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INTRODUCTION

Thank you for purchasing the VSR 200 from Voice Systems Inc.

VSR 200 OVERVIEW

The VSR 200 Series represents the latest in state-of-the-art technology, and innovative product design.

Designed as a turn-key product, the VSR 200 comes pre-configured and preprogrammed for easy installation and set-up. Systems come complete with CPU, 2 or 4 port line cards, high speed hard disk drive with over 4 hours of voice storage, and VSR voice processing software with a full range of flexible features including, Auto Attendant, Audiotex, VoiceMail, and Call Processing.

The VSR 200 connects to Centrex, Key or PBX systems through a single line extension, or OPX interface.

WARRANTY DISCLAIMER

The VSR 200 Series has a one year limited warranty, which covers any manufacturing defects, in material and/or workmanship. This warranty does not cover damage due to misuse, lightning, shipping damage or alteration to product.

If defect does occur Voice Systems Inc. retains the right to replace or repair product at its discretion. Voice Systems Inc. makes no other warranties of any kind either implied or expressed, including warranties of merchantability and fitness for a particular use. Voice Systems Inc. is not liable for any incidental, accidental, consequential or punitive damages from any breech of warranty or otherwise.

RADIO FREQUENCY INTERFERENCE STATEMENT

Warning: This equipment has been certified to comply with the limits for a Class B computing device pursuant to Subpart J of Pat 15 of FCC Rules. Only peripherals (computer input/output devices, terminals, printers, etc., with shielded type interface cables) certified to comply with the Class B limits may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

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UNPACKING

VSR 200 systems are neatly packed into one box. Carefully unpack the system and inventory each part against the list below:

- VSR 200 CPU
- Power Supply
- Monitor
- Keyboard
- AC Cord (Monitor)
- Dos 4.01 Software & Manual
- VSR 200 Series Software (4 Diskettes)
- System Manual
- Modem (Optional)
- Shelf (Optional, and packed separately)

LOCATING THE SYSTEM

Environment

The VSR 200 system should be installed in a location which is clean, within a temperature range of 65°F and 100°F, stable or free from vibration, and secure whenever possible.

Location

The VSR 200 system can essentially be located anywhere cabling and jacks can be installed. It is usually located in the telephone room and, if a mounting shelf was purchased, can be installed directly on the backboard. Some technicians prefer to set it atop of the PBX, as long as there is enough room and the temperature is not excessive. The system may also be placed on a desk, usually the System Administrator's environment. (Note: This is not as secure but it is sometimes more convenient.)

Electrical

The ideal source of power for the VSR 200 system would be from an Uninterruptible Power Supply (UPS) which is plugged into a dedicated electrical outlet (not used by other equipment). If this is not possible make sure that other systems using the same circuit do not draw large amounts of current or fluctuate abnormally. At the very least, the VSR 200 system should be plugged into a multi-plug outlet with a surge suppressor.

Mounting Shelf

If you purchased a shelf for the VSR 200 system, mount it on the telephone backboard approximately five feet from ground level. Attach the VSR 200 system and the power supply to the bottom of the shelf using the "U" brackets included and place the monitor and keyboard on top of the shelf.

Assembling the System

Connect the monitor, keyboard and power supply to the VSR 200 CPU. Make sure that the monitor switch in the back of the CPU is in the MONO position. Note: The keyboard plug looks similar (but is not) to the power supply plug.

The keyboard plug fits into the side of the unit and the power supply plug fits in the back of the unit. The VSR 200 system requires two AC outlets, one for the power supply and the other for the monitor. (The monitor requires a separate AC cord which is included.)

STARTING THE SYSTEM

Turning on the System

Press the ON/OFF button in front of the main unit. When the system boots up correctly you will be placed in the VSR External Maintenance Program.

Logging In

The default password is "PASSWORD" (upper case). Simply enter it and press return. You must have "Caps Lock" on.

Changing the Password

It is a good idea to change the password immediately to one that you will remember. To change the password, first insert VSR Diskette #1 into Drive A:. From the Utility Menu select Integrity Menu and Password. Enter the new password twice, the second time for verification. Your password will be recorded to the system disk as well. Take out Diskette #1 and place it back in the envelope.

Note: You will only need system diskettes for password or hardware changes or if it is necessary to re-install the software, otherwise you may store the diskettes in a safe, secure, and cool location.

QUICK SETUP

Now return to the Utility Menu and Select Quick Setup. Follow the instructions for Quick Setup.

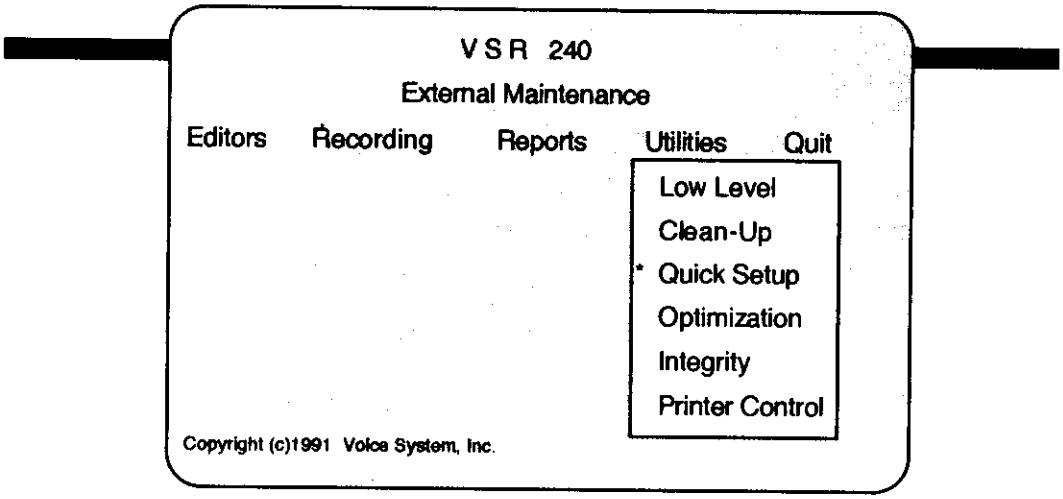

Figure 1

The VSR 200 Series software is already installed but it needs to be configured for your telephone system's needs. Quick Setup, which is run from the Utilities Menu in the External Maintenance Program, is designed to make installation quick and easy. It makes the assumption that most installations require minimal changes in configuration and therefore establishes many default settings in advance.

