

999-300-575
Release 2.0

AT&T

386 Voice Power
User's Guide

©1988 AT&T
All Rights Reserved
Printed in USA

NOTICE

The information in this document is subject to change without notice.
AT&T assumes no responsibility for any errors that may appear in
this document.

UNIX is a registered trademark of AT&T.

Voice News

To get the most up-to-date news on Voice Power System Software enhancements for Release 2.0, type *voice news* at the system prompt and press *Enter*.

Contents

1	The Voice Power User's Guide The Voice Power Package	1 - 1
<hr/>		
2	Software Installation Software Installation	2 - 1
<hr/>		
3	Voice Power Diagnostics Voice Power Diagnostics	3 - 1
<hr/>		
4	Voice Editor Operation Using the Voice Editor Voice Editor Keys Creating Voice Files Editing Voice Files Listening To Voice Files	4 - 1 4 - 7 4 - 13 4 - 15 4 - 23
<hr/>		
	Appendix: A: Voice Editor Reference	A - 1

The Voice Power Package

The Power Package is a set of hardware and software that provides the underlying support for all 6386 UNIX® System Voice Power voice applications. The package is composed of one or more AT&T Voice Power Cards and the Voice Power System Software. There are two types of Voice Power Cards:

- Voice Power Model VP1
- Voice Power Model VP4

Throughout this publication, each card is identified by its abbreviation: VP1 or VP4. For information on installing Voice Power Cards, see the *6386 Voice Power Installation Guide*.

The Voice Power System Software contains the following files or sets of files:

- The UNIX System driver, which provides the software interface between the Voice Power Card and voice application software packages
- The Configuration Manager, which allows you to configure each installed Voice Power Card
- A set of diagnostic programs that verify proper operation of each installed Voice Power Card
- The Voice Editor, which allows you to create, review, and edit voice files
- A set of utilities that allows advanced users to perform administrative functions with the Voice Power System Software

Installation Record

Make sure you use the Voice Power Installation Record for your computer, which is packaged with the *386 Voice Power Installation Guide*. The Voice Power Installation Record should already contain the following handwritten information for each board:

- Machine ID
- Interrupt number (IRQ)
- Slot number(s)
- Telephone numbers(s)

What's in This Manual

This manual provides information on how to use Voice Power hardware and software:

- ❑ Chapter 1 describes the Voice Power package, the manual's conventions, what you need, and how to get started.
- ❑ Chapter 2 explains the procedures to install the Voice Power System Software and configure any Voice Power Cards. Also described is the procedure to remove the Voice Power System Software.
- ❑ Chapter 3 describes how to test any Voice Power Cards you already installed.
- ❑ Chapter 4 Explains how to use the Voice Editor, which allows you to record, play, and edit voice files.

What You Need

To test and use the Voice Power package, you need the following items:

- A 6386 WGS (or 6386E) with 386 UNIX System V Release 3.1 or later version
- An installed Voice Power Card (see the *386Voice Power Installation Guide* for details)
- At least 3 M Bytes of free disk space
- Telephone cord with modular jacks at both ends
- The Voice Power System Software (packaged with the Voice Power documentation)
- If you have a VP1, you can connect a compatible telephone or self-powered speaker and self-powered microphone. Telephones compatible with the Voice Power Card are listed later in this chapter.
- If you have a VP4, you can connect a self-powered speaker and a self-powered microphone. You cannot connect a telephone.
- As an option, you can attach a tape recorder to either Voice Power Card. Refer to “Audio Options” later in this chapter for more information.

Compatible Telephones

The following telephones are compatible with the 6386 WGS and the VP1:

- Almost all series 2500 push-button telephones:
 - 2500
 - 2500MM
 - 2500MMG
 - 2565 with a 1A Key Adapter
- All System 25/75/85 analog phones
 - 7101A
 - 7103A
- Most series 500 (rotary) telephones

Note

Be aware, however that rotary telephones are not useful with software packages that require Touch Tone input. The Voice Power Automated Attendant Release 1.2 is an example of such software.

All of the listed telephones are hearing-aid compatible.

If you are not sure what type of telephone you have, look for a number on the bottom of the telephone.

Note

The VP1 is not compatible with digital telephones that work with digital PBX systems.

Audio Options

You can attach a telephone set to the VP1 to perform all of the recording and playback features associated with the Voice Power System Software. Both the VP1 and the VP4 are equipped with an audio In and an audio Out jack. These jacks allow you to use other types of electronic devices for recording and playback. Both the audio In and the audio Out jack are “phono mini-jacks,” therefore, you must use standard “phono mini-plugs” for a proper connection.

Note

On the VP4, the audio In jack is associated with the lowest number channel on the card. When you record on a VP4 using a microphone, use only the first channel on that card. The audio Out jack is associated with all channels on the card.

Audio In

The audio In jack allows the Voice Power Cards to record audio information at the standard “LINE” audio levels that are compatible with many types of audio equipment, such as tape recorders and stereo receivers.

You can use self-powered microphones if the output of the preamp connected to the microphone is compatible with the standard “LINE” levels of the Voice Power Card. Most microphones and preamps are sold separately; therefore, you must check the preamp to ensure that it can produce the standard “LINE” levels.

To connect the audio equipment that you will use to record, connect the audio Out jack of the audio equipment to the audio In jack of the Voice Power Card.

Audio Out

The audio Out jack allows the Voice Power Card to play back audio information at standard “LINE” audio levels. These audio levels are compatible with many types of audio equipment, such as tape recorders and stereo receivers.

Self-powered speakers can be used if the input of the speaker's amplifier is compatible with the standard "LINE" levels of the Voice Power Card. Most speakers and amplifiers are sold separately; therefore, you must check the amplifier to ensure that it can amplify standard "LINE" levels.

To connect the audio equipment you will use for playback, connect the audio In jack of the audio equipment to the audio Out jack of the Voice Power Card.

Audio Specifications

- Audio In: 400mv, 20K ohms unbalanced
- Audio Out: 400mv, 100K ohms unbalanced

Conventions

This manual used the following conventions:

- ❑ Information displayed on the screen, such as prompts or menu items, is shown in the following type:

Please login:

- ❑ Information you type is shown as follows:

uname

- ❑ Keys on the keyboard are shown as follows:

Enter

- ❑ Screen labeled keys are shown as follows:

Record

Other Useful Guides

You can find additional information on the 6386 WGS and the Voice Power package in the following manuals:

- ❑ *AT&T 6386 WGS User's Guide*
Provides complete information for the new 6386 WGS user.
- ❑ *AT&T 6386 WGS User's/System Administrator's Reference Manual*
Provides information on managing and maintaining the 6383 WGS.
- ❑ *386 Voice Power Installation Guide*
Provides complete information on installing the Voice Power Card(s).
- ❑ *386 Voice Power Application Programmer Reference Manual*
This manual provides all necessary information to create VoicePower application programs.

Software Installation

When you have finished installing the Voice Power Card(s), install the Voice Power System Software. Any previous version of the Voice Power System Software must be removed before a new version can be installed. To remove any version of the Voice Power System Software, proceed to “Removing the Software,” the last section in this chapter.

Installing the Voice Power System Software involves two steps:

- 1 Installing software from floppy disks
- 2 Configuring the Voice Power Cards

Installing the Software

- 1 When prompted by Console login: type *root* and press Enter.

Note

If a password is required for system access, Password: appears. Enter the system password. For security measures, the password is not echoed on the monitor.

- 2 At the system prompt, type `installpkg` and press Enter.
 - You are prompted to insert the software disks you want to install.
- 3 Insert the Voice Power System Software disk into the floppy drive, close the door, and press Enter.
 - When the installation begins the following message appears:
Installation in progress - do not remove the floppy disk.
Additional messages appear as the software installation proceeds.
- 4 If you have more than one floppy disk, follow the instructions on the screen to remove one disk and insert the next.
- 5 When the software is installed, a list of files is displayed followed by the message,

The Voice Power System Software is installed and ready to be configured.
 - An introductory screen to the Configuration Manager appears briefly, followed by the Voice Power Configuration screen.
- 6 Remove the Voice Power System Software disk from the floppy drive and continue with the next section.

Configuring the Voice Power Cards

The Configuration Manager, which appears automatically after software installation, allows you to configure each Voice Power Card that you installed in your machine.

Entering the Configuration Manager

There are two ways to enter the Configuration Manager. As already mentioned, one way is to enter it automatically when you install the Voice Power System Software.

The other way is to type `vconfig` at the system prompt and press Enter.

Choosing the Order

As you configure each card, the Configuration Manager assigns a channel number to each telephone line. Each VP1 is assigned one channel number, each VP4 is assigned four channel numbers, whether it has four telephone lines connected or not. As each channel number is assigned, you will record it in the Voice Power Installation Record.

If you have more than one Voice Power Card, configure them in the order that you want their channels numbered.

