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Meridian ACCESS

Voice Prompt Editor User Guide

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Voice Prompt Editor User Guide

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Publication history

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Guide released as Standard 1.0. No technical changes were necessary for release 12. This edition makes all previous editions obsolete.

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Guide released as Standard. This version documents Release 9 of Meridian Mail. This edition makes all previous editions obsolete.

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About this guide

This guide is for people responsible for the creation and maintenance of voice prompts which are used by Release 2.0 of Meridian ACCESS applications.

The guide explains how to use the voice prompt editor to create and maintain voice segment files and individual voice segments. Included is an overview of the editor and its functions, tips on designing and creating prompts, and specific information about using the editor. A reference section describes each command.

Related documentation

For more information about how voice segments are used within Meridian ACCESS applications and the features of Meridian ACCESS, refer to the following documents:

Meridian ACCESS Configuration Guide (NTP 555-7001-315)
Describes the Meridian ACCESS Enable option configuration on Meridian Mail and is intended for the technical administrator responsible for Meridian ACCESS-based applications. The guide assumes that the technical administrator is familiar with Meridian Mail and Private Branch Exchange (PBX) administration.

Meridian ACCESS Developer's Guide (NTP 555-7001-316)
Introduces Meridian ACCESS and the programming of Meridian ACCESS applications.

Meridian ACCESS API Reference Manual (NTP 555-7001-317)
Provides details on all Meridian ACCESS functions and options.

Contents of this guide

This guide contains the following sections:

Chapter 1: Introduction
Provides an overview of the Meridian ACCESS product and describes the function of the Voice Prompt Editor.

Chapter 2: Voice segment file structure
Describes the basic components that you will create and maintain with the aid of the Voice Prompt Editor.

Chapter 3: Getting started
Provides information required to install the Voice Prompt Editor, and details the installation and reconfiguration procedures.

Chapter 4: Creating and modifying segment files
Describes the basic operation of the Voice Prompt Editor—creating, managing, and modifying voice segment files, and modifying a voice segment's textual components.

Chapter 5: Developing applications that use voice segments
Provides suggestions on how to use the Voice Prompt Editor in the development of an application. Describes all of the steps involved in actually creating a voice segment file, recording voice, and maintaining the file. Provides guidelines for creating high-quality prompts.

Chapter 6: Editing voice segments for concatenation
Explains the process of "normalizing" and grouping prompts together so that they can be made to sound appropriate (for example, no long pauses) when concatenated.

Appendix A: Glossary of Commands
Provides a summary description of all Voice Prompt Editor commands.

Appendix B: Meridian ACCESS application development guide
This appendix is a guideline for developing a Meridian ACCESS application that uses voice concatenation.

Appendix C: Troubleshooting
Describes some of the problems you may encounter during the installation or use of the Voice Prompt Editor.

Appendix D: Error messages
Provides a list of Voice Prompt Editor error messages and, where possible, the action you should take if you see one of these messages.

Conventions

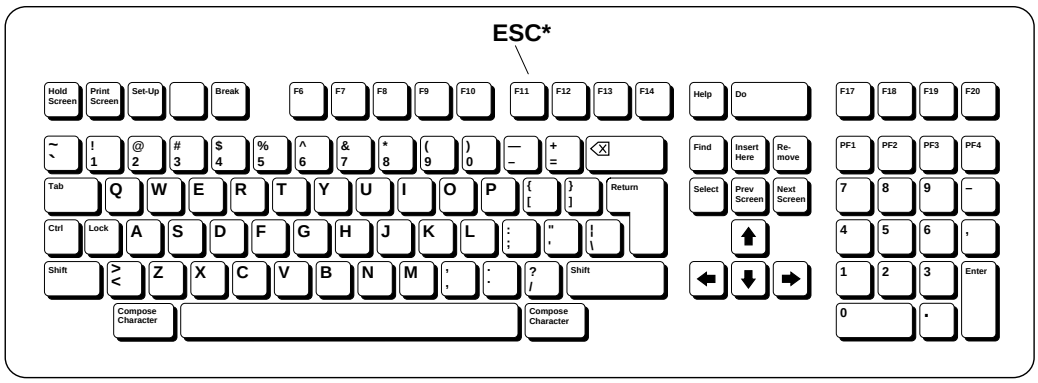
The following typographic conventions are used throughout this guide:

- ***Keyboard keys*** When you are required to type keyboard keys, the characters are delimited by angle brackets (for example, <1>, <2>, <Return>).
- ***Text input*** Where you are required to type specific text, the characters are in bold print (for example, **abcd**, as opposed to <a><b><c><d>).
- ***Fields in a menu*** When the name of a field is referred to, it is in italics and in a different typeface than the body of the document (for example, *Last Name*, *Invalid Logon Attempts*).
- ***Values in Fields*** Where a field displays a set of values from which you must select, these values are in quotes (for example, “Yes,” or “Enable”).
- ***Spoken words*** Where you are required to speak into the telephone, any suggested words appear in quoted italics (for example, Say *“Please wait on the line, an attendant will be with you shortly”*).

Keyboard references

A VT220 or compatible terminal is recommended for use with the Voice Prompt Editor. Keys described throughout this document are based on the VT220-style keyboard, illustrated in Figure i. Use this as a guideline in the event that you are using a slightly different layout.

Figure 1
VT220-style keyboard



* Some VT220 terminals do not indicate the ESC key, which usually corresponds to F11.

Chapter 1: Introduction

Meridian ACCESS enables customers to develop and run custom applications in a UNIX environment that control the voice and call processing capabilities of Meridian Mail.

A Meridian ACCESS “system” involves the following components (shown in Figure 1-1):

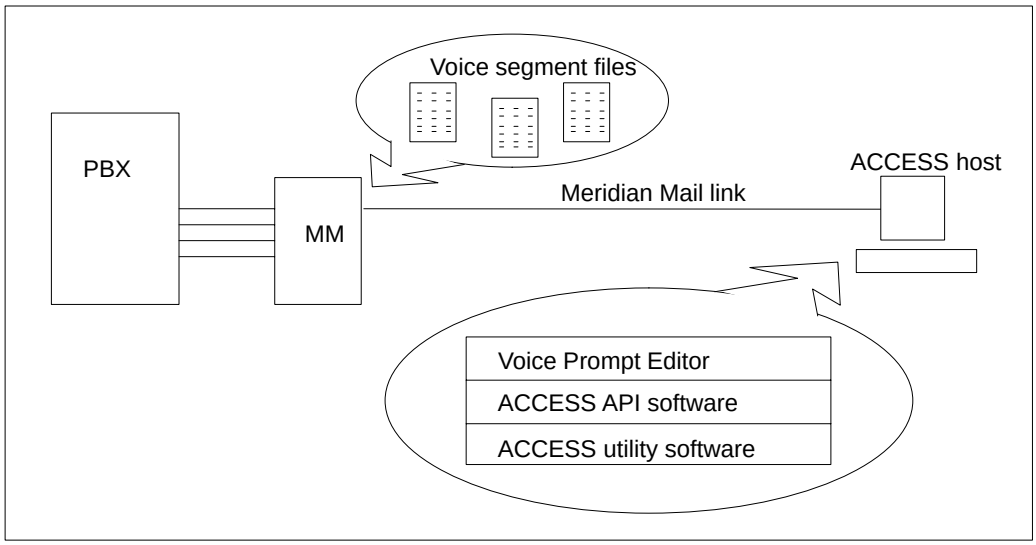
- Private Branch Exchange (PBX) (for example, Meridian 1)
- Meridian Mail (with the Meridian ACCESS feature enabled)
- UNIX workstation running a Meridian ACCESS application

Many Meridian ACCESS applications, such as Interactive Voice Response (IVR) systems, require the playback of voice prompts. Voice prompts are groups of one or more concatenated voice segments. Voice segments are data elements containing both textual information and prerecorded speech.

Although these applications reside and run on a UNIX workstation, the voice segments used by the applications to produce voice prompts are created and stored on the Meridian Mail system in special files called voice segment files. Voice segment files are made of zero or more voice segments. The Meridian ACCESS Voice Prompt Editor (VPE) lets you create and modify these files. Voice segment files created with the VPE are stored in a Meridian Mail user’s cabinet.

Note: This guide refers to Release 2.0 of Meridian ACCESS.

Figure 1-1
Meridian ACCESS overview



Chapter 2: Voice segment file structure

Voice segment files are used to store prerecorded words and sentences that are played by Audiotex and Interactive Voice Response (IVR) applications developed with Meridian ACCESS. Data retrieved from a computer database can be used to concatenate several voice segments and play back information such as the closing price of a stock or the delivery date of an appliance.

A voice segment file is a list of zero or more voice segments. Each voice segment has the following five components:

1 segment ID

2 name (optional)

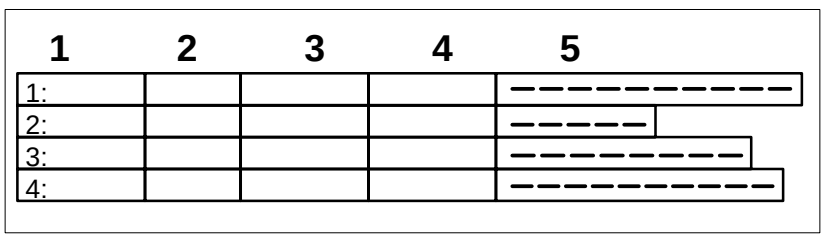
3 title (optional)

4 script (optional)

5 speech segment

The segment ID and speech segment are the core elements of the voice segment. The name, title and script are optional and can be thought of as textual attributes associated with the voice segment.

Figure 2-1
Structure of a voice segment file



Segment ID

A segment ID is the index of a voice segment in the list of voice segments that comprises the voice segment file. It is passed as an argument through the Meridian ACCESS Application Programming Interface (API) to identify which voice segments to play, record, concatenate and so on.

Segment name

A voice segment can be assigned a 16-character name. This name can be used to reference the voice segment in lieu of the segment ID. Voice segment names are provided to streamline the development of Meridian ACCESS applications as explained in the section “Developing Applications That Use Voice Segments”.

Segment title

A voice segment can be assigned a 56-character title. The title lets you store brief descriptions of each voice segment. These titles are displayed whenever a voice segment file is edited. They facilitate the maintenance of the voice segments as explained in the section “Developing Applications That Use Voice Segments”.