CAUTION - This program establishes Extensions, Mailboxes, and Defaults. In addition it sets up Voice Mailbox Directories and Control Files. Once you have completed this program, running it again will remove all the files and structures you have built. If you wish to add mailboxes, extensions, or change defaults after you have run Quick Setup, use the External Maintenance program. If you think you have made a mistake in the way you ran Quick Setup the first time, then you may run it again. The system will warn you if it has been previously run.

Function Keys

During the operation of Quick Setup you may use the following function keys:

F9 Exit Installation

Note: If you exit the program before the mailboxes have been created then nothing new will be added, but your old structure will be deleted.

F10 Save & Continue

ESC Goes back to the previous menu.
Note: You are not allowed to Escape back after the Mailboxes have been created.

F2 When Prompted for a Lookup Field (See External Maintenance/ General)

Configuration

The Quick Setup program uses a series of questions to configure your system. After you complete each screen, press F10 to continue. The following are screens and questions that you'll need to answer.

Company Information - Enter your company's Name, Address, & Phone number on this screen.

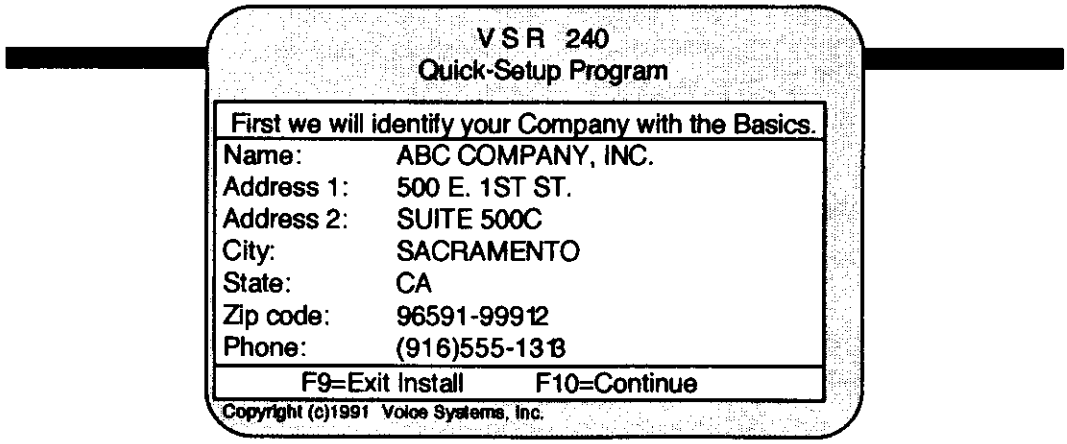

Figure 2

Working Hours

Enter your Working Hours (See Time Settings), in standard time.

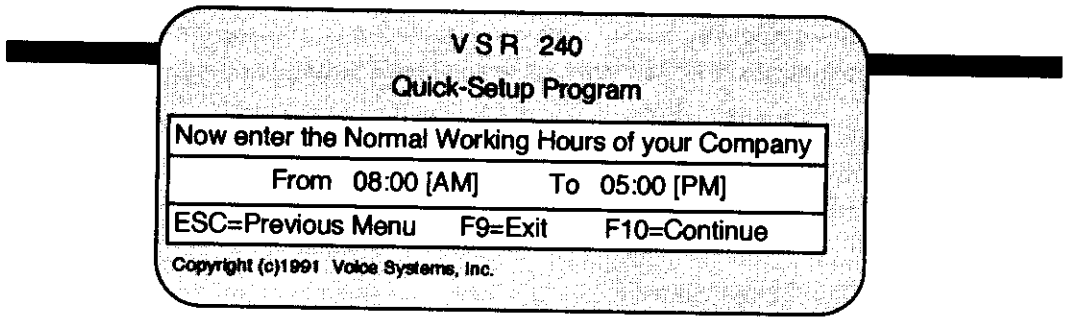

Figure 3

Phone System

Press F2 to see a list of the Pre-Defined phone systems. If yours is not listed, select Generic and continue. Note: If you have selected Generic, you may have to use the Phone System Editor to make changes which meet your telephone system's requirements.