For example, if you have three VP1s and three VP4s, you might want to configure the VP1s first and then configure the VP4s. This approach allows you to start from the top of your Voice Power Installation Record and work your way down. For this example, the channel numbers would be assigned as follows:

Voice Power Card	Channel(s)
VP1	0
VP1	1
VP1	2
VP4	3,4,5,6
VP4	7,8,9,10
VP4	11,12,13,14

Note

The first configured channel is always 0.

Installation Record

The Voice Power Installation Record is enclosed in the shrink wrapping at the back of the *386 Voice Power Installation Guide*. The Voice Power Cards should be installed in your machine, and therefore, the Voice Power Installation Record should already contain the following handwritten information:

- Machine ID**
- Interrupt Setting (IRQ)**
- Slot number(s)**
- Telephone number(s)**

As you configure each card, write the channel numbers in the Column 5 of the installation record.

Note

Which recording channel numbers for the VP4, be sure to match each channel number with the appropriate telephone number.

Additional instructions are on the back of the record. Also, the procedures in this chapter indicate when to record the channel numbers in the installation record.

When you have recorded all channel numbers, post the Voice Power Installation Record on the wall by your computer or some other convenient location.

Configuration Procedures

As you work through the Configuration Manager, you will notice prompts at the bottom of the screen that guide you. Familiarize yourself with these prompts as you follow the procedures.

If you see arrows displayed on the right side of a frame, use Pg Up or Pg Dn to page through the contents of that frame

Displaying Configuration Commands

When you enter the Configuration Manager, an introductory screen appears briefly, followed by the Voice Power Configuration Screen:

1 Press Enter.

- The Configuration Commands frame appears listing the following commands:
 - Add a VP1 Card
 - Add a VP4 Card
 - Change IRQ or DMA
 - Remove a VP1 or VP4 Card

- 2 Highlight the item you want and then press **Enter**.
- 3 Proceed by skipping to the section in this chapter that describes the procedure you selected. The procedures are presented in the same order as listed in the Configuration Commands frame.

Add a VP1 Card

- 1 When you select Add a VP1 Card from the Configuration Commands menu, the Add a VP1 Card form appears with the cursor in the address field.

- The fields Address and Comments contain their default values only when you first display this frame.

- 2 To change the Address field, press CHOICES.

The VP1 Addresses frame appears.

Only valid address are displayed. If your machine has a VDC 750 board, a maximum of four addresses are valid: 0xD000 through 0xDFFF.

3 Highlight the address for the VP1 that you are configuring.

4 Press Enter.

The VP1 Address frame disappears and the address you selected appears in the address field.

Note

If you select an address that is already used, you must reset the card's 4-position dip switch to have a unique address. Finish the rest of the configuration before resetting the VP1. You might determine that additional cards need resetting as well.

See “Configuring the VP1” in the *386Voice Power Installation Guide* for instructions on setting the 4-position dip switch.

When you finish resetting the 4-position dip switch, you will not need to reconfigure the software. The changes that you make in the last configuration session are saved and implemented when you reboot or turn on the computer.

- 5 Move the cursor to the `Comments` field.

To change the `Comments` field, type over the default value. For example, useful comments would include the slot number and telephone number associated with the channel.

While you are not required to change the `Comments` field, doing so would help you. The comments you enter are displayed every time the Voice Power Configuration screen is displayed. The comments help you identify configuration data more easily.

The Channel number, type of card (VP1), and address are displayed alongside your comments.

- 6 You can change your field entries by moving your cursor back and forth between fields.

- 7 When you are finished with this frame, save our entries by pressing `SAVE`.

If you do not want to save your entries, press `CANCEL`.

- When you press `SAVE`, the Voice Power Configuration screen appears with updated information. Each time you change configuration data, the screen is updated immediately.

- The VP1 that you just added is assigned a channel number. Record that number in the Voice Power Installation Record for your computer. See the back of the installation record for additional instructions.

Add a VP4 Card

- 1 When you select Add a VP4 Card from the Configuration Command menu, the Add a VP4 Card frame appears with the cursor in the address field:
 - The fields Address and Comments contain their default values only when you first display this frame.
- 2 To Change the Address field, press CHOICES.

- ❑ The VP4 Address frame appears:
-
- ❑ Only valid address are displayed. While 16 addresses are valid, note that you can configure a maximum of 10 VP4s.
- 3 Highlight the address for the VP4 that you are configuring.
 - 4 Press Enter.
 - ❑ The VP4 Addresses frame disappears and the address you selected appears in theAddress field.
 - 5 Move the cursor to theComment field.

Note

If you select an address that is already used by another card in your machine, a message appears indicating this status. PressEnter to continue and then select a unique address.

If a VP4 is set to an address that is already used, you must reset the card's 4-position dip switch to have a unique address. Finish the rest of the configuration before resetting the VP4. You might determine that additional cards need resetting as well.

See “Configuring the VP4” in the *386 Voice Power Installation Guide* for instructions on setting the 4-position dip switch.

When you finish resetting the 4-position dip switch, you will not need to reconfigure the software. The changes that you make in the last configuration are saved and implemented when you reboot or turn on the computer.

- 6 To change the `Comments` field, type over the default value. For example, useful comments would include the slot number and telephone number(s) or extensions associated with the channel.

While you are not required to change the `Comments` field, doing so would help you. The comments you enter will be displayed alongside the channel number, type of card (VP4), and address every time the Voice Power Configuration screen is displayed. The comments help you identify configuration data more easily.

- 7 You can change your field entries by moving your cursor back and forth between fields.

- 8 When you are finished with this frame, save your entries by pressing `SAVE`.

If you do not want to save your entries, press `CANCEL`.

- ❑ When you press **SAVE**, the Voice Power Configuration screen reappears with updated information. Each time you change configuration data, the screen is updated immediately.

- ❑ The VP4 that you just added is assigned four channel numbers. Record these numbers in the Voice Power Installation Record for your computer. Make sure you record each channel number in the space associated with that channel's telephone number. See the back of the installation record for additional instructions.

Note

Four channels are always assigned to each VP4 - no matter how many telephone lines are connected. For example, Voice Power displays 0-3 in the channel column if the first card you configure is a VP4.

Change IRQ or DMA

1 When you select **Change IRQ or DMA** from the **Configuration Commands** menu, the cursor appears in the **Interrupt Used** field, which is in the **Voice Power System Configuration** frame.

- This field contains the default, 2.

2 To change the value, press CHOICES.

- The Select Interrupt frame appears

3 Highlight the value you want and press **Enter**.

- The Select Interrupt frame disappears and the value you selected appears in the **Interrupt Used** field.

4 If you change the IRQ setting for the VP1, make sure it matches the IRQ setting on the VP1 card, See “Configuring the VP1” In the *386 Voice Power Installation Guide* The VP4 does not require any adjustment on the card.

Make sure the number in this field matches the IRQ setting on the Voice Power Installation Record.

5 If you want to change the **DMA Option** field as well, move the cursor to that field.

6 The DMA Option field contains the default value ON.

When the DMA option is on, Voice Power uses DMA controller-channel 1. If you select ON when another peripheral card in your computer is already using DMA controller-channel 1. A message appears and the DMA Option is reset to OFF.

If any other peripheral cards in your computer use DMA controller-channel 1, select OFF.

Note

Only the VP4 can use the DMA option, which provides improved performance. The more VP4s you have installed in your machine, the more noticeable performance issues become. If you installed only VP1s, set the DMA Option to OFF. This allows other peripheral cards to use DMA controller-channel 1.

7 To change the value, press CHOICES.

The Select DMA Option frame appears:

8 Highlight the value you want and press **Enter**.

- The Select DMA Option frame disappears and the value you selected appears in the DMA Option field.

You can change your field entries by moving your cursor back and forth between fields.

9 When you are finished with this frame, save your entries by pressing **SAVE**.

If you do not want to save your entries, press **CANCEL**.

Remove a VP1 or VP4 Card

1 When you select **Remove a VP1 or VP4 Card** from the Configuration Commands menu, the **Remove a VP1 or VP4 Card** frame appears:

This frame displays the Voice Power Cards that are installed and configured.

- 2 To remove each card, highlight the line entry that you want to remove and press MARK.

You can mark as many lines as you want.

- 3 When you are finished, pressSAVE.

If you decide not to remove the cards you marked, pressCANCEL.

- When you pressSAVE, Voice Power removes the cards you marked from the Voice Power Configuration screen.

Ending the Session

You can exit the Configuration Manager in one or two ways:

- Quit and save (pressDONE)
- Quit and undo any changes you made during this session (pressEXIT)

Both methods are followed up by a confirmation messages, which allows you to cancel the command before executing it.

Quit and Save (Reboot)

When you are finished configuring and you want to save your configuration data, press DONE.

- A confirmation message appears.
 - 1 If you are not ready to save the configuration data and invoke an automatic reboot, pressCANCEL
 - 2 If however, you are ready, pressCONTINUE.
- An automatic reboot occurs. Various system diagnostics and messages appear, followed by Console login

This completes the Voice Power System Software installation. Proceed to Chapter 3, “Voice Power Diagnostics;”

Quit and Undo Changes

If you decide to exit the Configuration Manager without saving any changes from the current session, press `EXIT`.