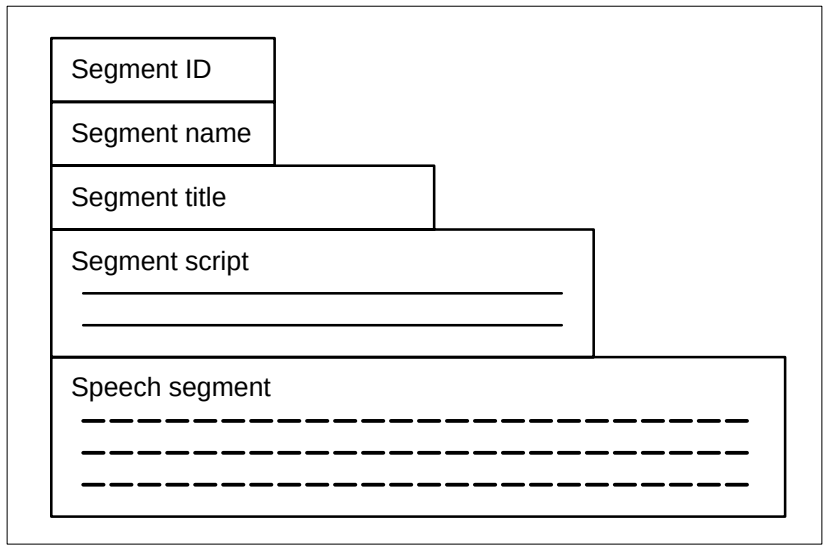
Segment script

A segment script is the recited “text” of the voice segment. It can contain up to 2,048 characters (including the blanks between the words) for a total of approximately 400 words. The script provides a convenient means to store and maintain the semantic content of each voice segment. The Voice Prompt Editor provides the means for an application developer to prepare the text of the scripts and for a narrator to recite and record them.

Speech segment

The speech segment is a digitally recorded segment of speech of any length. It may contain a word, phrase or any number of complete sentences. The speech in a segment can be edited in a variety of ways as described in the section “Editing Voice Segments For Concatenation”.

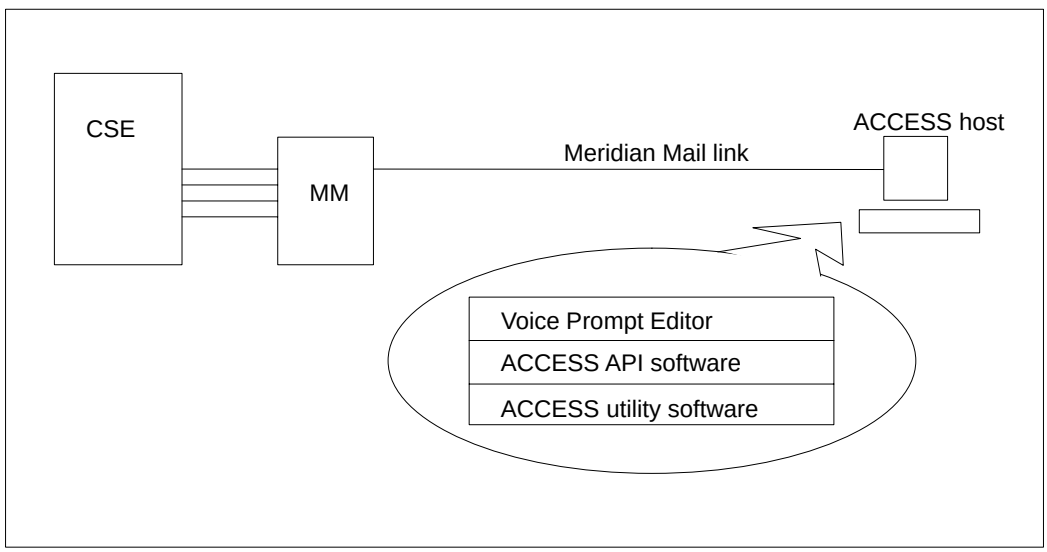
Figure 2-2
Structure of a voice segment



Chapter 3: Getting started

The Voice Prompt Editor (VPE) itself is a Meridian ACCESS application that runs in a UNIX environment and uses the Meridian ACCESS API to control recording, playback, and editing of voice prompts. Figure 3-1 shows the hardware and software configuration required to run the VPE. This configuration is the same as that required to develop or run any Meridian ACCESS application with the addition of an “associated” telephone located beside your workstation. The associated telephone set is used to record and play back the voice prompts.

Figure 3-1
Configuration required to run the Voice Prompt Editor



Preparation for installation

Before you install the VPE, determine the following information:

- the telephone number of the telephone set associated with the workstation on which you will be running the Voice Prompt Editor
- that your search path contains u/access/bin, and you have execute privileges for the file vpe
- the directory from which you will always run the Voice Prompt Editor
- the workstation is configured to emulate a VT220-compatible terminal (see below)

VT220 terminal definition

Before you can execute VPE, the UNIX shell's environment TERM variable must be set to a VT220-compatible terminal. If one is not available on your system, add the "tic" definition shown in Figure 3-2. Consult your UNIX documentation for details on using the "tic" compiler.

Figure 3-2
TIC description for VT220 emulation

```
vt220|vt220–am|dec vt220 (w/advanced video),
    am, mir, msgr, xenl, xon,
    cols#80, it#8, lines#24, vt#3,
    acsc=‘‘aaffggjjkkllmmnnooppqqrrssttuuvvwwxxyyzz{{||}}~~,
    bel=^G, blink=\E[5m$<2>, bold=\E[1m$<2>,
    civis=\E[?25l, clear=\E[H\E[J$<50>, cnorm=\E[?25h,
    cr=\r, csr=\E[%i%p1%d;%p2%dr, cub=\E[%p1%dD, cub1=\b,
    cud=\E[%p1%dB, cud1=\n, cuf=\E[%p1%dC, cuf1=\E[C$<2>,
    cup=\E[%i%p1%d;%p2%dH$<5>, cuu=\E[%p1%dA,
    cuu1=\E[A$<2>, ed=\E[J$<50>, el=\E[K$<3>,
    el1=\E[1K$<3>, enacs=\E(B\E)0, home=\E[H, ht=\t,
    hts=\EH, ind=\n, ka1=\EOq, ka3=\EOs, kb2=\EOr, kbs=\b,
    kc1=\EOp, kc3=\EOn, kcub1=\EOD, kcud1=\EOB,
    kcuf1=\EOC, kcuu1=\EOA, kent=\EOM, kf0=\EOy, kf1=\EOP,
    kf10=\E[21~, kf2=\EOQ, kf3=\EOR, kf4=\EOS, kf6=\E[17~,
    kf7=\E[18~, kf8=\E[19~, kf9=\E[20~, khlp=\E[28~,
    knp=\E[6~, kpp=\E[5~, rc=\E8, rev=\E[7m$<2>,
    ri=\EM$<5>, rmacs=^O, rmkx=\E[?1l\E>, rmso=\E[m$<2>,
    rmul=\E[m$<2>, rs2=\E>\E[?3l\E[?4l\E[?5l\E[?7h\E[?8h,
    sc=\E7,
    sgr=\E[0%?%p1%p6%|%t;1%;%?%p2%t;4%;%?%p1%p3%|%t;7%;%?%p4%t;5%;m%?%p9%t^N%e^O%;,
    sgr0=\E[m^O$<2>, smacs=^N, smkx=\E[?1h\E=,
    smso=\E[1;7m$<2>, smul=\E[4m$<2>, tbc=\E[3g,
```

Installation

Procedure 3-1
Installing the VPE

1 Start the Voice Prompt Editor by entering one of the three following commands:

./vpe
./vpe -n2

If you are running the VPE on a system configured with multiple ACCESS links and want to run the VPE on a specific link (for example link 2) use the -n parameter: The above command will force the VPE to obtain a channel on link 2. If you do not specify this parameter, link 1 is the default.

If you want to specify a specific class of channel for the VPE when it starts use the -c parameter, as in:

./vpe -n2 -c100

The above command will force the VPE to look for a dedicated ACCESS channel when it starts. If a class is not specified, the default used is any shared channel on the system.

2 If a VPE profile (VPE.PRO) is not found in the current directory, you are asked if you wish to create a profile. Answer Yes to this question.

Choosing No will inhibit the creation of VPE.PRO. (This may be necessary if, prior to starting the VPE, you changed to a different directory.)

3 Enter the name of the profile directory when prompted.

If you are not prompted, it means that there is already a VPE profile in the search path of your workstation. See the “Reconfiguration” section.

4 Enter the telephone number of the associated telephone.

5 Enter your Meridian Mail account number if you are the only person using the workstation for VPE, or just enter Carriage Return.

If other people have access to this workstation, press Carriage Return; this will cause the Voice Prompt Editor to prompt for an account number every time the program is run.

6 Enter your password if your workstation can be secured against unauthorized users, or just enter carriage return.

This prompt will only appear if you entered an account number. If you do not enter the password, you will be prompted for it each time the Voice Prompt Editor is run.

7 Type **./vpe** and press Carriage Return to verify the installation.

A list of the voice segment files in your user cabinet will be displayed.

Reconfiguration

To change any of the information provided to the Voice Prompt Editor when it was installed, delete the Voice Prompt Editor profile (VPE.PRO) by typing **rm VPE.PRO**, then run the VPE again.

Chapter 4: Creating and modifying segment files

This section describes the basic operation of the Voice Prompt Editor. Some of the more advanced operations are described in subsequent sections.

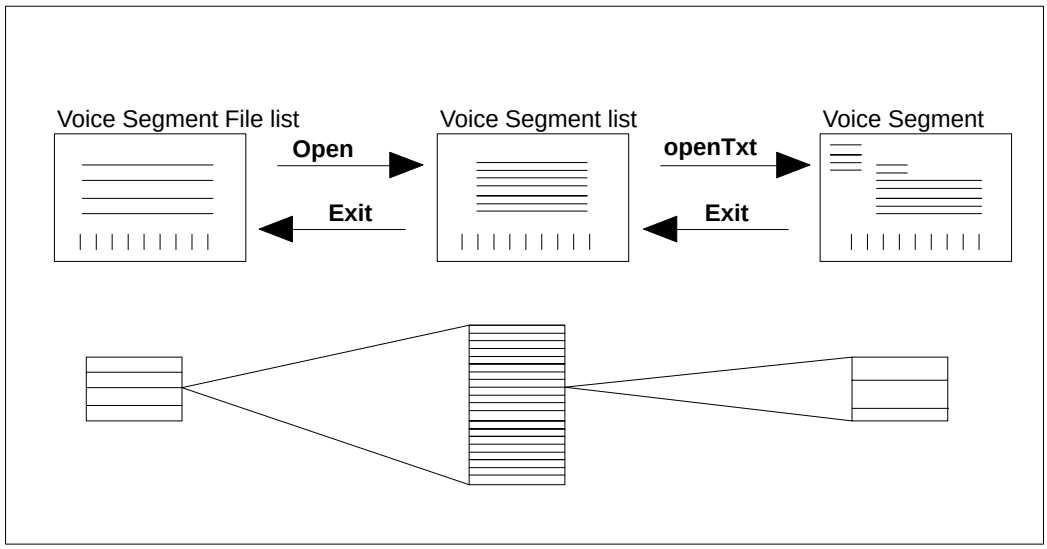
General principles

The Voice Prompt Editor provides the user with the following three levels of access:

Level	Description
1	A list of the voice segment files in a user's cabinet. (This list does not include any voice messages that may also be in the user's cabinet.)
2	A list of the voice segments in a specific voice segment file
3	The textual components of a voice segment

When the Voice Prompt Editor is first started, you are presented with the "voice segment file list" (the first level of access). You can move to the "voice segment list" (the second level of access) by using the arrow keys to position the highlight bar over a specific voice segment file, then opening the selected voice segment file. Finally, you can access the textual components of a "voice segment" (the third level of access) by using the arrow keys to position the highlight bar over a specific voice segment, then opening the selected voice segment. To return to a previous level of access, simply exit from the current level of access.

