

VoiceWorks 16 installation manual

0221-0001

Rev. E



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This manual is divided into the following sections:

Section	Title	Description
1	Introduction	What you're now reading
2	Hardware installation	Details on how to install the hardware
3	Programming section	A detailed description of each programming function

(This page included for pagination purposes only.)

General description

VoiceWorks¹⁶ is a standalone voice mail and auto attendant system that can be configured for 2 to 16 ports with over 70 hours of voice storage, and 1,000 mailboxes. It is housed in a small ABS plastic case that is wall mounted in the telephone equipment room. The system consists of a cabinet which houses up to 4 port cards, a main board and a memory module. An external wall mounted power transformer powers the system.

Programming of the system can be done from a standard PC using the VoiceWorks¹⁶ Installer application through either the serial port or modem. Programming can also be done from any telephone by dialing VoiceWorks¹⁶ directly, then entering the appropriate password and a series of touch-tone commands. VoiceWorks¹⁶ built-in voice instructional prompts walk the programmer through all system programming on a prompted, step-by-step basis. Recording of system announcements, prompts or directory names are done through the phone. The VoiceWorks¹⁶ automated attendant's audio-text branches can be programmed with up to 100 announcements and can be of any length. Announcements and name changes or other day-to-day operations are accomplished via dial-up using an Administrator's password. Other, more permanent, programming can be accessed only by a higher level, programmer's password.

Auto attendant features

VoiceWorks¹⁶ contains an automated attendant that provides traditional automatic answering of incoming calls, presentation of choices to the caller, and connection to destination based on those choices. The system's call routing follows a branch concept whereby the caller is routed through a series of branches to the destination he/she wishes to reach. He/she moves from branch to branch by selecting a number or name presented in an announcement. Call routing can contain up to 6 levels of branches with each branch at each level capable of advancing to up to 8 more branches (total branches not to exceed 100). Based on the phonepad responses, a caller is routed along a path from branch to branch to: a preset extension or department, an alphabetic or all names directory, or another menu branch for further choices.

Voice mail features

VoiceWorks¹⁶, in conjunction with its auto attendant, will have designated busy and/or no answer stations rerouted to their corresponding mailboxes or other extensions automatically.

A caller who has manually entered a mailbox number or who has been redirected by the auto attendant will hear the user's personal greeting such as "Hi, this is John Jones, I'm either on the phone or away from my desk, please leave me a message at the tone." After the message has been left, the caller will hear another instructional prompt such as "To reach an operator press 0, or if finished press * and hang up."

When a mailbox owner uses a personal password to enter the mailbox, the system will play the number of new and old messages currently in the mailbox and then play all messages starting with the oldest of the remaining new messages. The user can execute the following options during or at the end of each message: pause, save, delete, reply to sender, back-up, hear time & date stamp, move the message to another mailbox (with or without a preamble) or leave a message in another mailbox.

Note: Reply to sender will operate only if another user who was logged into his/her mailbox when they left the message.

Group mailboxes allow authorized individuals to “broadcast” a message to several members' mailboxes at one time. Even though a group mailbox can have many members, a group message only uses memory storage as one message.

Cascade paging mailboxes can be assigned when messages received require that several external pagers be notified. Informational mailboxes can be created to provide information to outside callers.

A mailbox user can also control many mailbox functions once his password has been entered: record, delete or hear his personal greeting; hear or enter a new password; hear, add, or delete members from a group mailbox; add or delete his pager or telephone number.

The system can have up to 1000 individual mailboxes plus up to 16 group mailboxes. Each mailbox can have a maximum of 128 messages.

Hardware installation

VoiceWorks¹⁶ hardware components consist of:

- Base cabinet
- External wall-mounted transformer
- Main board
- Memory module
- Port cards

Cabinet

The wall-mounted cabinet measures 8.5 x 11 x 3 in. (W x H x D), is designed for easy installation and easy component access. It houses the main board, the memory module, and up to four port cards.

Transformer

The ESI-supplied transformer provides AC power to the unit. It mounts conveniently on the wall, as does VoiceWorks¹⁶ itself.

Main board

The main board combines leading-edge hardware components, including a 68000-class Motorola processor and DSP structure, along with proprietary operating system firmware. The board provides:

- System control of the memory module and port cards
- A standard RS 232 DB9 serial port for report output and on-site PC connection
- A built-in 14.4K baud modem for remote programming/maintenance
- An external MOH interface

Memory module

A hard disk drive with proprietary formatting contains all system program and configuration data and pre-loaded voice instructional prompts. VoiceWorks¹⁶ stores 70 to 135 hours of voice (depending on installed drive) at 64-kilobit-per-second voice sampling.

Port cards

Port cards provide growth increments in 2 or 4 analog ports, depending on the card.

Each port card is connected to the main board via a ribbon cable. All station connections to the host phone system are accomplished through a single 66 Block.

Note: VoiceWorks¹⁶ holds a maximum of four port cards in any combination, 2-port or 4-port. We suggest you use 4-port cards for maximum expansion capabilities.

Site location

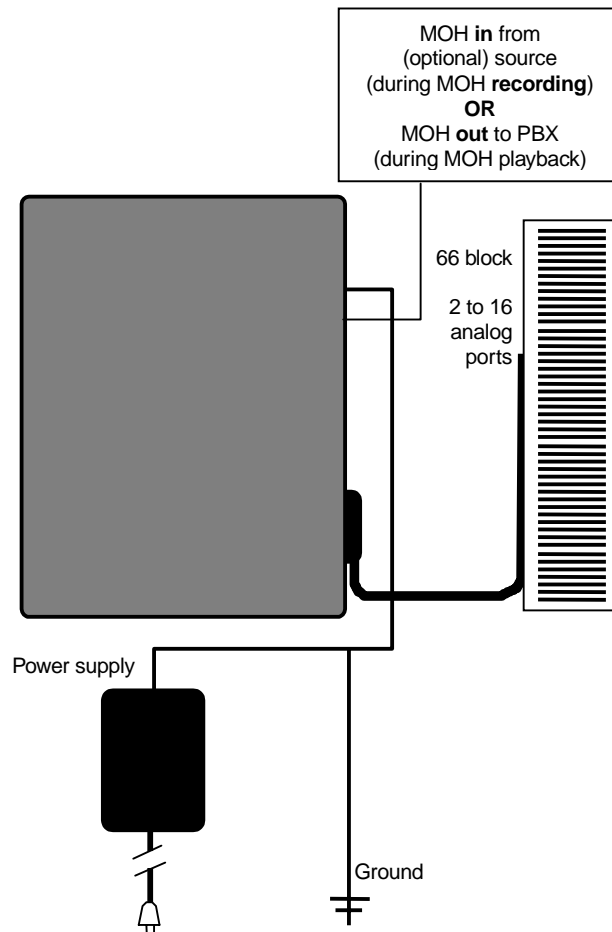
As with most electronic equipment, the environmental considerations for this site need to observe good common sense. Provide a dry, clean, and accessible area.

Note: Ambient room temperature must be between 40°F and 80°F.

Do not place the equipment or station connections near high voltage electrical equipment or electrical lines susceptible to high voltage surges from air conditioner compressors, etc.

Locate space in the telephone equipment room adjacent to the telephone system KSU, allowing easy connection for the 66 block and 110 VAC power.

The system and supporting components should be mounted to a one-half-inch (or thicker) plywood backboard. A typical installation layout is shown at *right*.

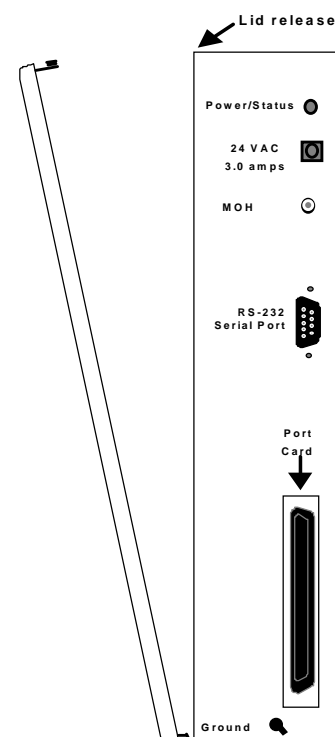


Opening the cabinet

The lid is held in place by two tabs that rest in slots in the bottom of the cabinet and a release tab that snaps into an opening in the top, center of the cabinet.

To remove the lid:

1. Remove the screw securing the lid to the cabinet
2. Press the release tab at the top of the cabinet
3. Rock the lid back from the top
4. Lift and pull the lid free from the slots in the bottom of the cabinet.



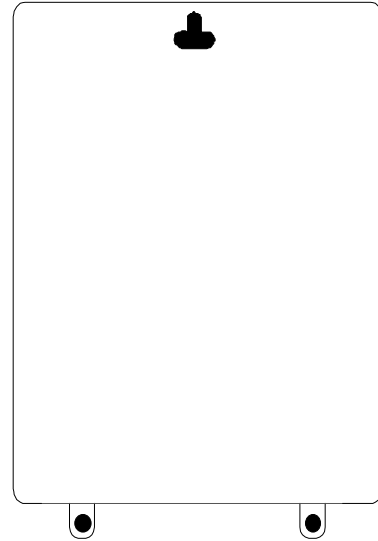
Mounting the cabinet

Use three #8 hex-head screws. Note the position of the three mounting holes in VoiceWorks¹⁶.

1. Screw in the top screw to the backboard (at least one-half-inch thick plywood) leaving about one-eighth-inch clearance between the screw head and the plywood.
2. Hang the unit using the keyhole in the case's rear.
3. Level the unit and install the bottom two screws.

Attach the Power Transformer to the wall allowing sufficient length in both cords to reach the power connector on the upper right side of the cabinet and to reach a standard 110 VAC outlet.

Important: Do not connect power until all hardware connections have been made.

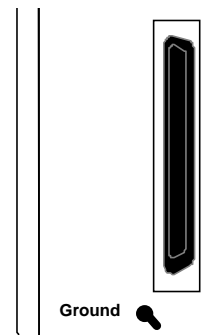


External connections

Grounding instructions

VoiceWorks¹⁶ grounding (supplemental ground) is as follows:

- The conductor wires can be no smaller than the ungrounded branch-circuit supply conductors (usually 16-gauge or higher).
- Acceptable wire: bare or covered with green (or green-and yellow-striped-) jacket.
- Conductors (and power receptacles) shall connect to earth ground at the service equipment (usually a cold water pipe or copper ground rod).
- The supplemental ground must: be used regardless of power cord ground, be connected to the ground lug on the bottom of the VoiceWorks¹⁶ cabinet, and retain ground connection when VoiceWorks¹⁶ power supply module is unplugged.



Power

The base unit requires a single 110 VAC outlet. Use **only** the Class-2 power supply module provided with the system. A clean, isolated power source in conjunction with UPS is strongly recommended. The maximum power consumption for VoiceWorks¹⁶ is 35 watts.

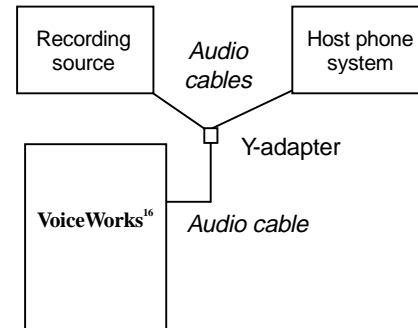
Note: If power is lost, the system will drop all connections. When power is restored, the system will restart and resume normal operation in approximately 60 seconds retaining its full programming and clock setting.

UPS

For system protection and to maintain uninterrupted operation, a sine wave generating uninterruptible power supply (UPS) is strongly recommended. A UPS rated for 200 VAC will provide approximately six hours of uninterrupted service for a fully loaded VoiceWorks¹⁶.

MOH port

Custom messages-on-hold (MOHs) can be downloaded and stored to disk from any standard cassette player, via this port. Connect the source to the MOH connector (a standard $\frac{1}{8}$ " stereo "mini-headphone" jack on the upper right side of the cabinet) to store custom MOHs to VoiceWorks¹⁶. The left channel allows for recording input, the right channel is designated as playback. The output side of the jack can then be connected to the MOH port of the host phone system for continuous output of the selected MOH.



For maximum convenience, we recommend using a Y-adaptor (such as Radio Shack #274-375B; its left-channel jack is silver and right-channel jack is gold) that splits the stereo circuit into two mono circuits, each of which you then can connect to its respective terminal, either the recording source or the host phone system. That way, you can keep the audio cabling the same whether you're recording or playing back.

Important: The Voiceworks¹⁶ message-on-hold (MOH) audio output is a **line-level** signal that is **not** intended to drive a low-impedance load. If the line-out jack from any other music or message source fails to drive the PBX's MOH input properly at appropriate signal levels, Voiceworks¹⁶ also will fail to do so. (The Comdial DSU is an example of a PBX that does not support line-level MOH input.) In this case, an external amplifier (one-watt or higher) generally will correct the problem. ESI has tested the Bogen GA-2 Music-On-Hold Amplifier with VoiceWorks¹⁶ and has found that the GA-2 provides adequate amplification.

Serial port

A standard serial printer or laptop PC may be connected to the DB9 serial connector on the side of the cabinet. Use a standard shielded serial cable DB9 to DB25 (Radio Shack #26-117 or equivalent). To extend the connection for locating the PC or printer outside of the equipment room, you may punch down the serial cable from VoiceWorks¹⁶ to the 66 Block.

Note: The maximum distance from the cabinet is 100 ft.

The output from the serial port is (programmable from) 300 BPS to 38.4 Kb/PS (Default setting), 8 data bits, 1 stop bit, and no parity. The pinout is:

Data transmit	Pin 2
Receive	Pin 3
Ground	Pin 5

Amphenol cable connections

Connect a standard 66 Block to the cabinet using a male 50-pin amphenol cable to the female connector located on the bottom-right side of the cabinet.

The tables on the following page indicate the punch-down required for the system.

4-port analog card

2-port analog card

Term.	Wire color	Signal	Port	RJ-11		Term.	Wire color	Signal	Port	RJ-11
1	White-Blue	Tip 1	1	Green	Main board slot 1	1	White-Blue	Tip 1	1	Green
2	Blue-White	Ring 1	1	Red		2	Blue-White	Ring 1	1	Red
3	White-Orange	Tip 2	2	Green		3	White-Orange	Tip 2	2	Green
4	Orange-White	Ring 2	2	Red		4	Orange-White	Ring 2	2	Red
5	White-Green	Tip 3	3	Green		5	White-Green			Green
6	Green-White	Ring 3	3	Red		6	Green-White			Red
7	White-Brown	Tip 4	4	Green		7	White-Brown			Green
8	Brown-White	Ring 4	4	Red		8	Brown-White			Red
9	White-Slate	Tip 5	5	Green	Main board slot 2	9	White-Slate	Tip 5	5	Green
10	Slate-White	Ring 5	5	Red		10	Slate-White	Ring 5	5	Red
11	Red-Blue	Tip 6	6	Green		11	Red-Blue	Tip 6	6	Green
12	Blue-Red	Ring 6	6	Red		12	Blue-Red	Ring 6	6	Red
13	Red-Orange	Tip 7	7	Green		13	Red-Orange			Green
14	Orange-Red	Ring 7	7	Red		14	Orange-Red			Red
15	Red-Green	Tip 8	8	Green		15	Red-Green			Green
16	Green-Red	Ring 8	8	Red		16	Green-Red			Red
17	Red-Brown	Tip 9	9	Green	Main board slot 3	17	Red-Brown	Tip 9	9	Green
18	Brown-Red	Ring 9	9	Red		18	Brown-Red	Ring 9	9	Red
19	Red-Slate	Tip 10	10	Green		19	Red-Slate	Tip 10	10	Green
20	Slate-Red	Ring 10	10	Red		20	Slate-Red	Ring 10	10	Red
21	Black-Blue	Tip 11	11	Green		21	Black-Blue			Green
22	Blue-Black	Ring 11	11	Red		22	Blue-Black			Red
23	Black-Orange	Tip 12	12	Green		23	Black-Orange			Green
24	Orange-Black	Ring 12	12	Red		24	Orange-Black			Red
25	Black-Green	Tip 13	13	Green	Main board slot 4	25	Black-Green	Tip 13	13	Green
26	Green-Black	Ring 13	13	Red		26	Green-Black	Ring 13	13	Red
27	Black-Brown	Tip 14	14	Green		27	Black-Brown	Tip 14	14	Green
28	Brown-Black	Ring 14	14	Red		28	Brown-Black	Ring 14	14	Red
29	Black-Slate	Tip 15	15	Green		29	Black-Slate			Green
30	Slate-Black	Ring 15	15	Red		30	Slate-Black			Red
31	Yellow-Blue	Tip 16	16	Green		31	Yellow-Blue			Green
32	Blue-Yellow	Ring 16	16	Red		32	Blue-Yellow			Red
33	Yellow-Orange					33	Yellow-Orange			
34	Orange-Yellow					34	Orange-Yellow			
35	Yellow-Green					35	Yellow-Green			
36	Green-Yellow					36	Green-Yellow			
37	Yellow-Brown					37	Yellow-Brown			
38	Brown-Yellow					38	Brown-Yellow			
39	Yellow-Slate					39	Yellow-Slate			
40	Slate-Yellow					40	Slate-Yellow			
41	Violet-Blue					41	Violet-Blue			
42	Blue-Violet					42	Blue-Violet			
43	Violet-Orange					43	Violet-Orange			
44	Orange-Violet					44	Orange-Violet			
45	Violet-Green					45	Violet-Green			
46	Green-Violet					46	Green-Violet			
47	Violet-Brown					47	Violet-Brown			
48	Brown-Violet					48	Brown-Violet			
49	Violet-Slate					49	Violet-Slate			
50	Slate-Violet					50	Slate-Violet			

(This page included for pagination purposes only.)