- A confirmation message appears.
 - 1 If you decide not to quit and undo, cancel the command by pressing `CANCEL`.
 - 2 If, however, you wish to exit the Configuration Manager and undo the entire session. Press `CONTINUE`.
- The Configuration Manager disappears and the system prompt appears.

Removing the Software

If you want to remove the Voice Power System, follow these steps.

- 1 At the Console login: prompt, type `root` and press Enter.

Note

If a password is required for system access, `password:` appears. Enter the system password. For security measures, the password is not echoed on the monitor.

- 2 At the system prompt, type `removepkg` and press Enter.

- A numerical list of installed system software is displayed. The message `Select number of package you want to remove` appears at the bottom of the screen.

- 3 Type the number of the Voice Power System Software

- You are then asked to confirm your choice with the message:

Do you really want to remove AT&T 386 Voice Power System Software? Strike Enter when ready or ESC to stop.

If you select `ESC` the system prompt reappears, and the removal is aborted.

- 4 Press Enter.

- The following message is displayed:

Removing AT&T 386 Voice Power System Software... Do you want to save you Voice Power Configuration [y/n]?

- 5 Press Enter to save your configuration

If you type `n` and then press Enter, you will need to reenter all configuration data the next time you reinstall the Voice Power System Software, whether it is the same version or an update.

6 Another message appears indicating that you saved or removed the configuration file, which contains all configuration data.

Following that is the message,

The UNIX operating system will now be rebuilt. This will take approximately 2 minutes. Please wait.

7 After the operating system is rebuilt, a confirmation message appears.

8 If you are not ready to shutdown, press `ESC`.

9 If, however, you are ready, press `Enter`.

The message `Shutdown started...` appears followed by other warning messages ending with

The system is down. Reboot the system now.

Note

If you are installing a new version of Voice Power, type `p` to bypass the reboot process.

10 **Make sure that no disks are in the floppy drive** and press the reset button on the front of the computer.

The system start-up diagnostics and other messages are displayed.

11 When the `Console login` prompt appears, proceed with normal operations.

Voice Power Diagnostics

Before using Voice Power Diagnostics, make sure the Voice Power Card(s) and the Voice Power System Software are installed and configured.

If you need any information on installing the Voice Power Cards, see the *386 Voice Power Installation Guide*.

For information on installing the Voice Power System Software and configuration, see Chapter 2 in the guide.

Installation Record

You should have the Voice Power Installation Record for your computer. It should contain the following handwritten information:

- Machine ID
- Interrupt number (IRQ)
- Slot number(s)
- Channel number(s)
- Telephone number(s)

The Voice Power Installation Record is packaged with the *386 Voice Power Installation Guide*. This record will help you associate channels with telephone number and Voice Power Cards.

Configuration Manager

As an alternative to the Voice Power Installation Record, you can use the Configuration Manager to associate telephone numbers with channel numbers.

- 1 Enter the Configuration Manager by typing `config` at the system prompt and pressing `Enter`.

The Voice Power Configuration screen appears listing the configured channels. Find the telephone number you want by looking in the Comments column. When you find the telephone number. Look at the channel number associated with it by looking in the first column, CHANNEL(S).

To leave the Configuration Manager, press **EXIT** and then **CONTINUE**. (This confirms your intention to quit without saving.)

Preparation

To perform the entire set of Voice Power Diagnostics, make sure the following connections are set up:

- Connect one telephone line to the Voice Power channel you want to test.

(If you are testing a VP1 or VP4 with only one telephone line, connect the telephone line to the Line jack. If you have a 116S Interface Unit connected to a VP4, connect the telephone line to jack *a*, *b*, *c*, or *d* on the Interface Unit, the idea being to test one channel at a time.)

- Connect another telephone line to a telephone set (for monitoring calls to and from the Voice Power Card you are testing)
- Connect a self-powered speaker to the audio In jack on the Voice Power Card that you are testing (for recording message)
- Connect a self-powered speaker to the audio Out jack on the Voice Power Card that you are testing (for monitoring the playback of recorded messages and listening to the voice prompt associated with each diagnostic)

Note

If you are testing a VP1 channel, you may connect a telephone set to the Phone jack on the VP1 instead of using a microphone and speaker.

Entering Voice Power Diagnostics

When you are ready to enter Voice Power Diagnostics, type *opdiag* and press Enter.

An introductory screen appears briefly, followed by the Voice Power Diagnostics Main Menu.

The main Menu allows you to do the following:

- Choose the entire diagnostics package (Complete Diagnostics)
- Choose individual diagnostics procedures (Individual Diagnostics)
- Select the channel you want to test (List & Select Voice Power Channels)

Note

The Voice Power System Software tests the lowest installed channel by default. If you would like to select another channel, select **Test & Select Voice Power Channel**.

Whether you select a channel or accept the default, the channel being tested is displayed in the upper-right corner of the screen

List & Select Voice Power Channels

This option allows you to do the following:

- Display all channels physically installed and configured in your computer.
 - Select a channel for Compete Diagnostics or Individual Diagnostics
- 1 Select List & Select Voice Power Channel from the main menu by highlighting it and pressing Enter.
 - A channel selection menu appears as follows:

- 2 Highlight the channel you want and press Enter.

From this point on, every diagnostics test that you run will be run on this channel- until you change it.

- The Main Menu reappears.

Complete Diagnostics

To run all Voice Power Diagnostic tests in succession, select Complete Diagnostics from the Main Menu by highlighting it and pressing **ENTER**.

Voice Power Diagnostics tests are run in the following order:

- Play and Record
- Extended Play and Record
- Incoming Phone Call
- Outgoing Phone Call
- Local Phone Set (VP1 Only)

To follow along in the documentation, skip to the section, “Play and Record.”

Note

You will need to select each test only when running Individual Diagnostics. When running Complete Diagnostics, each test begins automatically; you do not need to select any of them.

Exiting Complete Diagnostics

When you finish Complete Diagnostics, the Main Menu reappears. You can test another channel or exit Voice Power Diagnostics by pressing **EXIT**.

Individual Diagnostics

1 When you select Individual Diagnostics, the Individual Voice Power Diagnostics Menu appears listing the following tests:

- Play and Record
- Extended Play and Record
- Incoming Phone Call
- Outgoing Phone Call
- Local Phone Set (VP1 Only)

2 Highlight the test you want and then press **Enter**.

3 Proceed by skipping to the section in this chapter that describes the procedure you selected. The procedures are presented in the same order as listed in the Individual Diagnostics Menu.

Exiting Individual Diagnostics

You can leave Individual Diagnostics at any time by pressing **CANCEL** until you return to the Main Menu. At that point, you can test another channel or exit Voice Power by pressing **EXIT**.

Play and Record

This test verifies that voice files can be played and recorded at the 16Kbit sub-band, 24Kbit sub-band, and 64Kbit formats. Voice Power runs these tests internally; it does not require any interaction from you. Your only concern is to see whether each subtest passes or fails.

- 1 When you select Play and Record, a list of subtests appears. One subtest appears at a time, as it is conducted.
 - To the right of each subtest, the word “PASSED” appears if the subtest is successful.
- 2 If the word “FAILED” appears next to a subtest, if it was not successful and you should contact your AT&T Account Representative or your authorized AT&T computer dealer.
- 3 When the message **Play and Record Diagnostics Completed** appears, press Enter.

- ❑ If you are running Individual Diagnostics, the Individual Voice Power Diagnostics Menu reappears.
- ❑ If you are running Complete Diagnostics, the Extended Play and Record test begins.

Extended Play and Record

This test is similar to the Play and Record test except that it requires your interaction. You will record voice files and verify them by playing them back. You will record and play at the 16Kbit sub-band, 24Kbit sub-band, and 64Kbit formats.

The Extended Play and Record test requires a microphone to record messages and a speaker to monitor their playback. If, however, you are testing a VP1 channel with a telephone set attached, you may use the telephone instead of a microphone and speaker.

Note

When testing a VP4, the recording is done on the second, third, and fourth channels of each VP4 when you run the Outgoing Phone Call test. Rather than using a microphone as you do in the Extended Play and Record test, the Outgoing Phone Call test allows you to call the channel you're testing from a remote telephone.

Note

You may notice an improvement in voice quality as you proceed from the 16Kbit sub-band Data to the 64Kbit format Data Recorded Messages. This is normal.

