager or specific number).
- Multiple Return to Operator.

Configuring the SPD 1428:

Perform the following steps to configure the SPD 1428 Digital with the STARPLUS Dispatch™ automated voice processing system:

1. On the single line telephone ports that are to be assigned to the VM group disable the conference feature. [Flash 50 XXX-XXX, button 3], LED should be OFF, where XXX-XXX are the SLT extension range numbers to be assigned to the VM group.

Note that if you are using the supervised transfer feature, leave conference disabled on these ports.

2. Enter the VM group programming for VM group 1 (440). [Flash 65, button 1]. This button should be lit for Steps 3-4.
3. Enter the single line telephone ports into a VM group (440-447). [Flash 65, button 12].
4. Enter the desired leave and retrieve tables for the VM group. [Flash 65, button 10] is the leave table and [button 11] is the retrieve table. Program the Leave Table as Table 0, program the Retrieve Table as Table 1.

Note that steps 5-7 are accomplished in the Flash 66 programming field.

5. Leave Table Programming:
 - a. Press [button 1] (Table 0).
 - b. Enter a [0] + [TRAN] button + [7] on the keypad, where:
 - 0 indicates a prefix digit,
 - The [TRAN] button represents a pause based on the system pause timer.
 - The 7 is used in conjunction with the 100 and 120 menus provided in the STARPLUS Dispatch™.
 - c. Press the [HOLD] button to update.
6. Retrieve Table Programming:
 - a. Press [button 2] (Table 1).
 - b. Press [0] + [TRAN] button + [7] on the keypad, where:
 - 0 indicates a prefix digit,
 - The [TRAN] button represents a pause based on the system pause timer.
 - The 7 is used in conjunction with the 100 and 120 menus provided in the STARPLUS Dispatch™.
 - c. Press the [HOLD] button to update.
 - d. Press [button 2] (Table 1).
 - e. Enter a [1] + [*] on the keypad, where:
 - 1 indicates a suffix digit,

- * is the digit that informs the STARPLUS Dispatch™ that this is a subscriber.
 - f. Press the [HOLD] button to update.
 - g. Press [button 9] (disconnect table).
7. Enter [#99999],
where:
- #99999 is the disconnect code used by the STARPLUS Dispatch™.
 - a. Press the [HOLD] button to update.
- To ring CO lines directly to voice mail:
8. Enter CO Line programming [Flash 40].
- a. Enter the CO Line range. Press the [HOLD] button.
 - b. Press Button 11 to program ringing assignments
 - c. Enter [440] + [7] on the dial pad,
where:
 - 440 is the voice mail group
 - 7 is for day & night ringing
 - d. Press the [HOLD] button to update.
9. Enable Loop Supervision for all CO lines (Flash 40, Button 6).
- a. Enter CO Line programming [Flash 40].
 - b. Enter the CO Line range. Press the [HOLD] button.
 - c. Press Button 6 and dial [4] to enable Loop Supervision.
 - d. Press the [HOLD] button to update.
10. Assign VM flexible buttons (440) on the stations. At each station perform the following:
- a. Press the [SPEED] button twice.
 - b. Press the desired flexible button to be programmed.
 - c. Dial [440] on the keypad.
 - d. Press the [ON/OFF] button.

Note that you can adjust the volume level on each SLT port by using the volume up or down code. This provides additional control for both internal and external calls into the voice mail system. (Handset Receiver Gain feature MUST be turned on, Flash 05, Button 13).

**E. Vodavi STARPLUS®
SPD 2856 (104)****Hardware Requirements:**

The following are the hardware requirements for the STARPLUS® SPD 2856 digital in-band integration:

- One SLT port per STARPLUS Dispatch™ voice port. Each 4 x 8 SLT card provides (8) eight ports.
- One DTMF Receiver module. The DTMF is installed on the 4 x 8 SLT card or other 4 x 8 cards. The DTMF provides one (1) DTMF receiver for a system.
- One Ring Generator unit is needed for the system.

Supported Features:

The supported features of the STARPLUS® SPD 2856 include:

- Station forward to a personal greeting.
- Message waiting On/Off LEDs.
- Outdial (to pager or specific number).
- Multiple Return to Operator.
- Stations transfer callers directly to mailbox.

Configuring the SPD 2856:

Perform the following steps to configure the SPD 2856 digital with the STARPLUS Dispatch™ automated voice processing system:

1. On the single line telephone ports that are to be assigned to the VM group disable the conference feature. [Flash 50 XXX-XXX, button 3], LED should be OFF, where XXX-XXX are the SLT extension range numbers to be assigned to the VM group.

Note that if you are using the supervised transfer feature, leave conference disabled on these ports.

2. Enter the VM group programming for VM group 1 (440) [Flash 65, button 1]. This button should be lit for Steps 3-4.
3. Enter the single line telephone ports into a VM group (440-447). [Flash 65, button 12].

4. Enter the desired leave and retrieve tables for the VM group. [Flash 65, button 10] is the leave table and [button 11] is the retrieve table. Program the Leave Table as Table 0, program the Retrieve Table as Table 1.

Note that steps 5-7 are accomplished in the Flash 66 programming field.

5. Leave Table Programming:
 - a. Press [button 1] (Table 0).
 - b. Enter a [0] + [TRAN] button + [7] on the keypad,
where:
 - 0 indicates a prefix digit,
 - The [TRAN] button represents a pause based on the system pause timer.
 - The 7 is used in conjunction with the 100 and 120 menus provided in the STARPLUS Dispatch™.
 - c. Press the [HOLD] button to update.
6. Retrieve Table Programming:
 - a. Press [button 2] (Table 1).
 - b. Press [0] + [TRAN] button + [7] on the keypad,
where:
 - 0 indicates a prefix digit,
 - The [TRAN] button represents a pause based on the system pause timer.
 - The 7 is used in conjunction with the 100 and 120 menus provided in the STARPLUS Dispatch™.
 - c. Press the [HOLD] button to update.
 - d. Press [button 2] (Table 1).
 - e. Enter a [1] + [*] on the keypad,
where:
 - 1 indicates a suffix digit,
 - * is the digit that informs the STARPLUS Dispatch™ that this is a subscriber.
 - f. Press the [HOLD] button to update.
 - g. Press [button 9] (disconnect table).

7. Enter [#99999],
where:
 - #99999 is the disconnect code used by the STARPLUS Dispatch™.
 - a. Press the [HOLD] button to update.To ring CO lines directly to voice mail:
8. Enter CO Line programming [Flash 40].
 - a. Enter the CO Line range. Press the [HOLD] button.
 - b. Press Button 11 to program ringing assignments
 - c. Enter [440] + [7] on the dial pad,
where:
 - 440 is the voice mail group
 - 7 is for day & night ringing
 - d. Press the [HOLD] button to update.
9. Enable Loop Supervision for all CO lines (Flash 40, Button 6).
 - a. Enter CO Line programming [Flash 40].
 - b. Enter the CO Line range. Press the [HOLD] button.
 - c. Press Button 6 and dial [4] to enable Loop Supervision.
 - d. Press the [HOLD] button to update.
10. Assign VM flexible buttons (440) on the stations. At each station perform the following:
 - a. Press the [SPEED] button twice.
 - b. Press the desired flexible button to be programmed.
 - c. Dial [440] on the keypad.
 - d. Press the [ON/OFF] button.

Note that you can adjust the volume level on each SLT port by using the volume up or down code. This provides additional control for both internal and external calls into the voice mail system. (Handset Receiver Gain feature MUST be turned on, Flash 05, Button 13).

**F. Vodavi STARPLUS®
SPD 4896 (105)****Hardware Requirements:**

The following are the hardware requirements for the STARPLUS® SPD 4896 in-band integration:

- One SLT port per STARPLUS Dispatch™ voice port. Each SL12 card provides twelve ports.
- One DTM4 installed on the SL12. DTM4 provides (4) four DTMF receivers.
- In lieu of a DTM4, a 6 X 6 Combo card can be installed. This provides six DTMF receivers.
- One Ring Generator unit and a 48V power supply are needed for the system.

Supported Features:

The supported features of the STARPLUS® SPD 4896 include:

- Station forward to a personal greeting.
- Message waiting On/Off LEDs.
- Stations can transfer a caller directly to a mailbox without supervising the call.
- Outdial (to a pager or specific number).
- Multiple Return to Operator.

Configuring the SPD 4896:

Perform the following steps to configure the SPD 4896 with the STARPLUS Dispatch™ automated voice processing system:

1. On the single line telephone ports that are to be assigned to the VM group disable the conference feature. [Flash 50 XXX-XXX, button 3], LED should be OFF, where XXX-XXX are the SLT extension range numbers to be assigned to the VM group.

Note that if you are using the supervised transfer feature, leave conference disabled on these ports.

2. Enter the VM group programming for VM group 1 (440) [Flash 65, button 1]. This button should be lit for Steps 3-4.

3. Enter the single line telephone ports into a VM group (440-447) [Flash 65, button 12].
4. Enter the desired Leave and Retrieve tables for the VM group [Flash 65, buttons 10 and 11]. Program the Leave Table as Table 0, and program the Retrieve Table as Table 1.

Note that steps 5 and 6 are accomplished in the Flash 66 programming field.

5. Leave Table Programming:
 - a. Press [button 1] (Table 0).
 - b. Enter a [0] + [TRAN] + [7] on the keypad, where:
 - 0 indicates a prefix digit,
 - The [TRAN] button represents a pause based on the system pause timer.
 - The 7 is used in conjunction with the 100 and 120 menus provided with the STARPLUS Dispatch™.
 - c. Press the [HOLD] button to update.
6. Retrieve Table Programming:
 - a. Press [button 2] (Table 1).
 - b. Enter a [0] + [TRAN] + [7] on the keypad, where:
 - 0 indicates a prefix digit,
 - The [TRAN] button represents a pause based on the system pause timer.
 - The 7 is used in conjunction with the 100 and 120 menus provided with the STARPLUS Dispatch™.
 - c. Press the [HOLD] button to update.
 - d. Press [button 2] (Table 1).
 - e. Enter a [1] + [*] on the keypad, where:
 - 1 indicates a suffix digit,
 - * is the digit that informs the STARPLUS Dispatch™ that this is a subscriber.
 - f. Press the [HOLD] button to update.

7. Press [button 9] (disconnect table).
 - a. Enter [#99999]
where:
 - #99999 is the disconnect code used by the STARPLUS Dispatch™.
 - b. Press the [HOLD] button to update.To ring CO lines directly to voice mail:
8. Enter CO Line programming [Flash 40].
 - a. Enter the CO Line range. Press the [HOLD] button.
 - b. Press Button 11 1 to program ringing assignments.
 - c. Enter [440] + [7] on the dial pad,
where:
 - 440 is the voice mail group
 - 7 is for day & night ringing
 - d. Press the [HOLD] button to update.
9. Enable Loop Supervision for all CO lines (Flash 40, Button 6).
 - a. Enter CO Line programming [Flash 40].
 - b. Enter the CO Line range. Press the [HOLD] button.
 - c. Press Button 6 and dial [4] to enable Loop Supervision.
 - d. Press the [HOLD] button to update.
10. Assign VM flexible buttons (440) on the stations. At each station perform the following:
 - a. Press the [SPEED] button twice.
 - b. Press the desired flexible button to be programmed.
 - c. Dial [440] on the keypad.
 - d. Press the [ON/OFF] button.

Note that you can adjust the volume level on each SLT port by using the volume up or down code. This provides additional control for both internal and external calls into the voice mail system.

**G. Vodavi STARPLUS®
DHS (106)****Hardware Requirements:**

- An SLA Analog adapter

Supported Features: (FP2 only)

The supported features of the STARPLUS® DHS include:

- Station forward to a personal greeting.
- Message waiting On/Off LEDs.
- Stations can transfer a caller directly to a mailbox without supervising the call.
- Outdial (to a pager or specific number).
- Multiple Return to Operator.

Configuring the STARPLUS® DHS:

Perform the following steps to configure the STARPLUS® DHS with the STARPLUS Dispatch™ system:

1. Connect the single line adapter box to the system (make note of the extension numbers).
2. Enter programming mode: [FEAT] + [#] + [*] + [000000].
3. Press [SHOW].
4. Press [NEXT] to go to the station area. Press [SHOW].
5. Enter the first station number on the keypad to be included as a VM port. Press [SHOW].
6. Press [NEXT] until the VM PORT entry is on the display.
7. Press [CHG] to mark VM PORT=Y.
8. Repeat this procedure for all stations to be entered as VM ports.
9. Press [SAVE]. Then press [HOLD] twice when finished.
10. Press [NEXT] until SYSTEM APPLICATION appears. Press [SHOW].
11. Press [SHOW] at the STATION HUNT GROUP entry.
12. Enter a [1] on the keypad and press [SHOW].
13. Press [CHG] to mark the group as a VM type. Press [NEXT].
14. Press [SHOW] at the GROUP MEMBER entry.
15. Press [CHG] and enter the station number to be assigned in the group. Press [SAVE].

16. Repeat the procedure until all stations are entered in the group.
17. Press [SAVE]. Then press [HOLD] twice to return to the STATION HUNT entry.
18. Press [NEXT] to go to the VM screen.
19. Press [SHOW].
20. Press [CHG] at the ICM PREFIX entry.
21. Press [FEAT] and dial [70] + [7]. Press [SAVE].
 - a. Press [NEXT] to go to the XFR PREFIX.
 - b. Press [CHG] at the XFR PREFIX entry.
 - c. Press [FEAT] and dial [70] + [7]. Press [SAVE].
22. Press [NEXT] until the ICM SUFFIX entry is shown.
23. Press [CHG] at the ICM SUFFIX entry.
24. Dial [*]. Press [SAVE].
25. Press [NEXT] until DIS DGT appears.
26. Press [CHG] and dial #9999999.
27. Press [SAVE].
28. Press [HOLD] twice.
29. Press [BACK] twice until "4. RESOURCE" appears.
30. Press [SHOW].
31. Press [CHG] until Ring Scheme reads "1". Then press [CLEAR].

Assign VM flexible buttons on the stations. At each station perform the following:

- a. Press [FEAT] + [#] + [3].
- b. Press flexible button to program
- c. Press [CHG] (soft key) + [FEAT] (soft key).
- d. Press [FEAT] + [64]. Press [SAVE] (soft key)

If Call Screening is used with the DHS system, then the transferred to party must go on hook after either rejecting the call or transferring the caller to another extension.

**H. Vodavi STARPLUS[®]
Triad 1 (107)****Hardware Requirements:**

The following are the hardware requirements for the STARPLUS[®] Triad 1 in-band integration:

- One SLIB port per STARPLUS Dispatch[™] voice port. Each SLIB card provides six ports.
- One DTRU installed on the SLIB. DTRU provides two DTMF receivers.
- One RGU (ring generator) unit is needed for the system. This can be an internal or external RGU.

Supported Features:

The supported features of the STARPLUS[®] Triad 1 include:

- Station forward to a personal greeting.
- Message waiting On/Off LEDs.
- Stations can transfer a caller directly to a mailbox without supervising the call.
- Outdial (to a pager or specific number).
- Multiple Return to Operator.

Configuring the STARPLUS[®] Triad 1:

Perform the following steps to configure the STARPLUS[®] Triad 1 with the STARPLUS Dispatch[™] system:

1. On the single line telephone ports that are to be assigned to the VM group disable the conference feature. Flash 50 XXX-XXX, button 3, where XXX-XXX are the SLT extension range numbers to be assigned to the VM group.

If you are using the supervised transfer feature, leave conference disabled on these ports.

2. Enter the VM group programming for VM group 1 (440). Flash 65, button 1. This button should be lit for Steps 3-4.
3. Enter the single line telephone ports into a VM group (440-447). Flash 65, button 12.

4. Enter the desired Leave and Retrieve tables for the VM group. Flash 65, buttons 10 and 11. Program the Leave Table as Table 0, program the Retrieve Table as Table 1.

Note that steps 5 and 6 are accomplished in the Flash 66 programming field. These steps should be completed by default.

5. Leave Table Programming:
 - a. Press button 1 (Table 0).
 - b. Enter a [0] + [TRAN] + [7] on the keypad, where:
 - 0 indicates a prefix digit,
 - The [TRAN] button represents a pause based on the system pause timer.
 - The 7 is used in conjunction with the 100 and 120 menus provided with the STARPLUS Dispatch™.
 - c. Press the [HOLD] button to update.
6. Retrieve Table Programming:
 - a. Press button 2 (Table 1).
 - b. Enter a [0] + [TRAN] + [7] on the keypad, Where:
 - 0 indicates a prefix digit,
 - The [TRAN] button represents a pause based on the system pause timer.
 - The 7 is used in conjunction with the 100 and 120 menus provided with the STARPLUS Dispatch™.
 - c. Press the [HOLD] button to update.
 - d. Press button 2 (Table 1).
 - e. Enter a [1] + [*] on the keypad, Where:
 - 1 indicates a suffix digit,
 - * is the digit that informs the STARPLUS Dispatch™ that this is a subscriber.
 - f. Press the [HOLD] button to update.
7. Press button 9 (disconnect table).
 - a. Enter: [#99999], Where:

- #99999 is the disconnect code used by the STARPLUS Dispatch™.
- b. Press the [HOLD] button to update.
8. Assign VM flexible buttons (440) on the stations. At each station perform the following:
- a. Press the SPEED button twice.
 - b. Press the desired flexible button to be programmed.
 - c. Dial [440] on the keypad.
 - d. Press the ON/OFF button.

Note that you can adjust the volume level on each SLT port by using the volume up or down code. This provides additional control for both internal and external calls into the voice mail system.

If Call Screening is used with the Triad 1, then Auto Call back MUST be disabled in the phone system (Flash 01, Btn 17).

I. **Vodavi STARPLUS®
Triad 2 (108)**

Hardware Requirements:

The following are the hardware requirements for the STARPLUS® Triad 2 in-band integration:

- One SLIB port per STARPLUS Dispatch™ voice port. Each SLIB card provides six ports.
- One DTRU installed on the SLIB. DTRU provides two DTMF receivers.
- One RGU (ring generator) unit is needed for the system. This can be an internal or external RGU. One or two SLIBs is an internal RGU, and more than two SLIBs are an external RGU.

Supported Features:

The supported features of the STARPLUS® Triad 2 include:

- Station forward to a personal greeting.
- Message waiting On/Off LEDs.
- Stations can transfer a caller directly to a mailbox without supervising the call.
- Outdial (to a pager or specific number).
- Multiple Return to Operator.

Configuring the STARPLUS® Triad 2:

Perform the following steps to configure the STARPLUS® Triad 2 with the STARPLUS Dispatch™ system:

1. On the single line telephone ports that are to be assigned to the VM group disable the conference feature. Flash 50 XXX-XXX, button 3, where XXX-XXX are the SLT extension range numbers to be assigned to the VM group.

If you are using the supervised transfer feature, leave conference disabled on these ports.

2. Enter the VM group programming for VM group 1 (440). Flash 65, button 1. This button should be lit for Steps 3-4.
3. Enter the single line telephone ports into a VM group (440-447). Flash 65, button 12.
4. Enter the desired Leave and Retrieve tables for the VM group. Flash 65, buttons 10 and 11. Program the Leave Table as Table 0, program the Retrieve Table as Table 1.

Note that steps 5 and 6 are accomplished in the Flash 66 programming field. These steps should be completed by default.

5. Leave Table Programming:
 - a. Press button 1 (Table 0).
 - b. Enter a [0] + [TRAN] + [7] on the keypad, Where:
 - 0 indicates a prefix digit,
 - The [TRAN] button represents a pause based on the system pause timer.
 - The 7 is used in conjunction with the 100 and 120 menus provided with the STARPLUS Dispatch™.
 - c. Press the [HOLD] button to update.
6. Retrieve Table Programming:
 - a. Press button 2 (Table 1).
 - b. Enter a [0] + [TRAN] + [7] on the keypad, Where:
 - 0 indicates a prefix digit;

- the [TRAN] button represents a pause based on the system pause timer.
 - The 7 is used in conjunction with the 100 and 120 menus provided with the STARPLUS Dispatch™.
 - c. Press the [HOLD] button to update.
 - d. Press button 2 (Table 1).
 - e. Enter a [1] + [*] on the keypad,
Where:
 - 1 indicates a suffix digit,
 - * is the digit that informs the STARPLUS Dispatch™ that this is a subscriber.
 - f. Press the [HOLD] button to update.
7. Press button 9 (disconnect table).
- a. Enter [#99999],
Where:
 - #99999 is the disconnect code used by the STARPLUS Dispatch™.
 - b. Press the [HOLD] button to update.
8. Assign VM flexible buttons (440) on the stations. At each station perform the following:
- a. Press the SPEED button twice.
 - b. Press the desired flexible button to be programmed.
 - c. Dial [440] on the keypad.
 - d. Press the ON/OFF button.

Note that you can adjust the volume level on each SLT port by using the volume up or down code. This provides additional control for both internal and external calls into the voice mail system.

If Call Screening is used with the Triad 1, then Auto Call back MUST be disabled in the phone system (Flash 01, Btn 17).

**J. Vodavi STARPLUS®
Triad 3 (109)****Hardware Requirements:**

The following are hardware requirements for the STARPLUS® Triad 3 in-band integration:

- One SLIB port per STARPLUS Dispatch™ voice port. Each SLIB card provides twelve ports.
- One DTMF-A installed on the SLIB. DTMF-A provides four DTMF receivers.
- One RGU (ring generator) unit is needed for the system.

Supported Features:

The supported features of the STARPLUS® Triad 3 include:

- Station forward to a personal greeting.
- Message waiting On/Off LEDs.
- Stations can transfer a caller directly to a mailbox without supervising the call.
- Outdial (to a pager or specific number).
- Multiple Return to Operator.

Configuring the STARPLUS® Triad 3:

Perform the following steps to configure the STARPLUS® Triad 3 with the STARPLUS Dispatch™ system:

1. On the single line telephone ports that are to be assigned to the VM group disable the conference feature. Flash 50 XXX-XXX, button 3, where XXX-XXX are the SLT extension range numbers to be assigned to the VM group.

If you are using the supervised transfer feature, leave conference disabled on these ports.

2. Enter the VM group programming for VM group 1 (440). Flash 65, button 1. This button should be lit for Steps 3-4.
3. Enter the single line telephone ports into a VM group (440-447). Flash 65, button 12.

4. Enter the desired Leave and Retrieve tables for the VM group. Flash 65, buttons 10 and 11. Program the Leave Table as Table 0, program the Retrieve Table as Table 1.

Note that steps 5 and 6 are accomplished in the Flash 66 programming field. These steps should be completed by default.

5. Leave Table Programming:
 - a. Press button 1 (Table 0).
 - b. Enter a [0] + [TRAN] + [7] on the keypad, Where:
 - 0 indicates a prefix digit,
 - The [TRAN] button represents a pause based on the system pause timer.
 - The 7 is used in conjunction with the 100 and 120 menus provided with the STARPLUS Dispatch™.
 - c. Press the [HOLD] button to update.
6. Retrieve Table Programming:
 - a. Press button 2 (Table 1).
 - b. Enter a [0] + [TRAN] + [7] on the keypad, Where:
 - 0 indicates a prefix digit,
 - The [TRAN] button represents a pause based on the system pause timer.
 - The 7 is used in conjunction with the 100 and 120 menus provided with the STARPLUS Dispatch™.
 - c. Press the [HOLD] button to update.
 - d. Press button 2 (Table 1).
 - e. Enter a [1] + [*] on the keypad, Where:
 - 1 indicates a suffix digit,
 - * is the digit that informs the STARPLUS Dispatch™ that this is a subscriber.
 - f. Press the [HOLD] button to update.
7. Press button 9 (disconnect table).
 - a. Enter: [#99999], Where:

- #99999 is the disconnect code used by the STARPLUS Dispatch™.
 - b. Press the [HOLD] button to update.
8. Assign VM flexible buttons (440) on the stations. At each station perform the following:
- a. Press the SPEED button twice.
 - b. Press the desired flexible button to be programmed.
 - c. Dial [440] on the keypad.
 - d. Press the ON/OFF button.

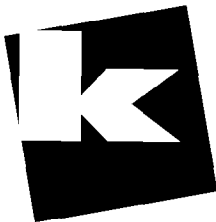
Note that you can adjust the volume level on each SLT port by using the volume up or down code. This provides additional control for both internal and external calls into the voice mail system.

If Call Screening is used with the Triad 1, then Auto Call back MUST be disabled in the phone system (Flash 01, Btn 17).

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FEATURE
OPERATION



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SECTION 300 FEATURE OPERATION

300.1 OVERVIEW

The STARPLUS Dispatch™ voice processing system is a stand-alone, compact, full-featured PC-compatible Voice Mail System. It is a self-contained system, and is designed to be easy to install.

The STARPLUS unit connects directly to any Private Branch Exchange (PBX) or key phone system that supports analog extensions or single line telephones (SLTs). STARPLUS Dispatch™ can also connect to standard loop start Central Office (CO) lines.

300.2 INTRODUCTION

The STARPLUS Dispatch™ Voice Processing system is a powerful tool for telephone automation. With it, you can:

- Receive Voice Messages
- Send Voice Messages
- Record a Personal Greeting
- Verify the Date and Time a message was sent
- Screen Incoming Calls
- Be notified of an Important Message any time, any place
- Allow a Calling Party to Wait On Hold

Use this guide to learn how to use the STARPLUS Dispatch™ Voice Processing system features. The guide covers;

- The features and their use.
- How to access them.
- How to change feature settings.

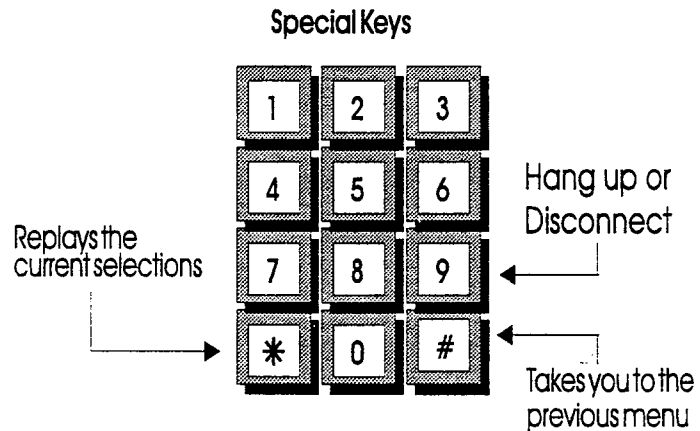
Voice prompts and menu help systems guide a user through the operation of all the features. The menu-driven STARPLUS Dispatch™ Voice Processing system is so easy to use, you may not need this manual. By taking the time to read it, however, you maximize the capabilities of this system.

NOTES
The system administrator may not have activated all the features described in this manual and, therefore, some may not be accessible. Check with the system administrator to understand which features are available on your system.

A. Some Basics

A menu is a group of features or selections. Access features by pressing [0-9], [#], or [*] from the dialpad of any touch-tone telephone. Menus are connected in a “tree structure”, that is, general topics are broken into more specific areas. For example when you dial your mailbox number the menu says, “Press [1] to retrieve messages. Press [2] to send a message. Press [8] for personal options.” These selections are general topics that deal with a number of feature settings. Select [8] personal options, to hear the following: “Press [1] to edit greeting. Press [2] to change your password...”

Special keys include the [*] which replays the selections of the current menu, [#] which takes you back to the previous menu, and the [9] key which hangs up or disconnects from the STARPLUS Dispatch™ Voice Processing system. The [*] is also used at specific points in the program to gain access to system features.



As a new user, press the [*] key often to replay the menu choices and become familiar with the system. Experienced users may not want to listen to the menu selections at all.

In that case, the Type Ahead feature overrides the voice prompts and allows users to enter a string of keys that take them directly to the voice mail feature they need.

B. Getting Started

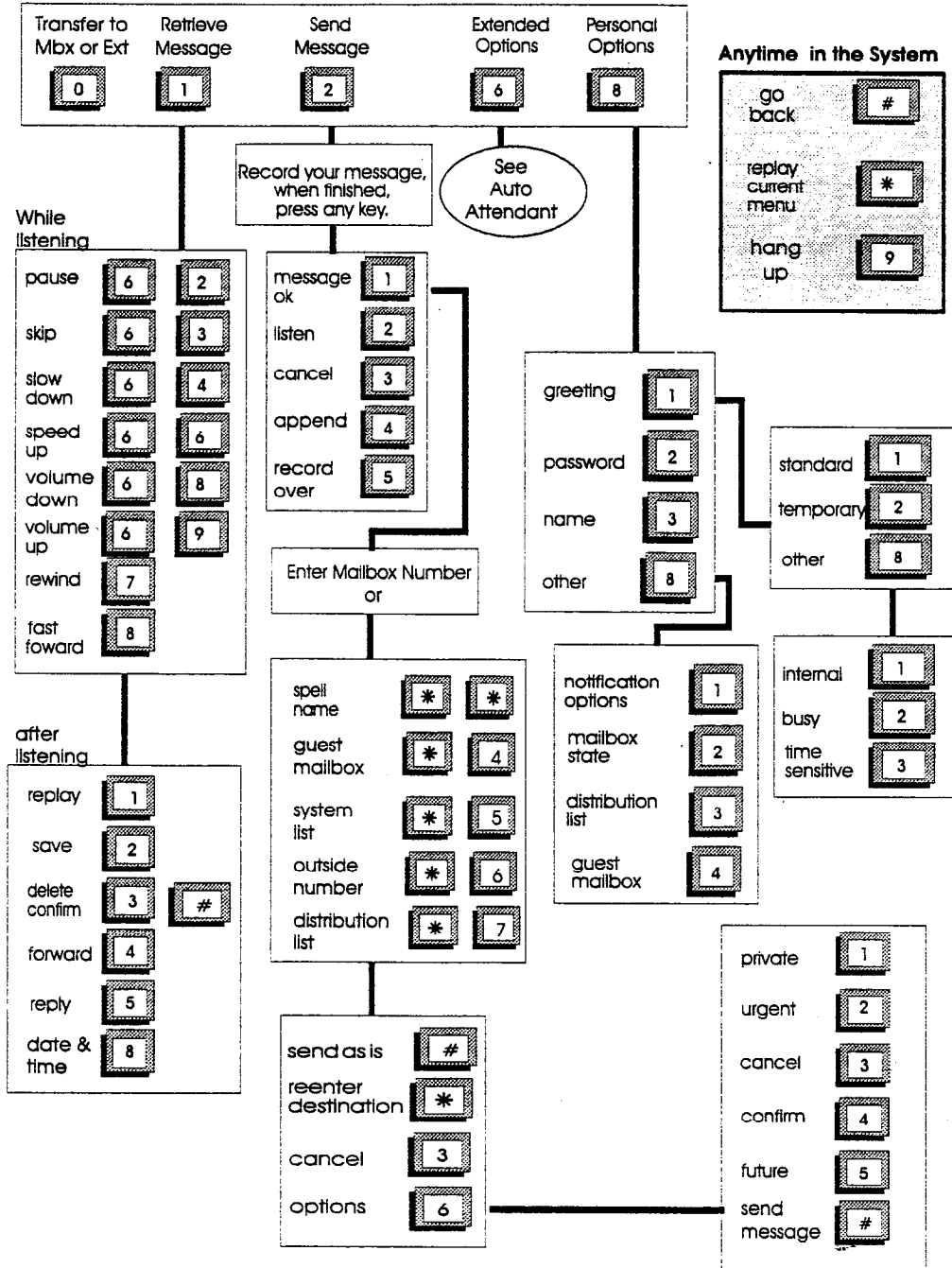
Before going further, gather the following information:

The internal or external phone number to access the STARPLUS Dispatch™ system.

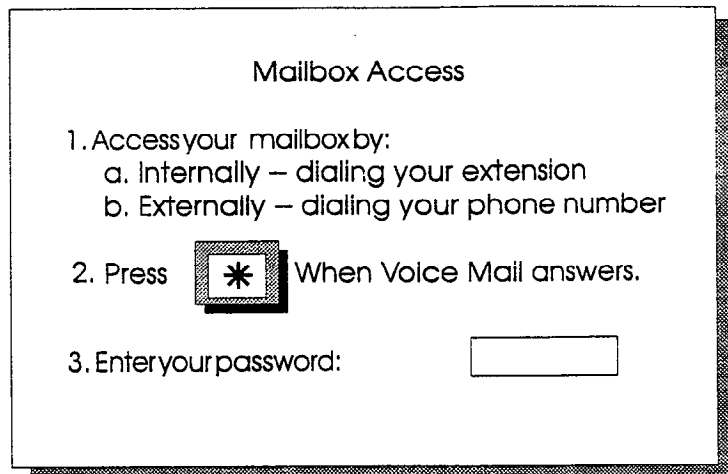
- Your mailbox number.
- Your extension number.
- Your Password.

300.3 VOICE MESSAGING OPERATION

Voice Messaging allows users to send and receive voice messages. This eliminates “telephone tag” and increases productivity. The following drawing shows the menu structure for voice messaging.



A. System Access



In order to access the system:

1. Dial the internal extension or outside phone number of the STARPLUS Dispatch™ Voice Processing system. Once connected, the system prompts you with a greeting similar to the following, "The office is now closed. Please try your call again later."
2. Enter your mailbox number.
3. Press the [*] key to access your mailbox. The system responds with the following prompt. "Please enter your password."

NOTES

The [] key is the default key set at the factory and the System Administrator may have changed this.*

NOTES

If you are connected to a STARPLUS @ phone system, simply press the voice mail button (or dial the Voice Mail pilot number). The first three steps are automatically performed and you begin at the following step.

4. Enter your password.
The system prompts the user "Enter password". The System Administrator initially sets the password. The default password is 0000.

Once a user accesses their mailbox the system always plays a message with the number of messages, the number of new messages and then the number of saved messages. For example: "You have two new messages and three saved messages."

The next set of messages are:

- Press [1] to retrieve messages
- Press [2] to send a message
- Press [8] for personal options
- Press [6] for extended personal options
- Press [0] to transfer to a mailbox or extension.

If there are no messages, the system simply prompts:

- Press [2] to send a message
- Press [8] for personal options
- Press [6] for extended personal options

New users need to:

1. Record their name as the owner of this mailbox
2. Change the security code
3. Record a personal greeting

The System Administrator can enable a First Time Help feature that guides users through the process of recording their name, changing their password and recording a greeting. Users can change any of these options at any time.

B. Smart Prompts

The STARPLUS Dispatch™ Voice Processing system has the ability to Smart Prompt. For example, if a user does not have a personal distribution list, the system does not announce the option to send to a personal distribution list to the user.

Another example: If the system administrator has not activated call screening the user does not hear the prompt to enable call screening.

The following options are available to Mailbox owners only if they have been activated in Class of Service. Refer to Section 600.8, "C. Class of Service (COS)"

C. Record Name

Recording names for each mailbox provides each mailbox with a personalized identity. For example, when a voice mailbox (VM) user leaves a message they hear the following prompt, "Message will be sent to (Name)." This gives the caller a confirmation that the message has been sent to the correct person. Confirmation is especially useful if the message was sent using the spell by name feature. If a name is not recorded the caller hears "Message will be sent to mailbox XXXX."

to Record your Name

1. Press **8** for personal options

2. Press **3** to edit name

3. Press **2** to record a new name

FEATURE
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To record a name:

1. Press [8] for personal options
2. Press [3] for name option
3. Press [2] to record your name

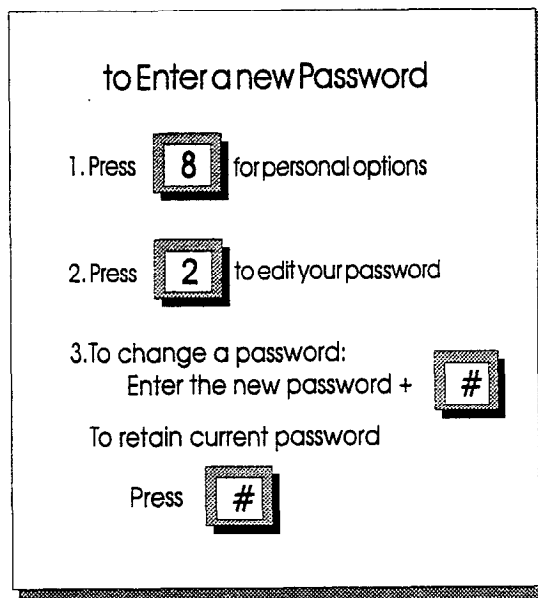
Once the name has been recorded:

1. Press [1] to listen to the current name
2. Press [2] to record again
3. Press [#] when finished recording

D. Password

To keep messages confidential and prevent unauthorized use of a mailbox, change the password. The password can be changed as often as needed.

The password is a four digit number, unless the System Administrator has set a different number. Select a code that is easy to remember but is not obvious. For example, do not use 5555. However, the first four digits of a home telephone number might work well. If the code is forgotten, the administrator can reset the mailbox.

**To change a password:**

1. Press [8] for personal options.
2. Press [2] for password option.

NOTES *The current password is played.*

3. Enter the new password followed by the [#].

To retain the new password: Press [#].

E. Greeting

The greeting is a personal message that a callers hears when they dial a mailbox. The greeting usually tells the caller that the mailbox owner is not available, when the

owner can be reached, and how to record a message. To record a greeting, the mailbox owner should speak at a natural pace, perhaps just slightly faster than normal.

The STARPLUS Dispatch™ Voice Processing system has several greeting options available: Standard, Temporary, Busy, or Time Sensitive. When mailbox owners do not record a personal message, the system plays the following canned message, "Please Leave a messages after the tone". When you are finished, you can hang up or press any key for other options."

to Record a new Standard Greeting

Access Your Voice Mail

1. Press **8** for personal options
2. Press **1** to edit any greeting type.
3. Press **1** to edit the standard greeting
4. Press **1** to listen to the current greeting
- 2** to record the greeting
5. Record your message. Press any key when finished recording.
6. Repeat step 4-5 until you are satisfied with the greeting.

To record a Greeting:

1. Press [8] for Personal Options.
2. Press [1] to Record Greeting.
3. Press [1] for Standard Greeting options.
4. Press [2] to record the Standard greeting.

Once the greeting has been recorded:

1. Press [1] to review it
2. Press [2] rerecord
3. Press [3] to erase it
4. Press [#] to go back.

As mentioned, the STARPLUS Dispatch™ Voice Processing system has three (3) other greeting types in addition to the standard greeting.

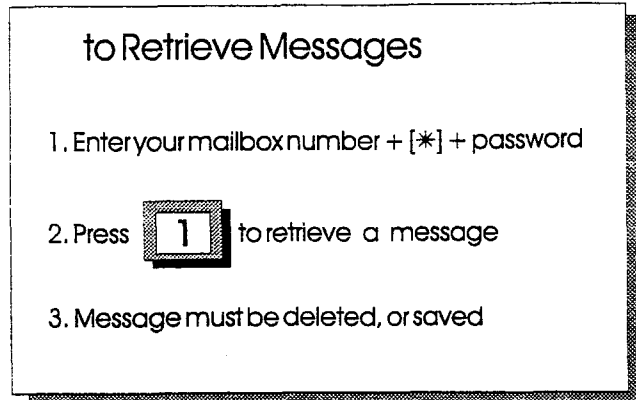
- **Standard** — This is the default greeting that is played 24 hours a day, seven days a week or any time a caller accesses a mailbox, unless the mailbox owner has programmed one of the other greetings for special situations. The temporary, time sensitive, and busy greetings override the standard greeting when they are activated.
- **Temporary** — Mailbox users can record temporary greetings for times when they are out of the office—such as vacations, business trips or personal appointments. Temporary greetings become effective as soon as they are recorded.
- **Busy** — The system uses this greeting when a supervised transfer to an extension encounters the extension busy. In this case, the system checks for a busy greeting and if there is one, plays the greeting to the caller. The system uses this greeting only when the extension is programmed for supervised transfer and forwarded to the mailbox.
- **Time Sensitive** — The System Administrator sets the time control option and can assign this option to a mailbox owner. The mailbox owner can then record messages for day, night and weekend greetings.
- **Internal** - That answers when the call is from an internal phone.

F. Retrieving Messages

Mailbox subscribers hear their messages played back in the following order: new messages first and then previously saved messages. All messages are played in the order they were received. The oldest message is played first.

The following diagram shows the features available while reviewing the messages. Features can be accessed at any time. It is not necessary to wait until the end of the message.

After hearing that you have a message, Press [1] to listen to the message.



Options available while listening to a message, to:

- Press [6] & [2] To Pause. Press [2] To resume
- Press [6] & [3] To Skip a Message
- Press [6] & [4] To Slow Down
- Press [6] & [6] To Speed Up
- Press [6] & [8] Volume Down
- Press [6] & [9] Volume Up
- Press [7] To Rewind
- Press [8] Fast Forward

After listening to a message, to:

- Press [1] To Replay
- Press [2] To Save
- Press [3] & [#] To Delete & Confirm
- Press [4] Forward
- Press [5] To Reply
- Press [8] To Hear Date/Time.

NOTES

Even if a message is forwarded, it must be deleted or saved.

In most cases, mailbox users probably delete the message. If the message is saved, the system erases it automatically after a designated time period. The System Administrator programs this retention period, typically set to a week or so. Users should check with the System Administrator to be sure.

Other options include:

- Forward: Press [4].

Allows a mailbox user to pass the message along to another mailbox owner. When forwarding messages, users can enter the mailbox number or press [*] [*] and spell the called person's name. Forward the message as is or add introductory comments (preamble) to the message. The person receiving the forwarded message hears the preamble (comments) first, followed by the message.

- Reply: Press [5].

Respond directly to the person who left the message without having to enter a mailbox number.

- Date/Time: Press [8].

Gives the date and time that the message was sent. The system automatically attaches this information to each message.

NOTES

If you hang up without doing a delete or save, your messages are automatically saved in the state they originated when you accessed the mailbox.

G. Sending A Message

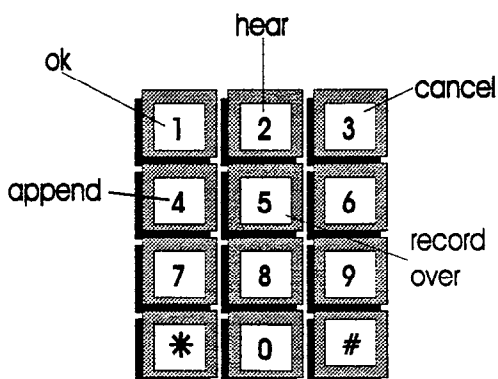
Users may send messages to other mailbox owners or to a system distribution list, a personal distribution list, or to guest mailboxes. Once a message has been recorded, a mailbox user can send that message to any number of mailboxes.

to Send a Message

1. Enter your mailbox number + [*] + password
2. Press **[2]** to send a message
3. Record your message after the tone. When finished, press any key.
4. Press **[1]** if message is okay,
[2] to hear
[3] to cancel.
[4] to append
[5] to re-record,
5. Enter the mailbox number that is to receive the message.
6. Press **#** to send message as is
***** Re-Enter Destination
3 Cancel
6 Sending Options

To send a message:

1. Press [2] to send a message.
2. Record your message after the tone.
3. When finished, Press any key to end recording. Once a message has been recorded, there are several options:
 - Press [1] If message is okay
 - Press [2] To Listen to the message
 - Press [3] To Cancel the message
 - Press [4] To Append to the message
 - Press [5] To Record the message over again



When the message is ready to send:

4. Enter the desired mailbox number or:
 - [*] & [*] To spell a name (1st 4 characters).
 - [*] & [4] To send to a guest mailbox.
 - [*] & [5] To send to a system distribution list.
 - [*] & [7] To send to a personal distribution list (0-9).
5. Press the [#] when finished. The following options are available:
 - [#] To send message as is.
 - [*] To reenter send destination.
 - [3] To cancel.
 - [6] For additional send options.
 - [1] Private
 - [2] Urgent
 - [3] Cancel
 - [4] Confirmation
 - [1] Certified
 - [2] Notification of Nondelivery
 - [5] Future Delivery
 - Enter MM:DD:HH:MM, Press:
 - [1] AM
 - [2] PM
 - [#] Confirm
 - [3] Cancel
 - [#] Send

NOTES

These options are "smart prompts". If a user does not have the option, the system does not prompt the user. For example: If the Class of Service does not permit "spell name", the prompts do not give the user the option or if the user does not have a guest mailbox defined, the system does not prompt with the 4 option.

H. Reply To Sender

Reply to Sender allows the user to respond to a mailbox message. STARPLUS Dispatch™ Voice Processing system automatically sends the user's reply to the person or mailbox that sent the message. In addition, the reply and message can be sent to other mailboxes, can use the spell by name option, or be sent to a distribution list (personal or system).

to Reply to Message

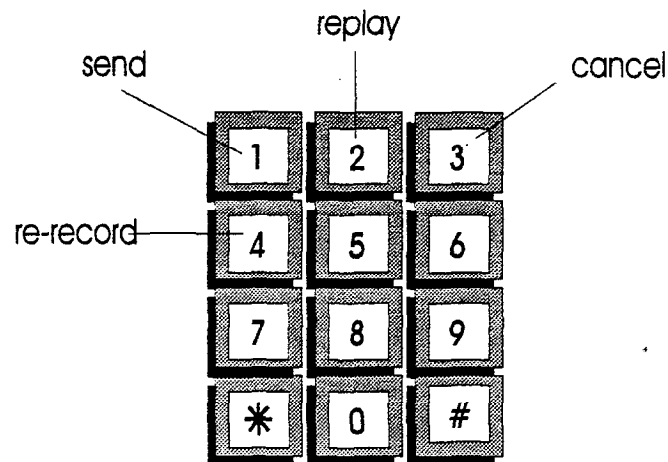
1. Enter your mailbox number + [*] + password
2. Press 1 to retrieve messages
3. Press 5 to reply to message
4. Prompt: "Reply will be sent to Mailbox name
or
XXXX"
Press # to confirm or
* to cancel."
5. After the tone leave your message
6. After recording, press any key to end recording
7. Press 1 to send the reply or use other send options.

**FEATURE
OPERATION**
To reply to the sender:

1. Press [1] to retrieve your message.
2. Press [5] to reply to message.
3. Press [1] to continue reply.
4. After the tone, leave your message and press any key.

After recording the reply the options are:

- Press [1] To Send the Reply.
- Press [2] To Replay the Reply.
- Press [3] To Cancel the Reply.
- Press [4] To Record the Reply over.

**I. State**

The mailbox State determines how the system handles a call when someone tries to leave a message. Usually, this means playing the called party's personal greeting and then prompting the caller to leave a message. However, several other feature selections allow the call to be handled differently.

to Set the State

1. Enter your mailbox number and password
2. Press **8** for Personal Options
3. Press **8** for Other options
4. Press **2** for State

The Voice system plays current state and options

5. Select the State

To set the state:

1. Press [8] for personal options.
2. Press [8] for other options.
3. Press [2] for mailbox state options.

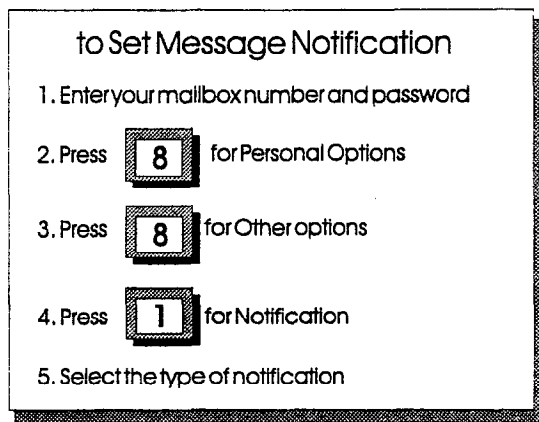
The diagram shows the selections available:

Press	Function
1	TURN Greeting Off
2	TURN Greeting On
4	FOWARD to a mailbox
5	FORWARD to an extension
6	FORWARD to a menu
7	FORWARD to a module
8	Mailbox off
#	Go back one menu

FEATURE OPERATION

**J. Message
Notification**

Message Notification instructs the system to contact the mailbox owner on receipt of a message by dialing an alternate phone number or activating a paging device.

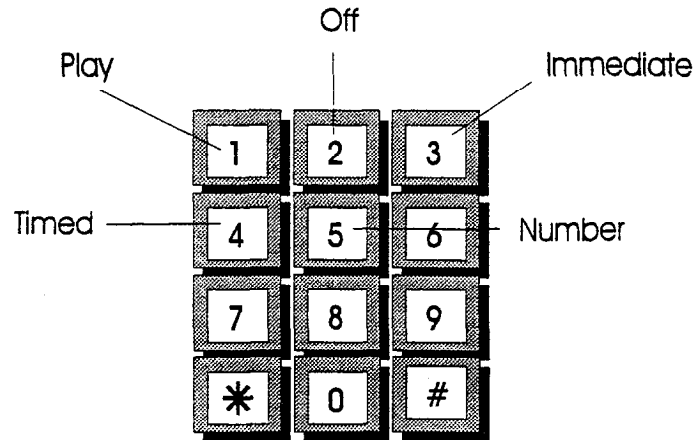
**To set Message Notification:**

1. Press [8] for personal options.
2. Press [8] for other options.
3. Press [1] for notification.

Notification type can either be *immediate*, *timed* or *urgent only*.

- Immediate: The system dials the mailbox owner as soon as the message is left.
- Timed: The system waits for a set time before dialing the mailbox owner.
- On Urgent Only. Activates notification when messages are marked as urgent.

The following diagram shows the selections:



- Play = Press [1] to hear the current settings.
- Off = Press [2] turns this feature off.
- Immediate = Press [3] sets immediate notification.
- Timed = Press [4] sets time notification.
- Number = Press [5] to set the number where you can be reached. This number can be an internal extension, outside phone number, or digital pager.

FEATURE
OPERATION

When the system calls a mailbox owner, the owner hears the message, "You have a new message for (Name). Please enter your password to accept the message."

Of course, owners can access their messages manually at anytime. However, if an owner is expecting an important message or does not plan to be in the office, this feature provides added flexibility.

If a mailbox owner is not available when the system tries to reach the owner, the system periodically dials the number until the owner receives the message.

NOTES

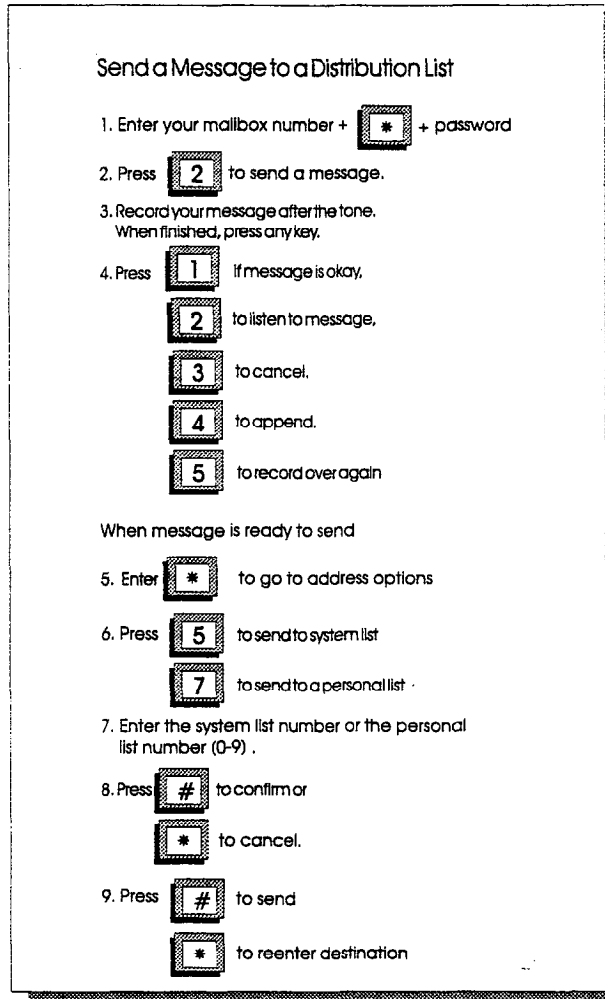
For notification per time period, the System Administrator must create a Command File. See Appendix C for examples and instructions.

K. Distribution Lists

The Distribution List option allows users to create a message and send it to a group of mailboxes. The System Administrator can create lists for mailbox users-- for example, there could be a system distribution list for all the employees involved in a particular product, or all the employees in a department.

Send to List

The following diagram is the procedure to send a message to a distribution list.



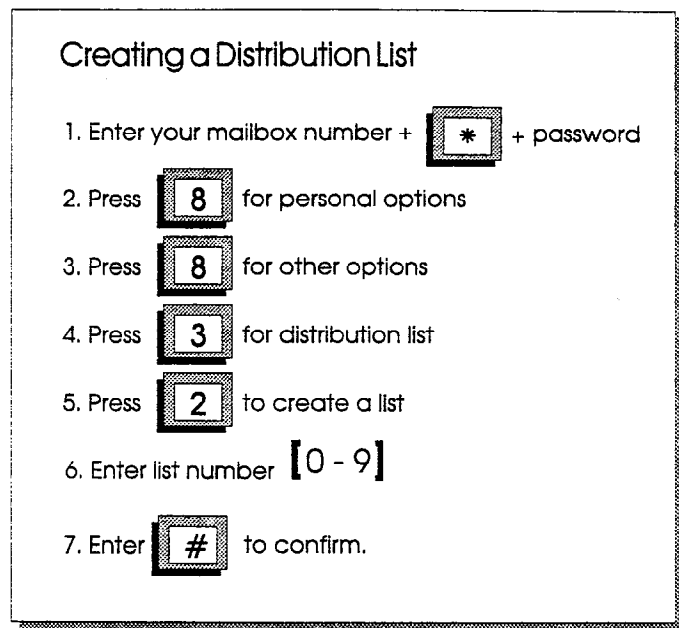
NOTES *The options in step 6, are smart prompts. For example: If a user does not have access, or does not have a distribution list, the system does not announce these prompts.*

L. Personal Distribution Lists

The STARPLUS Dispatch™ system allows mailbox users to create, edit or delete up to ten (10) personal distributions lists. Each list may contain up to twenty-five (25) mailboxes.

Create a List










Use the instructions in the following diagram (if you are calling into a VM Port) to create a personal distribution list. Personal distribution lists are useful for sending out meeting reminders or other notices to special groups.



**Add Mailbox
Entries**

Use the following diagram to add mailbox entries into an existing list.

Add or Delete Mailbox Entries

1. Enter your mailbox number +  + password.
2. Press  for personal options.
3. Press  for other options.
4. Press  for distribution list.
5. Press  to edit a list.
6. Enter list number (0 - 9).
7. Press  to add a mailbox number.
 to delete a mailbox number.
8. Enter mailbox number followed by .
9. Repeat steps 7-8 until all entries are complete.
10. Enter  when finished.

Delete a Mailbox Entry

Use the following diagram to delete a mailbox entry from a list. Useful for keeping personal lists current for the mailbox users in special groups.

Delete Mailbox Entry from a List

1. Enter your mailbox number + + password.
2. Press for personal options
3. Press for other options
4. Press for distribution list
5. Press to edit a list
6. Enter list number **[0 - 9]**
7. Press to delete a mailbox number
8. Enter mailbox number followed by
9. Repeat steps 7-8 until all desired mailbox numbers are deleted.
10. Enter when finished

Delete a List

This feature is helpful in keeping complete lists up to date and making room for current lists. Delete a list whenever it is no longer needed.

To Delete a Complete List

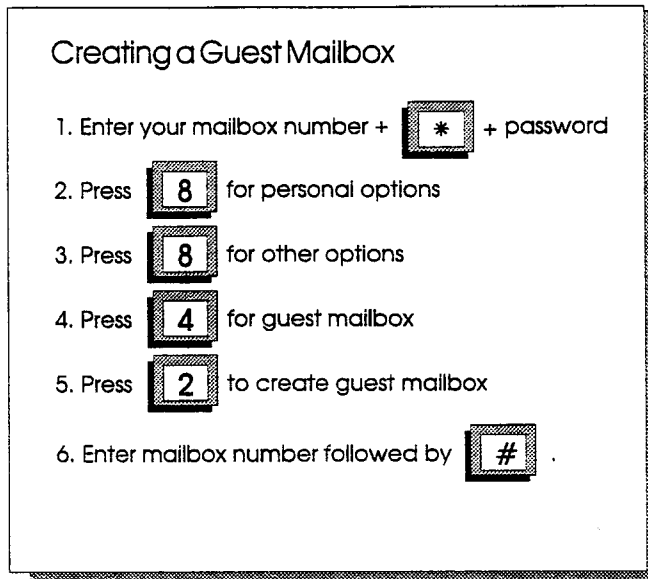
1. Enter your mailbox number + + password.
2. Press for personal options.
3. Press for other options.
4. Press for distribution list.
5. Press to delete a list.
6. Enter list number (0-9) to be deleted
7. Enter to confirm or to cancel.

M. Guest Mailboxes

The STARPLUS Dispatch™ system allows users to create up to ten (10) guest mailboxes. Guest mailboxes are utilized by individuals who do not have their own permanent mailbox on the system. Guests receive messages from the mailbox owner and can easily reply to the message.

**Create a
Guest Mailbox**

Each guest mailbox can contain up to ten (10) messages.
Use the diagram to create a guest mailbox.



Once a guest mailbox is created, the guest mailbox creator has the following options:

- Press [1] - To list mailboxes
- Press [2] - To create a mailbox
- Press [3] - To delete a mailbox
- Press [4] - To edit mailbox greetings

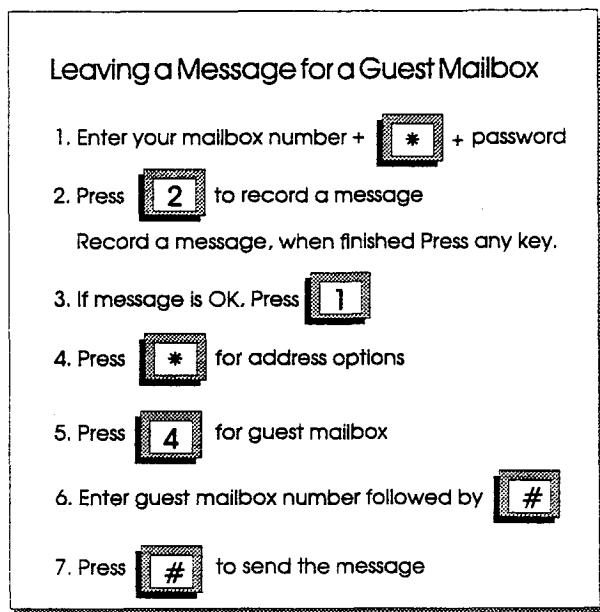
The STARPLUS Dispatch™ system only uses one guest mailbox greeting for all guest mailboxes. This greeting is played every time a guest mailbox user accesses the guest mailbox. The guest greeting should be generic. For example: "To see if I left you a message, enter your guest mailbox number followed by the pound [#] sign."