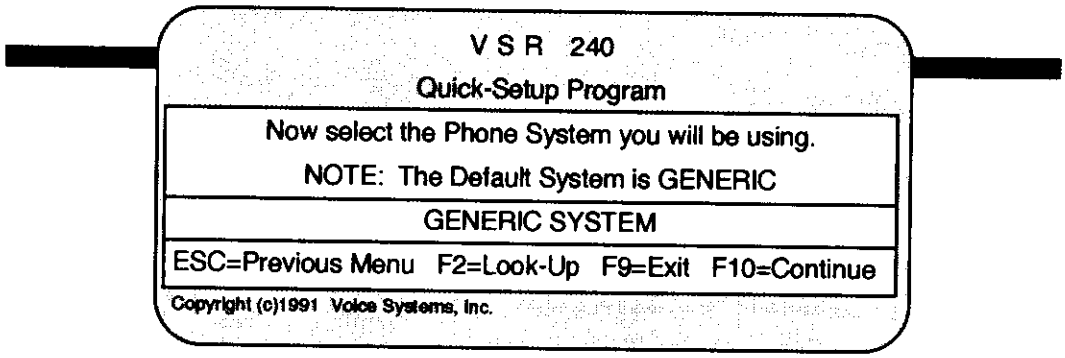

Figure 4

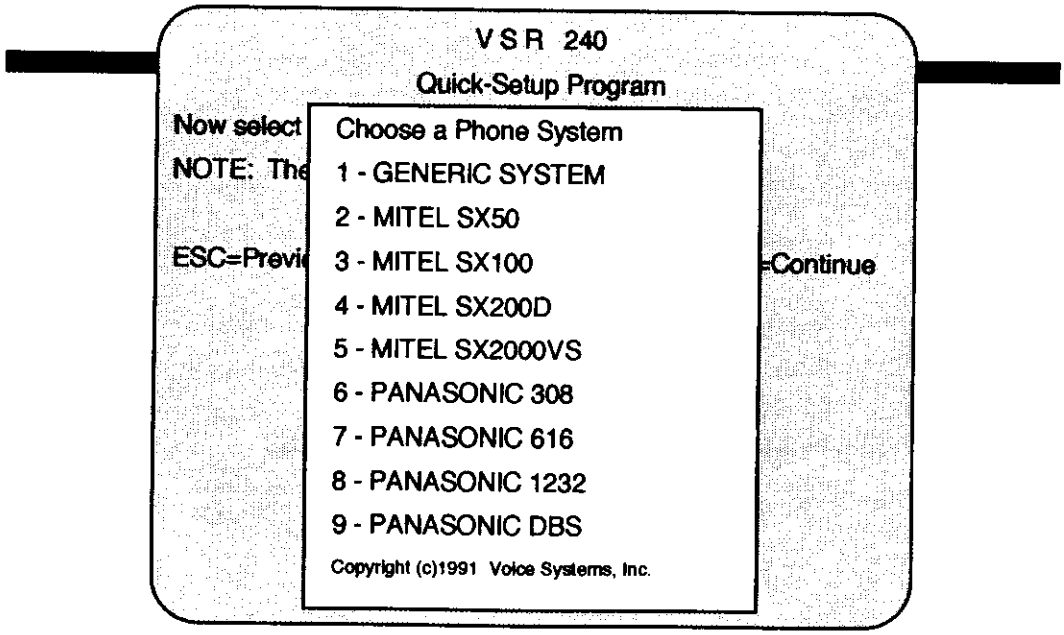

Figure 5

Notification

There are two types of Notification:

1. Message Waiting Lamps
2. Telephone Notification.

If you have Message Waiting Lamps on all your phones, then select Lamps Only. If you have no lamps and you wish to be notified of messages by telephone, whether by pager or directly to your extension or outside telephone number, select Telephone. If you have Lamps and require Telephone Notification then select Both. To select one of these press the down arrow key to highlight your choice and press the [ENTER] key to activate the CHECK "√".

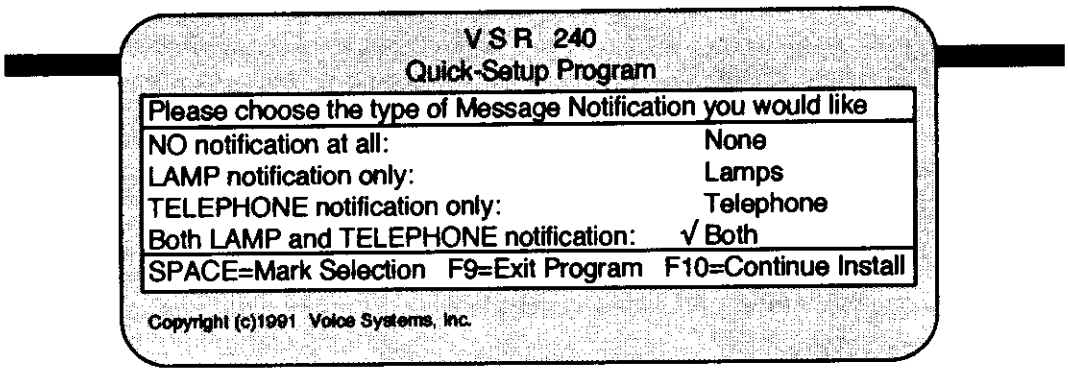

Figure 6

Message Waiting Lamps

If you selected either Lamps or Both, enter the Feature Codes which SET or CLEAR Message Waiting Lamps. An example of this might be "*10" to SET lamps and "*11" which will CLEAR them. This field will accept up to 10 digits of any character (See Phone System Editor for more information). If you selected a system other than Generic, the codes will be displayed.

Password Size

The password can be from three to six digits. The default size is "4".

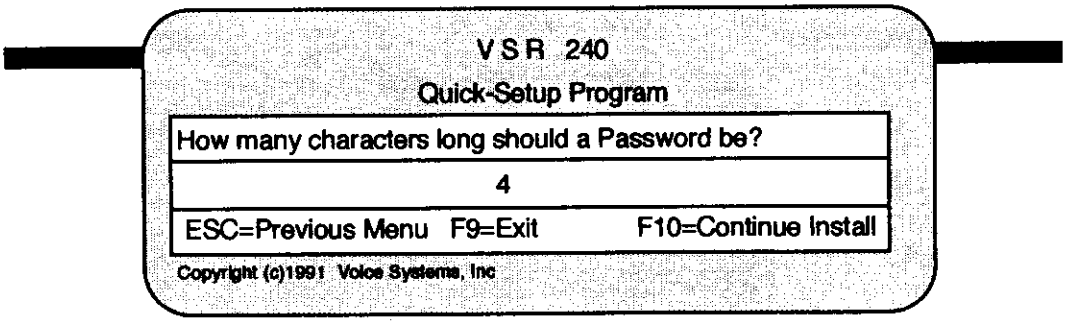

Figure 7

Number of Rings Before a No Answer

Enter the number of times you wish the system to ring an extension before it determines that there is no answer. Usually "4" rings gives sufficient time for the called party to answer.