LEDs

The unit has various LEDs that are designed to provide visual feedback as follows:

Power On LED

This is located on the top-right side of the case and glows when power is being applied to the system.

Memory Transfer LED

This is located on the top-center portion of the main board and flashes as data is transferred to and from the memory module.

Port card LEDs

These are located on the upper-left edge (as viewed when installed) of each port card. Each glows when its respective port receives ring voltage or is off-hook.

(This page included for pagination purposes only.)

Station operation verification

VoiceWorks¹⁶ connects to standard 2500 ports of the phone system.

Note: See page O-1 if using the DSU Integration Card (DSUic) for direct digital connection to Comdial Digitech or Impact.

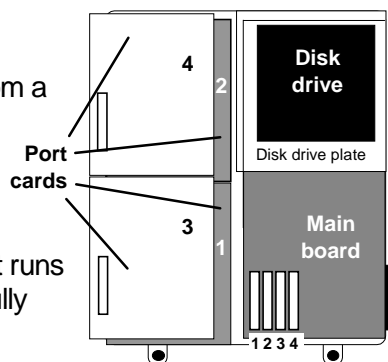
In order to set up VoiceWorks¹⁶, perform the following steps to assure proper performance:

1. Connect a standard 2500 set to each phone station to which VoiceWorks¹⁶ will be connected.
2. Call the VoiceWorks¹⁶ station from another station to verify that:
 - The VoiceWorks¹⁶ station receives ring voltage.
 - The VoiceWorks¹⁶ station can be answered at its 2500 port by going off-hook.
 - Both voice and DTMF tones can be heard to and from the VoiceWorks¹⁶ station.
3. **To make later programming easier**, determine whether:
 - A flash hook(s) from the VoiceWorks¹⁶ station will place the caller on hold while transferring* the call to a third (transferred-to) station.
 - A flash hook(s) and/or transfer code is/are required to retrieve* a call from a transferred-to station that does not answer.
 - A flash hook (s) and/or transfer code is/are required to retrieve* a call from a transferred-to station that is busy.

Port card installation

Important: Adding or replacing port cards will require the system to be taken out of service. Wear a grounding strap and avoid unnecessary movement while handling the circuit boards.

1. Unplug the power supply to VoiceWorks¹⁶.
2. The port cards are located in the left side of the cabinet, one behind the other. They are ribbon-cabled to the main board from a connector in the left side of the card. If you need access to the first or second card, you'll have to remove the third and/or fourth port cards (the uppermost cards as one moves from the main-board level toward the cabinet-lid level).
3. Removing port cards — Carefully unplug the ribbon cable that runs to the main board. Remove the four Phillips screws and carefully remove the card from the cabinet.
4. Installing port cards — Observe the card's location and relative position over the standoffs. Install the 4 Phillips screws, connect the ribbon cable to the proper connector on the main board and connect the amphenol cable.
5. Power up VoiceWorks¹⁶. The Power LED will blink until VoiceWorks¹⁶ completes its power-up sequence.
6. Verify that the phone system is correctly programmed to present calls to the additional ports.
7. Replace the case lid (to observe the port LEDs during testing, you may want to do this later).



Memory module installation

If installing a memory module, contact ESI Technical Support for instructions.

Note: The memory module has ESI's proprietary formatting. **Do not** install a non-ESI drive.

* Some phone systems will allow transfer/retrieve only for a CO call.

(This page included for pagination purposes only.)

Introduction: Programming VoiceWorks¹⁶

You can program VoiceWorks¹⁶ in two ways: remote/on-site PC or DTMF.

Remote/on-site PC

You can load a PC-compatible computer with ESI's VoiceWorks¹⁶ Installer software (included with VoiceWorks¹⁶) and connect the computer to the serial port or modem of the VoiceWorks¹⁶ to program every function in the systems operation. (However, you must use a standard telephone to record prompts.)

VoiceWorks¹⁶ Installer requires Windows 95/98. Please consult the *software* manual if you need more information.

DTMF

VoiceWorks¹⁶ is programmable by using DTMF from any standard phone (either locally or remotely). Once connected to VoiceWorks¹⁶, enter the Installer password to enter programming mode. Programming is accomplished by following voice prompts through the Programming Menu Tree. The DTMF prompts are intended to be descriptive and detailed. You do not have to wait for the entire prompt to play—you can enter a value and/or the # key during any prompt. As you become more familiar with a function, you can step through its prompts very quickly.

Keypad methodology

During DTMF programming the keystroke methodology is as follows:

Code	Action
#	Acts as an enter key. It will also confirm the new or existing entry and advance to the next programming step.
*	Backs up to the previous prompt.
00#	Erases, or replaces any existing recording or entry with no entry.
81#	When entered from the programmer's main menu, exits programming mode and goes to the automated attendant's main greeting.
82#	When entered from the programmer's main menu, exits programming mode and goes on-hook.

Note: Always use **81#** or **82#** to exit programming mode. VoiceWorks¹⁶ will wait a maximum of fifteen minutes without programming entry before automatically exiting programming mode and returning the port on-hook. Hanging up without exiting these will require a 15-minute wait before the programmer can re-enter the programming mode. **(Cycling the system's power also resets the timer.)**

When a programming function is accessed, VoiceWorks¹⁶ will play one of the following:

- The default value for the programmed phone system type, or "None" if no default exists.
- The existing value, if previously programmed.

If the function has multiple entries, VoiceWorks¹⁶ may begin with a command to enter the particular extension, mailbox or port to be programmed.

At any point where a programming entry was made in error, use the * key to back up to the previous instructional prompt.

The contents of any function can be played without being altered. Access the function, then use the # key to advance through the values without replacing them with new values.

Entering programming

To enter the VoiceWorks¹⁶ system for programming, dial to one of the extensions to which it's connected. VoiceWorks¹⁶ will answer with the automated attendant main greeting. Enter the default Installer programming password, ****789#**, and VoiceWorks¹⁶ will respond with the main menu for the **programming menu tree**. That menu tree is as shown on the next page.

Programming menu tree

F1 System Parameters

- 11 Initialization
- 12 Passwords
 - 121 Installer
 - 122 Administrator
- 13 Telephone & Application Programming
 - 131 Phone System Type
 - 132 Extension Length
 - 133 Extension Range
- 14 AA Parameters
 - 141 Transfer Mode
 - 142 Station Rings
 - 143 Answer Rings
 - 1431 Day Mode Answer Rings
 - 1432 Night Mode Answer Rings
 - 144 Answer Ring Mode
 - 145 Interdigit Timers
 - 1451 AA Interdigit Timer
 - 1452 Directory Inter-name Timer
- 15 Advanced Phone System Parameters
 - 151 Flash Hook Duration
 - 152 Flash Hook Control
 - 153 Transfer Code
 - 154 Retrieve Code
 - 155 Cell Phone Delay
- 16 Time and Date
- 17 Serial Port Baud Rate

F2 Port Parameters

- 21 Prompt Playback Volume
- 22 Port Disconnect
 - 221 Open Loop Interval
 - 222 DTMF Disconnect
- 23 Port Answer Assignments

F3 Extension Programming

- 31 Operator Programming
 - 311 Operator Translation
 - 312 Operator Reroute
- 32 Extension Feature Authorization
 - 321 AA Block
 - 3211 Add Extensions
 - 3212 Delete Extensions
 - 3213 Hear the Current List
 - 322 Blind Transfer
 - 3221 Add Extensions
 - 3222 Delete Extensions
 - 3223 Hear Extensions
- 33 Department Programming
- 34 Fax Extension

F4 Auto Attendant Programming

- 41 Branch Definition
- 42 Announce Extension Number
- 43 Day/Night Tables
 - 431 Day/Night Mode
 - 432 Hourly Table Programming

F5 Voice Mail Programming

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(This page included for pagination purposes only.)

Function 1: System parameters

Function 11: Initialize system

Overview

Returns all software values to their initial state. Initialization will erase all Installer-programmed data and custom recordings.

Programming steps

- You must confirm the command to initialize by entering the Installer Password when prompted.
- System initialization may take up to two minutes to complete.
- VoiceWorks will return all ports to on-hook when initialization starts. You must re-access programming mode by following the steps described earlier.

Note: Always re-initialize the system before initial programming for a new installation.

Function 12: Installer and Administrator passwords

Overview

These functions will play the existing password and prompt the programmer for entry of a new password. The Installer can change either the Installer or Administrator Password. Only those functions listed in the Administrator's Manual can be programmed via the Administrator Password.

Setting range

The passwords can be 2 to 8 digits long.

Default

Installer Password (Function 121) = **789**

Administrator Password (Function 122) = **456**

Programming steps

1. Select the password to change, either Installer or Administrator.
2. Enter a new password, followed by the # key. Or, press the # key to confirm the current password.
3. To continue programming, press the * key to back up to the main menu. If finished, select Function 8 from the main menu to exit programming.

Note: Be sure to write down the new passwords in a safe place and give the new Administrator's password to the Administrator.

You may override any mailbox password using the Installer or Administrator password.

Function 13: Telephone and application programming

Function 131: Phone system type

Overview

From the Appendix, choose the telephone system type from those listed. Many telephone systems may not be listed since they fit the most common type: generic with single ringback.

Installing a telephone type will likely install the default values for that phone system's flash hook duration, number of flash hooks required to transfer and retrieve, and transfer and retrieve codes (Function 15 series). These values can be reviewed and changed in their respective functions.

Setting range

See "Appendix 1: Telephone system types" (page P-1).

Default

Type 1 (generic, single-ringback), which fits most phone systems that have a single ring-back cadence on station-to-station calls.

Programming steps

1. VoiceWorks¹⁶ will announce the current phone system type number.
2. Press the # key to confirm the type, or enter the new phone system type.
3. Press the # key.

Function 132: Extension length

Overview

Indicates the number of digits in the telephone system's extension numbers.

Setting range

Extension length can be from 2 to 4 digits.

Default

Extension length of 3 digits for analog unit. (VoiceWorks with DSUic will default to 2-digit extensions.)

Programming steps

1. VoiceWorks will announce the current extension length.
2. Press the # key to confirm the current extension length, or enter the new extension length.
3. Press the # key.

Note: All extensions **must** have the **same** extension length as programmed here — no exceptions.

Function 133: Extension range

Overview

To avoid having VoiceWorks¹⁶ attempt to transfer to a nonexistent extension, a range of valid extension numbers can be entered. Calls to invalid extensions will be rerouted to the operator. The instructional prompts will require a “low” number followed by a “high” number.

Default Setting range

The default extension ranges are based on the extension length, as programmed in Function 132:

- 2-digit extensions range 10–79
- 3-digit extensions range 100–799
- 4-digit extensions range 1000–7999

Programming steps

1. Enter the lowest extension in the extension range, followed by the # key.
2. Or press the # key to confirm the current lowest extension.
3. Enter the highest extension in the extension range, followed by the # key.
4. Or press the # key to confirm the current highest extension.

Note: Mailbox-only extensions, like informational and guest, must be included in this range to be added to the automated attendant block.

Function 14: Auto attendant parameters

Function 141: Transfer mode

Overview

If VoiceWorks¹⁶ automated attendant is to answer calls, it can then transfer in either *supervised-transfer mode* or *blind-transfer mode*.

In *supervised-transfer mode*, VoiceWorks¹⁶ will initiate the transfer sequence (usually a single hookflash), dial the extension number and supervise for *busy*, *no answer* or *answer*. If the dialed extension is either busy or did not answer, VoiceWorks¹⁶ will either go to the extension’s mailbox (if the extension has a mailbox enabled) or reroute the call based on the branch re-routing. If the station is answered (when the called party actually speaks, VoiceWorks¹⁶ is voice-activated), the called party will hear “A call is being transferred” before the caller is connected. When in the supervised mode, the VoiceWorks¹⁶ port is busy while answering the call and will remain busy until one of these occurs:

- The dialed extension answers,
- The re-route destination extension answers,
- The outside caller leaves a message in a mailbox and hangs up.

In *blind-transfer mode*, VoiceWorks¹⁶ will initiate the transfer sequence (usually a single hookflash), dial the extension number and go on hook. The phone system now has control of the call. In order for outside callers to reach an individual's mailbox, the phone system must be capable of transmitting in-band DTMF when:

- The extension is busy/does not answer and the outside caller re-calls (is transferred back to) VoiceWorks¹⁶,

The extension is set for call forwarding (busy/no answer) to VoiceWorks¹⁶.

When VoiceWorks¹⁶ answers either the recall or forwarded call, the phone system must send a DTMF “#” followed by the extension number to put the outside caller into that mailbox.

Example: VoiceWorks¹⁶ answers the outside caller, blind-transfers to extension 123 and goes on-hook. The phone system, upon re-call, rings VoiceWorks¹⁶. When VoiceWorks¹⁶ answers, the phone system sends “#” followed by the extension number (*e.g.*, #123) in DTMF and releases the caller directly into mailbox 123.

In blind-transfer mode, VoiceWorks¹⁶ port(s) are busy only when the caller either is listening to options prior to being transferred or is leaving/retrieving messages.

Setting range

Supervised- or blind-transfer.

Default

The default mode is supervised-transfer.

Programming steps

1. VoiceWorks will announce the current transfer mode used. To confirm the current type without changing it, skip to step 3.
2. Either press **1** to change from supervised- to blind-transfer or press **2** to change from blind- to supervised-transfer.
3. Press **#**.
4. Press ***** to return to the previous menu.

Note: In-band signaling is a DTMF code used on the intercom path of the phone system in place of the usual ringback signals. VoiceWorks typically looks for a DTMF # followed by the extension number as the In-band signaling to initiate the mailbox personal greeting.

Function 142: Station rings

Overview

Sets the number of rings at a station before VoiceWorks¹⁶ determines a no answer and retrieves the call. Needs to be programmed **only** if the system is set for supervised-transfer (see Function 141).

Setting range

The range is 2–9 rings.

Default

3 rings at the station before VoiceWorks retrieves the call.

Programming steps

1. VoiceWorks will announce the current ring count programmed. To confirm the current count without changing it, skip to step 3.
2. Enter a new value.
3. Press #.
4. Press * to return to the previous menu.

Note: If using supervised transfer, set the phone system's recall timer and forwarding timer for a longer period of time than the number of rings set here.

Function 143: Answer rings

Function 1431: Answer rings — day mode

Overview

The number of rings, during the daytime, that are detected on the VoiceWorks¹⁶ port before it is to answer.

Setting range

The range is 1–9 rings.

Default

1 ring.

Programming steps

1. VoiceWorks will announce the current ring count for day mode programmed. To confirm the current ring count without changing it, skip to step 3.
2. Enter a new value.
3. Press #.
4. Press * to return to the previous menu.