- 5 Listen as Voice Power plays your recorded message.
 - While you are listening, Voice Power displays the message:
Playback of Recorded 16K bit Sub-band Data--
 - The recording should be clear and repeat exactly what you said. If it is not, contact your AT&T Account Representative or your authorized AT&T computer dealer.
 - When the playback finishes, Voice Power displays the message: **Playback of Recorded 16K bit Sub-band Data-COMPLETED**
- 6 For the 24Kbit sub-band test, listen for the prompt, "Please record a message."
- 7 Record a message that is less than 10 seconds long.
 - While you are recording your message, Voice Power displays the message: **Recording 24Kbit Sub-band Data--**
 - When the playback finishes, Voice Power displays the message: **Playback of Recorded 24K bit Sub-band Data-COMPLETED**
- 8 Listen as Voice Power plays your recorded message.
 - While you are listening, Voice Power displays the message:
Playback of Recorded 24K bit Sub-band Data--
 - The recording should be clear and repeat exactly what you said. If it is not, contact your AT&T Account Representative or your authorized AT&T computer dealer.
 - When the playback finishes, Voice Power displays the message: **Playback of Recorded 24K bit Sub-band Data-COMPLETED**

- 9 For the 64Kbit sub-band test, listen for the prompt, “Please record a message.”
- 10 Record a message that is less than 10 seconds long.
- While you are recording your message, Voice Power displays the message: **Recording 64Kbit Sub-band Data--**
 - When the playback finishes, Voice Power displays the message: **Playback of Recorded 64K bit Sub-band Data-COMPLETED**
- 11 Listen as Voice Power plays your recorded message.
- While you are listening, Voice Power displays the message: **Playback of Recorded 64K bit Sub-band Data--**
 - The recording should be clear and repeat exactly what you said. If it is not, contact your AT&T Account Representative or your authorized AT&T computer dealer.
 - When the playback finishes, Voice Power displays the message: **Playback of Recorded 64K bit Sub-band Data-COMPLETED**
- 12 When the Extended Play and Record test is finished, the screen appears as follows:

13 When Voice Power displays the message **Extended Play and Record Diagnostics Completed**, press Enter.

- If you are running Individual Diagnostics, the Individual Voice Power Diagnostics Menu reappears.
- If you are running Complete Diagnostics, the Incoming Phone Call test begins.

Incoming Phone Call

During this test, you will call the channel that you are testing to determine if it accepts an incoming call and incoming Touch Tone signals.

- 1 When you select Incoming Phone Call, you will see and hear the prompt,

**Please call the phone number associated with
this Voice Power channel**

- 2 Call that number from the telephone that you connected to a telephone line during preparation. (That telephone line should not be connected to a Voice Power Card.)

- Do not hang up the telephone until the end of this test.
- If you are calling the telephone connected to the VP1, it may ring once before the system responds. This is normal; disregard it.

Additional messages appear on your screen:

When you see and hear the prompt to press the Touch Tone buttons on your telephone set, the screen changes.

3 When you see and hear the prompt, **Waiting for Touch Tones**, press one Touch Tone button at a time.

A message appears for each Touch Tone button you press. For example, when you press Touch Tone button number 1, the following message appears:

Touch Tone '1' Detected...Touch Tone Ended

Note

As you press the Touch Tone button, the first half of the message appears. As you release the button, the rest of the message appears.

- When you have pressed all of the Touch Tone buttons, the screen appears as follows:

4 Press Enter.

- If you are running Individual Diagnostics, the Individual Voice Power Diagnostics Menu reappears.
- If you are running Complete Diagnostics, the Outgoing Phone Call test begins.

Outgoing Phone Call

This test is to verify that Voice Power can dial a telephone number, complete the outgoing call, and recognize that the call has been answered.

Note

As noted in the Extended Play and Record section of this chapter, when you use a microphone to record on a VP4, the recording automatically occurs on the first channel of the card. To test recording on all four channels, the Outgoing Phone Call test allows you to test each channel by calling from a remote telephone.

- 1 When you select Outgoing Phone Call, the following screen appears.

- 2 When you see a prompt to enter a telephone number, enter the number you want using the computer keyboard. Observe the following notes before choosing the number.

Notes

- If you dial the telephone number associated with the channel being tested, a message will appear indicating that the line is busy. To continue the rest, try another number.
- Typically, the telephone number you dial is the telephone you used in the Incoming Phone Call test. You will need to answer that telephone when it rings.
- If you performed this test at least once before, the screen displays that last number entered. If you would like to dial that number, press Enter.
If not, type the number you want and press Enter.
- Shortly after you enter the number and press Enter, messages appear on the screen and the telephone rings.

Note

If you dialed the channel you are testing, the line is busy. To continue the test, you must dial another number.

- 3 Answer the telephone and speak briefly. This allows Voice Power to recognize that the call is answered.
 - Messages appear, allowing you to test recording at 16Kbit sub-band, 24Kbit sub-band, and 64Kbit formats.
- 4 For the 16Kbit sub-band test, listen for the prompt, "Please record a message."
- 5 Record a message that is less than 10 seconds long.
 - While you are recording your message, Voice Power displays the message: **Recording 16Kbit Sub-band Data--**
 - When the recording is complete, Voice Power displays the message: **Recording 16Kbit sub-band Data- COMPLETED**

Note

You may notice an improvement in voice quality as you proceed from the 16Kbit sub-band Data to the 64Kbit Data Recorded Messages. This is normal.

- 6 Listen as Voice Power Plays your recorded message.
 - While you are listening, Voice Power displays the message: **Playback of Recorded 16Kbit Sub-band data--**
 - The recording should be clear and repeat exactly what you said. If it is not, contact your AT&T Account Representative or your authorized AT&T computer dealer.
 - When the playback finishes, Voice Power displays the message: **Playback of Recorded 16K bit Sub-band Data-COMPLETED**
- 7 For the 24Kbit sub-band test, listen for the prompt, "Please record a message."

- 8 Record a message that is less than 10 seconds long.
- While you are recording your message, Voice Power displays the message: **Recording 24Kbit Sub-band Data--**
 - When the recording is complete, Voice Power displays the message: **Recording 24Kbit sub-band Data- COMPLETED**
- 9 Listen as Voice Power Plays your recorded message.
- While you are listening, Voice Power displays the message: **Playback of Recorded 24Kbit Sub-band data--**
 - The recording should be clear and repeat exactly what you said. If it is not, contact your AT&T Account Representative or your authorized AT&T computer dealer.
 - When the playback finishes, Voice Power displays the message: **Playback of Recorded 24K bit Sub-band Data-COMPLETED**
- 10 For the 64Kbit sub-band test, listen for the prompt, "Please record a message."
- 11 Record a message that is less than 10 seconds long.
- While you are recording your message, Voice Power displays the message: **Recording 64Kbit Sub-band Data--**
 - When the recording is complete, Voice Power displays the message: **Recording 64Kbit sub-band Data- COMPLETED**
- 12 Listen as Voice Power Plays your recorded message.
- While you are listening, Voice Power displays the message: **Playback of Recorded 64Kbit Sub-band data--**

The recording should be clear and repeat exactly what you said. If it is not, contact your AT&T Account Representative or your authorized AT&T computer dealer.

When the playback finishes, Voice Power displays the message: **Playback of Recorded 64K bit Sub-band Data-COMPLETED**

13 When the test is finished, the following message appears:
Outgoing Phone Call Diagnostics Completed

14 If the test was unsuccessful, messages on the screen indicate the reasons.

15 Hang up the telephone and press **Enter**.

If you are running Individual Diagnostics, the Individual Voice Power Diagnostics Menu reappears.

If you are running Complete Diagnostics on a VP1, the Local Phone Set test begins.

If you are running Complete Diagnostics on a VP4, Complete Diagnostics ends and the Main Menu appears.

Local Phone Set (VP1 Only)

This test is similar to the Incoming Phone Call test. However, instead of testing an incoming telephone call, this tests the telephone that is connected to the VP1.

Note

If you are testing a VP4 channel, a message appears indicating that you cannot perform this test.

If you are running Complete Diagnostics on a VP4 channel, this test is omitted.

- 1 When you select Local Phone Set, the following screen appears. Read it and follow the instructions.

2 When you have read and followed the instructions, the screen appears as follows:

3 Hang up the telephone.

4 Press Enter.

If you are running Individual Diagnostics, the Individual Voice Power Diagnostics Menu reappears.

If you are running Complete Diagnostics on a VP4, Complete Diagnostics ends and the Main Menu appears.

Using the Voice Editor

This chapter explains how to use the Voice Editor, which allows you to record, play, and edit voice files. A voice file is an ordinary UNIX System file containing data that represents voice.

The information in this chapter is sufficient for the first-time user. If you are interested in a more comprehensive explanation of the Voice Editor and wish to use its more powerful features, see Appendix A, “Voice Editor Reference.”

Entering the Voice Editor

The Voice Editor is usually invoked automatically from other applications that use it. Should you need to enter the Voice Editor from the system prompt, type `ve filename` at the system prompt and press `Enter`.

Note

When you type `ve filename`, `filename` is the file you wish to create. If you do not type a filename, the Voice Editor assigns `voice:e:v` as the default filename.

- The Voice Editor screen appears.

ve Command Options

When you enter the Voice Editor, you can specify several options in the command line:

ve -option -option filename

The voice-file format and the channel are the most essential options. For example, to specify 64Kbit format for a voice file on channel 2, type the following command line:

ve -c2 -6 filename

If you are interested in using the Voice Editor's more advanced options, see Appendix A, "Voice Editor Reference."