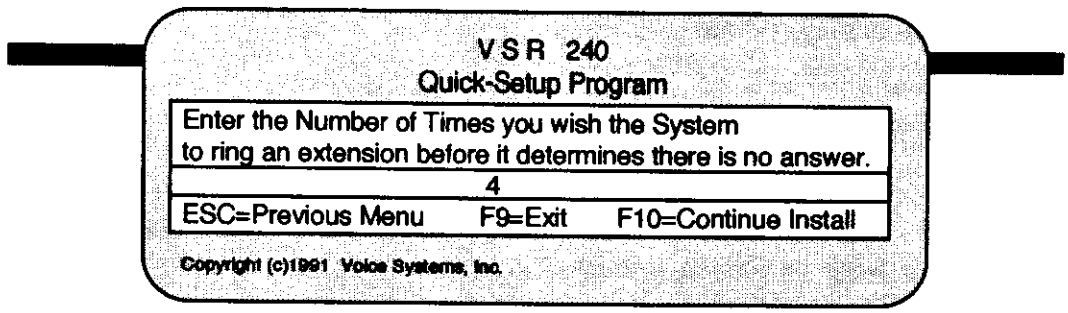

Figure 8

Number of Digits Extension\ Mailbox

Enter the size of your Extension and Mailbox Numbers. The Extension Numbers can be a different size from the Mailbox Number, but to avoid confusion enter the same size for both. (Note: The system does not except an Extension Series which has different sizes, such as 100's and 2000's. The size range is from 2 to 6 digits.

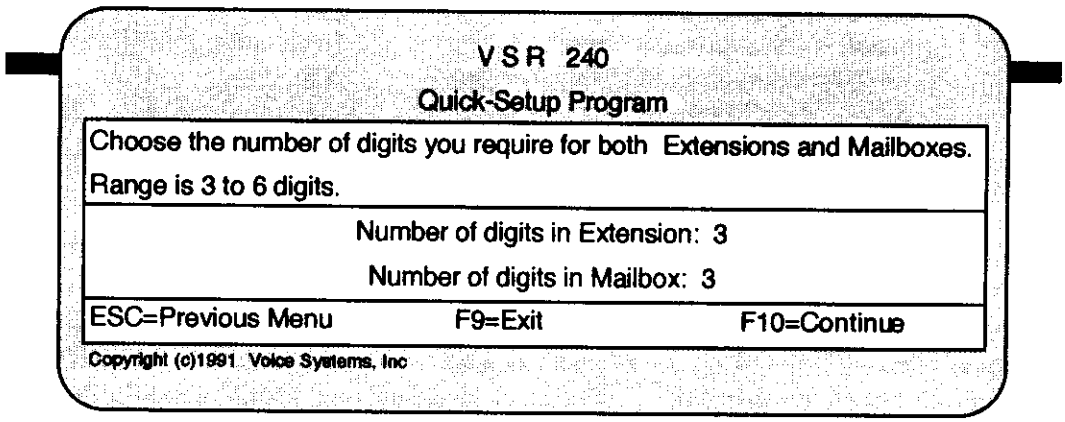

Figure 9

Create Extensions

Enter the starting and ending number in your Extension Number Series. This step will NOT create the extensions so don't be concerned with unwanted extensions. Do not include "0" as the "0", (Operator) will be included automatically.

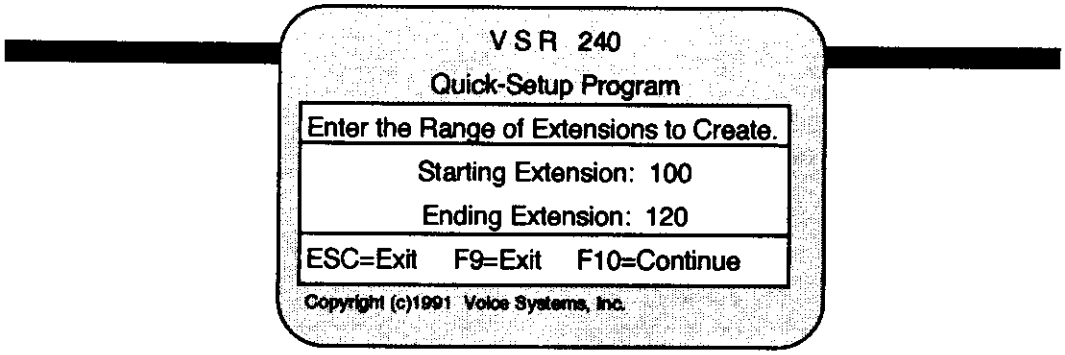

Figure 10

Remove Unwanted Extensions

You may remove an extension by moving the cursor to that extension and pressing the space bar. The CHECK "√" will be removed. You may press the space bar again to re-mark the extension if you make a mistake.