Note: Delayed answer by VoiceWorks¹⁶ will also cause mailbox users calling to retrieve messages to wait through these extra rings (Except on the DSUic). It is preferable to have delayed ringing handled by the phone system.

Function 1432: Answer rings — night mode

Overview

VoiceWorks¹⁶ can answer a different ring count during night mode than during day mode.

Setting range

The range is 1–9 rings.

Default

1 ring.

Programming steps

1. VoiceWorks will announce the current ring count for day mode programmed. To confirm the current ring count without changing it, skip to step 3.
2. Enter a new value
3. Press #.
4. Press * to return to the previous menu.

Note: Delayed answer also causes users calling to retrieve messages to wait through extra rings (except with the DSUic). It's preferable to have the phone system handle delayed ringing.

Note: VoiceWorks¹⁶'s night mode is independent of the telephone system's night mode, except on Lucent products.

Function 144: Answer ring mode

Overview

VoiceWorks¹⁶ will answer as each of its ports detects ringing; therefore, the phone system should be programmed to send calls to the VoiceWorks¹⁶ ports as a station hunt group.

Use the ports-ring-together mode if the phone system is only able to send calls to all of VoiceWorks¹⁶ extensions at the same time. VoiceWorks¹⁶ will initially answer port 1 only, then wait. Call processing will be slower with this method since VoiceWorks¹⁶ must pause after answering each port to determine if the next ringing port is a "fresh" call.

Setting range

Ports-ring-together *or* ports-ring-independently.

Default

Ports-ring-independently.

Programming steps

1. VoiceWorks will announce the current answer ring mode. To confirm the current type without changing it, skip to step 3.
2. To change to ports-ring-independently, press **1**.
To change to ports-ring-together, press **2**.
3. Press #.

Note: If unsure of the phone system's method of ringing the ports, watch the VoiceWorks¹⁶ port LEDs. If they all light as a single call rings in, set ring-together.

Function 145: Interdigit timers

Function 1451: Auto attendant interdigit timer

Overview

When digits are dialed during auto attendant greetings, this timer controls how long VoiceWorks¹⁶ will wait before considering all digits entered and proceeding with the transfer. For example, VoiceWorks¹⁶ needs to know whether the caller wants to be transferred to extension 123 or to select option 1 from the menu choices.

Setting range

The range is measured in hundredths of a second, 40–1,000 (0.4–10.0 seconds).

Default

200 (2 seconds).

Programming steps

1. VoiceWorks¹⁶ will announce the current interdigit timer value. To confirm the current interdigit value without changing it, skip to step 3.
2. Enter a new value, followed by the # key. Values are programmed in increments of 10 ms.
3. Press #.
4. Press * to return to the previous menu.

Note: Shortening this time makes the automated attendant respond more quickly to single-digit dialing (menu option selection), **but** might **interrupt** a caller who dials extensions very slowly.

Function 1452: Directory intername timer

Overview

When playing a list of names from a Directory Branch, this timer controls how long VoiceWorks¹⁶ waits between each name played. During this timer, the caller must make their choice for transfer when the desired name is played.

Setting range

The range is measured in hundredths (.01) of a second, 100–1,000 (1.0–10.0 seconds).

Default

200 (2 seconds).

Programming steps

1. VoiceWorks will announce the current intername timer value. To confirm the intername timer value without changing it, skip to step 3.
2. Enter a new value, followed by the # key. Values are programmed in increments of .01 second.
3. Press #.
4. Press * to return to the previous menu.

Note: Lengthening the time can allow more time for a caller to select a name, before the next name is played. Shortening the time can cause misdials from directories.

Function 15: Advanced phone system parameters

Function 151: Flash hook duration

Overview

This function controls the time duration of flash hooks generated by VoiceWorks¹⁶.

Range

The range is measured in tenths of a second, 1–20 (0.1–2.0 seconds).

Default

Default is determined by the telephone system type. Selecting a telephone system type in Function 131 will automatically set the flash hook duration. The VoiceWorks¹⁶ default telephone type, *generic single ringback*, has a default flash hook duration of 0.5 seconds.

Programming steps

1. VoiceWorks¹⁶ will announce the current flash hook duration. To confirm the flash hook duration without changing it, skip to step 3.
2. Enter a new value, followed by the # key. Value are programmed in increments of 0.1 seconds.
3. Press #.
4. Press the * key to return to the previous menu.

Note: Generally, a too-short flash hook will not transfer the call and will play the “Receiving a call” announcement to the caller. A too-long flash hook will hang up on the caller.

Function 152. Flash hook control

Overview

In this function the number of flash hooks that VoiceWorks¹⁶ generates for each action can be set. Most telephone systems use a single flash hook for transfer, retrieve, etc. Some may require a different number of flash hooks to perform these actions.

Setting range

0-9 (0 = no flash hook).

Default

Default is determined by the telephone system type. Selecting a telephone system type in Function 131 will automatically set the flash hook control. The VoiceWorks¹⁶ default telephone type, *generic single ringback*, has a default flash hook as listed in the table (see next page).

Programming steps

This entry is in four steps, with each representing the number of flash hooks for each action:

Flash hooks	Actions performed
1	To transfer
1	Re-acquire caller after no-answer
1	Re-acquire caller after busy
0	To release (prior to on-hook)

1. VoiceWorks will announce the current flash hook control for each action performed in the order listed above. To confirm the current flash hook control for that action without changing it, skip to step 3.
2. Enter a new value.
3. Press #.
4. Repeat steps 1–3 for the next action performed.
5. Press the * key to return to the previous action performed.

Note: Use a connected 2500 set, instead of a VoiceWorks¹⁶ port, to determine these settings if they are unknown or if a generic telephone type was set in Function 131.

If an additional code is required during transfer, it can be set in Function 153 and will follow any flash hooks programmed here.

Function 153 and 154: Transfer and retrieve codes

Overview

Some phone systems may require a dialed code to transfer and retrieve a call or to toggle the called extension's phone from voice to tone signaling. The default either is none or was set when the phone system type was chosen in Function 131.

Since the * or # key can be part of this command, neither can be used to repeat or confirm as part of the entry. Therefore, the entry in this function will require that (a) the number of key-strokes in the transfer code be entered; and (b) the actual keystrokes that make up the transfer code be entered (# to confirm only when prompted). A digit by itself indicates that the digit be used (*i.e.*, 1=1, 2= 2, etc.).

Setting range

The maximum number of keystrokes in the transfer/retrieve code is 24. The following two-key codes represent special conditions that may be added to the string:

Code	Function
##	"#" DTMF tone
#1	1-second delay
#2	3-second delay
#3	5-second delay
#6	1 flash hook
#7	2 flash hooks
#8	Sends last ext. number that was attempted

Default

The default is no digits and no transfer code, unless set by system type.

Programming steps

1. VoiceWorks¹⁶ will announce the current number transfer/retrieve code. To confirm the code string without changing it, skip to step 7.
2. Enter the number of keystrokes in the code.
3. Press #.
4. VoiceWorks¹⁶ will announce the number of keystrokes. Confirm by pressing # again.
5. Enter the transfer/retrieve code string **but do not** press #.
6. VoiceWorks¹⁶ will announce the new transfer/retrieve code.
7. Press #.

Note: VoiceWorks¹⁶ will automatically listen for intercom dial tone prior to any transfer.

Application example

To enter a transfer code for a # 86, flash, and 3-second delay, indicate that the number of keystrokes are 8 and then, when prompted for the string, enter: **# # 8 6 # 6 #2**.

Function 155: Cell phone delay

Overview

Due to their one-piece design, cellular phones (as well as cordless and certain “fashion” phones) usually require the user to frequently move the phone away from the ear in order to dial, thus missing the enter password time interval. This function inserts additional delay for entering the password.

Setting range

The range, measured in tenths of a second, is 0–50 (0–5 seconds).

Default

Default = 0.0 (0 seconds).

Programming steps

1. VoiceWorks¹⁶ will announce the current cell Phone Delay. To confirm the setting without changing it, skip to step 3.
2. Enter a new value. Values are programmed in increments of 0.1 seconds.
3. Press #.
4. Press the * key to return to the previous menu.

Note: The delay programmed here will be **system-wide**. This includes intercom calls to check voice mail messages. However, the delay period can be defeated by pressing # **immediately** after entering the password.

Function 16: Time and date

Overview

Time and date need to be programmed to facilitate the time-and-date stamp for messages and also for the automated attendant’s automatic timetables.

Important: VoiceWorks¹⁶ does **not** automatically update for regions which observe Daylight Savings Time. However, leap days (quadrennial February 29s) **are** handled automatically. **VoiceWorks¹⁶ is fully Year 2000 compliant.**

Setting range

Any valid time and date is allowed. A new time is entered in a twelve-hour format, because VoiceWorks¹⁶ allows setting for AM or PM.

Default

Factory-set time and date (Central time zone).

Programming steps

1. VoiceWorks¹⁶ will announce the current time and date programmed. To confirm the current **time** without changing it, skip to step 3.
2. Enter a new value, in 12-hour format. (You will enter the AM/PM parameter below.)
3. Press #.
4. Enter **1** for AM or **2** for **PM**.
5. Press #.
6. VoiceWorks¹⁶ will announce the newly programmed **time**. Confirm this time by pressing #.
7. VoiceWorks¹⁶ will announce the current **date** programmed. To confirm the date without changing it, skip to step 11.
8. Enter the day of the month.
9. Press #.
10. Enter the month
11. Press #.
12. Enter the year, in 4-digit format (e.g., **1999**).
13. Press #.
14. VoiceWorks¹⁶ will announce the newly programmed date. Confirm this date by pressing #.

Note: A built-in battery maintains the correct time and date, even in the event of a power loss. The battery is located on the main board and is field-replacable.

Function 17: Serial port baud rate

Overview

The system's serial port can be used for direct connection to a printer or PC.

Setting range

The possible rates are: 300, 1200, 2400, 9600, 19,200 or 38,400.

Default

Default is 38,400.

Programming steps

1. VoiceWorks¹⁶ will announce the current serial port baud rate. To confirm the setting without changing it, skip to step 3.
2. Enter one of the rates listed above under "Setting range."
3. Press #.
4. Press the * key to return to the previous menu.

Note: The output from the serial port is: 8 data bits; 1 stop bit; no parity.
The pinout is: data transmit = Pin 2; receive = Pin 3; Ground = Pin 5.

Function 2: VoiceWorks¹⁶ port parameters

Function 21: Prompt playback volume

Overview

This function adjusts the gain of the receive volume of calls at the VoiceWorks¹⁶ ports. Many variables can affect the volume of the CO/Intercom Lines. Weak lines can reduce the ability of VoiceWorks¹⁶ to properly detect DTMF dialed by a caller. Conversely, “hot” lines can cause DTMF distortion and/or increase the opportunity for message talk-off (*i.e.*, cutting off messages before completion).

Setting range

The range is 1–10 (the lowest to the highest gain possible, respectively).

Default

8.

Programming steps

1. VoiceWorks¹⁶ will announce the current prompt playback volume. To confirm the setting without changing it, skip to step 3.
2. Enter a new value.
3. Press #.
4. Press * to return to the previous menu.

Note: The ideal setting is when a message recorded from a call has the same playback volume as the system instructional prompts.

Function 22: Port disconnect

Function 221: Open-loop interval timer

Overview

VoiceWorks¹⁶ can be set to detect the open loop interval (if available from the CO/PBX) and disconnect more quickly. This will reduce the opportunity for abandoned calls to be transferred by the auto attendant no-response programming, and to reduce the possibility that abandoned calls could create messages that are silent or contain CO generated tones such as reorder tone.

Since open loop intervals generated by the CO/PBX may vary in duration, use this function to program VoiceWorks¹⁶ to *less than or equal to the CO/PBX open loop interval*.

Setting range

The range is expressed in hundredths of a second, 3–200 (0.03–2.0 seconds).

Note: Entering 0 will turn off open-loop detect.

Default

Default = 60 (0.60 seconds)

Programming steps

1. VoiceWorks¹⁶ will announce the current Open Loop Interval Timer setting. To confirm the setting without changing it, skip to step 3.
2. Enter a new value. Values are programmed in increments of hundredths of a second.
3. Press #.
4. Press * to return to the previous menu.

Note: Not all telephone systems provide open-loop on intercom paths. If your phone system is not open-loop capable, set the timer to 0 to turn off this feature.

If this programmed value is set unnecessarily low, VoiceWorks¹⁶ may falsely interpret static or a momentary loop break as an open loop and disconnect a caller in the process of leaving a message. If this value is set too high, VoiceWorks¹⁶ may not detect a valid open loop signal for fastest call processing.

Function 222: DTMF disconnect code

Overview

Program this function if the PBX can send a positive disconnect signal in the form of DTMF. You must enter the actual digits the PBX sends for a disconnect signal.

Settings range

You may program up to 8 digits. They may contain any combination of: numbers, #, * and letter tones. The following two-key codes represent special disconnect tones you may add to the string. VoiceWorks¹⁶ will playback the actual disconnect string to confirm the entry — *e.g.*, if #1 is entered in the string, the system will play back “A,” **not** “#1.”

Code	Function
# #	“#” DTMF tone
#1	“A” tone
#2	“B” tone
#3	“C” tone
#4	“D” tone

Default

The default string programmed here will vary depending on the telephone system type selected in Function 13. The actual DTMF set by the telephone system may vary from default; consult your telephone system manual.

Programming steps

1. VoiceWorks¹⁶ will announce the current DTMF disconnect code. To confirm it without changing it, skip to step 8.
2. Enter the number of keystrokes in the code.
3. Press #.
4. VoiceWorks¹⁶ will announce the number of keystrokes.
5. Press #.
6. Enter the DTMF Disconnect Code string **but do not** press # yet.
7. VoiceWorks¹⁶ will announce the new DTMF Disconnect Code.
8. Press #.

Application example

To enter a DTMF Disconnect Code for a “D” tone, indicate that the number of keystrokes is 2 and then, when prompted, enter # 4.

Note: VoiceWorks¹⁶ can accept a series of * keys to reduce chances of extension number conflict. However, letter tones are ideal, if possible.

Warning: VoiceWorks¹⁶ will **constantly** be looking for this disconnect code after the code is installed. Be aware of potential conflicts with user passwords, extension and mailbox numbers. In the unlikely event a user installs a password which duplicates part or all of the disconnect code, use the Administrator or Installer password to access the mailbox and change the user-installed password.

Function 23: Port answer assignments

Important: Two-port cards **do not** use VoiceWorks¹⁶ system ports 3–4, 7–8, 11–12 and 15–16 (see the chart on page B-5).

Overview

Each port on VoiceWorks¹⁶ can be programmed to answer with one of the 8 different main greetings or any branch ID. This function controls which branch ID answers each port.

Setting range

Any programmed branch ID.

Default

All ports are answered by Main Greeting #1 (*ID1*).

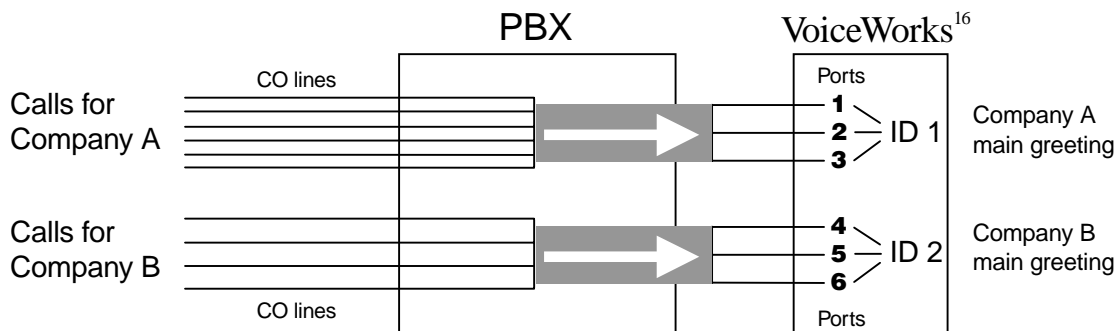
Programming steps

1. Enter the port number to program.
2. Press #.
3. VoiceWorks¹⁶ will announce the current branch ID for which the port answers. To confirm this setting without changing it, skip to step 6.
4. Enter a new branch ID number with which to answer.
5. Press #.
6. Press the * key to return to the previous menu.