NOTES

The "Guest Greeting" recording must include a prompt for the Guest Mailbox user to enter their Guest Mailbox number followed by the [#] key.

Guest Messages

Use the following diagram to leave messages for guest mailboxes.

**Using a Guest Mailbox:**

1. Have the guest call into the system and access the mailbox owner's mailbox.
2. While listening to the mailbox greeting, Press [4] (G for guest).
3. After pressing [4], the caller hears the guest greeting recorded by the mailbox owner.
4. Guests enter the mailbox number assigned to them followed by the [#] key.
5. The system plays any messages stored in the guest mailbox.
6. After each message, the guest can:
 - Press [1] - To replay messages
 - Press [3] - To play next message
 - Press [2] - To reply to owner
 - Press [8] - To time stamp

NOTES

The system automatically deletes guest messages. The guest Mailbox owner cannot save or forward the message.

300.4 VOICE NOTE PAD

The Voice Note Pad is a programmable voice data base that is used to record information that you want to retrieve at a later time. For example, a system user wants to keep track of the phone numbers of various business contacts, including the ABC Company. The user first creates an information group called Business Phone Numbers. The user then enters 222, a key word, or "ID" for the ABC company (with 222 representing the letters ABC on the phone key pad). The person then records the ABC Company's phone number, business hours, and any additional information as needed. To hear this information, the user simply accesses the note pad, selects the Business Phone Numbers information group, and enters the ID code for ABC Company to have the information played back. The note pad can create up to eight information groups. The number of entries that can be stored in a group is only limited by the amount of available disk space. Entry IDs can be any combination of keys (0-9) and from 1 to 8 digits.

Steps to follow when working with the Voice Note Pad:

1. Access your mailbox as you normally would.
2. Press [6] to edit Extended Options.
3. Press [2] to access the personal note pad.
4. Select an option from the following:
 - A group number (system names the groups already set up).
 - Valid numbers are 1 - 8.
 - To repeat groups, press [*].
 - To go back, press [#].

A. Create an Information Group

To create a new information group, follow the instructions for accessing a Voice Note Pad, and then:

1. Select an option
 - Enter an unused group number from 1 - 8.
 - To create group, press [#].
 - To repeat selections, press [*].
2. Record a brief description for the new group. When finished, press [#]. You hear: "New Group Created"

B. Modifying a Group

To add, modify, or delete information in a group, change the group description or delete the entire group, access the group using the procedures above and then:

1. Enter the group number to modify.
You hear: "You selected (Group Description)"
2. Enter the keyword followed by [#].
3. When finished, press [#] and then:
 - Press [1] + [*] to change group description
or
 - Press [3] + [*] to delete group and all IDs.

C. Add A New Entry

1. Type in a key word then press the [#] key. You hear:
"There is no information for the keyword you entered.
To create a new entry under this key word, press [#]"
2. To enter, press [*]
3. Press the [#] key to record a new entry. You hear:
"After the tone, start recording. When finished, press
any key."
4. Record the information that you want associated with
this key word. When done, press the [#] key.
You hear: "ID information created."

D. Modify An Existing Entry

1. Type in the key word You hear:
 - To hear again, press [1]
 - To rerecord ID, press [2]
 - To delete ID, press [3]
 - To append to ID, press [4]
 - To go back, press [#]
2. Press [1] + [*] to change group description.
You hear: "After the tone, record the new group de-
scription"
3. Press [3] + [*] to delete the group and all information
stored in the group. You hear:
 - To delete group, press [#]
 - Otherwise, press [*].

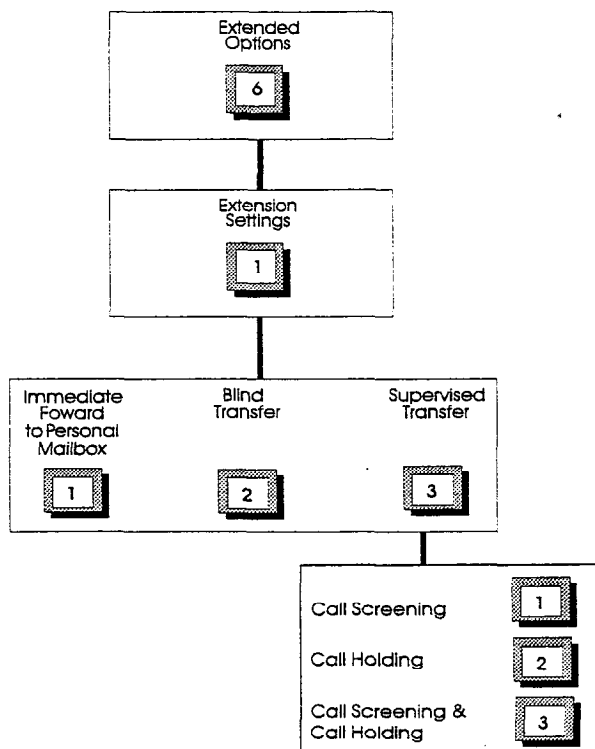
300.5 AUTOMATED ATTENDANT OPERATION

The Auto Attendant menu is accessed using the Voice Mail Menu. Press [6] (Extended Options) on the Main Voice Mail menu to change Auto Attendant functions. The features available to a Voice Mail owner are dependent on the configuration set by the System Administrator. This section discusses the basic features available to Mailbox Owners.

STARPLUS Dispatch™ Auto Attendant Module performs call transfers without the assistance of a live operator. STARPLUS Dispatch™ supports two transfer methods: Direct and Requested.

A. Menu Structure

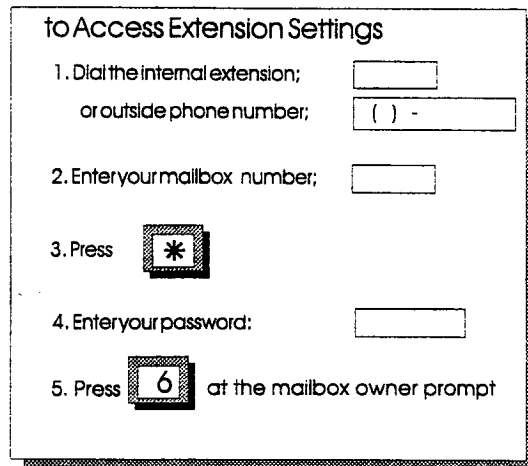
The following drawing shows the menu structure for the Automated Attendant:



FEATURE OPERATION

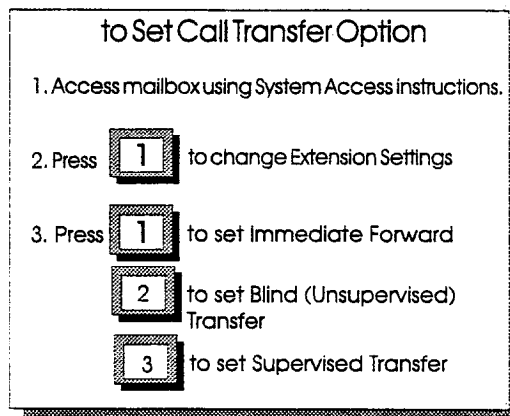
B. System Access

System access allows a mailbox user to set and edit the special features that come with the Automated Attendant. *Access extension features through the Voice Mail Owner menu.*



C. Call Transfer Options

The diagram below shows the Transfer Option selections. The STARPLUS Dispatch™ transfers calls using several methods. A mailbox user changes the method of transfer through Extension Maintenance.



1. Press [1] for the extension settings option.
2. Select the desired transfer option. When STARPLUS Dispatch™ forwards a call to an extension the transfer can be:

- Immediate Forward: Press [1] STARPLUS Dispatch™ forwards the call immediately to the mailbox without trying to reach the extension.
- Unsupervised (Blind): Press [2] STARPLUS Dispatch™ does not monitor the transfer, the call transfers immediately to the extension. In the event the call is not answered, the system does not forward the call.
- Supervised: Press [3] STARPLUS Dispatch™ monitors the transfer. If the call is not answered, it is forwarded. If the System Administrator has allowed the Call Screening or Call Holding functions, the extension can be set with these options:
 - Set Call Screen: Press [1]
 - Set Call Hold: Press [2]
 - Set Both: Press [3]
 - Call transfers to the mailbox or extension of the person calling in.

NOTES

If the transfer is Supervised or Immediate Forward then select where to forward the call.

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SECTION 400 SYSTEM DEFAULT VALUES

400.1 OVERVIEW

The STARPLUS Dispatch™ creates values for time control, voice lines, subscribers and Class of Service. These default values allow faster and easier configuration of your new voice mail system. This section describes the default values. PBX 000 may be slightly different than the defaults described.

400.2 SUBSCRIBERS DEFAULT

Subscribers are defined as users with a mailbox and extension on the STARPLUS Dispatch™. The subscriber doesn't have to use both the mailbox and/or extension.

The screenshot shows a window titled "Subscriber" with the following fields and values:

Mailbox:	100	Extension:	100
Password:	0000	First Name:	
Last Name:	Subscriber	Department:	
COS:	100		

Buttons: Mailbox Settings, Extension Settings, OK, Cancel

A. Mailbox Default Settings:

Subscriber: Mailbox

User Info Name: Subscriber Mailbox: 100 Extension: 100	General Time Control: ONE Operator: <input type="text"/> Cascade: <input type="text"/>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Cancel
Action <input checked="" type="checkbox"/> Play Greeting Take Message		
Notification No Notification		

B. Extension Default Settings:

Subscriber: Extension

User Info Name: Subscriber Mailbox: 100 Extension: 100	General Time Control: NONE	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Cancel
Action 1 Blind Transfer Number to Dial: 100H		
Action 2 Do Always Action2 Blind Transfer 111111		
Action 3 Do Always Action3 Blind Transfer 111111		

Supervised Transfer: STARPLUS Dispatch™ monitors the call for a busy, answered, or not answer response. STARPLUS Dispatch™ forwards the call to one of several destinations if the transfer is unsuccessful.

A Blind or Unsupervised Transfer: STARPLUS Dispatch™ transfers the call to the phone system and relinquishes control. The call can no longer be forwarded to a mailbox.

The advantages of doing blind transfers are:

- STARPLUS Dispatch™ ports are not tied up during the transfer
- Typically involve better integration
- Ability to take a voice message on a direct, internal, or DID call
- Parties connected when destination party answers
- Easier to set up - no need to analyze phone system ringing

The advantages of doing supervised transfers are:

- Ability to do call screening
- Ability to do call holding
- Available on almost all phone systems

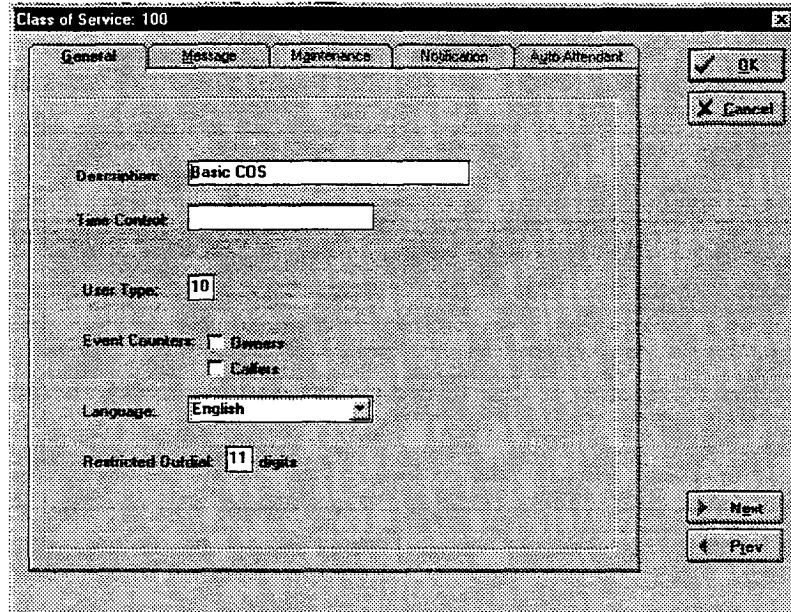
NOTES

Vodavi recommends that Blind Transfers be used with STARPLUS Dispatch™ as opposed to Supervised Transfers.

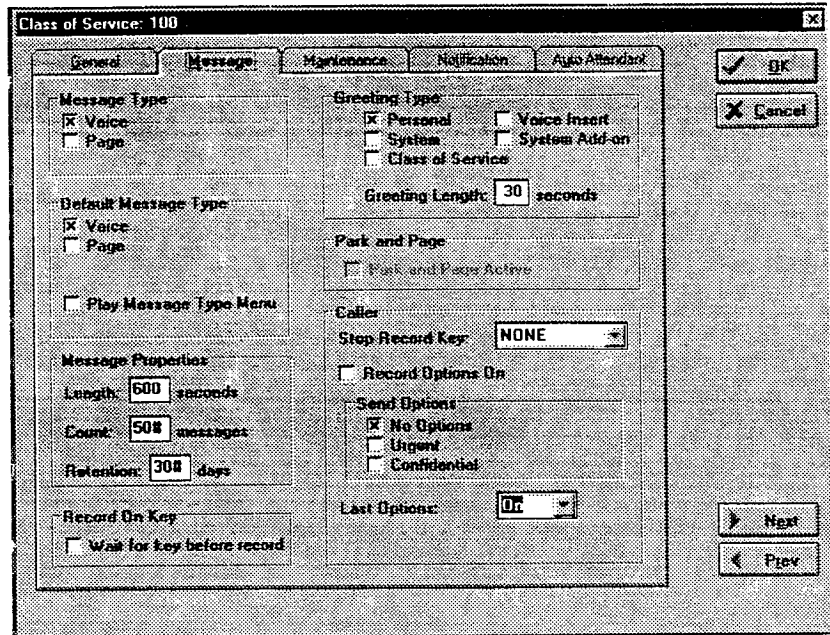
400.3 COS DEFAULT VALUES

Class of Service controls the behavior of a group of subscribers. Class of Service controls most major functions of the subscriber, including number of messages, type of greeting and notification settings.

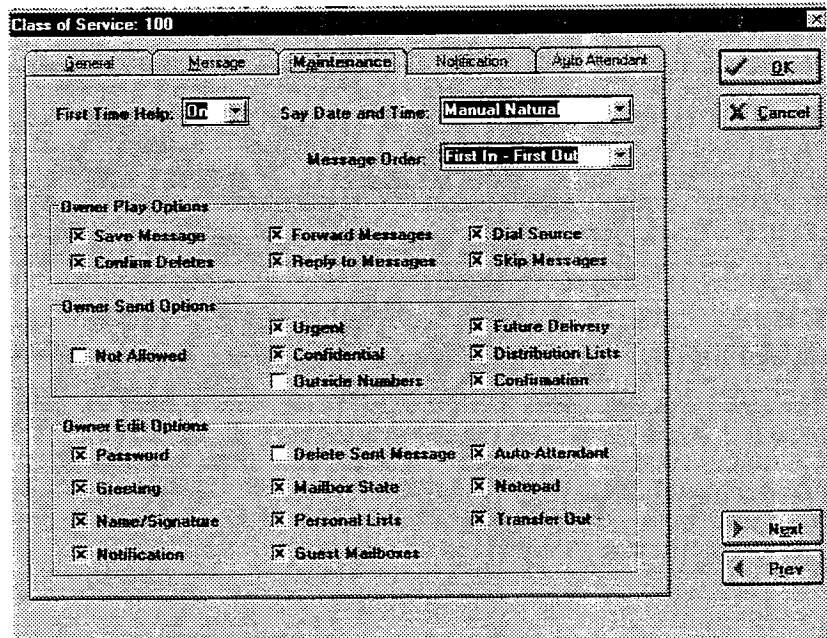
A. General Tab Defaults:



B. Message Tab Defaults:



C. Maintenance Tab Defaults:



SYSTEM DEFAULTS

D. Notification Tab Defaults:

The screenshot shows the 'Notification' tab of the 'Class of Service: 100' configuration window. The 'Notification' tab is selected, and the 'Message Waiting' dropdown is set to 'After every new message'. The 'Event Handler Group' is set to '5'. Under 'Voice Notify Options', both 'Password Required' and 'Message Pick-Up Allowed' are checked. The 'Message Cascading' section has 'No Cascading' selected, with 'Immediately' and 'When Notify Fails' as sub-options. 'Notify Interval' is set to 1 minute and 'Notify Attempts' to 2 times. 'Notify Script' is set to 'Pager12 CF'. The 'Pager Retries' dropdown is set to 'Off'. Navigation buttons for 'Next' and 'Prev' are visible at the bottom right.

E. Auto Attendant Tab Defaults:

The screenshot shows the 'Auto Attendant' tab of the 'Class of Service: 100' configuration window. The 'Auto Attendant' tab is selected. Under 'Call Options', 'Blind Transfers', 'Supervised Transfers', 'Call Screening', and 'Call Holding' are all checked. 'Hold Interval' is set to 15 seconds and 'Hold Type' is set to 'Silence'. 'Call Queuing' is set to 'Off', 'Screen Length' is set to 3 seconds, and 'Play Original' is set to 'Off'. There are empty text boxes for 'Transfer Prefix' and 'Transfer Postfix'. Navigation buttons for 'Next' and 'Prev' are visible at the bottom right.

400.4 MENU DEFAULT VALUES

When using the laptop administration, you may edit menus to meet the needs of your particular installation, and you may also create new menus. When a call is answered, you may specify what actions will be performed based on the key the caller selects. Menus control the DTMF keys to be entered by the caller. Menus typically play greetings and tell the callers what keys to press to activate various functions. See section 600.8, D., for more information on setting up menus.

The STARPLUS Dispatch™ system comes with the following menus loaded. Multiple copies of the same menu are available so that you may customize them to meet your own needs.

Direct Transfer: Sends a caller to a preprogrammed extension when a specified key is pressed. Direct transfers are activated from within STARPLUS Dispatch™ menus. For example, a menu could include the following selections, "For sales, press [4], For support, press [5]...". When the caller presses [4], STARPLUS Dispatch™ transfers the call directly to the sales extension.

Transfers can be internal or external, and supervised or blind (unsupervised).

Requested Transfer: Involves prompting the caller for either the extension number or the name of the person trying to be reached.

- An Internal Transfer: Directs a caller to a specific phone system extension. This can be a company operator, or a Voice Mail Menu that acts as an operator.
- An External Transfer: Routes the caller to a phone number outside the phone system.

**A. Menus 100-119
(Generic Daytime):**

When these menus are accessed, the system will play the following:

"Thank you for calling. If you know your party's extension you may dial it now. If you know your party's name but not their extension please dial [4]. To reach an operator dial [0] or remain on the line. To listen to the instructions again, dial [*]."

The following keys and actions are defined in Menus 100-119:

Menu: 100

Description:

Password:

Time Control:

Instructions:

Time Out: Retries:

Actions

Event	Action
Time Out	Operator
Max Retry	Operator
* Key	Play Instructions
0 Key	Mailbox
0 Key	Operator
1 Key	Extension - START
2 Key	Extension - START
3 Key	Extension - START
4 Key	Company Directory - EXT
5 Key	Company Directory - MBX
6 Key	Invalid Option
7 Key	Mailbox
8 Key	
9 Key	Hang Up

Buttons:

**B. Menus 120-139
(Generic After
Hours):**

When these menus are accessed, the system will play the following:

"Thank you for calling. Our offices are closed.
Please call back at a later time."

The following keys and actions are defined in Menus 120-139:

Menu: 120

Description:

Password:

Time Control:

Instructions:

Time Out: Retries:

Actions

Event	Action
Time-Out	Operator
Max-Retry	Operator
* Key	Play Instructions
# Key	Mailbox
0 Key	Operator
1 Key	Extension - START
2 Key	Extension - START
3 Key	Extension - START
4 Key	Company Directory - EXT
5 Key	Company Directory - MBX
6 Key	Invalid Option
7 Key	Mailbox
8 Key	Invalid Option
9 Key	Hang Up

Buttons: OK, Cancel

**C. Menus 140-159
(Generic Daytime):**

When these menus are accessed, the system will play the following:

"Thank you for calling. If you know your party's extension you may dial it now. If you know your party's name but not their extension please dial [4]. To listen to the instructions again, dial [*]."

The following keys and actions are defined in Menus 140-159:

Menu: 140

Description:

Password:

Time Control:

Instructions:

Time Out: Retax:

Event	Action
Time-Out	Operator
Max-Retry	Operator
* Key	Play Instructions
# Key	Mailbox
0 Key	Operator
1 Key	Mailbox - START
2 Key	Mailbox - START
3 Key	Mailbox - START
4 Key	Company Directory - EXT
5 Key	Company Directory - MBX
6 Key	Invalid Option
7 Key	Mailbox
8 Key	
9 Key	Hang Up

D. Menus 160-179 (Generic After Hours):

When these menus are accessed, the system will play the following:

"Thank you for calling. Our offices are closed.
Please call back at a later time."

The following keys and actions are defined in Menus 160-179:

Menu: 160

Description: Generic After hours

Password: 2275

Time Control: None

Instructions: 160.vox

Time Out: 5 Retries: 3

Event	Action
Time-Out	Operator
Max-Retry	Operator
* Key	Play Instructions
# Key	Mailbox
0 Key	Operator
1 Key	Mailbox - START
2 Key	Mailbox - START
3 Key	Mailbox - START
4 Key	Company Directory - EXT
5 Key	Company Directory - MBX
6 Key	Invalid Option
7 Key	Mailbox
8 Key	Invalid Option
9 Key	Hang Up

Buttons: OK, Cancel

Recording Menu Prompts

When modifying existing menus or creating new ones, it may be necessary to rerecord the instructions that are presented to the caller. For example, you may want to record the following:

"Thank you for calling XYZ corporation. For sales, press [1]. For shipping, press [2]. For customer service, press [3]. To hear our monthly specials, press [4]. To reach the operator stay on the line or press [0]."

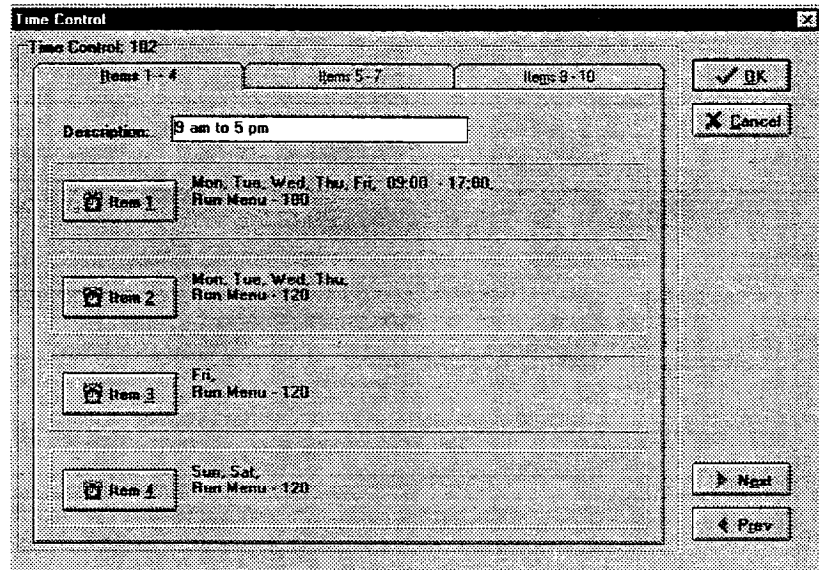
To record a menu's instructions, see section 500.4, A.

Company Directory

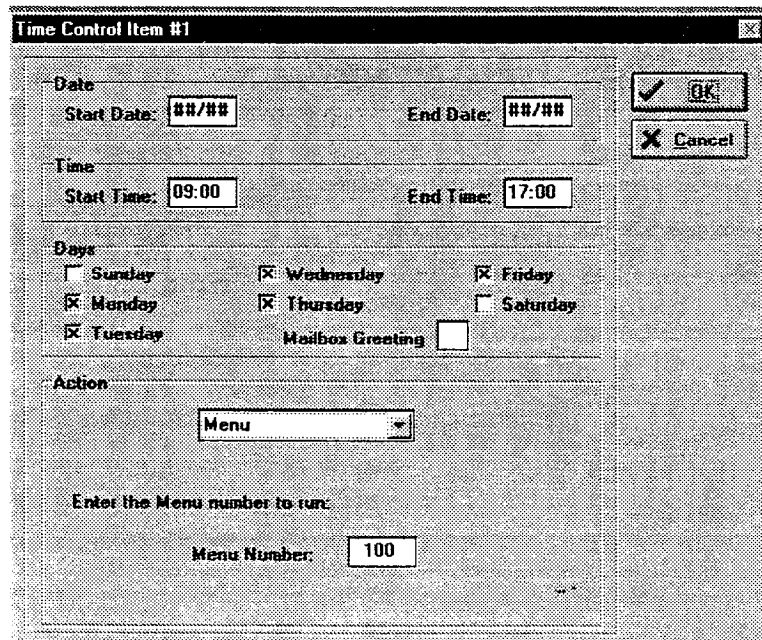
In order for callers to use the company directory, you must enter subscriber names using the laptop administration. See section 600.5, B.

400.5 TIME CONTROL DEFAULTS

Time controls can be used to route calls, send callers to voice mail, and play menus, among other things (based on time and day settings). Up to 10 separate time periods can be defined within a time control setting, allowing you to make a time control as simple or as complex as you wish. Time Controls can be chained together to allow more than ten day/time options.



A. Time Control: Item #1 Defaults:



**B. Time Control:
Item #2
Defaults:**

**C. Time Control:
Item #3
Defaults:**

SYSTEM
DEFAULTS

D. Time Control:
Item #4
Defaults:

Time Control Item #4

Date
Start Date: ##/##/## End Date: ##/##/##

Time
Start Time: ##:## End Time: ##:##

Days
 Sunday Wednesday Friday
 Monday Thursday Saturday
 Tuesday Mailbox Greeting

Action
Menu

Enter the Menu number to run:
Menu Number: 120

OK Cancel

E. Time Control:
Item #5
Defaults:

Time Control Item #5

Date
Start Date: ##/##/## End Date: ##/##/##

Time
Start Time: ##:## End Time: ##:##

Days
 Sunday Wednesday Friday
 Monday Thursday Saturday
 Tuesday Mailbox Greeting

Action
Menu

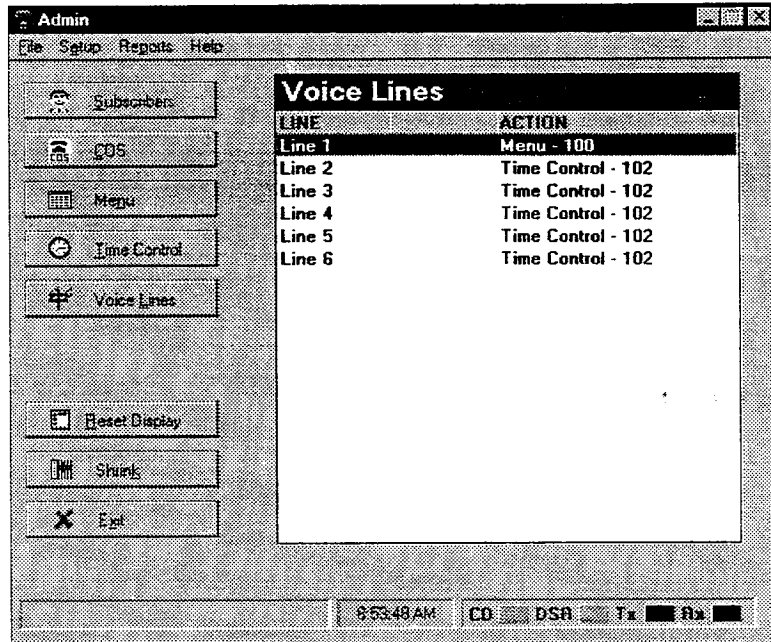
Enter the Menu number to run:
Menu Number: 120

OK Cancel

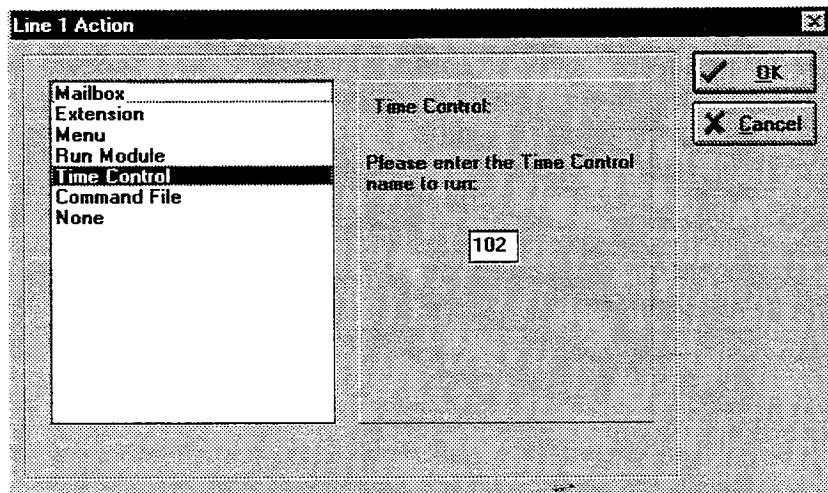
**F. Time Control:
Items #6-#10
Defaults** No default values are assigned

**400.6 VOICE LINE
DEFAULTS**

The Voice Lines screen allows you to view voice line actions. The Voice Line action defines how the STARPLUS Dispatch™ answers incoming calls.



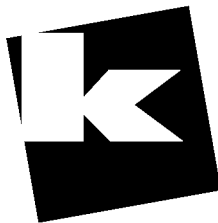
**A. Line 1 Action
Defaults:**



**SYSTEM
DEFAULTS**

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ON-LINE
ADMIN

Things You Can and Cannot Do!

Operation	PC Admin	Telephone	
		Admin	MBX Owner
General			
Select phone system	X	X	
Shutdown system	X	X	
Set date and time	X	X	
Get version information	X		
Edit registry items (many settings)	X		
Disable system caching	X		
Fax detect settings	X		
Operator transfer settings	X		
Assign what runs per line	X	X*	
View logs	X		
Record voice prompts - many options		X*	X*
Administer broadcast message		X	
Administer system lists		X	
Subscriber (Mailbox and Extensions)			
Add subscribers	X	X	
Delete subscribers	X	X	
Edit subscribers			
COS	X	X	
Name	X		
Password	X	X*	X
Department	X		
Edit subscribers mailbox			

* means either limited or not the same

Things You Can and Cannot Do!

Operation	PC Admin	Telephone	
		Admin	MBX Owner
Time Control	X		
Operator	X		
Cascade to Mailbox	X		
Play Greeting setting	X		
Action	X		X
Notification Settings	X		X
Edit subscribers extension			
Time Control	X		
Transfer Type	X		X
Screening & Holding	X		X
Subsequent Actions	X		*
Administer personal lists			X
Administer guest mailboxes			X
Administer personal notepad			X
Recover deleted messages		X	
Delete a sent message			X
Classes of Service			
Add COS	X		
Delete COS	X		
Edit COS	X		
Menus - Audio-text menuing			
Add Menu	X		
Delete Menu	X		

* means either limited or not the same

**ON-LINE
ADMIN**

Things You Can and Cannot Do!

Operation	PC Admin	Telephone	
		Admin	MBX Owner
Edit Menu	X		
Time Controls			
Add Time Control	X		
Delete Time Control	X		
Edit Time Control	X		

* means either limited or not the same

SECTION 500 ON-LINE ADMINISTRATION

500.1 OVERVIEW

After your connections have been established (see Section 200), you are ready to call into the system. Remember that you may either use the laptop administration or the telephony administration to configure the STARPLUS Dispatch™ unit. This section refers to the on-line administration.

To access the system, perform the following steps:

1. Dial any of the extension numbers connected to the STARPLUS Dispatch™ or dial the voice mail hunt group number.
2. The system will answer with the following prompt: "Thank you for calling. If you know your party's extension you may dial it now. If you know your party's name but not their extension, please dial [4]. To reach an operator dial [0] or remain on the line. To listen to the instructions again, dial [*]."

If the system is in night mode, then the system will play the following: "Thank you for calling. Our offices are closed. Please call back at a later time." If the menu greeting has been rerecorded, a different prompt will be played.

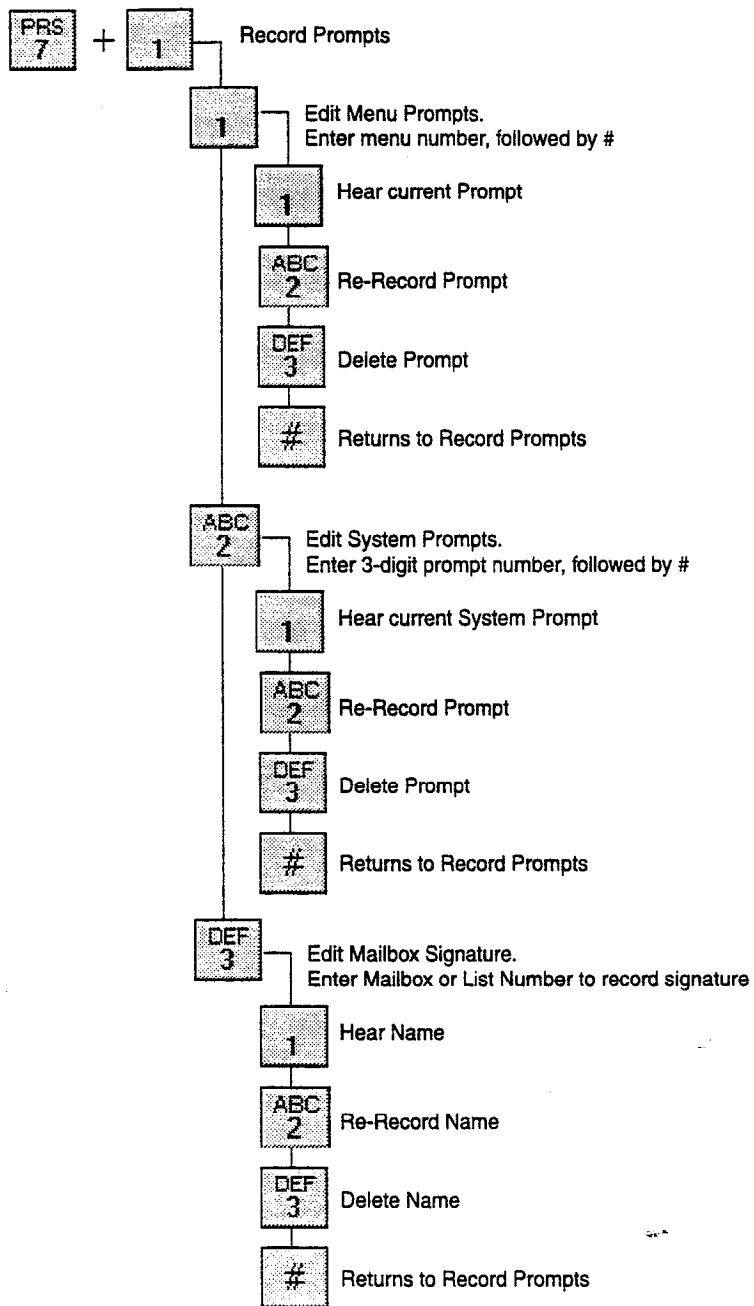
3. To access voice mail, press [7].
4. Enter mailbox number.
5. Press [*] followed by the mailbox's password. The default password is 0000.
6. Press [7] to access administrator functions. If the mailbox is not in the supervisor Class of Service, then the system will ask for the administrator password. The default administrator password is [2275].
7. Press [8] for system administration.
8. Press [2] to select a phone system.
9. The system will then prompt you for a PBX number. Select the number for the system listed in Section 200.5 that best matches your phone system.
10. System will confirm your input and then reset.

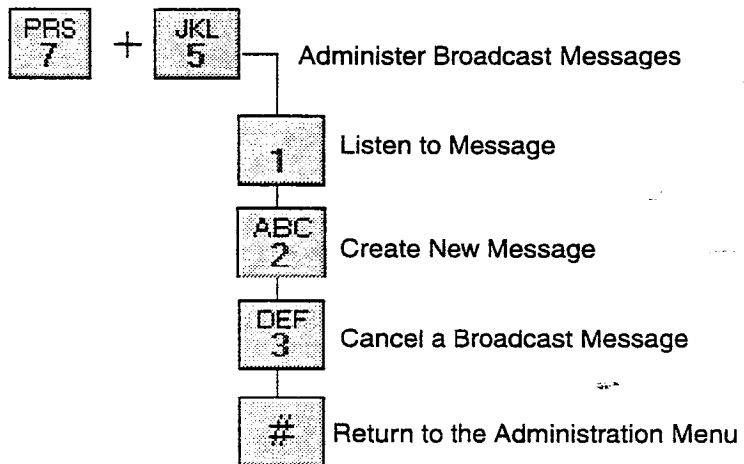
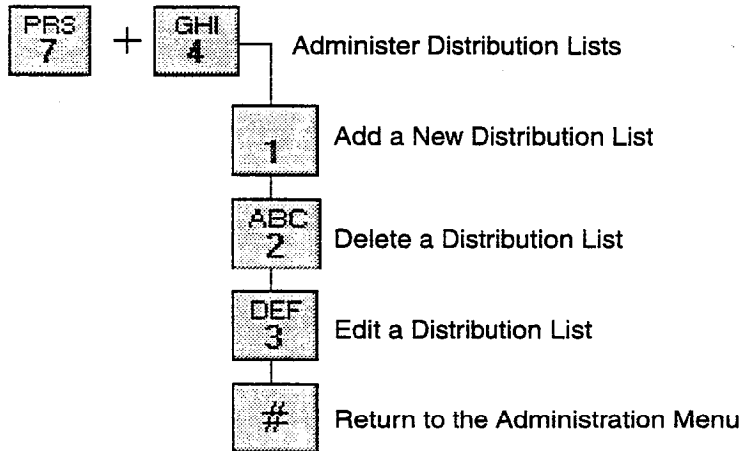
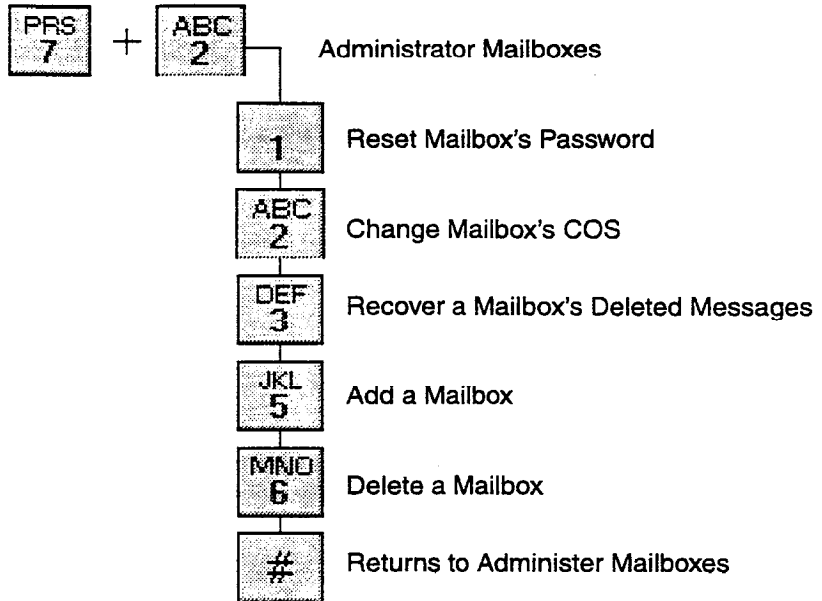
11. Once your system restarts, STARPLUS Dispatch™ will be configured for your particular phone system.

NOTES *With the online administration, you can only enter data through a touch-tone telephone.*

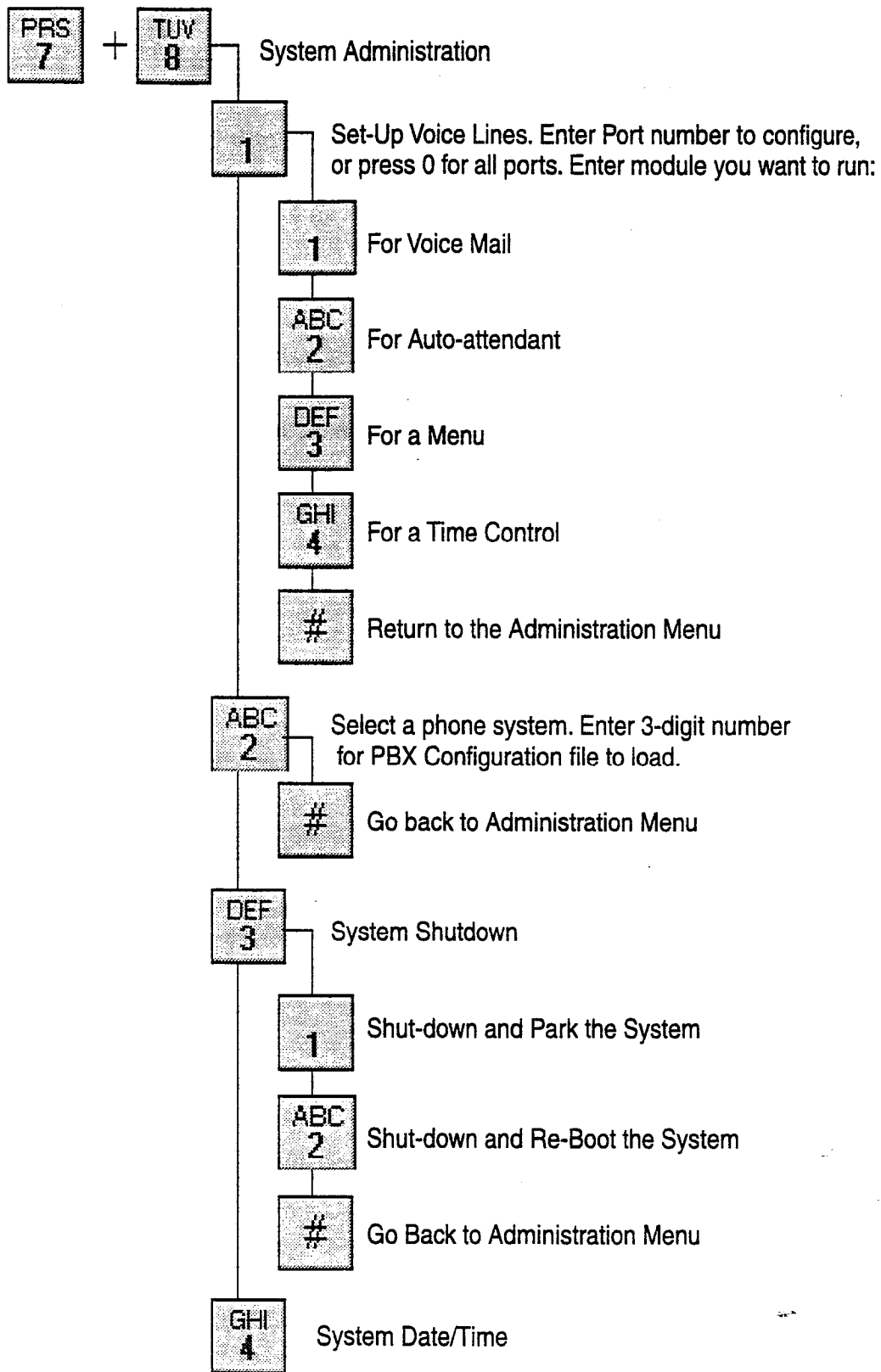
500.2 SUPERVISOR FUNCTIONS

The following is an overview of the process of the Administrative Functions menu.





ON-LINE ADMIN



**500.3 SELECTING
PHONE
SYSTEMS**

To select a PBX phone system, follow the steps outlined in Section 500.1 for calling into the system. Then enter [8] for system administration, followed by [2] to select a phone system by PBX number. See Section 200.4 for more information on selecting phone systems, and for a general description of each PBX system.

**500.4 RECORD
PROMPTS**

The Record Prompts option allows for the recording of various prompts in the system. With this option, the administrator can edit three types of prompts:

- Menu prompts
- System prompts
- Mailbox signatures

Menu prompts are prompts that are played during menu processing. A caller will hear this prompt instructing them on what keys to press for a menu.

System prompts are generic prompts for basic system functions, such as the voice mail instruction prompt or the auto attendant instruction prompt. These can be customized for your particular installation.

Mailbox signatures are the recorded names associated with a particular mailbox.

NOTES

For all of these prompts, if the prompt itself does not exist, then all you can do is record a new one. If it does exist, then you can play, rerecord, or delete the prompt.

**A. Editing Menu
Prompts**

The Editing Menu Prompts option allows you to overwrite the default menu prompts. It plays the current menu greeting if it exists and allows you to record or re-record a greeting, depending on whether or not one exists. If there is already a greeting, you can change it or delete it.

The following are the prompts you will hear:

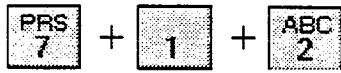
“Enter the menu number followed by [#]. Press just [#] to go back.”

At this point, enter the menu number. (Default Menus are 100-179)

[1]. “To hear greeting”

- [2]. "To re-record"
- [3]. "To delete"
- [#]. "When finished"

B. Editing System Prompts



The Editing System Prompts menu allows re-recording of default system prompts. The table below outlines the customizable prompts you can use while in the Record Prompts option of the Administrative Functions menu. All prompts should be located in the VOX directory. You can record new information to replace the default prompt, or you can create a blank prompt (with one byte of data) to suppress certain prompts.

The following are the prompts you will hear:

"Enter the three digit prompt number to re-record followed by [#]. Press just [#] to go back." At this point, enter the prompt number to edit. (Default prompt numbers are 001-012. See Section 500.4, A. for more information).

- [1]. "Listen to Current System prompt"
- [2]. "To re-record the Current Custom prompt"
- [3]. "To delete the Custom System prompt"
- [#]. "To edit another prompt"

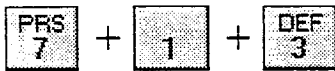
Table 500-1: Editing System Prompts

Prompt	Prompt Number	Description/Verbiage
VOPGPRES.VOX	001	Preamble prompt that plays in front of a numeric page. "Page message is.." "You have a message to call.."
VMINSTR.VOX	002	Voice mail instructions prompt. "Enter the mailbox number of the person you are trying to reach. Press O for the operator. Press * for the directory."
VMSYSGRT.VOX	003	First system greeting. Played if selected in COS. "The person you have tried to reach is not available. Please leave a message after the tone."
VMSYSGR2.VOX	004	Second system greeting. Played if selected in COS. "Begin speaking at the tone. When you are finished recording, you may hang up or press any key for more options."

Table 500-1: Editing System Prompts (Continued)

Prompt	Prompt Number	Description/Verbiage
VMRECKEY.VOX	005	Replaces the record start key prompt. "Press 1 to start recording."
VMRECOPT.VOX	006	Replaces the record option prompt. "To send message, press 1; To play message, press 2; To cancel message, press 3; To append message press 4; To re-record message press 5."
DIRGETDI.VOX	007	Prompt asking for lookup digits in directory. "Enter the first four characters of the person's last name. For Q, press 7. For Z, press 9."
AAINSTR.VOX	008	Provides auto-attendant instructions. "Enter the extension number of the person you are trying to reach. For the company directory press *. To reach an operator, press 0."
AAHVCALL.VOX	009	Prompt announcing that an extension has a call. "You have a call."
AACALLFO.VOX	010	Announces that the extension has a call for a particular extension. "Call for..."
AASCNASK.VOX	012	Prompt asking caller to say name. "Who may I say is calling?"

C. Editing Mailbox Signatures



Mailbox signatures are, for example, the names played in the company directory listing, the names inserted in Class of Service mailbox greetings, etc. The Editing Mailbox Signatures option allows you to change a mailbox signature or a list (group) of signatures.

A system list is a group of mailboxes where you can send specific messages; for example, a group of mailboxes corresponding to people in a certain department of your organization.

The following are the prompts you will hear:

"Enter the mailbox or list number to record signature followed by [#]. Press just [#] to go back."

At this point, enter the mailbox or list number followed by [#].

The system then plays the current signature for list or mailbox.

[1]. "To hear name"

[2]. "To re-record"

[3]. "To delete"

[#]. "When finished"

[#] Administration Menu - Returns you one menu level up.

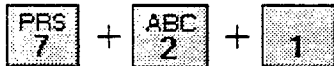
500.5 ADMINISTER MAILBOXES

The Administer Mailboxes menu allows you to reset mailbox passwords, create new mailboxes and delete mailboxes. With this option, the administrator has control over and can change the actions of the subscriber's (user's) mailbox.

The Administer Mailboxes menu consists of the following options:

- Reset mailbox's password
- Change mailbox's COS
- Recover a mailbox's deleted messages
- Add a mailbox
- Delete a mailbox

A. Reset Mailbox's Password



This option allows the administrator to reset the mailbox's password of their choice. This is helpful if, for example, you have forgotten your password.

The following are the prompts you will hear:

"Enter the mailbox number followed by [#]."

At this point, type in the mailbox number followed by #. (See system documentation for mailbox ranges). The system plays the current password.

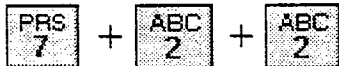
"To leave password as entered press [#]. To change, enter new password followed by [#]."

Enter the new password followed by # or just press [#].

If you change the password, the system says "The new password is yyyy, press [#] to confirm or [*] to cancel." Return to Administer Mailboxes menu.

If you do not change the password, the system says, "Password has not been changed." Return to Administer Mailboxes menu.

B. Change Mailbox's COS



This option allows you to change the behavior of a particular mailbox to be that of a different Class of Service. For example, you may have a COS that is set for a different language, or a message record length that is different.

NOTES

The COS you are changing to must already exist. Refer to Section 600.8, C., "Class of Service (COS)," for more on the available COS options.

The following are the prompts you will hear:

"Enter the mailbox number followed by [#]."

At this point, type in the mailbox number followed by [#].

The system plays the current class of service.

"To leave class of service as entered, press [#].
To change, enter new class of service followed by [#]."

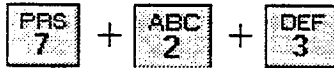
Enter the new class of service followed by [#] or just press [#].

If you change the class of service, the system says "The new class of service is yyy, press [#] to confirm or [*] to cancel."

If you press [*], the system says "Class of service has not been changed." Return to Administer Mailboxes menu.

If you press [#], the system says "Class of service has been changed." Return to Administer Mailboxes menu.

C. Recover a Mailbox's Deleted Messages



The Recover a Mailbox's Deleted Messages option allows deleted message recovery before the system clean up time. Message cleanup occurs nightly.

The following are the prompts you will hear:

"To recover messages for a particular mailbox, enter the mailbox number followed by [#]. To go back, press [#]"

Type in the mailbox number followed by [#].

If the system finds that mailbox has no deleted messages, then the system will say, "No deleted messages were found for mailbox mmm," where mmm is the mailbox number.

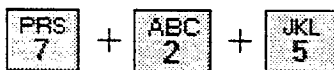
If the system finds that a mailbox has deleted messages, then the system will say, "X deleted messages were found for mailbox mmm," where mmm is the mailbox number and X is the number of deleted messages.

"Press [#] to go ahead with message recovery.
Press [*] to skip recovery."

If you press [*], then the system returns you to the Administer mailboxes menu.

If you press [#], then the system says, "Messages are being recovered." Returns you to the Administer mailboxes directory.

D. Add a Mailbox



This option allows you to dynamically add a mailbox to the system. If you have added a new subscriber to your phone system, you will want to use this option.

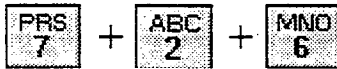
The following are the prompts you will hear:

"Enter the mailbox number to add followed by [#].
Press just [#] to go back."

Enter the mailbox number followed by [#].

"Mailbox has been added."

Return to Administer Mailboxes

E. Delete a Mailbox

This lets you delete a mailbox from the system.

The following are the prompts you will hear:

“Please enter the mailbox number to delete followed by [#].”

Enter the mailbox number followed by [#].

The system says “You have selected to delete mailbox yyy to delete. Press [#] to confirm or [*] to cancel.”

If you press [#], the system says, “Mailbox has been deleted.” Return to Administer Mailboxes.

If you press [*], the system says, “Mailbox will not be deleted.” Return to Administer Mailboxes.

[#]. Return to the Administration Menu- Returns one menu level up.

500.6 ADMINISTER DISTRIBUTION LISTS

The Administer Distribution Lists menu is where an administrator can create or delete a distribution list.

A distribution list is a way to create a collection of mailboxes and assign it a group number. If you want to send a message to a group of mailboxes, you can send it to one list number instead of to each one individually. Thus, distribution lists simplify the process of getting messages out to specific groups of subscribers.

A. Add a New Distribution List



Allows you to add a new distribution list.

The following are the prompts you will hear:

“Enter the system list to add followed by [#]. Press just [#] to go back.”

Type in the system list number.

“List number yyy created”

“Press [*] to add members to the list, or [#] to go back.”

If you press [*], go to Edit a Distribution List for further instructions.

If you press [#], return to the Administer Distribution lists.

B. Delete a Distribution List



Lets you delete an existing distribution list.

The following are the prompts you will hear:

"Enter system list to delete followed by [#], or press [*] for a directory of lists. Press [#] to go back."

If you press [*], then gives you a listing of all system lists. "You have reached end of the lists."

If you enter the list number to delete, then the system says, "You have entered the following list to delete xxx. Press [#] to confirm or [*] to cancel."

If you press [#], then the system says "List number xxx deleted."

If you press [*], then the systems says "list not deleted," and sends you to the beginning of Delete a Distribution List.

C. Edit a Distribution List



This option allows you to change an existing distribution list, and add users to a current distribution list.

The following are the prompts you will hear:

"Enter system list to edit followed by [#], or press [*] for a directory of system lists. Press [#] to go back."

If you press [*], then gives a directory of system lists. "You have reached the end of the directory of lists." Go to the top of Edit a distribution list.

If you enter the number to edit, then the system says "xxx, Press [#] to confirm or [*] to cancel."

If you press [*], then the system returns you to the top of Edit a Distribution List.

If you press [#], then the system says:

- [1]. "To listen to a directory of members in the list"- Plays the members of the distribution list.
- [2]. "To add members to the distribution list"- Allows you to add mailboxes or other distribution lists to the current list.
- [3]. "To delete members from the distribution list"- Deletes members from the distribution list.

[#]. "To return to the Administration menu". - Returns to the Edit Distribution list menu

[#]. Return to the Administration Menu- Returns one menu level up.

500.7 ADMINISTER BROADCAST MESSAGES

In this menu, a broadcast message gets put into a mailbox. A broadcast message goes, by default, to every existing subscriber in your voice mail system. The Administer Broadcast Messages prompt allows you to play a currently-recorded broadcast message or a new one. A system can have up to 10 broadcast messages (0-9).

Broadcast messages are different from distribution lists in the following ways:

- Broadcast messages take up less disk space.
- A broadcast message automatically enters a subscriber's mailbox. It is played automatically when a subscriber goes into their mailbox so that the subscriber does not have to retrieve it.

The following is the prompt you will hear:

"You have x broadcast messages active".

A. Listen to Message

PRS
7 + JKL
5 + 1

Allows you to listen to an existing broadcast message.

The following are the prompts you will hear:

"Active broadcast messages are," and the system plays the active broadcast messages.

"Select the message number to play. To repeat selections press [*]. When finished, press [#]."

If you press [*], then the selections are repeated.

If you press [#], then the system returns to the Administer Broadcast messages.

If you enter a message number, then the system plays the message. Returns to Administer Broadcast Messages.

With this option, you can create a new broadcast message.

The following are the prompts you will hear:

"Available broadcast slots are," plays available slots to record a message.

B. Create New Message

PRS
7 + JKL
5 + ABC
2

“Select which message number to create. To repeat selections, press [*]. When finished, press [#].”

If you press [*], then the system will send you to the Create a New Message menu.

If you press [#], the system will “replay available broadcast slots”

If you enter an available broadcast slot, then the system says, “You have selected to create broadcast message number y”, where y is the number you chose.

[1]. “To send broadcast message”

[2]. “To listen to the recording”

[3]. “To cancel”

[4]. “To append to the recording”

[5]. “To re-record the message”

[#]. “To go back.”

C. Cancel a Broadcast Message



This option allows you to cancel an already distributed broadcast message.

The following are the prompts you will hear:

“Active broadcast messages are,” and the system plays the active broadcast messages.

“Select the message number to delete. To repeat selections, press [*]. When finished, press [#].”

If you press [*], then the system repeats the active messages.

If you press [#], then the system returns you to the Administer Broadcast Messages menu.

If you enter a number to delete, then the system says “Delete broadcast message number x. To confirm deletion, press [#]. To abort, press [*].”

If you press [*], the system says, “Broadcast message not deleted.”

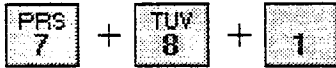
If you press [#], the system says, “Broadcast message deleted.”

[#]. Return to the Administration Menu- Returns one menu level up.

500.8 SYSTEM ADMINISTRATION

With this option, the administrator has control over and can change the behavior of the voice mail system via the telephone.

A. Set Up Voice Lines



This option allows you to determine what will run on voice lines. You can designate how individual lines will behave or how lines will behave as a whole.

As part of the voice lines option, you can configure port numbers.

A port number is the voice channel on a port system, such as 1-4 on a 4-port system and 1-8 on an 8-port system. You can press 0 to configure all ports.

The following are the prompts you will hear:

“Please enter the port number to configure, or press [0] for all ports.”

If the caller enters a port number, then the system says “Port x is configured to run..” and plays the configuration of that line.

If the user enters [0], then the system says “Press [1] to hear how each line is configured, or press [0] to continue.”

If the caller enters [1], the system plays how each line is configured.

If the caller enters [0], then system says, “Enter the module you want to run.”

In the Enter Module to Run prompt, you have the option to run the following modules:

- Press [1] for Voice mail
- Press [2] for Auto-attendant
- Press [3] for Menu
- Press [4] for Time Control
- Press [#] to go back

Voice Mail

If you pressed [1], the prompt says: "You have selected Voice mail, press [#] to confirm, or [*] to cancel.

The prompt then says "Please enter the mailbox to run, or press [#] to continue."

Press [#] if you want to prompt the user for the mailbox number,
or

Enter the mailbox number, if you want to place the caller in a mailbox.

At this point, the prompt says: "You are about to change your line settings, press [#] to confirm or [*] to cancel".