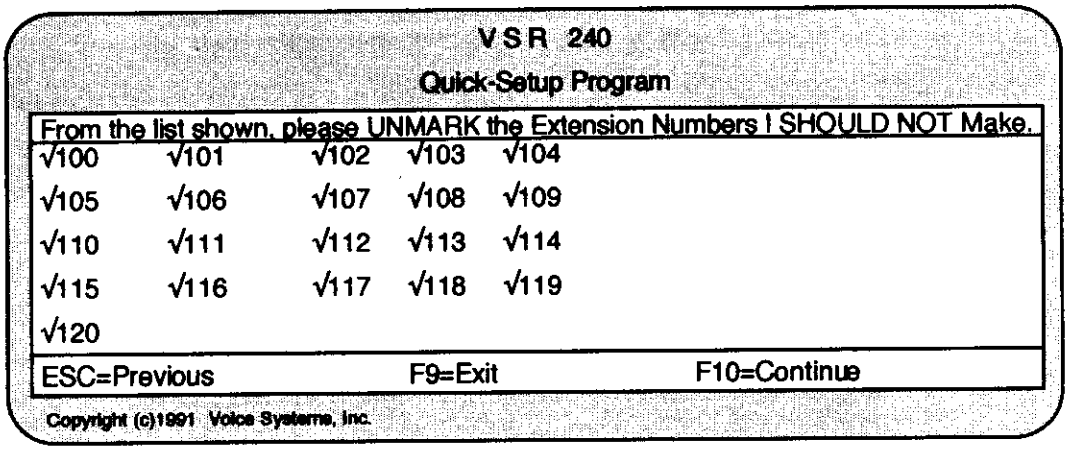

Figure 11

Remove Mailboxes

This list represents all valid Extensions which you previously created. Remove the CHECK from any extensions which do not have associated mailboxes. For instance, the conference room, warehouse, or a second extension in the same office. Note: If you wish to ADD mailboxes which don't have extensions then you must do so using the Mailbox Editor.

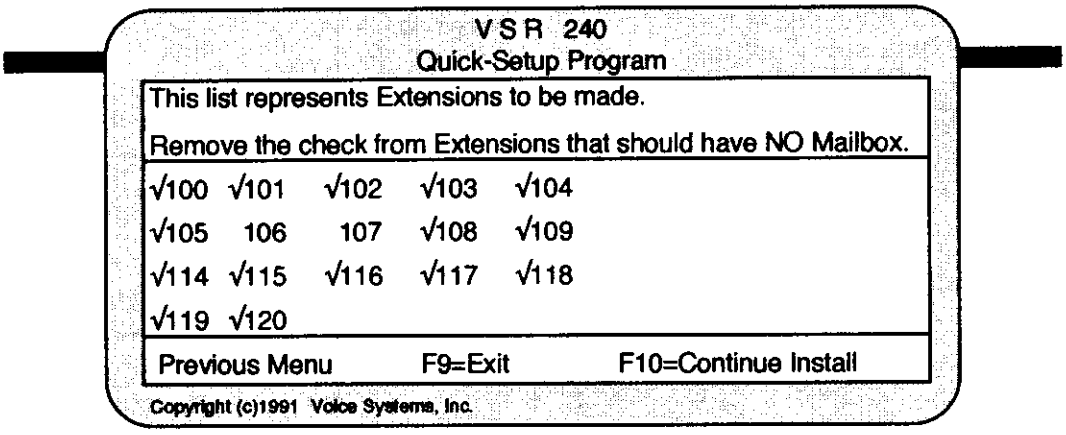

Figure 12

Building Extensions and Mailboxes

Quick Setup will now build the extensions and mailboxes and display its progress. From this point on you can only go forward in the program.

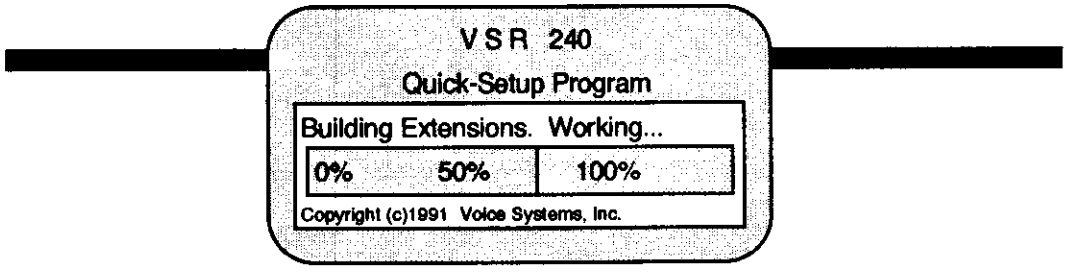

Figure 13

Default Values

Now that you have created Extensions and Mailboxes you need to complete this one last screen. All fields in this sections are Lookup Fields for your convenience.

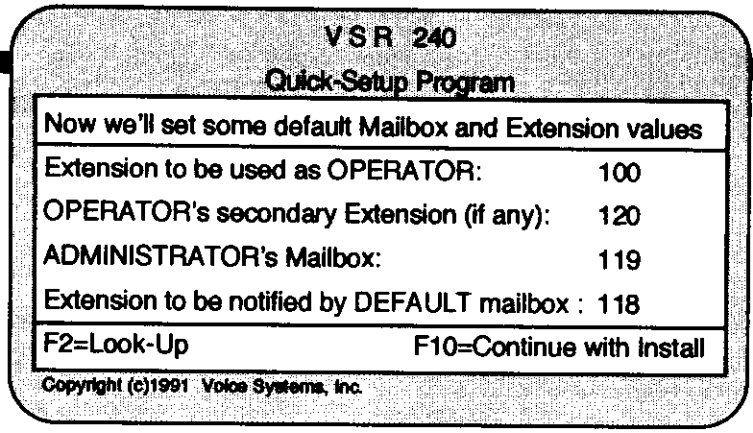

Figure 14

Operator

Enter the Extension to be used as operator. "0" is used in most cases. (See Setting up Operator)

Operator Secondary Extension

Enter a Secondary Extension for the Operator. This is only if you have two people covering as Operator. This is not a required field. Note: You cannot use the Operator's extension as a secondary extension.

Administrator Mailbox

Designate one user as the Administrator. This person will have system error messages deposited to their mailbox as well as access to all Mailboxes for Extension & Mailbox Setting Changes. (The designated Administrator does not have access to the User's Messages nor can they set or listen to the password.)

Default Mailbox Notification

The default mailbox is either 10, 100, 1000, 10000, or 100000 depending on the mailbox size. This will be used as a General Mailbox where messages "without a home" can be directed. The General Mailbox should notify some extension that it has a message. Designate that extension in this field.