Voice-File Format

The default format is 16Kbit. You can change it to 64K or 24K by specifying one of the following options:

- 6 Enables 64Kbit format. Data is transferred at four times the default (16K) with improved fidelity, four times the data transfer rate, and four times the file size.

With 64Kbit format, the distinction between speech and silence is not displayed; the bar graph is one height only.

- 2 Enables 24Kbit format. This provides slightly improved fidelity and a file size that is 50 percent larger than 16Kbit format.

Channel

The Voice Power System identifies each telephone line by its channel, which is assigned in the Configuration Manager. For information on using the Configuration Manager, see Chapter 2, “Software Installation.”

When you enter the Voice Editor from the system prompt, you can specify the channel you want or use the default, which is the first installed channel found searching from channel zero.

- c *chan* Use the voice channel *chan*, where *chan* is the channel number for the telephone line you want. If you are not sure which channel number is associated with the telephone line you want, do one of the following:

- Refer to the Voice Power Installation Record for your computer.
- Enter the Configuration Manager by typing *config* at the system prompt and pressing *Enter*.

The Voice Power Configuration screen appears listing the configured channels. Find the telephone number you want by looking in the Comments column. When you find the telephone number, look at the channel number associated with it by looking in the first column CHANNEL(S).

To leave the Configuration Manager, press EXIT and then CONTINUE. (This confirms your intention to quit without saving.)

Exiting the Voice Editor

To leave the Voice Editor, press EXIT.

Voice Editor Screens

The Voice Editor displays a horizontal bar graph to represent voice. The bar graph varies in height to differentiate speech from silence. Speech is indicated with a bar graph of greater height.

If you are using 64Kbit format, the distinction between speech and silence is not displayed; the bar graph is one height only.

The following screen shows a voice file approximately one and a half minutes long.

As you record, play, and edit voice files, remember the following details:

- Although the bar graph displays silence and speech in one-second units, recording and editing are more precise.

- ❑ As you record, the window expands to a maximum of 6 minutes of speech, the maximum size for a voice file.

Note

If you are using 64Kbit format, you might encounter a limit of 2.5 minutes depending on the configuration of your UNIX System.

- ❑ Colons and periods subdivide the Voice Editor bar graph. Each colon corresponds to 10 seconds and each period corresponds to one second.
- ❑ The **Time:** field displays the cursor position, which is shown as *minutes:seconds.hundredths*.
- ❑ The field in the bottom right corner of the Voice Editor displays the current operation. When you first enter the Voice Editor, this field displays **stop**. When you begin to record or edit a file, **stop** is replaced by the current operation.
- ❑ When you record on a VP4 using a microphone, use the first channel on the card. You can direct the playback to any channel.

Voice Editor Keys

When you enter the Voice Editor, a help menu appears that describes ve commands and keys.

By pressing “?”, you can move though the help menu and then remove the help window. The last display in the help menu is status information for expert users.

When you exit from the Voice Editor, these keys return to their normal functions.

The Voice Editor uses many of the keys on your keyboard to perform special functions. To learn their functions, see Table 4-1 or the help window.

TABLE 4-1 Voice Editor Key Summary

<u>Key</u>	<u>Function</u>
Backspace	Moves the cursor back .1 second.
Shift - C	Prompts you to call the telephone line that is connected to the Voice Power Card. When the line rings, the Voice Editor answers. Reissuing this command disconnects the call. If you are waiting for a call to be answered, this command cancels the call request.
Cancel	Cancels a mark so that you can start a new mark.
Cir Mark	Clears a mark so that you can start a new mark.
Shift - D	Deletes the unmarked area of the file and moves the remaining marked area to the beginning of the file.
Del	Exits the Voice Editor.
Delete	If supported by an application program, marks current file for deletion by the application program.
Del Mkd	Deletes a marked region the file.
Del 2 End	Deletes from the cursor to the end of the file.
End	Moves the cursor to the end of the current minute.
Enter	Stops current operation (playing, recording, rewinding, or forwarding). If no operations are running, plays the file starting at the cursor.
Exit	Exits the Voice Editor;

Table 4-1 (continued)

<u>Key</u>	<u>Function</u>
Forwd	If pressed once, starts moving the cursor forward. If pressed twice or more, moves the cursor in 10-second intervals.
Full Rev	Moves the cursor to the beginning of the file.
?	Moves through the help menu and exits from help.
Home	Moves the cursor to the beginning of the current minute.
Insert	Toggles between the input modes Overwrite and Insert.
Next File	Moves to the next voice file.
Pg Up	Moves the cursor to the previous voice segment.
Pg Dn	Moves the cursor to the next voice segment.
Play	Plays the file starting at the cursor.
Play Mkd	Plays the marked area of the file, then returns the cursor to the beginning of the area.
Rec	Records voice at the cursor. Overwrites portions of an existing file.
Rec Ins	Records a voice insert.
Ctrl - L	Redraws the screen.
Reverse	If pressed once, starts moving the cursor back. If pressed twice or more, moves the cursor in 10-second increments.

Table 4-1 (continued)

Shift - S	Toggles the speaker control on and off. By default, the speaker attached to the VP1 is on during playback unless the phone is off-hook or goes off-hook. By default, the speaker attached to the VP4 is on during playback.
Set Mark	Marks a region to be edited.
Stop	Stops the current operation.
Spacebar	Moves the cursor forward .1 second.
Shift - T	Prompts you to type a tag string. This string along with the positions of the marked region's endpoints are saved in a tagfile. This command is for use with advanced prompt library tools.
To Mk Beg	Moves the cursor to the beginning of a marked region.
To Mk End	Moves the cursor to the end of a marked region.
V	Decreases the volume of audio out on the VP4; does not affect the data recorded in voice files.
Shift - V	Increases the volume of audio out on the VP4; does not affect the data recorded in voice files.
↑	Moves the cursor back one minute.
↓	Moves the cursor forward one minute.
←	Moves the cursor back one second.
→	Moves the cursor forward one second.

Table 4-1 (continued)

-	(Minus) Moves the cursor back 10 seconds.
+	(Plus) Moves the cursor forward 10 seconds.
/	(Slash) Moves the cursor forward 0.02 seconds.
*	(Asterisk) Moves the cursor back 0.02 seconds.

Creating Voice Files

To create voice files, do the following:

- 1 Go to the appropriate directory.
- 2 At the system prompt, type `ve filename`, where *filename* is the file you wish to create, and press **Enter**.
 - The Voice Editor screen appears.

Note

You can type `ve` instead of `ve filename` at the system prompt. This provides you with the default filename "voice:e:v." If you type `ve` again later, the Voice Editor opens `voice:e:v`, the file you created. You can edit or record over this file.

- 3 Depending on your setup, pick up the telephone receiver or turn on the microphone.
- 4 Press **Record** and begin your message.
- 5 Press **Stop** with you finish recording your file.
- 6 Press **Exit** to exit `ve` and save your work.
 - The Voice Editor displays the message:
Rewriting voice data file, please wait and then returns you to the system prompt.

Editing Voice Files

If you need to edit a voice file, you can make changes by recording over sections of the file, inserting sections, or deleting sections.

The Voice Editor has two input modes, Overwrite and Insert. Overwrite works exactly like a tape recorder. When you position the Voice Editor cursor and begin to record, you record over everything that is present between the cursor's initial position and its last position or when you press **Stop**. Insert allows you to insert up to one minute of information at any position in the file without erasing anything.

When you enter the Voice Editor or open a voice file, Overwrite mode is in effect. To change from Overwrite to Insert mode and vice versa, press **Insert**.

When you enter Insert mode, the window expands to provide room for the Insert bar graph.

Note

You can determine whether Overwrite or Insert mode is active by examining the **Rec** label. When Overwrite mode is in effect, the label is **Rec**. When Insert mode is in effect, the label is **Rec Ins**.

Retrieving Voice Files

The following section describes how you can retrieve your voice files.

- 1 Enter the directory that contains the file.
- 2 Type *ve filename*, where *filename* is the name of the file you wish to edit, and press Enter.
 - The voice file appears.

Note

If you open a file, begin editing, and then decide not to keep the changes, you can restore the file as it was before you opened it.

While using Overwrite or Insert mode:

- 1 Press **Stop** to stop the current operation, then
- 2 Press **Cancel** to cancel your changes.
 - The following message appears: **File is about to be restored to its original state.** If you press Enter, the changes are deleted.

The Voice Editor deletes the changes you made and returns the file to its initial state.

If you press **Cancel** a second time, your changes are preserved.

While using the mark and delete function, you can press **Cancel** at any point to restore the file to its original state.

Using Overwrite Mode

Follow these steps to edit your file using Overwrite.

- 1 Retrieve your voice file.
- 2 Depending on your setup, pick up the telephone receiver or turn on the microphone.
- 3 Press **Play**.

Note

You can press **Enter** instead of **Play**.

- 4 Move the cursor to a position where you wish to make changes. Refer to Table 4-1 for a list of the keys and their descriptions.
- 5 Press **Stop** when you find the correct location.
- 6 Press **Record** and record your additions or changes.