Figure 4-1
Voice Prompt Editor “levels of access”



The Voice Prompt Editor provides a consistent and easy-to-use interface. The top part of the screen always contains the data being viewed, while the bottom two lines display a context-sensitive list of the commands (only commands that are applicable to the screen and the selected data). This ensures that you are only allowed to issue “valid” commands.

Whenever the Voice Prompt Editor displays either the “Voice Segment File List” or the “Voice Segment List”, one of the items in the list is overlaid with a highlight bar. The highlight bar is used to select the item upon which user commands will operate. The highlight bar can be moved using the up arrow and down arrow keys or the Previous Screen and Next Screen keys (to move up or down one screen at a time).

If the complete list of voice segment files or voice segments cannot be displayed on a single screen a triplet of down arrows (or up arrows) is displayed at the bottom (or top) of the screen. You can display the hidden items by using the appropriate arrow and paging keys.

Every Voice Prompt Editor command is invoked using either a function key and, whenever possible, a single-letter key. This letter is capitalized in the command name that is listed at the bottom of the screen along with the associated function key. Usually this letter is the first letter of the command. If there is no capitalized letter, only the function key can be used to issue the command.

An attempt has been made to maintain consistency throughout the Voice Prompt Editor. Whenever possible, a given command is assigned to the same function key. As well, whenever a user invokes a command that requires further data, the user is presented with a pop-up window. Once the data has been entered, the user can press either the PF4 key (to execute the command) or the ESC key (to abort the command).

Common functions

The following keys are available at most times:

Key	Description
PF4	Indicates that input to a pop-up window is complete and that the command should now be carried out
ESC	Exits from pop-up windows without performing the command
↑	Moves the highlight bar up one entry in a list or moves the cursor to the previous field on a form
↓	Moves the highlight bar down one entry in a list or moves the cursor to the next field on a form
Prev Screen	Moves the highlight bar up one entire page of entries in a list or, if already on the first page, moves it to the first entry in the list
Next Screen	Moves the highlight bar down one entire page of entries in a list, or, if already on the last page, moves to the last entry in the list

Whenever you are prompted to enter textual information, such as the name to be assigned to a newly created voice segment file, you can enter any characters from the keyboard.

The following keys can be used any time the cursor is in a text input field:

Key	Description
←	Moves the cursor to the previous character
→	Moves the cursor to the next character
CTRL-L	Moves the cursor to the beginning of the previous word
Tab	Moves the cursor to the beginning of the next word
CTRL-X	Deletes the entire line
Backspace	Deletes the character to the left of the cursor
Del	Deletes the character under the cursor
Ins	Toggles between insert and overwrite modes

Creating a new voice segment file

The first time you start up the Voice Prompt Editor, there will be no voice segment files to display.

When a cabinet does not contain any files, you are presented with the following commands on the command line:

Key	Function	Description
PF1	New	Create a new, empty voice segment file
PF3	Logon	Log on to a different user account (to access the voice segment files in another user cabinet)
PF4	Quit	Quit the program

New

The “New” command allows you to create a new voice segment file. When invoked, the “New” command presents a pop-up screen prompting you for the name and the subject of the new voice segment file (which is optional). If a name is not provided, the file will not be created. Once you have entered the text, you can select the PF4 key to commit the file or the ESC key to abort the operation.

Logon

The “Logon” command enables a user to log off of the current account and log onto another user account for access to another user’s voice segment files. When invoked, the “Logon” command presents a pop-up screen prompting you for a new account number. As a security feature, your password is not displayed as you type it. Once the account information has been entered, you can select the PF4 key to log off of the current account and log on to the new account or the ESC key to abort the operation.

Help

The “Help” key presents brief descriptions of the commands displayed on the command line.

Quit

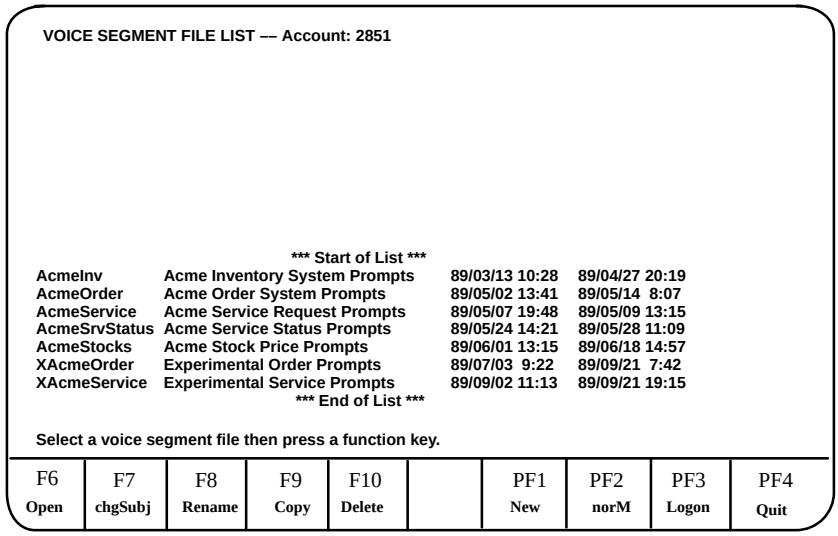
The “Quit” command terminates the VPE program, purges your cabinet of any files marked for deletion, drops the telephone connection (if one was previously established), and returns you to the operating system prompt.

Managing voice segment files

Once you commit a file, an entry is added to the list of voice segment files in the user’s cabinet. Each entry in the list contains the following information about the voice segment file:

Field	Description
Name	Name of the voice segment file
Subject	Subject of the voice segment file
Date of Creation	Date and time that the voice segment file was created
Date of Last Modification	Date and time that the voice segment file was last modified

Figure 4-2
Voice segment file list



Whenever a cabinet contains one or more files, you are presented with the following commands on the command line:

Key	Function	Description
F6	Open	Open the selected voice segment file
F7	chgSubj	Modify the subject field of the selected file
F8	Rename	Rename the selected file
F9	Copy	Make a copy of the selected file
F10	Delete	Mark the selected file for deletion
F10	Undelet	Remove the “DELETED” mark from the selected file
PF1	New	Create a new, empty voice segment file
PF2	norM	“Normalize” the selected voice segment file
PF3	Logon	Log on to a different user account (i.e., to access the voice segment files in another user cabinet)
Help	Help	View on-line help
PF4	Quit	Quit the program

Open

The “Open” command moves you to the second level of access by opening the selected voice segment file and displaying the “voice segment list”. At this level, you are able to add new voice segments or modify existing ones.

chgSubj

The “chgSubj” command presents a pop-up screen prompting you to modify the subject of the voice segment file.

Rename

The “Rename” command presents a pop-up screen prompting the user to modify the name of the voice segment file.

Copy

The “Copy” command allows you to duplicate an existing voice segment file. When invoked, the “Copy” command presents a pop-up screen prompting the user for the name of the duplicate voice segment file.

Delete

The “Delete” command marks a file for deletion by displaying the word “DELETED” to the right of the file’s subject field. The actual deletion of the file is deferred until you log off from the current account or quit the program. At this point all of the files that have been marked for deletion are purged from your cabinet. This feature lets you “undelete” (recover) a deleted file prior to log off. Note that whenever the highlight bar is positioned on a file marked for deletion, the F10 key becomes the “Undelete” command.

New

The “New” command allows a user to create a new voice segment file. When invoked, the “New” command presents a pop-up screen prompting you for the name and the subject of the new voice segment file (which is optional). If a name is not provided, the file will not be created. Once the text has been entered, you can select the PF4 key to commit the file or the ESC key to abort the operation.

norM

The “norM” command is used to prepare a voice segment file for concatenation. This command is explained further in the section “Normalizing a Voice Segment File”.

Logon

The “Logon” command enables you to log off of the current account and log onto another user account for access to another user’s voice segment files. When invoked, the “Logon” command presents a pop-up screen prompting the user for a new account number. As a security feature, your password is not displayed as you type it. Once the account information has been entered, you can select the PF4 key to log off of the current account and log on to the new account or the ESC key to abort the operation.

Help

The “Help” key presents you with brief descriptions of the commands displayed on the command line.

Quit

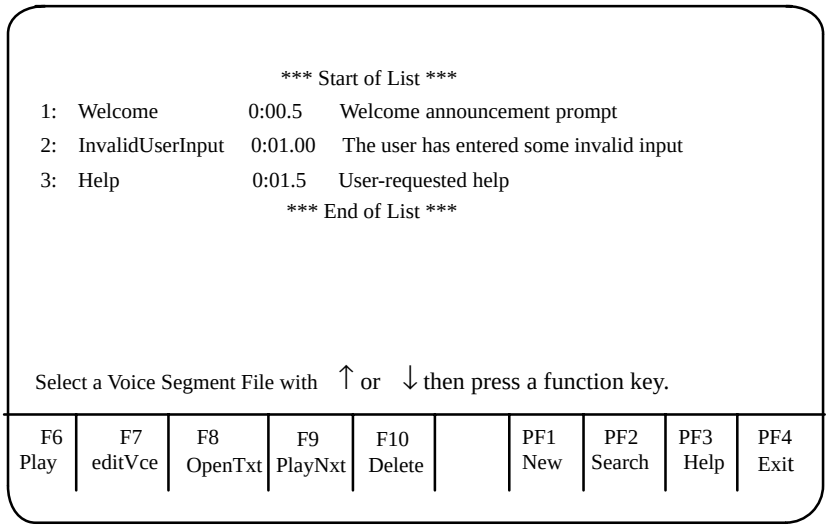
The “Quit” command terminates the VPE program, purges the user’s cabinet of any files marked for deletion, drops the telephone connection (if one had been established) and returns the user to the operating system prompt.