When [#] is pressed, the prompt then says, "Run code has been changed. The system will now reset itself." The system reboots.

Auto Attendant

If you pressed [2], the prompt says: "You have selected Auto attendant, press [#] to confirm, or [*] to cancel.

The prompt then says "Please enter the extension to run, or press [#] to continue."

Press [#] if you want to prompt the user for the extension number
or

Enter the extension number, if you want to the caller to be sent to an extension.

At this point, the prompt says: "You are about to change your line settings, press [#] to confirm or [*] to cancel".

When the [#] is pressed, the prompt then says, "Run code has been changed. The system will now reset itself." The system reboots.

Menu

If you pressed [3], the prompt says: "You have selected Menu, press [#] to confirm, or [*] to cancel.

The prompt then says "Please enter the menu to run, or press [#] to continue."

Type in the menu number to run. You must enter a valid menu number.

At this point, the prompt says: "You are about to change your line settings, press [#] to confirm or [*] to cancel".

Time Control

When the [#] is pressed, The prompt then says, "Run code has been changed. The system will now reset itself." The system reboots.

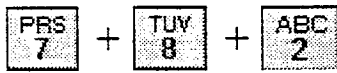
If you pressed [4], the prompt says: "You have selected Time Control, press [#] to confirm, or [*] to cancel.

The prompt then says: "Enter the time control to run, or press [#] to continue."

Type in the time control to run. You must enter a valid menu number.

At this point, the prompt says: "You are about to change your line settings, press [#] to confirm or [*] to cancel".

When the [#] is pressed, the prompt then says, "Run code has been changed. The system will now reset itself." The system reboots.

B. Select a Phone System

The Select a Phone System option allows you to change the default PBX configuration. For more information on selecting phone systems, see Sections 200.4 and 500.3.

The following are the prompts you will hear:

"Enter the three digit number for the PBX configuration file you want to load, followed by the [#], or press just [#] to go back."

If you press just [#], then the system returns you to the System Administration menu.

If you enter the PBX configuration file, then the system says, "You are about to replace your current configuration file with a new one. Press [#] to confirm or [*] to cancel."

If you press [*], then the system says "Configuration file has not been changed."

If you press [#], then the system says, "Configuration file has been changed. The system will now reset itself." The system reboots.

C. System Shutdown

The System Shutdown option shuts down the system.

The following are the options of the System Shutdown menu:

- Shut-down and park the system
- Shut-down and re-boot the system

- Set a special shutdown code and shut down

For more information on these options, see the shutdown information in Section "600.9 PULL-DOWN MENU".

The following are the prompts you will hear:

[1]. To shutdown and park - The system says, "The system will now reset itself." The system will now shut down.

[2]. To shutdown and reboot - The system says, "The system will now reset itself." The system will now shut down and reboot itself.

[3]. To shutdown and enter a special shut down code - "Enter the 1- to 3-digit shutdown code, followed by a [#]. Press just [#] to go back."

If you press just #, the system returns you to the System Administration menu.

If you enter a shutdown code, then the system says, "You have selected shutdown code x. Press [#] to confirm or [*] to cancel."

If you press [*], then the system returns to the System Shutdown menu.

If you press [#], then the system says, "The system will now reset itself." The system reboots.

D. System Date and Time



Change system date and time:

Plays current system date and time.

The following are the prompts you will hear:

"Enter the two-digit month 01 through 12. Press [*] to go back or [#] to cancel."

Type in the two-digit month.

01= January, 02=February, etc 12=December

If you press [#], the system will re-ask for the month.

If you press [*], the system will send you to the Setup Lines menu.

"Please enter the two-digit day 01 through 31. Press [*] to go back or [#] to cancel." Type in the two-digit day.

If you press [#], the system will re-ask for the month..

If you press [*], the system will send you to the Setup Lines menu.

“Please enter the four-digit year. Press [*] to go back or [#] to cancel.” Enter the four digits.

If you press [#], the system will re-ask for the day.

If you press [*], the system will send you to the Setup Lines menu.

“Please enter the two-digit hour 00 through 23. Press [#] to go back or [*] to cancel.” Enter the time in a 24-hour clock format, where 13=1:00p.

If you press [#], the system will re-ask for the year.

If you press [*], the system will send you to the Setup Lines menu.

“Please enter the two-digit minute 00 through 59. Press [*] to go back or [#] to cancel.” Enter the minute of the hour.

If you press [#], the system will re-ask for the hour.

If you press [*], the system will send you to the Setup Lines menu.

Tells you the date and time. Asks you to confirm the date and time you entered. “Press [#] to confirm. Press [*] to cancel.”

If you press [#], then “The system’s date and time has been changed. The system will now reset itself.” The system reboots.

If you press [*], then the system will send you to the Setup Lines menu.

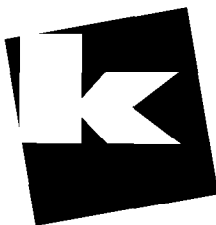
[#]. Return to Administration Menu- Returns one menu level up.

NOTES

You can change the administrator password in the Registry.

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Things You Can and Cannot Do!

Operation	PC Admin	Telephone	
		Admin	MBX Owner
General			
Select phone system	X	X	
Shutdown system	X	X	
Set date and time	X	X	
Get version information	X		
Edit registry items (many settings)	X		
Disable system caching	X		
Fax detect settings	X		
Operator transfer settings	X		
Assign what runs per line	X	X*	
View logs	X		
Record voice prompts - many options		X*	X*
Administer broadcast message		X	
Administer system lists		X	
Subscriber (Mailbox and Extensions)			
Add subscribers	X	X	
Delete subscribers	X	X	
Edit subscribers			
COS	X	X	
Name	X		
Password	X	X*	X
Department	X		
Edit subscribers mailbox			

* means either limited or not the same

Things You Can and Cannot Do!

Operation	PC Admin	Telephone	
		Admin	MBX Owner
Time Control	X		
Operator	X		
Cascade to Mailbox	X		
Play Greeting setting	X		
Action	X		X
Notification Settings	X		X
Edit subscribers extension			
Time Control	X		
Transfer Type	X		X
Screening & Holding	X		X
Subsequent Actions	X		*
Administer personal lists			X
Administer guest mailboxes			X
Administer personal notepad			X
Recover deleted messages		X	
Delete a sent message			X
Classes of Service			
Add COS	X		
Delete COS	X		
Edit COS	X		
Menus - Audio-text menuing			
Add Menu	X		
Delete Menu	X		

* means either limited or not the same

LAPTOP ADMIN

Things You Can and Cannot Do!

Operation	PC Admin	Telephone	
		Admin	MBX Owner
Edit Menu	X		
Time Controls			
Add Time Control	X		
Delete Time Control	X		
Edit Time Control	X		

* means either limited or not the same

SECTION 600 LAPTOP ADMINISTRATION

600.1 OVERVIEW

The laptop administration program is a Windows-based program for administering your STARPLUS Dispatch™ system. You may use either the laptop administration or the telephony administration to configure the STARPLUS Dispatch™. This section refers to the laptop administration.

600.2 INSTALLING LAPTOP ADMIN SOFTWARE

Installing the laptop administration software requires only one floppy diskette. Simply insert the diskette and run the `setup.exe` program. Then follow the instructions on the screen.

600.3 CONNECTING CABLING

STARPLUS Dispatch™ can be administered either locally via a direct connection to a laptop or remotely using modems. If you will be connecting STARPLUS Dispatch™ directly to the laptop, you must use the provided 9-pin null modem cable. This cable should be connected from the STARPLUS Dispatch™ to the laptop/ Dispatch™'s serial port.

If you will be connecting to the STARPLUS Dispatch™ via modem, then you will need to attach the modem to the STARPLUS Dispatch™ as described in Section 200.3.

600.4 COMMUNICATING WITH THE SYSTEM

During a routine installation, the PC based Admin program is used to communicate with the STARPLUS Dispatch™ system. There are times when it is necessary to use a more general purpose tool that will allow diagnosis of start-up / configuration problems and to allow the uploading and downloading of software to the system. In order to communicate with STARPLUS Dispatch™ at this "lower level", it is necessary to have a terminal communication program. An example of a terminal communication program is Comm Plus or ECom. ECom is a communication application that is installed via the Windows Admin disk.

When using the terminal communications program, set the serial port parameters to 9600 baud, no parity, 8 data bits, and 1 stop bit. Some communications programs that run under Windows are too slow for the STARPLUS Dispatch™'s high data transfer rate.

In this section, the term ECom is used to indicate the terminal communications package you should be using.

600.5 RUNNING SOFTWARE

Perform the following steps to begin running the Windows administration program:

Windows 3.11:

Go to the Admin Group. Double-click on the Admin icon.

Windows 95/NT:

Click on Start. From the Startup menu, select Programs, Admin, and click on the Admin icon.

600.6 MODEM CONNECTION

The STARPLUS Dispatch™ supports remote maintenance via a modem.

Many installations require a modem to be connected to the STARPLUS Dispatch™ system so that remote maintenance and service can be performed. STARPLUS Dispatch™ requires a Hayes command set compatible modem that supports at least 9600 baud transfers. It also requires a modem that supports switch selectable settings.

During boot-up, STARPLUS Dispatch™ sends the necessary AT commands to the modem to set it for auto-answer and to suppress result codes. However, it is usually necessary to have the modem configured via DIP switches to do the same thing. Once you have connected a modem, the system must be restarted. During reboot, we send signals to the modem to place the modem in auto-answer mode. Below are the commands we send to the modem:

@ECHO AT

@ECHO AT S0=1 Q1

If your modem requires different commands to be placed in Auto-Answer mode, make changes to your modem according to the modem manufacturer's specifications.

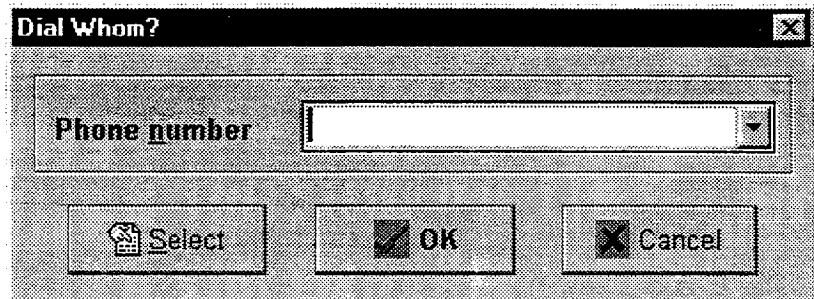
NOTES

The modem used by the Windows Admin program requires that result codes NOT be suppressed.

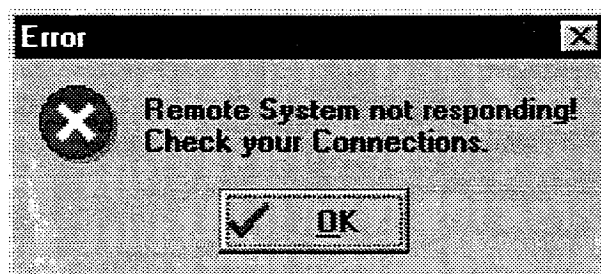
Also note that when the STARPLUS Dispatch™ is parked or restarted, the modem will drop the current connection. It is necessary to re-connect the modems after a park or reboot. If a system is parked, you will need to connect with ECom (or a similar communications package).

When using a modem to communicate with a STARPLUS Dispatch™, both the laptop/PC and the STARPLUS Dispatch™ need customer-provided Hayes-compatible modems. Both modems must be able to connect at 9600 bps.

When a modem is connected to your STARPLUS Dispatch™ system, the first screen you will see is the following one. This screen asks you for the phone number of the remote modem with which you wish to connect.



If the STARPLUS Dispatch™ system does not detect that you have a modem hookup, and you are not connected to a STARPLUS Dispatch™, the first screen you will see is an error screen telling you that the system is not responding. When you click OK, you will see the ComPorts Option screen (shown in the Setup Port Setup section of this chapter), and you can then adjust any settings as needed.

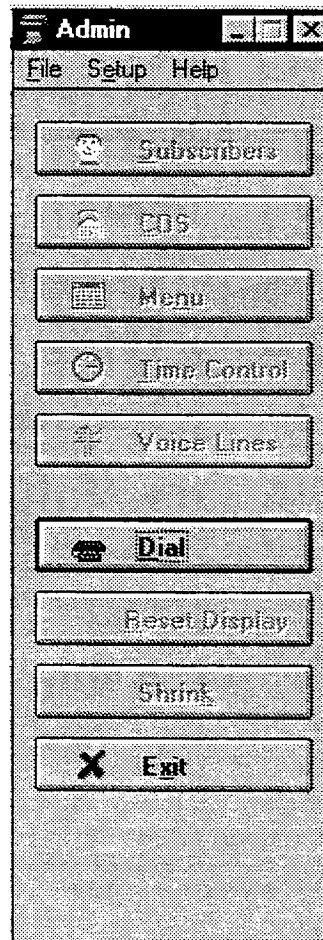


The following screen illustrates what the File pull-down menu looks like before you dial a remote modem.

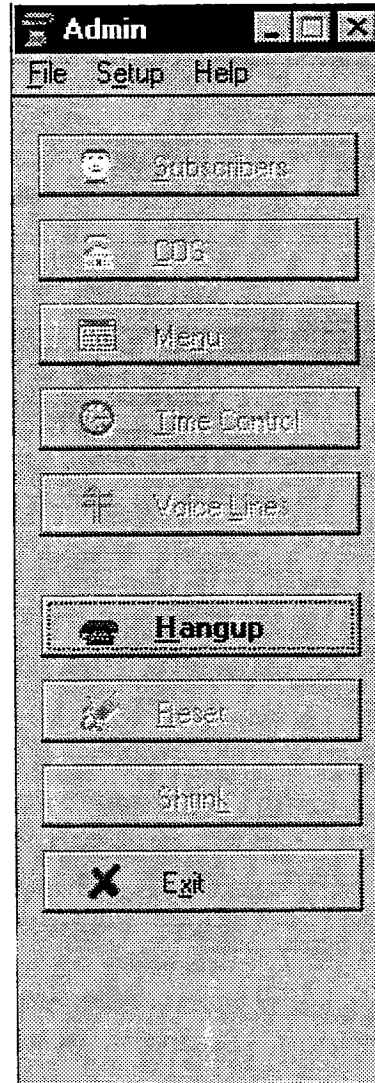
When you call up the administration menu and attempt to dial via modem, the File pull-down menu will consist of the Dial, Hangup, and Exit options.



When you attempt to dial a remote modem, a Dial button is added to the main STARPLUS Dispatch™ screen, as shown below.



When you connect to a remote modem, the Dial button changes to Hangup on the main STARPLUS Dispatch™ screen, as shown below.



The STARPLUS Dispatch™ supports remote maintenance via a modem.

The self-contained voice mail unit supports most Hayes-compatible modems.

Once you have connected a modem, the system must be restarted. During reboot, we send signals to the modem to place the modem in auto-answer mode. Below are the commands we send to the modem:

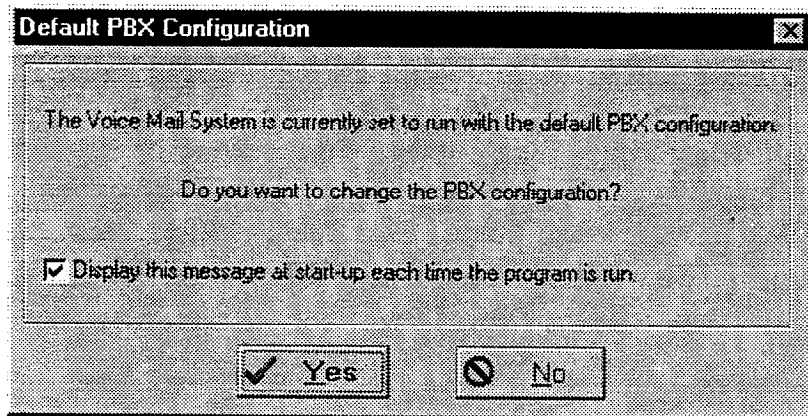
@ECHO AT

@ECHO AT S0=1 Q1

If your modem requires different commands to be placed in Auto-Answer mode, make changes to your modem according to the modem manufacturer's specifications.

600.7 LAPTOP CONNECTION

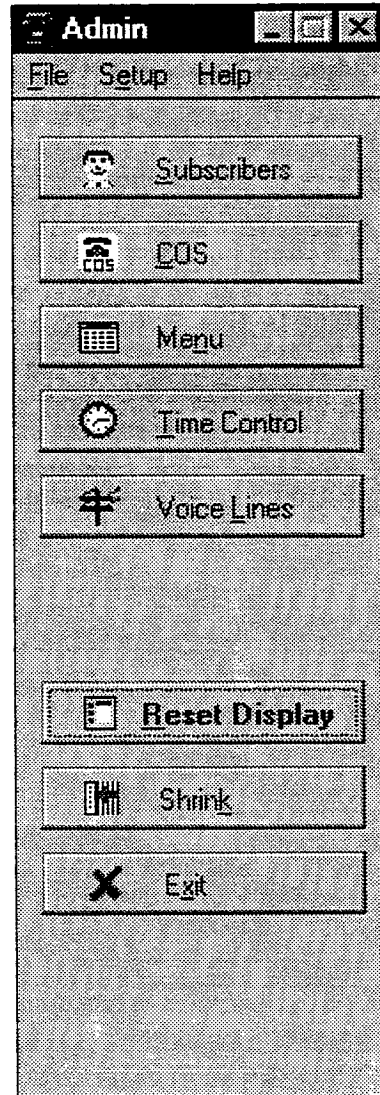
If the STARPLUS Dispatch™ system is not configured to a PBX, or if it is configured to a default PBX, then the Default PBX Configuration screen appears as shown.



Unchecking the option "Display this message at start-up each time the program is run" prevents the Default PBX Configuration screen from appearing again. To bring the screen back, select Setup, Advanced, PBX Config Message On from the Setup pull-down menu, as shown in Section "600.9 PULL-DOWN MENUS".

Running the laptop administration software requires having the STARPLUS Dispatch™ unit connected. If you click Yes on the Default Phone System screen, then you will be asked to pick the phone system. Click OK, and then double-click your PBX selection. When the confirmation screen comes up, click Yes, and the system will reboot. After the system reboots, the Admin screen will appear.

Clicking No will also bring up the Admin screen. The Admin screen appears below.



600.8 SOFTWARE DESCRIPTION

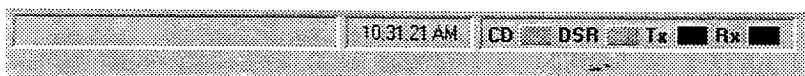
The following options are available:

- **Subscribers (600.8, B.)**
Use this button to add, delete, and edit subscriber information. See Section 600.8, B. for more details.
- **Class of Service (COS) (600.8, C.)**
This button is used to add, delete, and edit COS information. See Section 600.8, C. for more details.
- **Menu (600.8, D.)**
Use the Menu button to add, delete, and edit multi-level menu information. See Section 600.8, D. for more details.
- **Time Controls (600.8, E.)**
This button is used to add, delete, and edit time control information. See Section 600.8, E. for more details.
- **Voice Lines (600.8, F.)**
This button is used to administer voice lines. See Section 600.8, F. for more details.
- **Reset**
Use this button to reset the current screen.
- **Shrink**
The shrink button is used to reduce the expanded screen back to default size.
- **Exit**
The exit button is used to exit the laptop administration program.

Menu items can also be accessed by using a pull-down menu. See Section "600.9 PULL-DOWN MENUS" for more information.

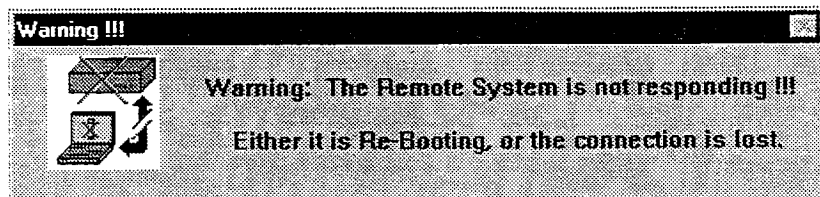
A. Status Bar

The following screen illustrates an example of the status bar located at the bottom of the STARPLUS Dispatch™ option screens:



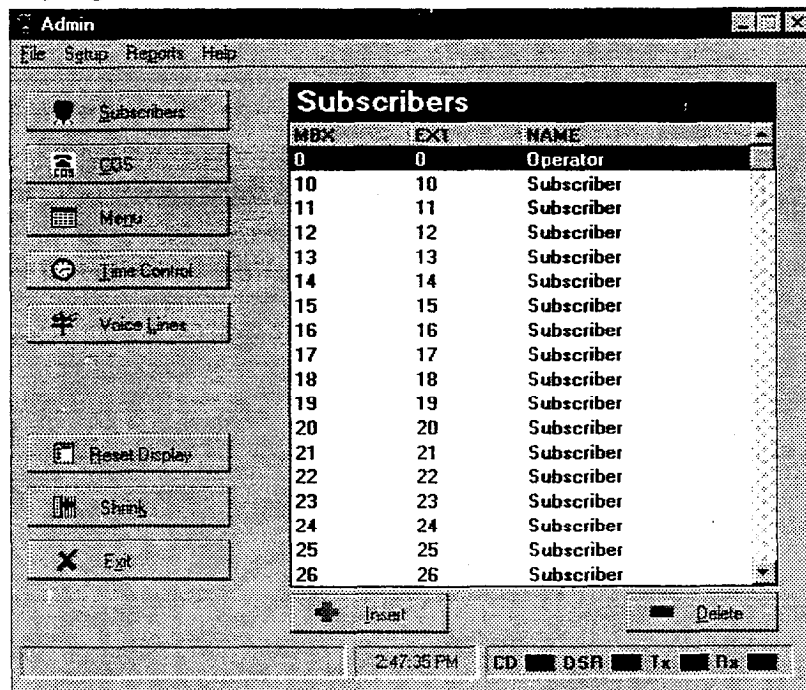
The status bar provides an explanation of each of the buttons on the main menu. For example, if the Time Control button is highlighted, the status bar will read: "Display Time Controls."

Note the four signal indicators along the bottom of the screen. The Carrier Detect (CD) option will be lit as long as there is a carrier signal between the two modems, or between voice mail and the laptop/PC. The Data Send Ready (DSR) option will be lit as long as there is a carrier signal between the two modems, or between voice mail and the laptop/PC. Both the CD and DSR are solid green on direct port connection. The Transmit (Tx) option blinks whenever data goes out, and the Receive (Rx) option blinks when data comes in. If the connection is lost, the screen shrinks and the following screen appears:



B. Subscribers

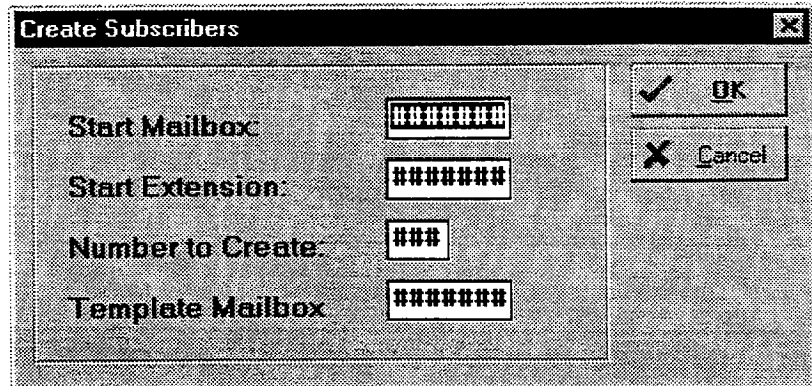
A subscriber is someone who owns an extension and mailbox on the voice mail system. The Subscribers menu displays mailboxes, extensions, and the names of subscribers. To get to this menu, press the Subscribers button, or select Setup, Subscribers from the Setup pull-down menu. You can then click Insert to add a subscriber. Highlight an existing subscriber and double-click to edit it. Highlight and click Delete to delete a subscriber.



As part of the Subscribers option, you can insert or delete a subscriber by clicking the corresponding screens. This is illustrated in the following screens.

**Insert
Subscribers:**

The following screen illustrates the Insert Subscribers option. To access this screen, click the Insert button at the main Subscribers menu.



The screenshot shows a dialog box titled "Create Subscribers". It has a close button in the top right corner. The dialog contains four input fields, each with a label and a text box filled with asterisks: "Start Mailbox" (10 characters), "Start Extension" (8 characters), "Number to Create" (3 characters), and "Template Mailbox" (8 characters). To the right of the input fields are two buttons: "OK" with a checkmark icon and "Cancel" with an "X" icon.

Start Mailbox:

Enter the subscriber's mailbox number. This typically is the person's extension, or can be different as needed (as when any given user may have more than one mailbox).

Start Extension:

Enter extension to which this mailbox will be linked.

Number to Create:

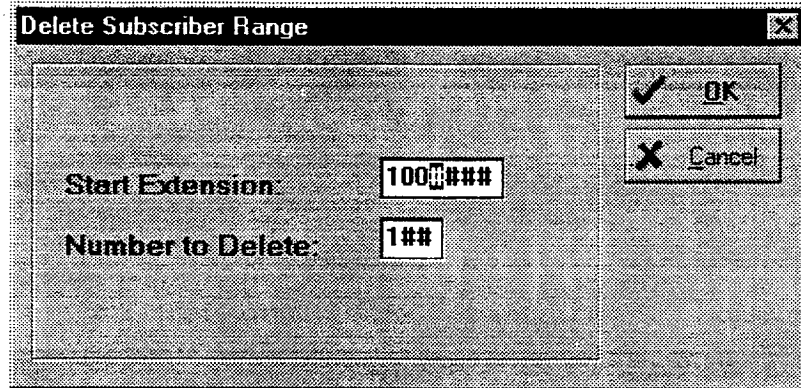
How many total mailboxes to add. Only use if creating a range of mailboxes.

Template Mailbox:

When you have already created a subscriber and the new subscriber will have similar mailbox/extension features, enter the previously created subscriber's mailbox number. This will copy over all mailbox and extension settings to the new subscriber for easier editing.

Delete
Subscribers:

The following screen illustrates the Delete Subscribers option. To access this screen, click the Delete button at the main Subscribers menu.

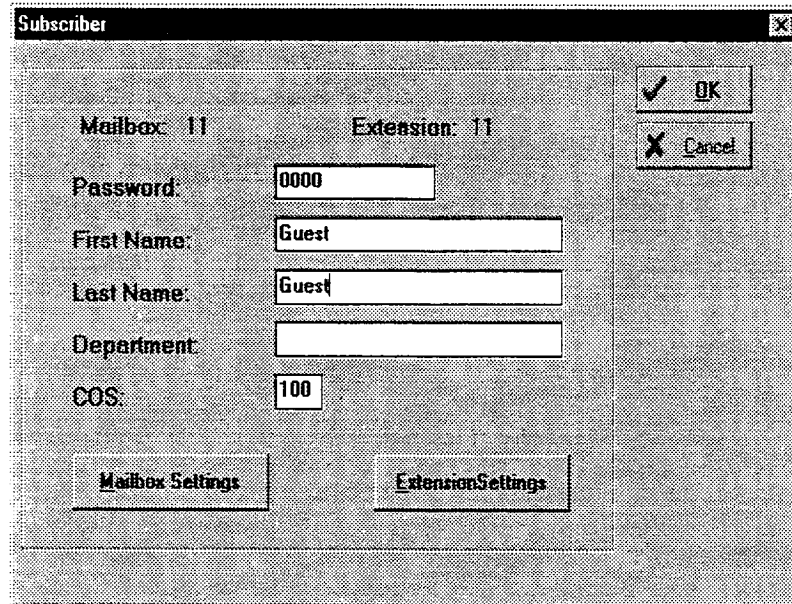


Start Extension: Select the first mailbox to delete in the range.

Number to Delete: The total number of mailboxes to delete.

Edit Subscribers:

While in the subscribers screen, if you double-click on one of the subscribers, you can edit and verify such items as passwords and user names.



Password: Enter the number to be entered by the mailbox user to retrieve mailbox messages. Initially, it should be set to a code that is easy to remember. The user can then change the password later as needed. The default password is 0000.

First Name and Last Name:

Change as needed. The Last Name field is the name used in the directory.

Department:

Enter the department or area in which the employee works.

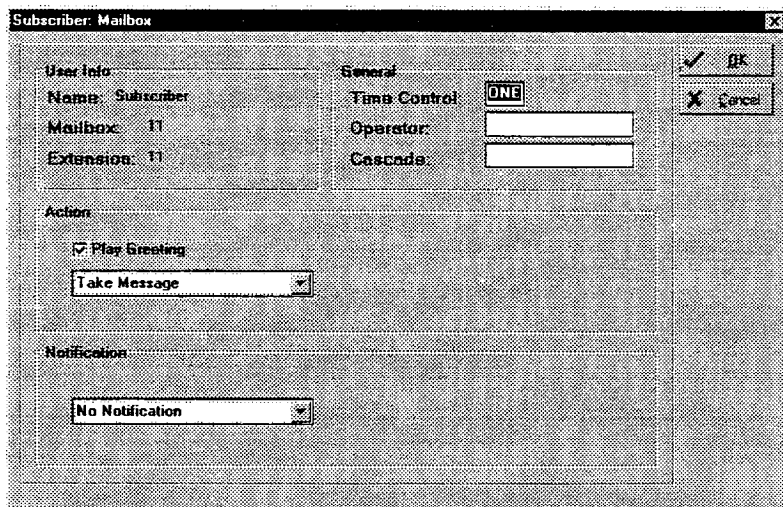
Class of Service:

Select the Class of Service to associate with this mailbox. Note that if the Class of Service field is left blank, the voice mail system defaults to the last COS used by the system. In a system that uses multiple COSs, errors could arise. You should assign a class of service to each extension to avoid potential problems.

As part of the Subscribers menu, you can click on either Mailbox Settings or Extension Settings.

Mailbox Settings:

Click on Mailbox Settings to edit action and notification options, as well as general options like Time Control, Operator, and Cascade.



Time Control:

Calls are often handled differently in the evening, during the weekend, or on holidays than they are during regular business hours. The time control function lets you define a set of alternative actions that STARPLUS Dispatch™ will perform for a given time setting. Time controls are created by selecting Time Control from the Setup menu. If you do not intend to use Time Controls, set to NONE. See Section 600.8, "E. Time Control" for more information.

NOTES Use the Time Control option only with Technical Support's help.

- Operator:** Enter a personal operator for the mailbox. This is used when a caller dials [0] while connected to a mailbox. The call is transferred to an alternate extension instead of to the system-wide operator. This can be used to transfer calls to a personal assistant.
- Cascade:** Message cascading is a feature that will copy or move messages left for the originating mailbox to another mailbox. In order to use message cascading, the originating mailbox's Class of Service (COS) must be configured to allow the feature. See section 600.8, C. for more information on the COS settings. Within the mailbox settings, you only need to enter the destination mailbox. This feature will not work until the COS settings have been properly administered. Typical uses include archiving and notification of no answer to messages left in a mailbox (i.e. for customer service).
- Mailbox Action:** Click Play Greeting if STARPLUS Dispatch™ is to play the greeting recorded for this mailbox when the mailbox is accessed. Use the dropdown list to select from various actions that the mailbox will perform when a message is left. These actions function as follows:
- Take a message Records messages in the mailbox for later retrieval.
 - Forward to mailbox Sends the caller to an alternate mailbox where a message may be left. Notification and MWI rules of the "forwarded to" mailbox apply.
 - Forward to extension Sends the caller to an extension. Extension settings of the "forwarded to" extension apply.
 - Forward to menu Sends the call to a menu where further options may be provided to the caller. Refer to Section 600.8, "D. Menu" for more information.
 - Forward to time control Causes STARPLUS Dispatch™ to execute the assigned time control and take the appropriate action. Refer to Section 600.8, "E. Time Control" for more information. Use caution when selecting this option.
 - Forward to module Automatically runs another module when the mailbox is accessed. Special applications only.
 - Mailbox is off Disables the mailbox's ability to take messages. This option plays the prompt "Mailbox is off," to the caller.

- Mailbox is full Plays a message to the mailbox owner stating that the mailbox cannot record any new messages until old ones are deleted. Plays a message to the caller saying the mailbox is full.

**Notification
(External):**

Notification refers to external numbers (i.e., pager, mobile, etc.) MWI are handled in registry and/or COS. Refer to "600.8 SOFTWARE DESCRIPTION", "C. Class of Service (COS)" and "APPENDIX C COMMAND FILES".

Select the type of notification STARPLUS Dispatch™ is to use when a message has been left in the mailbox. Notification options include the following:

- No notification Disables message notification completely.
- Immediate notification Sends notification immediately upon receiving messages.
- Timed notification Sets a time to notify mailbox owner of new messages.
- Urgent notification Instructs STARPLUS Dispatch™ to only send notification if the message left is marked urgent.
- Phone number Enter the phone number to dial for notification.

NOTES

Do not enter 9, 1 for external long-distance numbers.

NOTES

If you have an integrated system, you should not set notification to call an internal extension, as the notification message could end up being left in the extension owner's mailbox. This would cause STARPLUS Dispatch™ to send another notification message, creating a continuously-generating loop.

- Pager notification: When choosing any method of notification, you will see a Pager Notification checkbox. Check this if the notification number is a pager. Be sure to press the OK button before leaving this window.

Extension Settings:

For Extension Settings, return to the Edit Subscribers screen. Then click on the Extension Settings button to edit the actions for mailbox numbers as well as to change transfer options and time controls.

Time Control:

Calls are often handled differently in the evening, during the weekend, or on holidays than they are during regular business hours. The time control function lets you define a set of alternative actions that STARPLUS Dispatch™ will perform for a given time setting. Time controls are created by selecting Time Control from the Setup menu. If you do not intend to use Time Controls, set to NONE.

Actions:

STARPLUS Dispatch™ provides three action fields that determine how the system handles incoming calls. STARPLUS Dispatch™ refers to the three options in a cascading order. That is, the first field has precedence over the second, while the second field has priority over the third. The following is an example scenario of Action options:

1. An incoming call is answered by STARPLUS Dispatch™
2. STARPLUS Dispatch™ checks the first Action option for instructions on how to handle the call. The supervised transfer has been selected.
3. STARPLUS Dispatch™ is instructed to perform a supervised transfer to the extension.
4. The line is busy so the call comes back to STARPLUS Dispatch™

5. STARPLUS Dispatch™ checks the second Action option for instructions on how to handle a busy signal. The forward to voice mail option has been selected.
6. STARPLUS Dispatch™ sends the call to the appropriate voice mailbox.

The fields associated with each Action change to reflect the Action selection. For example, if "Forward to Extension" is selected in the Action field, the field to the right of it changes to "Number to Dial". If the Action selection is set "Forward to Menu", the field changes to "Menu" and is used to enter the name of the menu to which calls are sent.

Action 1:

Blind Transfer:

Indicates an unsupervised transfer to the requested extension. This option is commonly used with phone systems that support call forwarding and inband integration.

Supervised Transfer:

Allows STARPLUS Dispatch™ to monitor call transfers to determine whether the called extension is busy or is not being answered. If the call is not answered, STARPLUS Dispatch™ refers to the subsequent Action entries (Action 2) for instructions on handling the call. Only one transfer type (Supervised or Blind) can be selected at a time.

- Screen Caller

When a person dials an extension through the auto attendant, the call screening feature prompts the caller to state his name. STARPLUS Dispatch™ plays the caller's name to the extension owner before the call is actually transferred. The extension owner can either accept or reject the call, or send it to another extension or voice mailbox. This option works only with Supervised Transfer.

- Holding Allowed

Gives the caller the opportunity to hold on the line in the event the called party is busy. The caller hears the following prompt: "I'm sorry, [extension's name] is busy. If you would like to hold, press [1]. To try another extension or leave a message for this extension, press [2]." This option works only with Supervised Transfer.

Forward to Mailbox:

Forwards calls to the specific mailbox entered in the Mailbox field. Usually this is the called extension's personal mailbox.

Forward to Extension:

Forwards calls to the specific extension entered in the Extension field.

Forward to Menu: Forwards calls to the specific menu entered in the Menu field. Refer to Section 600.8, "D. Menu" for more information.

Forward to Module: Forwards callers to a custom script module.

NOTES

Consult Technical Support before choosing this option.

Forward to Time Control: Runs the designated time control file and takes the actions designated for the current time. See Section 600.5, "E. Time Control" for more information.

Action 2 and Action 3: The options available depend on the selection for Action 1. For example, if "Forward to Mailbox" is selected, enter the mailbox number.

After selecting Action 1 from the dropdown list, complete the action by addressing any fields to the right of it. When Supervised Transfer is selected as Action 1, the Action 2 box will become active.

When Action 1 is supervised transfer and the transfer resulted in a Busy or No Answer situation, then the Action 2 setting specifies what should happen next. You may conditionally invoke Action 2 when the following conditions existed for the Action 1 supervised transfer:

Do always: Means the action will always take place.

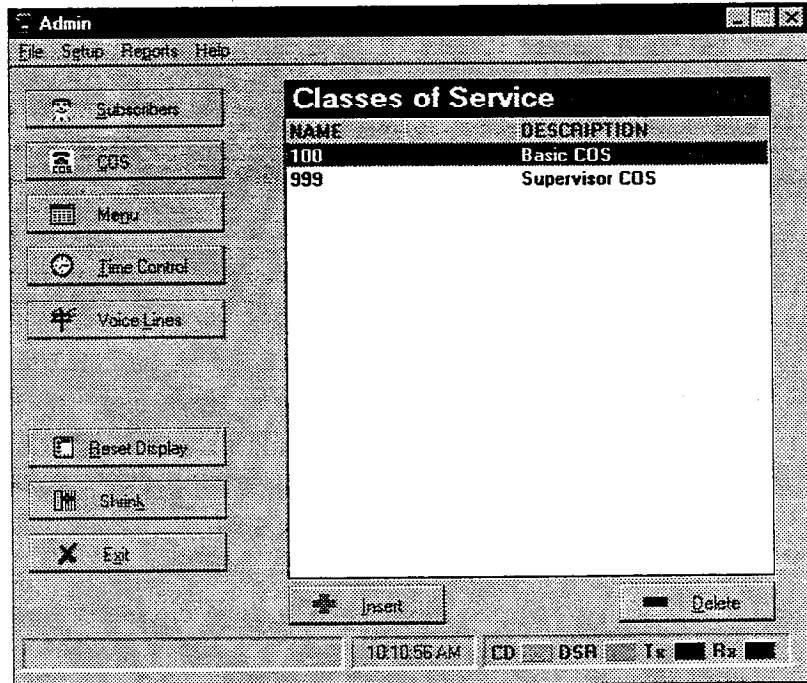
Only on busy: Instructs STARPLUS Dispatch™ to use this option if the previous transfer results in a busy signal.

Only on no answer: Instructs STARPLUS Dispatch™ to use this option if the transferred call was not answered.

The above rules apply when setting up Action 3.

C. Class of Service (COS)

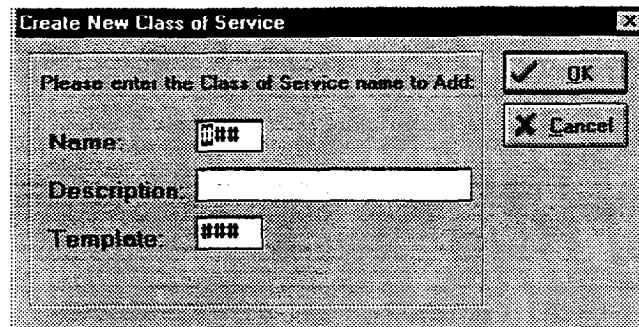
Class of Service involves features and settings applied to a group of subscribers. The Class of Service (COS) screen displays the COS name and description. To begin any COS operation, click the COS button on the toolbar or select COS from the Setup menu. You can then click Insert to add a COS. Highlight an existing COS and double-click a COS to edit it. Highlight and click Delete to delete a COS.



Each STARPLUS Dispatch™ mailbox and extension is associated with a Class of Service (COS) that defines its attributes. All mailboxes and extensions with the same COS operate identically in terms of COS options available to users. Grouping mailboxes and extensions into classes of service lets you change options for all the mailboxes and extensions in the same class simultaneously.

By supporting multiple COSs, STARPLUS Dispatch™ allows you to provide system users with options to system features on an as needed basis. If you create more than one COS, you can save time by creating a template COS that serves as the basis for each COS you create.

After selecting Class of Service from the Setup menu or clicking the COS button on the tool bar, click the Insert button to add a COS. Enter a name for the COS, using a 3-digit number, and click OK. This returns you to the COS screen. Double-click the COS you created. This displays the Edit COS dialog box. You can then begin defining the Class of Service.



When defining a new COS or editing an existing COS, click the tab corresponding to the parameters you want to address. Once you have selected any category, you can reach another by clicking the page controls (Next, Prev) that will appear at the bottom of the screen, or by clicking the tab you want.

Within Class of Service, double-clicking on a COS brings up a window with the following tabs:

- General
- Message
- Maintenance
- Notification
- Auto Attendant

GENERAL TAB:

Clicking on the General tab allows you to set the general Class of Service values that you want to use.

The screenshot shows a window titled "Class of Service: 100" with a "General" tab selected. The window contains several input fields and checkboxes. The "Description" field contains "Basic COS". The "Time Control" field is empty. The "User Type" field contains "10". Under "Event Counters", both "Owners" and "Callers" checkboxes are unchecked. The "Language" field contains "English". The "Restricted Outcall" field contains "11" digits. On the right side, there are buttons for "OK", "Cancel", "Next", and "Prev".

Description:

Enter a brief description of COS, to help identify it in other operations.

Time Control:

Calls are often handled differently in the evening, during the weekend, or on holidays than they are during regular business hours. The time control function lets you define a set of alternative actions that STARPLUS Dispatch™ will perform for a given time setting. Time controls are created by selecting Time Control from the Setup menu. If you do not intend to use Time Controls, set to NONE. See Section 600.8, "E. Time Control" for more information.

NOTES

Use this option only with Technical Support's help.

User Type:

Set user type to 99 only when granting system administrator access. For all other uses, this should be set to 10. Types 02-98 are not used.

Event Counters:

Leave these both set to off if you do not want to use them for an overview of system usage.

- Callers:

Click the **Callers** box if you want to maintain a count of mailbox/extension access by callers (non-owners)

- Owners: Click **Owners** if you want a count of mailbox/extension maintenance accesses by the mailbox owner.
- Language:** The mailbox and extension prompts will be played in the selected language.
- Restrict OutDial to:** You can use this field to disable long distance dialing from the extension or from mailbox notification by entering the number of digits required for local calls (typically 7 or 10).
- MESSAGE TAB:** The Message Options tab lets you set values for the messages in your STARPLUS Dispatch™ system.

The screenshot shows a window titled "Class of Service: 100" with several tabs: General, Message, Maintenance, Notification, and Auto Attendant. The "Message" tab is active. It contains the following settings:

- Message Type:** Voice, Page
- Default Message Type:** Voice, Page
- Play Message Type Menu
- Message Properties:** Length: 600 seconds, Count: 50# messages, Retention: 30# days
- Record On Key:** Wait for key before record.
- Greeting Type:** Personal, Voice Insert, System, System Add-on, Class of Service
- Greeting Length:** 30 seconds
- Park and Page:** Park and Page Active
- Caller:** Stop Record Key: NONE
- Record Options On
- Send Options:** No Options, Urgent, Confidential
- Last Options:** On

Buttons for OK, Cancel, Next, and Prev are located on the right side of the window.

- Message Type:** STARPLUS Dispatch™ mailboxes can be used to store either voice or page messages.
- Voice Messages: The most common message type and is typically the only option selected. Allows callers to leave a voice recording for the called party. If mailboxes using this COS wish to receive numeric page messages, then check the Page item.
- Page Messages: Allows callers to leave a numeric message.
Note that a single mailbox can store a combination of any or all message types. Even mailboxes set for voice messages can be notified using a numeric pager. This setting

- only applies to inbound messages, and not to the notification type. If more than one type of message is selected, select one as the default.
- Play Message Type Menu:** Leave this option off if the mailbox owner should handle access to different message type options in the mailbox greeting. Select this option if you want STARPLUS Dispatch™ to present the caller with a menu such as: To leave a voice message, press [1]; To leave a page message, press [2].
- Default Message:** If the mailbox is using both types of messages and the caller does not select a message type, **Default Message** determines which type the system will record.
- Message Length:** This option determines the amount of time allocated to a message. After the specified number of seconds has elapsed, the caller will be presented with the normal Send Menu as if the caller had pressed a key to stop recording. The recommended length is 120 seconds.
- Message Count:** This option determines the maximum number of messages that can be stored in a mailbox. When the number of messages in a mailbox exceeds this parameter, the mailbox plays a message saying it is full. No further messages will be taken until the number of messages in the mailbox is reduced. A maximum of 50 messages is recommended.
- Message Retention:** STARPLUS Dispatch™ can automatically delete messages that have been stored longer than a specified amount of time. Thirty days is the recommended default retention period; this can be extended or shortened, depending on your specific needs.
- Record Key:** Leave this off if you want STARPLUS Dispatch™ to automatically begin recording a voice message. When this is turned on, the caller must first press a key for recording to begin.
- Greeting Type:** Select from the following types of pre-recorded messages or prompts used when greeting a caller:
- Personal: The personal greeting is a message played to a calling party before a message is recorded to a mailbox. If the owner does not record a personal greeting, the System (default) greeting is used.

- System: A generic message used when no personal greeting has been recorded. If both the Personal and System greetings are activated, STARPLUS Dispatch™ will only play the personal greeting when one has been recorded.
- Class of Service: Greeting that will play a single greeting for all mailboxes that share the same Class of Service. This is done to conserve disk space by eliminating the need for each mailbox to have its own greeting prompt. Class of Service can also be used as an add-on to a personal greeting.
- Voice Insert: Plays a Class of Service prefix prompt followed by a name prompt, which in turn is followed by Class of Service postfix prompt. This is often done to personalize a Class of Service greeting while limiting the amount of disk space used.
- System Add-on: A smaller version of the System default greeting that follows a personal greeting. This greeting says "Begin speaking at the tone. To stop recording press any key, etc." whereas the regular System greeting says "The person you have tried to reach is unavailable, begin recording..."

Greeting Length: Enter the amount of time, in seconds, for each greeting.

Park and Page: If this is enabled, the following will occur: if a call comes in to a mailbox, and during the mailbox greeting the caller presses 7, the caller will be transferred to a park location and the system will initiate a company-wide broadcast page for the mailbox owner.

NOTES *The mailbox greeting must include instructions for dialing [7] to access Park and Page.*

NOTES *Park and Page is not available on all systems.*

Stop Record Key: Select this option to activate the one-key urgent message send feature. With this option turned on, if an outside caller presses 8 to end the recording of a voice message, the message is marked urgent, sent, and the caller proceeds to Last Options.

NOTES *The mailbox greeting must include instructions for dialing [8] for urgent messages.*

**Caller Record
Options:**

If this option is selected and the caller presses a key after leaving a voice message, the caller will hear the following menu of options:

Press [1] to send the message

Press [2] to play the message

Press [3] to cancel

Press [4] to append the message

Press [5] to re-record the message

**Caller Send
Options:**

Select Urgent, Confidential, or both if you want callers to be able to specify those options for the messages they leave.

- Urgent

- **Urgent** messages are preceded by an Urgent prompt, trigger immediate notification, are played as the first of a group of messages.

- Confidential

- **Confidential** messages cannot be forwarded, and are preceded with a warning to pick up the phone if messages are being played on a speaker phone.

Last Options:

Select according to what you want the system to do once the caller has left a message.

- Off:

If the last options are set to Off, STARPLUS Dispatch™ plays "thank you" and hangs up.

- On:

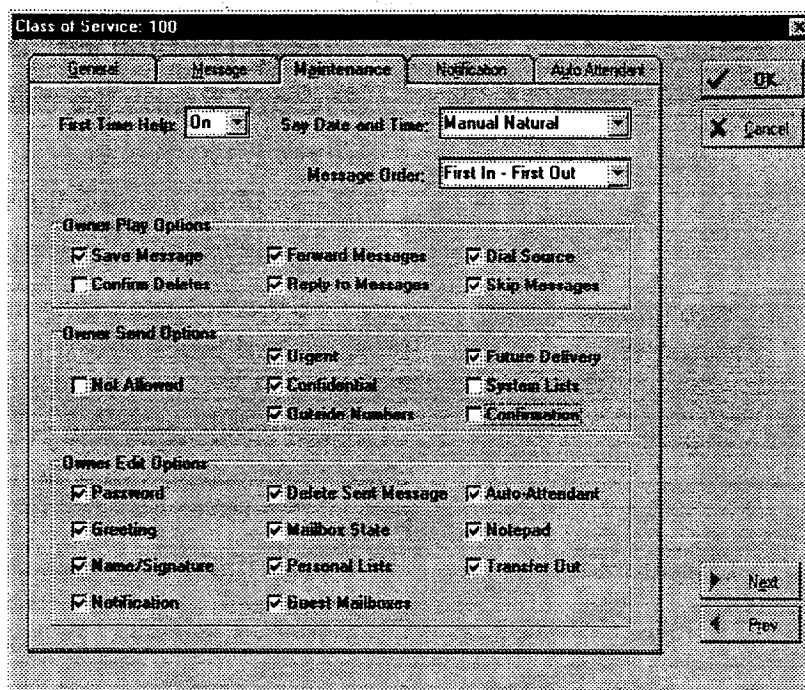
If the last option is set to On, STARPLUS Dispatch™'s default menu options are played. The default menu options are: "To access another mailbox, press [1]. To access an extension, press [2]. To disconnect, press [9]. To transfer to an operator, press [0]."

- Menu:

If the last option is Menu, the Last Options Menu is played. Note that setting this to off limits a caller's ability to navigate the system.

**MAINTENANCE
TAB:**

The Maintenance tab determines the modifications individual users can make to their personal mailboxes.

**First Time Help:**

Check this option if you want to have each new user prompted to record such essential parameters as a mailbox greeting, a mailbox name, and a password.

**Say Date and
Time:**

STARPLUS Dispatch™ can announce the date and time that a message was received.

- Manual Natural:

The user must press a key to hear the date and time. Natural means we say the date and time in general terms; for example, saying "Monday," or "yesterday." Press [8] after the message has played.

- Manual Full:

The user presses a key to hear the full date and time. An example would be "Monday, February 28, 1998, at 7:00 p.m." Press [8] after the message has played.

- Automatic Natural:

The date and time are played automatically at the beginning of each new message. The user does not have to press any keys.

- Automatic Full:

The full date and time are automatically played. The user does not have to press any keys.

- Message Order:** Determines order in which messages are played. Message order is on a chronological basis as follows:
- First In-First Out: The first message left in chronological order will be the first one played.
 - Last In-First Out: The last message left in chronological order will be the first one played.
- Owner Play Options:** Mailbox owners can be given several options for handling played messages, making mailbox management as simple or as sophisticated as desired. These options function as follows:
- Save Messages: Allows users to save messages for later retrieval. Press [2] to save messages.
 - Confirm Deletes: Requires users to press the [#] key after pressing [3] to delete a message. This is used as a safeguard against accidental deletion.
 - Forward Messages: Allows users to forward messages to other mailboxes or to an outside number. Press [4] to forward messages.
 - Reply To Messages: Allows users to reply to the message by pressing [5].
 - Dial Source: Allows the user to connect to the person responsible for sending the message.
 - Skip Messages: Allows users to skip messages by pressing [6] then [3] while listening to a message.
- Owner Send Options:** These parameters determine the functions available to users when sending messages from your mailbox:
- Not Allowed: Is used for creating simple mailboxes which cannot send a message.
 - Urgent: Allows the user to assign urgent status to a message. Urgent messages are preceded by an Urgent prompt, trigger immediate notification, and are played as the first of a group of messages.
 - Confidential: Allows the user to specify that a message cannot be forwarded and is preceded with a warning to the recipient that the message is confidential.

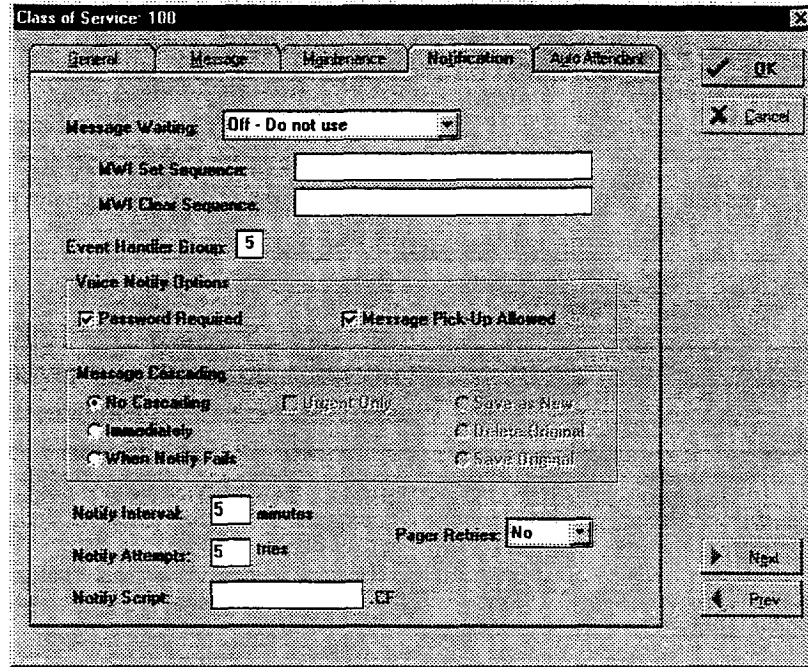
- Outside Numbers Allows the user to send a message to an outside number. This option should be used with caution since STARPLUS Dispatch™ will attempt to call an outside number and play the message.
 - Future Delivery Allows delivery of messages at a future time and date.
 - Distribution Lists Allows the user to send messages to a system-wide list. The list is maintained by the administrator.
 - Confirmation Enables the user to request receipt information for a marked message, so that the system notifies the sender when either the message has actually been listened to or the message was not heard before the notification attempts expired.
- Owner Edit Options:**
- Password Restricts unauthorized access to the mailbox. Enables the mailbox owner to change the mailbox password. This is typically turned off only when a mailbox is for temporary use.
 - Greeting Allows the mailbox owner to edit his or her greeting, and is typically enabled. The greeting is a message played to a calling party before a message is recorded to a mailbox.
 - Name/Signature Allows the owner to change the mailbox name, which is used in prompts associated with the mailbox. Name / Signature is an identifier for a mailbox. It is used when calls are transferred, and when messages are forwarded, replied to, or sent.
 - Notification Allows the owner to change such notification settings as the extension or phone number to call, and the time of notification (such as for a pager). Notification is the indication of new messages in mailboxes. This does not affect message waiting indicators on telephones.
 - Delete Sent Message Allows the mailbox owner to pull-back messages that were sent to another local mailbox. The system will prompt the owner for the destination mailbox, and then check to see if any unheard messages from the owner are still in the destination mailbox. The system will play each message and allow the owner to selectively delete.

- Mailbox State Allows the owner to turn the mailbox off, set it to greeting only, forward calls to an extension, forward calls to a mailbox, or forward calls to menu. This should be left off when a simple mailbox is desired and there is a possibility of activating erroneous forwarding.
- Personal Lists Allows the user to create up to 10 personal lists and maintain them over the telephone. Personal distribution lists are numbered from 0 to 9. Each contains personalized lists of mailboxes that are addressed as a group for simplifying delivery.
- Guest Mailboxes Allows the owner to communicate with a guest that does not have a mailbox on the system. Each system mailbox can have up to 10 guest mailboxes. Each mailbox owner administers guest mailboxes and assigns a unique number to each guest. Owners may send messages to guest mailboxes by following the prompts for sending to other address types. Guests retrieve messages by pressing [4] during the owner's greeting. The guest then enters their unique number (phone number or social security number, etc.), followed by [#]. The guest may then retrieve messages sent by the mailbox owner and reply back to the mailbox owner.
- Auto-Attendant Allows the mailbox owner to edit extension settings. The mailbox owner can also change forwarding and transfer type.
- Notepad Gives the mailbox owner access to a personal voice note pad. The voice note pad is referenced with an index. The index can be any 8-digit number with an associated voice file. For example, a personal note pad could be used for saving phone numbers and addresses.
- Transfer Out Allows the mailbox owner to transfer to other extensions or mailboxes. This option should be turned off in a service bureau application or when the auto attendant is not used.

At the top level of mailbox owner, the caller can press 0. The system then says "To access another mailbox, press [1]. To access an extension, press [2]."

**NOTIFICATION
TAB:**

The Notification tab describes the notification options that are used to tell mailbox owners when they have a new message.



Message Waiting:

- Off - Do not use
- After first new message
- After every message

STARPLUS Dispatch™ sends message waiting commands to telephone systems that support message waiting lights or similar notification devices.

Do not light MWI. An example would be a mailbox not having an internal telephone.

Only sends commands to phone system to notify you after the first new message.

Sends command after each new message.

**Message Waiting
Indicator Strings:**

MWI strings are DTMF sequences that STARPLUS Dispatch™ uses to set and clear the message waiting lamp located on each extension's desktop phone. MWIs are the most common way of notifying mailbox owners that they have messages. Normally, STARPLUS Dispatch™ uses predefined MWI strings that are loaded when the PBX system number is selected. On some systems, it is necessary to define MWI strings on a per COS basis. These settings take precedence over the settings defined in the

system-wide registry. Please consult your PBX manufacturer's manual for information on MWI set and clear sequences.

NOTES

Do not change MWI strings without the help of Technical Support.

- MWI Set
Sequence:

String to send to phone system in order to activate MWI Lamp.

- MWI Clear
Sequence:

String to send to phone system to deactivate MWI Lamp.

**Event Handler
Group:**

Event handler groups handle notification settings like message waiting and pager notifications. On a two-line system, line two is, by default, the notification line. On all other systems, the last two lines on the system are used for notification. Note that you can program STARPLUS Dispatch™ on a Class of Service basis (in the Notification Options dialog box) to use only pre-selected lines for outgoing notification.

NOTES

Do not change event handler groups without help from Technical Support.

**Voice Notify
Options:**

- Password
Required:

Set to **Password Required** to force the owner to enter a password to retrieve messages.

- Message Pick-Up
Allowed:

Set to **Message Pick-Up Allowed** to allow message retrieval. Note that allowing message pick up without a password can undermine the privacy and security of the mailbox. Also, voice notification should not be used on systems that are using blind or release transfers.

**Message
Cascading:**

This option gives the STARPLUS Dispatch™ system great flexibility in delivering a message. Any incoming message, depending on the cascade setting, can be redirected to other mailboxes.