Note: Regardless of which greeting answers the port, there are three common operations that must be remembered — day/night scheduling, operator translation and directory names. Each branch is programmed in Function 41 (branch programming) and each greeting is recorded in Function 61 (system recordings).

Application example

Two companies are sharing a 6-port VoiceWorks¹⁶ (a 4-port card is in the first slot). Company A has all of its 6 incoming CO lines directed (via telephone system programming) to ports 1, 2 and 3 of VoiceWorks¹⁶. Company B has all of its 4 incoming CO lines directed (via telephone system programming) to ports 4, 5 and 6 of VoiceWorks¹⁶. Function 23 (port answer assignments) is programmed to have ports 1, 2 and 3 answer with Branch ID 1, while ports 4, 5 and 6 answer with Branch ID 2.



Function 3: Extension programming

Function 31: Operator programming

Function 311: Operator translation

Overview

Whenever a caller dials **0** (operator), the call's destination can be an extension, a branch or a mailbox (such as a general delivery mailbox). Destinations can be programmed differently for day mode and night mode answering.

Setting range

Any valid extension, branch ID or mailbox.

Default

Default for day and night is extension 0.

Programming steps

1. VoiceWorks¹⁶ will announce the current daytime operator translation destination.
2. To confirm the setting without changing it, skip to step 6.
3. Enter a new destination by selecting from the list — extension, branch ID or mailbox.
4. Press #.
5. Enter the new extension, branch or mailbox number.
6. Press #.
7. VoiceWorks¹⁶ will announce the current nighttime operator translation destination.
8. To confirm the setting without changing it, press # and skip to step 10.
9. Repeat steps 2–6, above, for the nighttime mode setting; then proceed to step 10.
10. Press the * key to return to the previous menu.

Note: When programming a tenant application, be aware that there is **only one** operator translation system-wide. Assigning multiple operators is not possible.

Application example

During the day, a caller who dials **0** will be forwarded to extension 200. At night, the caller can be routed to a different extension, such as 300. The caller could be transferred directly to a mailbox of any type. Callers could even be transferred to a Branch ID which is programmed as an outdial, ultimately transferring the caller off-premises.

Function 312: Operator reroute

Overview

Note: You need to program this function **only** if the system is set for supervised transfer (Function 141).

Calls to the operator's extension that do not answer or are busy are rerouted by default to the main greeting. This function will allow the calls to be rerouted to other than the main greeting during the day mode and differently during the night mode main greeting (if a night mode main greeting has been recorded in Function 61).

Setting range

The calls can be rerouted to any valid extension, branch or mailbox (such as a general delivery mailbox).

Default

Branch ID 1.

Programming steps

1. VoiceWorks¹⁶ will announce the current daytime operator reroute.
2. To confirm the setting without changing it, skip to step 6.
3. Enter a new destination by selecting from the list — extension, branch ID or mailbox.
4. Press #.
5. Enter the new extension, branch or mailbox number.
6. Press #.
7. VoiceWorks¹⁶ will announce the current nighttime operator reroute.
8. To confirm the setting without changing it, press # and skip to step 10.
9. Repeat steps 2–6, above, for the nighttime mode setting; then proceed to step 10.
10. Press the * key to return to the previous menu.

Note: This is a system-wide parameter, common to all tenants in a tenanting application.

Application example

The customer request that during the daytime, if a caller dials 0, and the operator is busy or does not answer, calls are routed to a General Delivery Mailbox. At night, the caller is forwarded to a Cascade Paging mailbox.

Function 32: Extension feature authorization

Function 321: Auto attendant block

Overview

This function may be used to dial direct to a mailbox without attempting to dial the extension. VoiceWorks¹⁶ won't dial extensions listed in this function. Extensions listed here will be re-routed as busy should they be dialed from the main greeting. This may include key executives, offices that are not to be disturbed, or extensions — such as a modem, lobby phone or break-room extension — that are **not** to be reached accidentally. (Guest and informational mailboxes are added to this list automatically.)

Setting range

Any valid extensions.

Default

No extensions.

Programming steps

1. Select an action to perform — add extensions to the AA block list, delete extensions from the list or hear the list (or press # to return to the previous menu and skip the rest of these steps).

Note: You cannot enter 0 [zero] into this list. However, you can enter the operator's actual extension number (e.g., "100").

2. Press #.
3. If adding or deleting an extension, enter the extension. (To add or delete multiple extensions, enter each extension separated by #. Enter ## to end the list. For example, if in step 1 you selected adding extensions and wish to add extensions 112 and 113, enter **1 1 2 # 1 1 3 # #.**)

Important: Include in this function **all** phone system extensions to which VoiceWorks¹⁶ is connected, in order to prevent possible looping of calls between them.

Application example

The president of the company prefers to receive only calls transferred to him/her from the secretary. Callers who dial the president's extension from the automated attendant will be sent directly to a voice mail box. In addition, extensions in the conference and break rooms are also blocked.

Function 322: Blind transfer list

Overview

Note: This function needs to be programmed only if the system is set for supervised transfer (Function 141).

Extensions listed here will have calls blind transferred to them even though VoiceWorks¹⁶ may be programmed for supervised transfer mode (Function 141). This can be used to transfer to a modem, hunt group, extension bell, etc.

Setting range

Any valid extension.

Default

No extensions.

Programming steps

1. Select an action to perform — add extensions to the blind transfer list, delete extensions from the list or hear the list (or press # to return to the previous menu and skip the rest of these steps.

Note: You cannot enter 0 [zero] into this list. However, you can enter the operator's actual extension number (e.g., "100").

2. Press #.
3. If adding or deleting an extension, enter the extension. (To add or delete multiple extensions, enter each extension separated by #. Enter ## to end the list. For example, if in step 1 you selected adding extensions and wish to add extensions 112 and 113, enter 1 1 2 # 1 1 3 # #.)

Note: The transfer recall timer in the telephone system will most likely return a unanswered blind transfer to VoiceWorks¹⁶.

Application example

Calls routed to the warehouse need to ring that station until answered. Extend the recall timer in the Telephone system to the desired time and add the warehouse extension to the blind list.

Function 33: Department programming

Overview

VoiceWorks¹⁶ supports department type transferring capabilities in one of two methods.

First, if the telephone system has department capabilities, VoiceWorks¹⁶ can be programmed to blind-transfer to phone system departments and recognize recalls from the same phone system department. If utilizing phone system departments, the phone system must provide department ID, in the form of in-band signaling (#XXX) for calls forwarded busy/no-answer, in order for VoiceWorks¹⁶ department rerouting to operate properly.

Second, if the phone system does not support departments or department forwarding, VoiceWorks¹⁶ can be programmed to distribute calls in either a linear or distributed hunting method. VoiceWorks¹⁶ will supervise the transfers to the list of extensions programmed into the department, and monitor for busy/no answer conditions.

Setting range

VoiceWorks¹⁶ department numbers range 940–949. Extensions listed can be any valid extension. Department types may be either in-order or UCD (uniform call distribution). For most (but not all) types of phone systems, telephone system departments must be listed in the extension range to be valid. No extensions are to be programmed. A maximum of 32 extensions may be listed in departments.

Default

No departments programmed.

Programming steps

1. Enter the Telephone system department number, or VoiceWorks¹⁶ department (940-949)
2. Press #.
3. VoiceWorks¹⁶ will announce the department number to be programmed
4. Press # to confirm the number. If the department number is a VoiceWorks¹⁶ department, VoiceWorks¹⁶ will announce the current department type.
5. To select in-order call distribution, press 1.
To select UCD, press 2.
6. Press #.
7. VoiceWorks¹⁶ will announce the department distribution type selected
8. Press # to confirm the department distribution type selection.
9. Now you must specify the caller's **daytime** reroute destination for when the department is busy or doesn't answer.
To forward such a call to an extension, press 1.
To forward such a call to a branch ID, press 2.
To forward such a call to a mailbox, press 3.
10. Press #.
11. Enter the designated extension, branch ID or mailbox number
12. Press #.
13. Now you must specify the caller's **daytime** reroute destination for when the department is busy or doesn't answer.
To forward such a call to an extension, press 1.
To forward such a call to a branch ID, press 2.
To forward such a call to a mailbox, press 3.
14. Press #.
15. Enter the designated extension, branch ID or mailbox number.
16. Press #.
17. Enter the department member list by extension, followed by the # key. End the list with ##.

Note: The order is important **only** if you specified "in-order" in step 5.

Note: When using the VoiceWorks¹⁶ department groups, VoiceWorks¹⁶ will hunt among the listed extensions, using a supervised transfer. This is true even if VoiceWorks¹⁶ is programmed to operate in a blind-transfer mode. **Make sure the telephone system recall timer is set longer than the station ringback timer set in Function 142.**

The more members that are listed in a VoiceWorks¹⁶ department, the longer the voice mail port will be tied up. The port is busy until the caller is connected to an extension.

Application example

The customer has a small sales group that will be reached when a caller dials **1** at the automated attendant.

If the phone system **does** support group calling, then program the department number in this function. The list of extensions is programmed in the phone system. Program the phones to forward busy/no-answer calls back to VoiceWorks¹⁶ with DTMF in-banding of **#** followed by the department number; VoiceWorks¹⁶ then will forward as programmed here.

If the phone system **does not** support group calling, use one of the VoiceWorks¹⁶ department numbers and list the extensions in the department.

Function 34: Fax extension

Overview

If VoiceWorks¹⁶ detects a fax tone on any of its ports during the main greeting, it will automatically blind-transfer the call to the extension listed in this function.

Note: If more than one fax machine is used, use the phone system's call-forward busy/no answer feature or station hunt group feature.

Setting range

Any valid extension.

Default

None.

Programming steps

- 1.** VoiceWorks¹⁶ will announce the current fax extension. To confirm the extension without changing it, skip to step 3.
- 2.** Enter a new extension.
- 3.** Press **#**.
- 4.** Press *****.

Note: If the customer uses more than one fax machine, list a department number as the fax extension.

Function 4: Auto attendant programming

Through telephone system programming, the VoiceWorks¹⁶ automated attendant can:

- **Answer all CO calls immediately** — Program the phone system to direct ring CO calls to the station ports to which VoiceWorks¹⁶ is connected. The phone system's night mode capability may also be used to allow the receptionist/attendant to control when calls will be sent to VoiceWorks¹⁶ for immediate answer.
- **Answer overflow CO calls** — Program the phone system to ring a certain number of times at the attendant console before transferring to VoiceWorks¹⁶ for answer. (Also known as "delayed ringing.")

Note: If the telephone system has no provisions for overflow answering, program the phone system to ring VoiceWorks¹⁶ and the receptionist simultaneously. VoiceWorks¹⁶ can be programmed to answer CO calls in a delayed manner (i.e. wait until the 3rd ring to answer). However, if VoiceWorks¹⁶ is programmed to wait a certain amount of rings prior to answering CO calls, the same delay will also occur when users are placing intercom calls to leave/retrieve messages.

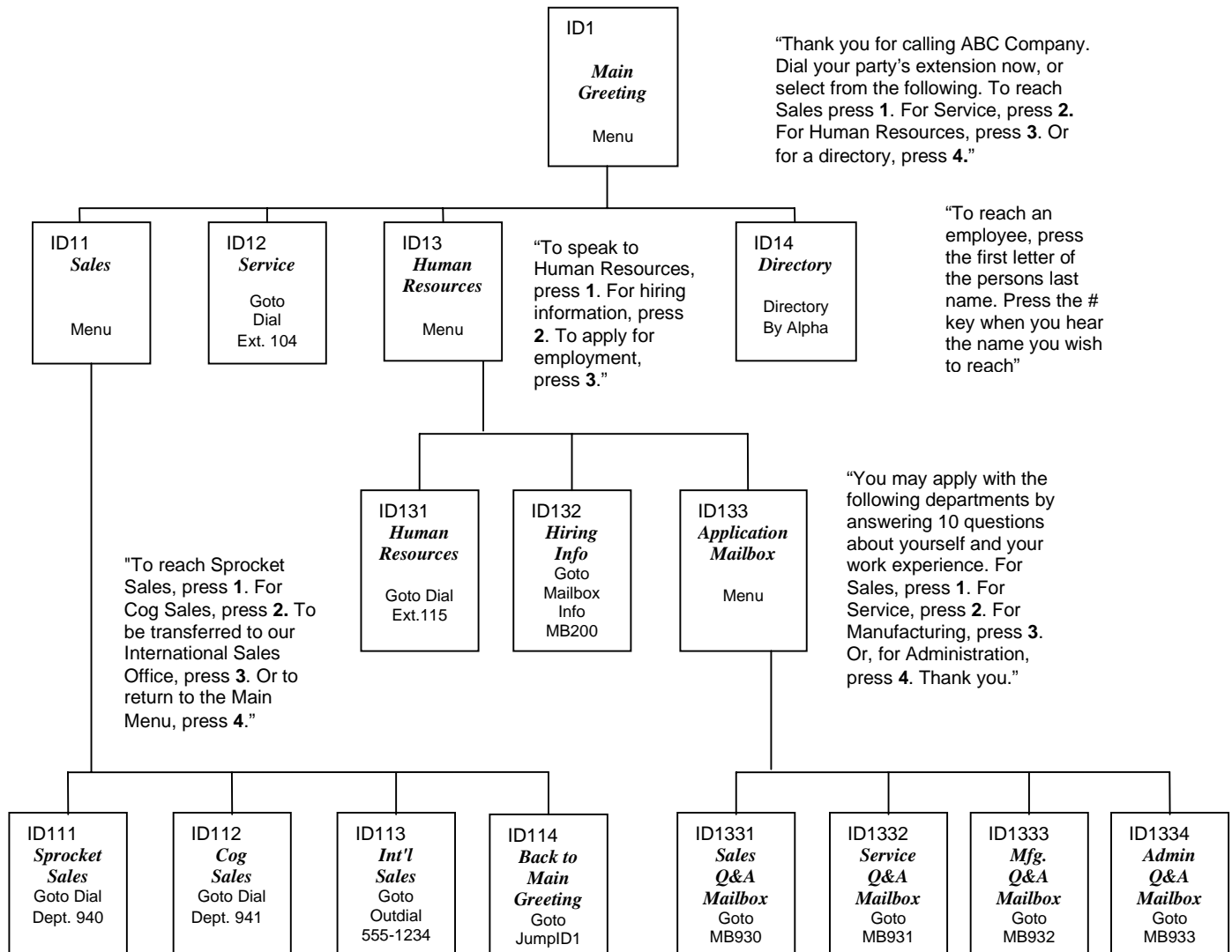
- **Answer only certain CO lines** — Program the phone system to direct ring only certain CO lines to VoiceWorks¹⁶. Example: outside sales reps or service personnel can call specified CO line(s) that are answered by VoiceWorks¹⁶ allowing them to reach inside personnel or voice mail without interrupting the attendant.
- **Not answer CO calls at all** (live attendant answering) — If the receptionist **supervises** the transfer and the called extension is unavailable, he/she can then transfer the caller to voice mail by dialing a VoiceWorks¹⁶ extension; when VoiceWorks¹⁶ answers, the receptionist can dial the # key and the mailbox number, then release the call. If the receptionist uses **blind-transfer** and the called extension is unavailable, the phone system's forward programming must be set to automatically reroute the call to VoiceWorks¹⁶; again, when VoiceWorks¹⁶ answers, the receptionist can dial the # key and the mailbox number, then release the call.

Function 41: Auto attendant branch programming

Overview

VoiceWorks¹⁶'s Auto Attendant follows a branch concept whereby the caller is routed through a series of branches— ultimately to the destination he/she wishes to reach. The caller moves from branch to branch by selecting a number or name presented in a branch prompt.

(See diagrammed example, next page.)



In the example above, the branch IDs and branch titles shown are for programming purposes only. The caller only needs to press **1**, **2**, etc. to move through the choices.

Setting range

Branch ID numbers may start with digits 1–8 and their length may be 1–6 digits; e. g., 123, 845, 113123.

Default

None.

Programming steps

The Auto Attendant sequence of programming is as follows:

1. **Branch ID.**
2. **Name.**
3. **Branch type.**
4. **Branch destination.**
5. **Call-forward no-response** (menu and directory types only).
6. **Call-forward busy/no-answer** (if the CFNR extension has no mailbox).