Modifying voice segment files

In order to modify a voice segment file, the file must be opened to display the list of voice segments in the file. Each entry in the list contains the following information about the voice segment:

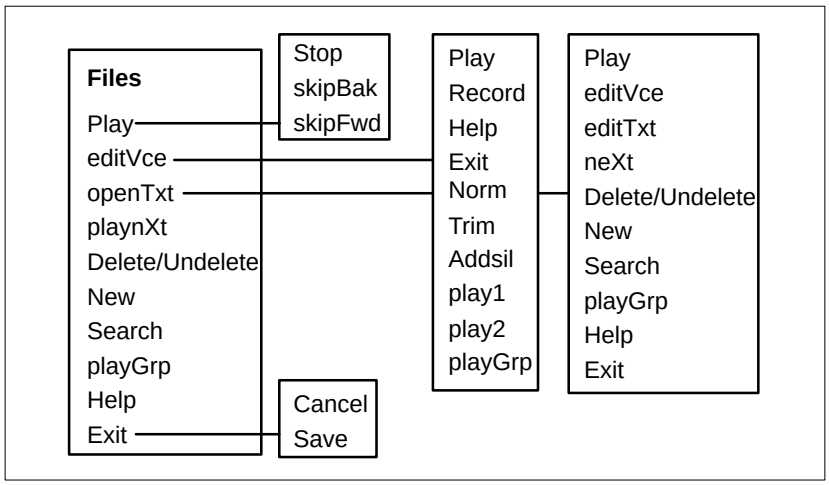
Field	Description
Segment ID	Index of the voice segment in the file
Name	Name of the voice segment
Length	Duration of the voice segment in hundredths of a second
Title	Title of the voice segment

Figure 4-3
Voice segment list



In addition to the common functions provided by the arrow and paging keys, the CTRL-T and CTRL-B keys can be used to position the highlight bar at the first and last segments of the list of voice segments, respectively.

Figure 4-4
Overview of commands available



When accessing a list of voice segments, you are presented with the following commands on the command line:

Key	Function	Description
F6	Play	Play the speech segment of the selected voice segment
F7	editVce	Display the voice editing command line
F8	Opentxt	Display the textual components associated with the voice segment
F9	playnXt	Select the “next” voice segment and play its speech segment
F10	Delete	Mark the selected segment for deletion
F10	Undelet	Remove the “DELETED” mark from the selected segment
PF1	New	Create a new, empty voice segment
PF2	Search	Search for a voice segment
PF3	playGrp	Set up a group of voice segments for concatenated playback
Help	Help	View on-line help
PF4	Exit	Exit from the entire voice segment file

The following keys can be used with the segment list screen displayed:

Field	Description
CTRL-T	Top of list
CTRL-B	Bottom of list

Play

The “Play” command establishes a telephone connection (if one does not already exist) and plays the speech segment of the selected voice segment. (If the call is forwarded to another number, a message is displayed on the screen and the command is aborted.)

Temporary commands

While the voice segment is being played, the following temporary commands are displayed on the command line:

Key	Function	Description
F6	Stop	Stop the playback of the segment
F8	skipBak	Skip five seconds backwards and continue playback
F9	skipFwd	Skip five seconds forwards and continue playback

If you issue the “Stop” command or if the playback operation reaches the end of the segment, the previous set of commands is redisplayed. It is useful to know that playback is automatically stopped if you either hang up the associated telephone or start using the arrow or paging keys.

editVce

The “editVce” command displays the voice editing commands in the command line. The main commands are as follows:

Key	Function	Description
F6	Play	Play the speech segment of the voice segment.
F7	Record	Record a speech segment into the voice segment.
Help	Help	View on-line help.
F4	Exit	Return to the previous set of commands.

–continued–

Key	Function	Description
F8	Norm	Remove all silence from beginnning and end of voice segment.
F9	Trim	Remove defined amount of voice segment.
F10	Addsil	Pad silence on to beginning and/or end of voice segment.
PF1	play1	Concatenate voice segments, then playback.
PF2	play2	Concatenate voice segments, then playback.
PF3	playGrp	Set up a group of voice segments for concatenated playback.
–end–		

The remaining voice editing commands provide more sophisticated capabilities and are described in the section “Playing and Editing a Group of Concatenated Voice Segments” on page 6–5.

Record

The “Record” command plays a beep to signal when the recording begins and records everything spoken into the mouthpiece of the associated telephone set. While the speech is being recorded, a “Stop” command is displayed on the command line. If you issue the “Stop” command, the recording is stopped and the “editVce” command line is redisplayed. If the speech segment of the selected voice segment already exists (that is, it already contains a recording) the previously recorded speech is replaced in its entirety. It is important to note that the maximum duration of an individual speech segment is determined by the “Maximum Duration” of a voice message file. This value is determined by your system administrator and set in the Organization Profile.

As with the “Play” command, the Voice Prompt Editor checks to see if there is an established connection with the associated telephone set before starting to record. If no connection is established, the Voice Prompt Editor calls the associated telephone set and begins to record only when the call is answered.

While recording is proceeding, a counter indicates how many seconds of time has elapsed since the recording began. The actual duration of the recorded speech is only computed after the recording has completed, since the recording won’t actually begin until sufficient voice energy is detected and all long stretches of silence are compressed.

Opentxt

The “Opentxt” command moves you to the third level of access by “opening” the selected “voice segment” and displaying its textual components. At this level, you can add new voice segments or modify existing ones.

playNxt

The “playNxt” command provides a convenient single-key command to play each voice segment in turn. After the highlight bar is automatically re-positioned on the next voice segment in the list, the selected voice segment is played.

Delete

The “Delete” command marks a voice segment for deletion. The actual deletion of the voice segment is deferred until you exit and save the modified voice segment file. At this point all of the voice segments that have been marked for deletion are purged from the voice segment file. This feature enables you to “undelete” (recover) voice segments as long as the file has not been saved. Note that whenever the highlight bar is positioned on a voice segment marked for deletion, the F10 key changes to the “Undelete” command.

New

The “New” command adds an empty voice segment to the end of the voice segment file, displays the associated text form for the new segment, places the cursor at the beginning of the name field, and prompts the user to enter a name, title and script for the newly created segment. To complete the creation of the voice segment, you must press the PF4 key. The “New” command is intended to streamline the entry of large quantities of text (for example, scripts) associated with voice segments. After entering the textual information for each voice segment, you can step through the segment scripts (using the “Next” command) to record them.

Search

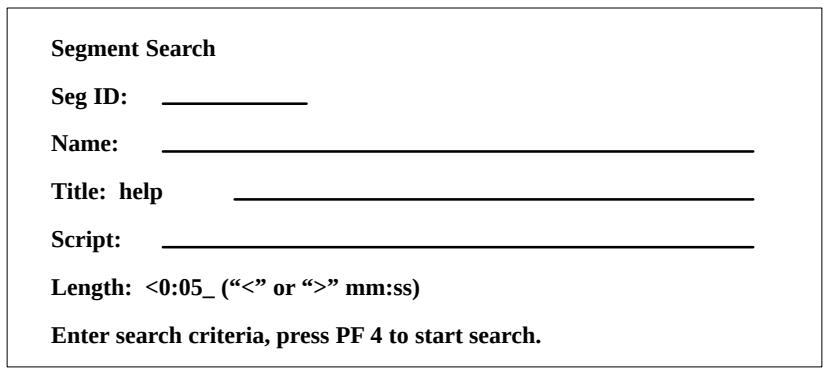
The “Search” command presents a pop-up screen prompting the user to enter criteria for finding a particular segment within the segment file. The search criteria can be the (numeric) segment ID, substrings in the segment name, title and script or any combination thereof. In addition, it is possible to search by the amount of voice recorded in a segment. This last criterion enables you to confirm that all of the segments have been recorded.

Each field in the pop-up can have a value. Only a segment in which all of the criteria are met will be found. To find all of the segments which match the search criteria, repeat the search (the search fields will show the values previously used).

Searches may take a few moments depending on the criteria provided and the size of the segment file. If the segment ID is specified, the remaining fields are ignored. This is the quickest way to locate a particular segment or to move to a specific location in the file.

Search example

The following diagram shows the search pop-up window. The user is searching for a segment less than five seconds long, with the word “help” in its title.



The search will locate the next matching segment in the segment file, looping around to the beginning if the end of the file is reached. If a match is not found, you remain at the location within the file where the search was initiated.

playGrp

The “playGrp” command displays the form and command line required for setting up a group of voice segments for concatenated playback. This form and the associated commands are explained in the section “Grouping Voice Segments For Concatenation”on page 6–3.

Help

The “Help” key presents a brief description of the commands displayed on the command line.

Exit

The “Exit” command initiates a two step sequence for returning to the list of segment files. In the first step of the “exit sequence” you are presented with the following two options on the command line:

Key	Function	Description
F10	Cancel	Cancel any changes made to the voice segment file (and revert to the file as it was before it was opened)
PF4	Save	Save the changes made to the voice segment file

This first step is skipped if the file has not been modified.

In the second step of the exit sequence, a pop-up screen prompts you for a file name, directory and identifier prefix. This information is used to store a header file of symbolic names. This file should be incorporated into the Meridian ACCESS application and must be updated whenever a voice segment file is modified. A detailed description of the header file and its usage is provided in the section “Creating a Segment Index Header File” on page 5–3.

If you do not wish to create or update a header file, press the ESC key to return to the list of voice segment files.

If you want to create or update a header file you must first fill out the form on the pop-up screen (or use the defaults provided) and then press the PF4 key. The Voice Prompt Editor will then download the necessary information from the Meridian Mail system and create (or overwrite) a header file before returning to the list of voice segments.

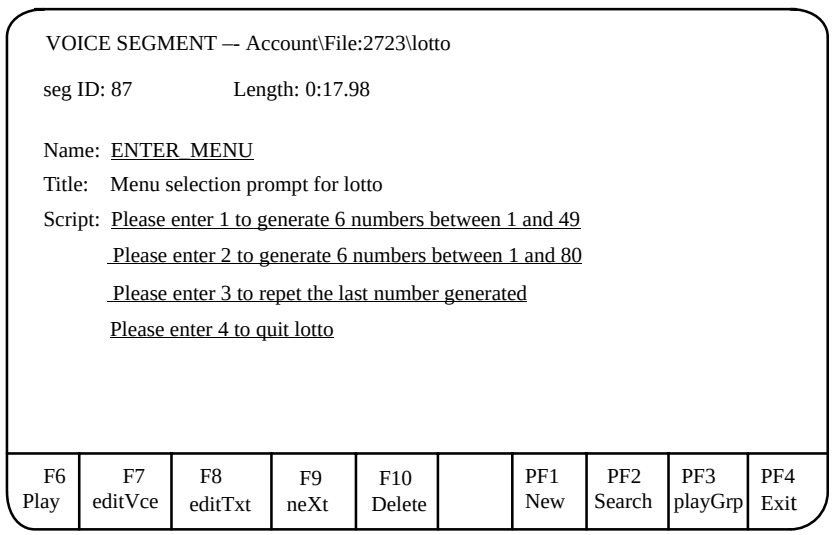
> ***Note***: As with many other text editors, you should periodically exit and save the voice segment file you are working on. This minimizes the recovery effort in the event of a sudden power failure.