Done

You are now done with the Quick Setup Program. Press Return and you will return to the Utility Menu.

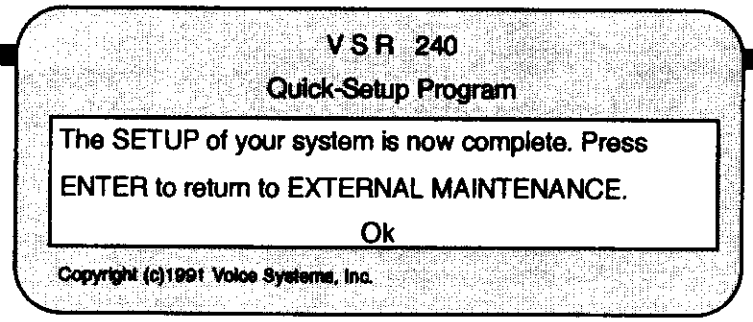

Figure 15

What have you got?

You are done running Quick Setup and all extensions and mailboxes have been defined, BUT there is one more step in the configuration: Assigning Names to the Extensions. If the system were placed on line at this time you would have a full Auto-Attendant and Voice Mail System; however, the extension directory requires a Name to be assigned to the extension. Note: The extension directory also requires an associated mailbox and that a User record their mailbox name.

Assigning Extension Names

1. Choose Extension from the Editors Menu. From the Locate mode press F2 to see a list of all the extensions you created using Quick-Setup. Select each one, enter the name, last name first and Press F10 to save. This name will be used for the extension directory. When you have finished with all the names use the Copy Names feature "F8" to copy all the extension names to their respective mailboxes.

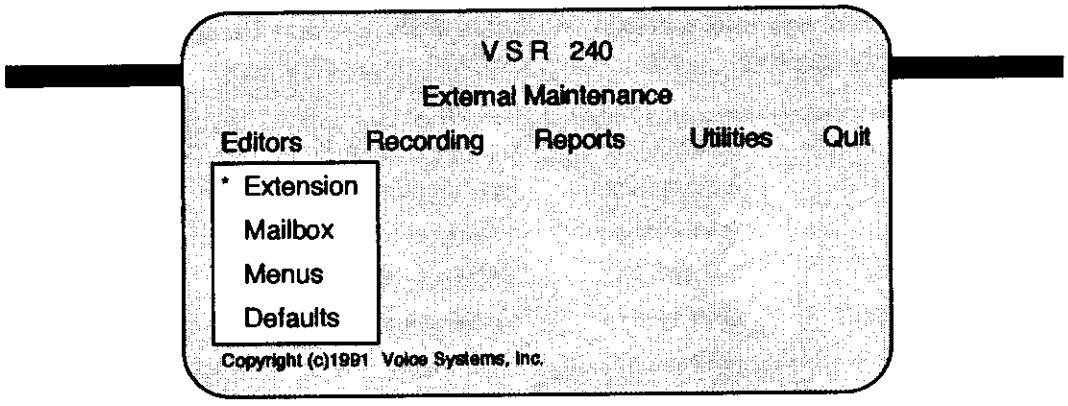

Figure 16

Activate Mailbox

2. The user Must activate their mailbox and record their Name. Messages can be left at all mailboxes immediately after Quick Setup is finished, however any caller attempting to access a Mailbox will be greeted with "After the tone leave a message for Mailbox #...". After a User records their greeting, name and password, the Mailbox is activated and uses the personal greeting. In addition the User will now be able to retrieve messages. (See User's Guide/ New User)

Shut Down the System

Exit the External Maintenance Program by escaping back to the main menu and selecting Quit. Turn the system off using the power switch. YOU SHOULD ALWAYS SHUT DOWN THE SYSTEM WHEN YOU ARE MOVING OR CONNECTING CABLES.

CONNECTING TO YOUR TELEPHONE SYSTEM

Cabling

The VSR 220 (two channel) requires ONE RJ14 Jack and the VSR 240 (four channels) requires TWO RJ14 jacks to connect to the telephone system. Each line must be connected to a Single Line or Analog Port at the telephone System. Use 4 conductor line cords in both cases to connect the jack to the modular connections in the rear of the VSR system. If you have the VSR 220 system there is only one jack and channels 1 and 2 are combined on that jack. The VSR 240 has two jacks when looking at the back of the system, channels 1 and 2 are on the right side and 3 and 4 are on the left.

RUNNING THE VSR 200 SYSTEM

Whether or not Quick Setup included your phone System we will continue by bringing the system On-Line and making a few tests. Turn the system on. This time the system will automatically bring the VSR program On-Line. You should see the status screen shown below. (VSR 220 will only have two channels.)

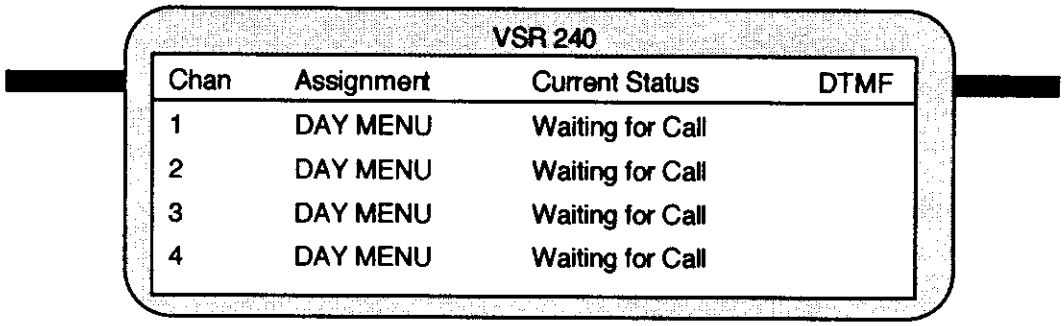

Figure 17

If all channels come up with Waiting for Call you are ready to perform a few tests. It is important to note the results of each test.