- No Cascading:

Set to Off to turn this function off

- Immediately:

Set to Immediate to cause cascading to begin immediately, allowing duplicate messages to be stored in several mailboxes.

- When Notify Fails: Set to When Notify Fails to forward the message to another mailbox only when the notification has failed and the mailbox owner has not retrieved the message.
- On Urgent Only: Checking the On Urgent Only box will cause only those messages marked urgent to be cascaded.

Original Message: These options are available when Message Cascading is set to Immediate or When Notify Fails. You would normally set this to Save as New; set to Save Original to cause the message to be saved in the original mailbox once the forwarding is completed; set to Delete Original to cause the original message to be deleted from the original mailbox once the forwarding is completed.

Notify Interval (External): This parameter determines the time interval between each notification attempt to the number defined in mailbox notification settings until the owner retrieves the message. The time is measured in minutes, with a maximum interval of 999 minutes.

Notify Attempts (External): This parameter determines how many times STARPLUS Dispatch™ will attempt to notify a mailbox owner of the number defined in mailbox notification settings after receiving a new message. The maximum number of attempts is 999.

NOTES

Notification attempts will continue as long as there is a new message in the mailbox.

Notify Script: This feature allows complex notification scripts to be created on a per Class of Service basis. This option can only be used if a notification script has already been written. STARPLUS Dispatch™ comes preloaded with 10 notification scripts that are similar in their function and only vary based on timers. The name of the scripts are: PAGER6.CF, PAGER8.CF...PAGER22.CF and PAGER24.CF. The number in each name represents how long after dialing the paging service, the STARPLUS Dispatch™ waits before it sends the mailbox number. After sending the mailbox number, STARPLUS Dispatch™'s pre-defined scripts will send a *, urgent message count, another *, new message count, another *, followed by the saved message count. For example, if mailbox 123 was

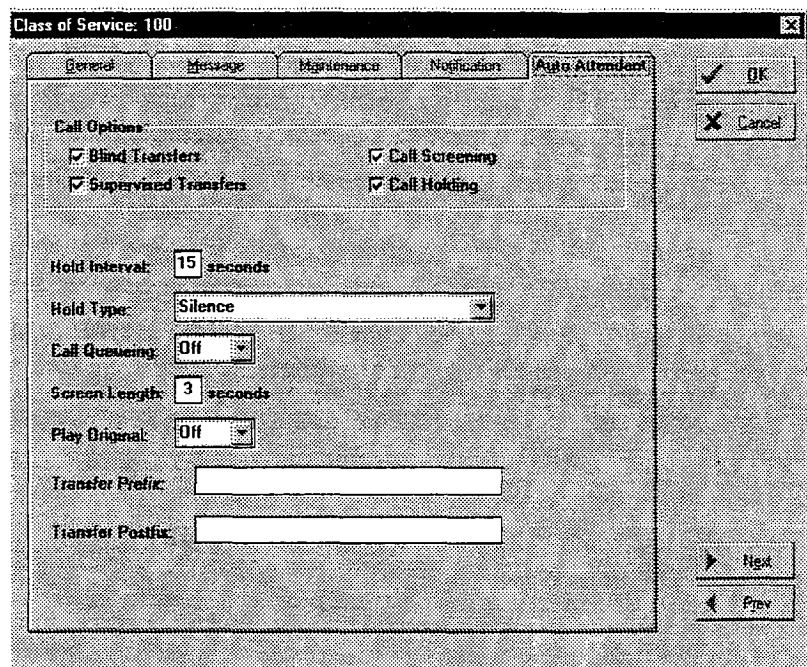
being notified and had 1 urgent new message, 2 non-urgent new messages and 15 saved messages, the following would be sent: 123*1*2*15. Some pagers display "*"s as "-"s, so the display could look like: "123-1-2-15". For more information regarding notification scripts, see Appendix C.

Pager Retries:

This option allows turning off pager retries while leaving all other retry options in tact. Since most pagers have memory and reminder features, the owner will not be repeatedly paged for the same message. Pager retries are directly related to Notify Attempts.

AUTO ATTENDANT TAB:

Click on the Auto Attendant tab for information on several automated operations within STARPLUS Dispatch™.

**Call Options:**

This allows the customer to change their extension settings from their mailbox.

- Blind Transfer:

Select this option to allow unsupervised call transfer where STARPLUS Dispatch™ simply forwards the call to the requested extension. This option is commonly used with hunt groups or when you are certain the phone will be answered.

- Supervised Transfer: Select this option if you want STARPLUS Dispatch™ to monitor the transfer to determine whether the called extension is busy or is not being answered.

NOTES

The customer can significantly alter the functioning of the voice mail system.

If you select Supervised Transfer, you can check either or both of the following:

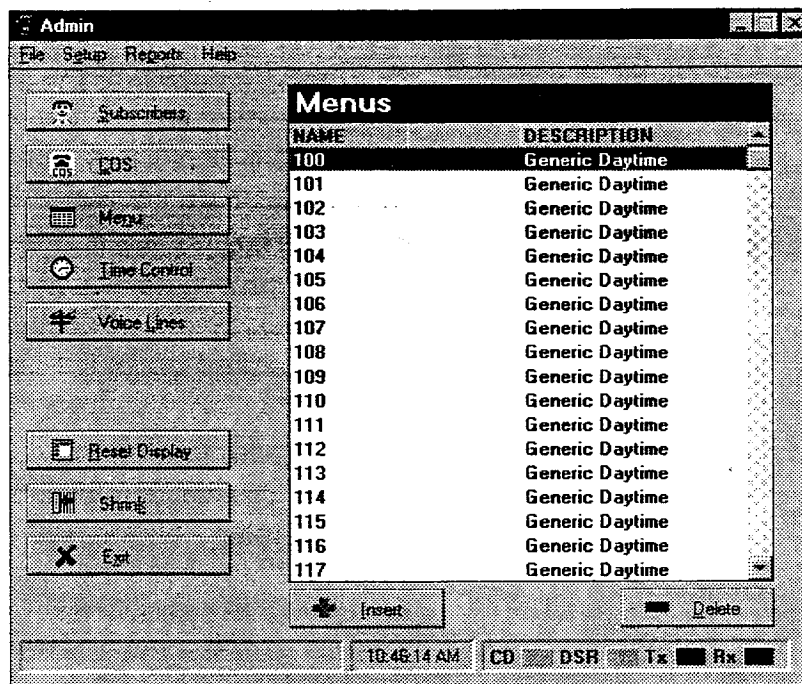
- Screening: When a caller dials an extension, Call Screening prompts the caller for a name. This information is then given to the called party before the call is actually transferred. The called party can either accept or reject the call.
 - Holding: This allows the caller to hold if the called party is busy. The caller hears: "I'm sorry, [extension's name/signature] is busy. If you would like to hold, press [1]. To try another extension or leave a message for this extension, press [2]."
- Hold Interval:** This setting (related to Call Holding) determines how long STARPLUS Dispatch™ will wait before retrying a busy extension. For example, if STARPLUS Dispatch™ attempts to ring a busy extension, and if the hold interval is set to 10 seconds, it will retry the extension every 10 seconds until a connection is made or until it reaches its retry limit. The time is measured in seconds, with a maximum interval of 999 seconds.
- Hold Type:** This setting (also related to Call Holding) determines what a caller hears if an extension is busy and the caller elects to be put on hold.
- Silence: Setting this to **Silence** keeps the call connected but the caller will hear nothing while on hold.
 - Dial Hold Sequence: Causes STARPLUS Dispatch™ to execute a flash-hook when the caller is placed on hold (if provided by the phone system, the flash-hook will activate background music).
 - Play Hold Files: If set to **Play Hold Files**, the caller will hear recorded messages that have been prepared for STARPLUS Dispatch™.

Up to nine hold files can be recorded. Hold files are recorded using STARPLUS Dispatch™'s telephone based administration. The first prompt file is recorded by select-

- ing system prompt 014. The second prompt is 015. The entire range of nine files is accessed by using the numbers 014 through 022.
- Call Queueing:** This option allows multiple calls to be placed on hold for a single extension. Turning this on causes STARPLUS Dispatch™ to hold the calls in a queue until they are answered. Queued calls are answered in the order received.
- Screen Length:** This option determines the amount of time in which a caller must respond with a name when prompted to do so through Call Screening. The time is measured in seconds, with a maximum interval of 999 seconds.
- Play Original:** Checking this means that, if a message is left in a mailbox to where the extension was forwarded, the originally dialed extension is identified at the start of the message. Leaving this unchecked omits the identifier of the originally dialed extension.
- Transfer Strings:** Normally, the transfer strings would be defined automatically by STARPLUS Dispatch™ when you selected the phone system during installation. On some telephone systems it is necessary to have transfer strings be defined on a per COS basis. These fields provide for that capability and override the system parameters.
- Transfer Prefix: The dial sequence entered before dialing an extension number.
 - Transfer Postfix: The dial sequence entered after dialing the extension number.

D. Menu

The Menu screen displays names and descriptions. Multi-level menus can be used to direct users and callers to information, assist them in performing tasks, and guide them in their use of the system. You can insert a menu by clicking the Insert button. You can edit a menu by double-clicking on one. You can delete a menu by highlighting and pressing the Delete button.

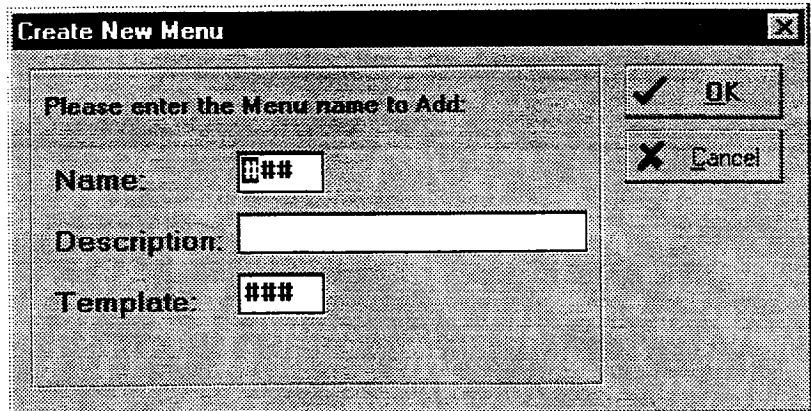


A menu is essentially a list of actions that is executed through touch-tone keys. For example, "For sales, press [4]. For support, press [5]. For administration, press [6]...". A menu can perform up to 13 actions, with each action corresponding to a key on a standard telephone keypad (including # and *), plus 1 action as a time-out.

An action is an instruction selectable from the Menu Action List. It tells STARPLUS Dispatch™ how to respond when a specific key is pressed. An action can perform another module (transfer a call to an extension through the auto attendant) or perform a special feature (play a prerecorded message).

Insert Menu

Click on the Insert button to see the following screen:

LAPTOP
ADMIN

When creating a new menu, fill in the following fields:

Name:

Indicates a 3-digit numeric name that will be used to reference the new menu. STARPLUS Dispatch™ is preloaded with menus in the 1XX range. Menus you create should be between 200-998.

Description:

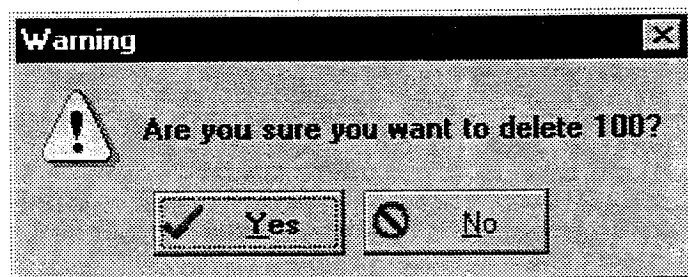
Enter text that describes the menu you are creating.

Template:

Enter the 3-digit numeric code of another menu that the menu you are creating should be based on. For example, if menu 200 exists and you want to create menu 201 similar to 200, then enter 200 as the template menu. You may choose to leave the template field blank.

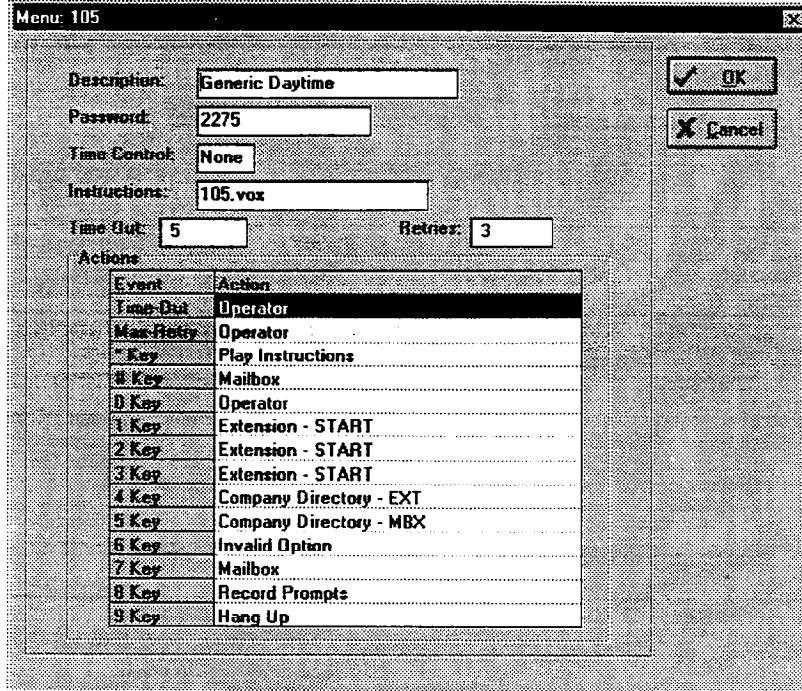
Delete Menu

Before you can delete one of the menus, you will get a warning screen asking if you want to do this. This is illustrated in the following screen.



Edit Menu

Within the menu screen, you can double-click on a menu to select it. This lets you choose what options you want for a particular menu. This screen allows you to edit an existing menu.



Description: Enter a brief description of the menus function that will remind you of its purpose.

Password: Specify the password to protect the on-line recording action. This password is required when a caller accesses the action Record Prompts.

Time Control: Calls are often handled differently in the evening, during the weekend, or on holidays than they are during regular business hours. The time control function lets you define a set of alternative actions that STARPLUS Dispatch™ will perform for a given time setting. Time controls are created by selecting Time Control from the Setup menu. If you do not intend to use Time Controls, set to NONE.

NOTES *Do not enter a value without help from Technical Support.*

Instructions: Select the instructions prompt, which should contain the information the caller needs to choose which keys to press. Enter the filename with the VOX extension. The menu

number should match the instruction filename. A typical instruction prompt would be: "Press [4] for sales, press [5] for support..." Note that almost all menus have instruction prompt files. However, these prompt files are dependent on the application design. You can also have hidden menu options that are not described in the prompt.

NOTES

The instruction prompt must be a number in order to use online administration.

Time Out:

Specify the length of time, if the caller presses no key, that the time-out action is to run.

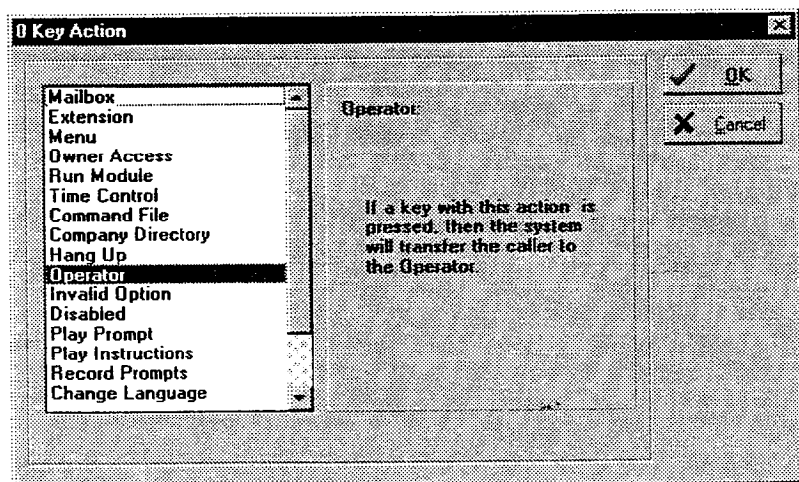
Retries:

Specify the number of times the caller can initiate an invalid option. If the caller initiates another invalid action, the Max Retries key action is taken.

Key Actions:

The bottom part of the Edit Menu screen addresses Key Actions. Key actions determine the response invoked when a particular key is pressed. Each dial-pad key has an accompanying key action field. In addition, there is a special field labeled Time-Out. The Time-Out field indicates what happens when the caller does not press any keys before the Time-Out period has elapsed. Clicking on any Key Action displays the Key X Action dialog box, where you can define the key.

By clicking on one of the actions in the Action section, you can view a description of the action you have selected. For example, if you select the operator option, you are notified that the system will transfer the caller to the operator.



Define a key by selecting an option as follows:

- Mailbox:** Sends the caller to a specific mailbox. If no mailbox is entered, STARPLUS Dispatch™ will prompt the caller for a mailbox number.
- Prompt for Mailbox: Will ask you for the mailbox number. For example, if key action 1 is a prompt for a mailbox, then when the caller presses [1], they will hear "Please enter your mailbox number."
 - Key is first digit of Mailbox: The first digit of the mailbox that you are trying to access. For example, if key 2 is set to Key is first digit, then when a caller presses [2], they will not hear a prompt and the system will wait for more digits.
 - Goto Mailbox: Goes to a specific mailbox you have defined. For example, if key 3 is set to go to mailbox 40, then when the caller presses [3], they will be dropped directly to mailbox 40.
- Extension:** Sends the caller to a specific extension. If no extension is entered, STARPLUS Dispatch™ will prompt the caller for an extension number.
- Prompt for Extension: Will ask you for the extension number. For example, if key action 1 is a prompt for an extension, then when the caller presses 1, they will hear "Please enter your extension number."
 - Key is first digit of Extension: The first digit of the extension that you are trying to access. For example, if key 2 is set to Key is first digit, then when a caller presses [2], they will not hear a prompt and the system will wait for more digits.
 - Goto Extension: Goes to a specific extension you have defined. For example, if key 3 is set to go to extension 40, then when the caller presses [3], they will be dropped directly to extension 40.
- Menu:** Executes the selected menu. Enter the menu number to run.
- Owner Access:** Gives access to mailbox owner features. Can be used in in-band integration or to provide access through a hidden key on a menu.

Run Module: Runs other modules that STARPLUS Dispatch™ supports.

NOTES

Do not perform this function without help from Technical Support.

Time Control: Enter the time control to run. Takes actions based on time, day, and day of the week settings, as specified in a time control setting. See Section 600.8, "E. Time Control" for more information.

Command File: Runs the command file script. See Appendix C for more information.

NOTES

Do not perform this function without help from Technical Support.

Company Directory: Provides a company directory listing, for mailboxes or extensions.

Hang Up: Plays the message "thank-you for calling" prior to disconnecting the caller. For example, a menu might include this option at the end of a list, "press [4] for sales, [5] for support, [#] to return to the previous menu, and [9] to hang up".

Operator: Transfers the caller to an operator by doing a blind transfer to [0].

Invalid Option: Plays the message "Invalid option" and repeats the instructions.

Disabled Key: Makes pressing a key with this action have no effect, as if the key were never pressed.

Play Prompt: Plays the indicated voice prompt file. Alternately, you can select a prompt based on its directory location (directory number listed below) and the specific file name, such as 4:help.vox. The available directories include 1:Modules, 2:Prompts, 3:Messages, 4:VOX, 5:Mailbox, 6:Menus, 7:dBase, 10:Data, and 20:Data. For example, to have the system play the mailbox greeting for mailbox 123, enter the following as the prompt name: 3:123.GRS.

Play Instructions: Replays the instructions prompt, such as, "To hear this menu again press...".

Record Prompts: Allows a caller to re-record prompts for a menu. The caller, after pressing the key associated with this action, is prompted for the menu password. The Instructions, or any "Play Prompt" file attached to a particular key, can then be recorded or edited.

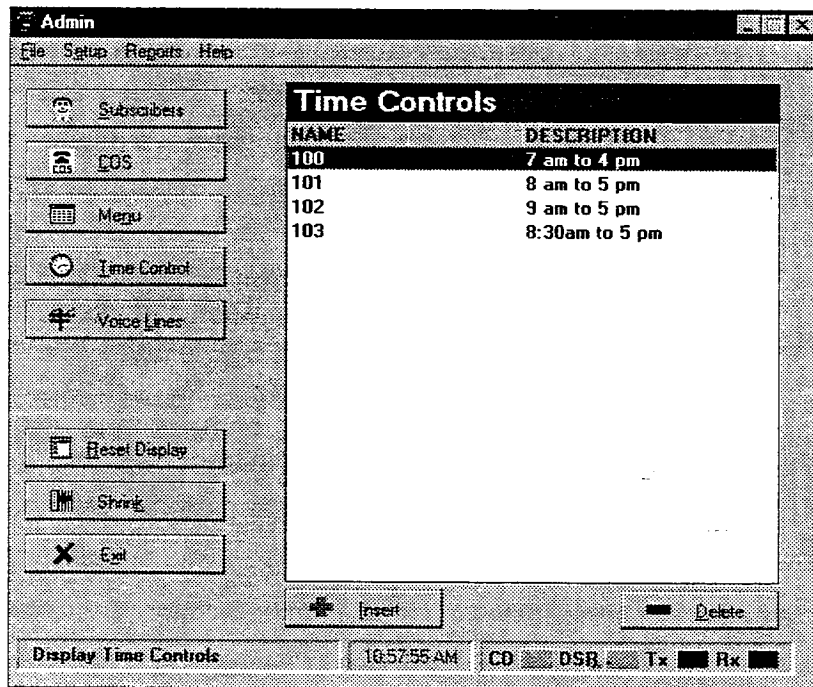
Change Language: Changes the prompt files that are used to those recorded in the selected language.

NOTES *Only the language you purchased will be available.*

E. Time Control

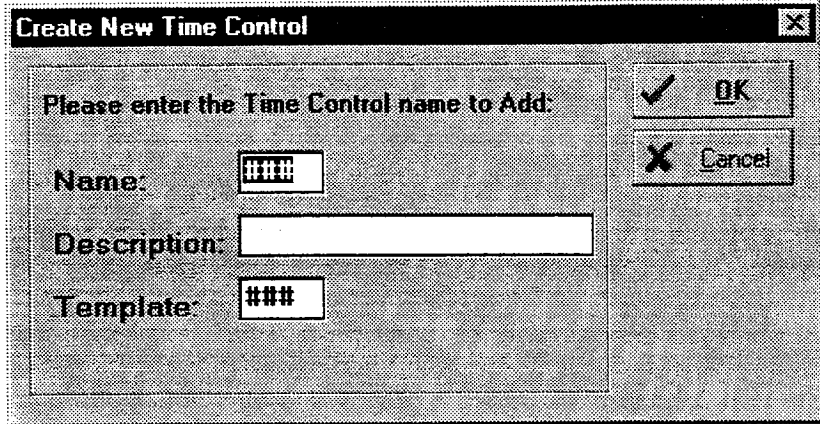
Time controls can be used to route calls, send callers to voice mail, and play menus, among other things (based on time and day settings). Up to 10 separate time periods can be defined within a time control setting, allowing you to make a time control as simple or as complex as you wish. Time Control searches by date, then day, then time. Time Controls can be chained together to allow more than ten day/time options.

The Time Control menu displays time control names and descriptions. To access the Time Controls function, click the Time Control button on the main menu.



At this point, you can choose to edit an existing time control by clicking on it, or by clicking Insert to add a new time control. If you want to delete a time control, highlight it and click Delete.

Insert Time Control:



When creating a new time control, fill in the following fields:

Name:

Indicates a 3-digit numeric name that will be used to reference the new time control. STARPLUS Dispatch™ is preloaded with time controls in the 1XX range. Time controls you create should be between 200-999.

Description:

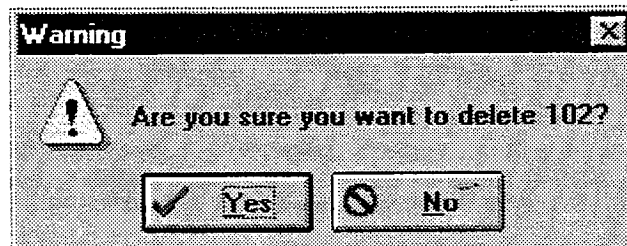
Enter text that describes the time control you are creating.

Template:

Enter the 3-digit numeric code of another time control that the time control you are creating should be based on. For example, if time control 200 exists and you want to create time control 201 similar to 200, then enter 200 as the template time control. You may choose to leave the template field blank.

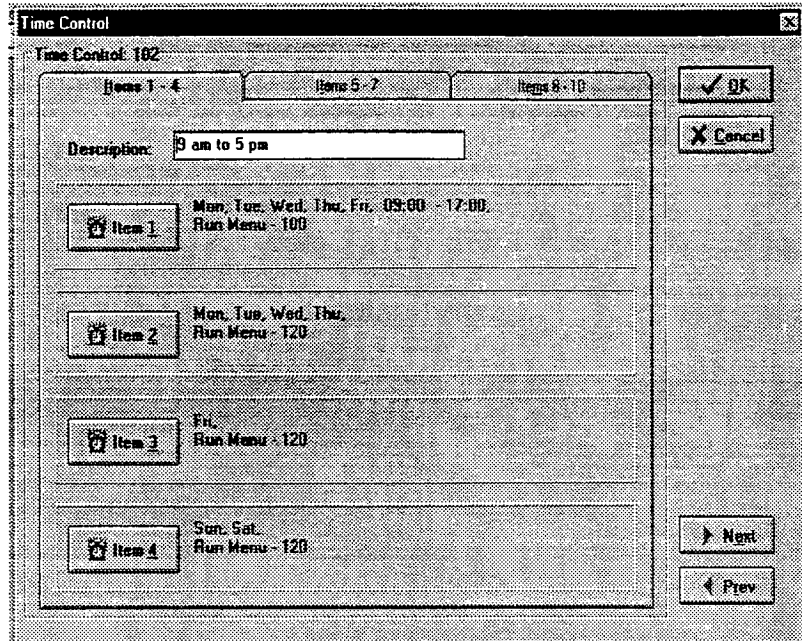
Delete Time Control:

Before you can delete a time control, you will get a warning screen asking if you want to do this. This is illustrated in the following screen.



Edit a Time Control:

Within the Time Control menu, you can click on one of the time controls to see the following screen:

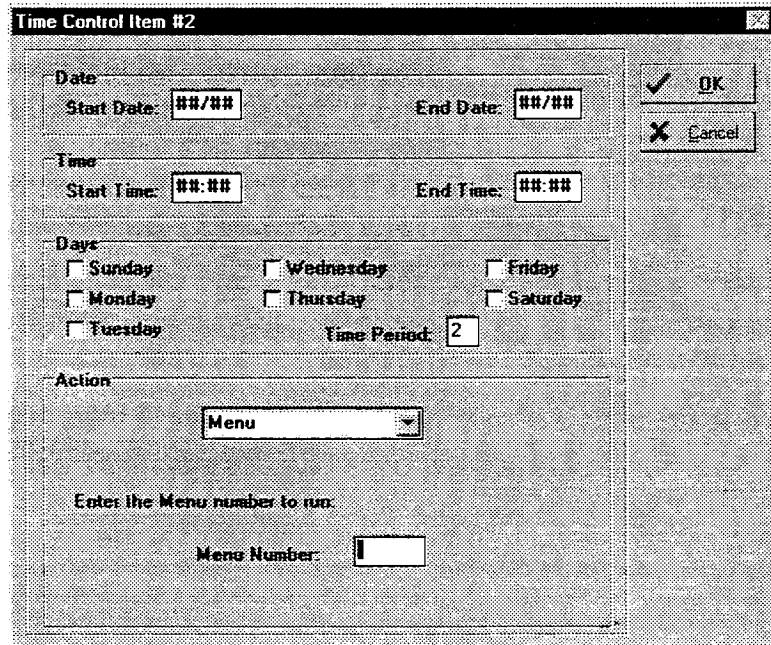


Description:

Enter a description for the time control that will help you remember its purpose.

Items 1-10:

Click on any of the item buttons to define a time control function.



- Date:** Enter a start and end date, using MM/DD date format (01/01 through 12/31), to indicate specific starting and ending dates to which the time control will be applied. Note that when specifying date and time, leaving either field blank means you want the option to apply to ALL dates.
- Time:** Enter a start and end time, using twenty-four hour format (00:00 through 23:59), to indicate the specific times during the day that the time control will be active.
- Days:** Click the checkbox for each day to which the time control item should apply.

NOTES

Make certain all times, days, and dates are covered in order to achieve desirable results.

- Time Period:** Enter a number from 1 to 9 to distinguish different time-related events within a time control. Time period is most often used to control what mailbox greeting will get played when a mailbox is reached. Typically, the system uses 1 for daytime, 2 for evening and 3 for weekend. If in doubt, set Time Period to 1.

NOTES

The 10th field can be used to "chain" time controls together.

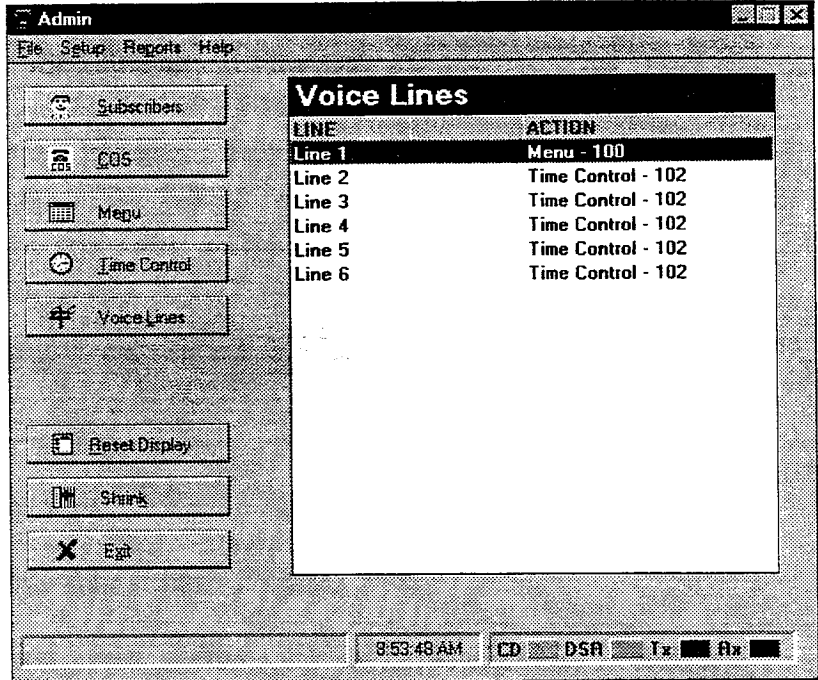
- Action:** Select from the drop-down list to select the specific action to be performed during the indicated dates, days of the week, and hours during the day. For a description of these actions, see Section 600.8, "D. Menu" Actions."
- Mailbox:** Sends the caller to a specific mailbox. If no mailbox is entered, STARPLUS Dispatch™ will prompt the caller for a mailbox number.
- Prompt for Mailbox: Will ask you for the mailbox number.
 - Key is first digit of Mailbox: The first digit of the mailbox that you are trying to access.
 - Goto Mailbox: Goes to a specific mailbox you have defined.

- Extension:** Sends the caller to a specific extension. If no extension is entered, STARPLUS Dispatch™ will prompt the caller for an extension number.
 - Prompt for Extension: Will ask you for the extension number.
 - Key is first digit of Extension: The first digit of the extension that you are trying to access.
 - Goto Extension: Goes to a specific extension you have defined.
 - Menu:** Executes the selected menu. Enter the menu number to run.
 - Run Module:** Runs other modules that STARPLUS Dispatch™ supports.
- NOTES** *Do not perform this function without help from Technical Support.*
- Time Control:** Takes actions as specified in a time control setting. Executes the selected Time Control. Enter the time control to run. See Section 600.8, "E. Time Control" for more information.
 - Command File:** Runs the command file script.
 - Company Directory:** Provides a company directory listing, for mailboxes or extensions.

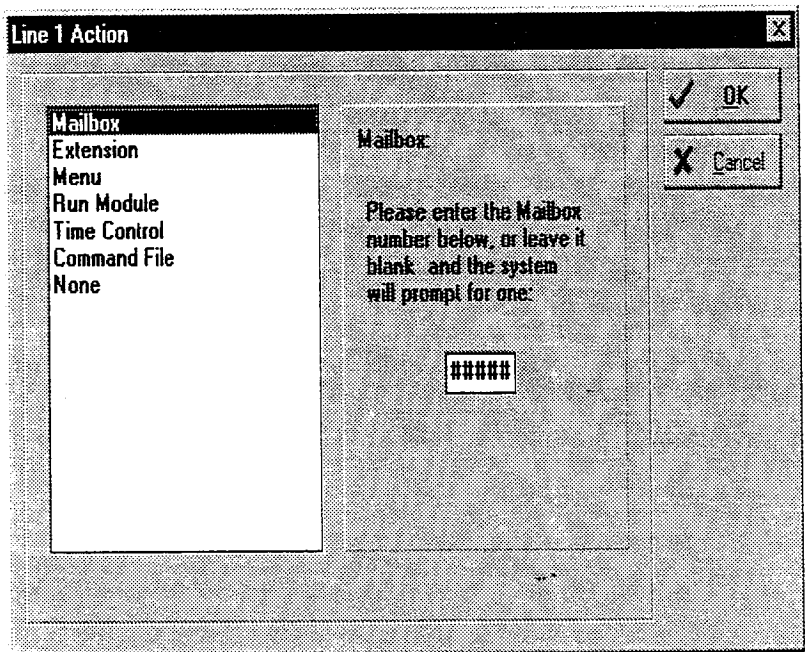
F. Voice Lines

The Voice Lines screen allows you to view voice line actions. The Voice Line action defines how the STARPLUS Dispatch™ answers incoming calls.

LAPTOP ADMIN



Double-clicking on a voice line displays the Edit Line Settings dialog box, where you can specify the actions for the line you selected.



- Mailbox:** Sends the caller to a specific mailbox. If blank, then system will prompt caller. See Section 600.8, "B. Subscribers" for more information.
- Extension:** Sends the caller to a specific extension. If blank, then system will prompt caller. See Section 600.8, "B. Subscribers" for more information.
- Menu:** Executes the selected menu. See Section 600.8, "D. Menu" for more information.
- Run Module:** Enter a module name to run and any parameters to pass to the module.

NOTES	<i>Do not do this without help from Technical Support.</i>
--------------	---

- Time Control:** Enter a time control to run. See Section 600.8, "E. Time Control" for more information.
- Command File:** Enter a command file to run. See "APPENDIX C COMMAND FILES" for more information.

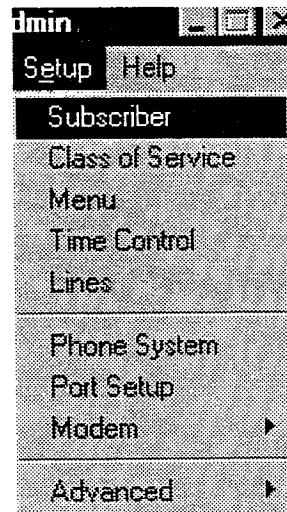
- G. Reset Display** The Reset button clears the main window.
- H. Shrink** The Shrink button brings the laptop administration programming window to its original size.
- I. Exit** The Exit button exits the laptop administration.

**600.9 PULL-DOWN
MENUS**

Menus at the top of the main screen provide access to the functions described below.

**File Menu:**

In general, the only available option under the File menu is Exit, which exits the STARPLUS Dispatch™ administration program. However, if there is a modem connection, the available options are Dial, Hangup, and Exit. See the Setup Modem information earlier in this section for more on these functions.

**Setup Menu:**

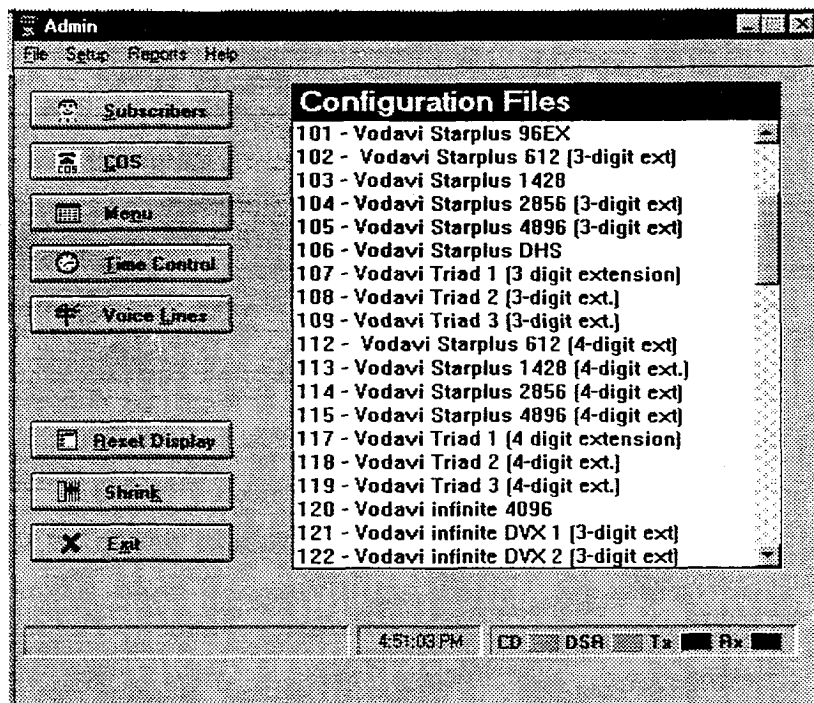
The Setup menu consists of the following options:

- Subscriber
- Class of Service
- Menu
- Time Control
- Lines
- Phone System
- Port Setup
- Modem
- Advanced

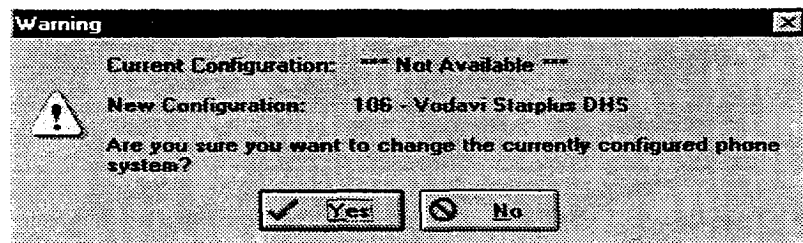
The first five options provide the same functions as the corresponding buttons in the main menu. The other options are described following:

Setup-Phone System:

The Setup Phone System option gives you a list of all available configuration files and their corresponding phone systems.

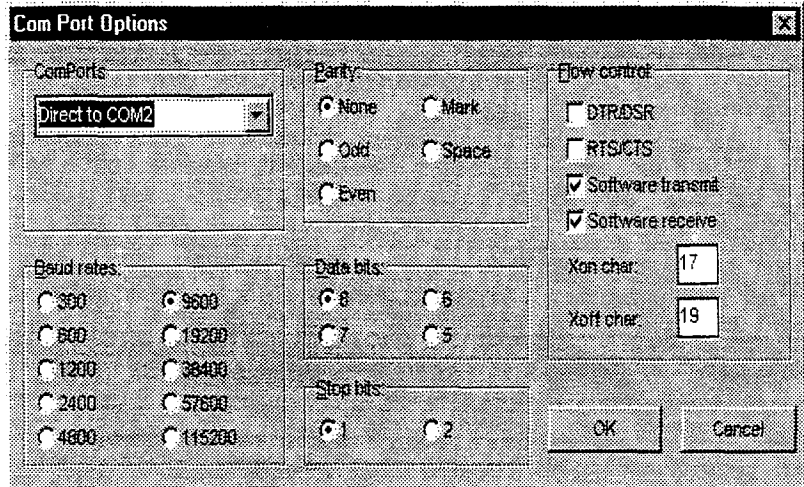


If you double-click on a configuration file, you will see the following screen, which tells you the new and current configuration of your STARPLUS Dispatch™:



After pressing yes, then the STARPLUS Dispatch™ will reboot.

Setup: Port Setup: To configure your STARPLUS Dispatch™ system through laptop administration, select Setup: Port Setup from the main window.

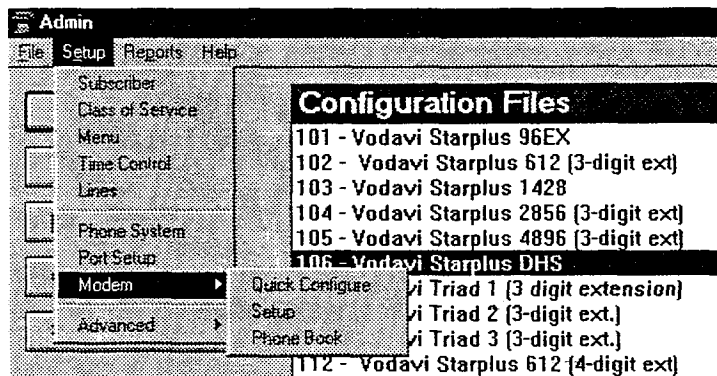


The options shown are the default options. It is recommended that you do not change any of the options other than the main ComPorts option. This option should be set to the ComPort you will be using from your laptop/PC.

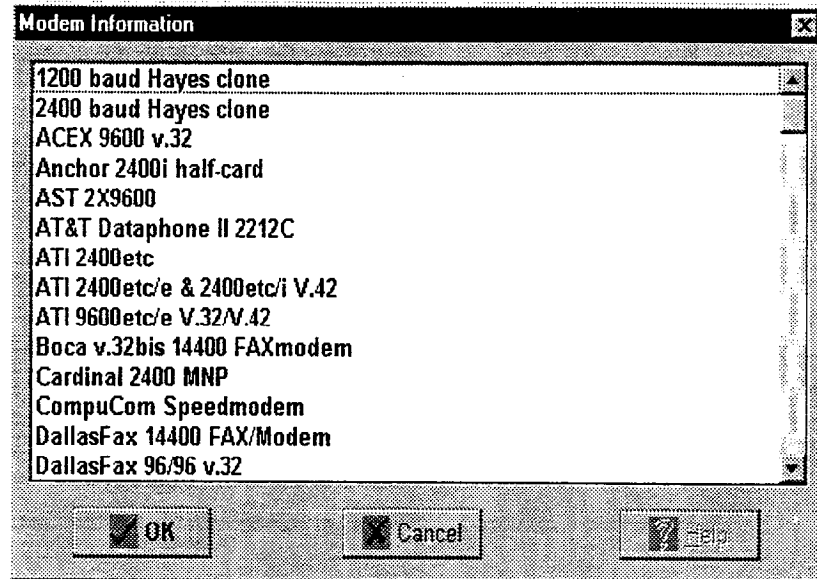
Setup-Modem:

The Setup Modem option contains the following choices:

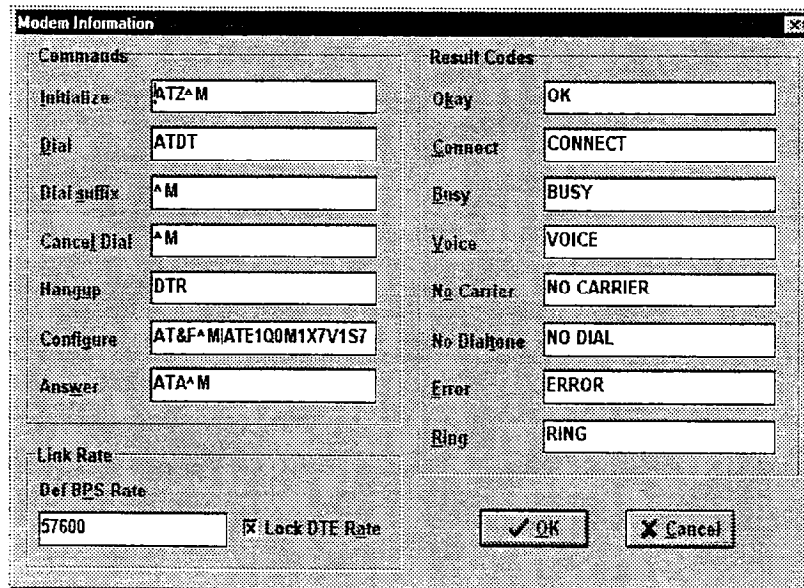
- Quick Configure
- Setup
- Phone Book



The Modem Quick Configure screen allows you to select your modem from a list of other available modems, as shown below.



If you are unable to find your modem in the Modem Quick Configure screen, select Modem Setup. This screen allows you to configure the administration program for your modem.

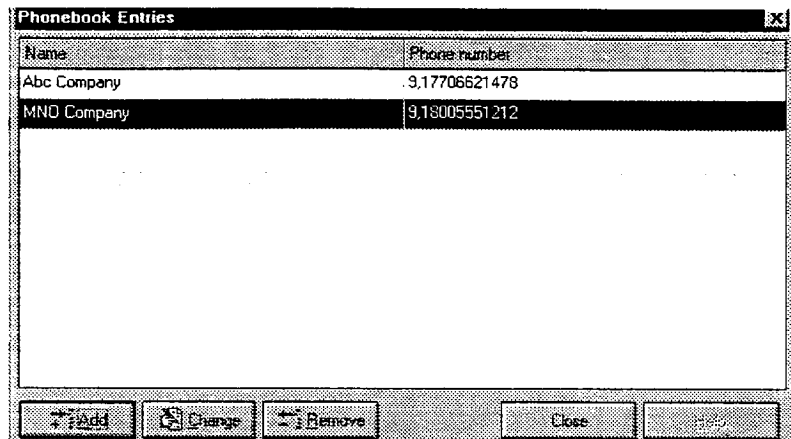


These options should not be changed if you are not familiar with modems. Contact your modem provider if you need help.

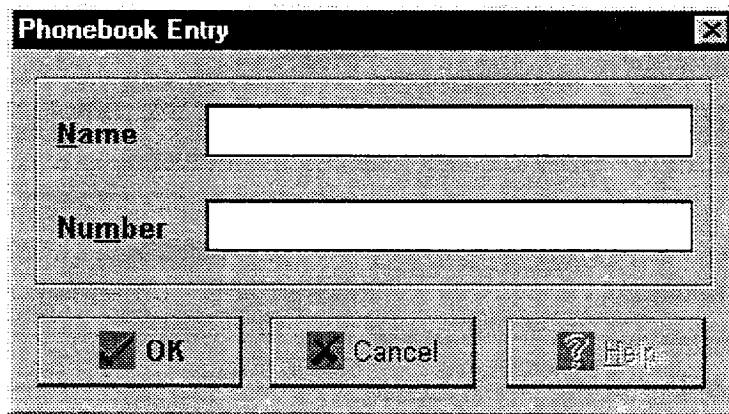
- Commands:** Indicates command strings that are sent to the modem during different stages of the communication process.
- Initialize: The string that initializes the modem.
 - Dial: Indicates the dialing sequence.
 - Dial suffix: Command that follows the dialing sequence. This is necessary because some modems require additional command strings after the dial command. It is recommended that you leave this as ^M, which is the default.
 - Cancel dial: Cancels the dial.
 - Hangup: Hangs up the modem and disconnects the call.
 - Configure: Determines the configuration string for your modem. Refer to the manual that came with your modem to determine the necessary configuration string for your particular modem.
 - Answer: This forces the modem to go off hook and answer the line.
- Result Codes:** Indicates the codes that the administration program expects to see coming from the modem.
- Okay: This is the normal response for a properly executed command.
 - Connect: Code returned when your modem connects to a remote modem.
 - Busy: Indicates that the remote modem is busy.
 - Voice: Indicates someone picked up the phone line and attempted to speak into it.
 - No Carrier: This happens when (whether intentionally or unintentionally) the connection with the remote system is interrupted.
 - No Dialtone: Indicates that the modem went off hook, but did not receive a dialtone.
 - Error: Signals that the modem detected an error.
 - Ring: Indicates that an incoming call has been detected by the modem.
- At the bottom of the Modem Setup screen is Link Rate information.
- Link Rate: The default communication rate between the two systems.

- Lock DTE Rate: Forces the baud rate to remain the same. It is recommended that you leave the baud rate at its default of 9600.

The Modem Phonebook screen allows you to edit phonebook entries. The advantage of the Phonebook is that when you are administering one or more voice mail systems, you can conveniently store their phone numbers in the phonebook.



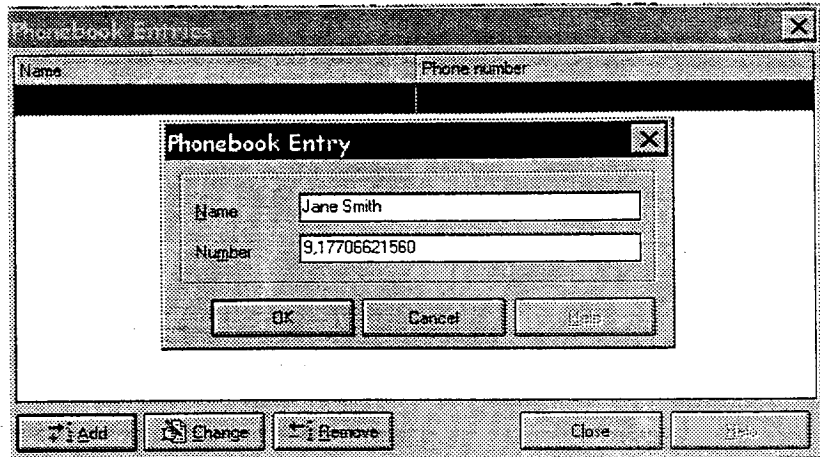
Adding a modem phonebook entry brings up the following screen.



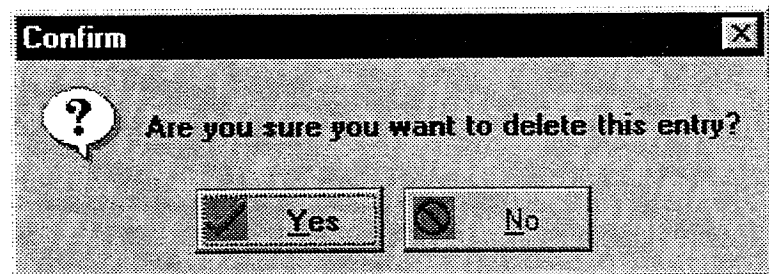
Name: Enter a name that reminds you of what number this represents.

Number: The telephone number to dial at the site.

Changing a modem phonebook entry brings up the following screen. This screen allows you to edit the phonebook entry.



Removing a modem phonebook entry brings up the following warning screen, asking you to confirm you want to delete the entry.



Setup-Advanced:

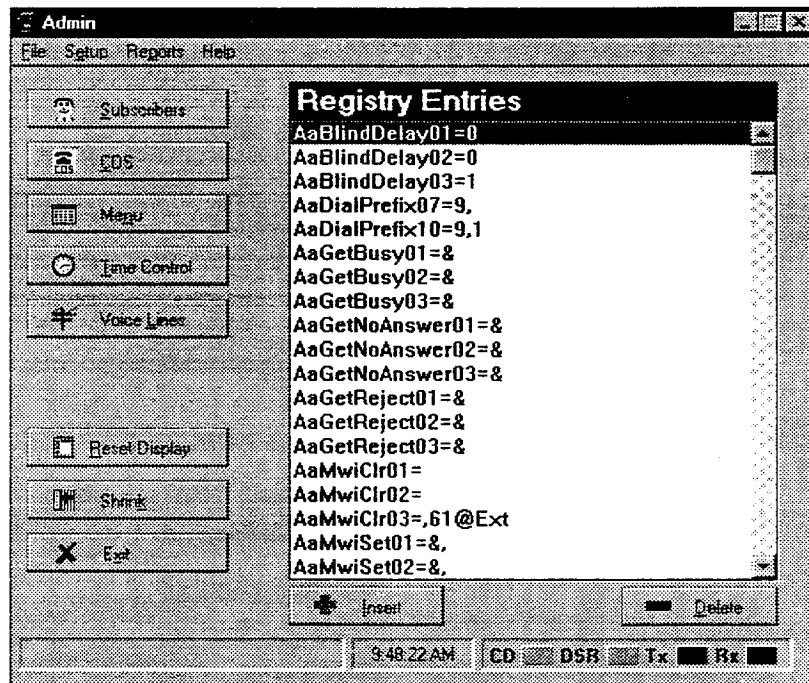
The Setup Advanced option allows for the following alternatives:

- Edit Registry
- System Settings
- Set Unit Date and Time
- PBX Config Message On
- Shutdown

Setup-Advanced:

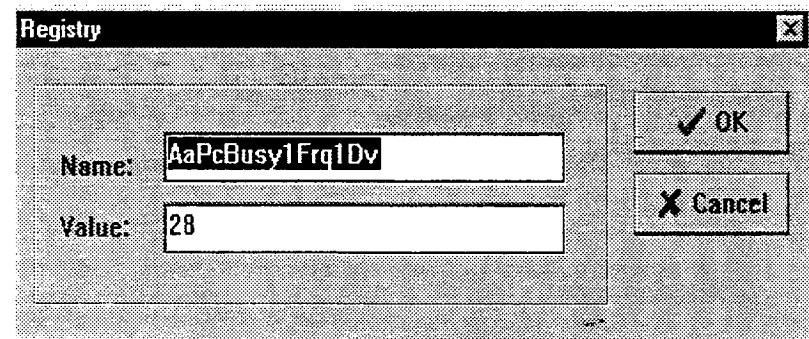
Edit Registry:

The registry contains system variables that control the behavior of the STARPLUS Dispatch™ system. Normally, you should not change these values. If a change needs to be made, call Vodavi Communications Systems' Technical Support department for assistance. Refer to "APPENDIX B COMMON REGISTRY VARIABLES".



NOTES *Improper changes to Registry items can cause your system to behave erratically.*

In the Edit Registry screen, you can change the names and values of each registry entry by double-clicking an entry.



Setup-Advanced:
System Settings:

SystemSettings

System Caching

System Updates take effect Immediately

*** Note: This option tends to slow down the voice mail system. Set it before changing things like Mailboxes and COSs and clear it when you have finished.

Fax Detect

Fax Detect Active

Fax Transfer Prefix:

Fax Phone Number:

Operator

Operator:

System Caching:

Under System Caching, if you check "System Updates Take Effect Immediately," any change made to a menu, mailbox, COS, etc., will take effect immediately. The disadvantage is that this option slows down the system. Unchecking this option requires a system reboot for changes to take effect.

NOTES

Set caching to "ON" when initially configuring the system. When initial configuration is complete, turn caching "OFF".

Fax Detect:

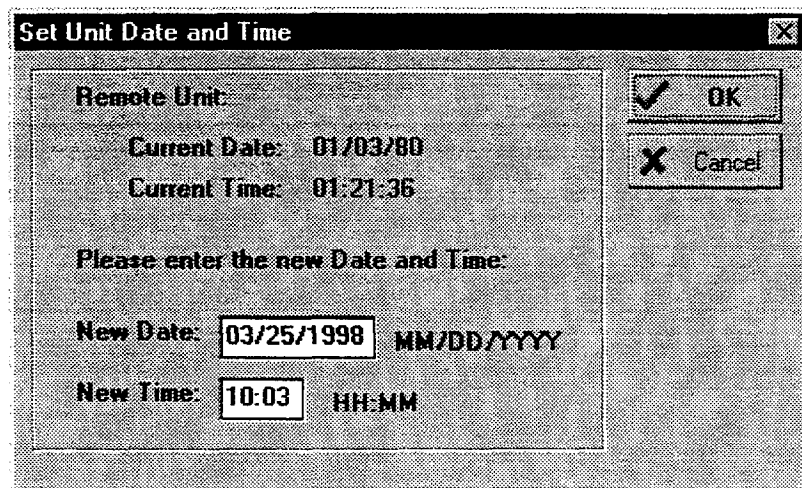
The **Fax Transfer Prefix** field indicates what you must dial before transferring the caller to a fax device. When a line is configured to run a menu and a call comes in from a fax machine, the unit will automatically route the call to the number specified in the **Fax Phone Number** field.

Operator:

This is the global default operator for all operator functions. This is the dial sequence sent to the phone system to reach the Operator [0]. In most situations, this is the sequence dialed when the caller dials [0].

Set Unit Date and Time:

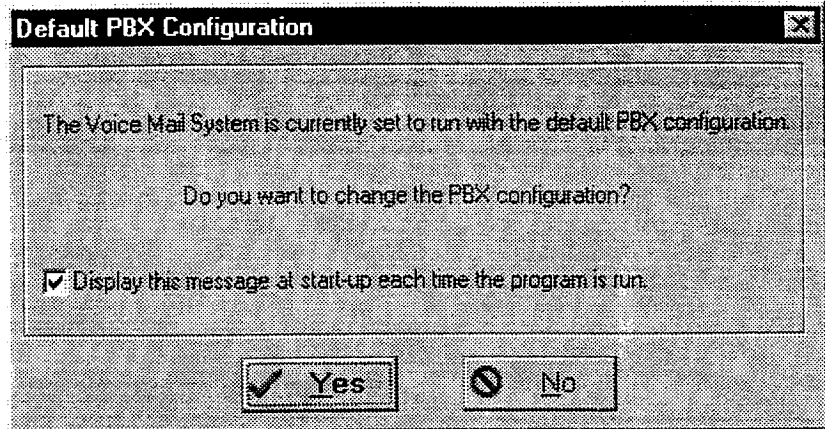
This option sets STARPLUS Dispatch™'s date and time.



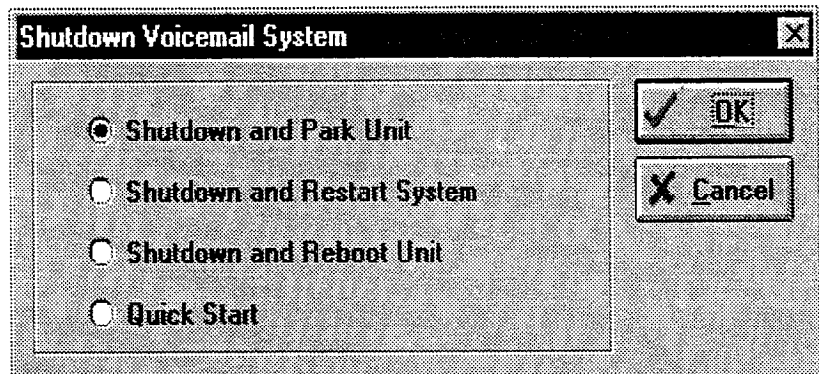
PBX Config Message On:

If the STARPLUS Dispatch™ system is not configured to a PBX, or if it is configured to a default PBX, then the Default PBX Configuration screen appears as shown below.