Note

When you make changes, you record over any information that is present between the cursor's initial position and its last position.

- 7 Press **Stop** when you finish recording your changes.

Note

If you wish to insert information in your file at this time, press **Insert** to switch to Insert mode. Refer to "Using Insert Mode" for further information.

- 8 Press **Exit**.

- The following message appears:
Rewriting voice data file, please wait and returns you to the system prompt.

Using Insert Mode

Follow these steps to edit your file using Insert.

- 1 Retrieve your file.
- 2 Press **Insert**.
 - The input is changed from Overwrite to Insert. The Voice Editor expands to include an additional bar graph, the insert bar graph.
- 3 Depending on your setup, pick up the telephone receiver to turn on the microphone.
- 4 Press **Play**.

Note

You can press **Enter** instead of **Play**.

- 5 Move the cursor where you wish to insert information. If necessary, refer to Table 4-1 for a list of the Voice Editor keys and their descriptions.
- 6 Press **Stop** when you find the correct location.
- 7 Press **Ins** and record your information. The maximum length allowed for an insert is one minute. Remember, the maximum length for a file is six minutes; and your UNIX System configuration could reduce the maximum to 2.5 minutes.

- As you record, your recording appears on the insert bar graph as shown.

8 Press **Stop** when you finish recording.

- The Voice Editor moves your recorded insert to the appropriate position in your voice file and clears the insert bar graph.

Note

If you wish to overwrite sections of your file at this time press **Insert** to return to **Overwrite** mode. Refer to “Using Overwrite Mode” for further information.

9 Press **Exit**.

- The following message appears:
Rewriting voice data file, please wait and returns you to the system prompt.

Using Mark with the Keyboard

Follow these steps to mark and delete sections of your files.

- 1 Retrieve your voice file.
- 2 Use the keyboard keys to move the cursor to the beginning of the section you wish to delete. Refer to Table 4-1 for a list of the keys and their descriptions.
- 3 Press **Set Mark** when you find the beginning of the section you wish to delete.
- 4 Press **Set Mark** when you find the end of the section you wish to delete.
 - The Voice Editor highlights the section of the bar graph that you marked.
 - Set Mark** changes to **Adj Mark**.
 - The time display changes to **Beg Adjustment** or **End Adjustment**. The time is the amount that will be added to or removed from the marked section when you press **Adj Mark**.

5 At this point, you may wish to play the marked section before you delete it. Press **Play Mkd.**

- When the Voice Editor finishes playing the marked area, the cursor moves back to the beginning of the marked area.

Note

If you do not wish to delete the marked area, press **Clr Mark.**

6 If the marked section does not begin at the correct location, move the cursor to the correct spot and press **Adj Mark.**

- The Voice Editor adjusts the marked area.

7 If the marked area does not end at the correct location. Move the cursor and press **Adj Mark.**

- The Voice Editor adjusts the marked area.

8 When you are satisfied with the marked area delete it by pressing, press **Delete Mkd.**

9 Press **Exit**

- The Voice Editor displays the message:
Rewriting the voice field, please wait and returns you to the system prompt.

Listening To Voice Files

The following section describes how to retrieve and listen to any voice file.

- 1 Go to the directory that contains the file.
- 2 Type *ve filename*, where *filename* is the name of the file you want, and press Enter.
 - The Voice Editor displays the voice file.
- 3 Depending on your setup, pick up the telephone or turn on the speaker.
- 4 Press **Play** or **Enter**.
- 5 Press **Stop** to stop playback or wait until playback finishes.
- 6 Press **Exit**
 - The Voice Editor returns you to the system prompt.

Appendix A: Voice Editor Reference

This appendix is a supplement to Chapter 4, “Using the Voice Editor.” The information in Chapter 4 is sufficient for the first-time user. Use this appendix only if you are interested in a more comprehensive explanation of the Voice Editor and wish to use its more powerful features.

The information in this appendix is included in the *386 Voice Power Application Programmer Reference Manual*.

NAME

ve_c-voice editor, curses edition

SYNOPSIS

```
ve_c [-c chan] [-6 | -2] [-y ifile] [-u] [-v] [-tcom] [-l n] [-g] [-m max]
[-n] [-p | -r | -a] [-T tagfile] [-x dfile] [-V vfd -P pfd] [file ...]
```

DESCRIPTION

Edit voice data file *file...*, default **voice:e:v**. If more than one file is given, the user can step through the list via commands. *Ve* is the standard Voice Power voice editor.

Ve models a conventional analog tape recorder where most screen keys perform sensibly as labeled. *Ve* also provides advanced editing commands which take advantage of the digital nature of voice data.

At startup on the VP1, *ve* normally applies local battery to the set port and connects it to the Voice Card. A telephone set may be used for voice input and output. If the phone set is off-hook at startup, the user is reminded that he is about to disconnect the call and given an opportunity to cancel in invocation of *ve*.

At startup on the VP4, (which has no telephone set interface) normally leaves the port switches in the disconnect state. For recording, the user must connect a mike and preamp to the Audio In port on the card. For playback, an amplifier and speaker connected to the audio outjack on the Voice Card must be used on VP4 and may be used on VP1.

The *ve* window contains a bar graph of the voice data and several boxes containing additional information. The current file position is represented by a cursor on the bar and in minutes:seconds.hundredths in the time display box. Cursor and bar graph visual resolution is one second. The right box indicates the current operation. Each line of the bar represents one minute. Tick marks are displayed at one and ten second intervals. The left box may optionally contain the file name and a text comment.

For historical reason, priority is given to voice file names ending in **iv**. If a file name is given as *file*, *ve* first opens *file:e:v*. Failing that, it then opens *file*. Failing that, it then creates *file:e:v*. Failing that, it complains and gives up. If a file name is given as *file:e:v*, *ve* will only open the file as given.

There are several variations of the *ve* voice editor depending on the display and command interface. *Ve_c* uses the *curses(3x)* library for its terminal interface and should be run on any terminal supported by *curses* and the *terminfo* terminal data base. Ordinarily, one of the variations of *ve* (*ve_c*, *ve_t*, *ve_x*) will be linked to *ve* at install time. All references to *ve* on the main page imply *ve_c*.

-c *chan* Select Voice Card channel number *chan*. Default: the first installed channel, searching from channel 0 (the floating channel.)

-6 Enable 64 kb format. Data is transferred at four times the default 16kb sub-band code format with a resultant improvement in fidelity and four times the data rate and file size.

- 2 Enable 24 kb sub-band format. That data rate and fidelity are a little higher than with 16kb.

- y *file* Input file list. Ordinarily *ve* edits files named on the command line. If this option is given, the names of additional files are taken from *file* when the command line list is exhausted. *file* contains a newline-separated from it by a single space. This comment is displayed if enabled by the -u option. The total count of files from *file* and the command line cannot exceed 50.

- u Display the file-specific comment obtained from *file* on the comment line in the lower left display box.

- v Verbose, include the file name in the file/text box in the *ve* window.

- t *com* Display the comment *com* in the file/comment box in the *ve* window. Ignored if the -y option is given.

- l *n* Set the port switch portion in the line control word (*v2_phone.linecontrol*) according to *n*. Numeric values correspond directly with the *v2_phone.linecontrol* value. Alpha synonyms shown in parens are provided for convenience. References to the set port apply only to the VP1 Voice Card.
 - 0 (d) Disconnect - The Voice Card is on hook (disconnected from line). The line and set port are connected together. (V2P_ONHOOK)

 - 2 (a) Answer - The Voice Card is on hook, connected to both the line and set port. (V2P_LINESET)

 - 3 (s) Set - The Voice Card is on hook (disconnected from the line). The set port is connected to the Voice Card with local battery. This is the default state. On the VP4 (which does not have a set interface or local battery) this state is equivalent to Disconnect (V2P_SET).

- g Set the V2P_GAIN flag in the line control word (*v2_phone.linecontrol*). This enables a higher gain with automatic gain control during recording which is suitable for recording over the network. At the present time gain control is only available for 16k & 24k recording. In a future release gain control may be supported for 64k recording on the VP4.

- m *max* Limit voice files to *max* minutes. Default and maximum: six minutes, minimum: one minute.

- n No change mode. Attempts to modify the voice file are rebuked.

- p Start playback automatically. On invocation *ve* begins playback immediately as if the Play command was executed. Thereafter the editor works as otherwise described.