Modifying the textual components of a voice segment

In order to modify the textual components of a voice segment, the segment must be opened to display the voice segment. Each voice segment contains the following information:

Key	Description
Segment ID	Index of the voice segment in the file
Length	Duration of the voice segment in hundredths of a second
Name	Name of the voice segment
Title	Title of the voice segment
Script	Script of the voice segment

Figure 4-5
Textual components of a voice segment



When accessing the textual components of a voice segment, you are presented with the following commands on the command line:

Key	Function	Description
F6	Play	Play the speech segment of the selected voice segment
F7	editVce	Display the voice editing command line

Key	Function	Description
F8	editTxt	Modify the textual components associated with the voice segment
F9	neXt	Select the “next” voice segment
F10	Delete	Mark the selected segment for deletion
F10	Undelet	Remove the “DELETED” mark from the selected segment
PF1	New	Create a new, empty voice segment
PF2	Search	Search for a voice segment
PF3	playGrp	Set up a group of voice segments for concatenated playback
Help	Help	View on-line help
PF4	Exit	Exit from the current level and return to the previous level
–end–		

Eight of the commands provided at this level are identical to the commands provided at the previous level. The three different commands are the “editTxt”, “neXt” and “Exit” commands.

editTxt

The “editTxt” command allows you to modify the textual components of the selected voice segment by prompting the user to modify the name, title and script of the segment.

neXt

The “neXt” command provides a convenient single-key command to move to the next segment while still viewing the form containing the textual components associated with an individual voice segment.

Exit

The “Exit” command exits from the “voice segment” level of access and returns to the “voice segment list” level of access.

Chapter 5: Developing applications that use voice segments

This section provides a few suggestions on how the Voice Prompt Editor might be used in the development cycle of a Meridian ACCESS application.

Creating a voice segment file

You should create voice segment files after a voice dialogue has been designed but before the coding of the application starts. Before creating a voice segment file, address the following issues:

- How many segments must be created?
- What will be recorded in each segment (script)?
- What is the short description of each segment (title)?
- How will each segment be uniquely identified (name)?

Procedure 5-1
Creating a voice segment file

Once these decisions are made, use the following steps to create the file:

1. Start the segment editor and log on to the correct account.
2. Use New to create the new segment file.
   It should have a unique name and a suitably descriptive subject.
3. Open the new segment file.
4. Select New.
   You will be able to enter the new segment's name, title and script.
5. Select Done.

6 If you wish, record a draft of the prompt. Select editVce-Record, read the script, select Stop, then play back the recording.

For prompts of the highest quality, you should create all of the segments first, then follow the instructions described in the section “Recording Voice Segments” on this page.

7 Go to step 4.

Repeat these steps until all of the segments have been created. Once finished, exit from the file. Choose to save the file with the new segments, or cancel all of the changes. Also, you will be asked if you wish to create a segment index header file. This file lists each segment’s name, the segment index used to refer to the segment, and the title of the segment. The file is compiled into the application, and is discussed in the section Creating a Segment Index Header File.

Recording voice segments

A recording session will obtain the best results if it proceeds with minimum interruptions. Recording sessions should be done after the segments have been created and the scripts for each segment finalized.

Procedure 5-2
Recording voice segments

1 Start the segment editor and log on to the correct account.

2 Open the segment file to be recorded.

3 Open the text of the first segment.

4 Select the editVce-Record function (the first time it is selected, the phone will ring and must be answered), read the script aloud into the phone, then select Stop.

5 Select Play to verify the recording. (After verifying that the first few segments are of suitable quality and volume, this step can be skipped, and all the segments can be verified once they are all recorded.)

6 Select Exit-neXt to go directly to the text of the next segment.

7 Go to step 4.

Repeat this procedure until all segments are recorded. To verify all of the segments in the file, return to the Voice Segment List window. Select the first segment, play it, then select “playnXt” until you have heard all the segments.

As a rule, when recording short segments (example, single words) it is recommended to utter a phrase that uses the word in its appropriate context (example, to record the word “o’clock”, utter the phrase “two o’clock”). The Voice Prompt Editor can then be used to trim the excess words from these segments as explained in the section “Editing Voice Segments for Concatenation”. This technique produces more natural sounding, correctly-inflected segments.

Maintaining the voice segment file

Once created, maintenance of a voice segment file is easy. Individual segments can be modified, new segments created, and obsolete segments deleted. You should update the segment scripts when necessary, as this saves a lot of trouble if you ever re-record the entire file.

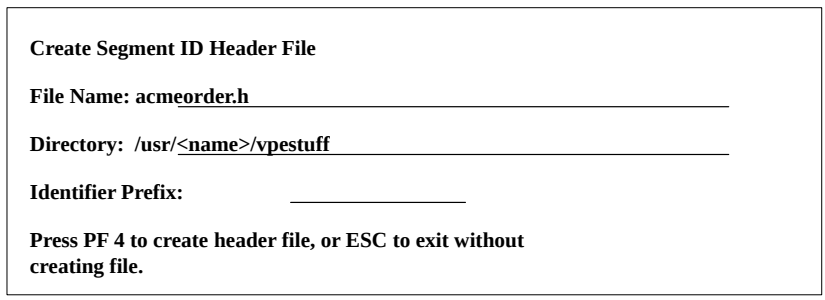
Whenever deleting, adding or renaming voice segments, you must create a new segment index header file and re-compile any applications that use the header file (see the section Creating a Segment Index Header File). This is unnecessary if you just re-record segments or change their scripts.

Creating a segment index header file

For an application program to play or record a specific voice segment, it must know the reference number or index of the segment. The voice prompt editor facilitates this by automatically creating a segment index header file. The header file contains “define” statements which define each segment’s name as a symbolic name having the value of that segment’s index. Each define statement is terminated with a comment, which contains the segment’s title. A symbolic name is also defined as the date and time that the file was last changed. The following example shows the first few lines of the segment index header file that corresponds with the AcmeOrder segment file previously shown:

```
#define   AcmeOrder_VERSION   890514080730
#define   Welcome          1  /*Welcome the caller */
#define   EnterCustNum 2     /*Prompt for customer number */
#define   EnterPartNum 3/*Prompt for part number */
```

When you exit from a segment file, a pop-up window offers you the option of creating a segment index header file. You may specify a directory (defaulting to the current directory) and a file name (defaulting to the first eight characters of the segment file name with a suffix of “.h”).



The pop-up window also allows you to specify an identifier prefix. This is useful if you require access to several segment files within an application at one time. It can be critical if the segment files have some segment names in common. If the AcmeOrder segment index file was created with an identifier prefix of "F1_", then it would have looked like the following:

```
#define   F1_AcmeOrder_VERSION   890514080730
#define   F1_Welcome             1 /* Welcome the caller */
#define   F1_EnterCustNum 2 /* Prompt for customer # */
#define   F1_EnterPartNum 3 /* Prompt for part number */
```

To use a segment index header file, include it in the Meridian ACCESS application (example, "#include <acmeorder.h>").

If two segment index header files are included in the same application, and have any segment names in common, the compiler will generate an error or warning. If a warning is generated, do not ignore it, since the application will not have proper access to that segment.

The index number for a segment is the segment's relative position within the file. This means that if a segment is deleted, all segments following it will have their indices changed. Therefore, it is especially important to re-create the index file if a segment is deleted.

Suggested guidelines for prompts

While requirements for prompts vary greatly depending on the application, a few guidelines pertain to most applications. Consider the following guidelines when designing and creating prompts:

- Carefully consider the user community. With those who will only use the system once or twice, prompts can be longer and more detailed than prompts for users who use a system daily.

- Avoid prompts which “scold” users, either in words or tone. Regardless of how many mistakes users make, they will not appreciate a rude machine.
- Use only one voice for all the prompts within a particular application. There are circumstances where many voices can be used to signal a user, but these are rare and require special attention. (There are applications which play back status messages or advertisements which are constantly updated. It is not normally feasible to have this changing material done in the same voice, but the body of the application can and should be.)
- Select a speaker whose voice would be considered pleasant by the users. Choose one who speaks clearly and articulately. Unusual or pronounced accents should be avoided, as should voices which are noticeably high or low in pitch. For the final version of prompts it may be worth the expense of using someone with voice training (for example, an actress, actor, or singer).
- Attempt to regulate style, speed, volume, and pitch when recording. As voices will change over time and with variations in health, prompts chosen from a single recording session will often be the most consistent.
- Record prompts in a quiet, echo-free environment. Do not underestimate the noise caused by office air circulation systems. They sound much louder when heard by someone calling from a quiet residence.
- If achieving very high quality prompts is a requirement, you may want to consider initially recording the prompts onto a tape in a recording studio. A device which connects the tape output directly to the telephone line can then be used during recording with the VPE (instead of using a live speaker).

These are general guidelines. There are circumstances where some of these guidelines may not be suitable, so each application and user group should be carefully considered.

Chapter 6: Editing voice segments for concatenation

The following section describes some of the considerations in using voice segments to play back such information as stock quotations and account balances. As a general rule, a single voice segment comprising a complete sentence or lengthy phrase sounds more natural than a group of concatenated voice segments. The major reasons for this are as follows:

- segment inflections which do not sound natural in certain groups
- varying length pauses between voice segments in a group

While the Voice Prompt Editor cannot compensate for the first type of problem, it does provide a suite of tools to address the second type of problem. In particular, the voice editing commands of the Voice Prompt Editor are designed to streamline a process for preparing, verifying and fine tuning groups of concatenated voice segments after the entire voice segment file has been recorded.

This four-step process is as follows:

1 “Normalize” the voice segment file.

2 Group the voice segments to be concatenated.

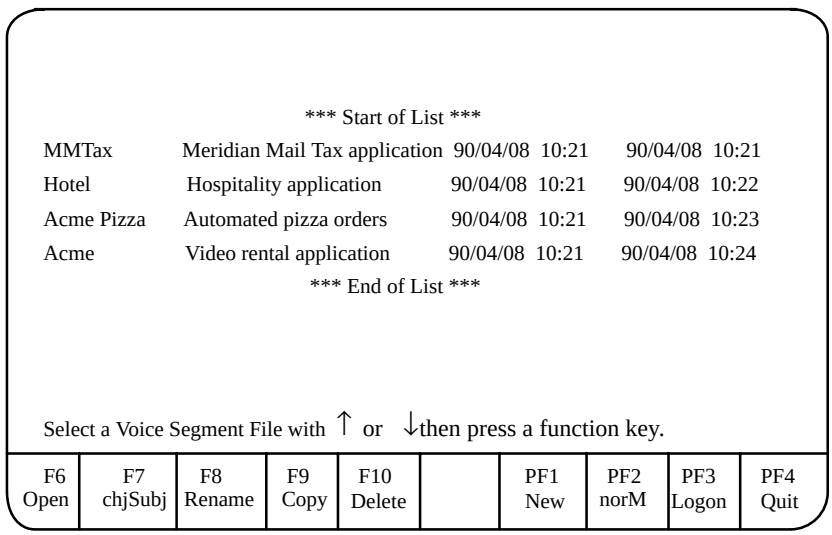
3 Play back the (concatenated) group of voice segments.