Unchecking the option "Display this message at start-up each time the program is run," prevents the Default PBX Configuration screen from appearing in the future. Selecting Setup, Advanced, PBX Config Message On from the Setup pull-down menu brings this screen back.

**Setup-Advanced:****SHUTDOWN MENU:**

The Shutdown menu gives you various options for shutting down the STARPLUS Dispatch™ system.

**Shutdown and Park Unit:**

Shuts down the voice mail unit and does not bring it up again. You must remove the power supply to restart.

Shutdown and Restart System:

Brings the voice mail unit down and executes a verification-checking of configuration information (without rebooting the system).

Shutdown and Reboot Unit:

Brings the voice mail unit down and then reboots the system.

Quick Start:

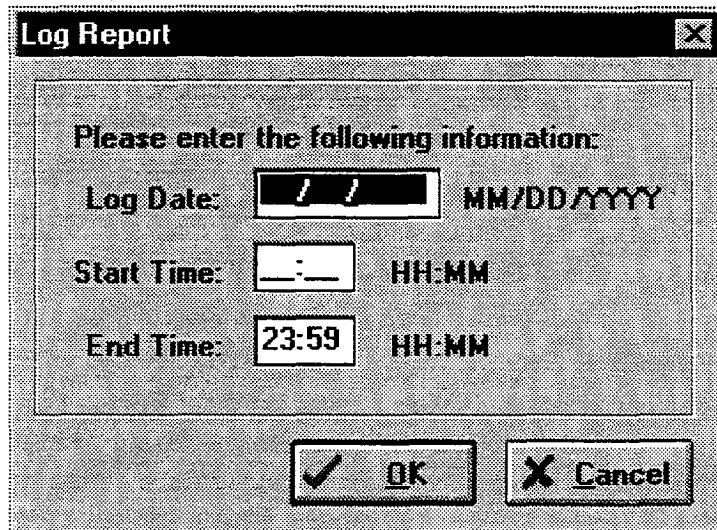
Initiates a quick shutdown and startup without any internal configuration verification.

REPORTS MENU:

The Reports menu allows you to view system logs. To get to this pull-down menu, you must first select an option from the main administration menu (Subscribers, COS, Menus, etc.).

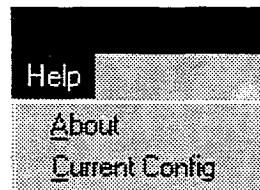


In the Reports menu, the only available option is the Logs option. This allows you to enter the log date and start and end times for your report.

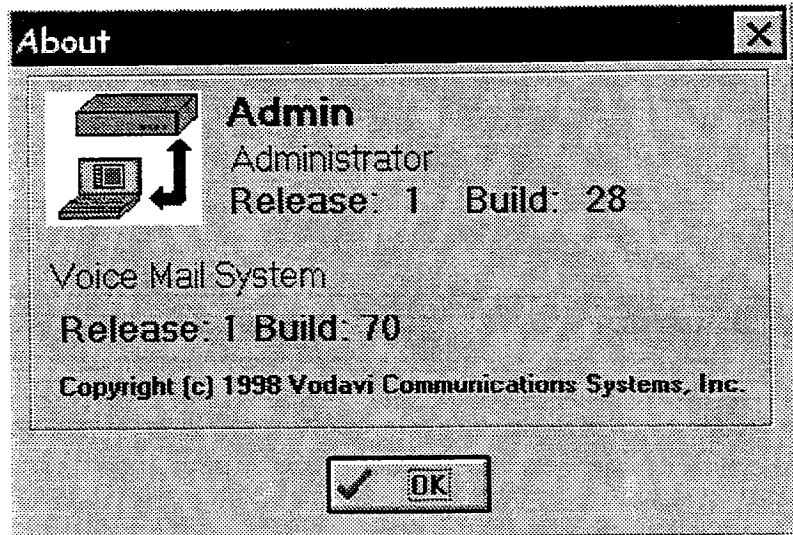


HELP MENU:

The Help menu contains two options: About and Current Configuration.



The Help, About option tells you the administration software and voice mail system versions of your STARPLUS Dispatch™ product. The following is the screen you will see when you select this option.



The Help, Current Config option gives you information on the configuration file currently selected. This screen is displayed following.

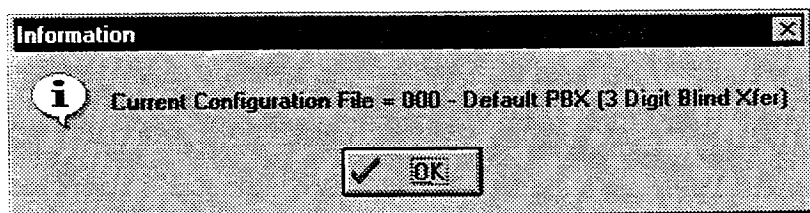
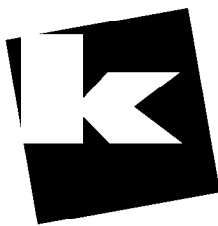


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700.1	UPGRADING PORTS	700-1
	A. Hardware Installation	700-1
	B. Software Installation	700-4
700.2	GENERIC UPGRADING INFORMATION	700-5

UPGRADING



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SECTION 700 UPGRADING

700.1 UPGRADING PORTS

These instructions are for upgrading the number of ports on a voice mail unit. You must first purchase a port upgrade kit from Vodavi before proceeding.

The instructions are separated into two sections: hardware and software. The software section must be executed for all upgrades. The hardware section is only required when moving from 2 to 6, 2 to 8, 4 to 6 or 4 to 8 ports. If you are upgrading from 2 to 4 or 6 to 8 ports, you may skip directly to the Software Installation section. The Software Installation section immediately follows the Hardware Installation section.

A. Hardware Installation

When upgrading from 2 to 6, 2 to 8, 4 to 6 or 4 to 8 ports, hardware must be added to the voice mail system.

Tools Required:

- Phillips #1 or 2 screw driver
- Nut driver (for ¼" hex standoff)
- Static control wrist strap. For example: Desco #9070 or Ideal "Stat Gard" #61-038 kit.

Parts included in the hardware kit are shown in the following table:

Table 700-1: Hardware Kit Parts

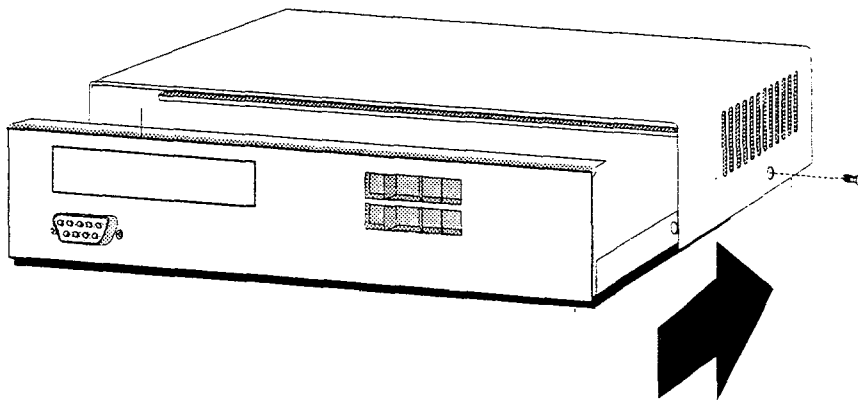
Item	Part	Quantity
1	4 port Upgrade Line Card	1
2	Ribbon cable	1
3	¼" Hexagonal, male/female threaded standoff, ¾" long	2
4	#6 x 32 Phillips screw, 1 ¼" long	2
5	Tubular plastic spacer	2

Prepare unit:

1. Shut down and park the voice mail system using either the Windows Admin program or the telephony interface.
2. Disconnect power to the system.
3. Disconnect all phone lines from voice mail ports.
4. Remove unit from wall by lifting off the mounting screws (if wall mounted).
5. Place unit on sturdy flat surface, preferably on a static dissipating surface such as a properly grounded anti-static mat.

Access Line Card Mounting and Install Card:

1. It is highly recommended to use anti-static precautions, such as a static-dissipating wrist strap (see "Tools Required," above), before opening the upgrade kit and whenever the voice mail unit is open. This point cannot be overstressed. This unit and the hardware upgrade kit contain static-sensitive components. **These components MUST receive adequate protection from electro-static discharge.**
2. Remove top cover - unscrew the (4) four screws, 2 on each of the bottom side edges of the unit. Slide the cover off towards the end with the LED lights.



3. Locate the line card (where the RJ-11 connectors are for the phone lines).
4. Remove the (4) four screws that hold the line card down to the L-bracket mounting plate (it is not necessary to remove the mounting plate). Two of the screws are long, and two are short. Set the shorter two screws aside for use below.

5. Remove the two screws holding the back plate above the lower line card, if installed.
6. Insert two 3/4" standoffs in the two holes nearest the RJ-11 (replacing the shorter two screws), and tighten.
7. Assemble the 4-port Upgrade Line Card on top of the existing Line Card as follows:
 - Pass the long screws through the Upgrade card, and slide the plastic tubular spacers over them.
 - Place this assembly on top of the other Line Card, so the long screws drop into the rear two holes. The front two holes should line up over the hexagonal standoffs you just inserted in step 6 above. Insert the two short screws (from step 4 above) into the standoff.
8. Tighten all four screws.
9. Install the Ribbon cable between the Upgrade Line Card and the unit's motherboard, using the one on the other (existing) Line Card as an example.

Re-assemble chassis:

1. Slide the cover back on. It is easiest to slide the cover on a flat surface. Make sure both edges on the base slide into the grooves on the lid. You can tell where the lid and base meet by looking at the front bottom edge and the rear top edge. It will be difficult to install the screws if the cover is not on properly. Insert the four #8 screws into chassis sides and tighten.
2. Replace the unit to its original mounting or location. Reconnect the RJ-11 ports to lines from the PBX, and power-up the unit.
3. When the system boots, the new ports will not be available until the software upgrade has been performed.

B. Software Installation

For all upgrades, the software must be loaded to activate the ports. The necessary software is found on a 3.5" floppy disk that was included in the upgrade kit. Follow these instructions to upgrade the software:

Requirements:

- Laptop or PC running Windows 3.1 or higher with floppy disk drive and an available serial port and null modem cable (or straight through serial cable with attached null modem device)
- Admin software loaded on the laptop or PC.
- Ecom or ProComm software loaded on the laptop (Note: remaining instructions assume that Ecom will be the software used to complete the upgrade)
- Port upgrade floppy diskette

Steps:

1. Connect your laptop to the voice mail system.
2. Start the Windows Admin program.
3. Select Help, About. If the existing version of software on the voice mail system is "Voice Mail System Release: 1 Build: 68" or greater, you may proceed to step 4 below. **If NOT, a slightly different method of doing the software upgrade will be required. Contact Technical Support before proceeding any further.**
4. Shut down and park the voice mail by selecting Setup, Advanced, Shutdown. Then select "Shutdown and Park Unit". Exit the Admin program.
5. Insert the Port Upgrade disk into the laptop's floppy drive.
6. Start Ecom on the laptop and assure that you are connected to the voice mail unit. See section 800.5 of this manual for more information.
7. Using Ecom, type in the following DOS commands followed by pressing Enter:

```
CD\  
ZMR [Enter]
```

8. Use Ecom to send the two files located on the floppy (NEWKEY.KEY and PORTUP.BAT) by pressing the PgUp key. Select Zmodem transfer. Browse for the A: drive and select both files. Start the upload to the voice mail system. See Section "800.5 ECOM", "F. Upload" for more information on file uploading.
9. After a successful upload, execute the following DOS commands on the system:

```
PORTUP [Enter]
REBOOT [Enter]
```

10. As the system reboots, the new ports will be activated (the LEDs for active ports will all be solidly lit upon completion of the reboot).

NOTES

If any other LED's remain lit, please refer to "SECTION 800 TECHNICAL/TROUBLE-SHOOTING"

Test calls should be placed to all ports to verify that the entire upgrade process was completed successfully. If any problems are noted at this point, please refer to "SECTION 800 TECHNICAL/TROUBLE-SHOOTING" or contact Technical Support for assistance.

NOTES

All Ports will return to their default configuration, and you will need to reconfigure the Ports to their original setting prior to placing the Test Calls.

700.2 **GENERIC
UPGRADING
INFORMATION**

The following are instructions on how to upgrade the self-contained analog voice mail unit.

NOTES

The disketter that you received from Vodavi Communications contains a file for upgrading. Any reference in the following section to xxxxxxxx.zip refers to the file on the diskette.

If you need to download the files from the Internet, follow the instructions below:

1. Create a directory on your hard drive called "UPDATE".
2. Download xxxxxxxx.zip to the UPDATE directory.
3. Connect the voice mail unit to your laptop/PC.
4. Access the voice mail unit via ECOM.
5. Click the Send button next to the "+DIE0".
6. At the "c:\HELLO>" prompt type "CD\" and press ENTER.
7. Type "ZMR" and press ENTER.
8. Choose File ->Upload ->OK.
9. Choose ZModem and press OK.
10. Double-click the UPDATES directory.
11. Highlight xxxxxxxx.zip and click Add.
12. Click OK.
13. You will see a screen that will show you the upload status of the files. When the upload is complete, the system will return to the c:\ prompt.
14. At the "C:\>" prompt type "pkunzip -d xxxxxxxx" and press ENTER.
15. When the system asks you if you want to overwrite files, type "Y" each time it asks.
16. Type "REBOOT" and press ENTER.
17. The system will shut down and the upgrade will be complete.
18. You can now exit ECom.

If you got the files on a diskette from Vodavi Communications, follow the instructions below.

1. Place the diskette you received in the disk drive of your laptop or PC.
2. Connect the voice mail unit to your laptop or PC.
3. Access the voice mail unit via ECOM.
4. Click the Send button next to the "+DIE0".
5. At the "c:\HELLO>" prompt type "CD\" and press ENTER.
6. Type "ZMR" and press ENTER.
7. Choose File ->Upload ->OK.
8. Choose ZModem and press OK.
9. Double-click the UPDATES directory.
10. Highlight xxxxxxxx.zip and click Add.

11. Click OK.
12. You will see a screen that will show you the upload status of the files. When the upload is complete, then the system will return to the c:\ prompt.
13. At the "C:\>" prompt type "pkunzip -d xxxxxxxx" and press ENTER.
14. When the system asks you if you want to overwrite files, type "Y" each time it asks.
15. Type "REBOOT" and press ENTER.
16. The system will shut down and the upgrade will be complete.
17. You can now exit ECom.

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**TROUBLE-
SHOOTING**



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SECTION 800 TECHNICAL/TROUBLESHOOTING

800.1 OVERVIEW

This section gives technical information on how to diagnose problems that could occur on the STARPLUS Dispatch™ system. The information in this section is highly technical, and unless the procedures are performed as instructed, the system may fail to operate. A good working knowledge of DOS and PC-based systems is essential.

800.2 LED SEQUENCES

LED Sequence:

- . = off
- o = low intensity
- O = high intensity
- * = blinking

Normal LED Boot Sequence:

LED 1234 5678	Description	If system does not progress...
???? ????	Boot-up checking – see below	Cables disconnected. Memory SIMM loose.
O... ..	Checking hard-drive and other system resources	Hard drive problem. Boot with Ecom to view errors.
.O.. ..	Configuring system	File problem. Re-index databases
..O.	Setting modem	
...O	Starting the voice processing	Key file missing. Invalid number of ports. Configuration files not valid.
OO..	2 port system ready to answer	System ready
OOOO	4 port system ready to answer	System ready
OOOO OO..	6 port system ready to answer	System ready
OOOO OOOO	8 port system ready to answer	System ready
O*OO	4 port system, port 2 active	System working
.... O...	System parked.	Power unit on and off to restart

Normal LED Boot Sequence: *(Continued)*

.... .0.. System re-booting. Wait for re-boot

Other Error Conditions:

LED 1234 5678	Description	Diagnose
No Lights	System not booting.	BIOS failure, BIOS chip loose. Open unit and reconnect.
0... 0.0.	No memory found.	Memory SIMM loose, disconnected or failed. Open unit and reconnect.
00.0 0.0. 20 seconds 0.00 0 0	No boot-able device.	Hard drive data or power cable disconnected. Hard drive failure. Open unit and reconnect.
00.0 0000	System not booting.	Hard drive not connected to the motherboard. Open unit and reconnect.
0... 0.0.	Memory SIMM is disconnected.	Open unit and reseal the memory SIMM.

**800.3 LOOKING AT
BOOT-UP**

Once power is re-applied to STARPLUS Dispatch™, you will see a PC boot-up screen like the one below:

```
General Software 80386 Embedded BIOS (tm)
Version 4.0
Copyright (C) 1992-1997 General Software, Inc.
Connected Systems Dolphin
```

```
16000 KB OK
```

```
Hit ^C if you want to run SETUP.
```

```
(C) 1996 General Software, Inc.
80386-4.0-01F3-FA4E
```

Next you will see the system CMOS BIOS configuration screen:

```
-----
| SYSTEM BIOS CONFIGURATION, (C) 1996 GENERAL SOFTWARE, INC. |
|-----|
| System CPU :      80386          | Low Memory          : 703KB |
| Coprocessor :    Disabled        | Extended Memory     : 15296KB |
| Drive A: Type :  RFD Disk(n/a)   | Drive C: Type       : 49    |
| Drive B: Type :  Not installed    | Drive D: Type       : 0     |
| System Video :  Auto              | Serial Ports       : 03F8   |
| ROM Shadowing : Enabled          | Parallel Ports     :       |
| Embedded BIOS Version: 3.0IDE    | Manufacturing Mode  : 03F8 / 19K |
|-----|
```

Starting PC DOS...

Then the system will boot:

HIMEM: DOS XMS Driver, Version 3.15 - 05/30/94
 Extended Memory Specification (XMS) Version 3.0
 Copyright (C) IBM Corp. 1988, 1994

Installed A20 handler number 2.
 64K High Memory Area is available.

IBM Expanded Memory Manager 386 Version 4.50
 Copyright (c) IBM Corp. 1986, 1994

EMM386 successfully installed.

```

Available expanded memory . . . . .15232 KB

LIM/EMS version . . . . . 4.0
Total expanded memory pages . . . . . 980
Available expanded memory pages . . . . . 952
Total handles . . . . . 64
Active handles . . . . . 1
Page frame segment . . . . . E000 H

Total upper memory available . . . . . 95 KB
Largest Upper Memory Block available . . 95 KB
Upper memory starting address . . . . . C800 H
    
```

EMM386 Active.

Dolphin Advanced Power Management V2.0.
 System APM support detected and initialized

```

C:\>set PATH=C:\;C:\DOS;C:\HELLO\SYSTEM;C:\UTILS
C:\>set VSICFG=0xC000 0x310 10 C D
C:\>set TEMP=C:\TEMP
C:\>lights ff3f 0
C:\>smartdrv /X
C:\>echo y|chkdsk /f
Volume Serial Number is 0858-1603
    
```

```

1,081,540,608 bytes total disk space
   131,072 bytes in 2 hidden files
   5,636,096 bytes in 172 directories
   54,198,272 bytes in 609 user files
1,021,575,168 bytes available on disk
    
```

```

   32,768 bytes in each allocation unit
   33,006 total allocation units on disk
   31,176 available allocation units on disk
    
```

720,896 total bytes memory
666,976 bytes free

```
C:\>cd \HELLO\DSP
C:\HELLO\DSP>loaddsp -v
```

```
LOADDSP DSP Image Loader Version 1.6 08/Apr/97
(C)opyright 1997 Santa Barbara Connected Systems Corp. All Rights Re-
served.
```

```
Hardware Interrupt 10
IO base address 310
Memory Segment c000
```

```
C:\HELLO\DSP>cd \HELLO
C:\HELLO>VMRUN
Configuring system...
Modem to auto-answer...
AT
AT S0=1 Q1
Loading voice engine...
AT
+OK
```

800.4 BOOT-UP PROBLEMS

Q: All lights on the system come on and the system appears to boot normally, but calls are not being answered.

A: The cable from the motherboard to the voice card(s) is not connected. Open up the voice mail unit and reconnect the voice cards to the motherboard.

Q: The system boots properly and the batteries are installed. When the power is removed and then re-applied, the date and time are not maintained.

A: Check the status of the batteries. Make sure they are seated properly and are charged. Also, open the unit and make certain the battery connection is tight via JP10.

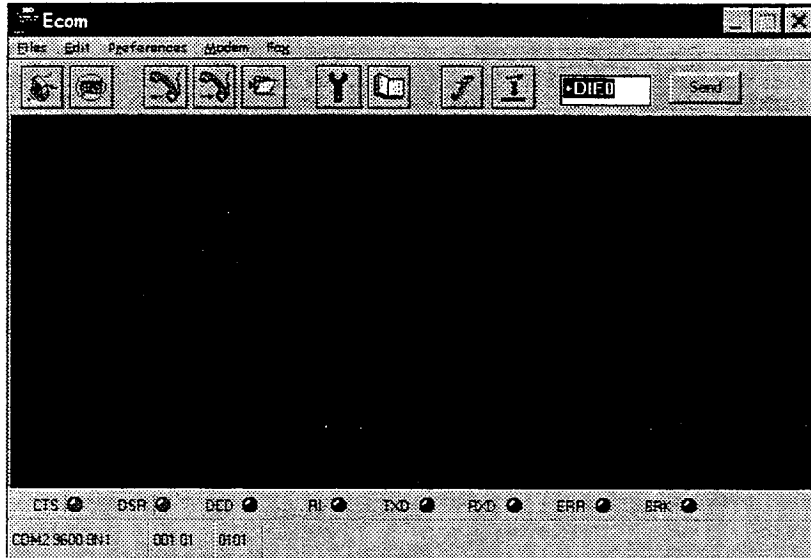
800.5 ECOM

ECom is the communications program shipped on the Laptop Administration diskette. ECom is a 16-bit Windows program that communicates directly with the STARPLUS Dispatch™ and allows access to DOS functions as well as debugging information.

It is suggested that you use the supplied ECom application, because Ecom supports the transferring of files between the STARPLUS Dispatch™ system and the PC via the ZModem protocol.

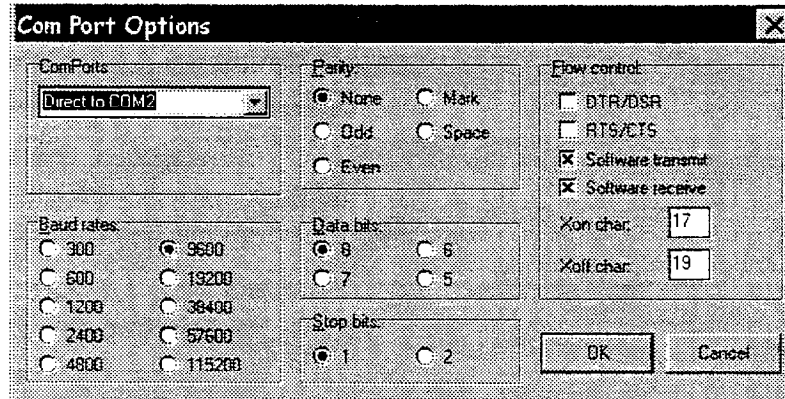
NOTES *Anytime you access the system via ECom, the Laptop Admin must be shut down.*

The following screen illustrates what ECom looks like:



A. Com Port Options

Press ALT+P in your ECom screen to access the Com Port Options screen. You will see the following screen:



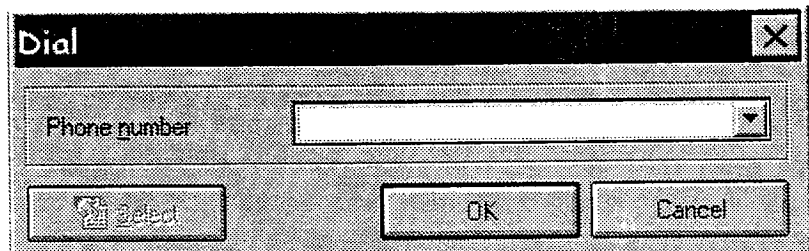
The default communications port options are as follows:

- **Com Ports:** Defines the Com Port you are connecting to on your Laptop/PC. There may be many options, but choose the Com Port that you will be using.
- **Baud Rates:** The default is 9600. The baud rate defined here must match the BaudRate setting in your Registry.
- **Parity:** The default is None.
- **Data Bits:** The default is 8.
- **Stop Bits:** The default is 1.
- **Flow Control:** Software Transmit and Software Receive must be checked. XOn Char should be 17 and XOff Char should be 19.

B. Modem Connection

The modem connection via ECom works the same way whether the modem is connected or you have a direct connection to the STARPLUS Dispatch™.

To access modem features, press ALT+D. Then the modem dial screen will appear.

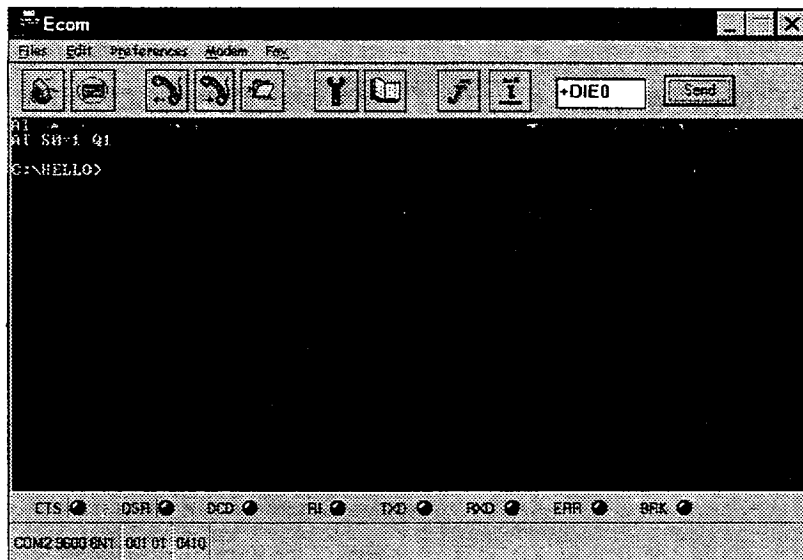


Once the modems have connected, all features described in this section are supported. There is a phone book, similar to the phone book for the Laptop Administration software, in which you can enter a name and telephone number of the remote site and save this information.

C. Shut Down and Park

The voice mail system must be shut down and parked in order to access any DOS or debugging functions. You can shut down and park the system in any one of three ways:

1. Access the Online Administration program by getting into a mailbox and accessing supervisor functions, then press [8], [3], [1] to shut down and park the system. Start ECom and press ENTER a few times until the C:\HELLO prompt comes up.
2. Via the laptop administration program choose Setup, Advanced, Shutdown, and Shutdown and Park unit. Exit the Laptop Admin module. Start ECom and press ENTER a few times until the C:\HELLO prompt comes up.
3. Via the ECom program connect to the STARPLUS Dispatch™. Press the "Send" button next to "+DIE0" and the system will bring you to the C:\HELLO prompt.

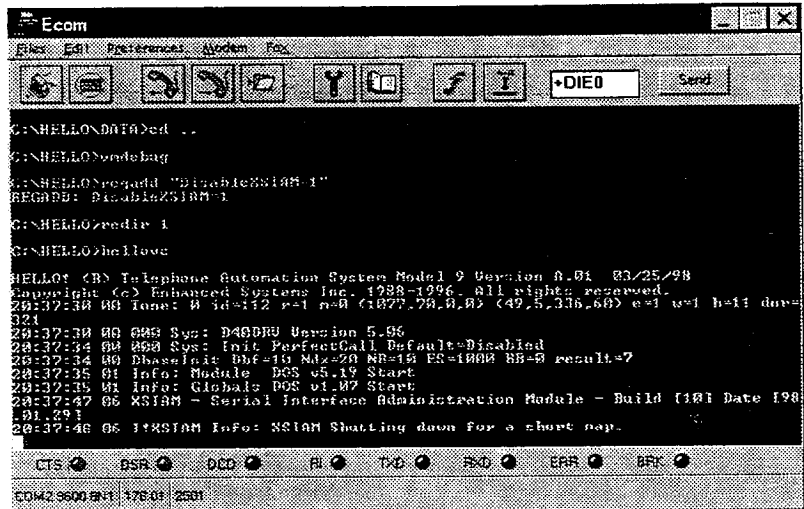


You will have access to all DOS functions including directory and type commands.

NOTES	<i>If you shut down and park the voice mail system the connection via modem will be dropped and you will have to recall into the system for access.</i>
--------------	---

D. Debug Mode

From the DOS prompt you have the ability to bring the voice mail system up in a "debug" mode. See Section 800.12 for more information on voice mail debugging. If you type VMDEBUG at the C:\HELLO prompt and press ENTER the system will come up in a communicative mode. The following screen shows how the voice mail will look when the system is ready to take calls in its "non-stealth" mode.



TROUBLESHOOTING

Note that the system gives the log line "!XSIAM Info: XSIAM Shutting down for a short nap". The system is now ready to take voice mail calls. Logging information will be displayed in the ECom screen as well as written to the logs.

To exit Debugging mode, press [3] at the ECom screen. The voice mail system will again be parked. To restart the voice mail system, type REBOOT and the system will reboot. It is then safe to exit the ECom program.

If you would like more logging information in the unit, you can add a registry parameter "ModuleDebug". ModuleDebug will take several parameters, and you can mix and match them as shown in the following table:

Table 800-1: ModuleDebug Parameters

Basic Foundation	H!	Voice Mail	Vm
Auto Attendant	Aa	Menus...	Mn
Voice Mail Owner	Vo	Directory	Di

Table 800-1: ModuleDebug Parameters

Events	Ev	Message Manager	Mm
Time Control	Tc	Integration	In

For example, if you wanted to see if your menus and time controls were configured correctly, you would go into the Admin module and insert the ModuleDebug name with a value of TcMn. You could also access the system via ECom and at the DOS prompt type REGADD "ModuleDebug=MmTc".

Module debugging must be turned off when troubleshooting is complete. To turn off Module debug, type "ModuleDebug="

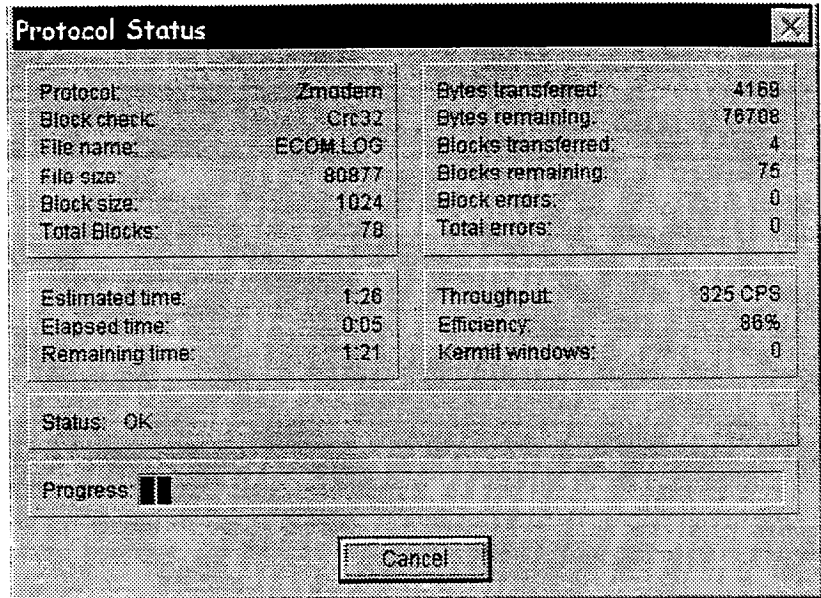
E. Download

You can upload and download files to the STARPLUS Dispatch™ in ECom. To download or send a file from the STARPLUS Dispatch™ to your laptop/PC, do the following:

1. Make certain your STARPLUS Dispatch™ is shut down and parked.
2. From the C:\HELLO prompt, type "ZMS <filename>" and press ENTER.

NOTES *If the file you want to download is not in the C:\HELLO directory, please move to the correct directory to type the "ZMS" command.*

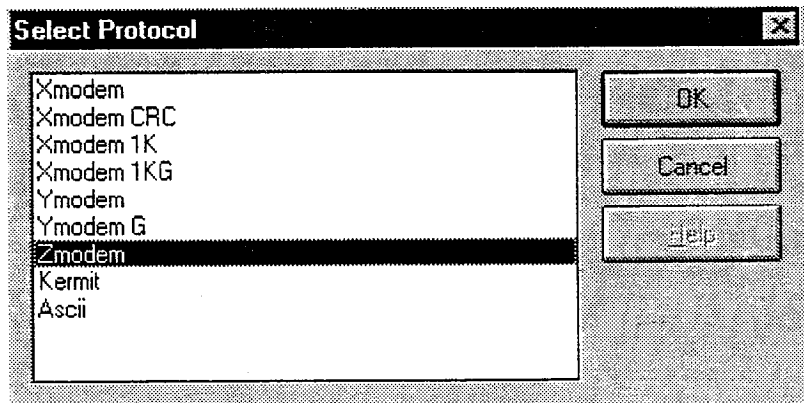
3. The system will then give you a status screen (as shown below).
4. When the download is complete, then the system will return to the C:\HELLO prompt.
5. You will find the file in the C:\Admin directory of your local hard drive.



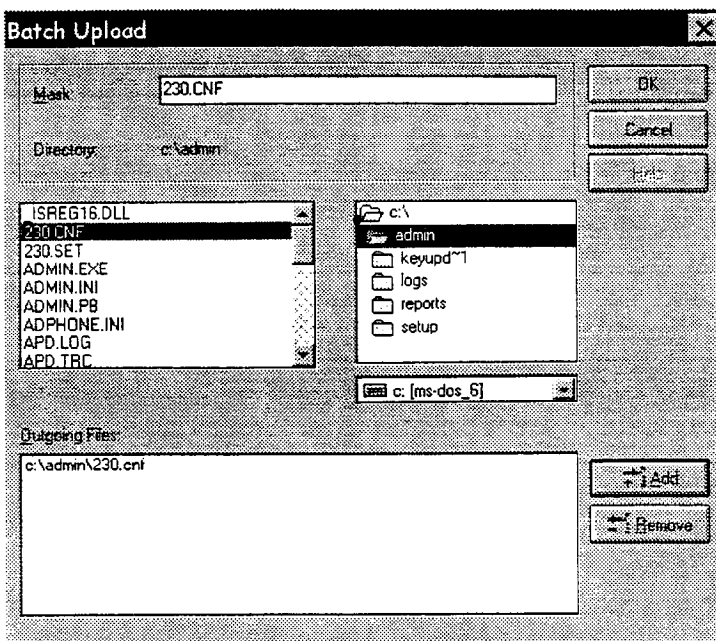
F. Upload

To upload a file from your Laptop/PC to the STARPLUS Dispatch™, do the following:

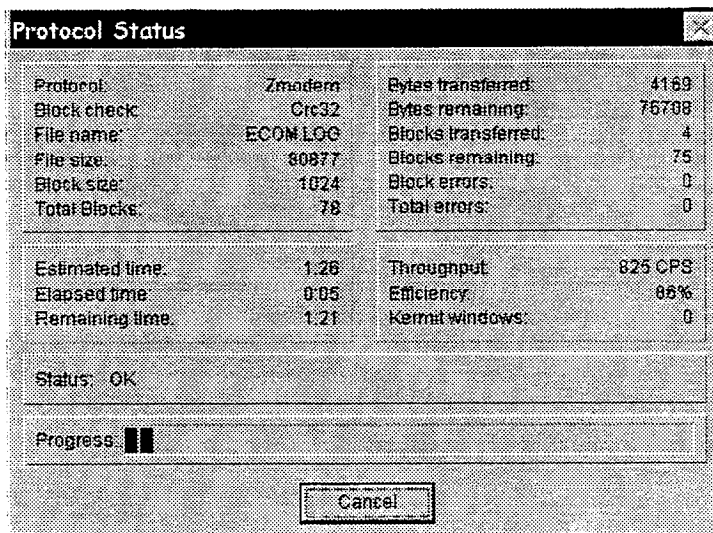
1. Make certain your STARPLUS Dispatch™ is shut down and parked.
2. Type "CD \" and press ENTER. This will cause the file to be uploaded to your C:\ directory.
3. Type "ZMR" and press ENTER.
4. Press the Page Up key on your keyboard
5. You will get a screen that asks you for the transfer protocol to use.



- The next screen asks what files you want to transfer. Double-click the file(s) you wish to transfer, and they will appear in the Outgoing Files box.



- Then when you have selected all the appropriate files, choose OK and the file transfers will begin.
- The screen will change. You will get a protocol screen telling you the upload status.



- When complete, the C:\ prompt will return.

800.6 PARKING THE SYSTEM

Many troubleshooting and updating techniques require that the STARPLUS Dispatch™ be "parked" before the system can be accessed. Normally an STARPLUS Dispatch™ is "running" - taking phone calls, etc. When the system is "parked", it is no longer taking phone calls, but is instead waiting for DOS commands.

You may park a system one of three ways:

1. *Via Windows Admin:* Select Setup, Advanced, Shutdown. Select Shutdown and Park unit. Admin will then disconnect.
2. *Via Telephone:* Access any mailbox. At the mailbox greeting, press [*] followed by that mailbox's password. Press [7] for administrator functions. If prompted for a password press 2275. Press [8], [3], [1].

NOTES

Once the system is parked you cannot make a voice call into the system.

3. *Via ECom:* Send (to STARPLUS Dispatch™) the string +DIE 0 followed by CR/LF. From ECom press the Send button in the top right-hand corner of the screen.

NOTES

If a modem is connected, the parking process will disconnect the modem.

Once a system is parked, you may restart the system so that it processes phone calls by doing the following:

Unplug the power, wait 5 seconds, and re-apply power.

OR:

At the DOS prompt, type "REBOOT" followed by ENTER.

Once the system is parked, you can use ECom to execute DOS commands and transfer files. Pressing an initial ENTER should give you the DOS prompt: "C:\HELLO".

**800.7 EXECUTING
DOS
COMMANDS**

STARPLUS Dispatch™ supports most DOS commands, including cd, dir, copy, move, etc. The following are a few utility programs on the STARPLUS Dispatch™ that may help in diagnosing problems:

LASTLINE.EXE

Shows the last lines of a text file. On command line specify file name and number of bytes to show. Run "LASTLINE" by itself to show help. Useful in looking at the end of a log file.

LATEST.EXE

Shows the newest 20 files on the system. Accepts "-S" to search sub-directories. Also accepts wild cards. Run "LATEST ?" for help. Useful in finding new files on the system.

BIGGEST.EXE

Shows largest 20 files on the system. Accepts "-S" to search sub-directories. Also accepts wild cards. Switch allows display of smallest files. Run "BIGGEST ?" for help. Useful in diagnosing where disk space is being spent.

DIRSIZE.EXE

Shows the total size of the files in each directory. Useful in finding where disk space is being used.

GREP.COM

Utility allows the extraction of text lines out of a text file based on text matching rules. Useful in extracting log lines for a particular mailbox or extension, or pulling log lines for a particular time of day. Type "GREP ?" for more information.

**800.8 TRANSFER-
RING FILES**

STARPLUS Dispatch™ has the capability of transferring files via the ZModem protocol. Since the STARPLUS Dispatch™ communicates at 9600 baud, it is suggested to use ZIP compression to compress files before transfer.

Before file transfer can take place the STARPLUS Dispatch™ system must be parked (see Section 800.6). Once the system is parked, use ECom and DOS commands to move throughout the directory structure. Change the directory into the location where you want to up-load or down-load files.

To transfer files from the PC to the STARPLUS Dispatch™ (up-load) the steps are:

1. Park the system. See Section 800.6.
2. Make sure you have prepared (edited, saved, compressed, etc.) the file on the PC/Laptop.

3. On STARPLUS Dispatch™, get into the DOS directory where you want the file up-loaded to.
4. Make sure the file does not already exist.
5. On STARPLUS Dispatch™ execute a "ZMR" (Zmodem Receive) command.
6. From Ecom, select to up-load a file using the Zmodem protocol. Then select the file to send.
7. After the file transfer is complete, you will be returned to the DOS prompt.

To transfer files from the STARPLUS Dispatch™ unit to the PC (down-load):

1. Change directories on STARPLUS Dispatch™ to the location of the file.
2. Run the batch file "ZMS" (Zmodem Send) with the file name and the extension. For example, to down-load from STARPLUS Dispatch™ the file "TEST.ZIP", you would run: ZMS TEST.ZIP
3. Your terminal emulation program will then start down-loading the file.
4. After the file transfer is complete, you will be returned to the DOS prompt.

NOTES

Advanced users can use fast ZMS and fast ZMR.

**800.9 BACKING UP
THE SYSTEM**

In order to back up the data on the STARPLUS Dispatch™ system, the system must first be parked (see Section 800.6).

You can back up the STARPLUS Dispatch™ system at three levels. The first level is to back up the DBASE directory:

1. Access the system via ECom.
2. Press Send next to +DIE0.
3. At the C:\Hello prompt, type "BACKUP1" and press ENTER. The system will confirm that you want to backup the system.
4. Press ENTER. The system will then tell you the backup is complete and will ask you if you want to download the system backup.
5. Press any key to begin the download. If you do not want to download the files, press CONTROL+SHIFT+C, and then press Y.

NOTES

If you press CONTROL+SHIFT+C, you must download the backup later.

The next level of backup includes the previous level and subscriber greetings, menus greetings, and other static voice prompts:

1. Access the system via ECom.
2. Press Send next to +DIE0.
3. At the C:\Hello prompt, type "BACKUP2" and press ENTER. The system will confirm that you want to backup the system.
4. Press ENTER. The system will then tell you the backup is complete and will ask you if you want to download the system backup.
5. Press any key to begin the download. If you do not want to download the files, press CONTROL+SHIFT+C, and then press Y.

NOTES

If you press CONTROL+SHIFT+C, you must download the backup later.

The final level of backup includes "BACKUP1", "BACKUP2" and voice messages:

1. Access the system via ECom.
2. Press Send next to +DIE0.

3. At the C:\Hello prompt, type "BACKUP3" and press ENTER. The system will confirm that you want to backup the system.
4. Press ENTER. The system will then tell you the backup is complete and will ask you if you want to download the system backup.
5. Press any key to begin the download. If you do not want to download the files, press CONTROL+SHIFT+C, and then press Y.

NOTES

If you press CONTROL+SHIFT+C, you must download the backup later.

**800.10 RESTORING
SYSTEM
BACKUP**

Section 800.9 describes how to create a backup of the system. The instructions below describe how to restore the backup of the system.

In order to restore the data on the STARPLUS Dispatch™ system, the system must first be parked (see Section 800.6). See Section 800.9 for more information on how to backup your STARPLUS Dispatch™ system.

The following are general instructions on restoring any backup file. Connect the STARPLUS Dispatch™ unit to the host computer, and then follow these DOS commands:

NOTES

"BACKUPx.ZIP" represents the name of the file you want to restore, and "x" is a variable for any number or character.

1. CD \HELLO
2. ERASE BACKUPx.ZIP
3. ZMR BACKUPx.ZIP
4. PKUNZIP -D -O BACKUPx.ZIP
5. REBOOT

You can restore the backup of the STARPLUS Dispatch™ system at three levels. The first level is to restore the databases that contain subscriber, COS, menu, time control and system settings. To transfer files from the host system and unzip them, connect the Dispatch™ unit to the host computer, and then follow these DOS commands:

1. CD \HELLO
2. ERASE BACKUP1.ZIP
3. ZMR BACKUP1.ZIP
4. PKUNZIP -D -O BACKUP1.ZIP
5. REBOOT

The next level of restore will retrieve subscriber greetings, menu greetings, and other static voice prompts. First connect the STARPLUS Dispatch™ unit to the host computer, and then follow these DOS commands:

1. CD \HELLO
2. ERASE BACKUP2.ZIP
3. ZMR BACKUP2.ZIP
4. PKUNZIP -D -O BACKUP2.ZIP
5. REBOOT

The final level is to restore everything, including voice messages. Connect the STARPLUS Dispatch™ unit to the host computer, and then follow these DOS commands:

1. CD \HELLO
2. ERASE BACKUP3.ZIP
3. ZMR BACKUP3.ZIP
4. PKUNZIP -D -O BACKUP3.ZIP
5. REBOOT

NOTES

If you have more than one file, execute multiple "ZMR" commands for each file. After executing the ZMR command, use ECom's file transfer commands to initiate a ZModem file upload. Do this for each file to restore.

800.11 REINITIALIZING THE SYSTEM**NOTES**

Do not reinitialize the system without help from Technical Support. This will NOT delete message or custom prompts.

To reinitialize the databases, you need to do the following:

1. Via Com, access the DOS prompt by pressing the Send button next to +DIE0.
2. At the C:\HELLO> prompt, type "CD DBASE\ORIG" and press ENTER.
3. Now the prompt should look like C:\HELLO\DBASE\ORIG.
4. Type "COPY *.* ..". The system will then ask you if you want to overwrite the files. Type "A" and press ENTER.
5. Type "CD \hello" and press ENTER. The prompt should look like C:\HELLO
6. Then type "REGINIT <port count>", where <port count> is the number of ports you have on your system. Then press ENTER.

NOTES

If you type in the incorrect number of ports the voice mail system may not run correctly.

7. Type "REBOOT" and the voice mail system will reinitialize.

800.12 DEBUG MODE

If you would like more logging information in the unit, you can add a registry parameter "ModuleDebug". ModuleDebug will take several parameters, and you can mix and match them as shown in the following table:

Table 800-2: ModuleDebug Parameters

Basic Foundation	H!	Voice Mail	Vm
Auto Attendant	Aa	Menus	Mn
Voice Mail Owner	Vo	Directory	Di
Events	Ev	Message Manager	Mm
Time Control	Tc	Integration	In

For example, if you wanted to see if your menus and time controls were configured correctly, you would go into the Admin module and insert the ModuleDebug name with a value of TcMn.

For example, if you want to see if your menus and time controls are configured properly, do the following (via Laptop Admin):

1. Access the Laptop Admin and choose Setup, Advanced, Registry.
2. Look for the Module Debug parameter. If it is there, double-click and modify the value. Otherwise insert the value name.
3. Give it a value of TcMn.
4. Choose OK.

Via ECom:

1. Access ECom.
2. Press send button next to +DIE0.
3. When you get C:\HELLO prompt, type "REGADD", "ModuleDebug=MnTc", and press ENTER.

If you would like to see the active call come through the voice mail unit, you must run the voice mail engine in debug mode as follows:

1. Access the voice mail unit via ECom.

2. Click the Send button next to +DIE 0. When the "C\HELLO>" prompt appears, type "VMDEBUG". This will bring the system up in a debug mode and you will be able to see all the calls in the system. When you see that XSIAM is shutting down for a brief time, then the system is ready to take calls.
3. To exit debug mode, press 3. The engine will shut down and the "C\HELLO>" prompt will reappear.
4. To bring the voice mail unit back up in "stealth" mode, type "VMRUN" at the DOS prompt.

800.13 LOOKING AT THE LOGS

In order to look at the logs on the STARPLUS Dispatch™ system, the system must first be parked (see Section 800.6). Refer to Appendix E for more information regarding logs.

On the STARPLUS Dispatch™ system, the daily log files are stored on the hard drive in the C:\HELLO\LOGS directory. There is a single error log named ERROR.LOG that contains all system level errors. For each day, there is a daily log file that contains tracking information for that day's activities. The daily log files are named VMmmddy.LOG where mm is the two digit month number, dd is the two digit day and yy is the two digit year.

800.14 DIGIT HANG UPS

STARPLUS Dispatch™ is able to detect many types of hang-ups. By default, Dispatch™ is able to detect a drop in loop current hang up with no programming. STARPLUS Dispatch™ can recognize a disconnect tone from the switch (please consult our documentation on Tone Learning for more information). Alternatively, some switches send DTMF digits for hang-ups.

The registry variables that need to be changed are listed in the table below. You can access the registry by either entering the Laptop Administration Module and accessing the Setup, Advanced, Registry menu items, or by going through ECOM.

Please remember that Registry variables are case-sensitive, for example PBXName01 is not the same as PbxName01.

Table 800-3: Registry Variables

Registry Value	Description
hup_pattern	DTMF hang-up pattern from the switch. Maximum pattern length is 31 characters.
hup_type	Hangup type to set. The hup_type should be set to 1 (Loop Current) in order for the board functions to terminate due to the hang-up event.
hup_delay	Maximum delay, in seconds, between digits.

Suppose, for example, that you would like to add the hang-up detection parameters to your system, with 9999 being the hang-up pattern sent by the switch.

To add Hang Up detection parameters from the Laptop Administration module, follow the steps below:

- Access the Dispatch™ via the Laptop administration program.
- Select the Setup menu option, and select Advanced, Registry.
- Click the Insert button. When it asks you for the name type "hup_pattern". When it asks for the value enter "9999". Then choose OK.
- Click the Insert button. When it asks you for the name type "hup_delay". When it asks for the value enter "1". Then choose OK.
- Click the Insert button. When it asks you for the name type "hup_type". When it asks for the value enter "1". Then choose OK.
- Choose Setup from the menu. Choose Advanced, Reboot, and then Shutdown and Reboot.

To add the Hang Up detection parameters from ECOM follow the steps below:

- Park the Voice Mail system. (See section 800.6)
- At the C:\>HELLO prompt type the following:
"REGADD "hup_pattern="9999"" and press enter
"REGADD "hup_type=1"" and press enter "REGADD "hup_delay=1"" and press enter
- Type "Reboot"

800.15 IN-BAND INTEGRATION

Overview:

STARPLUS Dispatch™ systems support in-band style integration. In-band integration is the method by which a switch (phone system or PBX) delivers call information using DTMF digits.

Most commonly, the in-band process is as follows:

1. Phone system rings voice mail line.
2. Voice mail system answers by going off-hook.
3. Phone system quickly sends DTMF digits describing the caller.
4. Phone system connects caller.

In some instances, step 3 consists of the phone system sending the extension number of where the caller is being redirected from. In such cases, you can set up the voice mail system to answer with a main menu that is defined to handle those keys.

Usually there are (3) three situations that a phone system tries to indicate via different types of in-band digits:

1. An external caller that has not tried to reach an extension yet but needs to hear the main greeting. This is an incoming trunk call.
2. An internal or external caller who has tried to reach an extension but it is busy or no answer. This is a call coverage call.
3. An internal caller calling from their station wishing to pick up voice messages. This is an owner call.

In the ideal situation, the phone system allows you to specify what in-band digits should be sent to the voice processing system. In those cases, it is suggested to have the phone system send the digits that match with the

opening menu. For example, set the main menu to accept an extension number for transfers on keys "1"- "3". Set key "#" up for voice mail access. Set key "7" up for owner access. In the phone system, have the phone system send no in-band digits on incoming trunk calls. For call coverage calls, have the phone system send "#" followed by the mailbox number. For internal owner calls, have the phone system send "7" followed by the mailbox number.

By setting the opening menu (or menus) to match the phone system's in-band digits, you usually do not have to use a special in-band module like the one described here. This module is required if the phone system "wraps" the mailbox number or if the digits received by the phone system vary.

NOTES

On phone systems that support call coverage with in-band information, it is suggested to use blind (release) transfers only. That makes for a more efficient system. The disadvantage is that the system cannot use call screening or call holding.

Installation:

On each platform, the in-band module will be installed using different methods. The objective is to put the I!IN-BAND.SUB module in the ..MODULES directory. This is true for all platforms.

Configuration

On all platforms, the I!INBAND.SUB module is configured using Registry parameters as follows:

1. Set the PBX Name for all channels that need to use the module to "INBAND".
2. Set the "off-hook delay" parameter to 5. By default the off-hook delay parameter is set to 50 - which is 50 x10 msec or half a second. This means that if the phone system sends the in-band DTMF digits within 0.5 seconds of the voice mail system going off-hook, those digits would be missed. The name of the parameter is "oh_dly". The I!INBAND.SUB module has special code

that will prevent false detect of a drop in loop current that is sometimes common when using a low value for oh_dly.

3. Determine how quickly the phone system sends digits. Normally the phone system sends the digits within 1 or 2 seconds of the voice mail system going off-hook.
4. On a piece of paper, write down the in-band packets that the phone system will be sending the voice mail system. For example:
 - Incoming trunk call. Switch sends: "0xx" where xx is the trunk number.
 - Call coverage. Switch sends: "1xxx#" for a call to a busy extension xxx.
 - Call coverage. Switch sends: "1xxx*" for a call to a no answer extension xxx.
 - Owner pick-up. Switch sends: "2xxx" for a call from extension xxx.
5. There are (3) three main registry parameters that control the first reading of DTMFs that occur:
 - **InBandWait:** Number of seconds to wait for first read of DTMFs. Defaults to 1 second.
 - **InBandDigits:** Number of digits to wait for during first read. Defaults to 3 digits.
 - **InBandLastDtmf:** Specifies the DTMF digit that ends the first read. Defaults to empty.

If the phone system always sends the same number of digits, then set InBandDigits accordingly. If you will have to do another read - take that into account. Set InBandWait based on how long it takes for the phone system to send the digits.

6. Once the in-band module has made its first read, it uses a series of parameters called **InBandRules** to process the digits. The InBandRules are processed sequentially, starting with **InBandRule1** then moving to **InBandRule2**, etc., until a match has been found and an action determined.

Each InBandRule is a registry parameter whose value is made up of two strings separated by an equals sign. For example: "1%%=#=Vm%" is a valid InBandRule. The InBandRule is a "match mask" = "action".

7. The first part of the InBandRule is the "match mask". This is a set of DTMF digits [0-9, *, #, A-D] that will match the received set of DTMFs from the switch. The match mask may also contain special characters such as:

- ? - One unknown DTMF digit.
- % - One DTMF digit that should be carried over the "action".
- X - One DTMF digit that should be carried over the "action". Same as "%".
- + - Match none, one, or many DTMFs. Used at the end of a match mask.

If the match mask portion is completely empty, then the InBandRule is assumed to be a match and the action part is executed.

8. The second part of the InBandRule is the "action". Possible actions are:

- "Vm" - Runs voice mail - no mailbox specified.
- "Vm%" - Runs voice mail - goes to mailbox pulled from match mask.
- "VmBu%" - Runs voice mail - goes to mailbox pulled from match mask and plays the busy greeting for the mailbox.
- "VmNa%" - Runs voice mail - goes to mailbox pulled from match mask and plays the no answer (standard) greeting for the mailbox.
- "MnDAYMAIN" - Runs the menu DAYMAIN.
- "TcMAIN" - Runs the time control MAIN.
- "Vo%" - Runs voice mail owner - goes to mailbox pulled from match mask. Requires password.

- "Vo%Np" - Runs voice mail owner - goes to mailbox pulled from match mask. Does not require password.
 - "Hg" - Hangs-up the call and restarts.
 - "MoXXXX.YYYY" - Runs the module XXXX with parameter YYYY.
 - "Read XX YY ZZ" - Reads more digits. Reads XX digits for YY seconds or until the digit ZZ is read. Then processes the next InBandRule.
 - "Sleep WW" - Sleeps for WW seconds, then processes the next InBandRule.
 - "Flush" - Flushes the remaining DTMFs in the buffer and then processes the next InBandRule.
9. Based on the DTMF sequences that was specified in step 4, you need to add InBandRules to match the PBX. For the examples above, the correct registry variables would be:
- **InBandWait=2**
 - **InBandDigits=4**
 - **InBandLastDtmf=**
 - **InBandRule1=0+=TcMAIN**
 - **InBandRule2=1+=Flush**
 - **InBandRule3=1%%%=Vm%**
 - **InBandRule4=2%%%=Vo%**

There are many different ways to handle the same situations. Another solution would be:

- **InBandWait=2**
- **InBandDigits=5**
- **InBandLastDtmf=**
- **InBandRule1=0+=TcMAIN**
- **InBandRule2=1%%%?=Vm%**
- **InBandRule3=2%%%=Vo%**

Notice that we read all 5 digits up front (nothing to flush). The disadvantage is that we will wait 2 seconds for all digits.

Another solution is as follows:

- **InBandWait=1**
- **InBandDigits=3**
- **InBandLastDtmf=**
- **InBandRule1=0+=TcMAIN**
- **InBandRule2=1+=Read 02 01**
- **InBandRule3=2+=Read 01 01**
- **InBandRule4=1%%=?=Vm%**
- **InBandRule5=2%%=Vo%**

Keep in mind that the higher the rule the faster it will be processed.

Usage:

With the system configured properly, inbound calls will be handled using the in-band rules.

Trouble-shooting:

1. Turn on debug via the "Integration" flag.
2. Use a butt-set to diagnose the sending of digits.

800.16 TONE LEARN

Overview:

The STARPLUS Dispatch™ is being targeted to phone systems that support a high level of in-band integration and allow the auto-attendant to execute blind (release) transfers instead of supervised or monitored transfers. By using blind transfers, the phone system is responsible for controlling the caller and transferring them back to the voice mail system if the call cannot be completed, either because of a busy or no answer situation. Blind transfers are preferred over supervised because they use system resources more efficiently.

There are some situations where blind transfers cannot be used. Some phone systems do not support blind transfers to busy extensions. In this case, the auto-attendant must use supervised transfers. There are also some customers

that want to take advantage of call holding or call screening. In order to use these features, supervised transfers must be used.

As long as the phone system is set up correctly, the system can use blind transfers, supervised transfers, or a mix of both on the same system.

Before supervised transfers can be used, the ringing and busy tones must be "learned" by the platform. In some cases, the learn procedure has already been completed and is ready to be used. Those phone systems indicated as "Certified" have had their tones learned.

Along with using tones to detect ringing and busy, some phone systems send a special dial tone to the voice mail when it should disconnect. The focus of this section is on learning the ringing and busy tones. However, at the end of each subsection there is some information on disconnect tones.

What are Tones?

The auto-attendant uses "tone templates" that specify what a ringing and busy tone "look like". When the auto-attendant executes a transfer, the system compares what it hears on the phone line to the specified busy and ringing tones. If it "sees" a busy tone it reports back Busy. If it sees ringing for a specified number of seconds (noanswer parameter) it returns a result of No Answer. If it sees ringing followed by something that does not look like ringing - then a Connect is assumed.

Tones are defined using two types of values: frequencies and cadence durations. A "cadence" is a term used to describe a tone that is present, goes away, and then comes back. A ringing tone is typically a cadence. A busy tone is also a cadence. Dial tone is NOT a cadence - it is a continuous tone. So tones can either be continuous or cadence type tones.

Some tones are made up of sound that is of a single frequency. Most tones are made up of two sounds of differing frequencies. Dual frequency tones are more common since it is harder for the human voice to duplicate a single frequency tones versus a dual frequency tone. This is why DTMF digits are Dual Tone Multi-Frequency.