ID1	<i>Name</i>
	Branch type
	XXX
	CFNR XXX
	CFBNA XXX

1. **Branch ID** — This is a numeric designator which indicates its location and relationship to the other branches. There can be up to 6 levels of branches, the first level being a single digit, the second level being two digits, and so on. The main greeting is *ID1* (or, additionally, *ID2* through *ID8* if you want to program different greetings for different lines); then, each of its sub-branches will have that number plus an additional digit of its own (corresponding to choices given to the caller, shown here in bold): **11**, **12**, **13**, etc. Menu branch 123 would have sub-branches **1231**, **1232**, etc. Ports answered with a different main greeting ID (e.g., tenant applications), such as *ID2*, would have sub-branches that also start with 2 — for example, **21**, **22** and **23**.
2. **Name** — Branch names are not programmable via DTMF, but the Installer software requires it.
3. **Branch type** — Select a menu, goto, or directory branch.

Note: To delete a previously created branch, enter the branch ID (step 1), enter **# 0 0** as the branch type, and confirm by pressing #.
4. **Branch destination** — The action that the branch is to take with a call. Depending on the type of branch it could dial extensions, give additional choices to the caller, jump to another location in the system, play names from a directory, place callers directly into a mailbox, etc.

Branch Type	Destination
Menu	Sub-branch or a dialed extension
Directory	List of names
Goto	Specific extension, department, mailbox, branch ID, or outside number

In a *menu branch*, the destination can be either a sub-branches that is created later or a dialed extension.

In a *goto branch*, the destination is an extension, department, another branch ID, or a “string” of digits or commands for dialing outside of the system.

In a *directory branch*, the destination is a list of names (entered in Function 62) which are then translated by the system to extension numbers and called.

Note: If *ID9999* is programmed as a destination, the call will be automatically disconnected.

5. **Call-forward no-response** — Programmed for all menu and directory branches.
6. **Call-forward busy/no-answer** — Programmed for goto branches if an outdial number is the destination and that destination is busy.

Branch types

The three branch types — *menu*, *directory* and *goto* — allow virtually limitless routing possibilities.

Menu

A **menu** branch should include a prompt that instructs the caller to make a selection from the choices presented or dial an extension, such as “*If you know your party's extension, dial it now. For sales press 1, for service press 2, or for admin press 3.*” Whenever a Menu Branch is created, the corresponding number of sub-branches must also be created to match the number of choices given the caller in the instructional prompt.

When a caller makes a single digit selection, he/she will then advance to one of its sub-branches. That could be another menu branch if more choices are to be given, a goto Branch which will route the caller to his destination, or a directory branch so he/she can choose from a list of names.

Note: If a caller makes no selection during the prompt in a menu branch, he/she will be transferred according to the no response programming for that branch.

A menu branch plays an announcement and allows callers to:

- Make a single digit selection from the choices presented.
- Dial an extension number and be transferred.
- Log in to a mailbox for retrieving messages.
- Go directly to a mailbox to leave a message without attempting an extension.
- Log in for programming of the system (programmer or Administrator).

Directory

A **directory** branch allows the caller to be connected to an employee by selecting his or her name from a list played. Two types of directories are available:

- **By alpha** — Upon reaching an alphanumeric Directory Branch, the caller will hear two voice instructional prompts. The first will instruct the caller to press digit corresponding to an extension user's name. The second prompt will then instruct the caller to press the # key when the desired name is heard. Upon pressing the # key, VoiceWorks¹⁶ will immediately transfer the caller to the desired destination.
- **All names** — Upon reaching the directory by all names Directory Branch, the caller will hear a voice instructional prompt requesting the # key to be pressed when they hear the name of the person they wish to reach. All names recorded in the directory will begin to play. When the desired name is played, and the caller presses the # key and will be transferred to the desired extension.

Note: The actual recording of the names entered occurs in Function 62 (see page K-3).

A directory branch (es) will not be enabled until at least one name has been recorded.

Note: You can program VoiceWorks¹⁶ to announce the extension number of the selected name just prior to transferring. The announcement is turned on in Function 42 (see page I-6).

Goto branch

A goto branch transfers the caller to an extension, department, mailbox, branch ID or outside number. There are four types of goto branches.

Type 1: Goto dial branch

The goto dial branch automatically transfers the caller to the extension or department number programmed as its destination. If the destination is a department, VoiceWorks¹⁶ will follow the department's programming as set in Function 33 (see page H-4). If the destination extension or department dialed is busy or does not answer, VoiceWorks¹⁶ will forward the call according to the branch's busy/no answer routing **or** follow the department's call forwarding as programmed in Function 33.

The goto dial branch dials the extension or Department number listed.

Type 2: Goto jump branch

The goto jump branch can also be used to forward to any other branch ID number in the auto attendant. It's a good idea to provide a jump as a sub-branch of each menu branch giving the caller the option either to repeat the menu or exit should he/she not wish to select any of the choices played.

Example: “For widget sales, press **1**. For gadget sales, press **2**. Or, to return to the main menu, press **3**.” In this case, the third sub-branch would be a goto branch with ID1 (the main greeting) as its programmed destination.

If desired, you may route any jump branch or branch re-route to ID9999 for automatic disconnect. The disconnect branch (ID9999) allows VoiceWorks¹⁶ to return automatically to on-hook. As you choose, the disconnect branch may or may not have an announcement prior to disconnecting.

Example: A menu branch has had its **reroute** no-response programmed to go to branch ID9999, the disconnect branch. ID9999 has an Administrator-created prompt — “Since you made no choice, we are disconnecting” — which VoiceWorks¹⁶ will play to the caller prior to going on-hook. The disconnect branch's **default** recording is “Thank you, good bye”; you can customize it in Function 6, Recordings (see page K-1).

Type 3: Goto a mailbox

If a branch is programmed to goto a mailbox, the caller will be routed to that mailbox's personal greeting. The mailbox can be a user, a guest, informational, group, cascade paging or Q&A mailbox.

Type 4: Goto an outside number

The Goto Branch can be used to transfer to an off-premises location. It can be programmed to include in its “dial string” pauses, flash hooks, etc.

Code	Function
##	“#” DTMF tone
#0	Wait for Central Office dial tone
#1	1-second delay
#2	3-second delay
#3	5-second delay
#4	10-second delay
#6	1 flash hook
#7	Monitors call progress
#9	Plays the branch recording

VoiceWorks¹⁶ will dial the string as programmed and release the call to complete the connection.

Example: To create an outdial string that dials a flash hook, pauses, dials 9, pauses, then dials 800-555-5555, and goes on-hook, enter **#6**, then **#1**, then **9**, then **#1** and then finally **800-555-5555**. The digit length would be *17* and the actual entry would be:
6 # 1 9 # 1 8 0 0 5 5 5 5 5 5

Note: The phone system must have off premise transfer capabilities or Centrex for an Outdial Branch to operate properly. If using Centrex, you will need the DTMF code to generate a Centrex hook flash.

Note: An outdial branch can have up to 28 keystrokes programmed to dial specific functions. VoiceWorks¹⁶ is limited to the features available to the phone system’s port(s) to which it’s connected.

Note: Blind transfer by an outdial branch may not be possible with your phone system.

Function 42: Announce extension number

Overview

If a caller selects a name from a directory branch, the system can be set to announce the extension number prior to transferring the call. This provides the caller with the extension number for future direct dialing from a menu branch, such as the main greeting.

Setting range

Enabled or disabled.

Default

Disabled.

Programming steps

1. VoiceWorks will announce the current mode used: enabled or disabled. To confirm the setting without changing it, skip to step 3.
2. If the mode is currently disabled, press **1** to change it to enabled.
If the mode is currently enabled, press **2** to change it to disabled.
3. Press **#**.

Note: This feature **should not** be used where individual privacy is desired.

Function 43: Automatic day/night mode table

Function 431: Day/night mode

Overview

The day/night mode is used to determine:

- (a.) Whether the day, night or holiday greeting is played to callers.
- (b.) Which routing callers will receive.

Note: Day/night functionality is system-wide.

Setting range

Four choices are available — **1, 2, 3, 4** or **0**:

- **1 (Forced day mode)** — VoiceWorks¹⁶ will continue to play day greetings and follow day routing until this function is re-programmed.
- **2 (Forced night mode)** — VoiceWorks¹⁶ will continue to play night greetings and follow night routing until this function is re-programmed.
- **3 (Holiday mode)** — VoiceWorks¹⁶ will continue to play the holiday greeting and follow night routing until this function is reprogrammed.
- **4 (Partner automatic mode)** — VoiceWorks¹⁶ will automatically change day/night modes when the day/night key at the receptionist console* is toggled.
- **0 (Follow hourly tables)** — VoiceWorks¹⁶ will automatically play the appropriate greeting as programmed in Function 432 (see page I-8).

Default

1 (Forced day mode).

Programming steps

1. VoiceWorks¹⁶ will announce the current mode used. To confirm the setting without changing it, skip to step 5.
2. Enter a new mode value — 1, 2, 3, 4 or 0 — from the above list.
3. Press **#**.
4. VoiceWorks¹⁶ announces the new mode setting.
5. Press **#** to confirm.

* Lucent® Partner® or Merlin Legend®

Function 432: Day/night hourly table

Overview

This programs the times of day, and days of week, when VoiceWorks¹⁶ will switch between day and night modes.

Note: Holiday modes are not incorporated into the hourly time tables. You must enable holiday modes manually.

Setting range

VoiceWorks¹⁶ can switch day/night modes as often as 6 times daily. You may program any day of the week, 1–7 (Sunday–Saturday).

Default

None.

Programming steps

1. Select the day of the week, 1 (Sunday) through 7 (Saturday).
2. Press #.
3. Enter a start time in 24-hour format (military time*)
4. Press #.
5. To select day mode, press 1.
To select night mode, press 2.
6. Press #.
7. Enter the next start time for the day currently being programmed
8. Press #. VoiceWorks¹⁶ intelligently sets this latest start time as the opposite mode from the previously entered start time (see the worksheet under “Application example,” below).
9. When finished programming all the times for that day, you may exit that day by pressing ##. This will return you to the “Enter day to Program” prompt.

Application example

Monday through Friday: begin normal business hours at 8:00 AM; night mode for lunch at noon (12:00 PM); normal business hours again at 1:00 PM; and finally close business at 5:00 PM.

Saturday: normal business hours 10:00 AM to 2:00 PM. Day/night hourly worksheet example:

Time	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1		0800 D	0800 D	0800 D	0800 D	0800 D	1000 D
2		1200 N	1200 N	1200 N	1200 N	1200 N	1400 N
3		1300 D	1300 D	1300 D	1300 D	1300 D	
4		1700 N	1700 N	1700 N	1700 N	1700 N	
5							
6							

Note: Sunday requires no entry because VoiceWorks¹⁶ enters night mode Saturday and doesn't revert to day mode until Monday, since it stays in night mode until programmed to change back to day mode (and vice versa).

* In which midnight = 0000 and 11:59 PM=2359.

Function 5: Voice mail programming

Overview: Mailbox types

VoiceWorks¹⁶ is equipped to allow up to 1000 mailboxes. Any combination of user, guest mailboxes and informational mailboxes may be programmed. In addition, built into the system are 16 group mailboxes, 10 cascade paging mailboxes, 10 question-and-answer (Q&A) mailboxes and 1 broadcast mailbox.

The broadcast mailbox number is preset as 900. Group mailbox numbers are automatically set as the range 901–916, cascade paging mailbox numbers are 920–929 and Q&A mailbox numbers are 930–939. A user's mailbox number will normally be the same as his/her telephone extension.

User mailboxes

The Installer assigns mailbox numbers in a range that matches extension numbers, for example 100 to 300. Multiple ranges can be installed as long as the ranges do not overlap. By default, a user's mailbox number is the same as the user's extension number.

Listing an extension in the Auto Attendant Block List will have calls transferred directly to their mailbox when the extension is dialed from the automated attendant.

Guest mailboxes

An employee who doesn't have a system telephone (*e.g.*, warehouse worker, outside sales rep, etc.) may still have a guest mailbox. Assign the person a mailbox number that's not a usable extension on the phone system. Recording a personal greeting will turn on the mailbox.

Informational mailboxes

Informational mailboxes can be used to give callers information on a variety of different subjects by "publishing" these mailbox numbers for them to access. The mailbox acts like a user mailbox *except* that, at the end of the personal greeting, the caller will be rerouted instead of being prompted to leave a message.

Group mailboxes

Group mailboxes allow the owner to broadcast a "master" message to all members of the group. When a master message is recorded in the group mailbox, it is instantly "copied" into each member's mailbox.

A member can delete or save only his/her "copy" of a group message (If saved, it will remain in the member's mailbox as a new message). The master message remains in the group mailbox until all members have deleted their copies from their mailboxes. Therefore, **it is important that all members delete their group messages promptly.** If the owner deletes the **master** message from the **group** mailbox, this automatically deletes all remaining "copies" from members' mailboxes.

The Administrator assigns a group mailbox to its owner. The owner then enters a list of member's mailbox numbers. The owner may give the group mailbox number and password to others to allow them to also record master messages for members of that group.

Broadcast mailbox

The broadcast mailbox consists of every individual mailbox installed and turned on in the system. It functions the same as a group mailbox except that its list of members is fixed and cannot be edited.

Note: A password of "0" will allow *anyone* to leave a broadcast or group message.

Cascade paging mailboxes

Cascade paging mailboxes are helpful to vital departments, such as customer service, that must be available at all hours.

A cascade paging mailbox can have up to three external pager numbers programmed to be paged in a "cascading" fashion: whenever VoiceWorks¹⁶ takes a new message for the mailbox, it calls the first pager for a programmed number of attempts. If no one retrieves the message, VoiceWorks¹⁶ calls the second pager for its programmed number of attempts. Again, if no one retrieves the message, VoiceWorks¹⁶ calls the third pager. Finally, if no one retrieves the message, the system goes back to calling the first pager, and persists through this cycle until someone retrieves the message.

Question-and-answer (Q&A) mailboxes

Question and Answer Mailboxes allow prompting for more detailed information from callers on things such as an employment questionnaire or a survey. A Q&A mailbox owner can record up to 10 questions. VoiceWorks¹⁶ groups the individual answers are grouped and plays them back as a single message (separated by short beep tones). Normal message handling capability — delete, save, etc. — applies to all answers of the entire message.

Function 51: Maximum message length**Overview**

This is the maximum amount of time in which a caller may leave a message.

Setting range

30–600 seconds.

Default

120 seconds.

Programming steps

1. VoiceWorks¹⁶ announces the current maximum message length. To confirm the message length without changing it, skip to step 3.
2. Enter a new value, 30–600 seconds. Values are programmed in increments of 1 second.
3. Press #.
4. Press the * key to return to the previous menu.

Note: When the maximum message length is reached, callers are given the option to continue the recording if desired. These messages are linked together upon playback and appear to the mailbox owner to be one message.

Note: VoiceWorks¹⁶ will not store a message that isn't **at least** 6 seconds in length. This minimizes recording of hang-ups (*e.g.*, when someone doesn't want to leave a message), noise, etc.

Note: The maximum **number** of messages a mailbox can hold, regardless of the lengths of the messages, is 128. Thus, someone who receives a great number of messages frequently (*e.g.*, a high-ranking executive) should delete messages whenever possible, saving only those he/she really needs to keep.

Function 52: Message purge control

Overview

To avoid unneeded messages' filling up VoiceWorks¹⁶ memory, this establishes VoiceWorks¹⁶ automatically erases messages if its memory is exhausted. VoiceWorks¹⁶ will begin purging when the system's memory reaches 95% of capacity. VoiceWorks¹⁶ will remove only enough messages to reduce total memory used to 90% of capacity. You set different settings for old, group and new messages.

Users need to be aware that a mailbox can be full (128 Messages) and the system will not begin to purge. Purge is determined by the total system capacity, not an individual mailbox.

In the unlikely event that VoiceWorks¹⁶ memory becomes full and no message can be eliminated according to these purge values, callers will be played a "voice-mail-full" announcement until memory becomes available. Callers will automatically be re-routed to the operator.

Setting range

The range is 0–31 days for each message type; 0 indicates no message purge, ever.

Default

0 for old, group or new messages.