4 Trim, pad or re-record the voice segments as required.

“Normalizing” a voice segment file

Whenever the list of voice segment files is displayed, the command line contains a command called “norM” (PF2). The “norM” command first trims all leading and trailing silence, then pads the trailing end of each voice segment in the voice segment file with a fixed amount of silence. The voice segments can be padded with 0, 1/16th, 1/8th, 1/4, 1/2, 3/4, 1, or 1-1/2 seconds of silence. This powerful command enables the user to put the voice segment file in a well known, “normalized” state before proceeding with additional voice editing operations.

Figure 6-1
Voice segment file list

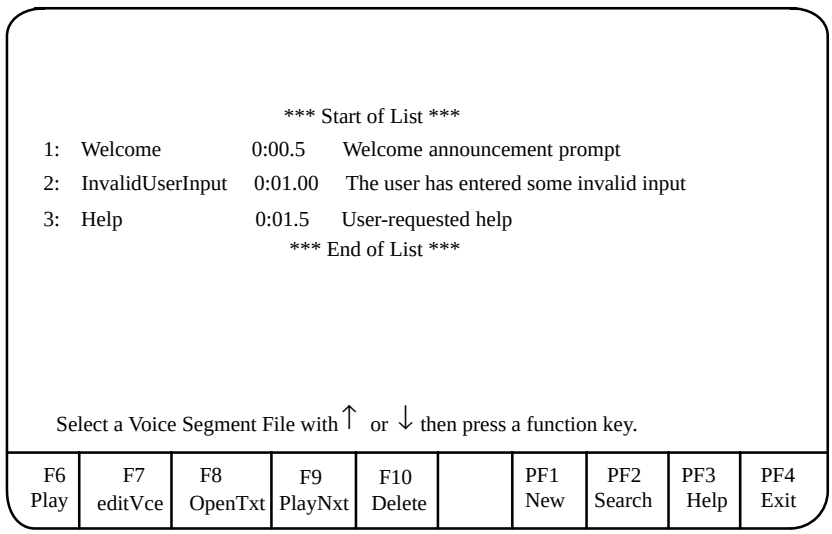


When the “normalize” command has been issued, you will have to wait several moments as the file is processed. For convenience, the user can issue an “Abort” (PF4) command to stop the “normalization” process before it is completed.

Grouping voice segments for concatenation

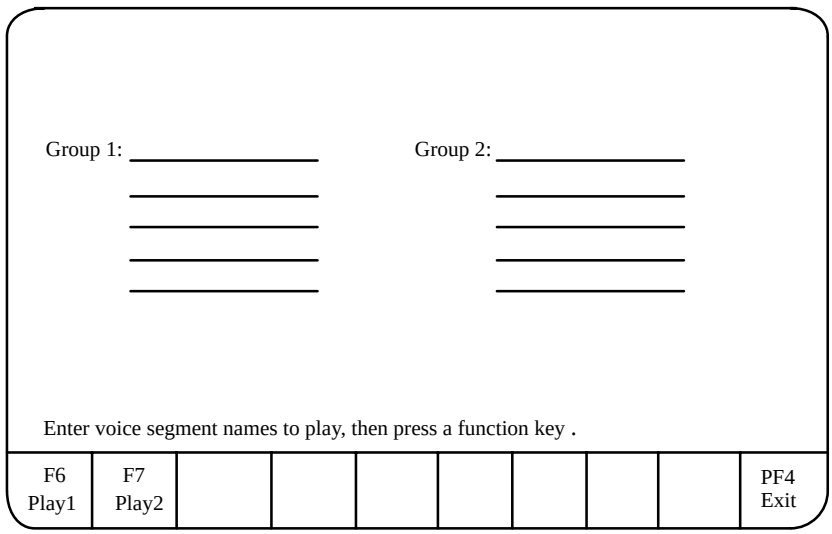
Grouping voice segments for concatenation (the second step of the process) is most easily accomplished while the list of “normalized” voice segments is being displayed.

Figure 6-2
Voice segment list



You can select and store a voice segment in a temporary buffer by positioning the highlight bar on the voice segment and pressing the CTRL-G keys simultaneously. Repeat this process, selecting and storing a group of segments in the order in which they are to be played back. When fifteen (at most) voice segments have been gathered, issue the “playGrp” (PF3) command to display the form used to set up a group of voice segments for concatenated playback.

Figure 6-3
“Play Group” form



Position the cursor in the left hand column and restore the group of voice segments by pressing the CTRL-P keys together. The group of selected voice segments is then pasted into the left hand column and is ready for concatenated playback. Then issue the “Exit” command to return to the list of voice segments. This entire process can be repeated to create two groups of up to 32 voice segments each.

A second group of voice segments can also be created by repeating the previous steps and positioning the cursor in the right hand column of the of the “playGrp” form before issuing the <CTRL-P> command. This second group is useful for comparing voice segments with slightly different inflections. Note that the up-arrow key moves the cursor from the top line of the right hand column to the top line of the left hand column and back again.

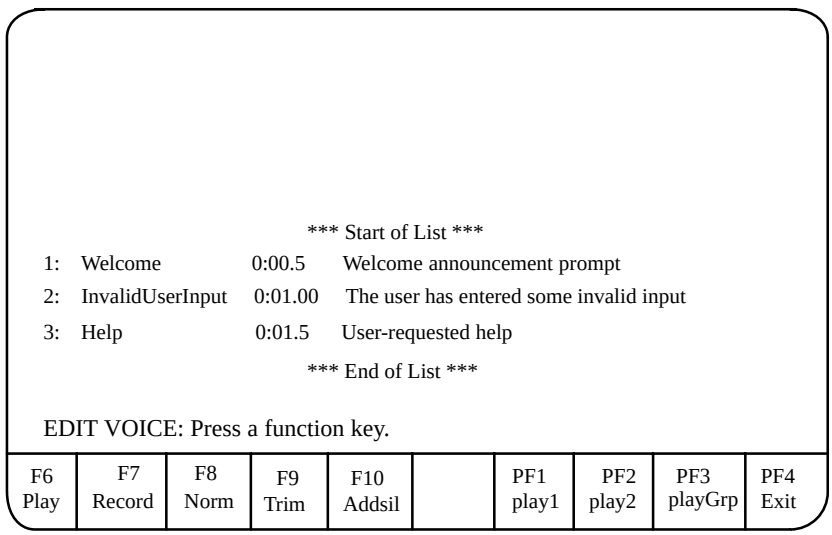
Another way to set up a group of voice segments is to simply type the name of each segment into the appropriate column of the “Play Group” form. This approach requires that each segment name be validated before the group of segments can be played for the first time. The validation process can take a few moments. Segment name validation is not required if the group of segments is set up using the CTRL-G and CTRL-P buffering technique.

The initial setup of the two groups of concatenated voice segments can be tested by issuing the “play1” and “play2” commands.

Playing and editing a group of concatenated voice segments

Playing a group of concatenated voice segments (the third step of the process) can usually identify a voice segment which contains too much leading or trailing silence, as well as any undesirable noise (pops or hisses) at either end of the segment. If any of these conditions are found, you may trim, pad, or re-record individual voice segments (the fourth step of the process) by exiting to the Voice Segment List display and activating the voice editing commands by issuing the “editVce” (F7) command.

Figure 6-4
Voice editing form



The “editVce” command line provides the following ten commands:

Key	Function	Description
F6	Play	Play the speech segment of the selected voice segment
F7	Record	Record a speech segment into the voice segment
F8	Norm	“Normalize” the voice segment
F9	Trim	Trim either end of the voice segment
F10	Addsil	Pad either end of the voice segment with silence
PF1	play1	Play the first group of concatenated voice segments
PF2	play2	Play the second group of concatenated voice segments
PF3	playGrp	Set up one or two groups of voice segments for concatenated playback
Help	Help	View on-line help
PF4	Exit	Return to the previous set of commands

Play and Record

The “Play” and “Record” commands function exactly as explained in the section “Modifying Voice Segment Files”.

Norm

The “Norm” command first trims all leading and trailing silence, then pads the trailing end of the selected voice segment with 0, 1/16th, 1/8th, 1/4, 1/2, 3/4, 1, or 1-1/2 seconds of silence.

Trim

The “Trim” command enables the user to trim 1/16th, 1/4 or 1 second of recorded information off either end of the segment. Furthermore, this command also enables a user to trim all silence off either end of the selected voice segment.

Addsil

The “Addsil” command enables a user to pad either end of the voice segment with an additional 1/16th, 1/4 or 1 second of silence. This command is provided for editing segments that do not have sufficient leading or trailing silence.

play1 and play2

The “play1” and “play2” commands are provided to instantly verify the effects of each voice editing operation on the two groups of concatenated voice segments (set up in the “Play Group” form) without having to display the “Play Group” form.

playGrp

The “playGrp” command enables the user to return to the “Play Group” form in order to modify the groups of voice segments for concatenated playback.

Help

The “Help” key presents the user with brief descriptions of the commands displayed on the command line.

Exit

The “Exit” command redisplays the previous command line.

The “Norm”, “Trim” and “Addsil” commands can be used repeatedly to fine tune each voice segment. Play the concatenated group of voice segments between each voice editing operation to confirm its effect. It is important to realize that the trimming operations cannot be reversed, so this command must be used judiciously. Save the voice segment file quite frequently during intensive voice editing sessions. This is achieved by exiting to the list of voice segment files, then re-opening the file.

Appendix A: Glossary of Commands

Abort
Aborts the voice segment file “normalization” process.

Add Silence (Addsil)
Pads either end of a voice segment with 1/16th, 1/4 or 1 second of silence.

Cancel
Cancels the current operation.

Change Subject (chgSubj)
Presents a pop-up window allowing you to change the subject string associated with a segment file.

Copy
Copies a segment file, including all the segments and associated text. A pop-up window is presented, and you enter the name for the new file. It may take several minutes to copy large segment files.

Delete (a segment)
Marks a segment for deletion (“Deleted” will be appended to the segment title). You may “Undelete” the segment any time before you exit from the file.