At this point a tone can be described by specifying one or two frequencies and possible an On and Off durations. Since there is typically noise on the line and other imperfections, each value that specifies a tone has a deviation value that specifies a "plus" or "minus" value that allows the frequency or duration to fall within a range instead of having to match the value exactly.

For a continuous tone, it is enough to specify the frequencies and their deviations. For dual frequency tones, we have to specify the tone(s) followed by a specification of On time followed by a specification of Off time.

The following shows the parameters necessary to specify each type of tone:

Single frequency / continuous tone:

1. Frequency 1 (Hz)
2. Frequency 1 Deviation (+/- Hz)

Dual frequency / continuous tone:

1. Frequency 1 (Hz)
2. Frequency 1 Deviation (+/- Hz)
3. Frequency 2 (Hz)
4. Frequency 2 Deviation (+/- Hz)

Single frequency / cadence tone:

1. Frequency 1 (Hz)
2. Frequency 1 Deviation (+/- Hz)
3. On Time (x10 msec)
4. On Time Deviation (+/- x10 msec)
5. Off Time (x10 msec)
6. Off Time Deviation (+/- x10 msec)
7. Repeat count or number of cadences (1..4)

Dual frequency / cadence tone:

1. Frequency 1 (Hz)
2. Frequency 1 Deviation (+/- Hz)
3. Frequency 2 (Hz)
4. Frequency 2 Deviation (+/- Hz)
5. On Time (x10 msec)
6. On Time Deviation (+/- x10 msec)
7. Off Time (x10 msec)
8. Off Time Deviation (+/- x10 msec)
9. Repeat count or number of cadences (1..4)

Notice that the cadence tones also contain a parameter that indicates how many cadences should be detected before a busy or a ring is considered complete. This is typically set to 2.

Along with each tone, a TONE ID is associated with the tone so that the auto-attendant knows whether the tone is a Busy tone or a Ring tone.

- Busy: Tone Id = 4
- Ringing: Tone Id = 5

The system also recognizes - but does not use - the following:

- Dial Tone: Tone Id = 1

Along with using tones to detect the progress of a transferred call, you can also use tones to detect when a hang-up condition has occurred. There is not a unique Tone Id associated with these. Typically use an ID of 120-130. There are some hang-up tones that are continuous and some that are a cadence. Before learning a disconnect tone, you need to manually categorize the tone.

Default Tones: What is Loaded?

When a new phone system is selected, the tones corresponding to that phone system are loaded. From the DOS prompt (see Technical Guide about getting to the DOS prompt), you can use the RELIST program to view the currently used tones. Here is an example (make sure you match the case of the reglist command parameters):

```
C:\HELLO>reglist tone u
REGLIST: Range tone to u
tone 111      =2 0 439 30 627 38 48 4 48 4 1 1 20 F=B T=N Def=
tone 112      =1 0 1077 70 0 0 49 5 336 60 1 1 11 F=B T=ND Def=
tone 4        =2 0 494 30 628 38 50 5 50 5 1 0 0 F=B T=ND Def=
tone 5        =2 0 449 27 487 30 96 8 288 23 1 0 0 F=B T=ND Def=
tone_length   =1                F=B T=N Def=1
ttdata        =10               F=B T=ND Def=10
```

Notice that four tones are defined: 4, 5, 111, and 112. Tones 4 and 5 are the default tones for basic CO ringing and busy. Tone 111 is used for some park and page features. Tone 112 is a FAX carrier tone used for fax transfer feature.

To the right of the equals sign are the tone parameters. There are 14 parameters. After that you should always see:

F=B T=ND Def=

The tone parameters are:

1. Number of cadences required. For continuous tones this will be 0. Cadence tones will typically use 2.
2. Edge on which to detect tone. Ignored for cadences. 2=leading. 4=trailing.
3. First frequency (in Hz). Allowable +/- deviation (in Hz) for the first frequency. Second frequency (in Hz).
4. Allowable +/- deviation (in Hz) for the second frequency.
5. For cadences, length of time (in 10ms units) tone is "on". For continuous tones, 1/2 of debounce time (in 10ms units).
6. For cadences, +/- deviation (in 10ms units) for on time. For continuous tones, -1/2 of debounce time (in 10ms units).
7. For cadences, length of time (in 10ms units) tone is "off". For continuous tones, 0.
8. For cadences, +/- deviation (in 10ms units) for off time. For continuous tones, 0.
9. Specify which tone events should be generated by voice cards, 0x01 TONE_ON 0x02 TONE_OFF; typically 1.
10. Flag indicating whether to generate events to wait() function if tone occurs. 0=No 1=Yes; typically 0.
11. Flag indicating whether to set hangup flag and terminate voice operations if tone occurs. 0=No >0=hang-up type (1=LC)

Before selecting a phone system, the following default tones are loaded:

Table 800-4: Default Tones

	Busy Tone	Ringing Tone
Tone ID	4	5
Cadences	2	2
Edge	0	0
Freq 1 (Dev)	494 (30)	449 (27)
Freq 2 (Dev)	628 (38)	487 (30)
On (Dev)	50 (5)	96 (8)
Off (Dev)	50 (5)	288 (23)
Events	1	1
Wait ()	0	0
Hang-Up	0	0

TROUBLE-SHOOTING

With all ringing and busy tones, set:

1. Edge = 0
2. Events = 1
3. Wait() = 0
4. Hang-Up = 0

Those parameters should only be changed for FAX detect tones, hang-up tones, and special purpose tones.

No default disconnect tones are loaded.

Learning the Tones

Requirements:

1. An internal extension number that will consistently ring busy for a long period of time (at least 2 minutes).
2. An internal extension number that will ring no-answer consistently for a long period of time (at least 2 minutes).

3. The busy and ringing tones played for direct dialed extensions are the same as those for transferred numbers.
4. Neither the ringing nor busy extension will roll to a voice mail port or to a hunt group.
5. Your platform has software release 1 build 68 or higher.
6. The voice mail system needs to be shut down during the learning process.
7. You need to be able to access the platform's DOS prompt using ECom or Procomm Plus.

Steps to learn the tones:

1. Use either Admin, the telephone admin menus or ECom to shut down and PARK the voice mail system. The Technical section of the Administrators manual discusses how to park the system.
2. Exit Admin from the lap-top, if it is running.
3. Start ECom (or ProCom Plus).
4. Press [ENTER] to make sure you are at the DOS prompt. You should see C:\VMAIL or C:\HELLO.
5. Change directory back to the root by entering the command "CD\" [ENTER].
6. Confirm that a single line phone line is connected to port 1 of the platform.
7. If possible, connect a line monitor to the single line port so that you can hear the actual call progress.
8. Make sure you have the busy and ringing extensions available.
9. Clear previous files with the DOS commands
 - ERASE TONE*.*
 - ERASE RING*.*
 - ERASE BUSY*.*
10. From the "C:\\" prompt type: "TLEARN". You will see:


```
C:\>tlearn
CONNECTED SYSTEMS DOLPHIN TEST APPLICATION Ver.
1.00

VSICFG=0xc000 0x310 10 C D
BOARDTYPE is DOLPHIN

----- LEARN ----- learn mode utility
```

```
*****
* The TONE SOURCE must be connected to CHANNEL 1 *
* First output file is..... C:\TONE.OUT *
* Second output file is..... C:\TONE1.OUT *
* Debug file is..... C:\TONE.DBG *
*****
```

channel1 going ONHOOK

Enter TONID (name of tone):

11. For the TONEID, type in "0" and hit [ENTER].
12. You will then see:
Enter the number of cadences:
13. Enter a "1" followed by [ENTER].
14. The system will then prompt for the number of learning frames:
Enter the number of learning frames (5+):
15. Enter "5" followed by [ENTER].
16. Next the system will ask:
Keep learning forever (y/n):
17. Enter "n" followed by [ENTER].
18. The system will then go off-hook and prompt you for the number to dial:

channel1 going OFFHOOK

Enter the number to dial or "*" for none:

19. Enter the extension number the system should dial to reach ringing followed by [ENTER]
20. The system will dial that number and you will see (extension 110 used as test):

```
Dialing 110 from channel 1..
Classifying the tone...
Detecting a DUAL frequency tone
Learning the tone: 5 Frames - 2 Cadence(s)
.....
```

```
TONEID    0
freq1    444  fq1dev    28
freq2    484  fq2dev    31
on1      95   ondev1     8
off1     289  offdev1    23
```

TROUBLE-SHOOTING

```
on2    95 ondev2    8
off2   289 offdev2  23
on3     0 ondev3    0
off3    0 offdev3   0
```

Results logged in file C:\TONE.OUT

re-learning tone: 5 Frames - 2 Cadence(s)
 Detecting a DUAL frequency tone

```
.....
ONEID   0
freq1   445 fq1dev  27
freq2   484 tn_fq2dev 30
on1     95 ondev1   8
off1    289 offdev1 23
on2     95 ondev2   8
off2    289 offdev2 23
on3     0 ondev3    0
off3    0 offdev3   0
```

Results logged in file C:\TONE1.OUT

exit from program learning complete

21. The system "learns" the tones twice. For the first learning cycle, the system outputs the file C:\TONE.OUT. The second cycle generates a C:\TONE1.OUT. The values shown should be very similar.
22. View the TONE.OUT file write down results for RING learn. Here is an example:

```
C:\>type tone.out
```

```
TONEID  0
freq1   446
fq1dev  27
freq2   484
fq2dev  30
on1     95
ondev1  8
off1    289
```

```
offdev1 23
on2      95
ondev2   8
off2     289
offdev2  23
on3      0
ondev3   0
off3     0
offdev3  0
```

You should ignore the on2, ondev2, off2, offdev2, on3, ondev3, off3, and offdev3 parameters.

23. You should also rename the TONE.* files to RING.* so that you can save the results before running the BUSY test. This can be done by executing the DOS command:

```
RENAME TONE.* RING.*
```

24. Rerun the sequence above for the BUSY extension. When finished write down the results and rename the files:

```
TYPE TONE1.OUT
```

```
RENAME TONE.* RING.*
```

25. If there is a problem, offload the file RING/BUSY/TONE.DBG from the platform and send to technical support.

For disconnect tones, the same process is used, except:

1. Prepare an extension close by. The platform will be dialing this extension and you need to answer and hang up quickly.
2. Before answer "n" to the question:
Keep learning forever (y/n):
....be prepared to answer the extension. Your call will keep ringing - that is fine.
3. Press "n" followed by [ENTER].
4. The system will go off-hook.
5. For the number to dial, enter the extension number followed by 2 commas. The commas represent 2 second pauses - for a total of 4 seconds. This gives you time to answer the phone and hang up.

6. The system will learn the tone as in the instructions above.
7. When renaming the tone files, use DISC as the file prefix.
8. You will find on a continuous tone that the system reports an on1 value of around 400. The other on and off values will be 0. That is normal.

Loading the Tones:

1. The *.OUT files from learning the tones have the following format:

```
TONEID 0
freq1 446
fq1dev 27
freq2 484
fq2dev 30
on1 95
ondev1 8
off1 289
offdev1 23
on2 95
ondev2 8
off2 289
offdev2 23
on3 0
ondev3 0
off3 0
offdev3 0
```

2. The TONEID value can be ignored. The next 4 values are the two frequencies and the deviations. These values can be directly entered into the platform. If the tone is cadence type, then you will need to enter the next 4 values for specifying the on and off periods along with their deviations. The final 8 values can be ignored.
3. For continuous tones, ignore the on1, ondev1, off1, and offdev1 parameters.
4. Using ECom, get into the C:\HELLO directory.
CD \HELLO
5. For the RING tone type:
REGADD "tone 5(B,ND, Ring Tone)=2 0 freq1 freqdev1

```
freq2 freqdev2 on1 ondev1 off1 offdev1 1 0 0"
```

NOTES

Even though the line above is separated into two lines, it should be added as one continuous line. Just remember to replace the words to the right of the equals sign with the actual values.

6. For the BUSY tone type:

```
REGADD "tone 4(,B,ND,Busy Tone)=2 0 freq1 freqdev1
freq2 freqdev2 on1 ondev1 off1 offdev1 1 0 0"
```

NOTES

Again, even though the line above is separated into two lines, it should be added as one continuous line, and the words to the right of the equals sign must be replaced with the actual values.

7. Using the example values above, the REGADD statement would look like:

```
C:\HELLO>REGADD "tone 5(,B,ND,Ring Tone)=2 0 446 27
484 30 95 8 289 23 1 0 0"
```

Pay close attention to the spacing and case of letters.

8. Use REGLIST to check the parameters:

```
C:\HELLO>REGLIST "tone 4" "tone 5"
```

```
REGLIST: Range tone 4 to tone 5
```

```
tone 4      =204943062838505505100F=B T=ND Def=
```

```
tone 5      =2 0 446 27 484 30 95 8 289 23 1 0 0 F=B
T=ND Def=
```

9. Make sure that after the equals sign there are 13 numbers followed by "F=B T=ND Def=".

10. Once both values have been entered, type:

```
REBOOT
```

To reboot the system.

11. Test the tones by executing transfers to both ringing and busy extensions.

For disconnect tones, the same process is used, except:

1. The tone id should be 120 and higher - not a 4 or 5.

2. The last two values in the REGADD line should be "1 11". This turns on hang-up detection and causes the system to report a hang-up type of 11. If you find that plays and records are not terminating, you can use a value of "1" as the last parameter.

Trouble-shooting

Tone Learn Terminates Incorrectly:

If the tone learn program terminates irregularly, due to pressing Cntrl-Shift-C or a failure, you must do a cold boot of the system to rerun the tone learn program. If you do not do a cold boot and re-run the tone learn program, you will get a memory dump that looks like this:

```
Embedded BIOS Debugger Invalid Opcode Trap
EAX = 000012DE CS:EIP = 8BFE:00006686 EFL = 00007046
pl ZR .. na .. PE .. nc
EBX = 00080082 SS:ESP = 12DE:00001C10 EBP =
0000FF1F .. NT IOPL3 nv up di ..
ECX = 00000020 DS:ESI = 12DE:00110ADE FS = 02F4 ..
.. id vp vi al vm rf
EDX = 0000AD75 ES:EDI = 05FF:0011F802 GS = 0260
8BFE:00006686 dw FFFFh / (65535).
```

EB40DBG:

If this happens, you must do a cold boot. This memory dump will not affect the system in any known way.

In order to make certain the tones were added correctly to your system, you can type:

```
C:\HELLO>REGLIST "tone 4" "tone 5"
```

And you will see:

```
REGLIST: Range tone 4 to tone 5
tone 4          =2 0 495 30 629 38 100 8 10 1 1 0 0 F=B
T=ND Def=
tone 5          =2 0 443 27 487 30 101 8 300 24 1 0 0 F=B
T=ND Def=
```

Once these tones are loaded into the system and the system is rebooted, the new c:\hello\hello.bdf file will have these tones listed as:

```
c:\hello> TYPE HELLO.BDF
```

And you will see:

ems_g_pages	1
ems_l_pages	1
ems_pages	1
max_nonsilence	0
max_silence	10
noanswer	1000
rings	1
t_idd	8
tone 111	2 0 439 30 627 38 48 4 48 4 1 1 20
tone 112	1 0 1077 70 0 0 49 5 336 60 1 1 11
tone 120	2 0 438 28 0 0 400 0 0 0 1 11
tone 4	2 0 495 30 629 38 100 8 10 1 1 0 0
tone 5	2 0 443 27 487 30 101 8 300 24 1 0 0
tone_length	1

If supervised transfers are still failing:

If the tones are in the HELLO.BDF file and the system is not doing supervised transfers - then we would need to find out exactly how it is failing. For example, does it detect busys, no answer or connects? The daily log files will help determine exactly what is happening. Download the log files to a floppy and send the logs to technical support.

**TROUBLE-
SHOOTING**

800.17 Q & A

Q: When I make changes to subscriber, COS, menu or time control settings, the changes do not take effect. What is the problem?

A: STARPLUS Dispatch™ uses an internal per channel cache to speed up operations. If you are answering the line with Menu 100 and you make modifications to menu 100 using the PC based Admin program, those changes will not take effect until the system is reset. By default, caching is turned off. You can see what the caching setting is set to in Admin by selecting Setup, Advanced, System Settings, and then clicking on the "System Updates Take Effect Immediately" option.

Q: The system does not process calls as fast as I would expect?

A: Turn on the system cache with the Admin program by selecting Setup, Advanced, System Settings. Make sure the "Shut off System Caching" option is not checked.

Q: A menu has a Time Out value. If the Time Out value is 0, then the system will not allow any key presses to activate any key actions. The system will only follow the Time Out key action.

A: The Time Out value is defined in your manual as "Specifies the length of time after which, if the caller presses no key, the Time Out action is to run."

When the Time Out value is greater than 0, then if the caller presses a key during the prompt or within the number of seconds allotted by the Time Out value, then that key action is taken. If the caller exceeds the Time Out value, then the Time Out action is taken. When the Time Out value is 0, then the only action the system will take is the Time Out action. The caller is not allowed to enter any DTMF keys.

When you set the Time Out value to 0, this allows you to play many prompt files in succession. An example would be if you wanted to list all employees in a company, but didn't want to record them in a single prompt file. You could create a series of menus all with the Time Out key action to call the next menu and the Time Out value of 0.

Q: Subscriber changes (e.g., Name, Department, Password etc.) do not "stick" when the customer reboots the unit after making a change, or looks at another list (COS,LINES,etc) and then looks at the Subscriber list again.

A: To reproduce the problem follow the steps below in the Laptop Administration Program:

1. Verify that caching is turned off by looking in Setup, Advanced, System Settings. The option "System Updates should take effect immediately" should be checked.
2. Access mailbox 100. (If mailbox 100 does not exist, use another mailbox.)
3. Change the name to (for example) Joe Smith.
4. Choose OK.
5. Reboot the system by choosing Setup, Advanced, Shutdown. Shutdown and Reboot should be selected.
6. The system will reboot itself.
7. When the administration module becomes active, double click on mailbox 100. If the name is not Joe Smith, then the subscriber database is corrupt. Go to the Solutions section of this document for a fix. If the name is Joe Smith then the update worked properly.

The solution to the problem is to restore the Original Subscriber database and index files on the unit.

NOTES

Warning: If you proceed further, then you will wipe out their subscriber database. They will still have messages, signatures, and greetings, but all mailboxes will be wiped out and will need to be re-created (you will need to enter the names, etc....)

If the unit is V1.68 or less, you need the following (4) four files:

- MBXEXT.DBF
- MBEXDIR.NDX
- MBX.NDX
- EXT.NDX

The files should go into their C:\HELLO\DBASE and C:\HELLO\DBASE\ORIG directories.

Click here to download the subscrib.exe file, which contains MBXEXT.DBF, MBEXDIR.NDX, MBX.NDX and EXT.NDX. Copy the file subscrib.exe to the C:\HELLO\DBASE\ORIG and C:\HELLO\DBASE directory and run the executable in both directories.

Reboot the system and follow the steps above. The changes you make will then take effect.

If the unit is V1.68a or greater, the (4) four files in the last step should already be in the C:\HELLO\DBASE\ORIG directory. Just copy them from there to the C:\HELLO\DBASE directory.

WARNING

Make sure you do not delete or modify the files in the C:\HELLO\DBASE\ORIG directory. They are there if you need to restore the databases to their original state (in case of file corruption).

Please contact technical support for more information or additional help.

Q: For some reason, a modem attached to the voice mail unit does not go into auto-answer when you power off/on the unit while the modem is on. The problem happened specifically with a US Robotics Sportster 33.6 modem, but may occur with other modems as well. The end result was that you could not call into the voice mail unit.

A: The cause of the problem is unknown at this time, but we are investigating it. It seems that when you power down the unit and the unit comes up, the port may be in an unrecognized state. The unit also sends a lot of information to the modem during boot up. This problem does not occur when you do a reboot from the Admin or Ecom. The problem does not always occur when you try to re-create it.

To correct the problem, follow the procedure below:

1. Power off the modem.
2. Pull the powercable from the back of the voice mail unit. Wait ten seconds.

3. Put the power cord back into the unit
4. Have them wait until LIGHT #2 on the unit lights up.
5. Turn the Modem On.

In a few seconds, the AA light on the modem should light up and the unit/modem pair will function as normal. You can even reboot the unit via remote commands without any problems.

Contact technical support for more information or additional help.

Q: After my system plays my opening menu prompt, the system takes 8-12 seconds to respond to any keys I press.

A: If you have Fax Detect Enabled, then "MenuFaxToneDetect" value is too long. "MenuFaxToneDetect" determines how long the STARPLUS Dispatch™ waits for the fax tone before returning control to the Menu. Modify the value in the registry to lower this parameter. The "MenuFaxToneDetect" registry item may not be in your system, so you will have to insert the value. See Appendix B for more information on adding items to the Registry. This value can be as low as 1. When you set this value to 1, it means that there will be a one second pause before the menu prompt is played when fax detect is enabled.

If you do not have Fax Detect Enabled, then the system may be waiting too long for Inband signaling information. In the Registry look for "InBandWait". Make this value as low as possible while still allowing proper call routing. Test all call situations to verify proper call routing, including call forward busy or no answer to voicemail, transfers to extensions, calls coming into the voice mail from the CO, and message waiting indicators set and clear.

If the delay between the time the call is answered and when the prompt is played is still unacceptable, then contact technical support for an alternate solution.

Q: What phone systems will the STARPLUS Dispatch™ integrate with?

A: If you have access to the Internet, go to <http://www.es-isys.com> and click the Support button. Then follow the link to "STARPLUS Dispatch™, infinite Talkpath, and Espresso",

and follow the link to "Integration Documentation". If you do not have access to the Internet, then contact your sales person and they will fax you a copy. Integrations are being updated frequently, so check often for your phone system.

Q: How do I program the telephone system to work with my STARPLUS Dispatch™?

A: If you have access to the Internet, go to <http://www.es-isys.com> and click the Support button. Then follow the link to "STARPLUS Dispatch™, infinite Talkpath, and Espresso", and follow the link to "Integration Documentation" and click on the phone system you are interested in. If you do not have access to the Internet, contact Technical Support and they will fax you the information that is appropriate for your telephone system.

Q: What if my phone system is not on the phone system integration list?

A: The STARPLUS Dispatch™ can integrate with almost any telephone system. Telephone systems that support in-band integration can normally be programmed with the help of Technical Support via the Inband module. If your telephone system does not support Inband integration, then some switches can be integrated using supervised transfers. If your telephone system only supports Out of Band integration (typically SMDI), then the telephone system will not be able to be integrated with the STARPLUS Dispatch™.

In addition, you can try a phone system that is similar to your phone system. Typically telephone system manufacturers have similar settings for all telephone systems they create.

Q: The telephone system sends ring to the voice mail port, but the STARPLUS Dispatch™ will not answer.

A: There could be many causes of the problem. See below for possible solutions:

- Make certain the ring voltage coming into the voice mail port is at least 90V AC. If not, make the ring voltage 90V AC and retest.

- Plug a normal analog phone, test set, or digit grabber into the port to determine if ring is being sent by the phone system. If not, configure the phone system to ring the voice mail ports and retest.
- Modify "r_on" and "r_off" in the Registry. Change both values to 1 and retest.
- Verify "rings" is set to 1 in the Registry. If "rings" is not 1, then modify and retest.
- In the Registry, modify "r_ird" to 1. If "r_ird" is not 1, then modify and retest.
- Contact Technical Support.

Q: The STARPLUS Dispatch™ system seems to answer the call, but then hangs up almost immediately. What is wrong?

A: There could be many causes of the problem. See below for possible solutions:

- Check your time control settings. The STARPLUS Dispatch™ may be getting to the end of your time control and there is no definition for the current date and time. If there is no definition for the current date and time the system will hang up.
- Check the "minlcoff" parameter in the Registry. Normal ranges are between 30-60.
- Contact Technical Support.

Q: I applied power to my STARPLUS Dispatch™, but the system does not boot up.

A: There could be many causes of the problem. See below for possible solutions:

- Ground yourself by using a wrist strap or other grounding device.
- Remove the case and verify all internal connections.
- Verify the connection from voice board(s) to the motherboard.

- Verify connections from the motherboard to the hard drive.
- Verify power connections to the hard drive.
- Check Section 800.2 for more information on boot up light sequence.
- Contact Technical Support.

Q: Supervised transfers are not working on my system.

A: There could be many causes of the problem. See below for possible solutions:

- All systems are set up by default to use blind transfers.
- If you need to use supervised transfers, verify that the users that need supervised transfers are configured to use supervised transfers.
- Your system may require the ring and busy tones to be "learned" by the system. See Section 800.16 for more information regarding tone learn.
- Note that if you used Supervised Transfers, the extensions using supervised transfers should not be set to "busy or forward on no answer to voice mail". Also, any recall timers in the telephone system are disabled.
- See section 800.5 on debugging with ECom.
- Contact Technical Support.

Q: Message Waiting Lights are not working on my system.

A: All phone systems have pre-configured Message Waiting Indicator parameters programmed when you pick your phone system. Certain phone systems allow you to change the Message Waiting Indicator set and clear parameters. See "APPENDIX B COMMON REGISTRY VARIABLES" for information on the "AaMwiSet" and "AaMwiClr" parameters.

Make certain that the last line on a two port system and the last two lines are plugged in on 4, 6, and 8 port units. The notification settings are transmitted on these lines. Without telephone lines plugged into the notification ports, the STARPLUS Dispatch™ will be unable to notify the telephone system of new messages.

Q: How do I modify a Command File?

A: You must first download the command file to your laptop computer. The command files that are created by default are in the C:\HELLO\CFILES directory. Instructions for downloading files from your STARPLUS Dispatch™ to your laptop/PC are in Section 800.5.

Once downloaded, modify the command file via any text editor and save it in plain text format.

When you have modified the command file to your satisfaction, upload the modified file to the C:/HELLO/CFILES directory. Instructions for uploading files from your laptop/PC to the STARPLUS Dispatch™ are in section 800.5.

Note: See Appendix C for Command File information.

Q: Call Queuing will not work.

A: For call queuing to work, you must use supervised transfers, and call holding must be enabled.

Q: Calls are not being routed to extensions properly.

A: First, replace the STARPLUS Dispatch™ with a single line telephone set and verify that transfers work properly without the voice mail system. If you are unable to do hook-flash transfers with the single line telephone then check all switch settings and retry the test.

Verify the entire path by which a call is handled. Typical problems include incorrect Time Control and Menu settings. Compare your Time Control and Menu configurations to the default Time Control and Menu settings described in this manual. Use the defaults described in this manual as a template for configuring your Time Control and Menu settings.

Q: I would like to see my calls processed on the screen.

A: There could be many causes of the problem. See below for possible solutions:

- Use the ECom program shipped on the STARPLUS Dispatch™ administration diskette.
- Click the Send button next to +DIE0.
- When the C:\HELLO prompt appears, type VMDEBUG and press ENTER. The system will then begin to run.
- When you have finished testing, press "3" to bring the voice mail system down.
- When you see the C:\HELLO prompt, type REBOOT and the system will reinitialize.
- Exit the ECom program.

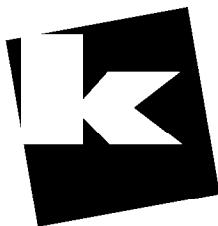
Note that when using the STARPLUS Dispatch™ in the debug mode, the system overhead is significantly increased. It is highly recommended to return the system to its non-debug state when troubleshooting is complete.

Q: Caller hears DTMF during an attempted transfer.

A: The flash timer is probably incorrect. The "flash_time" setting needs to match the flash timer on your telephone system. Flash time settings normally range from 40-70 (x10msec). See "APPENDIX C COMMAND FILES" for more information on "flash_time".

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APPENDIX A COMPATIBLE PBX SYSTEMS

A.1 COMPATIBLE PBX SYSTEMS

The following is a table of the PBX systems that are compatible with the STARPLUS Dispatch™ system, along with each PBX's identification number and the referenced section and page in this manual. This information changes often. Therefore, if you have access to the Internet, go to <http://www.esisys.com> and click the Support button. Then follow the link to "STARPLUS Dispatch™", and follow the link to "Integration Documentation".

Table A-1: Available PBX Systems

PBX NAME	PBX NUMBER	SECTION	PAGE
Default: 3 digit, blind transfers Same as 005	000	A.1.A.	Appndx A-3
Generic: 1 digit, blind transfers	001	A.1.A.	Appndx A-3
Generic: 1 digit, supervised	002	A.1.A.	Appndx A-3
Generic: 2 digit, blind transfers	003	A.1.A.	Appndx A-3
Generic: 2 digit, supervised	004	A.1.A.	Appndx A-3
Generic: 3 digit, blind transfers	005	A.1.A.	Appndx A-3
Generic: 3 digit, supervised	006	A.1.A.	Appndx A-3
Generic: 4 digit, blind transfers	007	A.1.A.	Appndx A-3
Generic: 4 digit, supervised	008	A.1.A.	Appndx A-3
Panasonic DBS	145	A.1B.	Appndx A-4
Panasonic KXT 1232	146	A.1C.	Appndx A-9
Panasonic KXT 616	147	A.1D.	Appndx A-17
Panasonic KXT 336	148	A.1E.	Appndx A-22
Lucent Partner Plus	160	A.1F.	Appndx A-25

Table A-1: Available PBX Systems (Continued)

Lucent Legend	161	A.1G.	Appndx A-32
Lucent Partner II	162	A.1H.	Appndx A-33
Lucent Merlin Legend	163	A.1I.	Appndx A-36
Nitsuko DS01	155	A.1J.	Appndx A-37
Toshiba DK 242	165	A.1K.	Appndx A-40
Nortel Norstar DR3	170	A.1L.	Appndx A-42
Nortel Norstar DR4	171	A.1M.	Appndx A-51
Inter-Tel GMX-48 Advanced	175	A.1N.	Appndx A-60
Inter-Tel GMX-152D	177	A.1O.	Appndx A-66

A. Generic PBX (000-008)

The generic PBX settings will apply to installations when the phone system that the STARPLUS Dispatch™ is being attached to is a Central Office (CO) line (or if the actual PBX is not listed in the previous table).

Each of the eight generic phone system settings provides a choice of mailbox/extension number lengths and what type of call transfers the automated attendant can use. See Page "300.5 AUTOMATED ATTENDANT OPERATION", "C. Call Transfer Options" for more information on call transfers.

Hardware Requirements:

STARPLUS Dispatch™ requires a phone system to have the ability to connect single line telephones (SLTs) or analog telephones. Examples of SLTs are household telephones and business FAX machines.

For each voice mail port, you will need a separate telephone line: (key or PBX extension).

In order for STARPLUS Dispatch™ to perform automated attendant functions, the phone system must support the ability for single line telephones to transfer calls using "flash-hook" transfers.

Supported Features:

The supported features of the generic settings include:

- Voice messaging
- Automated attendant (if switch supports it)
- MWIs (if switch supports it - requires configuration)
- Outdial (to pager or specific number)

Configuring the Switch:

Each switch is different in the way that it is configured. Consult your switch manufacturer's manuals for more information. Remember that a 4-port STARPLUS Dispatch™ acts like 4 household phones, so when in doubt, replace the STARPLUS Dispatch™ by SLT phones and test what they can do on the switch.

**B. Panasonic DBS
(145)****Overview:**

- Install a Panasonic AEC single-line telephone device card, an MFR-4 receiver card, and an SLT ring generator unit in the DBS KSU.
- Program the Panasonic DBS to support the voice processing system (VPS).
- Test the DBS system programming and connect the VPS.
- Program individual stations for call forwarding.

Hardware Requirements:

- One 25-pair cable with a female amphenol connector to connect the AEC card to the DBS main distribution frame (MDF).
- One RJ-14C modular jack and 4-conductor cord for each VPS port.
- One Panasonic Attendant Display telephone for programming the DBS system.
- Install the AEC and MFR cards and the SLT Ringer Box according to the manufacturer's instructions.
- Connect the 25-pair from connector CN12-CN14 on the KSU to the main distribution frame (MDF).

Supported Features:

- Automated attendant/voice mail with call forwarding (release transfer). Voice mail only (no transfer).
- Message notification: Through message waiting lamps
On: ,*4X# Off: ,*5X#
- Call forwarding
- Easy message access
- Operator's console: 100 (Default) Positive disconnect: Not provided

Configuring the Panasonic DBS:Define the voice mail extensions:*FF3 Key - Telephone Type*

Use this program to assign type 10 (Voice Mail AEC) to each voice mail extension that you plan on connecting to the VoiceSupport ports.

Set up Hunt groups that contain the voice mail extensions:*FF4 Key - Hunt Group Extension*

Use this program to assign all the voice mail extensions to a hunt group (1-8). If, for example, you want CO 1 to be answered by a different set of company greetings than CO2, make sure that all the voice mail extensions are not in the same group.

For example, suppose voice extensions 11, 12, and 13 are connected to ports 1,2, and 3. Since company greetings are assigned to ports (via an Answering Schedule Table) and not to COs, you must make CO1 and CO2 ring different ports in order to get different greetings for the COs. To make the COs ring different ports, you could assign extensions 11 and 12 to one hunt group and extension 13 to another. Then, use one of the ringing programs (FF4 key) to make CO1 ring one hunt group and CO2 ring the other. If you use this CO scenario, make sure you keep track of which COs ring which ports. You will need this information later.

FF4 Key - Hunt Group Search Methods

Use this program to assign a type (0,1, or 2) to the voice mail hunt group.

FF4 Key - Transfer Extension Number

Use this program to select an overflow extension for the voice mail hunt group. When a call ends its search through a voice mail hunt group, the phone system will send the call to the overflow extension (destination).

FF4 Key - Transfer Timer

Use this program to set the amount of time a call rings an extension in the voice mail hunt group before the call goes (hunts) to the next extension in the group.

FF4 Key - Pilot Extension Number for Hunt Group

Use this program to assign a pilot extension number (11-69, 101-699) to a voice mail hunt group (1-8). This is the number that the user dials from their extension to access VoiceSupport.

To have the Automated Attendant answer a CO line as soon as it rings in, use the following programs:

FF4 Key - Daytime CO - Line Ringing

Use this program to make a CO immediately ring a voice mail hunt group pilot number (151-158) during the day mode. Pilot numbers 151-158 correspond to hunt groups 1-8. So if the voice mail hunt group is hunt group 7, make the CO ring hunt group pilot number 157.

FF4 Key - Nighttime CO - Line Ringing

Use this program to make a CO immediately ring a voice mail hunt group pilot number (151-158) during the night mode. Pilot numbers 151-158 correspond to hunt groups 1-8. So if the voice mail hunt group is hunt group 7, make the CO ring hunt group pilot number 157.

To have the Automated Attendant answer a CO line after a delay, use the following programs:

FF4 Key - Hunt Group Daytime Delayed-Ring Tables

Use this program to make a CO ring a voice mail hunt group pilot number (151-158) during the day mode, but only after a delay. Pilot numbers 151-158 correspond to hunt groups 1-8. So if the voice mail hunt group is hunt group 7, make the CO ring hunt group pilot number 157.

FF4 Key - Hunt Group Nighttime Delayed-Ring Tables

Use this program to make a CO ring a voice mail hunt group pilot number (151-158) during the night mode, but only after a delay. Pilot numbers 151-158 correspond to hunt groups 1-8. So if the voice mail hunt group is hunt group 7, make the CO ring hunt group pilot number 157.

FF1 Key - Incoming Ring Delay Timer

Use this program to determine how long a CO rings an extension before the call rings a voice mail hunt group pilot number (151-158).

Miscellaneous Programming:*FF3 Key - Multibutton Ringback Tone with Busy Signal*

Use this program to enable busy signal for each Multibutton set. This is how VoiceSupport knows that the Multibutton extension is busy. This program is required only if the Automated Attendant is set up for screened transfers (i.e. TRF in VoiceSupport's Dial Action Table).

FF1 Key - Voice Mail Busy Tone Mode

Use this program to select busy tone. This lets VoiceSupport know when a conversation has ended on a VoiceSupport port.

FF3 Key - Paging Group Extensions

Use this program to make each extension part of a paging group. This must be done for the Meet-Me Paging feature to work (that is, the Meet-Me Page will not be broadcast over an extension's speaker if the extension is not part of a paging group).

FF3 Key - Call Waiting

Use this program to enable Call Waiting for each extension that wants to be able to receive Call Waiting beeps for Automated Attendant screened transfers.

Check Call Forwarding

1. If the Automated Attendant is being used, make sure no extension has Call Forwarding enabled to a voice mail extension.
2. Always cancel Call Forwarding at extension 10/100.
To cancel Call Forwarding:
 - a. Lift handset
 - b. Dial [72]
 - c. Hang up

Program a Message Waiting Key at a Multibutton extension:

1. Make sure that the Message Waiting Lamp port is connected to an extension port in the telephone system. By default, the Message Waiting Lamp port is the highest numbered installed port.
2. Cross-connect an OPX port to a CO port.

3. Use the FF2 program to place the CO port (in step 2) in its own Trunk Group (e.g. group 86).
4. At a Multibutton phone, do the following:
 - Press [ON/OFF], then press [PROGRAM] key
 - Press the function key that should act as the Message Waiting Key.
 - Press [CONFERENCE] key
 - Dial last digit of Trunk Group (e.g., for Trunk Group 86, press [6])
 - Dial Voice Mail extension connected to Message Waiting port
 - Press [REDIAL] key twice
 - Press [#]
 - Dial Multibutton's mailbox number (by default, it's the same as the extension number)
 - Press [ON/OFF]
 - Label the Message Waiting key for the user

Use the Extension Identification procedure below at each Multibutton

This procedure is required only if the Automated Attendant is not set up for screened transfers *and* extension users are forwarding their calls into their mailboxes. This procedure ensures that messages get left in their correct mailbox.

1. Press [ON/OFF] key
2. Press [PROGRAM] key
3. Press [AUTO]
4. Dial [*]
5. Dial Multibutton's extension number
6. Dial [*]
7. Dial Multibutton's extension number
8. Press [HOLD]
9. Press [ON/OFF]

**C. Panasonic KXT
1232 (146)****Overview:**

- Program the Panasonic 1232 to support the voice processing system (VPS).
- Test the 1232 system programming and connect the VPS.
- Program individual stations for easy message access.

Hardware Requirements:

- One RJ-14 modular jack and 4-conductor modular cord for each VPS port.
- If you are adding a Panasonic expansion card:
- One 25-pair cable with a male amphenol connector to connect the expansion card to the 1232 main distribution frame (MDF).
- One KX-T123230 telephone and 1232 programming overlay.
- Select (1) one unused extension line for each VPS port. Note the corresponding jack numbers for later system programming.
- If you are installing an extension card, turn the KSU power off and select the next available extension card slot (LC2, LC3, or LC4). Insert the card. Connect the amphenol cable to the socket on the card edge. Cross-connect the cable to the 1232 MDF following the manufacturer's cable/pin diagram.
- Cross-connect the tip/ring wires for each selected extension line to RJ-14 jacks. The extension line Low/High wires are not used. These jacks will serve as test and connection points for the VPS.
- Important: You must disable call waiting tones on the ports selected for VPS service. To do this, plug a single-line phone in the RJ-14 jack corresponding to VPS port 1. Go off-hook. Dial 73 1 0#. Go on-hook. This disables CO line call waiting tone. Go

off-hook again. Dial 73 2 0#. Go on-hook. This disables extension call waiting tone. Repeat for each remaining VPS port.

Supported Features:

- Automated attendant/voice mail without call forwarding (await answer transfer). Voice mail only (no transfer).
- Message notification: Through message waiting lamps
On: ,701,X,# Off: ,702,X,#
- Easy message access
- Operator's console: 101 (Default) Positive disconnect: Not provided

Configuring the Panasonic KXT 1232:

Connect the KX-T123230 telephone to extension jack #1 of the 1232 KSU. Make sure the extension is on-hook and the [SP--PHONE] button is off. Locate the System Program Switch on the 1232 KSU and set it to the "PITS" position. The programming phone display will show: SYS-PGM NO?

Program the 1232 system control settings as follows:

Program 02, Extension Number Assignment:

1. Assign sequential extension numbers to the jacks you selected for VPS service. These instructions and examples will assume that extension numbers 150 and above are unused. Extension number 150 will be assigned to the jack for the first VPS port.
 - a. Dial [02]. The phone display will show Extension No Set. Press [NEXT]. The display will show: Jack NO?.
 - b. Dial the jack number for VPS port 1. The display will show the extension number currently assigned to the jack.
 - c. Dial 150 to set the jack for VPS port 1 to 150. Confirm that the display shows: Jack nn: EXT150. Press [MEMORY] to store the extension number assignment.

- d. Press [NEXT] to program the next jack number. Repeat the last two steps for each remaining VPS port (assign extension numbers 151, 152, etc.)
- e. Press [END] to exit extension number assignment.

Program 60, Extension Group Assignment:

1. Assign the VPS extension jacks to a single extension group. This is necessary in order to specify extension hunting in a later programming step. Select an unused group number. A total of 8 extension groups are available on the 1232 (1 through 8). These instructions and examples will assume that extension group 8 is used for the VPS.
 - a. Dial [60]. The phone display will show Extension Group. Press [NEXT]. The display will show: Jack NO?.
 - b. Dial the jack number for VPS port 1. The display will show the extension group number currently assigned to the jack.
 - c. Dial [8]. Press [MEMORY] to store the extension group assignment.
 - d. Press [NEXT] to program the next jack number. Repeat the last two steps for each remaining VPS extension jack.
 - e. Press [END] to exit extension group assignment.

Program 61/62, Day/Night Mode Service Class Assignment:

1. Assign non-restricted service (Class 1) to each of the VPS extension jacks. This allows the VPS to deliver messages while the 1232 is in either day- or night-mode service without toll restrictions.
 - a. Dial [61]. The phone display will show Day Toll Restrct. Press [NEXT]. The display will show: Jack NO?.
 - b. Dial the jack number for VPS port 1. The display will show the class of service currently assigned to the jack.

- c. Dial [1]. Press [MEMORY] to store the extension group assignment.
- d. Press [NEXT] to program the next jack number. Repeat the last two steps for each remaining VPS extension jack.
- e. Press [END] to exit day service class assignment.
- f. Dial [62]. The phone display will show: Nig Toll Restrct. Press [NEXT] and repeat the above steps for night service assignment.
- g. Press [END] to exit class assignment.

Program 63, Extension Name:

1. Give each VPS extension jack a name. This name will appear on the display of an electronic extension phone when the VPS calls. These instructions assume extensions will be named "VMail 1," etc. Consult the manufacturer's instructions for programming alternate names.
 - a. Dial [63]. The phone display will show Extension Name. Press [NEXT]. The display will show: Jack NO?.
 - b. Dial the jack number for VPS port 1. The display will show the extension name currently assigned to the jack, if any.
 - c. Dial [8]. Press [SELECT] until the letter "V" appears.
 - d. Dial [6]. Press [SELECT]. The letter "M" appears.
 - e. Dial [2]. Press [SELECT] until the letter "a" appears.
 - f. Dial [4]. Press [SELECT] until the letter "i" appears.
 - g. Dial [5]. Press [SELECT] until the letter "l" appears.
 - h. Dial [0]. Press [SELECT]. A blank space appears.
 - i. Dial [1] for VPS port 1. Press [MEMORY] to store the extension name.

- j. Press [SELECT] to program the next jack number. Repeat the steps for each remaining VPS port (assign extension names "VMail 2," "VMail 3,")
- k. Press [END] to exit extension naming.

Program 08, Call Hunting:

1. Enable call hunting for the VPS extension group you created in program 60.
 - a. Dial [08]. The phone display will show Hunting Group. Press [NEXT]. The display will show: Group NO?.
 - b. Dial [8] to select the VPS extension group. Press [SELECT] until: Group 8: Enable is shown. Press [MEMORY] to store the hunting status assignment. Press [END] to exit.

Program 09, Hunting Type:

1. Enable circular hunting for the VPS extension group.
 - a. Dial [09]. The phone display will show Hunting Type. Press [NEXT]. The display will show: Group NO?.
 - b. Dial [8] to select the VPS extension group. Press [SELECT] until Group 8: Terminate is shown. Press [MEMORY] to store the hunting type assignment. Press [END] to exit.

Program 45/46, Day/Night Flexible Outward Dialing Assignment:

1. Assign outward dialing status to each of the VPS extension jacks by specifying which CO lines are available. This allows the VPS to deliver messages to outside phone numbers.
 - a. Dial [45]. The phone display will show Day Out CO. Press [NEXT]. The display will show: CO NO?.
 - b. Dial the 1232 CO number (1 to 12) of the first CO line available to the VPS. The display will show the current outward dialing status for jack #1.

- c. Press [#] then dial the jack number for VPS port 1. The display will show the status currently assigned to the jack.
 - d. Press [SELECT] until "Enable" is shown. Press [MEMORY] to store the status assignment.
 - e. Press [#] then dial the jack number for the next VPS port. Repeat the previous step to enable outward dialing status for each remaining VPS port.
 - f. Press [SELECT]. The display will show: CO NO?. Dial the CO number of the next CO line available to the VPS. Repeat the jack assignment steps for each VPS port jack. Repeat until all VPS jacks are enabled for all CO lines.
 - g. Press [END] to exit day mode flexible outward dialing assignment.
2. Dial [46] and complete this process to assign night mode outward dialing status to each VPS port jack and CO. Press [END] to exit.

Program 47/48, Day/Night Flexible Ringing Assignment:

1. Assign incoming call ringing status to each of the VPS extension jacks by specifying which CO lines are to be answered during day- and night-mode service.
2. If the VPS is used for voice mail only (an operator will always answer incoming calls during the day), disable day ringing and assign only night ringing status to the VPS extension jacks.
3. If the VPS is either the primary or secondary attendant, assign both day and night service to the VPS extension jacks.
 - a. Dial [47]. The phone display will show Day In CO. Press [NEXT]. The display will show: CO NO?.
 - b. Dial the 1232 CO number (1 to 12) of the first CO line the VPS is to answer. The display will show the current inward ringing status for jack #1.
 - c. Press [#] then dial the jack number for VPS port 1. The display will show the status currently assigned to the jack.

- d. Press [SELECT] until "Enable" is shown. (Or "Disable" for voice mail only applications.) Press [MEMORY] to store the status assignment.
- e. Press [#] then dial the jack number for the next VPS port. Repeat the previous step to enable inward ringing status for each remaining VPS port.
- f. Press [SELECT]. The display will show: CO NO?. Dial the CO number of the next CO line available to the VPS. Repeat the jack assignment steps for each VPS port jack. Repeat until all VPS jacks are enabled for all CO lines.
- g. Press [END] to exit day mode flexible ringing assignment.
- h. Dial [48] and complete this process to assign night mode inward ringing status to each VPS port jack and CO. Press [END] to exit.

Program 49/50, Day/Night Delayed Ringing Assignment:

1. Set immediate or delayed ringing status for the operator's extension and for each of the VPS extension jacks. This determines whether the operator or the VPS has priority in answering incoming calls. Use the table below to determine the proper immediate/delayed ringing settings for your situation:
2. Voice Mail Only: Primary Attendant: Secondary Attendant:
3. VPS Operator VPS Operator VPS Operator
4. Day N/A Immed. Immed. Delay Delay
Immed.
5. Night Immed. Delay Immed. Delay Immed. Delay
Delay
 - a. Dial [49]. The phone display will show: Day Delayed CO. Press [NEXT]. The display will show: CO NO?.
 - b. Dial the 1232 CO number (1 to 12) of the first CO line the VPS is to answer. The display will show the current ringing status for jack #1.
 - c. Press [#], then dial the jack number for VPS port 1. The display will show the status currently assigned to the jack.

- d. Press [SELECT] until "Immdtly" or the number of rings to delay (4, 6, or 8 rings) is shown as desired for this VPS port. Press [MEMORY] to store the status assignment.
- e. Press [#], then dial the jack number for the next VPS port. Repeat the previous step to set ringing status for each remaining VPS port.
- f. Press [#], then dial the jack number for operator extension jack. Set the desired ringing status. Repeat for the second operator extension jack, if applicable.
- g. Press [SELECT]. The display will show: CO NO?. Dial the CO number of the next CO line the VPS is to answer. Repeat the jack assignment steps for each VPS and operator port jack. Repeat until all VPS and operator jacks are set for all CO lines.
- h. Press [END] to exit day mode delayed ringing assignment.
- i. Dial [50] and complete this process to assign night mode status to each jack and CO.

End System Programming:

Return the System Program Switch on the 1232 KSU to the "SET" position.

Follow the wiring instructions given in the VPS installation guide to cross-connect the Panasonic station jacks to 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 Panasonic system programming are working properly. After you test the single-line ports, follow the VPS installation guide to connect and test the VPS.

1. You may program Easy Message Access on Panasonic proprietary electronic phones using a spare programmable feature key. To do this:
2. Be sure the handset is on-hook and that the [SP--PHONE] or [MONITOR] button is off. Set the MEMORY switch on the phone to "PROGRAM."

- a. Press the selected programmable feature button.
- b. Dial the lead VPS extension number (150).
- c. Press [PAUSE] then [9] followed by the extension number and the subscriber's security code, if desired.
- d. Return the MEMORY switch to the "SET" position.

**D. Panasonic KXT616
(147)**

Overview:

- Program the Panasonic 616 to support the voice processing system (VPS).
- Test the 616 system programming and connect the VPS.
- Program individual stations for easy message access.

Hardware Requirements:

- One RJ-14 modular jack and 4-conductor modular cord for each VPS port.
- One 4-conductor modular cord terminating in spade lugs for each VPS port.
- One KX-T61630 telephone and 616 programming overlay.

Supported Features:

- Automated attendant/voice mail without call forwarding (await answer transfer. Voice mail only (no transfer).
- Message notification: Through message delivery (The VPS calls extension)
- Easy message access
- Operator's console: 11 (Default) Positive disconnect: Not provided

Configuring the Panasonic KXT 616:

Connect the KX-T161630 telephone to extension jack #11 of the 616 KSU. Make sure the extension is on-hook and the [SP--PHONE] button is off. Locate the System Program Switch on the 616 KSU and set it to the "PROGRAM" position. The programming phone display will show: ENTER PGM CODE

Program the 616 system control settings as follows:

Program 16, Automatic Answering Selection:

1. Enable automatic incoming call answering for each VPS extension jack. This allows the VPS to answer a CO call by simply going off-hook.
 - a. Dial [16]. The phone display will show: CO ANSWER MODE. Press [NEXT]. The display will show: ENTER EXT NO.
 - b. Dial the extension number for VPS port 1. The display will show the answering status currently assigned.
 - c. Press [NEXT] until ,nn: AUTO ANSWER is shown. Press [MEMORY] to store the answering mode.
 - d. Dial the extension number for the next VPS port. Repeat the process for each remaining VPS extension.
 - e. Press [END] to exit.
2. Program 19, Programmable Call Waiting:
 - a. Disable intercom and CO call waiting tone for each VPS extension jack. This prevents waiting tone from disrupting VPS operation when an extension or outside call attempts to ring a busy VPS port.
 - b. Dial [19]. The phone display will show: CALL WAITING. Press [NEXT]. The display will show: ENTER EXT NO.
 - c. Dial the extension number for VPS port 1. The display will show the call waiting status currently assigned.
 - d. Press [NEXT] until ,nn: EX-OFF, CO-OFF is shown. Press [MEMORY] to store the call waiting status.

- e. Dial the extension number for the next VPS port. Repeat the process for each remaining VPS extension.
 - f. Press [END] to exit.
3. Program 07/08, Day/Night Flexible Outward Dialing Assignment:
- a. Assign outward dialing status to each of the VPS extension jacks by specifying which CO lines are available. This allows the VPS to deliver messages to outside phone numbers.
 - b. Dial [07]. The phone display will show: DAY: OUT CO. Press [NEXT]. The display will show: ENTER EXT NO.
 - c. Dial the extension number for VPS port 1. The display will show:
nn: CO 1 2 3 4 5 6. The numbers 1-6 will be blinking.
 - d. Dial the CO number (1 to 6) of the first line available to the VPS.
The corresponding number on the display will stop blinking. Dial the number of each remaining VPS CO line. Press [MEMORY] to store the day outward dialing assignment.
 - e. Dial the extension number for the next VPS port. Repeat the process for each remaining VPS extension. Press [END] to exit day assignment.
 - f. Dial [08] and complete this process to assign night mode outward dialing status to each VPS extension.
 - g. Press [END] to exit.
4. Program 09/10, Day/Night Flexible Ringing Assignment:
- Assign incoming call ringing status to each of the VPS extension jacks by specifying which CO lines are to be answered during day- and night-mode service.
- a. If the VPS is used for voice mail only (an operator will always answer incoming calls during the day), disable day ringing and assign only night ringing status to the VPS extensions.

- b. If the VPS is either the primary or secondary attendant, assign both day and night service to the VPS extension.
- c. Dial [09]. The phone display will show: DAY: IN CO. Press [NEXT]. The display will show: ENTER EXT NO.
- d. Dial the extension number for VPS port 1. The display will show: nn: CO1 2 3 4 5 6. The numbers 1-6 will be blinking.
- e. Dial the CO number (1 to 6) of the first line the VPS is to answer. The corresponding number on the display will stop blinking. Dial the number of each remaining VPS CO line. (To disable day ringing instead, press [CLEAR].)
- f. Press [MEMORY] to store the day ringing assignment.
- g. Dial the extension number for the next VPS port. Repeat the process for each remaining VPS extension. Press [END] to exit day assignment.
- h. Dial [10] and complete this process to assign night mode ringing status to each VPS extension. Press [END] to exit.

5. Program 20, Delayed Ringing Assignment:

- a. Set delayed ringing status for the operator's extension or each VPS extension jack as required. This determines whether the operator or the VPS has priority in answering incoming calls. Use the table below to determine the proper immediate/delayed ringing settings for your situation:

Voice Mail Only	Primary Attendant	Secondary Attendant
VPS Operator	VPS Operator	VPS Operator

Immed.* Immed. Immed. Delay ... Delay
Immed.

(*Day inward ringing is disabled in program 09, so "immediate" ringing applies only at night.)

- b. Dial [20]. The phone display will show: DELAY RING CO. Press [NEXT]. The display will show: ENTER EXT NO.
 - c. To set delayed VPS ringing, dial the extension number for VPS port 1. The display will show: nn: CO * * * * *. The "*"s" will be blinking. Dial the CO number (1 to 6) of the first line the VPS is to answer. The corresponding "*" on the display will stop blinking and delayed ringing will be selected for this CO. Dial the number of each remaining VPS CO line. Press [MEMORY] to store the delayed ringing assignment. Dial the extension number for the next VPS port. Repeat the process for each remaining VPS extension.
 - d. To set delayed operator ringing, dial the extension number for the operator. Repeat the process given above for delayed VPS ringing.
 - e. Press [END] to exit.
6. Program 21, Delayed Ringing Count Selection:
- a. Set the desired number of rings to delay.
 - b. Dial [21]. The phone display will show: DELAY RING COUNT. Press [NEXT]. The display will show: AFTER n RINGS. Where n is the number of rings.
 - c. Press [SELECT] until the desired number of rings delay is shown (must be 2 or more, DO NOT USE 1 RING). Press [MEMORY] to store the delay selection.
 - d. Press [END] to exit.
7. Program 38, DTMF Receiver Check:
Verify that both available tone receivers (DTMF) are enabled.
- a. Dial [38]. The phone display will show: DTMF RECEIVER. Press [NEXT]. The display will show: RECV 1: ENABLED/DISABLED.
 - b. Press [SELECT] until receiver 1 is "enabled." Press [MEMORY] to store the selection. Press [NEXT] and enable receiver 2. Press [MEMORY] then [END] to exit.

8. End System Programming:

Return the System Program Switch on the 616 KSU to the "SET" position.

Follow the wiring instructions given in the VPS installation guide to cross-connect the Panasonic station jacks to 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 Panasonic system programming are working properly. After you test the single-line ports, follow the VPS installation guide to connect and test the VPS.

You may program Easy Message Access on Panasonic proprietary electronic phones using a spare programmable feature key. To do this:

Be sure the handset is on-hook and that the [SP--PHONE] or [MONITOR] button is off. Set the MEMORY switch on the phone to "PROGRAM."

- a. Press the selected programmable feature button.
- b. Dial the lead VPS extension number.
- c. Press [PAUSE] then [9] followed by the extension number and the subscriber's security code, if desired.
- d. Return the MEMORY switch to the "SET" position.

**E. Panasonic KXT336
(148)****Overview:**

- Install a SLC P/N KX-T96174 in any spare port slot. The SLC supports (8) eight ports.
- Program the Panasonic 336 to support the voice processing system (VPS).
- Program the phone system for DTMF integration.
- Connect the VPS and test the programming.

Hardware Requirements:

- One 25-pair male-ended amphenol connector to connect the SLC card to the MDF.
- For a 2-port VPS, one RJ-11C modular jack and one 4-conductor mounting cord per port.

- For a 4-port VPS, one RJ-14C modular jack and one 4-conductor mounting cord for every two ports.

Supported Features:

- Automated attendant/voice mail without call forwarding (wait-ring transfers. Voice mail only (no transfers).
- Message notification: Through message waiting lamps
On: *9,X Off: #9,X
- Call forwarding
- Operator's console: 100 (Default) Positive disconnect: "D" tone

Configuring the Panasonic KXT 336:

1. Connect the VT100 or compatible terminal to the RS-232 connector located on the bottom left side of the equipment cabinet.
 - a. Press [Enter].
 - b. Enter level one password (default is lvl1).
 - c. Enter [P][R][G]. Press [Enter].
 - d. You see: ;PRG>

The phone system is now ready for command input.

Assign Dialed Number

1. At the ;PRG> prompt, type [D][N][A] [A][T] SXXP, where S is the shelf number, XX is the slot number, and P is the port number (1-8).
Press [Enter].
2. Enter the extension number that you wish to use. You may leave this at the default. Press [Enter] to go to the next port. Repeat this step for each VPS port.
3. After you have programmed the last port press [E][O][D] to save this program.

Assign Extension Parameters:

1. At the ;PRG> prompt, type [E][X][T] [A][T] XXX, where XXX is the dialed number assigned in [D][N][A]. Press [Enter].

2. Press [Enter] until you see: Station Name. Enter, "----", where ---- is the name of that station. Enter the station name (e.g., "VPS").
3. Press [Enter] until you see: Next Hunt Station. Enter the extension number of the next VPS port.
4. Press [Enter] until you see: Class of Service. Enter the class of service (01-32) that you wish to assign to the VPS ports.
5. Press [Enter] until you see: Data Line Security. If the entry is "N", change this to "Y". This will prevent camp-on tones to the VPS ports.
6. Repeat these steps for all VPS ports. When you are finished, type [E][O][D].