Programming steps

1. VoiceWorks¹⁶ will announce the current message purge setting for **old** messages. To confirm the current setting without changing it, skip to step 3.
2. Enter a new value.
Note: Entering a "0" indicates that the system shouldn't purge this type of message; it will remain until the user deletes it.
3. Press #.

4. VoiceWorks¹⁶ will announce the current message purge setting for **group** messages. To confirm the current setting without changing it, skip to step 6.
5. Enter a new value.
Note: Entering a "0" indicates that the system shouldn't purge this type of message; it will remain until the user deletes it.
6. Press #.
7. VoiceWorks¹⁶ will announce the current message purge setting for **new** messages. To confirm the current setting without changing it, skip to step 9.
8. Enter a new value.
Note: Entering a "0" indicates that the system shouldn't purge this type of message; it will remain until the user deletes it.
9. Press #.

Application example

To purge old messages older than 3 days and group messages older than 5 days, yet not purge any new messages even if the system's memory becomes full, enter **3**, **5** and **0**, respectively, in the procedure described above.

Function 53: Mailbox programming

Overview

This function builds mailboxes for the three mailbox types that do not have fixed ranges: **user** (mailboxes associated with extensions), **guest** (mailboxes that do not have associated extensions) and **informational** (plays audiotext and reroutes the caller without taking a message). Once accessed, the system will prompt you to press **1** for user mailboxes, **2** for guest mailboxes, or **3** for informational Mailboxes.

User — Associated with the extensions on the telephone system. The range built will typically match the extension range for the telephone system; for example, if the system has extensions 100–131, you will want to build the mailbox range accordingly. That way, when VoiceWorks¹⁶ forwards calls to voice mail and passes on call-forwarding information (in the form of in-band DTMF signaling, when available) from the phone system, the caller will be routed to the appropriate mailbox.

Guest — Simply a user mailbox that doesn't attempt a transfer when dialed from the auto attendant. Guest mailboxes are for personnel, such as off-site salespeople or warehouse workers, who need mailboxes but don't have physical telephones on the phone system. It has all the capabilities of a user mailbox — message notification, password protection, multiple personal greetings, etc.

Informational — Used for audiotext applications. An informational mailbox plays a message (what's considered the personal greeting on regular User/Guest mailboxes) and follow a programmed reroute. **Some** applications include: homework hotlines, movie information and real estate home data. After the "greeting" plays, an informational mailbox — unlike a user or guest mailbox — has a programmed reroute to a branch ID, extension or another mailbox. You can set both day- and night-mode reroutes for an informational mailbox.

Setting range

The mailbox range is limited to 1,000 mailboxes. Mailboxes may be 2,3 or 4 digits.

Note: You may build as many ranges as is necessary in each mailbox type.

Default

Broadcast, group, cascade and Q&A mailboxes.

Programming steps

1. To install or delete a range, select a mailbox type to program (user, guest or informational).
Or, to finish, skip to step 8.

Note: You cannot delete a mailbox if it holds at least one personal greeting or at least one message.

2. Select an action to perform (install, or delete, a range of mailboxes).
Or, to finish, skip to step 8.
3. Enter the lowest number in the mailbox range
4. Press #.
5. Enter the highest number in the mailbox range.
6. Press #.
7. You may hear a few seconds of silence as VoiceWorks¹⁶ installs or deletes mailboxes.
8. Press # to return to the previous menu.

All three types of mailboxes can be dialed directly from the Main Greeting, listed in directories, or transferred-to by auto attendant branches.

Unless a caller is routed to a mailbox by an auto attendant goto mailbox branch, the mailbox number — regardless of mailbox type — must be in the programmed extension range of Function 133 (see page F-3) in order for callers to be routed successfully.

Once built, each mailbox needs only a personal greeting to be “active.” A mailbox can be built by the programmer, but not used until needed by simply not yet recording a greeting until that time.

Function 54: Group mailboxes and the broadcast mailbox

Overview

Broadcast mailbox

Mailbox 900 is a special group mailbox (see below) which can be used to leave messages for *all system mailbox users who each have recorded at least one personal greeting*. The broadcast mailbox cannot have its user list edited.

Group mailboxes

A group mailbox allows its owner to broadcast a “master” message to all members of the group. Recording a master message in the group mailbox instantly “copies” it into each group member’s mailbox.

A member can only delete or save his “copy” of a group/broadcast message. If saved, it will remain in the member’s mailbox as a new message, and the next message will begin to play.

Users cannot reply to, or move, group and broadcast messages. The master message remains in the group/broadcast mailbox until **all** members have deleted their copies from their mailboxes. **Therefore, it is important that all members delete their group/broadcast messages promptly.** If the owner deletes the master message from the group/broadcast mailbox, all remaining “copies” will automatically be deleted from the member's mailboxes.

A group mailbox is assigned to its owner by the Administrator. The owner then enters a list of member's mailbox numbers. The owner may give the group mailbox number and password to others to allow them to also record master messages for members of that group.

Note: If the owner programs “0” as the group mailbox's password, **anyone** can leave group messages **or** program the mailbox.

Up to 16 group mailboxes, 901–916, can be assigned. Each may have up to 1,000 members **but** we recommend keeping the maximum for each at 100. Anyone who knows the password can use a group mailbox to leave messages for all users who are listed as members of that group and who have recorded at least one personal greeting. The Installer, Administrator or group mailbox “owner(s)” may set, or change the list of group mailbox members.

A group/broadcast mailbox is turned “on” (*i.e.*, able to record and playback messages) only after at least its owner has recorded at least one of the three mailbox greetings — for example, “*This is the group mailbox for the East Coast Regional Sales Team.*” Deleting all the group mailbox's greetings will turn “off” the mailbox; however, any messages outstanding will remain in its members' mailboxes until erased by each member.

Setting range

Broadcast mailbox: 900.

Group mailboxes: 901–916.

Default

Broadcast mailbox members: All user mailboxes with at least one personal greeting recorded.

Group mailboxes: No default.

Programming steps

1. VoiceWorks¹⁶ requests the mailbox number to program. Enter the mailbox number.
2. Press #.
3. VoiceWorks¹⁶ repeats the mailbox number you entered in step 1.
4. Press # to confirm.
5. Select an action to perform — add extensions to the group mailbox member list, delete extensions or hear the current list — or, press # to return to the previous menu (and skip steps 6–9).
6. Press #.
7. Enter the new extension to be added to, or deleted from, the group mailbox member list.
To add or delete multiple extensions, enter each extension separated by #. Enter ## to end the list. For example, to enter mailboxes 134, 138 and 142, you'd enter: **1 3 4 # 1 3 8 # 1 4 2 # #**

Application example

The customer needs the warehouse to be able to notify sales reps of parts outages as soon as possible. Mailbox 901 is programmed with all the sales reps' mailboxes listed, so the warehouse needs leave only one message to notify all reps.

Function 55: Off-premises notification parameters

Function 551: Delivery options

Overview

On a mailbox-by-mailbox basis for user or guest mailboxes, you may program VoiceWorks¹⁶ to call an off-premises number or another extension to deliver messages and/or dial to an external commercial paging network to activate a user's pager.

VoiceWorks¹⁶ will call and/or page when the first new message has been left in a mailbox and will repeat the action, at the interval of minutes programmed in this function, until all new messages have been deleted, saved or moved **or** it reaches the maximum number of attempts.

The user can program the numbers and can also select to have only *urgent* messages delivered.

The Installer and Administrator can set, mailbox-by-mailbox:

- The number to be called.
- A delay period. This feature allows the user to pick up a message if he/she is in the office.
- Number of dialing attempts.
- The interval between dialing attempts (in 10-minute increments).
- A "quiet period" to suspend phone (**not** pager) delivery — *e.g.*, for late night. This is an on-and-off time (on the quarter-hour) that applies to all days of the week.

Setting range

	Number	Delay (min.)	Attempts	Interval (min.)	Quiet on	Quiet off
Phone	(up to 17 digits)	0–500	0–255	10–1,440 @10-min.	None	None
Pager	(up to 17 digits)	0–500	N/A	10–1,440 @10-min.		

Default

	Number	Delay (min.)	Attempts	Interval (min.)	Quiet on	Quiet off
Phone	None	30	3	60	None	None
Pager	None	30	N/A	30		

Programming steps

Either the Installer or Administrator may program the delivery options, as shown below. In addition, the user can change his/her phone or pager number.

Important: The following steps only enter **information** and do **not** turn on the notification features that **use** this information. The individual mailbox owner must enable the features within his/her “delivery options” settings.

1. Enter the mailbox number to program.
2. Press #.
3. Select whether to program for *phone* notification or *pager* notification.
4. Press #.
5. Enter the **number** to be dialed (**do not** include the CO line group; *i.e.*, 9, 8 or 7).
6. Press #.
7. Enter the **delay**, in minutes, that the system is to wait before dialing the phone/pager number.
8. Press #.
9. Enter the **attempts** — the number of times that the system will call/page.

Note: The number of paging attempts is not programmable. Pagers are notified endlessly, at the programmed interval, as long as a new or new urgent message remains.
10. Press #.
11. Enter the **interval**, in number of minutes (in 10-minute increments), that VoiceWorks¹⁶ should observe between attempts.
12. Press #.
13. Using military time, enter the quarter-hour when the **quiet period** should **begin**.
14. Press #.
15. Using military time, enter the quarter-hour when the quiet period should end.
16. Press #.

Application example

	Number	Delay (min.)	Attempts	Interval (min.)	Quiet on	Quiet off
Phone	555-9876	30	6	30	2045	1715
Pager	555-0000	30	N/A	10		

Function 552: Paging parameters

Overview

VoiceWorks¹⁶ will use the system-wide “string” of digits entered in this function (along with the pager telephone number(s) programmed in the user's mailbox) to call pager(s). Since the * or # keys can be part of this command, **neither** can be used to repeat or confirm as part of the entry. Therefore, when programming this function, you must enter the **number** of keystrokes in the transfer code as well as the actual keystrokes themselves (note that you press # to confirm **only** when prompted). A digit by itself indicates that the digit be used (e.g., 1=1, 2= 2, etc.).

Setting range

The maximum number of keystrokes in the paging string is 24. The following two-key codes represent special conditions that may be added to the string:

Code	Function
##	“#” DTMF tone
#0	Wait for Central Office dial tone
#1	1-second delay
#2	3-second delay
#3	5-second delay
#6	1 flash hook
#8	Sends user's mailbox number
#9	Sends user's programmed phone number

Default

Go off hook, dial **9**, wait for dial tone, dial the user's pager number, pause 6 seconds, dial the mailbox number, dial # and go on hook — **9 # 0 # 9 # 2 # 2 # 8 # #**

Programming steps

Warning: Deleting the paging string in this function turns off the paging feature system-wide. Delete the string **only** if no pagers are used.

Warning: Before proceeding, verify the paging string by using a 2500 set from the VoiceWorks¹⁶ extension to activate a page.

1. VoiceWorks¹⁶ will announce the current paging string. To confirm the string without changing it, skip to step 3.
2. Enter the number of keystrokes in the paging string.
Note: See application example.
3. Press #.
4. VoiceWorks¹⁶ will announce the number of keystrokes.
5. Press #.
6. Enter the actual paging code string itself. **Do not** end the entry with the # key; VoiceWorks¹⁶ knows its length because of what you just entered.
7. VoiceWorks¹⁶ will announce the new string.
8. When prompted, press #.

By default, VoiceWorks¹⁶ automatically waits for an internal dial tone before beginning the dialing string programmed in this procedure. There is no need to **begin** the dial string with **#0**. However, **#0 *should*** be used after dialing the CO line access code.

Application example

Installing a paging parameter that dials **9** for an outside line, waits for dial tone, dials a user's pager number, pauses 6 seconds and dials the mailbox number followed by **#**, would be:

Number of keys — **13**.

Actual keystrokes — **9 # 0 # 9 # 2 # 2 # 8 # #**

Do **not** use end the string with the **#** key to confirm. The system will playback the entire entry after the last entry has been made, and **then** prompt you to confirm.

Function 553: Phone notification parameters

Overview

VoiceWorks¹⁶ will use the system-wide “string” of digits entered in this function (along with the telephone number(s) programmed in the user's mailbox) to call an off-premises telephone. Since the * or # keys can be part of this command, **neither** can be used to repeat or confirm as part of the entry. Therefore, when programming this function, you must enter the **number** of keystrokes in the transfer code as well as the actual keystrokes themselves (note that you press **#** to confirm **only** when prompted). A digit by itself indicates that the digit be used (*e.g.*, **1=1**, **2= 2**, etc.).

Setting range

The maximum number of keystrokes in the off-premises string is 24. The following two-key codes represent special conditions that may be added to the string:

Code	Function
##	“#” DTMF tone
#0	Wait for Central Office dial tone
#1	1-second delay
#2	3-second delay
#3	5-second delay
#6	1 flash hook
#8	Sends user's mailbox number
#9	Sends user's programmed phone number

Default

None.

Programming steps

Warning: Deleting the off-premises string in this function turns off the off-premises notification feature system-wide. Delete the string **only** if no one is using off-premises phone notification.

Warning: Before proceeding, verify the off-premises string by using a 2500 set from the VoiceWorks¹⁶ extension to activate a call.

1. VoiceWorks¹⁶ will announce the current off-premises string. To confirm the string without changing it, skip to step 3.
2. Enter the number of keystrokes in the off-premises string.
Note: See application example.
3. Press #.
4. VoiceWorks¹⁶ will announce the number of keystrokes.
5. Press #.
6. Enter the actual off-premises code string itself. **Do not** end the entry with the # key; VoiceWorks¹⁶ knows its length because of what you just entered.
7. VoiceWorks¹⁶ will announce the new off-premises string.
8. When prompted, press #.

By default, VoiceWorks¹⁶ automatically waits for an internal dial tone before beginning the dialing string programmed here. There is no need to **begin** the dial string with #0. However, #0 **should** be used after dialing the CO line access code.

Application example

To install a off-premises parameter that dials 9 for an outside line, waits for dialtone and dials the users off-premises number:

Number of keys — 3.

Actual keystrokes — 9 # 0 # 9

Do **not** use end the string with the # key to confirm. The system will playback the entire entry after the last entry has been made, and **then** prompt you to confirm.

Function 554: Notification ports

Overview

This function determines the number of VoiceWorks¹⁶ ports that are simultaneously used for off-premises phone notification. Each off-premises notification call will use a port until all messages are played.

Setting range

1–16.

Default

1.

Programming steps

1. VoiceWorks¹⁶ will announce the current number of ports assigned to off-premises notification. To confirm the setting without changing it, skip to step 3.
2. Enter the new number of ports.
3. Press #.

Note: Setting this function for one port may be sufficient for most applications. However, where a large number of users will be notified via off-premises phones, the number of ports used may need to be increased. Otherwise, mailbox owners might have to wait too long for the notification port to become available before being notified of their messages. Conversely, if **all** ports are assigned as notification ports, it's possible that if multiple mailboxes — equal in number to the number of voice mail ports — simultaneously begin off-premises notification, all voice mail ports will be in use and callers forwarded to a mailbox will not be answered.

Bottom line: Give special thought to this parameter before setting it.

Function 56: Cascade paging mailboxes

Function 561: Cascade mailbox options

Overview

In addition to individual mailbox paging, up to 10 **cascade paging mailboxes** (920–929) can be created. These can be assigned to anyone that requires escalating levels of paging beyond the single level available in all user mailboxes.

Up to three paging numbers, of up to 24 digits each, can be programmed by the user to be paged whenever a new/urgent message is taken in the mailbox. The system will page the first paging number (for the number of times listed) and then add the second paging number (for the number of times listed) and then add the third paging number and will continue to page all three pagers until the message has been retrieved.

Default

Paging numbers — None.

Attempts — 1.

Programming steps

1. VoiceWorks¹⁶ requests the mailbox number to edit. Enter the mailbox number.
2. Press #.
3. VoiceWorks¹⁶ repeats your entry.
4. Press # to confirm.
5. Press **3** to hear the current list of paging numbers and the number of attempts for each.
6. Either press **2** to delete all the paging numbers (this will completely turn off cascade paging) or press **1** to enter new, or edit current, paging numbers or number of attempts.
7. Enter, or edit, the first pager number to called (without the CO line access group — 9, 8, or 7).
8. Press #.
9. Enter, or edit, the number of attempts to be made to the first pager before adding the second pager number.