A-4 Voice Editor Reference

- r Start record automatically. On invocation *ve* begins recording immediately as if the Record command was executed. Thereafter the editor works as otherwise described.
- a Start call in sequence automatically. On invocation *ve* begins recording immediately as if the Call In command was executed. Thereafter the editor works as otherwise described.
- T *tagfile* Tag filename. By means of the *Make Tag* command, the file position of the endpoint of a marked region, the file name, and a user-provided alpha-numeric tag are saved in *tagfile*. Future prompt management tools will extract prompts described by *tagfile* from the original voice file to build a concatenated prompt library. This option also sets no change mode. Preventing file modification which would corrupt the meaning of the saved end points.
- x *dfile* Deleted file list. The names of voice files the user identifies for deletion with the *Delete* command are saved in *dfile*.
- V *vfd* -P *pfid* Use open voice sub-channel file descriptor *vfd* and open phone sub-channel file descriptor *pfid*. These options, which must be used together, permit commands with open voice and phone sub-channels to run (exec(2) or system (3)) the voice editor. Don't forget to include a -l option in the command line unless the default line control value is appropriate. *Ve* runs at the voice applications priority of the invoking command. *Ve* exit(s) if a request from a higher priority application is received (a V2P_BUZZOFF event). Chaos will result if the invoking command accesses these file descriptors before *ve* exits.

COMMANDS

The Screen Labeled Function Keys (SKLS) are the primary user interface to *ve* and are bound to the most common editing commands. Some SLK commands change when an area is marked or the input mode is changed. For terminals without screen labeled function keys, most commands appearing on SLKs can also be invoked with ordinary alpha character. Secondary editing commands are bound only to alpha characters.

SLK Function Keys

The following commands are bound to screen labeled keys and are identified here by their screen level in *italics* and their alpha command(s) in **bold**.

Full Reverse <Full Rev> **B**

Move the Position Cursor to the beginning of the file.

Reverse <rev> **b**

If Stopped, move the Position Cursor towards the beginning of the file in one-second increments automatically. In **R**verse (i.e., on successive operation), move the Cursor back by ten-second increments. In Play, move the Cursor back by ten-seconds and continue playback. This SLK changes to *To Mk Beg* when marks are set.

To Beg of Marked Region *<To Mk Beg>* **b**

The Position Cursor is moved to the beginning of the marked region. Applicable only when marks are set

Forward *<Forwd>* **f**

As above for Reverse but toward the end of the file. This SLK changes to *<To Mk End>* when marks are set.

To End of Marked Region *<To Mk End>* **f**

The Position Cursor is moved to the end of the marked region. Applicable only when marks are set.

Delete to End *<Del2End>* **D**

Delete the voice file from the Position Cursor to the end of the file. When a region is marked this key changes to *<Del Mkd>*.

Deleted Marked Area *<Del Mkd>* **d**

Delete the portion of the voice file represented by the marked area, collapsing the file to remove the deleted space. Another command, Deleted Un-Marked Area (D) is also provided. See *Other Commands* below.

Record *<Rec>* **r**

Record data received from the Voice Card starting at the Position Cursor. Recording overwrites existing data and extends the file at the end. This SLK changes to *<Rec Ins>* When input mode is toggled via the Input Mode command. Record is not active with marks set.

Insert *<Rec Ins>* **r**

Insert data received from the Voice Card starting at the Position Cursor. Unlike Record, this does not overwrite existing data, but extends the file in all cases by inserting the data at the Cursor. In Insert Mode, the Position Cursor is temporarily moved to a special line known as the insert buffer, which displays the voice as it is being recorded. When recording is stopped, this buffer is then inserted at the original position of the Cursor, Inserts are limited to one minute. This SLK changes back to 'Record' when input mode is toggled again via the Input Mode command Insert is not active with marks set.

Next File *<Next File>* **n**

Close the current voice file and open the next file named on the command line or in *ifile*, on a circular basis. This SLK is only displayed when more than one file is mentioned.

Play *Play>* **p**

Playback data starting at the Position Cursor. During playback, changes to the Cursor location made by the Reverse, Forward and other Cursor motion commands take effect immediately and an area can be marked. When an area is marked this SLK changes to *<Play Mkd>*. The Enter key is equivalent to Play when the editor is stopped.

Play Marked Area <Play Mkd> p

As above but limited to the marked area. When the end of the area is reached, playback stops and the Cursor is automatically positioned to the beginning of the marked area.

Stop <STOP> s

Stop the current operation: Record, Insert, Play, Forward, or Reverse. The Enter key is equivalent to Stop when the editor is in a Record, Insert, Play, Forward, or Reverse operation.

Set Mark <Mark> m

The first of a pair of executions of this command sets the initial mark defining one end of an area at the location of the position Cursor. Via cursor commands or Full Reverse, the Position Cursor is then moved to the other end of the area and this command is given a second time to define the other end. The area of the file so defined is known as the *marked area*. It is highlighted on the bar and certain operations can be performed on it. Between the first and second executions of this command, a prompt is displayed reminding the user to define the other end of the area. This command can be given during playback. Data cannot be recorded or inserted with marks set.

When a region is marked, several commands, SLKs, and the time display are changed. The Mark SLK changes to *Adj Mark*>. The boundaries of the marked region can be adjusted by moving the time display changes *Begin Adjustment Time:* or *End Adjustment Time:*. The time value shown represents the distance between the Position Cursor and the nearest end of the marked region. It is the amount of time which will be added or removed from the marked region on subsequent Mark commands. The Reverse and Forward commands move the Position Cursor to the beginning and end of the marked region.

Clear Mark <Clr Mark> M

Remove the marks defining a marked area. Only the marks are deleted, the file is not modified. This command can also be given between the first and second operation of Set Mark command to clear the initial mark.

Cancel <Cancl> c

Cancel changes to the current file. The current voice file is restored to its initial state or state at the time of the most recent selection of the file with the Next File command.

Exit <Exit, Del> q

End the editing session and return control to the calling level, either the shell or an invoking program. If a file was changed the user is prompted to wait while the file is rewritten. If the temporary file must be copied because it cannot be linked, the user is prompted to wait a little longer.

Other Commands

The following commands are bound to ordinary alpha character. A few are bound to 6386 function keys which may have equivalents on other terminals. Commands are identified here by their alpha command in bold and where applicable, their 6386 WGS key label in *<italics>*.

Toggle Play/Stop*<Enter>*

Toggle between Play and Stop. If stopped this command starts playback. If an operation is in progress, this command stops it.

Toggle Input Mode*<Insert>* **I**

Toggle between Record and Insert mode. Record Mode overwrites existing data, Insert does not.

Delete*<Delete>* **x**

Mark the current file for deletion by the calling program by making an entry in *dfile*. Applicable only if the **x** command line option was given. A file may be marked for deletion only once unless it is revisited again with the Next File command.

Call In*<>* **C**

The user is prompted to call the telephone line attached to the Voice Card. When the line rings you will answer the call. When the call has been answered, this command will disconnect the call. While waiting for a call this command will cancel the call request.

Help Menu*<>* **?**

A menu is displayed in a window above the edit window. Enter this command again to cycle through the pages of the menu and to remove it. The final page of the help menu is a status display intended for experts. It includes an indication of the state of the speaker control, the voice channel number, the voice format, the voice, several command line option file names, and the size in bytes of the voice file with and without the temporary additions accumulated during recording.

Toggle Speaker*<>* **S**

Toggle Voice Card audio out port off and on during playback. The audio out port is normally on during playback and off at all other times. On the VP1, for privacy and to prevent feedback, if the set is off-hook the audio out jack is not switched on during playback. If the set goes off-hook during playback the audio out jack is switched off automatically.

Deleted Un-Marked Area*<>* **D**

Deleted the portion of the voice represented by the un-marked area, i.e. before and after the marked region, collapsing the file to remove the deleted space.

Make Tag< > **T**

The user is prompted to enter a tag string. That string, along with the file name, and the beginning and end file position of the marked region is recorded in the *tagfile* indicated on the command line. A tag consists of 2 to 15 printing characters. Spaces are converted to underscores.

Increase Volume< > **V**

The volume of the Voice Card output (to audio out and line) is increased. Active only on VP4. This command does not affect the volume of the data recorded in the voice file.

Decrease Volume< > **v**

The volume of the Voice Card output (to audio out and line) is decreased. Active only on VP4. This command does not affect the volume of the data recorded in the voice file.

Redraw Screen< > **^L**

The screen is redrawn. Useful if the screen is corrupted by an unrelated program.

Cursor Position Commands

The following commands move the cursor. They can be executed when idle or during playback. For 16k and 24k sub-band coded files, the exact cursor position indicated by the user may be adjusted automatically by a small amount yielding a file position slightly different from the expected. The adjustment is made if the indicated position would fall within certain control block regions of the sub-band code data structure.

Back to Beginning Of Minute<*Home*>

To the beginning of the current minute.

Back to Previous Segment<*Page Up*>

To the beginning of the previous silence bounded voice segment. The internal resolution of voice segments is .1 second; the bar graph resolution is one second. Thus, this command will not always result in cursor motion although the time indicator will change. This command is not applicable to 64k files since no silence information is available for them.

Back .02 Second < > **/**

The .02 second motion is provided for prompt editing.

Back .1 Seconds<*Back Space*>**Back 1 Second**<*Left Arrow*> **h****Back 10 Seconds**<*Back Tab*> **-****Back 60 Seconds**<*Up Arrow*> **j****Forward to End of Minute**<*End*>

To the end of the current minute. **Appendix A: Voice Editor Reference A-9**

Forward Next Segment<Page Down>

To the beginning of the next silence bounded voice segment. See comments above for Back Next Segment.