Transferring a Call

When a telephone system rings another extension, it lets you know that the phone is ringing. This is called ringback. There are different ring cadences based on the status of the line and your particular phone system. Within the external maintenance Phone System Editor we have taken the time to include several predefined phone systems. These definitions would include the tone table which includes the ring cadences and dialing and feature prefixes.

If your system is defined and you have trouble running the VSR 200 software with your telephone system, then the first thing is to determine what seems to be the problem.

Transfer Test with the VSR 200 System

The VSR 200 system is an extension like any other extension in the telephone system. If your telephone system does not permit

"inter-extension transfer" or intercom transfer then make all calls into the VSR 200 system by using an outside line and calling back through your operator.

Connect
When the VSR system answers dial another extension. You will be asked to "Please Hold". The dialed extension should ring. Pickup that extension, say hello, and you should be connected. If you are not connected then proceed to the "Transfer Test WITHOUT the VSR system".

Ring - No Answer
If you were able to Connect, now in the same manner (by calling outside) dial that extension but do not answer the call. The extension should only ring four times (if you selected four rings in Quick-Setup), then the VSR system should prompt "That extension does not answer" press "2" to leave a message (if there is an associated mailbox), "3" to dial another extension, or "0" to go to the Operator. If this failed, proceed to "Transfer Test WITHOUT VSR 200 system.

Busy
If the first two steps were successful try again only this time take the extension you are going to call off the hook. The VSR system prompts you "That extension is busy" and gives you other options. If this was successful, select the option to hold. Listen to the instructions carefully. You should be "First in Line". Now hang up the extension you called. The VSR system will ring that extension again. Pick it up and wait for a connect. If this test failed, proceed to "Transfer Test WITHOUT the VSR 200 system.

Transfer Test without the VSR 200 system

If any one of these tests above failed, then the VSR system may need any one of the following:

1. Phone System Feature Codes may need to be modified.
2. Timing (Flash, DTMF, Pause) may have to be adjusted.
3. Accucall may have to be run to recognize the tones used in your system.

Before we make any modifications however, we need to make more tests using a single line telephone in place of the VSR system.

Disconnect the line cord from Channel 1 and 2 on the VSR system and connect it to a Single Line Phone.

Connect
From ANOTHER phone, call using an outside line as you did in the tests above. Have the operator transfer you to the VSR extension number. Answer the single line phone and confirm that you have a connection. Press the hook-switch down on the single line phone and then release it. This is called a HOOK FLASH. Your system will usually give you re-order tone

then dial tone. What you have done is put the first caller on hold and retrieve a new line on which to dial out. Dial another extension, answer it and confirm connection between the single line phone and the second phone. Hang-up the single line phone. The first extension you called should be connected to the second caller now. Please confirm this. We have just completed a transfer using a single line phone to represent what the VSR system does and we did it by using one Hook Flash. If this test works then most likely the next step would be to run the Accucall program to make sure that the Tone Table is detecting the ringing properly.
(See Technical Section)

Busy

What if the second phone is busy? How do we go back to the first caller and tell them the line is busy? Perform the same example above only this time take the second phone off the hook. After you have dialed the second phone and heard the busy tone then perform another Hook Flash. You should be reconnected to the first caller. If you are not connected and the first caller is still on hold then try it again and this time try one Hook Flash, a pause, and a second Hook Flash. If the second Hook Flash worked then you must modify the Phone System file using the Phone System Editor by adding an ampersand "&" (Hook Flash) followed by a "," (Pause) to the "Abort a Busy" and "Abort a No Answer" and the "Reject a Caller" fields.

Transfer Start	"&,"
Abort a Busy	"&,"
Abort a Transfer	"&,"
Reject a Caller	"&,"

If a second Hook Flash does not work, then you may have to insert required feature codes to start the transfer and/or abort the call. You may also have to run the Accucall program (See Technical Section) with which our technical support team will be glad to assist.

DEFINITIONS

The Administrator

The "Administrator" is usually responsible for the operation of the system. That person will most likely be using the External Maintenance Program to make changes to the system.

External Maintenance

The external maintenance program is run by first exiting from the on-line program and executing "e" and the \VSR prompt. This program's main functions are to edit files, record prompts, run reports, and run various utilities. Shown below is the main menu. To move through the menu use the <—> arrow keys or enter the first letter of the menu item and press return.

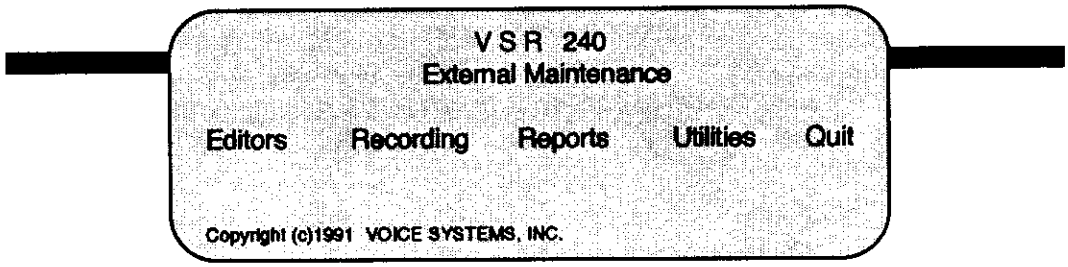

Figure 18

User

A mailbox user is one who is logged into a mailbox and has all the functions available to them as a user.

Caller

A Caller is one who is not logged into a mailbox and who has limited access to the system. A caller can be external or internal and therefore may be someone who is calling from outside or inside the company but, again, not logged into a mailbox.

About the editors

When using the editors to edit files such as mailbox, extension, menus, etc. there are several things you should know about how they work.