10. Press #.
11. Enter, or edit, the second pager number to called.
12. Press #.
13. Enter, or edit the number of attempts to be made to the first and second pager simultaneously before adding the third pager.
14. Press #.
15. Enter, or edit the third pager number to be called.
16. Press #.
17. VoiceWorks¹⁶ will then repeat the pager numbers and the number of attempts for each.
18. Press # to confirm.

Note: After the 3rd pager number is added to the paging, all three pagers will be called until the new or urgent message is saved or deleted from the mailbox.

Not all three pager numbers have to be installed for the mailbox to function.

The cascade paging mailboxes will use the same pager dialing string as programmed in Function 552 (see page J-9).

Application Example

Mailbox	1st Number	Attempts	2nd Number	Attempts	3rd Number
920	5553232	2	5554254	3	5555452

Function 562: Paging interval

Overview

The interval programmed here is the number of minutes between paging attempts for cascade paging mailboxes.

Setting range

10–1440 minutes.

Default

30 minutes.

Programming steps

1. Enter a new value for the paging interval.
2. Press #.

Note: This function controls the paging interval for **only** cascade mailboxes. User/guest mailboxes are programmed in Function 551.

Application example

Customer wants after-hours callers to be able to leave an “emergency service needed” message. The first pager notifies the “tech” who’s on-call. If unanswered, the message is escalated to the service manager. If unanswered still, the mailbox begins paging the general manager. All three will be paged until the message is saved or deleted.

Function 57: Q&A mailboxes

Overview

You can program up to 10 **question-and-answer (Q&A) mailboxes** (930–939). Each Q&A mailbox owner can record up to 10 questions. VoiceWorks¹⁶ stores individual answer segments, recorded by the caller, as a single message with answer segments separated by short beep tones. Each answer segment's maximum length will be as programmed in Function 51 (see page J-2). Normal message-handling capability — delete, save, etc. — applies to the entire message (all segments).

When recording each answer, the caller can be instructed to conclude by pressing **1** or to pause for the next question (the system advances when it detects either a 3-second silence or the entry of a **1**): *“Record your name at the tone; press 1 when finished” ... “Record your address at the tone; press 1 when finished.”* If the caller fails to respond to two questions in a row, VoiceWorks¹⁶ disconnects the call.

This function programs the mailbox's call forwarding for day and night modes. Recording the questions is performed by the mailbox owner in mailbox programming.

Note: A Q&A mailbox is turned “on” only when its owner has recorded at least one question. Deleting **all** questions will turn “off” the mailbox. However, any question, including any in the middle of the list, may be deleted (by pressing **0 0 #** when prompted to record the question) without affecting the other questions. The questions are recorded in the same manner as recording user multiple personal greetings.

Setting range

Mailboxes: 930–939.

A Q&A mailbox can be set to call-forward, after the last question has been answered, to an extension, a mailbox or a branch ID. You may also set different forwarding destinations for day mode and night mode.

Default

ID9999 (disconnect branch).

Programming steps

1. VoiceWorks¹⁶ will request the mailbox number to program. Enter the mailbox number.
2. Press **#**.
3. VoiceWorks¹⁶ will announce the call forward destination for day mode. To confirm the current setting, skip to step 6.
4. To program the destination to an extension, press **1**.
To program the destination to a Branch ID, press **2**.
To program the destination to a Mailbox, press **3**.
5. Enter the extension, branch ID, or mailbox (depending on your selection in step 4).
6. Press **#**.
7. VoiceWorks¹⁶ will announce the call forward destination for the night time mode. To confirm the current setting, skip to step 10.

8. To program the destination to an extension, press **1**.
To program the destination to a branch ID, press **2**.
To program the destination to a mailbox, press **3**.
9. Enter the extension, branch ID, or mailbox (depending upon your selection in step 8).
10. Press **#**.

Application example

Mailbox	Name*	Call forward Day mode	Call forward Night mode
930	Employment	Ext./MB/ID	Ext./MB/ID
931	Survey	Ext./MB/ID	Ext./MB/ID

Function 58: Voice mail parameters

Functions 581 and 582: Message-waiting light on/off control

Overview

If the phone system is so equipped and compatible with VoiceWorks¹⁶ ports, these functions will allow for independently turning on and/or off a phone station's message-waiting light. The phone system will need to allow message-waiting codes to be dialed from the VoiceWorks¹⁶ analog ports. The "On" signal will be sent whenever a new message is added to a mailbox, while the "Off" signal is sent whenever all new messages are deleted or saved.

Some phone systems may automatically turn off the message-waiting light whenever a message-waiting key is used to respond to a light; such systems don't require the off signal. Also, some systems require the user to retrieve the message from the same analog port that turned on the message-waiting light. Since the * or # keys can be part of this command, **neither** can be used to repeat or confirm as part of the entry. Therefore, when programming this function, you must enter the **number** of keystrokes in the transfer code as well as the actual keystrokes themselves (note that you press # to confirm **only** when prompted). A digit by itself indicates that the digit be used (e.g., **1=1**, **2= 2**, etc.).

Note: VoiceWorks¹⁶ will always attempt to use the last voice mail port connected to the phone system to light message-waiting lights, and will continue to search until it finds a connected port. Then, VoiceWorks¹⁶ will use this port exclusively until power-cycled.

* Relevant only if using Installer software to program.

Setting range

Maximum number of keystrokes in the message-waiting light string: 20.

The following two-key codes represent special conditions that may be added to the message-waiting light string:

Code	Function
##	"#" DTMF tone
#1	1-second delay
#2	3-second delay
#3	5-second delay
#6	1 flash hook
#8	Sends last extension number that was attempted

Default

Message waiting lights **on** — None.

Message waiting lights **off** — None.

Note: If the system type — as programmed in Function 131 (see page F-2) — has known values for message-waiting lights, they will be installed as default)

Programming steps

1. VoiceWorks¹⁶ will announce the current message-waiting light string. To confirm the code string without changing it, skip to step 8.
2. Enter the number of keystrokes in the message-waiting light string (see application example, *below*).
3. Press #.
4. VoiceWorks¹⁶ will announce the number of keystrokes.
5. Press #.
6. Enter the message-waiting light code string **but don't** press # yet.
7. VoiceWorks¹⁶ will announce the new message-waiting light code.
8. Press #.

Application example

A phone system requires extension, pause, hook flash and extension attempted. The string is 8 digits in length; the string is **# 8 # 1 # 6 # 8** .

Function 583: Message ring notification

Overview

Functions 5831 and 5832 provide message notification to extensions on phone systems that do not provide message lights. VoiceWorks¹⁶ will ring the extensions listed in Function 5831 (*Message ring extensions*, below) when the first new message has been taken. The station will ring for the number of rings as set in Function 142, *Station rings* (see page F-5), and will be repeated at the interval listed in Function 5832 (*Message notification interval*, page J-18) until no new messages exist.

Function 5831: Message ring extensions

Note: An extension can only be notified by either ringing or by message light, therefore if an extension has been set here to be rung for message notification, the message light notification to that extension will not operate.

Setting range

Extensions can be programmed in a range of many or as a range of one.

Default

No extension is rung.

Programming steps

- 1.** To enable ring notification, press **1**.
To disable ring notification, press **2**.
- 2.** Press **#**.
- 3.** Enter the lowest number in a range of mailboxes for ring notification. The mailboxes entered must be within the extension range programmed in Function 133 (see page F-3).
Note: To enable extension ringing for a single extension, enter the same extension as the lowest and the highest.
- 4.** Press **#**.
- 5.** Enter the highest number in a range of mailboxes for ring notification.
Note: To enable extension ringing for a single extension, enter the same extension as the lowest and the highest.
- 6.** Press **#**.

Application example

The single-line telephone installed in a customer's warehouse has no message-waiting light capability, but it **does** have a mailbox.

Function 5832: Message notification interval**Overview**

This interval controls how often the extension is called for notification purposes.

Setting range

10–1,440 (minutes).

Default

Default is (30 minutes).

Programming steps

1. VoiceWorks announces the message notification interval. To confirm the setting without changing it, skip to step 3.
2. Enter the message notification interval.
3. Press #.

Note: A setting of “0” will attempt to call the extension one time for message notification.

Function 584: Message light translation**Overview**

This function will allow a message-waiting light command to be sent to an extension other than an extension matching the mailbox number.

Setting range

Any valid extension and valid mailbox.

Default

None.

Programming steps

1. Enter the mailbox number from which to translate.
2. Press #.
3. Enter the extension number to receive the message-waiting light-on command (*i.e.*, in order to light the message light).
4. Press #.

Application Example

An executive using extension and mailbox 135 wants the system to turn on the messages-waiting light on his/her assistant’s extension, 155, when mailbox 135 receives a message.

Function 585: Mailbox translation

Overview

This function will allow a message to be left in a mailbox other than the mailbox matching the extension number.

Note: Applies only when VoiceWorks¹⁶ is operating in the supervised-transfer mode.

Setting range

Any valid extension and valid mailbox.

Default

None.

Programming steps

- 1.** Enter the extension from which to be translated.
- 2.** Press #.
- 3.** Enter the mailbox in which to leave messages for the extension entered in step 1.
- 4.** Press #.

Application example

An executive using extension and mailbox 135 wants the system to send all his callers to his/her assistant's mailbox, 155.

(This page included for pagination purposes only.)

Function 6: Recording

Function 61: Re-record system prompts

Overview

System instructional prompts

The system instructional prompts are played to an outside caller at different points in the call routing or mailbox functions. These system prompts have been pre-recorded at the factory but may be re-recorded if preferred in a different voice or with different instructions.

Auto attendant branch prompts

The auto attendant branch instructional prompts (such as the main greeting or sub-menus) are also recorded here by entering the branch ID number as the prompt number.

Setting range

All auto attendant branch IDs require recording. In addition, the list of system prompts shown in the chart on the next page **may** be re-recorded.

Re-recordable prompts

Prompt	Type	Played to	When/if played	Comments	Typical
530	Busy	Caller	If the station called is busy or DND.	Not required if blind-transfer mode is used. After playing the prompt, VoiceWorks ¹⁶ routes the call to the mailbox or other destination, if so programmed.	<i>"That extension is busy."</i>
531	No answer	Caller	If the station called does not answer.	Not required if blind-transfer mode is used. After playing the prompt, VoiceWorks ¹⁶ routes the call to the mailbox or other destination, if so programmed.	<i>"That extension does not answer."</i>
532	Hold	Caller	Just before a transfer.		<i>"One moment, please."</i>
533	Receiving	Called party	Before he/she is connected to the caller.	Not required if blind-transfer mode is used. The prompt is voice activated and will play only after the called party speaks. Deleting this prompt or recording silence will cause a delay in completing the transfer.	<i>"You are receiving a call."</i>
534	Q/Z	Caller	When he/she has selected an alphabetic directory.	Instructs caller to use the 1 key for the letters Q or Z since they don't appear on the phone keypad. Played at the end of the first directory prompt (and only if the directory actually has a name using a Q or Z).	<i>"For the letters Q or Z use the key number 1."</i>
535	No names matched	Caller	If, in a directory branch, the first letter(s) caller selected has no names associated with it; or he/she has listened to all of the names played and has not made a selection.	After this prompt is played, the system will route the call to the extension, branch or mailbox as programmed in no-response reroute.	<i>"No names matched; one moment, please."</i>
540	Holiday main greeting	Caller	When the system has been manually placed in Holiday Mode.	While in Holiday Mode, VoiceWorks ¹⁶ will follow normal Night Mode programming for call routing.	<i>"Thank you for calling. Our office is closed in observance of the holiday. You may dial your party's extension at any time, or please call back during back normal business hours."</i>
541	End of playback	Mailbox user	At the end of each message playback.	A user who knows these commands can go ahead and enter them during a prompt or message, to avoid delay.	<i>"To delete, press 7. To save, press 9. To reply, press 3. To move this message to another mailbox, press 6. To reach another mailbox, press the # key. Or, if finished, press * and hang up."</i>
542	Mailbox exit	Mailbox user	After all messages have been played.		<i>"To reach an operator, press 0. To go to the main greeting, press 8. To go to another mailbox, press the # key. To enter mailbox programming, press 5. Or, if finished, press * and hang up."</i>

Default

All system prompts are pre-recorded.

Branch ID 1 is the only branch which has a default greeting.

Programming steps

1. Enter the branch ID or prompt number to record.
2. Follow the system prompts to complete the recording operation. (Different types of prompts have different procedures.)

Note: A **default** recording cannot be **deleted**. However, to **override** a default recording so that callers won't hear it, the Installer can record one second of silence to replace the recording. Any default recording can be restored by deleting (**0 0 #**) the user-made recording.

Function 62: Record directory names

Overview

Note: This function is accessible only if a directory branch has been created as part of auto attendant programming.

Directories can be either all-names-listed or dial-by-alphanumerics.

With an alpha directory, callers enter the telephone dialpad keys corresponding to the desired name — *e.g.*, **2** = *ABC*, **3** = *DEF*, etc. For Q or Z, callers must enter **1**.

The default system prompt for an alpha directory instructs the caller to enter the first three digits of the person's **last** name. To change this instruction to **first** name, simply re-record the directory branch ID. Additionally, the directory can be programmed to accept 1,2 or 3 digits (characters) of the person's name.

Note: Make photocopies of your blank worksheet for preparing directories and making future changes. As names change, the Administrator can enter this function and change any field via the Administrator password.

Setting range

All valid user extensions and guest mailboxes.

Default

None.

Programming steps

1. Enter the extension number to record.
2. Press **1** to start recording; when through, press **1** again to stop recording.
3. VoiceWorks¹⁶ plays back the recording.
If the recording is acceptable, proceed to step 4.
To re-record, go back to step 2.
4. Press **#**.
5. If programming an alpha directory, enter the 1–3 corresponding dialpad keys for that extension.
6. Press **#**.

Note: Names under the same dialpad key are played back **in the order they were recorded**, and **NOT** by either extension number or alphabetical order.

To delete a name from the directory, enter **0 0 #** after the recorded name is played and confirm with the **#** key when prompted. **Recording silence over a name does NOT delete it.**

Application example

Ext.	Recorded name	Key
102	George Straite	436
113	Janet Smith	526

Function 63: Message-on-hold programming

Function 631: MOH source

Overview

MOH audio can be provided to the phone system's MOH port by connecting to the MOH port on the right side of the VoiceWorks¹⁶ cabinet (see page B-4).

MOH audio can be:

- One of the three default, factory-recorded, generic MOHs. These are royalty-free, requiring no licensing fees.
- One of up to five custom MOHs loaded into the system by using a cassette recorder connected to the MOH connector (see Function 632, page K-5).

Setting range

Code(s)	Source(s)
590	MOH disabled
591	Pre-recorded music 1
592	Pre-recorded music 2
593	Pre-recorded music 3
594–598	Customer-recorded MOH

Default

590 (MOH disabled).

Programming steps

1. VoiceWorks¹⁶ will announce the current MOH source. To confirm the source without changing it, skip to step 3.
2. Enter a new source code.
3. Press #.
4. Press the * key to return to the previous menu.

Function 632: MOH recording

Overview

Allows the Installer to record any of the five MOH sources to be stored to the VoiceWorks¹⁶ memory module.

Default

None.

Programming steps

Note: The connector needed is a stereo connector. One channel is used to make recordings, the other is a mono-playback channel.

Note: The recorded material should not have a “beginning” or “end” so that playback can loop continuously.

1. Connect the audio source to the MOH port on the side of the cabinet.
2. Enter the prompt number to be recorded.
3. Press **1** to begin recording; then press **1** again when finished.

Note: To aid in queuing, VoiceWorks¹⁶ will play the source through the phone's handset/speaker while you recording.

4. VoiceWorks¹⁶ will playback the material you just recorded.
5. Press **#** key to accept the recording.

Function 633: MOH Volume

Overview

If custom MOH audio is recorded, the output volume can be adjusted in this function.

Note: Be sure to keep the MOH volume at the same level as the system prompts and messages. Test from an extension on hold via the intercom.

Setting range

1–10 (lowest to maximum volume, respectively).

Default

6.