Assign Voice Mail Directory Number:

1. At the ;PRG> prompt, type [V][M][D] [A][T] [0][1]. Press [Enter].
2. At the <<INPUT prompt, type [D][N] XXX, where XXX is the extension number of the first VPS port. Press [Enter].
3. Repeat the last step for each VPS port. When you are finished, type [E][O][D].

Assign Day Ringing:

1. From the ;PGM> prompt, type [T][G][1] [A][T].
2. Press [Enter] repeatedly until you see: Incoming Mode (Day). Enter [2] for DIL.
3. Press [Enter] once. You see: Incoming Mode (Night). Enter [3] for flexible.
4. Enter [E][O][D] to save.
5. From the ;PGM> prompt, type [C][O][L] [A][T] XXXX, where XXXX is the physical number of the CO line. Press [3] followed by [Enter].
6. Enter [D][N] XXX, where XXX is the extension number of the first VPS port.
7. Press [Enter]. You see: Night Answer Point. If the VPS is to be used as an automated attendant at night only, enter [D][N] XXX, where XXX is the extension number of the first VPS.
8. Enter [E][O][D] to save.

Enable DTMF Integration:

1. From the ;PGM> prompt, type [W][S][3] [A][T] [3].
2. You see: DTMF-Tone Integration N:.
3. Enter [Y], then press [Enter].
4. Enter [E][O][D] to save.

Call Forwarding:

The phone system supports three types of forwarding. However, use only forward no-answer as the phone system will not forward a call back to the VPS under a busy condition.

1. To call forward from a PITS, follow the procedure below:
 - a. Go off-hook.
 - b. Press the [FWD/DND] button and dial 4.
 - c. Dial the extension number of the first VPS port.
 - d. You see: (FWD) (NA) Ext xxx, where xxx is the first VPS port.
 - e. Hang up.
2. To call forward from a 2500-type set, follow the procedure below:
 - a. Go off-hook.
 - b. Dial the Forward No-Answer code.
 - c. Dial the extension number of the first VPS port.
 - d. You hear confirmation tone followed by dial-tone.
 - e. Hang up.

F. Lucent Partner Plus (160)**Overview:**

- Program the Partner Plus to support the voice processing system (VPS).
- Test the Partner Plus system programming and connect the VPS.
- Program individual stations for easy message access.

Hardware Requirements:

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

- One 4-conductor modular cord terminating in spade lugs for each VPS port.
- One AT&T MLS-34D or MLS-12D system telephone with the appropriate programming overlay. No other type of AT&T system phone can be used for programming.
- If you are adding a 206 expansion module to the Partner Plus system, install the module according to the manufacturer's instructions.
- Select (1) one unused extension jack for each VPS port. Note the extension numbers of the selected jacks.

Supported Features:

- Automated attendant/voice mail without call forwarding (await answer transfer). Voice mail only (no transfer).
- Message notification: Through message waiting lamps (on system phones only)
On: , #09,X Off: ,#10,X
- Call forwarding (partially supported)
- Operator's console: 10 (Default) Positive disconnect: Provided

Configuring the Lucent Partner Plus:

Connect the AT&T MLS-34D or MLS-12D system phone to extension 10.

1. Begin System Programming.
 - a. Press [Feature] 00 [System--Program] [System--Program].
2. Set Transfer Return Rings to 6.
 - a. Dial [#] [105]. Dial [6]. This keeps the Partner Plus from returning a transferred call that is supervised by the VPS.
3. Set PBX/Centrex Mode to Active.

- a. Dial [#] [721]. Dial [1]. For VPS compatibility, the Partner Plus must operate in PBX mode. Note that this action disconnects all active calls--please warn system users before you proceed.
4. Set PBX Dial-Out Code to 9.
 - a. Dial [#] [106]. Dial [9]. System users must dial [9] at the intercom tone (ICM) to get an outside line.
5. Enable the Night Service Button on the Operator's Console.
 - a. Dial [#] [503]. Dial [10]. This allows the operator to switch the Partner Plus into Night Service operation using the Night Service feature button. Night Service operation lets the VPS answer incoming calls after hours. (If the operator's console extension is not 10, substitute the correct extension number.)
6. Remove the System Password.
 - a. The Partner Plus System Password feature is not compatible with the VPS message delivery feature. This is because the System Password is required to dial outgoing calls when the Partner Plus is in Night Service operation. This keeps the VPS from delivering messages to subscribers after hours. Removing the System Password prevents this conflict.
 - b. Dial [#] [403]. Press [Remove].
7. Set Outgoing Line Assignments for VPS Port 1.
 - a. Dial [#] [301]. Dial the extension number for VPS port 1.
 - b. Dial the line number of the first outside line assigned to the VPS (1, 2, 3, etc.) Dial [1].
 - c. Press [Next--Item] and dial the line number of the next outside line assigned to the VPS. Dial [1]. Repeat this step for the remaining outside lines assigned to the VPS.
8. Set Automatic Extension Privacy for VPS Port 1.
 - a. Dial [#] [304]. Dial the extension number for VPS port 1.

- b. Dial [1]. Extension privacy prevents users from joining--and interrupting--a VPS extension call.
9. Set the Transfer Return Extension for VPS Port 1.
 - a. Dial [#] [306]. Dial the extension number for VPS port 1.
 - b. Dial [10]. This transfers calls that overflow from the VPS to the operator's console. (If the operator's console extension is not 10, substitute the correct extension number.)
10. Assign VPS Port 1 to the Night Service Group.
 - a. Dial [#] [504]. Dial the extension number for VPS port 1.
 - b. Dial [1]. This rings outside lines directly to the VPS when the Partner Plus is in Night Service operation.
11. Assign Attendant/VMS Extension Status to VPS Port 1.
 - a. Dial [#] [607].
 - b. Dial the extension number for VPS port 1. Dial [1].
12. Assign VPS Port 1 to the Calling Group.

This is an optional programming step. The Partner Plus has one available "Calling Group." Any user in the system can ring any extension assigned to the Calling Group. In effect, the Calling Group feature creates an ICM hunt group for VPS extensions.

Since there is only one Calling Group available, you must decide whether or not to dedicate it to VPS service.

Here are the considerations:

If the VPS uses the Calling Group: Users reach the VPS by dialing "71".

Several users (up to the total number of VPS ports) can reach the VPS in-house simultaneously. This is better when there is heavier use of the VPS for subscriber-to-subscriber voice mail than as an automated attendant. The Calling Group feature cannot be used for other services like system-wide speakerphone

paging.

If the VPS does not use the Calling Group: Users reach the VPS by dialing the extension number of the first VPS port. Users must call one at a time, or know to dial an alternate VPS extension number if the first extension is busy. This is okay when there are few subscribers, low traffic, or when the VPS is used primarily as an automated attendant.

To assign the VPS to the Calling Group:

- a. Dial [#] [502].
- b. Dial the extension number for VPS port 1.
- c. Dial [1].

Note that you must also use this program (#502 + extension + 2) to de-assign every other extension from the Calling Group.

13. Copy VPS Port 1 Settings to the Remaining VPS Port(s).
 - a. Dial [#] [399]. Dial the extension number for VPS port 1.
 - b. Dial the extension number of VPS port 2. Repeat for the remaining VPS ports, if applicable.
14. End System Programming.
 - a. Press [Feature] 00.
15. Begin Centralized Telephone Programming for VPS Extensions.
 - a. Press [Feature] 00 [System--Program] [System--Program] [Central--Tel--Program].
 - b. Dial the extension number for VPS port 1.
16. Set Automatic Line Selection for VPS Port +1 to Intercom Only.
 - a. Dial [*] [*]. Press the [System--Program] button.
 - b. Dial [*] [*].
17. Set Line Ringing Assignments for VPS Port 1.

Outside lines assigned to VPS port 1 are lit on the programming telephone.

If the VPS is the primary attendant, answering calls

before the operator, each line button should be steady green (indicating immediate ring). If a button light is flashing, press it until it becomes steady green.

If the VPS is the secondary attendant, answering calls only when the operator is busy, each line button should be slowly flashing (indicating delayed ring). If a button light is steady green or blinking with a fast flutter, press it until it flashes slowly.

18. Repeat Line Selection and Ringing Assignments for the Next VPS Port.
 - a. Press [Central--Tel--Program] and then dial the extension number for VPS port 2.
 - b. Repeat the steps given above from the line that begins "Dial [*] [*]."
 - c. Repeat for the remaining VPS ports, if applicable.
19. Set the Opposite Attendant Ringing Assignments for the Operator's Console.
 - a. Press [Central--Tel--Program] and then dial [10] (or the correct extension number for the operator's console).

If the VPS is the primary attendant, set the operator's console as secondary attendant--press each line button until it flashes slowly.

If the VPS is the secondary attendant, set the operator's console as primary attendant--press each line button until it is steady green.

20. End Centralized Telephone Programming.
 - a. Press [Feature] 00.
21. Create Partial Support for CALL FORWARDING.

The Partner Plus does not support follow-along identification of transferred calls. (When a system does support this feature, a user who directly dials a station that does not answer is automatically transferred to the person's voice mailbox.)

You can use the Partner Plus Transfer Return Extension Feature to transfer unanswered station calls to the VPS opening greeting. At the opening greeting, the

caller simply dials his or her Personal ID and then follows the VPS instructions to leave a message.

While this is not as fast as a direct transfer to the station's voice mailbox, it does save time when compared to hanging up the unanswered call and then dialing the VPS separately to leave a message.

22. To activate Transfer Return:

- a. Begin System Programming:
- b. Press [Feature] 00 [System--Program] [System--Program].
- c. Dial [#] [306]. Dial the first subscriber's extension number. Dial the extension number for VPS port 1. Unanswered calls to the extension will transfer to the VPS.
- d. Press [Next--Item] to enter the next subscriber extension number.
- e. Dial the extension number for VPS port 1.
- f. Repeat for each remaining extension.
- g. End System Programming:
- h. Press [Feature] 00.

Follow the wiring instructions given in the VPS installation guide to cross-connect the Partner Plus extension jacks to RJ-14C 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 Partner Plus system programming are working properly. After you test the single-line ports, follow the VPS installation guide to connect and test the VPS.

Call Forwarding

If you programmed a Transfer Return Extension assignment for each subscriber, the Partner Plus will transfer unanswered extension-to-extension calls to the VPS opening greeting. Explain the modified procedure for leaving voice mail messages to the System Manager (a subscriber enters his or her Per-

sonal ID and then follows the VPS instructions to leave a message).

Easy Message Access

Easy message access is supported on system phones only (MLS-12, MLS-12D, and MLS-34D). To program a spare programmable feature key for easy message access: With the phone on hook, press [Feature] 00. Press the programmable key that will become the easy message access key.

If the VPS uses the Calling Group:

Press left [Intercom] 71 [Hold]. (Left "Intercom" is the same as "System Program")

If the VPS does not use the Calling Group:

Dial the number of the first VPS extension.

Dial [9] plus the station extension number.

Press [Feature] 00.

G. Lucent Legend (161)

Hardware Requirements:

- One standard single line station port for each voice mail port. Terminate these lines at two-line RJ-14 jacks at the voice mail system location.

Configuring the Lucent Legend:

1. Define all voice mail system ports as Voice Mail ports on the switch.
2. Assign a spare Access# and a spare PDC# to voice mail. Set DISABLE Q to "No".
3. Set VMS MSG WAIT to 0, then enter the voice mail extension. List the voice mail stations under the "Extension" heading (not "Logged Out") for activation of message waiting lamps.
4. If you want permanent call coverage to voice mail, select the correct class of service, for example Ring/No Answer, under Voice stations/User stations/Modify Voice Stations/PDC.

Voice Mail Programming:

1. Since the AT&T LEGEND does not support hunt groups, you must set "Rings to answer" on Line 15, Page 2 of the Application Screen to 0 for all ports (Pooled Answer).
2. Switches with R1V1 software do not support message waiting lamps. Instead, program Message Delivery for every 30 minutes during normal business hours, with type set to "Batch". Configure under Message Notification on the Personal Directory screen for each subscriber.
3. Switches with R1V1 software do not support Call Forward to Personal Greeting. For an Automated Attendant application, use the Await-Answer transfer type. Set the number of rings to wait to (4) four in Transaction Boxes and subscriber message boxes.
4. For switches with R2V1 software, enter ATT25 R2V1 on Line 2, Page 1 of the Switch Setup screen.

**H. Lucent Partner II
(162)****Overview:**

- Program the Partner II to support the voice processing system (VPS).
- Program the voice processing system for Partner II integration.
- Test the Partner II system programming and connect the VPS.
- Program individual stations for easy message access.

Hardware Requirements:

- One RJ-14C modular jack and 4-conductor modular cord for each VPS port.
- One 4-conductor modular cord terminating in spade lugs for each VPS port.
- One AT&T MLS-34D or MLS-12D system telephone with the appropriate programming overlay for the Partner II system. No other type of AT&T system phone can be used for programming.

- If you are adding a 206 expansion module to the Partner II system, install the module according to the manufacturer's instructions.
- Select one unused extension jack for each VPS port. Note the extension numbers of the selected jacks.

Supported Features:

- Automated attendant/voice mail with call forwarding.
 - Message notification: Through message waiting lamps (on system phones only)
On: , #09, @Ext Off: , #10, @Ext
 - Call forwarding
 - Easy message access
 - Operator's console: 10 (Default) Positive disconnect: Provided
1. Configuring the Lucent Partner II:
 - a. Begin System Programming.
 - b. Press [Feature] 00 [System--Program] [System--Program].
 2. Group Call Distribution.
Use Group Call Distribution to assign outside lines to Hunt Group 7 (the VMS hunt group) to provide Automated Attendant Service on these lines.
 - a. Dial [#] [206]. Dial [7] for voice mail group.
 - b. Enter CO line number 01-99 to assign to voice mail coverage.
 - c. To set another line, press the [Next Item] button.
 3. Transfer Return Extension.
Use Transfer Return Extension for the voice mail extensions to ensure that calls transferred by the voice mail return to the extension 10 if they are not answered.
 - a. Dial [#] [306]. Dial voice mail port 1 extension, example 15.
 - b. Dial where the call should be sent, example [10].

- c. To program another extension press [Next Item].
4. Hunt Group Extensions.
Use Hunt Group Extensions to assign the voice mail extensions to Hunt Group 7, the voice mail hunt group.
 - a. Dial [#] [505]. Dial [7] for voice mail hunt group.
 - b. Dial the first voice mail extension, example [15].
 - c. To assign or unassign extension, press [Next Data] until the appropriate value displays.
 - d. To assign another extension, press [Next Item].
5. VMS Hunt Delay.
Set the VMS Hunt Delay to Delayed.
 - a. Dial [#] [506].
 - b. Press [Next Data] until [Delayed] is displayed.
6. VMS Hunt Schedule.
Set the VMS Hunt Schedule to Always.
 - a. Dial [#] [507].
 - b. Press [Next Data] until [Always] is displayed.
7. Voice Mail Transfer Button.
Program a Voice Mail Transfer button at extension 10 to enable the receptionist to transfer calls directly to an extension's mailbox without first ringing their phone.
 - a. Press [Central Tel Program] button.
 - b. Enter extension [10].
 - c. Press a programmable button.
 - d. Press [Feature] followed by [14].
8. Quick Message Access.
On each extension, program an Auto Dial button for the VMS hunt group ([Intercom] 7 7 7) to allow the subscribers to call in for their messages with one touch.
Configuring the Voice Mail system for Lucent Partner II:
From the Admin program running on a lap-top:
 1. Make sure that the Lucent Partner II has been selected.
 2. Select Setup, Advanced, Registry.
 - a. For each voice mail port, add a registry parameter:
PartnerExtXX=PP

Where XX is the extension number and PP is the voice mail port number. For example, if the first port is connected to extension 15, then the following parameter would be added:

Name: PartnerExt15

Value: 01

If you change Partner extensions, you must delete the old values and add the corrected values.

- b. To allow direct owner access, add the following:

Name: PartnerOwnerAccess

Value: Yes

- c. To allow direct owner access without a password, also add the following:

Name: PartnerNoPassword

Value: Yes

- d. To turn on console debug and tracing, add:

Name: PartnerMode

Value: Debug

Or

Name: PartnerMode

Value: Trace

I. Lucent Merlin Legend (163)

Hardware Requirement:

- One standard single line station port for each voice mail port. Terminate these lines at two-line RJ-14 jacks at the voice mail system location.

Configuring the Lucent Merlin Legend:

1. Define all voice mail system ports as Voice Mail ports on the switch.
2. Assign a spare Access# and a spare PDC# to voice mail. Set DISABLE Q to "No".
3. Set VMS MSG WAIT to 0, then enter the voice mail extension. List the voice mail stations under the "Extension" heading (not "Logged Out") for activation of message waiting lamps.
4. If you want permanent call coverage to voice mail, select the correct class of service, for example Ring/No Answer, under Voice stations/User stations/Modify Voice Stations/PDC.

Voice Mail Programming:

1. Since the AT&T LEGEND does not support hunt groups, you must set "Rings to answer" on Line 15, Page 2 of the Application Screen to 0 for all ports (Pooled Answer).
2. Switches with R1V1 software do not support message waiting lamps. Instead, program Message Delivery for every 30 minutes during normal business hours, with type set to "Batch". Configure under Message Notification on the Personal Directory screen for each subscriber.
3. Switches with R1V1 software do not support Call Forward to Personal Greeting. For an Automated Attendant application, use the Await-Answer transfer type. Set the number of rings to wait to (4) four in Transaction Boxes and subscriber message boxes.
4. For switches with R2V1 software, enter ATT25 R2V1 on Line 2, Page 1 of the Switch Setup screen.

J. Nitsuko DS01 (155)**Hardware Requirements:**

The following are the hardware requirements for the Nitsuko DS01 in-band integration:

- For a 2-port VPS, use one RJ-11C modular jack for every VPS port.
- For a 4-port VPS, use one RJ-14C modular jack for every 2 VPS ports.
- Use a standard 4-conductor modular mounting cord for all connections between the VPS and the phone system.
- One 30-button display phone (P/N 88663-white or P/N 88673-graphite) for programming.
- One ASI (P/N 89749) for every VPS port or one Dual Port Interface (P/N 88750) for every (2) two VPS ports.

Supported Features:

- Automated attendant/voice mail with call forwarding (release transfers). Voice mail only (no transfers).

- Message Notification done through message waiting lamps.
On: #,X,00 Off: #,X,01
- Call forwarding
- Easy message access (speed dial)
- Operator's console: 100 (default) Positive disconnect: 9999

Configuring the Nitsuko DS01:

1. To enter the program mode, press [PGM#]. Dial [77], then enter the system password. The default system password is 5312. Press [PGM#].
2. Programmable keys 1-20 give you access to programs 1-20. The keys are mapped as follows: Keys 1-5 are in the top row, keys 6-10 are in the second row, keys 11-15 are in the third row, and keys 16-20 are in the fourth row.
3. Program the DS01 in the exact order listed below:
4. Program 14 assigns an ASI circuit type to each port for use as voice mail. To assign a port as ASI:
 - a. Press [key14]. Dial the port number associated with the ASI unit.
 - b. Press [PGM#]. Press [dial], followed by the extension number of the VPS. Press [PGM#].
 - c. Press [dial], followed by the circuit type. For the VPS, use circuit type 51.
 - d. To enter the name of the VPS, press the dial pad button for the desired letter (e.g., 8 for V). To make the proper letter appear, dial the letter's position on the key pad (e.g., button eight's alpha values are TUV. For V, you would press [3] since V is the third letter on that button). Do this until the entire name is spelled out. Repeat this step for each VPS port.
5. Program 18 assigns the voice mail feature to each ASI station that was assigned in program 14. To assign a station as voice mail:
 - a. Press [key18]. Dial the extension number of the VPS.

- b. Press [PGM#]. Dial 89 for voice mail.
 - c. Press [9] for y. Press [save] to exit.
 6. Program 3 tells the system voice mail is installed. To assign voice mail:
 - a. Press [key03].
 - b. Press [PGM#] until the display shows: Voice Mail.
 - c. Press [9] for yes.
 - d. Press [PGM#] The display shows: Voice Mail Master Ext.
 - e. Enter the extension number of the first VPS port assigned in program 14.
 - f. Press [save] to exit.
 7. Program 19 is where you set the UCD Hunt Group. To set up a UCD Hunt Group:
 - a. Press [key19], then dial [05].
 - b. Press [PGM#]. Dial the master extension that was assigned in program 3.
 - c. Press [PGM#] until the display shows: UCD MEMBER.
 - d. Dial the first VPS extension.
 - e. Press [PGM#] repeatedly until the display shows: UCD MEMBER.
 - f. Dial the next extension. Repeat steps E and F for each VPS extension.
 - g. Press [save] to exit.
 8. Program 12 is where you set the lines to ring at the automated attendant during day mode. To set up ringing:
 - a. Press [key12]. Dial the CO line number.
 - b. Dial the abbreviation for DTD (day ring), which is 383 on the dial pad.
 - c. Press [PGM#]. Dial the Master Extension number assigned in program 3.
(Repeat these steps for each line that should ring into the VPS).
 - d. Press [save] to exit.
 9. Program 12 is where you set up night ringing. To set up night ringing:
 - a. Press [key12]. Dial the CO line number.
 - b. Dial the abbreviation for DTN (night ring), which is 386 on the dial pad.

- c. Press [PGM#]. Dial the Master Extension number assigned in program 3.
 - d. Repeat these steps for each line that you want to ring into the VPS when the phone system is in night mode.
 - e. Press [save] to exit.
10. Program 16 is where you allow the VPS access to lines for outdials to pagers, home phones, etc. To allow line access:
- a. Press [key16]. Dial the extension number of the first VPS port.
 - b. Press [PGM#]. Dial 5 for line.
 - c. Dial the line number (01-16).
 - d. Dial [2] for incoming and outgoing line access.
 - e. Repeat these steps for each VPS extension.
 - f. Press [save] to exit.
11. To activate call forwarding:
- a. Lift the handset.
 - b. Press [intercom].
 - c. Dial [#].
 - d. Press [msg].
 - e. Dial the call forward code.
 - f. Hang up.

Forward codes:

- a. Forward no answer.
- b. Forward n/a and busy
- c. Forward all calls.

**K. Toshiba DK 242
(165)**

Hardware Requirements:

Information unavailable at present time.

Supported Features:

Information unavailable at present time.

Configuring the Toshiba DK Series:

Program 10-1 - System Assignments:

Ring Transfer, LED 07 - Enable (LED on)

Program 10-2 - System Assignments:

- DTMF Tone Return, LED 11 - Enable (LED off)

- Voice mail ID code, DTMF signal time, LED 06 - Set for 80ms (LED on)
- Voice mail MW cancel via dial #64 / automatic, LED 04 - enable (LED on)

Program 12 - System Assignments / Basic Timing:

Flash Timing, Code 4 - Set @ 0.5 seconds

Program 13 - Defining the Message Center:

Assign lowest number voice mail port to message center.

Program 15 - Assigning DP / DTMF:

Auto-Release (AR) on voice mail calls, Code 0 - enable for all CO lines

Program 31 - Station Class of Service:

For VM ports:

- Toshiba VP (B+Sta #), LED 20 - enable
- Toshiba VP (B No Sta), LED 19 - enable
- End / End Signal RCV (VM), LED 17 - must enable
- Receive VM ID code, LED 16, enable
- Toshiba VP integration (A Tone / D), LED 15 - enable
- VM No Conference, LED 09 - enable (LED on)
- VM groups 1-4, LED 05-08 - Put all VM ports into group 1, LED 05 (LED 05 on)
- VM to VM call blocking, LED 04 -enable (LED on)
- Executive and privacy override blocking, LED 18 - enable (LED on)

Program 33 - Station Hunting:

All VM ports must be set up in a Hunt group.

Program 35 - Station Class of Service:

- Busy Station Transfer (BST), LED 20 - enable for VM ports
- Busy Station Ringing (BSR), LED 19 - enable for all non-VM stations

- Msg. Waiting Receive (RCV), LED 04 - enable for all non-VM stations

Note that LEDs 01, 02, and 04 must be on for all non-VM stations in order for Msg. Waiting to function.

Program 40 - Station CO line Access:

Use this program to allow VM ports access to CO lines if callouts, message notifications, etc., are required.

Program 81-89 - CO Line Ringing Assignments:

Use this program to assign CO ringing for day / night operation. If Auto Attendant is required, make CO ring assignments only for the lowest-numbered VM port in the Hunt group.

Other Programming Notes:

- Do not change the default Message Waiting Set and Cancel codes:
MW Set Code = 63. MW Cancel Code = 64.
 - Each station must be programmed individually for VM ID codes
1. 656 (Call forwarding Protocol) = 01XXX, where XXX is the station number.
 2. 657 (Direct Logon Protocol when MW lamp is lit) = 00XXX, where XXX is the station number.

**L. Nortel Norstar DR3
(170)**

Hardware Requirements:

One Norstar Voice Message Interface (VMI) unit for every (2) two voice mail ports. This unit connects to the digital telephone ports of the Norstar system to provide standard, analog single-line telephone device connections.

Supported Features:

Information unavailable at present time.

Configuring the Nortel Norstar DR3:

To program the Norstar, use any M7310 or M7324 key telephone connected to the system.

1. DETERMINE THE VMI FEATURE CODES:
Once the VMI unit is installed and connected, turn the Norstar system power back on. Allow approximately 15 seconds of start up time before you begin program-

ming.

If the VMI unit is properly installed, the Norstar system will automatically assign a programming Feature Code for the unit. You must determine this code in order to perform system programming. On the programming key telephone:

- a. Press [Feature] 9*3. The phone display will show "VMI Codes." Press the [Show] soft key. (Soft key labels are shown on the phone display.)
The display will show the Feature Code assigned to the first VMI unit (as F9XX where XX = a 2 digit number). Write this number down.
If a second or third VMI unit is installed, press [Next] to see the remaining Feature Codes.
 - b. Press [Rls] to end this programming section.
2. DETERMINE THE VMI INTERCOM NUMBERS:
- a. Press [Feature] 9XX (the Feature Code of the first VMI unit). Press [Next]. The phone display will show "DN1:XX." "XX" is the Intercom Number for the first port on the first VMI unit. Write this number down.
 - b. Press [Next] to see the Intercom Number for the second port on this VMI unit.
 - c. Press [Rls] to end this programming section.
3. ENTER NORSTAR CONFIGURATION:
- a. Press [Feature]. Dial [::*266344] (CONFIG in touchtones). The phone will show "Password:" Dial [266344] (Default password is "CONFIG"; your password may be different).

With the correct password, the phone display will show "A:Configuration."
 - b. Press [Show]. The phone display will show "1.Line Data."
4. REMOVE ALL LINES FOR EACH VMI PORT INSTALLED:
- a. Press [Next]. The phone display will show "2. Line Access."

- b. Press [Show]. The phone display will show "Show set:_____."
 - c. Enter the Intercom number for the first VMI port.
 - d. Press [Show]. Confirm that the display shows "No lines assigned" for this VMI port.
If the display shows "Line XX assigned", press [Remove] to remove the line.
 - e. Press "Remove" until no lines are assigned and the phone display shows "Answer DN's."
 - f. Press [Heading] until "Show set:_____ " reappears. Remove any lines for the second VMI port. Repeat for ports on the second and third VMI units, if applicable.
5. CONFIGURE THE LINE ACCESS SETTINGS FOR THE FIRST VOICE MAIL PORT:
- a. Press [heading] until "Show set:_____ " appears. Enter the Intercom number for the first VMI port. This will be port 1 of the voice mail system. The display will show "Line assignment."
 - b. Press [Next]. The phone will display "Answer DN's."
 - c. Press [Show]. Confirm that the display shows "No Answer DN's" for this VMI port.
If the display shows "XXX assigned", press [Remove] to remove the DN assignment. Press "Remove" until no DN's are assigned and the phone display shows "Ringing."
 - d. Press [Next] until the phone display shows "Line pool access."
 - e. Press [Show]. The display will show "Line pool 1:N" for this VMI port.
 - f. Press [Change]. The display will show "Line pool 1:Y" for this VMI port.
 - g. Press [Next]. The phone display will show "Line pool 2:N." Continue to press "Next" until the phone display shows "Intercom Keys:2."
 - h. Press [Next]. The phone display will show "Prime line: None."
 - i. Press [Change] until the phone display shows "Prime: I/C" (For Prime line=Intercom).

6. COPY VOICE MAIL PORT 1 LINE ACCESS SETTINGS TO THE OTHER VOICE MAIL PORTS:

- a. Press [Next]. The phone display will show "Show set:___."
- b. Press [Copy]. The phone display will show "Source:___."
- c. Enter the Intercom number for the first VMI port.
The phone display will show "Copy to set:___." Enter the Intercom number of the second VMI port. The display will confirm the copy operation. When "Copy to Line:___" reappears, repeat for the remaining VMI intercom numbers, if appropriate.
- d. Press [Heading] until "A. Configuration" appears.

7. CONFIGURE THE PERMISSIONS SETTINGS FOR THE FIRST VOICE MAIL PORT:

- a. Press [Next] until "B. General admin" appears.
- b. Press [Show]. The phone display will show "1. Sys speed dial."
- c. Press [Next] until "6. Permissions" appears.
- d. Press [Show]. The phone display will show "Show set:___."
- e. Enter the Intercom number for the first VMI port.
Confirm that the display shows "Set lock: None" for this VMI port. If not, press "Change" until "None" appears.
- f. Press [Next]. The phone display will show "Full handsfree: N." If full handsfree is "Y", press "Change" until "N" appears.
- g. Press [Next]. The phone display will show "HF answerbck: Y."
Press "Change" until "N" appears.
- h. Press [Next]. The phone display will show "Pick group: NO." If group call pickup is not "No", press "Change" until "No" appears.
- i. Press [Next]. The phone display will show "Page zone: 1." Press "Change" until "No" appears.

- j. Press [Next]. The phone display will show "Aux. ringer: N." If the auxiliary ringer is "Y", press "Change" until "N" appears.
 - k. Press [Next]. The phone display will show "Forward on Busy." Skip the forward busy setting for now, you will set this separately, in a later step.
 - l. Press [Next]. The phone display will show "Forward no answr." Skip the forward no answer setting for now, you will set this separately, in a later step.
 - m. Press [Next]. The phone display will show "Hotline: None." If the hotline setting is not "None," press "Change" until "None" appears.
 - n. Press [Next]. The phone display will show "Priority call: N." If priority call is "Y," press "Change" until "N" appears.
8. COPY VOICE MAIL PORT 1 PERMISSION SETTINGS TO THE OTHER VOICE MAIL PORTS
- a. Press [Next]. The phone display will show "Set:___."
 - b. Press [Copy]. The phone display will show "Source:___."
 - c. Enter the Intercom number for the first VMI port.
The phone display will show "Copy to line:___." Enter the Intercom number of the second VMI port. The display will confirm the copy operation. When "Copy to line:___" reappears, repeat for the remaining VMI Intercom numbers, if appropriate.
9. ASSIGN CALL FORWARD BUSY/NO ANSWER INTERCOM NUMBERS FOR THE VOICE MAIL:
You will use the Norstar Call Forward Busy (CFB) and Call Forward No Answer (CFNA) settings to create a circular hunting for the voice mail ports.

For example, assume that a 4 port voice mail system uses VMI Intercom numbers 201, 202, 203, and 204. To create hunting, you would CFB/NA 201 to 202, 202 to 203, 203 to 204, and 204 back to 201.

- a. Press [Heading] until "6. Permissions" appears.
 - b. Press [Show]. The phone display will show "Show set:_____."
 - c. Enter the Intercom number for the first VMI port. The phone display will show "Set lock: None."
 - d. Press [Next] until "Forward on busy" appears.
 - e. Press [Show]. The phone display will show "Forward to: None."
 - f. Press [Change]. Use the touchtone pad to dial the Intercom number of the second VMI port.
 - g. Press [Next]. "Forward no answer" appears.
 - h. Press [Show]. The phone display will show "Forward to: None."
 - i. Press [Change]. Use the touchtone pad to dial the Intercom number of the second VMI port.
 - j. Press [Next]. The phone display will show "Forward delay: 3."
 - k. Press [Change] until the forward delay is set to 2 rings.
 - l. Press [Heading] until "6. Permissions" appears and repeat this procedure for the remaining VMI ports to create circular hunting.
10. ASSIGN THE OUTSIDE LINE OR LINES VOICE MAIL WILL ANSWER:
- If voice mail will be used as the primary or secondary attendant, assign the outside telephone line or lines voice mail will answer to each of the VMI ports.
- a. Press [Heading] until "B. General admin" appears.
 - b. Press [Back] until "A. Configuration" appears.
 - c. Press [Show]. The phone display will show "1. Line data."
 - d. Press [Next] until "2. Line Access" appears.
 - e. Press [Show]. The phone display will show "Show set:_____."
 - f. Enter the Intercom number for the first VMI port.
 - g. Press [Show]. The phone display will show "No lines assigned" for this VMI port.
 - h. Press [Add]. "Add Line:_____ " appears.

- i. Enter the two digit number of the first outside line assigned to the voice mail system (e.g., 01).
 - j. Press [OK]. The phone display will confirm the line assignment. Use "Add" to add the remaining line assignments to this first VMI port, if appropriate. When you've completed line assignments, press [Next] [Next]. The phone display will show "Ringing."
 - k. Press [Show]. The phone display will show "line 01: Ring." If line 1 is assigned to voice mail, but shows "No ring", press "Change" until "Ring" appears.
 - l. Press [Next] to move to the next line assigned to voice mail. Set ringing on for each line.
 - m. Press [Heading] and repeat the line assignment steps for each remaining VMI port.
11. ENABLE DELAYED RINGING TRANSFER AND SET THE TRANSFER CALLBACK DELAY:
- a. Press [Heading] until "A. Configuration" appears.
 - b. Press [Show]. The phone display will show "1. Line data."
 - c. Press [Next]. Until "3. Call handling" appears.
 - d. Press [Show]. The phone display will show "Held reminder:N."
 - e. Press [Change] until "Y" appears. This ensures that any outside calls not answered by voice mail are transferred to the operator for handling.
 - f. Press [Next]. The phone display will show "DRT delay: 3." The default setting will transfer unanswered outside calls after 3 rings.
 - g. Press [Change] until "DRT delay: 2" appears.
 - h. Press [Next]. The phone display will show "Trnsfer callbk: 3". The default setting returns a transferred call back to the person making the transfer if the call is not answered within 3 rings. A 3-ring delay does not give voice mail enough time to direct the unanswered call to voice mail.

- i. Press [Change] until "Transfr callbk:6" appears. Voice mail will answer and take a message when a transferred call is not answered within (4) four rings.
- j. When you are finished, press [Rls] to end this programming section.

12. PROGRAM THE VMI UNITS TO SEND DISCONNECT CODE:

When a caller hangs up prematurely or does not exit properly from voice mail, the Norstar system sends voice mail a disconnect signal of four "*" touchtones.

- a. Press [Feature] 9?? (The Feature Code of the first VMI unit).
- b. Press [Next] until the phone display shows "Feature table."
- c. Press [Show]. The phone display will show "Send Msg L*1."
- d. Press [Next] until the phone display shows "Discon."
- e. Press [Change]. Dial "*****" on the touchtone pad. Press [Next].
- f. Repeat this programming section for the remaining VMI units.
- g. Press [Rls] to end programming.

* The Norstar Call forward No answer feature will forward all unanswered station-to-station calls to voice mail. In other words, if a call is not answered, the caller will hear the person's voice mail greeting, and can leave a message instead. For this, you must set VMI port 1 as the Call Forward No Answer destination for all stations.

13. ASSIGN CALL FORWARD NO ANSWER TO INDIVIDUAL SUBSCRIBER STATIONS:

- a. Press [Heading] until "6. Permissions" appears.
- b. Press [Show]. The phone display will show "Show set:_____."

- c. Enter the Intercom number for the first station.
The phone display will show "Set lock: None."
- d. Press [Next] until "Forward on busy" appears.
Note that although the Norstar supports CFB as well as CFNA, it is recommended that you do not use CFB. If you do, voice mail users cannot use the voice mail system's work phone delivery feature.
- e. Press [Next]. "Forward no answer" appears.
- f. Press [Show]. The phone display will show "Forward to: None."
- g. Press [Change]. Use the touchtone pad to dial the Intercom number of the first VMI port.
- h. Press [Next]. The phone display will show "Forward delay: 3."
- i. Press [Change] until the forward delay is set to 6 rings.
- j. Press [Heading until "6. Permissions" appears and repeat this procedure for each remaining station.

* This integration will support ONLY Release transfers.

* The Norstar does not provide for hunt groups. The voice mail ports must use the Norstar Call Forward Busy feature to simulate hunting.

To prevent invalid ID's when voice mail when answers an incoming call build 1 VMI Transaction box for each VMI port.

The transaction box ID must match the VMI intercom number. Set transfer to "NO" for both Day and Night on all the VMI Transaction boxes. Then record the Greetings in the Greeting section of the Transaction box.

Set the Day Action to "Operator" and the Night action to "Go To ID -> \$PM."

M. Nortel Norstar DR4 (171)

Hardware Requirements:

1. One Norstar Voice Message Interface (VMI) unit for every (2) two voice mail ports. This unit connects to the digital telephone ports of the Norstar system to provide standard, analog single-line telephone device connections.

Supported Features:

Information unavailable at present time.

Configuring the Nortel Norstar DR4:

To program the Norstar, use any M7310 or M7324 key telephone connected to the system.

1. DETERMINE THE VMI FEATURE CODES:

Once the VMI unit is installed and connected, turn the Norstar system power back on. Allow approximately 15 seconds of start up time before you begin programming.

- a. If the VMI unit is properly installed, the Norstar system will automatically assign a programming Feature Code for the unit. You must determine this code in order to perform system programming. On the programming key telephone: Press [Feature] 9*3. The phone display will show "VMI Codes." Press the [Show] soft key. (Soft key labels are shown on the phone display.)
 - b. The display will show the Feature Code assigned to the first VMI unit (as F9XX where XX = a 2 digit number). Write this number down. If a second or third VMI unit is installed, press [Next] to see the remaining Feature Codes.
 - c. Press [Rls] to end this programming section.
- ##### 2. DETERMINE THE VMI INTERCOM NUMBERS:
- a. Press [Feature] 9XX (the Feature Code

- of the first VMI unit). Press [Next]. The phone display will show "DN1:XX." "XX" is the Intercom Number for the first port on the first VMI unit. Write this number down.
- b. Press [Next] to see the Intercom Number for the second port on this VMI unit.
 - c. Press [Rls] to end this programming section.
3. ENTER NORSTAR CONFIGURATION:
- a. Press [Feature]. Dial [*]*266344] (CONFIG in touchtones). The phone will show "Password:" Dial [266344] (Default password is "CONFIG"; your password may be different).
With the correct password, the phone display will show "A:Configuration."
 - b. Press [Show]. The phone display will show "1.Line Data."
4. REMOVE ALL LINES FOR EACH VMI PORT INSTALLED:
- a. Press [Next]. The phone display will show "2. Line Access."
 - b. Press [Show]. The phone display will show "Show set:_____."
 - c. Enter the Intercom number for the first VMI port.
 - d. Press [Show]. Confirm that the display shows "No lines assigned" for this VMI port.
If the display shows "Line XX assigned", press [Remove] to remove the line.
 - e. Press "Remove" until no lines are assigned and the phone display shows "Answer DN's."
 - f. Press [Heading] until "Show set:_____ " reappears. Remove any lines for the second VMI port. Repeat for ports on the second and third VMI units, if applicable.
5. CONFIGURE THE LINE ACCESS SETTINGS FOR THE FIRST VOICE MAIL PORT:

- a. Press [heading] until "Show set:____" appears.
 - b. Enter the Intercom number for the first VMI port. This will be port 1 of the voice mail system. The display will show "Line assignment." Press [Next]. The phone will display "Answer DNs."
 - c. Press [Show]. Confirm that the display shows "No Answer DNs" for this VMI port.
If the display shows "XXX assigned", press [Remove] to remove the DN assignment. Press "Remove" until no DNs are assigned and the phone display shows "Ringing."
 - d. Press [Next] until the phone display shows "Line pool access."
 - e. Press [Show]. The display will show "Line pool 1:N" for this VMI port.
 - f. Press [Change]. The display will show "Line pool 1:Y" for this VMI port.
 - g. Press [Next]. The phone display will show "Line pool 2:N."
Continue to press "Next" until the phone display shows "Intercom Keys:2."
 - h. Press [Next]. The phone display will show "Prime line: None."
Press [Change] until the phone display shows "Prime: I/C" (For Prime line=Intercom).
6. COPY REPLAY PORT 1 LINE ACCESS SETTINGS TO THE OTHER VOICE MAIL PORTS:
- a. Press [Next]. The phone display will show "Show set:____."
 - b. Press [Copy]. The phone display will show "Source:____."
 - c. Enter the Intercom number for the first VMI port.
The phone display will show "Copy to set:____." Enter the Intercom number of the second VMI port. The display will

confirm the copy operation. When "Copy to Line: ___" reappears, repeat for the remaining VMI intercom numbers, if appropriate.

- d. Press [Heading] until "A. Configuration" appears.

7. CONFIGURE THE PERMISSIONS SETTINGS FOR THE FIRST VOICE MAIL PORT:

- a. Press [Next] until "B. General admin" appears.
- b. Press [Show]. The phone display will show "1. Sys speed dial."
- c. Press [Next] until "5.Capabilities" appears.
- d. Press [Show]. The phone display will show "Dialing filters"
- e. Press [Next] until "Set abilities" appears.
- f. Press [Show]. The phone display will show "Show set: ___"
- g. Enter the Intercom number for the first VMI port.
The phone display will show "Set filter:XXX" where XXX=the VMI port number.
- h. Press [Next] until the display shows "Set lock: None" for this VMI port.
If the lock option is not "None," press "Change" until "None" appears. Press [Next]. The phone display will show "Full handsfree: N." If full handsfree is "Y," press "Change" until "N" appears.
- i. Press [Next]. The phone display will show "HF answerbck: Y." Press "Change" until "N" appears.
- j. Press [Next]. The phone display will show "Pick group: NO." If group call pick-up is not "No", press "Change" until "No" appears.
- k. Press [Next]. The phone display will show "Page zone: 1." Press "Change" until "No" appears.

create a circular hunting for the voice mail ports.

For example, assume that a 4 port voice mail system uses VMI Intercom numbers 201, 202, 203, and 204. To create hunting, you would CFB/NA 201 to 202, 202 to 203, 203 to 204, and 204 back to 201.

- a. Press [Heading] until "5. Capabilities" appears.
- b. Press [Show]. The phone display will show "Dialing filters."
- c. Press [Next] until "Set abilities" appears.
- d. Press [Show]. The phone display will show "Show set:_____."

Enter the Intercom number for the first VMI port.

The phone display will show "Set filter:XXX" where XXX=the VMI port number.

- e. Press [Next] until "Forward on busy" appears.
- f. Press [Show]. The phone display will show "Forward to: None."
- g. Press [Change]. Use the touchtone pad to dial the Intercom number of the second VMI port.
- h. Press [Next]. "Forward no answer" appears.
- i. Press [Show]. The phone display will show "Forward to: None."
- j. Press [Change]. Use the touchtone pad to dial the Intercom number of the second VMI port.
- k. Press [Next]. The phone display will show "Forward delay: 3."
- l. Press [Change] until the forward delay is set to 2 rings.
- m. Press [Heading] until "5. Capabilities" appears and repeat this procedure for the remaining VMI ports to create circular hunting.

10. ASSIGN THE OUTSIDE LINE OR LINES VOICE MAIL WILL ANSWER:

If voice mail will be used as the primary or secondary attendant, assign the outside telephone line or lines voice mail will answer to each of the VMI ports.

- a. Press [Heading] until "B. General admin" appears.
- b. Press [Back] until "A. Configuration" appears.
- c. Press [Show]. The phone display will show "1. Line data."
- d. Press [Next] until "2. Line Access" appears.
- e. Press [Show]. The phone display will show "Show set:____."
Enter the Intercom number for the first VMI port.
- f. Press [Show]. The phone display will show "No lines assigned" for this VMI port.
- g. Press [Add]. "Add Line:____" appears.
Enter the two digit number of the first outside line assigned to voice mail (e.g., 01).
- h. Press [OK]. The phone display will confirm the line assignment. Use "Add" to add the remaining line assignments to this first VMI port, if appropriate.
When you've completed line assignments, press [Next] [Next]. The phone display will show "Ring."
Press [Show]. The phone display will show "line 01: Ring." If line 1 is assigned to voice mail, but shows "No ring," press "Change" until "Ring" appears.
- i. Press [Next] to move to the next line assigned to voice mail. Set ringing on for each line.
- j. Press [Heading] and repeat the line assignment steps for each remaining VMI port.

11. ENABLE DELAYED RINGING TRANSFER AND SET THE TRANSFER CALLBACK DELAY:

- a. Press [Heading] until "A. Configuration" appears.
- b. Press [Show]. The phone display will show "1. Line data."
- c. Press [Next]. Until "3. Call handling" appears.
- d. Press [Show]. The phone display will show "Held reminder:N."
If delayed ringing transfer is "N," press [Next] until "DRT to prime: Y" appears. This ensures that any outside calls not answered by voice mail are transferred to the operator for handling.
- e. Press [Next]. The phone display will show "DRT delay: 3." The default setting will transfer unanswered outside calls after 3 rings.
- f. Press [Change] until "DRT delay: 2" appears.
- g. Press [Next]. The phone display will show "Trnsfer callbk: 3". The default setting returns a transferred call back to the person making the transfer if the call is not answered within (3) three rings. A 3-ring delay does not give voice mail enough time to direct the unanswered call to voice mail.
- h. Press [Change] until "Transfr callbk:6" appears. Voice mail will answer and take a message when a transferred call is not answered within (4) four rings.
- i. When you are finished, press [Rls] to end this programming section.

12. PROGRAM THE VMI UNITS TO SEND DISCONNECT CODE:

When a caller hangs up prematurely or does not exit properly from voice mail, the Norstar system sends voice mail a disconnect signal of four "*" touchtones.

- a. Press [Feature] 9?? (The Feature Code of the first VMI unit).
- b. Press [Next] until the phone display shows "Feature table."
- c. Press [Show]. The phone display will show "Send Msg L*1."
- d. Press [Next] until the phone display shows "Discon."
Press [Change]. Dial "****" on the touchtone pad. Press [Next].
- e. Repeat this programming section for the remaining VMI units.
- f. Press [Rls] to end programming.

STATION PROGRAMMING:

* The Norstar Call forward No answer feature will forward all unanswered station-to-station calls to voice mail. In other words, if a call is not answered, the caller will hear the person's voice mail greeting, and can leave a message instead. For this, you must set VMI port 1 as the Call Forward No Answer destination for all stations.

13. ASSIGN CALL FORWARD NO ANSWER TO INDIVIDUAL SUBSCRIBER STATIONS:

- a. Press [Heading] until "6. Permissions" appears.
- b. Press [Show]. The phone display will show "Show set:_____."
- c. Enter the Intercom number for the first station.
The phone display will show "Set lock: None."
- d. Press [Next] until "Forward on busy" appears.
Note that although the Norstar supports CFB as well as CFNA, we recommend that you do not use CFB. If you do, voice mail users cannot use the voice mail system's work phone delivery feature.
- e. Press [Next]. "Forward no answer" appears.

- f. Press [Show]. The phone display will show "Forward to: None."
- g. Press [Change]. Use the touchtone pad to dial the Intercom number of the first VMI port.
- h. Press [Next]. The phone display will show "Forward delay: 3."
- i. Press [Change] until the forward delay is set to 6 rings.
- j. Press [Heading until "6. Permissions" appears and repeat this procedure for each remaining station.

VOICE MAIL PROGRAMMING:

* This integration will support ONLY Release transfers.

* The Norstar does not provide for hunt groups. The voice mail ports must use the Norstar Call Forward Busy feature to simulate hunting.

To prevent invalid ID's when voice mail when answers an incoming call build 1 VMI Transaction box for each VMI port.

The transaction box ID must match the VMI intercom number. Set transfer to "NO" for both Day and Night on all the VMI Transaction boxes. Then record the Greetings in the Greeting section of the Transaction box.

Set the Day Action to "Operator" and the Night action to "Go To ID -> \$PM."

**N. Inter-Tel GMX-48
Advanced (175)****Overview:**

- Install an Inter-Tel APM single-line device module in the Inter-Tel KSU.
- Program the Inter-Tel GMX-48 to support the voice processing system (VPS).
- Test the GMX-48 system programming and connect the VPS.
- Program individual stations for call forwarding and easy message access.

Hardware Requirements:

- One 25-pair cable with a male amphenol connector to connect the APM module to the GMX-48 main distribution frame (MDF).
- One RJ-14C modular jack and 4-conductor modular cord for each VPS port.
- For programming the GMX-48 system, any asynchronous communications terminal with an RS-232C interface connector as recommended by Inter-Tel. See the manufacturer's instructions for details.
- Install the APM single-line telephone device module in the GMX-48 KSU according to the manufacturer's instructions.
- The VPS requires an AC ringing signal. Place the AC/DC ringing strap in the AC position on each APM port dedicated to the VPS.
- Determine the extension numbers the VPS will use based on the mounting location of the APM module in the KSU.
- Connect the 25-pair cable from the APM to the main distribution frame (MDF).

Supported Features:

- Automated attendant/voice mail with call forwarding (release transfers). Voice mail only (no transfers).
- Message Notification done through message waiting lamps or special dialtone.
On: ,365,X Off: ,366,X
- Call forwarding
- Easy message access (speed dial)
- Operator's console: 100 (default) Positive disconnect: not provided

Configuring the Inter-Tel GMX-48:

Use an RS-232C communications terminal to program the GMX-48. The terminal must be configured according to Inter-Tel's instructions.

1. Program the GMX-48 system control settings as follows:
 - a. Database Programming Menu DAA, Specific Station Information. Use menu DAA to configure station information for each VPS port as shown in the prompts below. VPS ports are identified by their GMX-48 extension numbers.
 - b. USERNAME(): (enter an identifying name, e.g., VP1, VP2)
 - c. SECRETARIAL INTERCEPT: None
 - d. ATTENDANT: None
 - e. MESSAGE CENTER: None
 - f. ALTERNATE MESSAGE SOURCE: (enter the ext. number of the second VPS port)
 - g. AUTOMATED ATTENDANT/DISA DND BREAKTHROUGH ENABLED: No
 - h. HOUSE PHONE: No
 - i. CAMP-ON TONES DISABLED: Yes
 - j. OFF-PREMISES EXTENSION: Yes
 - k. VOICE MAIL/COMPUTER STATION: Yes
2. Database Programming Menu DAH, Miscellaneous Station Features
Enter the VPS port extension numbers at the RING INTERCOM ALWAYS ENABLED prompt. This prevents the VPS from ever making a "handsfree" call to a keyset.
3. Database Programming Menu CEA, Access, Answer, and Ring-In
If the VPS will answer incoming calls, use Menu CE to program day and night ringing assignments. To answer the STATION prompts, enter "+" followed by the first and last VPS extension numbers separated by a hyphen ("-"). For example, if the VPS extensions are 120, 121, 122, and

123, you would enter +E120-E123. If you forget the plus sign, you will delete current ringing assignments for existing stations.

- a. LIST OF CO LINES WITH COMMON ACCESS, ANSWER, AND RING-IN LISTS: (enter the circuit numbers of common CO lines--refer to your Inter-Tel program planning sheet.)
 - b. STATIONS WITH OUTGOING-ACCESS DAY LIST: (+VPS extension range)
 - c. STATIONS WITH OUTGOING-ACCESS NIGHT LIST: (+VPS extension range)
 - d. STATIONS WITH ALLOWED-ANSWER DAY LIST: (+VPS extension range)
 - e. STATIONS WITH ALLOWED-ANSWER NIGHT LIST: (+VPS extension range)
 - f. STATIONS WITH RING-IN DAY LIST: (+VPS extension range)
 - g. STATIONS WITH RING-IN NIGHT LIST: (+VPS extension range)
 - h. REVIEW ASSIGNMENTS AGAIN? No
 - i. PERFORM UPDATE TO SYSTEM DATABASE? Yes
 - j. MAKE ADDITIONAL ASSIGNMENTS? No
4. Database Programming Menu B, Extensions and Feature Access Codes:
- Use Menu B to assign the single-digit access code "7" to the VPS pilot extension number. Users can then dial 7 to reach the VPS. You'll create a hunt group for the entire group of VPS extensions in Menu E.
- a. RANGE OF STATIONS TO BE REVIEWED: None
 - b. RANGE OF HUNT GROUPS TO BE REVIEWED: None
 - c. RANGE OF VOICE COMPUTER GROUPS TO BE REVIEWED: 7
 - d. VOICE COMPUTER GROUP 7: (enter the first VPS extension number)

5. Database Programming Menu E, Hunt Groups and Voice Computer Groups:
 - a. RANGE OF HUNT GROUPS TO BE REVIEWED: None
 - b. RANGE OF VOICE COMPUTER GROUPS TO BE REVIEWED: 7
 - c. VOICE COMPUTER GROUP X - PILOT EXTENSION EXXX
 - d. VOICE COMPUTER GROUP NAME: (enter an identifying name, e.g., VMAIL)
 - e. ORDERED LIST OF STATIONS: (enter each VPS extension, in numerical order, separated by commas)
 - f. RETURN TIMER: 72
 - g. NO ANSWER ADVANCE TIMER: 18
 - h. IS THIS A VOICE MAIL/VOICE COMPUTER GROUP? No
 - i. IS THIS AN AUTOMATED ATTENDANT VOICE COMPUTER GROUP? No
 - j. RECALL DESTINATION: None
 - k. DIAL RULES? "9",4
6. Database Programming Menu AB, Timer Values:
 - a. Set the DTMF DURATION/PAUSE timer to 8 hundredths of a second.
 - b. Ensure that the DIALING WAIT AFTER CONNECT timer is set to its default value of 15 tenths of a second.
 - c. Ensure that the SL HOOKFLASH MINIMUM timer is set to its default value of 2 tenths of a second.
 - d. Ensure that the SL HOOKFLASH MAXIMUM timer is set to its default value of 7 tenths of a second.
 - e. Set the DIAL TONE WAIT timer to 1 second.
 - f. Set the FORWARD NO ANSWER timer to 24 seconds (5 rings)
7. Database Programming Menu AF, Miscellaneous System Data:

If the GMX-48 system uses single-line sets without message waiting lamps or a combination of single-line sets with and without message waiting

lamps, enable AUDIBLE MESSAGE INDICATION FOR SL SETS (under system-wide options). This program feature will cause single-line sets to notify users with a special "stutter" dialtone when messages are waiting.

8. Database Programming Menu DAA, Specific Station Information:

Easy message access is programmed at the GMX-48 KSU, not at individual user stations. To do this, enter the extension number of the first VPS port as the MESSAGE CENTER number for each subscriber station.

CONNECTING AND TESTING THE SINGLE-LINE PORTS AND THE VPS:

Follow the wiring instructions given in the VPS installation guide to cross-connect the Inter-Tel single-line ports to RJ-14C jacks. Use a single-line phone to complete any KSU port tests given in the guide.

These tests insure that both the single-line ports and the Inter-Tel 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:

Call Forwarding:

The GMX-48 supports call forwarding on no answer/busy. To program call forwarding to a user's station:

Key Stations:

- a. Press the [FWD] key.
- b. Press the [MSG] key.

Single-line Stations:

- a. Go Off-hook.
- b. Dial [358].
- c. Dial the VPS extension number.

- d. Hang up.
Easy Message Access:
Easy Message Access is programmed at the GMX-48 KSU. To hear messages:

Key Stations:

- a. Press the [MSG] key when the message waiting lamp is lit.

Single-line Stations:

- a. Dial the in-house extension number for the VPS when you hear the special stutter dialtone.

**O. Inter-Tel GMX-152D
(177)****Overview:**

- Install an Inter-Tel STN-B2 single-line telephone device card and supporting HVRA AC ringing circuitry (if appropriate) in the Inter-Tel KSU.
- Program the Inter-Tel GMX-152D to support the voice processing system (VPS).
- Test the GMX-152D system programming and connect the VPS.
- Program individual stations for call forwarding and easy message access.

Hardware Requirements:

- One 25-pair cable with a male amphenol connector to connect the STN-B2 card to the Inter-Tel main distribution frame (MDF).
- One RJ-14C modular jack and 4-conductor modular cord for each VPS port.
- For programming the GMX-152D system, any asynchronous communications terminal with an RS-232C interface connector as recommended by Inter-Tel. See the manufacturer's instructions for details.

- If needed, install the OPX Software Kit EPROM on the IOP card following to the manufacturer's instructions.
- Install the STN-B2 card in a free STN slot in the KSU following the manufacturer's instructions. Determine the extension numbers the VPS will use based on the mounting location of the STN-B2 card.
- Connect the male 25-pair cable from the STN-B2 card to the main distribution frame.
- **DC RINGING UNITS ONLY:**
Connect the AC/DC ringing strap in the DC position for each associated circuit on the STN-B2 cards.
- **AC RINGING UNITS ONLY:**
IMPORTANT: Although the VPS requires AC ringing, connect the AC/DC ringing strap in the DC position for each associated VPS circuit on the STN-B2 card. AC Ringing voltage will be supplied by the external ringing generator. The AC strap position on the STN-B2 card will damage the HVRA unit.
- Mount the HVRA unit(s) and associated 66-block(s) near the Inter-Tel KSU. Follow the manufacturer's instructions to mount the DC power supply, the AC power supply, the AC ringing generator, and perform the necessary cabling and cross-connection to the STN-B2 card.

Supported Features:

- Automated attendant/voice mail with call forwarding (release transfers). Voice mail only (no transfer).
- Message Notification done through message waiting lamps or special dialtone.
On: ,365,X Off: ,366,X
- Call forwarding

- Easy message access
- Operator's console: 100 (default) Positive disconnect: not provided

Configuring the Inter-Tel GMX-152D:

Use an RS-232C communications terminal to program the GMX-152D. The terminal must be configured according to Inter-Tel's instructions.

1. Program the GMX-152D system control settings as follows:
2. Database Programming Menu DAA, Specific Station Information:

Use menu DAA to configure station information for each VPS port as shown in the prompts below. VPS ports are identified by their GMX-152D extension numbers.

The SECRETARIAL INTERCEPT setting is used to create hunting for the VPS ports. To do this, set each VPS port--except the last VPS port--to be its own secretarial intercept. For example, if the VPS port number is 220, enter [220] as the secretarial intercept. Enter "None" as the secretarial intercept when you program the last VPS port (for example, port 2 of a 2-port VPS or port 4 of a 4-port VPS is the "last" port).