Delete (a segment file)
Marks a segment file for deletion (the creation and last update dates will be replaced with “Deleted”). You may “Undelete” a segment file any time before you exit from the Voice Prompt Editor.

Done
Indicates when you have finished entering text (example, in a pop-up window).

Edit Text (editTxt)
Puts the editor into a mode that allows you to change the name of a segment, the segment's title, or the segment's script. You are automatically put into this mode when you select the "New" command for creating a new segment.

Edit Voice (editVce)
Puts the editor into a mode that allows you to play, record, normalize, trim, and pad voice segments. Exit (from the "voice segment" display) returns you to the "voice segment list" display.

Exit (from the "voice segment list" display)
Initiates a two-step sequence. First, if the segment file was modified, it offers you the option of saving or cancelling the changes. Second, it prompts you to enter a filename, pathname, and a prefix for a segment index header file. If you press ESC, no header file is created. If you press PF 4, the editor creates a segment index header file for the segment file you have just exited from. See the section "Creating a Segment Index Header File" in this document for further information on the segment index header file.

Exit (from the "Play Group" form)
Returns you to the "voice segment list" display.

Exit (from the "voice editing" command line)
Redisplays the previous command line.

Help
Presents a description of the commands presented in the command line.

Logon
Displays a pop-up window allowing you to enter another account number and password. Once you have successfully logged on to the new account, you will no longer have access to files in the current account. You need to know the account number and password for the new account.

New (from the "voice segment list" display)
Creates a new segment in the current file. The segment is appended to the end of the file. You will be shown the segment text screen and put into a mode allowing you to supply the segment's name, title, and associated script.

New (from the "voice segment file list" display)
Displays a pop-up window allowing you to enter a file name and subject. If the file name is unique, a new segment file is created.

Next (neXt)
Displays the text for the next segment in the file.

Normalize (Norm—from the "voice editing" command line)
Trims all leading and trailing silence, then pads the trailing end of a segment with 0, 1/16th, 1/8th, 1/4, 1/2, 3/4, 1, or 1-1/2 seconds of silence.

Normalize (norM—from the "voice segment file list" display)
Prepares a voice segment file for concatenation. "Normalizes" every voice segment in a voice segment file. The operation can be aborted at any time by issuing the "Abort" command.

Open
Opens the selected segment file for editing. You will see the list of segments. Large files may take a few moments to open.

Open Text (openTxt)
Displays the text associated with a segment, including its name, title, and script. This text can be changed with the Edit Text command.

Play
Plays the selected segment. If necessary, a telephone connection will be established to the extension specified when the voice prompt editor started.

Play Group (playGrp)
Displays the "Play Group" form. Using this form, a user can set up two groups of voice segments for concatenation.

play1
Plays the group of segments stored in the Group 1 list of the playGrp display.

play2
Plays the group of segments stored in the Group 2 list of the playGrp display.

Play Next (playnXt)
Selects the next segment and starts playing. Repeated use of this command allows you to listen to all of the segments in a file.

Quit
Quits the voice prompt editor and returns to the operating system. Any voice segment files marked for deletion will be deleted.

Record
Allows you to record voice for the current segment. Whenever Record is selected, any existing voice will be erased. Recording starts after the tone. Silence during the recording will be automatically compressed to 1/2 second of silence. If necessary, a telephone connection will be established to the extension specified when the voice prompt editor was started. To terminate recording, select Stop or press the arrow or paging keys.

Rename
Presents a pop-up window allowing you to change the name of a selected segment file. The name you choose must be unique within that account.

Save
Saves the changes made to a voice segment file.

Search
Presents a pop-up screen prompting the user to enter criteria for finding a particular segment within the segment file. The search criteria can be the (numeric) segment ID, substrings in the segment name, title and script or any combination thereof. In addition, it is possible to search by the amount of voice recorded in a segment. This last criterion enables a user to confirm that all of the segments have been recorded.

Skip Backward (skipBak)
Skips back five seconds within the currently playing segment and continues playing. This command is only available when a segment is playing.

Skip Forward (skipFwd)
Skips over the next five seconds within the currently playing segment and continues playing. This command is only available when a segment is playing.

Stop
Stops the recording or playback. The “Stop” command is only available during recording or playback.

Trim
Trims 1/16th, 1/4 or 1 second of recorded information off either end of a voice segment. This command also enables a user to trim all silence off either end of a voice segment.

Undelete (from the “voice segment list” display)
“Undeletes” a segment that is marked “Deleted”.

Undelete (from the “voice segment file list” display)
“Undeletes” a segment file that is marked “Deleted”.

CTRL-G
Stores a voice segment name in a temporary buffer. Used to create groups for concatenated playback. The buffer has room for up to fifteen names.

CTRL-P
Restores the buffer of voice segment names into either the Group 1 or Group 2 lists in the playGrp display. The voice segment names are stored in the buffer with the CTRL-G command.

CTRL-T
To move the highlight bar to the first position on the voice segments list.

CTRL-B
To move the highlight bar to the bottom position on the voice segments list.

Appendix B: Meridian ACCESS application development guide

The following appendix is a guideline for developing a Meridian ACCESS application that uses voice concatenation. This appendix is intended to illustrate how the Voice Prompt Editor is used in the development cycle. This guideline assumes that the application requirements are understood and can be implemented as a keypad-driven menu of pre-recorded speech.

1. Specification

1 Define a tree-structured menu of voice scripts.

2 Assign a unique, 16-character name to each script.

3 Identify all of the scripts that contain variable information (example, “Your account balance is ...”).

4 Isolate the variables in these scripts and break the original scripts into groups of concatenated scripts. For example:

Segment name	Script
AccountBal	“Your account balance is”
Seven	“seven”
Dollars	“dollars”
And	“and”
Twenty	“twenty”
Cents	“cents”

5 Identify those scripts that represent variable information, and compile a list of all of the discrete spoken words that are required to represent the complete range of values required by the application.

Example 1			
“One”	“Two”	“Three”	“Four”
“Five”	“Six”	“Seven”	“Eight”
“Nine”	“Ten”	“Eleven”	“Twelve”
“Thirteen”	“Fourteen”	“Fifteen”	“Sixteen”
“Seventeen”	“Eighteen”	“Nineteen”	“Twenty”
“Thirty”	“Forty”	“Fifty”	“Sixty”
“Seventy”	“Eighty”	“Ninety”	“Hundred”
“Thousand”	“Million”		

Example 2			
“Red”	“Yellow”	“Green”	“Blue”
“Orange”	“Silver”	“Gold”	“Pink”

2. Voice segment file creation

1 Run the Voice Prompt Editor.

2 Create a new voice segment file.

3 Open the voice segment file.

4 Add the first voice segment. Fill in the voice segment name, title and script.

5 Add all of the subsequent voice segments by repeatedly issuing the “New” command from within the Voice Segment display and filling in the name, title, and script.

6 Exit from the voice segment list display. Save the voice segment file and generate a segment index header file.

3. Voice segment recording

1 Open the voice segment file.

2 Open the first voice segment to display the script.

3 Issue the “editVce” and “Record” commands and recite the script of the first segment. Press the “Stop” command when the recording is complete.

4 Issue the “Exit” and “neXt” commands to display the script of the subsequent segment and repeat the previous step.

5 Record all of the voice segments by repeating the above two steps for each voice segment.

6 When you have finished recording, exit to the voice segment file list and save the voice segment file.

4. Voice segment editing

1 “Normalize” the voice segment file.

2 Open the voice segment file to display the list of voice segments.

3 Using the highlight bar and the CTRL-G command, group a set of segments to be concatenated.

4 Issue the “playGrp” command and use the CTRL-P command to set up the first group. Test the setup by issuing the “Play1” command.

5 Issue the “Exit” and “editVce” commands to return to the list of voice segments and display the voice editing commands.

6 Issue the “play1” command again to verify that the concatenated group of voice segments sounds natural. If it does not, use the “Trim” and/or “Addsil” commands to fine tune the individual voice segments, or re-record the segment.

7 Once the group sounds natural, use the CTRL-G and CTRL-P commands to select a new group for testing. Repeat this procedure for all key groups.

8 Exit and save the voice segment file.

5. Application development

Using the Meridian ACCESS API and the names defined in the Segment Index Header File, implement the application software.

Appendix C: Troubleshooting

This section describes some problems you may encounter and possible causes for them.

Logon problems

Unable to establish session with Meridian Mail

A temporary problem exists with Meridian Mail. Try again later—if it still fails, contact your system administrator.

Not prompted for Account number or Password

An Account number or Password was supplied when VPE was first installed. Delete the file VPE.PRO and re-install VPE.

Account number or Password invalid

Restart VPE, this time supplying the correct information. If logging in via VPE.PRO, delete VPE.PRO and re-create the file using the correct information.

Meridian Mail is currently busy

All available Meridian Mail voice channels are in use. Try again later—if it still fails, contact your system administrator.

Already logged on

You tried to log into an account which is already in use (possibly because the VPE session was aborted, or the previous session was hung). You will be logged off automatically after the timeout period set by your system administrator has elapsed. In most cases you can try again in about five minutes.

Play/Record problems

After “Play” or “Record” is pressed, telephone does not ring

Wrong telephone number in VPE profile. Delete the file VPE.PRO and re-install VPE.

Telephone is off hook. Make sure telephone is hung up and let the telephone ring before picking up the receiver.

Call was forwarded to <DN>. Connection dropped

Make sure that call forwarding at the associated telephone set is not in operation.

Editing problems

Trim command doesn’t work properly

Ensure that silence compression is enabled on Meridian Mail.

Installation problems

Not prompted for installation when you type “VPE” after deleting “VPE.PRO”

VPE uses the search path to locate VPE.PRO. Ensure that there are no other copies of VPE.PRO in the search path.

Appendix D: Error messages

Error messages are divided into five categories: Logon Errors, Voice Segment File Command Errors, Voice Segment Command Errors, Installation Errors, and General Errors.

Error messages are presented first, followed by the suggested action to be taken (italics), if applicable.

Logon errors

Could not recognize name *"variable name"* in file "VPE.PRO".

Delete "VPE.PRO" and restart VPE.

No telephone number supplied. VPE terminated.

No Account # supplied. VPE terminated.

No Password supplied. VPE terminated.

Unable to register with Meridian ACCESS *(error code)*. Try again later.

A temporary problem exists with Meridian Mail. Try again later—if it still fails, contact your administrator.

Unable to establish session with Meridian Mail *(error code*). Try again later.

A temporary problem exists with Meridian Mail. Try again later—if it still fails, contact your administrator.

Invalid Account # or Password. VPE terminated.

You have too many Voice Segment Files. Only the first *n* were retrieved.

Delete some Voice Segment Files and re-logon.

Unable to logon *(error code)*. VPE terminated.

Try again. If it still fails, contact your administrator.

Unable to initialize retrieval of Voice Segment Files for new account *(error code)*.