Forward .02 Seconds< > *

Forward .1 Seconds<Space>

Forward 1 Second<Right Arrow> |

Forward 10 Seconds<Tab> +

Forward 60 Seconds<Down Arrow> k

COMMENTS

ve should be used for all interactive voice recording and playback. It is intended to be a standard editor and will evolve to meet new need. Most of the command line options are provided for the needs of specific programs invoking and should be of little interest to the casual user.

VOICE FILES

All 16k and 24k sub-band voice files created by *ve* meet the AT&T Sub-band Coding Standard. *ve* refuses to edit 16k and 24k voice files not meeting the standard. The 64k mu law files are not subject to a voice standard. The user is informed if a 16k voice file is recognized when 24k format is specified on the command line. (and vice versa) and the editor switches to the format indicated by the voice file. Since 64k mu law files contain no format information, any file, including 16k, 24k, binary, and ASCII data will be accepted by *ve* when 64k format is indicated on the command line. Anything other than a 64k mu law file will yield remarkably unpleasant sounds.

Voice energy information, and thus, the energy envelope in the bar graph. Is only available for 16k and 24k formats. In a future release energy information may be provided for 64k format on the VP4.

Presently, the default value of *ulimit* (the maximum file size permitted by the kernel) is 1310720 bytes. This is greater than six minutes of 16k or 24k sub-band data but about 2.75 minutes of 64k mu-law data. Thus, with the default kernel, *ulimit* will be reached before the *ve* maximum.

If *ve* terminates abnormally after recording (overwrite or insert), the voice file will be left in a corrupted, unusable condition.

FILES

/dev/voice[?], /dev/v_phone[?], /dev/v_mac

ENVIRONMENT VARIABLES

VETERM=~~special=v1~~ ~~slk=v2~~'

This variable specifies certain terminal characteristics which cannot be obtained from *curses/terminfo*. The **special** and the **slk** component of this string are

A-10 Voice Editor Reference

optional. The values **pc** and **444** are used by default if the applicable component is omitted or if the **VETERM** variable is not defined. An incorrectly constructed **VETERM** argument string is silently ignored.

The **special** option determines the choices for special characters used in constructing parts of the window and bar graph. Legal values for **or1** are:

none No special characters are used. The display is constructed with ordinary ASCII characters. Not too pretty but sure to work on all terminals.

pc Characters from the alternate character set of the 6386 WGS are used to construct the display. Default.

acs Characters defined by the **acsc** terminfo entry are used to construct the display. If the **acsc** entry for your favorite terminal is missing or incomplete, it can be added or improved using the **tic(1M)**, **terminfo(4)**, and **infocmp(1M)** tools. *Ve* uses the following characters from the **acsc** set: ACS_BLOCK, ACS_HLINE, ACE_VLINE, ACE_CKBOARD, and ACS_TEE. Perseverance and experimentation are encouraged. The following example enhances the terminfo entry for the 6386 WGS so that the **acs** option could be used. (This is provided only as an example; there is no benefit because the **pc** option accomplishes the same thing).

```
AT386-V|AT&T WGS for Voice Power,  
acsc=0[‘`alffggjYk?lzm@nEooppqDrrsstCu4vAwBx3yyzz{||}~~,use=AT386,
```

The **slk** option determines the screen labeled key layout, either 4/4/4 or 3/2/3. Legal values for **or2** are: **444** or **323**.

VENUMBER=‘*phone_number*’

If this variable is defined *phone_number* is included in the call-in prompt message.

TERM

The *curses(3x)* library obtains terminal characteristics from the terminfo data base according to the value of this variable.

LINES, COLUMNS

These variables (in character counts) describe the terminal screen or window dimensions to *curses(3x)*. These will override a terminfo entry, if any, or provide the only dimensions where there is not terminal entry. The editor uses the screen dimensions to determine window placement. You may have to modify these variables for variable size windows as on a DMD5620 or 630 terminal or where the terminfo entry is not appropriate or missing.

COMMAND INTERFACE

The *ve_c* editor of the voice editor acquires all command input using *curses(3x)* input routines. All function and special keys are interpreted using the symbols defined by

curses(3x) and in `usr/include/curses.h`. The following table showing the mapping between curses symbols and ve commands is provided for users who must create or enhance their terminfo entry for use with ve.

Symbol	Command	Symbol	Command
KEY_F(1)	Full Reverse	KEY_UP	Back 60 Seconds
KEY_F(2)	Rewind	KEY_DOWN	Forward 60 Seconds
KEY_F(3)	Forward	KEY_LEFT	Back 1 Second
KEY_F(4)	Delete to End (Marked Area)	KEY_RIGHT	Forward 1 Second
KEY_F(5)	Record (Insert)	KEY_PPAGE	Back Previous Page
KEY_F(6)	Next File	KEY_NPAGE	Forward Next Segment
KEY_F(7)	Play (Marked Area)	KEY_BTAB	Back 10 Seconds
KEY_F(8)	Stop	KEY_HOME	Back Beginning of Minute
KEY_F(9)	Set Mark	KEY_END	Forward End of Minute
KEY_F(10)	Clear Mark	KEY_DC	Delete
KEY_F(11)	Cancel	KEY_IC	Toggle Input Mode
KEY_F(12)	Exit		

The following example defines function keys 1 to 8 corresponding to KEY_F(1) through KEY_F(8) above for the AT&T DMD 5620 terminal. Of course, the dmd will have to be set up so the function keys send the corresponding strings.

```
Dmd-V|AT&T DMD for Voice Power,
    kf1=\EOc, kf2=\EOd, kf3=\EOe, kf4=\EOf, kf5=\EOg, kf6=\EOh, kf7=\EOi,
    kf8=\EOj, use=dmd,
```

BUGS

There are several fixed internal limits: The path name of a voice file may not exceed 120 characters. The number of voice files specified on the command line and *ifile* may not exceed 50. A voice file may not exceed six minutes. The choice of characters for several commands, particularly the cursor commands /*-+, was based on the 6386 keyboard layout. This choice will make less sense on other terminals.

Index

A

Adj Mark, 4-20

Audio

- in, 1-6, 3-2
- out, 1-6, 3-2
- specifications, 1-7

C

Channel

- number, 2-3
- select for Diagnostics, 3-5
- select for Voice Editor, 4-3

Clr ark, 4-21

Configuration Manager, 2-2, 3-1

- exiting, 2-19

Configuration procedures, 2-4

Creating voice files, 4-13

D

Default filename, 4-13

Delete Mkd, 4-21

Diagnostics, 3-1

- channel, select 3-5
- complete, exiting, 3-6
- complete, 3-6
- entering, 3-3
- extended play and record, 3-11
- incoming phone call, 3-16
- individual, 3-7
- individual, exiting, 3-8
- local phone set, 3-24
- outgoing phone call, 3-19
- play and record, 3-9
- preparation, 3-2

DMA, 2-15

- option, 2-16

E

Editing voice files, 4-15

F

Filename, default, 4-13

Files, voice

- creating, 4-13
- editing, 4-15
- recording, 4-13

Four-position dip switch, 2-8, 2-12

H

Help, Voice Editor, 4-7, 4-8

I

Input modes, Voice Editor, 4-15

Insert

- maximum size, 4-18
- mode, Voice Editor, 4-15

Installation record, 1-2, 2-3, 3-1

Interface Unit, 3-2

IRQ, 2-15

- setting, 2-16

K

Keys, 1-8

- screen labeled, 1-8

L

Listening to voice files, 4-23

M

Mark, Voice Editor, 4-20

Microphone, 3-2

O

Overwrite mode, Voice Editor, 4-17

P

Play Mkd, 4-21

R

Recording voice files, 4-13
Removing installed software, 2-21
Restoring voice files, 4-6
Retrieving voice files, 4-16

S

Screen labeled keys, 1-8
Set Mark, 4-20
64Kbit format, 4-3, 4-5, 4-6
Software
 installation, 2-1
 removing installed, 2-21
Speaker, 3-2

T

Telephones, 1-5
Touch Tone, 1-5

V

VDC 750 board, 2-8
Voice Editor, 4-1
 advanced features, A-1
 bar graph, 4-6
 channel, select, 4-3
 command options, 4-2
 entering the, 4-1
 exiting the, 4-4
 help, 4-7, 4-8
 input modes, 4-15
 insert mode, 4-18
 keys, 4-7
 mark, 4-20
 overwrite mode, 4-17
 reference, A-1
 screens, 4-5
Voice file, 4-1
 maximum size, 4-6
 creating, 4-13
 editing, 4-15
 listening, 4-23
 recording, 4-13
 restoring, 4-16
 retrieving, 4-16

Voice Power
 cards, 1-1
 System Software, 1-1
VP1, 1-1, 3-2
 configure, 2-7
 remove, 2-18
VP4, 1-1, 2-14, 4-6
 configure, 2-11
 remove, 2-18