In a later step, you will use a single-line phone to manually call-forward the last VPS port to the first VPS port to create circular hunting. Note that the first VPS port becomes the pilot number for voice mail--users dial this number to reach the VPS in-house.

- a. USERNAME(): (enter an identifying name, e.g., VP1, VP2)
- b. SECRETARIAL INTERCEPT: None
- c. ATTENDANT: None
- d. MESSAGE CENTER: None
- e. ALTERNATE MESSAGE SOURCE: (enter the extension number of the second VPS port)

- f. AUTOMATED ATTENDANT/DISA DND BREAKTHROUGH ENABLED: No
 - g. HOUSE PHONE: No
 - h. CAMP-ON TONES DISABLED: Yes
 - i. OFF-PREMISES EXTENSION: Yes
 - j. VOICE MAIL/COMPUTER STATION: Yes
3. Database Programming Menu DAH, Miscellaneous Station Features:

Enter the VPS port extension numbers at the RING INTERCOM ALWAYS ENABLED prompt. This prevents the VPS from ever making a "handsfree" call to a keyset.

4. Database Programming Menu CEA, Access, Answer, and Ring-In: If the VPS will answer incoming calls, use Menu CE to program day and night ringing assignments. To answer the STATION prompts, enter "+" followed by the first and last VPS extension numbers separated by a hyphen ("-"). For example, if the VPS extensions are 120, 121, 122, and 123, you would enter +E120-E123. If you forget the plus sign, you will delete current ringing assignments for existing stations.

LIST OF CO LINES WITH COMMON ACCESS, ANSWER, AND RING-IN LISTS:

(enter the circuit numbers of common CO lines--refer to your Inter-Tel program planning sheet.)

- a. STATIONS WITH OUTGOING-ACCESS DAY LIST: (+VPS extension range)
- b. STATIONS WITH OUTGOING-ACCESS NIGHT LIST: (+VPS extension range)
- c. STATIONS WITH ALLOWED-ANSWER DAY LIST: (+VPS extension range)
- d. STATIONS WITH ALLOWED-ANSWER NIGHT LIST: (+VPS extension range)
- e. STATIONS WITH RING-IN DAY LIST: (+VPS extension range)

- f. STATIONS WITH RING-IN NIGHT LIST:
(+VPS extension range)
 - g. REVIEW ASSIGNMENTS AGAIN? No
 - h. PERFORM UPDATE TO SYSTEM DATABASE? Yes
 - i. MAKE ADDITIONAL ASSIGNMENTS?
No
5. Database Programming Menu AB, Timer Values:
- a. Set the DTMF DURATION/PAUSE timer to 8 hundredths of a second.
 - b. Set the DTMF INTERDIGIT PAUSE timer to 8 hundredths of a second.
 - c. Ensure that the DIALING WAIT AFTER CONNECT timer is set to its default value of 15 tenths of a second.
 - d. Ensure that the SL HOOKFLASH MINIMUM timer is set to its default value of 2 tenths of a second.
 - e. Ensure that the SL HOOKFLASH MAXIMUM timer is set to its default value of 7 tenths of a second.
 - f. Set the DIAL TONE WAIT timer to 1 second.
 - g. Set the FORWARD NO ANSWER timer to 24 seconds (5 rings)

6. Database Programming Menu AF, Miscellaneous System Data:

If the GMX-152D system uses single-line sets without message waiting lamps or a combination of single-line sets with and without message waiting lamps, enable AUDIBLE MESSAGE INDICATION FOR SL SETS (under system-wide options). This program feature will cause single-line sets to notify users with a special "stutter" dialtone when messages are waiting. If all sets have message waiting lamps, disable this program feature.

Note that single-line sets equipped with MW1 lights must be strapped for AC ringing on the STN-B2 circuit that supports the single-line set. See the manufacturer's instructions for details.

7. Database Programming Menu DAA, Specific Station Information:

Easy message access is programmed at the GMX-152D KSU, not at individual user stations. To do this, enter the extension number of the first VPS port as the MESSAGE CENTER number for each subscriber station.

Program VPS Hunting:

After you have completed system programming, connect a single-line telephone to the last VPS port on the STN-B2 card. Go off-hook. Dial 358 to activate call forwarding on no answer/busy, then dial the extension number of the first VPS port. Go on-hook and disconnect the single-line phone. This step completes the circular hunt for the VPS ports you set up through the secretarial intercept feature.

CONNECTING AND TESTING THE SINGLE-LINE PORTS AND THE VPS:

Follow the wiring instructions given in the VPS installation guide to cross-connect the Inter-Tel single-line ports to RJ-14C jacks. Use a single-line phone to complete any KSU port tests given in the guide. These tests insure that both the single-line ports and the Inter-Tel 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:

Call Forwarding:

The GMX-152D supports call forwarding on no answer/busy. To program call forwarding to a user's station:

Key Stations:

- a. Press the [FWD] key
- b. Press the [MSG] key.

Single-line Stations:

- a. Go Off-hook.
- b. Dial [358].
- c. Dial the in-house extension number of the VPS.
- d. Go on-hook.

Easy Message Access:

- a. Easy Message Access is programmed at the GMX-152D KSU.
- b. To hear messages:

Key Stations:

- a. Press the [MSG] key when the message waiting lamp is lit.

Single-line Stations:

- a. Dial the in-house extension number of the VPS then you hear the special stutter dialtone.

APPENDIX B COMMON REGISTRY VARIABLES

B.1 THE REGISTRY

The Registry is a database of settings (similar to the Windows 95/NT Registry) that controls how the STARPLUS Dispatch™ system operates. By making changes to settings in the Registry, you can affect how the system operates. You may make changes to the Registry via either the Admin program or ECom as follows:

1. *Admin*: Select Setup, Advanced, Edit Registry. From the list box you may select to add, delete or edit any item.
2. *ECom*: From the DOS prompt you can use two DOS commands to look at and edit the Registry:

REGADD: Used to add and change Registry items. Run REGADD with no parameters to see a usage description.

REGLIST: Used to display registry values. Run REGLIST with no parameters to see a usage description.

After making changes to the Registry that affect the system, the STARPLUS Dispatch™ may need to be restarted for the changes to take effect.

Table B-1: Common Registry Variables

Registry Variable	Explanation
AaBlindDelay	Amount of time between AaTransferPreXXX and sending the extension number to switch.
AaGetBusyXXX	Dial sequence to retrieve a calling party when the called party's extension is busy.
AaGetNoAnswerXXX	Dial sequence to retrieve a calling party when the called party's extension rings to no answer.
AaGetRejectXXX	Dial sequence to retrieve a calling party that has been rejected by the called party.
AaMwiClrXXX	Code required for the telephone system to clear the Message Waiting Indicator.
AaMwiSetXXX	Code required for the telephone system to set the Message Waiting Indicator.

Table B-1: Common Registry Variables

Registry Variable	Explanation
AaTransferPostXXX	Digits to dial after the called party's extension number has been sent to the phone system. For example &,70*, where the "&" =hook flash, ",", pause, "70" is the extension to dial, and "*" is the Transfer Postfix.
AaTransferPreXXX	Digits to dial before the called party's extension number has been sent to the phone system. For example &,*70, where the "&"=hook flash, ","=pause, "*" is the Transfer Prefix and "70" is the extension to dial.
CallLogging	Determines what information is written to the log file. Ss= System Foundation, Vm= Voice Mail, Aa=Auto-Attendant, Mn=Menus, Vo= Voice Mail Owner, Tm=Time Control, Mm=Message Manager, No=Notification.
ComBaud	On the voice mail unit side, this is the baud rate from the self-contained voice mail unit. Valid baud rates are 300, 1200,2400, etc... (Default = 9600).
ComParam	On the voice mail side, this is the Parity, Data Bits and Stop Bits from the self-contained voice mail unit. The default is N81.
ComPort	On the voice mail side, this is the Com Port that the self-contained voice mail unit uses. The default is 1. (COM1) *Note that on all systems only COM1 is supported.
DirType	Type of directory the system uses. Valid entries are Li for list mode, Si for single mode, and Pg for pager mode.
DisableXSIAM	Determines whether the XSIAM module runs. The XSIAM module enables communications between the self-contained voice mail unit and the Laptop Administration program. A "1" means do not run XSIAM, and a "0" means run XSIAM on startup. The default is 0.
ExtensionLength	Number of digits for the default extensions.
flash-time	Length of flash-hook (x10msec).

Table B-1: Common Registry Variables

Registry Variable	Explanation
hup_delay	Maximum delay, in seconds, between digits.
hup_pattern	DTMF hang-up pattern from the switch. Maximum pattern length is 31 characters.
hup_type	Hang-up type to set. The hup_type should be set to 1 (Loop Current) in order for the board functions to terminate due to the hang-up event.
lcdly	Loop current delay.
MailboxLength	Number of digits the default mailbox length is.
MaxMenuPromptLength	Maximum length a menu prompt can be in seconds.
MenuFaxToneWait	Amount of time to wait for fax tones before the menu prompt plays.
minlcoff	Minimum time loop current must be off before we detect a drop in loop current.
MinRecordLength	Minimum length of time for a valid message (in seconds).
ModuleDebug	Gives additional logging information for debugging purposes. Should be turned off when the debugging process is complete. See Section 800.12 for more information.
nbrdna	Number of rings before no answer is detected.
oh_dly	Off-Hook Delay: Time delay that occurs after executing a channel off-hook command. DTMF digits are not recognized while going off-hook (x10ms).
pause-time	Pause Time: Delay caused by a comma (,) in the dialing string (x10ms).
r_ird	Ring Interring Delay: Maximum time between incoming rings. The ring counter is reset after this time has expired; rings that occur after this interval are considered the start of a new call cycle (x100ms).

Table B-1: Common Registry Variables

Registry Variable	Explanation
r_off	Ring Off: Minimum ring voltage off duration for an incoming ring (x100ms).
r_on	Ring On: Minimum ring voltage on duration for an incoming ring (x100ms).
rings	Number of rings before a voice line answers an incoming call.
t_idd	DTMF Interdigit Delay: Delay between digits during DTMF dialing (x10ms).
tone 4	Busy Tone information. See section 800.16 for more information.
tone 5	Ring Tone information. See section 800.16 for more information.
VmCleanDay	Day of the week used to clean up old messages. Su=Sunday, Mo= Monday, Tu= Tuesday, We= Wednesday, Th= Thursday, Fr= Friday, Sa= Saturday.
VmCleanTime	Indicates what time of day was used to clean up old messages. In the HHMM and 24-hour clock format.
VmMwiResend	Resend the Message Waiting Indicator (AaM-wiSetXXX).
VmTemplate	The template that the online administration uses to create a new mailbox on the system.
XOnXOff	Type of flow control we are using, 0 = None, 1 = Hardware (RTS/CTS), 2 = Software (XOn/XOff) (Default = 2).
AdminPassword	The on-line administrator password. Default = 2275

APPENDIX C COMMAND FILES

C.1 OVERVIEW

Command Files are used to expand the basic system to meet the needs of special notification/paging systems, phone systems, TIE lines, and special installations. Command files can be used in three places: mailbox notification, extension forwarding, and directly from a menu.

C.2 COMMAND FILE STRUCTURE

A command file is an ASCII text file with one command per line. Only the commands listed below may be used. Any other lines will be discarded. If a line starts with the ";" (semi-colon) character then the rest of the line will be ignored. The command file is case sensitive and all commands must be spelled as indicated below. In the list below, items in brackets ("<" and ">") are variables and represent strings that you must supply. Anytime a "<Mailbox>" or "<Extension>" appears, leaving it out will cause the command file to use the global mailbox and extension.

Table C-1: Command Files

Command	Explanation
Quit	Quit this command file and return.
OnHook	Put port on-hook.
OffHook [=Delayed]	Take phone off-hook. If "=Delayed" is specified, then the phone is not placed off-hook until a dial or call is actually executed. This is useful when the time between the OffHook and Dial is too long.
Call=<DtmfString>	Call the number.
CallResult<07-12>=<Command...>	Branch on result of a call; 7=busy, 8=no answer, 10=connect.
LogCallResult	Log the result.
Dial=<DtmfString>	Dial the number.

Table C-1: Command Files (Continued)

Command	Explanation
Sleep=<SecondsToSleep>	Pause for seconds.
LogCallResult	Log the result.
Dial<DtmfString>	Dial the number.
Sleep= <SecondsToSleep>;	Pause for seconds.
PlayFirstMessage=[New Save Kill Delete]	Play the first message. Without a parameter, the message will be left as a new message. You may also specify Save, Delete, or Kill to act on the message. Use Kill to remove the message after playing.
DoMessageRetrieval= <Mailbox>	Allow message retrieval.
CommandFile= <NewCommandFile>, <Path>	Run another command file.
Say= <FileName>, <Path>	Say a file.
Log= <LogString>	Log the string.
Status= <StatusString>	Show string in status box.
Console= <ConsoleString>	Put string to console.
Echo= <On Off>	Turn Status() on off.
Mailbox= <Mailbox>	Goto mailbox.
Extension= <Extension>	Goto extension.
Module= <ModulesName>, <glb_parameter>	Run other module.
Line <00-32>= <Command...>	Check current line.

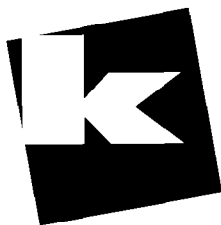

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Table C-1: Command Files (Continued)

Command	Explanation
Notify	Do notification for the global mailbox. This is used to restart notification for the global mailbox if the system has not extinguished the notification retries. This is similar to the "Pager Uses Retries" field in the COS record. Pager Uses Retries is not active for command file paging. Use the Notify command to force using retries.
DtmfRead= <count>, <terminate>, <time>	Read Dtmfs.
Dtmf <String>= <Command...>	Branch on Dtmf read.
WriteDtmf= <FileName>, <path>	Append Dtmf contents to file.
HangUp= <Command...>	On hangup do (DtmfRead only).
HangUp=Off	Do not look for hangup.
Menu= <Menu Name>	Run a menu.
DialMailbox	Dial glb_mailbox.
CallMailbox	Call glb_mailbox.
DialExtension	Dial glb_extension.
CallExtension	Call glb_extension.
Debug= <On Off>	Turn CommFile debugging on and off.
CallMailboxWhere	Call the number in the glb_mailbox Where field.
DialMailboxWhere	Dial the number in the glb_mailbox Where field.
DialMailboxBeeperFile	Dial the digits found in B <mailbox>.MSG.

Table C-1: Command Files (Continued)

Command	Explanation
DayOfWeek <0-6>= <Command ...>	If today's day of week matches then execute.
Time <HH:MM>- <HH:MM>= <Command ...>	If the current time falls between the times then execute the command. First time is lowest.
DeliverNewFax= <Dtmf String>	If there are new faxes for this mailbox then deliver them to the number specified or to the mailbox Where field if none specified. Always uses GlbMailbox.
WhereFieldsNotifyTimed= <On Off>	Selects whether the WhereFields are pulled from the current time period (Off) or the time period used for the notification.
CancelPendingNotifies	Cancels all pending notifications for this mailbox. The command deletes all queued notification requests. It does not modify paging files.
PlayVoicePage	Plays the next voice page file. Only used on voice pagers. Most systems use PlayFirstMessage.
DialPrefixForWhereField	Dial the dialing prefix assuming we are going to dial the mailboxWherefield.
DeleteAllPages	Delete all pager files (beeper files) associated to the global mailbox.

Table C-1: Command Files (Continued)

Command	Explanation
ProcessNextEvent	Process the next event for this channel group. This is used to speed up the event handling because the channel does not have to go back to the wait state. If the next event is a notification event, then the system can process it much more quickly than if the command file did a "Quit" and returned to the main loop. If no events are due for this channel, then the next instruction in the command file after "ProcessNextEvent" is executed.
AbortIfNoPages	If no paging (beeper) files exist, then abort (Quit) the command file.
PreDialDelay=xx PostDialDelay=xx	Use the pre and post dial delays to pause between taking the phone off-hook and dialing. These statements are only useful if OffHook=Delayed is also used. Normally, these are only used when the execution of the command file is progressing too slowly to use the Sleep=X command.
LoadMailboxBeeperFile	Loads the next paging (beeper) file into memory so that when DialMailboxBeeperFile is called, the system does not have to hit the disk.
PreventMboxAsPage	Prevents the mailbox number from being sent as a page.
RestartIfNewMessage	Restart this command file (with the same global mailbox).if new voice messages exist.
DeleteAllNewMessages	Delete all new messages for the global mailbox.

Table C-1: Command Files *(Continued)*

Command	Explanation
WaitForEvent= <Seconds>	Waits the specified number of seconds for an event.
WaitResultX= <Command..>	Use WaitResultX to break out the message.
NewMessagesXXX-XXX= <Command..>	Based on the new message count, execute the command. Also indicates different commands to be executed based on the number of new messages.
DialNewMssgCount DialSavedMssgCount	Dials the DTMF digits representing the New or Saved voice message counts for the global mailbox.
GlbMailbox= <mailbox number>	Change the global mailbox to a new mailbox. Normally, when command files are used to do mailbox notification (or in paging systems), GlbMailbox is set to the mailbox number doing the notify. This command could be used to change the global mailbox. This is common for cascaded pagers.

C.3 QUICK COMMANDS

QuickCommand=<command sequence>

Quick commands allow you to replace the longer command strings above with shorter mnemonic described below. Additionally, processing of the command file is much faster when using mnemonics.

NOTES	Both the Dw, Tw and Dp commands are preloaded so that the information (page file or the mailbox's Where field) is loaded and the complete QuickCommand executes very quickly.
--------------	---

Table 3-2: Quick Commands

Command	Description
Qu	Quit
On	OnHook
Of	OffHook
Sl	Sleep, requires one digit seconds, Sl5 = Sleep=5, Sl5Sl5=Sleep=10
Dw	DialMailboxWhere
Dp	DialMailboxBeeperFile, dials pager file
Pm	PlayFirstMessage, followed with d=Delete, s=Save n=New
Ne	ProcessNextEvent
Za	Zap (erase) all messages
Ap	Abort if no pages
Rp	Restart if pages exist
No	Notify
Tw	Where field is timed. (placed before Dw)
Rn	Restart if new messages.

Example: QuickCommand=OfSl1DwSl3DpSl1OnNeQu is equivalent to:

OffHook
 Sleep=2
 DialMailboxWhere
 Sleep=3
 DialMailboxBeeperFile
 Sleep=1
 OnHook
 ProcessNextEvent
 Quit

Even though this is not as fast, it will work. You may also combine Quick Commands and regular commands as follows:

```
QuickCommand=OfSI1DwSI3
DialMailboxBeeperFile
Sleep=1
QuickCommand=OnNeQu
```

C.4 TECHNICAL

When creating a command file for pager notification, the timing of the digits to be sent from the voice mail system to the pager is critical. The command file must be synchronized with the timing of the pager being used. When determining the timing of the pager, you can call the paging company, then calculate the amount of time from when you dialed the last digit to the pager company and the time the pager company asks for the digits to be sent to the pager. Then modify the Sleep time to be the time you calculated for the digits to be sent to the pager.

For further information, please contact technical support.

C.5 PRE-DEFINED COMMAND FILES

The self-contained voice mail unit has several pre-defined command files. The command files are located in the \HELLO\CFILES subdirectory. They have the file names PAGER10.CF, PAGER12.CF, PAGER14.CF, PAGER16.CF, PAGER18.CF, PAGER20.CF, PAGER22.CF, PAGER24.CF, PAGER6.CF, and PAGER8.CF. The numeric portion of the name describes the number of seconds after dialing the pager number (but before sending the mailbox digits to the paging company).

Below is a sample of the pager file that we use (it is from PAGER10.CF):

```
OffHook
Sleep=2
DialPrefixForWhereField
Sleep=3
DialMailboxWhere
Sleep=10
DialMsgSource
MsgSourceOk=Dial=*
Dial=*
```

DialUrgentMsgCount
Dial=*
DialNewOnlyMsgCount
Dial=*
DialSavedMsgCount
Dial=#
OnHook
Notify
Quit

C.6 MODIFYING COMMAND FILES

To modify a command file, you must download the file to your laptop/PC as follows:

1. Access STARPLUS Dispatch™ via ECom.
2. If the system is not already parked, click Send next to +DIE0.
3. Type CD CFILES and press ENTER.
4. Download the pager file you want to modify by typing ZMS <filename>, where <filename> is the pager file to modify.
5. The system will then send the file to your laptop/PC in the C:\ADMIN directory.
6. Modify the file using any text editor and have the file as plain text.
7. Type REBOOT and press ENTER. The system will then reboot itself.

Once the file has been modified, upload it back to your laptop/PC as follows:

1. Access the STARPLUS Dispatch™ via ECom.
2. Make certain the unit is parked. If not, park the STARPLUS Dispatch™ by clicking the Send button next to +DIE0.
3. Type CD CFILES and press ENTER.
4. Type ZMR and press ENTER.
5. Press PgUp key.
6. Choose ZMODEM protocol and click OK.
7. Select the files to download to the unit and click OK.
8. When the C:\HELLO\CFILES prompt returns, type REBOOT and press ENTER to reboot the STARPLUS Dispatch™.

APPENDIX D INSTALLATION FORMS

STARPLUS DISPATCH Installation Form - Basic Information - page 1

Job Name: _____ Sales Rep: _____

End User Contact (Administrator): _____ Phone: _____

End User Contact responsible for recording custom prompts: _____

Installer: _____ User Trainer: _____

Installation Dates: Start: _____ Complete: _____

End User Training: _____

Telephone System Information

Type of telephone system (brand & model): _____

How many digits are there in the telephone system's station or extension numbers? _____

Is the telephone system capable of supporting In-Band Integration? Yes No

If YES, is the telephone system equipped to support In-Band Integration? Yes No
(this includes both telephone system hardware & software)

What DTMF Digits does the telephone system use to turn on voice mail indicators: _____

What DTMF Digits does the telephone system use to turn off voice mail indicators: _____

Does the telephone system use a Hook Switch Transfer on Single Line Ports? Yes No

Number of CO Lines or Trunks connected to the telephone system: _____

Number of telephones (extensions) connected to the telephone system: _____

List the single line port extension numbers that are to be used for Voice Mail Ports:

1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____ 8 _____

Will the Single Line Ports be placed in a voice mail group (hunt group)? Yes No

What is the telephone system's voice mail group number or numbers? _____



STARPLUS DISPATCH Installation Form - Basic Information - page 2

Voice Mail Functions

Number Of Voice Mailbox Users (Subscribers): _____

Number of Internal Subscribers (who have a phones in the telephone system): _____

Number of External Subscribers (who do not have a phones in the telephone system): _____

Are internal subscribers going to forward their phones to their mailboxes? Yes No

Will the telephone system provide Preset Call Forwarding to voice mail? Yes No

Will Subscribers use Pager Notification? Yes No

Automated Attendant Functions

When is Automated Attendant to be used? Daytime _____ Night _____ Both _____ Never _____

Will Automated Attendant be used as an overflow answering point (to help the live system operator)? _____

Number of CO Lines to be directly answered by Automated Attendant : _____

FAX Detection - Will the system be set to automatically route Fax calls? Yes No

Fax Transfer Prefix: _____ ("&" = flash and a ",," [comma] = pause)

Fax phone number or extension number: _____

Operator - What do telephone system users normally dial to reach the system Operator? _____

Voice Mail Equipment Considerations

Where is the voice mail system to be located? _____

Is this location environmentally stable (air conditioned & heated)? Yes No

Will the systems be connected to a dedicated and grounded 120 volt, 60 Hz AC outlet? Yes No

Note: Questions on this page answered as NO represent less than ideal conditions, and may cause immediate or delayed malfunctions, or may disrupt certain voice mail and telephone system capabilities.

STARPLUS DISPATCH Installation Form - Subscriber Information

Complete one copy of this form for each Subscriber or group of Subscribers

Subscriber Name or Group Description: _____

Mailbox/Extension Number(s):Department: _____

Class Of Service (COS)? _____

Mailbox Settings

Operator: _____ Cascade: _____ Mailbox Time Control (special use): _____

Mailbox Action Play Greeting: Yes No

Action:Destination: _____

Notification: _____ Phone Number: _____

Pager Notification: Yes No Time (if timed notification): _____

Extension Settings

Extension Time Control (special use): _____

Action 1 - when calls are first transferred to the extension

Action: _____ Destination: _____

Supervised Transfer Options (circle one): Screen Caller Allow Holding

Action 2 - Do Always Only On Busy Only On No Answer

Action: _____ Destination: _____

Supervised Transfer Options (circle one): Screen Caller Allow Holding

Action 3 - Do Always Only On Busy Only On No Answer

Action: _____ Destination: _____

Supervised Transfer Options (circle one) : Screen Caller Allow Holding

STARPLUS DISPATCH Installation Form - Class Of Service (COS) Information - page 1

Complete 1 copy of this form for each Class Of Service

COS Name (number): _____ Description: _____

General Settings

Time Control (special use): _____ Restrict Outdial - Number of digits: _____

User Type: (01 = normal, 99 = Administrators) Event Counter (circle one): Owners Callers

Message Settings

Message Type: Voice Page

Default Message Type: Voice Page Play Message Type Menu

Message Properties: Length: _____ (sec.) Count: _____ (messages) Retention: _____ (days)

Record Key - Wait for key press before recording messages? Yes No

Greeting Types: Personal System Class Of Service Voice Insert
 System Add On Greeting Length: _____ (sec.)

Park and Page active? Yes No

Callers: Stop Record Key: _____ Record Options On? Yes No

Send Options: No Options Urgent Confidential Last Option On or Off: _____

Maintenance Settings

First Time Help (circle one)? Yes No Say Date and Time type: _____

Message Order: First in - First Out Last In - First Out

Owner Play Options: Save Messages Forward Messages Dial Source
 Confirm Delete Reply To Messages Skip Messages

Owner Send Options: Not Allowed do not allow the following options Urgent Future Delivery
 Confidential System List Outside Number Confirmation

Form continues on page 2

STARPLUS DISPATCH Installation Form - Class Of Service (COS) Information - page 2

COS Name (number): _____ Description: _____

Maintenance Settings (continued)

- Owner Edit Options:
- Password Delete Message Sent Auto Attendant
 - Greeting Mailbox State Notepad
 - Name/Signature Personal Lists Transfer Out
 - Notification Guest Mailboxes

Notification Settings

When will the system set Message Waiting? _____

Message Wait Set Sequence:(special use) _____

Message Wait Clear Sequence:(special use) _____

Event Handler Group: _____ (special use - default is set to 5)

Voice Notification Options: Password Required Message Pick-Up Allowed

Cascading: When will Cascade occur: _____ Urgent Only Option

Cascade Message Save & Delete Options: Save as New Delete Original Save Original

Notification Interval: _____ (minutes) Notification Attempts: _____ (number of tries)

Pager Retries? Yes No Notification Script: _____
(special use - default is Pager12.CF)

Auto Attendant Settings

Call Options: Blind Transfer Call Screening Supervised Transfer Call Holding

Hold Interval: _____ (sec.) Hold Type: _____

Call Queing? Yes No

Screen Length: _____ (sec.) Play Original?: Yes No

Transfer Prefix: _____

Transfer Postfix: _____



STARPLUS DISPATCH Installation Form - Menu Information

Complete one copy of this form for each Menu

Description: _____

Number: _____ Password: _____ Time Control: _____ (special use)

Instructions: _____
(special use - This is the Menu's number .VOX file name for prompts.)

Time Out: _____ (sec.) Max Retries: _____ (number of retries before hangup)

Keys Actions - including additional parameters: mailbox numbers, menu numbers, etc.

*	_____
#	_____
0	_____
1	_____
2	_____
3	_____
4	_____
5	_____
6	_____
7	_____
8	_____
9	_____

Prompt script for this mailbox - to be recorded via Administrator

STARPLUS DISPATCH Installation Form - Time Control Settings

Complete one copy of this for each Time Control

Time Control Name (Number): _____

Description: _____

System Searches for a match, sequentially starting at item 1

Item Number: _____

Start Time: _____ Mark active days for these hours:
 MO TU WE TH FR SA SU
 End Time: _____

Action (the menu or mailbox calls are to go to):

Time Period Number: _____ (enter 1 to 9, for users to select time sensitive greetings)

Item Number: _____

Start Time: _____ Mark active days for these hours:
 MO TU WE TH FR SA SU
 End Time: _____

Action (the menu or mailbox calls are to go to):

Time Period Number: _____ (enter 1 to 9, for users to select time sensitive greetings)

Item Number: _____

Start Time: _____ Mark active days for these hours:
 MO TU WE TH FR SA SU
 End Time: _____

Action (the menu or mailbox calls are to go to):

Time Period Number: _____ (enter 1 to 9, for users to select time sensitive greetings)

Item Number: _____

Start Time: _____ Mark active days for these hours:
 MO TU WE TH FR SA SU
 End Time: _____

Action (the menu or mailbox calls are to go to):

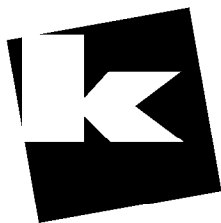
Time Period Number: _____ (enter 1 to 9, for users to select time sensitive greetings)

* Up to 10 items can be assigned to a Time Control - use additional sheets for more items.



STARPLUS DISPATCH Installation Form - Voice Lines Settings

	Action To Perform When Calls Ring In	Additional Parameters
Line 1	_____	_____
Line 2	_____	_____
Line 3	_____	_____
Line 4	_____	_____
Line 5	_____	_____
Line 6	_____	_____
Line 7	_____	_____
Line 8	_____	_____



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APPENDIX E SYSTEM LOG & ERROR MESSAGES

E.1 INTRODUCTION

STARPLUS Dispatch™ outputs two kinds of logs: the error log and system activity (or call record) log. All logs are in ASCII format which allows them to be printed or viewed with simple DOS commands.

The Log files are designed to record all system events and provide an audit trail that allows the administrator to analyze exactly how the system is being used.

E.2 ERROR LOG

The error log is output to a file named HELLO.ERR. Each line or record in this file contains (4) four fields. The first field is the date that the message was added to the log. The second field is the time. The third field is the channel (or line) number. If the channel number is zero then the message is not linked to any one channel. The rest of the log is text that describes the problem or error.

There are three error log messages that indicate system initiation and system termination illustrated in the following sample:

```
04/28/95 13:51:21 00 010 Sys:STARPLUS Dispatch™ M1 v7.16a SN: 000000 system reset (F=4) .
04/28/95 13:51:21 00 010 Sys: D40DRV Version 3.20a
04/28/95 13:52:28 00 010 Sys:STARPLUS Dispatch™ M1 v7.16a SN: 000000 system terminated(F=4) .
```

The first two lines show STARPLUS Dispatch™ system startup. The third line shows that STARPLUS Dispatch™ was taken down.



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**E.3 SYSTEM
ACTIVITY
LOG**

The system log is made up of separate files. Each day that STARPLUS Dispatch™ runs, it generates a separate file. The files are stored in the C:\HELLO\LOGS directory. The name of the file is HEMmddy.LOG, where MM is the month, dd is the day, and yy is the year. For example, the log for May 7, 1995, would be names HE050795.LOG.

The system log is more complicated than the error log. Every phone call that STARPLUS Dispatch™ takes generates a log line indicating what the caller did. STARPLUS Dispatch™ outputs system activity log lines similar to those found in the error log (see above).

NOTES

Logging is a programmable feature, by default the Voice Messaging, Auto Attendant, and Menu items are enabled. Other options can be enabled or disabled in programming.

In general, each log line has (4) four "fields". The first field is the time the log line was output. The next field is the STARPLUS channel (line) that output the line. A line number of 00 indicates a system message from STARPLUS. The third field is the call start time. Not all lines contain this field. The fourth field is the message. A log message can be very simple or very complex. This document focuses on understanding the different log lines. Logs depend on the caller or mailbox owner decisions. The following sections discuss different logs and the meaning of each log item.

Each module (ie Voice Messaging ...) has a letter code associated with it. Listed below are the current modules and the codes:

- Auto Attendant: [AutoA]
- Voice Messaging: [Vmail]
- Menu Routing: [Menu]

At the end of each log line you may see the letter H followed by a number. This means that STARPLUS Dispatch™ detected that the caller had a hangup. The number indicates the type of hangup:

- H1 - Drop in Loop Current
- H2 - Silence Period Detected

- H3 - Tone Period Detected
- H4 - Re-order Tone Detected

If you do not see an H that means that the caller selected to hangup by pressing a key, such as 9 from the Voice Messaging maintenance. Each of the modules has different log information that appears after it. These are described individually with their corresponding code information.

A. Auto Attendant

AutoA. in the log represents the Auto Attendant function. After the AutoA is the extension the person dialed. Following the extension is the destination where STARPLUS sent the caller. In most cases this is a call to an extension.

Extensions with supervised transfer have the codes following the extension number.

Possible codes are:

- Busy Ca
- NoAnswer Ca
- Connect (Call Answered)

If the call was answered that ends the transaction. If there was no answer then the call was most likely sent to the person's mailbox (see Voice Messaging below). In the case of Busy the caller may elect to retry the extension, therefore the call repeats. This example from the System Log illustrates how to read an Auto Attendant Log.

```
09:23:16 05 Log: AutoA 100 Call 100 Busy CaScHo
09:23:25 05 Log: AutoA 100 Hold Holding 1
09:23:46 05 Log: AutoA 100 Call 100 NoAnswer
09:23:46 05 Log: AutoA 100 To mailbox 100
```

Log Interpretation

This log is an example of someone calling in for extension 100. The extension is busy as written in the first line. The abbreviations CaScHo stand for (Ca) Supervised Transfer, (Sc) Screening, (Ho) Holding. In other words, the supervised auto attendant transferred the call, it was then screened, and put on hold. The second line stated that it

has held for only one time. The third line indicate the phone system tried the line again. And the last line tells the phone system to go ahead and send the caller to mailbox 100.

Extensions with unsupervised transfer have the code bXXXX, which stands for blind transfer followed by the extension number. Since STARPLUS hangs-up automatically after a blind transfer, that should end the log line.

Other codes associated with the Auto Attendant module are:

fwm	This extension was forwarded to a mailbox. An Mi followed by the mailbox number appears next.
fw	
fw oXXXX,	This extension is forwarded to an outside number. The number follows the o.
fwe XXXX,	This extension is forwarded to another extension. The forward to extension appears after the code.
Sc,	
Di,	
Ho	Call holding was used during the call.
Hold Holding x	The number of times the caller chose to hold for the extension. x is the number of times.

B. Voice Messaging

Voice Messaging log records are split into (2) two general types. One type is for general message taking, the other is for mailbox maintenance. General message taking is when a internal or external caller leaves a message for a mailbox. Mailbox maintenance is when an internal user is in their mailbox retrieving messages, changing personal options, etc.

There are a minimum of (4) four lines that come up for a system log once a mailbox has been opened. These lines represent what the system had to do so that the caller could receive or give a message.

```
14:30:37 04 Log: Start Call
14:30:43 04 Log: Vmail 100 access
14:30:49 04 Log: Owner 100 VN:3 VS:8 PN:0 PS:2
14:30:55 04 Log: Stop Call 14:30:37
```

Log Interpretation

The first line of this Log states that a call started at 14:30:37 on line 04. The second line depicts the time and the extension the caller called. The third line shows the time and mailbox numbers with the associated abbreviations.

The abbreviations stand for:

- (VN) Voicemail New messages
- (VS) Voicemail Saved messages
- (PN) Pager New message
- (PS) Pager Saved message.

The Log users can tell how many messages are on a particular mailbox. In this example there were three new messages, eight saved messages, zero new pager messages, and two saved pager messages. The first line provides the call start time and the last line shows the time the message stopped.

Logs depend on the caller or mailbox owner decisions. The general message taker is indicated in the log with the Vmail code. After the Vmail code is the mailbox number where the caller is sent.

Other Vmail log lines examples and their interpretation are:

```
14:30:43 04 Log: Vmail 100 to Owner
```

Mailbox 100 has been accessed as an owner.

```
14:30:43 04 Log: Vmail 100 Voice Send to mb 101
```

Mailbox 100 recorded a message and sent it to mailbox 101.

```
14:30:43 04 Log: Vmail 100 Voice 0:00:20 K9
```

A caller left a 20 second voice message and terminated the call with the 9 digit.

```
14:30:43 04 Log: Vmail track msg: 100.IVX Play
```

The Log Line for the message tracker logging option.

C. Menu Routing

Menu Logs

```
10:25:08 04 Log: Start Call
10:25:08 04 Log: Vmail 100 Access
10:25:27 04 Log: Menu Demo          10:25:08 Keys      2:MnSALESMNU
10:25:32 04 Log: Stop Call 10:25:08
```

The only difference between these logs and previous ones, is the third line. This line describes which menu was picked (Demo), the time that the call was made (10:25:08), the key the caller pressed for options (2), and where the option forwarded the caller (Salesmnu) when the menu finished prompting.

Other options include:

HgUp	Hang up the line
Oper	Transfer to the operator

Inst	Replay instructions
Menu	Run a menu
AutoA	Go to Auto Attendant
Vmail	Go to Voice Messaging
Disb	Disable key
Invd	Invalid key

E.4 ERROR MESSAGES

If an error occurs, STARPLUS attempts to identify the cause of the error and provides information to help resolve the problem. The following list summarizes STARPLUS error messages and the probable cause of the error.

A. Error List

H!COMFIL FAX Support not available.

H!VMAIL Warning: Message type MssgType not supported.

H!VMAIL Error: No Last Option menu defined COS Name.

H!OWNER Error: Invalid password length.

H!OWNER Error: No prompt keys specified. Disconnecting.

H!DBASE Error: Unknown dBase command ModuleParameter.

H!DBASE Error: Unable to access KeyValue.

H!MENU Error: Invalid menu password

H!NOTIFY Error: Invalid password length.

H!NOTIFY Error: No period in MbxOnline notify setting.

H!OWNERA Error: No prompt keys specified. Disconnecting.

H!OWNERO Warning: Nothing to edit at VoMenu8., returning.

H!OWNERO Error: No prompt keys specified. Disconnecting.

H!OWNERS Error: Called with no module parameter.

H!OWNERS Error: Invalid gMailboxLength.

Error List (Cont'd)

H!OWNERS Error: Warning to open SYSLIST.DBF.
H!OWNERS Error: Unable to open address file for send.
H!OWNERS Error: No prompt keys specified.
Disconnecting.
H!OWNERV Error: RunOwnerMenu failed on
VoMenuRoot=11.
H!OWNERV Error: Unable to open address file for forward
H!OWNERV Error: Unable to open address file for send
H!OWNERV Error: Warning to open SYSLIST.DBF.
H!OWNERV Error: No prompt keys specified.
Disconnecting.
H!OWNERX Warning: Nothing to edit at VoMenu6.,
returning.
H!OWNERX Error: No prompt keys specified.
Disconnecting.
H!TIMECO Error: Start time invalid.
H!TIMECO Error: End time xxxxx invalid.
H!TIMECO Error: Time control in loop;.
H!AUTOA Error: Invalid gMailboxLength.
H!MSGMAN SetUp Error: No group 1 handlers for mes-
sage manager.
H!MSGMAN Error: Event EvData not for Message Man-
ager. Check event queues.
H!MSGMAN Error: Message Manager command.
H!MSGMAN Error: Unable to open.
H!MSGMAN Error: Personal list #.
H!MSGMAN Error: No room in guest mailbox.
H!MSGMAN Error: Return receipt needs source.
H!MSGMAN Error: Unable to open.
H!MSGMAN Error: File names wrong for rename.
H!MSGMAN Error: Broadcast file mData not found.
H!MSGMAN Error: Broadcast file mData bad name.
H!MSGMAN Error: Broadcast file mData bad name.

Error List (Cont'd)

!!SMDISV Err No RS232 support in HELLO.EXE. No SMDI.

!!SMDISV Err No Interline support in HELLO.EXE. No SMDI.

!!SMDISV Err Opening port COM" & ComPort &

!!SMDISV Err LCOM.EXE not loaded before HELLO.EXE. No paging.

!!SMDISV Err Locking port COM" & ComPort &

!!SMDISV Err Rs232 buffer overflow. Resetting.

!!SMDISV Err Could not open DATA\SMDI.INI.

H!COMFIL Error No command file specified.

H!COMFIL Error File not found FileName.

B. System Errors

The following is a list of system errors detailing the actual error message followed by an explanation. These error messages are shown for reference only, since they appear infrequently, if at all. However, they may be helpful to programmers and developers who design their own systems or applications.

000 Sys: *Channel Init Error (code=%d)*

Error initializing channel parameter block.

Low level software/hardware problem.

000 Sys: *D40/SetXParm Error (code=%d)*

Error initializing extended dialogic parameter block.

Low level software/hardware problem.

000 Sys: *D40DRV Board Count Error (%d%d:%d)*

Number of boards located during initialization incorrect.

Either the number of boards located does not match that specified in HELLO.BDF (via MAINT/low level) or successive init calls return inconsistent board counts due to a low level hardware/software problem.

**System Errors
(Cont'd)**

000 Sys: *D40DRV not responding (int=%X)*

Error communicating with voice driver.

Software configuration problem. Check voice hardware switches and driver configuration.

000 Sys: *D40DRV Start Error (code=%d,nl=%d,irq=%d)*

Error communicating with voice cards during start. Usually an IRQ conflict with other system devices.

000 Sys: *Invalid Line(%d) In Event(code=%d,data=%d)*

Error received from voice driver. Low level hardware/software problem.

000 Sys: *Invalid Printer Port(%d)*

Nonexistent printer port specified in HELLO.SDF or in a module.

HELLO configuration error, or module error.

000 Sys: *No Memory for System Var *

Unable to complete system variable loading from HELLO.SDF. Not enough free memory before running HELLO.

000 Sys: *Not enough disk (%ldK) to output*

Unable to produce normal output (logs, recordings, etc.) during HELLO operation. Not enough free disk space before running HELLO.

000 Sys: *Not enough disk (%ldK) to run*

Unable to produce critical output (error log, etc.). Not enough free disk space before running HELLO.

000 Sys: *Raw Printer Output Disabled*

Raw printer output will be ignored, usually to activate print file spooling. Not an error.

000 Sys: *System Var already defined*

Duplicate system variable names found while loading HELLO.SDF. HELLO configuration error (via MAINT).

**System Errors
(Cont'd)**

000 Sys: *Too Many System Vars (%d) for *

More system variables in HELLO.SDF than HELLO can store. HELLO limit reached. (max 50 system variables)

000 Sys: Critical Error Count = %d

Hourly log message indicating how many DOS critical errors trapped by optional error handler. Not an error by itself, but does indicate some system errors.

000 Sys: Keyboard Input(%X:%X)

Log message indicating key (scan code & key code) pressed on keyboard. Not an error.

000 Sys: New Years Day!

Log message indicating New Year rollover. Not an error.

000 Sys: Printer#%d not responding(%04X)

Error printing raw output. Printer offline or other low level printer error.

001 Sys: (%s) * Invalid Port = %d *

Invalid comm port specified in RS232 operation. Module error.

001 Sys: (%s) * Port %d Already Locked by %d *

Comm port already locked by other line. Not an error, just competition for ports.

001 Sys: (%s) * Port %d NOT Locked (%d) *

Comm port not locked as expected. Module error.

001 Sys: (%s) * Port %d NOT Open *

Comm port not open as expected. Module error.

001 Sys: (Close) *Port %d LOCKED by line %d*

Comm port locked by other line during close. Not an error, just indicates multiple lines accessing comm port.

**System Errors
(Cont'd)**

001 Sys: (Open) *LCOM not installed*

LCOM.EXE not installed prior to running STARPLUS Software configuration (AUTOEXEC.BAT or other) error, because LCOM is required for RS232 operations.

001 Sys: (Open) *Port %d Already Opened by line %d*

Comm port already open during another open operation. Module error.

001 Sys: *Open error %d on port %d*

Error opening comm port for operations. Low level software (LCOM) or hardware error.

002 Sys: *Can't find script *

Error locating script from HELLO.SDF, HELLO.LOD or during run-time fgosub call. Missing module, configuration error (via MAINT), or module error.

002 Sys: *Error loading script *

Error loading script, unable to complete. Indicates the failure (usually due to another error logged just prior to this message) to successfully load a script module.

002 Sys: *Invalid Script *

Error loading script module. Indicates an invalid script module format.

002 Sys: *No mem - Alloc Lengths List (n=%d)*

Error allocating module variable lengths list. Not enough free memory before running STARPLUS.

002 Sys: *No mem - Alloc Value * (c=%d,n=%d)*

Error allocating module variable. Not enough free memory before running STARPLUS.

002 Sys: *No mem loading constants (c=%d,n=%d)*

Error allocating module constants. Not enough free memory before running STARPLUS.

**System Errors
(Cont'd)**

002 Sys: *No mem loading instructions (n=%d)*

Error allocating module instruction code. Not enough free memory before running STARPLUS.

002 Sys: *No mem-Alloc Value List (n=%d)*

Error allocating module variable value list. Not enough free memory before running STARPLUS.

002 Sys: *No Memory Allocating User Q *

Error allocating user queue. Not enough free memory before running STARPLUS.

002 Sys: *Script Table Full *

Unable to add script module to internal module list. Configuration error (via MAINT or module) of more modules than STARPLUS can support at one time.

002 Sys: *Unable to read script header*

Error reading header from script module file. Indicates an invalid script module format.

002 Sys: *Unable to read value lengths (c=%d,n=%d)*

Error reading value lengths from script module file. Indicates an invalid script module format.

002 Sys: *Unable to read constant (c=%d,n=%d)*

Error reading constants from script module file. Indicates an invalid script module format.

002 Sys: *Unable to read constant length (c=%d,n=%d)*

Error reading constant lengths from script module file. Indicates an invalid script module format.

002 Sys: *Unable to read script (c=%d,n=%d)*

Error reading instruction code from script module file. Indicates an invalid script module format.

**System Errors
(Cont'd)**

003 Sys: * Called script with globals *

Module called that contains globals. Module error, subroutines cannot have global values.

003 Sys: * First script sharing locals *

Main module attempts to share local variables with Non-existent predecessor module. Module error, main modules cannot share locals.

003 Sys: * Stack Overflow *

Too many nested subroutine calls. STARPLUS limit reached. (max 10 nesting levels).

003 Sys: * Stack Underflow *

Too many subroutine returns. Module error, number of returns must match calls.

003 Sys: *Invalid function %d *

Unrecognized function code in module. Module file error or internal STARPLUS error.

003 Sys: *Invalid opcode %d*

Unrecognized instruction code in module. Module file error or internal STARPLUS error.

003 Sys: *Mark Dead scr=%d addr=%d mark=%2X l=%d v

Internal marker overwritten. Internal STARPLUS error.

003 Sys: *String Overflow(cat) d_max=%d d_len=%d s_len=%d

Attempt to set variable to a value that is too long. Module error.

003 Sys: *String Overflow(sv) d_len=%d d_max=%d s_len=%d

Attempt to set variable to a value that is too long. Module error.

**System Errors
(Cont'd)**

003 Sys: *Task Mssg(%d,%s) BEFORE Answer*

Unprocessed message received from other task thrown away prior to going into answer mode. Module error, modules for multi-tasking systems should process all messages received prior to going into answer mode.

003 Sys: LineDown = %d*

Log message indicating a line has been shutdown by module command. Not an error.

004 Sys: * Can't concat sys segment (too many)*

Error concatenating voice segments from the system voice file (hellosys.vox). STARPLUS limit reached. (max 30 segments) Probably too large too large a number in SayNumber or SayMoney, too long a string in SayChars, etc.

004 Sys: * Can't find sys segment *

Unable to find a voice segment in system voice file (HELLOsys.vox). Missing file or module error.

004 Sys: * Can't find voice message :%s/%s *

Unable to find a voice file. Missing file or module error.

004 Sys: * Can't open voice index (memory) *

Unable to successfully open a permanent voice index, due to insufficient memory for segment table. Not enough memory before running STARPLUS.

004 Sys: * Invalid Definition #%d in Voice Index *

Error reading segment information from VDX file. Indicates error in VDX file format.

004 Sys: * No Segments in Voice Index *

No segments found in VDX file. Indicates empty VDX file.

**System Errors
(Cont'd)**

004 Sys: * System voice file :%s not voxopen for %s(%s) *
Unable to play system segments because system voice file is not VOXOPEN in HELLO.SDF or HELLO.LOD. Configuration error (via MAINT) of HELLO.SDF or HELLO.LOD.

004 Sys: * Voice file :%s not found *
Unable to find a voice file for VOXOPEN. Missing file or configuration error (via MAINT) of HELLO.SDF or HELLO.LOD.

004 Sys: * Voice file already open *
Unable to VOXOPEN voice file, already open. Configuration error (via MAINT) of HELLO.SDF or HELLO.LOD.

004 Sys: * Voice index :%s not found *
Unable to open VDX file to find segment. Missing file or module error.

004 Sys: *Call error (c=%d)*
Error attempting to make a outbound call. Low level software/hardware error.

004 Sys: *Can't open record voice file *
Error opening record file for recording. STARPLUS internal error or DOS file sharing error.

004 Sys: *Can't record :%s (in use)*
Error opening record file for recording. File is already open by another line.

004 Sys: *Can't record (disk space)*
Error recording file. Not enough disk space to record to.

004 Sys: *Dial error (c=%d)*
Error attempting to make a outbound dial. Low level software/hardware error.

**System Errors
(Cont'd)**

004 Sys: *DTMF Overflow (act=%d max=%d)*

Too many DTMF digits read into variable. Internal STARPLUS error.

004 Sys: *GetDTMFs (%d,%d,%s) err=%d*

Error attempting to make a DTMF read. Low level software/hardware error.

004 Sys: *Invalid VoxDate *

Error saying date. Invalid date data or module error.

004 Sys: *Play file /%s (%d:%d) error %d*

Error playing file. Low level software/hardware error.

004 Sys: *Record file (%d) error %d*

Error recording file. Low level software/hardware error.

004 Sys: *System Error %d:%d st=%d fh=%d *

Critical DOS error. Low level software/hardware error.

004 Sys: *Unk Event %d:%d st=%d cs=%d mf=%d lt=%d
ls=%02x fh=%d *

Invalid event received from voice driver. Low level software/hardware error.

004 Sys: *Var too small(%d) for READDTMF(%d)*

Variable for read DTMF is smaller than requested length. Module error.

005 Sys: *Can't %s - mbox locked by line %d*

Unable to perform specified operation on mailbox, because it is locked by another line. Module error.

005 Sys: *Can't %s - mbox not open*

Unable to perform specified operation mailbox, because line does not have it opened. Module error.

**System Errors
(Cont'd)**

005 Sys: *Can't create for mbox - create error*
Error creating deleted message file. Internal STARPLUS or DOS error.

005 Sys: *Can't delete for mbox - del error %d*
Error deleting message file. Internal STARPLUS or DOS error.

005 Sys: *Can't delete for mbox - not exist*
Error deleting message file, file does not exist. Module error.

005 Sys: *Can't open mbox - max open*
Unable to open mailbox, mailbox table is full. STARPLUS limit reached. (max 32 mailboxes open).

005 Sys: *Can't say for mbox - not exist*
Error playing mailbox message file, file does not exist. Module error.

005 Sys: *CloseRec total(%ld) != actual(%ld)*
Error in recording file length after truncation. Internal STARPLUS or DOS error.

005 Sys: *CPF-Err cf=%d th=%d tf:%s
Error closing play file, file handle invalid. Internal STARPLUS error.

005 Sys: *Dup file len(%ld) mismatch on mbox*
Error in indirect message file length. Internal STARPLUS error.

005 Sys: *Mbox Reset %d Count Mismatch (%d%d)*
Message counts in MDX and directory differ. Missing files or STARPLUS internal error.

005 Sys: *No Dest mbox to dup from mbox*
Nonexistent mailbox specified. Module error.

**System Errors
(Cont'd)**

005 Sys: *No Disk Space to dup to mbox *

Unable to duplicate mailbox message. Not enough free disk space before running STARPLUS .

005 Sys: *TC(%s) Mbox Count %d Mismatch (%d%d)*

Message counts in MDX and directory differ. Missing files or STARPLUS internal error.

005 Sys: *TC(%s) unable to read mbox %d index*

Error reading mailbox index entry. Internal STARPLUS error.

005 Sys: *Unable to Del mssg; %d(%ld) %d (ec=%d)*

Error deleting short message just recorded. Internal STARPLUS or DOS error.

005 Sys: *Unable to dup from to (create)*

Error creating new message file for mailbox. Message directory full, Internal STARPLUS or DOS error.

005 Sys: *Unable to open for dup to mbox *

Error opening mailbox message file. Internal STARPLUS or DOS error.

005 Sys: *Unable to open file for mbox *

Error opening mailbox message file. Internal STARPLUS or DOS error.

005 Sys: *Unable to say indirect mssg for *

Error playing indirect mailbox message file. Low level software/hardware or Internal STARPLUS error.

005 Sys: Del mssg; %d(%ld) %d

Log message reporting the deletion of a newly recorded mailbox message that was shorter than the minimum recording length. Not an error.

006 Sys: *Can't open - max files*

Unable to open file, maximum number of files open. STARPLUS limit reached. (max 16 files).

**System Errors
(Cont'd)**

006 Sys: *Can't say :%s/%s to file (%d)*
Error saying into file, file not opened for write or file not opened in binary mode. Module error.

006 Sys: *File not opened for write*
Error writing to file, file not opened for write. Module error.

006 Sys: *FRead too long(%d) for dest(%d)*
Error reading into variable, specified read length longer than variable. Module error.

006 Sys: *FSearch too long(%d) for dest(%d)*
Error file searching into variable, specified length longer than variable. Module error.

006 Sys: *No Disk Space to open output file *
Unable to open file for output. Not enough free disk space available.

006 Sys: *No Disk Space to say to file *
Unable to say into file due to insufficient disk space. Not enough free disk space available.

006 Sys: *No Disk Space to write to file *
Unable to write to file due to insufficient disk space. Not enough free disk space available.

006 Sys: *Unable open file ; name too long*
Unable to open file, filename is too long. Module error.

006 Sys: *Unable to open dest file :%s to copy*
Error creating destination file to copy to. File already open or DOS error.

006 Sys: *Unable to open source file :%s to copy*
Error opening source file to copy from. Missing file or DOS error.

**System Errors
(Cont'd)**

007 Sys: *Database %d not opened during %s*

Database not open as expected for dBase operation. Module error.

007 Sys: *Error=%d on field val file during DbaseFreplace*

Error replacing field value, usually invalid field name or value conversion. Module or database error.

007 Sys: *Index %d not opened during %s*

Index not open as expected for dBase operation. Module error.

007 Sys: *Invalid field for file during DbaseFstr*

Error referencing field value, usually invalid field name or value conversion. Module or database error.

007 Sys: *Invalid field val for file during DbaseFReplace*

Error replacing field value, usually invalid field name or value conversion. Module or database error.

007 Sys: *No Current Record(%ld) in db during %s*

No database record selected as expected. Module error.

007 Sys: *Unable to alloc buffer(%d) for dbase*

Unable to allocate record buffer during dBase open. Not enough free memory available.

007 Sys: *Unable to alloc buffer(%d) for index*

Unable to allocate index buffer during index open. Not enough free memory available.

007 Sys: *Unable to GO to rec=%ld in dbase; Error=%d*

Error during go operation, probably invalid record number. Module or database error.

007 Sys: *Unable to open dbase; Error=%d*

Error during dbase open operation. Missing database file, module error, or database error.

**System Errors
(Cont'd)**

007 Sys: *Unable to open dbase; Invalid filename*
Unable to open database, invalid filename. Module error.

007 Sys: *Unable to open dbase; Max_dbs(%d)*
Unable to open database file, maximum already open.
STARPLUS limit reached. (max 4 databases)

007 Sys: *Unable to open index for db; opened for db*
Unable to open index file with currently selected database,
that index already opened with another database file.
Module error.

007 Sys: *Unable to open index; Error=%d*
Error opening index file. Missing file, module error, or
database error.

007 Sys: *Unable to open index; Invalid filename*
Unable to open index file, invalid filename. Module error.

007 Sys: *Unable to open index; Max indices(%d)*
Unable to open index file, maximum already open. STAR-
PLUS limit reached. (max 4 indices)

007 Sys: *Unable to open index; No database selected*
Unable to open index, must have database open and
selected. Module error.

007 Sys: *Unable to write rec=%ld in dbase; Error=%d*
Error writing database record. Module or database error.

007 Sys: Check Index %d
Log message indicating an index check operation is be-
ginning (which stops STARPLUS processing, and takes an
amount of time proportionate to the size of the database
and the index.) Not an error.

**System Errors
(Cont'd)**

007 Sys: Check Index Result = %d

Log message indicating the result of an index check. Not an error.

007 Sys: Pack Database %d

Log message indicating a database pack operation is beginning (which stops STARPLUS processing, and takes an amount of time proportionate to the size of the database and the index.) Not an error.

007 Sys: Pack Result = %d

Log message indicating the result of a database pack. Not an error.

009 Sys: * QRec=%d during %s (hl=%d fl=%d) *

Invalid user queue record number during operation. Internal STARPLUS error.

009 Sys: * Queue file length = %ld *\n

Invalid user queue file length. Internal STARPLUS error.

010 Sys: * Not Enough Memory* (%ld)

Unable to perform operation due to insufficient free8 memory. Not enough free memory available.

010 Sys: STARPLUS v%d.%02d system reset (F=%d).

Log message indicating the startup of STARPLUS. Not an error.

010 Sys: STARPLUS v%d.%02d system terminated (F=%d).

Log message indicating the termination of STARPLUS. Not an error.

010 Sys: MEMORY U[%ld] F[%ld] D[%ld] : %s

Log message indicating the amount of used and free memory. Not an error.

**System Errors
(Cont'd)**

011 Sys: Blockage Cleared Group# %d

Log message indicating that blockage no longer exists for a particular blockage group. Not an error.

011 Sys: Blockage Detected Group# %d

Log message indicating that blockage has begun for a particular blockage group. Not an error.

011 Sys: Trans to IDLE (cs=%d ev=%d ed=%d)

Error message indicating a transition to the IDLE processing state for a line. Internal STARPLUS error.

014 Sys: Closing file :%s (f#%d)

Log message indicating the closing of a file. Not an error.

014 Sys: Opening file :%s (f#%d)

Log message indicating the opening of a file. Not an error.

999 Sys: NOTERM EVENT st=%d subst=%d cs=%d
mf=%d lt=%d ls=%02x

Error message indicating the receipt of an invalid event from the voice driver. Low level software/hardware problem.

??? Sys: *Invalid Key :%d Type (%d)*

Error in key value type. Low level software/hardware problem.

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