Programming steps

1. VoiceWorks¹⁶ will announce the current Message on Hold Volume. To confirm the setting without changing it, skip to step 3.
2. Enter a new MOH volume value
3. Press **#**.
4. Press ***** to return to the previous menu.

(This page included for pagination purposes only.)

Function 7: Reports

Overview

This report provides a hard copy of the system's current programming. This report can be compared against the programmer's worksheet to verify the accuracy of the programmed data.

Programming

Press **1** to begin exporting the selected report (see *Function 71*, *Function 72*, *Function 73* and *Function 74*, below) or return to the previous menu by pressing #.

Exporting directly to a serial printer

Connect a standard serial printer to the serial port of the system. The output from the serial port is: 8 data bits, 1 stop bit, and no parity. The baud rate is programmed by the Installer in Function 18. The pinout is: Data Transmit – Pin 2, Receive – Pin 3, and Ground – Pin 5.

Exporting to a PC interface

Connect an RS-232 serial cable between the RS-232C serial port of a PC and the RS-232C serial port of VoiceWorks¹⁶. Use a terminal emulation communications program to export the data to the PC. (For best formatting when printing from the PC to a laser printer, use a fixed — not proportional — typeface, such as Courier New, 9 points or smaller.)

From either the Installer or Administrator programming menu, select the desired report as listed below. The reports can be printed with either: (1) the data saved for inclusion in future reports; or (2) the data and totals cleared. The System Program Report cannot have its data cleared.

Function 71: System Program Report

This provides a hard copy of the system's current programming. This report can be compared against the Programmers Worksheet to verify the accuracy of the programmed data.

Function 72: Auto Attendant Report

This provides statistics to aid in analysis of auto attendant usage.

Function 73: Extension Department Report

This provides statistics to aid in tracking extension and department activity.

Function 74: Voice Mail Statistics Report

This provides statistics indicating message activity in each mailbox since the data was last cleared.

(This page included for pagination purposes only.)

Function 8: Exit Programming Mode

Function 81: Exit programming and return to main greeting

Accessing this function will exit programming and return the programmer to the Main Greeting (ID 1). This will allow the programmer to access an extension, test a mailbox, etc.

Function 82. Exit programming and disconnect

Accessing this function will exit programming disconnect from the VoiceWorks¹⁶ completely. This will return the VoiceWorks¹⁶ port to an idle (on-hook) mode.

Warning: Failure to exit properly could result in a “lockout” for up to 15 minutes from re-accessing Programming Mode. This is a safety feature built into VoiceWorks¹⁶ to prevent premature timeouts during extensive programming sessions.

(This page included for pagination purposes only.)

Troubleshooting

The following test procedures are designed to isolate a failed component of the total installation. This might include the PBX port, the wiring, or VoiceWorks¹⁶. (ESI thoroughly tests each VoiceWorks¹⁶ unit before it leaves our factory.)

Before proceeding with any of the following checks:

- Double-check all wiring continuity.
- Be sure that the system is properly grounded.
- Be sure that a clean power source is being used.

Power LED does not light

- Check that the power transformer is solidly connected at the 110 VAC outlet and at the power jack of VoiceWorks¹⁶.
- Verify that the transformer is outputting 24v AC.

VoiceWorks¹⁶ does not answer

- Verify that the power LED is on.
- Remove the lid and observe the port LEDs. If the port LED does not blink at ring voltage, check the extensions with a 2500 set to verify that ring voltage is being sent by the phone system.
- If the port LED indicates that VoiceWorks¹⁶ is detecting ring voltage but does not answer after waiting at least 9 rings, verify that ringing line preference is programmed for VoiceWorks¹⁶ extensions in the PBX/KSU. Again, connect a 2500 set and verify that going off hook will answer a CO call. If VoiceWorks¹⁶ will not answer after reconnection reset the VoiceWorks¹⁶ by disconnecting the power supply for at least 30 seconds.

VoiceWorks¹⁶ answers but does not play the main greeting

- Verify that a Night Mode greeting has been recorded if set for Night Mode. Connect a 2500 set to the station and verify that voice can be heard over the line.

VoiceWorks¹⁶ disconnects caller prior to transfer

- Flash hook duration is too long, or flash hook control is not properly set.

VoiceWorks¹⁶ does not transfer a call

- Flash hook duration is too short, or flash hook control is incorrect. If VoiceWorks¹⁶ does not transfer from a dial, department, or directory branch, check auto attendant programming.

Low volume

- Transmit volume adjustment can be made in Function 21 (see page G-1). If low volume levels require adjustment due to loss caused by the phone system* or weak CO lines, volume adjustments may be needed.

Caution: Boosting transmit-volume may cause: talk-off, DTMF recognition problems, distorted speech, or excessive intercom volume.

Fuse replacement

- There is a single power fuse located on the main board to protect against power spikes on the AC input. The fuse is a **2AG 250V 2A**.
 - If the fuse has blown, carefully check the board for obvious signs of damage and check the input source before replacing the fuse. If the fuse blows again, contact ESI Technical Support (see “Dealer assistance,” below).
-

Dealer assistance

Dealer technical assistance is available by calling ESI 7:00 AM–7:00 PM, Monday–Thursday and 8:00 AM–5:00 PM on Friday (all times Central). We regret that after-hours technical support for VoiceWorks¹⁶ is not available. We ask that a qualified telephone repair technician be on-site with the appropriate test equipment for our diagnostic assistance.

* The Voiceworks¹⁶ message-on-hold (MOH) audio output is a **line**-level signal that is **not** intended to drive a low-impedance load. If the line-out jack from any other music or message source fails to drive the PBX's MOH input properly at appropriate signal levels, Voiceworks¹⁶ also will fail to do so. (The Comdial DSU is an example of a PBX that does not support line-level MOH input.) In this case, an external amplifier (one-watt or higher) generally will correct the problem. ESI has tested the Bogen GA-2 Music-On-Hold Amplifier with VoiceWorks¹⁶ and has found that the GA-2 provides adequate amplification.

DSU integration card

The DSU Integration Card (DSUic) allows VoiceWorks¹⁶ to connect directly to the digital station ports of both the Comdial[®] Digitech[®] and Impact[®] phone systems without an ATI-D analog adapter, if the phone system supports Execumail[®] compatible software.

Note: A standard analog VoiceWorks¹⁶ must be used with: non-Execumail software, DXP[®] or Executech[®] systems using the appropriate analog adapter.

Caution: Converting from an existing analog VoiceWorks¹⁶ to an integrated version, or vice versa, should not be attempted without first contacting the factory. **NEVER install DSUic and analog cards in the same system.**

Follow the VoiceWorks¹⁶ installation manual for general system and port card installation instructions. Information specific to the DSUic follows:

- When VoiceWorks¹⁶ is powered up for the first time, it will detect the fact that DSUics are installed and will adjust the appropriate programming features automatically.
- The DSUic provides for tighter programming integration and thus eliminates many programming functions normally required for VoiceWorks¹⁶ installation.
- The following functions are **automatically eliminated** (and, therefore, not programmable) when the unit operates with a DSUic installed:

Function(s)	Name
131	Phone system type
15	Advanced phone system interface
151	Flash hook duration
152	Flash hook control
153,154	Transfer/retrieve code
144	Answer ring mode
581, 582	Message light control

- The following functions are defaulted differently than published in the installation manual:

Function	Default
132	Extension length default is 2 digits
133	Extension range default is 10 to 79
141	Transfer mode default is 1 (blind-transfer)
222	DTMF disconnect is set to "A" tone

VoiceWorks¹⁶ operation errata

Since VoiceWorks¹⁶ can distinguish between ITCM and CO calls, ITCM calls will be answered immediately by VoiceWorks¹⁶ and CO calls will follow the number of rings set in Function 143 (see page F-5). Now the system can be set to delay-answer but will not cause users to be needlessly delayed when picking up messages from their stations.

Since cut through of a transferred call is almost instantaneous, "Receiving an outside call" prompt is not played to the receiving party prior to transfer.

To use Transfer To Voice mail Key a "transfer to voice mail AutoDial button" must be programmed in the DSU.

To transfer calls to a user's mailbox:

1. While on a call, press the preprogrammed Transfer to Voice Mail Key.
2. Either press the appropriate DSS key and hang up or dial the extension number followed by the digit 2 and hang up. Waiting until the voice mail answers is not necessary.

Amplification considerations with Comdial systems

The Voiceworks¹⁶ message-on-hold (MOH) audio output is a **line-level** signal that is **not** intended to drive a low-impedance load. If the line-out jack from any other music or message source fails to drive the PBX's MOH input properly at appropriate signal levels, Voiceworks¹⁶ also will fail to do so. (The Comdial DSU is an example of a PBX that does not support line-level MOH input.) In this case, an external amplifier (one-watt or higher) generally will correct the problem. ESI has tested the Bogen GA-2 Music-On-Hold Amplifier with VoiceWorks¹⁶ and has found that the GA-2 provides adequate amplification.

Punch-down diagram for DSUic

The table on the following page indicates the punch-down required for VoiceWorks¹⁶ to interface to the DSU system.

4-port DSUic

2-port DSUic

Term.	Wire color	Signal	Port	RJ-11		Term.	Wire color	Signal	Port	RJ-11
1	White-Blue	Tip 1	1, 2	Green	Main board slot 1	1	White-Blue	Tip 1	1,2	Green
2	Blue-White	Ring 1	1, 2	Red		2	Blue-White	Ring 1	1,2	Red
3	White-Orange	Tip 3	3, 4	Green		3	White-Orange			Green
4	Orange-White	Ring 3	3, 4	Red		4	Orange-White			Red
5	White-Green			Green		5	White-Green			Green
6	Green-White			Red		6	Green-White			Red
7	White-Brown			Green		7	White-Brown			Green
8	Brown-White			Red		8	Brown-White			Red
9	White-Slate	Tip 5	5, 6	Green	Main board slot 2	9	White-Slate	Tip 5	5, 6	Green
10	Slate-White	Ring 5	5, 6	Red		10	Slate-White	Ring 5	5, 6	Red
11	Red-Blue	Tip 7	7, 8	Green		11	Red-Blue			Green
12	Blue-Red	Ring 7	7, 8	Red		12	Blue-Red			Red
13	Red-Orange			Green		13	Red-Orange			Green
14	Orange-Red			Red		14	Orange-Red			Red
15	Red-Green			Green		15	Red-Green			Green
16	Green-Red			Red		16	Green-Red			Red
17	Red-Brown	Tip 9	9, 10	Green	Main board slot 3	17	Red-Brown	Tip 9	9, 10	Green
18	Brown-Red	Ring 9	9, 10	Red		18	Brown-Red	Ring 9	9, 10	Red
19	Red-Slate	Tip 11	11, 12	Green		19	Red-Slate			Green
20	Slate-Red	Ring 11	11, 12	Red		20	Slate-Red			Red
21	Black-Blue			Green		21	Black-Blue			Green
22	Blue-Black			Red		22	Blue-Black			Red
23	Black-Orange			Green		23	Black-Orange			Green
24	Orange-Black			Red		24	Orange-Black			Red
25	Black-Green	Tip 13	13, 14	Green	Main board slot 4	25	Black-Green	Tip 13	13, 14	Green
26	Green-Black	Ring 13	13, 14	Red		26	Green-Black	Ring 13	13, 14	Red
27	Black-Brown	Tip 15	15, 16	Green		27	Black-Brown			Green
28	Brown-Black	Ring 15	15, 16	Red		28	Brown-Black			Red
29	Black-Slate			Green		29	Black-Slate			Green
30	Slate-Black			Red		30	Slate-Black			Red
31	Yellow-Blue			Green		31	Yellow-Blue			Green
32	Blue-Yellow			Red		32	Blue-Yellow			Red
33	Yellow-Orange				33	Yellow-Orange				
34	Orange-Yellow				34	Orange-Yellow				
35	Yellow-Green				35	Yellow-Green				
36	Green-Yellow				36	Green-Yellow				
37	Yellow-Violet									
38	Brown-Violet									
39	Yellow-Slate									
40	Slate-Yellow									
41	Yellow-Violet									
42	Brown-Violet									
43	Violet-Slate									
44	Slate-Violet									
45	Yellow-Violet									
46	Brown-Violet									
47	Violet-Slate									
48	Brown-Violet					48	Brown-Violet			
49	Violet-Slate					49	Violet-Slate			
50	Slate-Violet					50	Slate-Violet			

Important note
 You must jumper **only** the **even-numbered** Comdial port wires.

Examples

- For a four-port VoiceWorks¹⁶ DSUic using Comdial ports 22, 23, 24 and 25:
 - Wire Port **22** to the White/Blue pair on the VoiceWorks¹⁶ block.
 - Wire Port **24** to the White/Orange pair on the VoiceWorks¹⁶ block.
- For a two-port VoiceWorks¹⁶ DSUic using Comdial ports 22 and 23:
 - Wire Port **22** to the White/Blue pair on the VoiceWorks¹⁶ block.

DSU programming: special information

The DSU should be programmed as follows:

Function(s)	Function name(s)	Action(s)
53 32	Station features Voice mail	Assign all ports odd & even as voice mail ports.
53 19	Station features Department calling	Assign all station ports connected to VoiceWorks ¹⁶ into a Department.
52 2	Access code Assign access code to department	Assign a pilot number to the department number created in Step 2 (to be dialed by internal users to reach VoiceWorks ¹⁶).
53 18	Station features Intercom hunt link	Hunt-link all station ports connected to VoiceWorks ¹⁶ to each other and then the last station to the first station — creating a circular hunt group.
53 18	Station features Intercom hunt link	If blind transfer is used, hunt-link all phones that are to be forwarded ring-no-answer to VoiceWorks ¹⁶ to the first port of VoiceWorks ¹⁶ .
39	Department calling	Assign all COs that VoiceWorks ¹⁶ is to answer to the department number set in step 2. This enables VoiceWorks ¹⁶ ports to ring sequentially. Note: This step is not required if live answer with voice mail only or if VoiceWorks ¹⁶ is used to answer all calls in the day mode.
25	Automatic transfer of voice mail	If supervised transfer is used, enable this feature for faster transfer. This will disable the "Incoming Call" message.

Voice mail line ID

VoiceWorks¹⁶ does not use the Line ID to determine the greeting to be played; therefore, do not enable this feature.

Note: VoiceWorks¹⁶ may be programmed to answer with different main greetings based on the voice mail port receiving the call. See Function 23, *Port answering assignments* (page G-3).

Voice mail transfer-on-busy

Follow the instructions provided with the DSU to determine if this feature is to be used.

DSU features to disable

If using 20a or better software in the DSU, disable **both** of the following DSU features:

- Visual Voice Mail.
- Voice Mail Pause.

Appendix 1: Phone system types

Type	Phone system
1	Generic, single-ring-back
4	Norstar, DR3 or higher, blind-transfer only
5	Norstar, DR3 or higher, supervised-transfer only
7	Intertel GMX 152D
10	Vodavi 308, 616, 1224
11	TIE 2464
12	Panasonic KXT 616
13	TIE TCX-128
14	Panasonic KXT 1232
15	Vodavi 96EX
16	Siemens SD232
19	Comdial XE 820
20	Comdial XE 1024
21*	Comdial 2000 612/820/1632 (without Execumail)
28*	Comdial 22128/KH128X
29*	Comdial DXP with Analog VoiceWorks ¹⁶
30	Generic, single ringback, double busy
31	Generic, double ringback, single busy
32	Cardinal PBX
33	Intertel GMX48
34	Fujitsu Focus II
35	Comdial Digitech/Impact (without Execumail) with Analog VoiceWorks ¹⁶ and ATI-Ds
36	Samsung/Prostar 56/120
37	NEC Pro I
38	NEC Pro II
39	Premier ESP
40	Comdial using Execumail with Analog VoiceWorks ¹⁶
41	Panasonic DBS
42	Panasonic SDBS
43	Panasonic KX-TD1232
44	Prostar 816
45	Toshiba DK Series
46	Toshiba Strata Xlle & XXe
47	NEC Mark II
48	Sprint Protege - Basic VM UCD
49	Atlas 2E
50	Vodavi 2856
51	Comdial Unison
52	Executech XE 308/616/1432/2232H/K32X/KH64X/KH96X
53	Digitech/Impact using DSUic
54	BBS
55	Lucent Partner
56	Lucent Merlin Legend

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