Logoff and try again.

Error during retrieval of Voice Segment Files for new account *(error code)*.

Logoff and try again.

Unable to log back on *(error code)*. VPE terminated.

Try again. If it still fails, contact your administrator.

Meridian Mail is currently busy. Please try again later.

A temporary problem exists with Meridian Mail. Try again later—if it still fails, contact your administrator.

Access to that account has been denied. Please contact your administrator.

Logon for that account has been disabled. Please contact your administrator.

Unable to bring up Logon pop-up. Please contact your administrator.

Restart VPE and try again. If it still fails, contact your administrator.

Unable to initialize retrieval of Voice Segment Files *(error code)*.

Try again. If it still fails, re-logon.

Unable to retrieve Voice Segment Files *(error code)*.

Try again. If it still fails, re-logon.

Voice segment file command errors

Invalid name given for new Voice Segment File. File not created.

Supply a name which does not contain spaces.

Error closing file *(error code)*.

Report this problem to your administrator.

Error during deletion *(error code)*. Voice Segment File not deleted.

Try again. If it still fails, re-logon.

Error creating new Voice Segment File *(error code)*. Command not performed.

Try again. If it still fails, re-logon.

Error assigning subject to new Voice Segment File *(error code)*. Subject left empty.

Try again. If it still fails, re-logon.

Unable to check if given name already exists *(error code)*. File not created.

Try again. If it still fails, re-logon.

No memory available for creating new Voice Segment Files. Delete some first.

A maximum of 100 voice segment files can exist at one time. You are at this maximum.

A Voice Segment File already exists with that name. File not created.

Use a unique file name.

Invalid name given. File not renamed.

Supply a name which does not contain spaces.

Unable to check if given name already exists *(error code)*. File not renamed.

Try again. If it still fails, re-logon.

A Voice Segment File already exists with that name. File not renamed.

Use a unique file name.

Error renaming Voice Segment File *(error code)*. File not renamed.

Try again. If it still fails, re-logon.

Error changing subject of Voice Segment File *(error code)*. Subject not changed.

Try again. If it still fails, re-logon.

Unable to open Voice Segment File *(error code)*. Command not performed.

Try again. If it still fails, re-logon.

Unable to bring up Change Subject pop-up.

Report this problem to your administrator.

Unable to bring up Rename pop-up.

Report this problem to your administrator.

Unable to bring up Copy pop-up.

Report this problem to your administrator.

Unable to get system date *(error code)*. Try again later.

Try again. If it still fails, re-logon.

Unable to get system date for creating new file *(error code)*. File not created.

Try again. If it still fails, re-logon.

Error during undeletion *(error code)*. Voice Segment File not undeleted.

Try again. If it still fails, re-logon.

Error committing new Voice Segment File *(error code)*.

Report this problem to your administrator.

There is not enough memory available to retrieve segments.

Report this problem to your administrator.

Error saving changes to Voice Segment File *(error code)*.

Try again. If it still fails, re-logon.

Error normalizing segment #*n (error code)*. All segments were not normalized.

Try again. If it still fails, re-logon.

Changes were canceled, but unable to re-open Voice Segment File *(error code)*.

Re-logon.

Unable to determine total # segments *(error code)*. Normalize operation aborted.

Try again. If it still fails, re-logon.

Unable to determine total # segments in file *(error code)*. Open failed.

Try again. If it still fails, re-logon.

There are too many segments in this file. Only the first *n* can be edited.

Delete some segments and re-open the file before trying again.

Non-fatal error retrieving file information *(error code)*.

Try again. If it still fails, re-logon.

Voice segment command errors

Error during validation of segment names *(error code)*. Play not performed.

Try again. If it still fails, re-logon.

Error during deletion *(error code)*. Voice segment not deleted.

Try again. If it still fails, re-logon.

Unable to connect to a voice channel *(error code)*.

Try again. If it still fails, re-logon.

Unable to skip backward or forward *(error code)*.

Try again. If it still fails, re-logon.

Unable to start playback of voice segment *(error code)*.

Try again. If it still fails, re-logon.

Error stopping playback *(error code)*.

Report this problem to your administrator.

Error stopping recording *(error code)*.

Report this problem to your administrator.

Unable to start recording of voice segment *(error code)*.

Try again. If it still fails, re-logon.

There is nothing to play.

There is no voice associated with the segment that you chose to play.

Unable to reposition to selected voice segment *(error code)*. Command not performed.

Try again. If it still fails, re-logon.

Unable to initialize retrieval of voice segments *(error code)*. Nothing retrieved.

Re-open the file. If it still fails, re-logon.

Error during retrieval of voice segments *(error code)*. Not all segments retrieved.

Re-open the file. If it still fails, re-logon.

Unable to retrieve script for voice segment *(error code)*. Command not performed.

Try again. If it still fails, re-logon.

Error during undeletion *(error code)*. Voice segment not undeleted.

Try again. If it still fails, re-logon.

No memory for retrieving script. Command not performed

Report this problem to your administrator.

Silence timeout during recording. Recording stopped.

Check that telephone microphone is working.

Maximum recording time limit reached. Recording stopped.

Have the administrator increase the maximum file size or re-record a shorter segment.

Meridian Mail system disk drive full *(error code)*. Recording stopped.

Contact your administrator.

Cabinet storage limit was reached during recording *(error code)*. Recording stopped.

Delete some files containing voice, then try again.

System error encountered during recording *(error code)*. Recording stopped.

Try again. If it still fails, re-logon.

Error updating name & title for segment *(error code)*. Only script changes were saved.

Try again. If it still fails, re-logon.

Error updating script for voice segment *(error code)*. No changes were saved.

Try again. If it still fails, re-logon.

*** WARNING *** The voice segment was saved with an empty name.

Use editTxt to give a name to the voice segment.

*** WARNING *** The voice segment was saved with an invalid name.

Use editTxt to give a name which does not contain spaces to the segment.

Too many voice segments already in the file. Command not performed.

You tried to normalize a file containing more than 10 000 voice segments. Remove some segments and try again.

Unable to create a new voice segment *(error code)*.

Try again. If it still fails, re-logon.

No memory available for creating voice segments. Command not performed.

Report this problem to your administrator.

*** WARNING *** The voice segment was saved with a duplicate name.

Use editTxt to change the name to a unique voice segment name.

Already positioned on last segment.

You tried to advance past the last segment via the "Bottom ^B" command or by pressing playnXt while positioned at the last segment.

Invalid segment name *"segment name"* in Group *n*. Play not performed.

Delete the invalid name and try again.

Unable to start playback of voice segments *(error code)*.

Try again. If it still fails, re-logon.

There are no segments to play in Group *n*.

Use CTRL-G to get the segments you wish to play, and then use CTRL-P to put them into the play group.

Segment *"segment name"* in Group *n* contains no voice. Play not performed.

All of the segments in a play group must contain voice before the group can be played together. Record some voice for the segment named.

One or more segments in Group *n* contain no voice. Play aborted.

Look in the Voice Segment List to determine the unrecorded segment.

Unable to bring up Header File pop-up.

Report this problem to your administrator.

Unable to bring up Search pop-up.

Report this problem to your administrator.

Error retrieving a voice segment script *(error code)*. Search aborted.

Try again. If it still fails, re-logon.

Error retrieving a buffer of voice segments. Search aborted.

Try again. If it still fails, re-logon.

Match found, but unable to display window for the voice segment.

Try again. If it still fails, re-logon.

CTRL-G is only valid in the “VOICE SEGMENT LIST” window.

Use CTRL-G in the Voice Segment List window to gather voice segments to be placed into a play group.

CTRL-P is only valid in the “PLAY GROUP” window.

Use CTRL-P in the Play Group window to place voice segments (gathered via the CTRL-G command) into a play group.

Buffer is already full (15 segments).

When gathering voice segments to be played in a group, they are placed in a buffer. A maximum of 15 voice segments can be gathered at once. Use CTRL-P to empty the buffer by placing its contents into a play group.

There are no segments in this Voice Segment File to save.

Buffer is empty. No segments to restore.

Use CTRL-G in the Voice Segment List window to get the voice segments you wish to place into the play group.

Not enough room to restore entire buffer. Command not performed.

Try placing the saved voice segments into the other play group, if it has more room.

Unable to normalize segment *(error code)*.

Try again. If it still fails, re-logon.

The associated telephone number is invalid. Unable to connect.

Use a valid telephone number.

Telephone is currently busy. Unable to connect to a voice channel.

Hang up the telephone and try again.

No answer at associated telephone set. Unable to connect to a voice channel.

Answer the telephone when it rings; ensure that you have supplied the correct telephone number.

Connection was rejected. The associated telephone # may be invalid.

Try again. If it still fails, the telephone number may be invalid, in which case the VPE should be re-installed.

Unable to trim segment *(error code)*.

Try again. If it still fails, re-logon.

Unable to add silence to segment *(error code)*.

Try again. If it still fails, re-logon.

Unable to determine total # segments in file *(error code)*. Header file not created.

Try again. If it still fails, re-logon.

Call was forwarded to "*telephone #*". Connection dropped.

Make sure that call forwarding at the associated telephone set is not in operation.

Error retrieving current call information *(error code)*.

Try again. If it still fails, re-logon or re-install VPE.

General errors

A system error has occurred *(error code)*. Command aborted.

Try again. If it still fails, re-logon.

Unable to reset timer. Timeout still in progress.

Re-logon.

There is no more space available in the cabinet. Command not performed.

Delete some files, then try again.

"Top ^T" and "Bottom ^B" are only valid in the "VOICE SEGMENT LIST" window.

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NORTEL
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Reader's Response Form for

Meridian ACCESS
***Voice Prompt Editor User Guide* (NTP 555-7001-318)**
January 1998

Tell us about yourself:

Name: _____ **Date:** _____

Company: _____

Address: _____

_____

Occupation: _____ **Phone:** _____

1. What is your level of experience with this product?

   ❑ New user ❑ Intermediate ❑ Experienced ❑ Programmer

2. How do you use this book?

   ❑ Learning ❑ Procedural ❑ Problem solving ❑ Reference

3. Did this book meet all of your needs?

   ❑ Yes ❑ No

   If you answered **No** to this question, please answer the following questions.

4. What chapters, sections, or procedures did you find hard to understand?

   _____
   _____
   _____

5. What information (if any) was missing from this book?

   _____
   _____
   _____

6. How could we improve this book? (For example, books can also be evaluated in many other ways, including: ease of information retrieval, presentation, and use of reading aids, such as diagrams.)

   _____
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Please return your comments by fax to (416) 597-7104, or mail your comments to: Nortel Product Training and Documentation, Toronto Lab, 522 University Ave., Toronto, Ontario, Canada. M5G 1W7.

Reader's Response Form

Meridian ACCESS

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