File Types

Files can be broken down into three categories: Single Record & Single Page, Single Record & Multiple Page, Multiple Record.

Single Record & Single Page

With this type of file all the information in the file is presented to you on the screen at one time.

Single Record & Multiple Page
All the information in the file is accessed by pressing page/ up & page down.

Multiple Record
Files such as the Mailbox or Extension file have many records and therefore to access a particular record you "Lookup" the one you want before editing.

File
A file contains information which is stored electronically separate from other files. The Mailbox File and the Extension File are separate Files.

Record
A file may contain many records all of which contain the same elements of information but the data itself is different. Usually one record is displayed to you at a time on one screen. For example, Information on each Mailbox is stored in one record.

Field
A record may contain many different fields of information. All the fields in total make up a record. An example of fields in the Mailbox File would be the Mailbox Name, Mailbox Number, or Class of Service. Key Fields are used to find a particular record. The entire file of records may be sorted or indexed on one particular field, such as mailbox number in the mailbox file.

Modes
Multiple records have the following modes. The current mode is located at the top left hand corner of the screen:

LOCATE
EDIT
ADD
DELETE
COPY

LOCATE MODE
When you enter an editor from the menu you will be immediately put in the LOCATE mode. All other modes are accessed by and return to the LOCATE mode. The EDIT mode is accessed automatically by making an entry in the key field and pressing return. The ADD, DELETE, and COPY modes are accessed by using function keys.

ADD MODE
By pressing the F4 key from the locate mode you enter the add mode. You are presented with a new blank record, such as a new mailbox record.

DELETE MODE
By pressing the F5 key from the locate mode you enter the delete mode. You may then select the record you wish to delete.

COPY MODE
The copy mode is not available in all multiple record editors, since it is not always necessary. It is accessed by pressing F6 and it allows duplicating of the current record to save time copying over different settings within one record.

Function Keys
The following function keys are used within the External Maintenance program with consistency. Other keys may be temporarily assigned but they will be displayed at the bottom of the screen:

F2 = Lookup
F4 = Add
F5 = Delete
F6 = Copy
F10 = Save

Defaults
From time to time when adding new records it is easier to pre-fill the field with an entry which would be used in most cases. These are called defaults. For instance when you are in the ADD MODE in the Mailbox Editor the Default for Class of Service is "1" and the Default for Notification interval is 30 minutes. Some defaults are dictated by the software while others can be changed in the System Defaults Editor.

Field Prefixes
There are three prefixes which precede a field label which indicate that a certain function can be performed while the cursor is in that field.

">" Mandatory Field
The greater than (>) symbol indicates a mandatory field and therefore an entry must be made in the field before you may save and exit the editor.

"*" Lookup Field
The star or asteric indicates that you may press the F2 (Lookup Key) to display a list of possible entries. The Lookup window is discussed later. In most cases you may make an entry into the field directly. The entry will be verified and if it is not valid, the Lookup Window will display automatically.

"[]" Toggle Field
Toggle fields are used when there are a minimum number of choices and no direct entry into the field is allowed. By using the space bar you can switch or toggle between the different choices. To go on to the next field press return and your choice will be saved.

ESC - Escape key
To make it easier for you to backup to a previous screen or menu we allow the use of the escape key. If you have made a change to the current record or file you will be prompted to "SAVE CHANGES?" before you are allowed to exit. You may also press the F10 key which saves the current record and then the ESC key and you will be allowed to exit immediately.

Saving a Field
It is not necessary to confirm a field by pressing return before you press the F10 Save Key. The field will be automatically saved. If you escape from a field and then press the F10 Save Key that field will be saved as changed.

Keys available while editing fields

<- -> - Left and Right Arrows

Del - Delete current letter

Backspace - Delete previous character

Return - End field editing and proceed to the next field. Note: On any mandatory field which has no entry, a return will cause a prompt or Lookup Window to appear with the next instructions.

Tab Key - The Tab Key when available will take you from one partition in a screen to another. Shift-Tab will take you back.

Lookup Window - If a field has an asteric or star "*" to its left then the field is designated as a lookup field. To access the Lookup Window for a field you need only press F2. The current list of valid entries will appear in sorted order. While in this window you may use the up & down arrow keys, page-up or page-down to scan the list or you may press the return and the highlighted item will be selected. You may also escape from this window and the entry in that field will remain the same.

The CHECK - Some editors use the CHECK MARK to indicate the selected item. To Select or De-Select an item you need only use the Space Bar, which will display or remove the check mark.

EDITORS

EXTENSION EDITOR

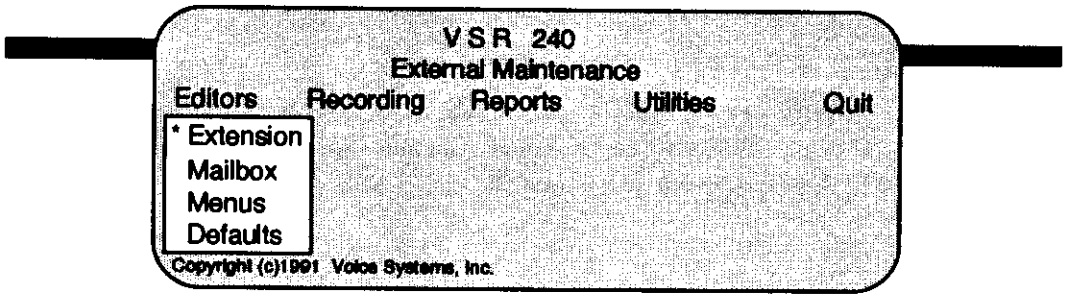

Figure 19

To access the Extension Editor select Editors from the Main Menu and from the submenu select Extension.

When first entering the extension editor you are in the LOCATE MODE. It is from here that you may access any of the other modes. The current mode is displayed in the upper left hand corner. The Date and Time are displayed in the upper right hand corner.

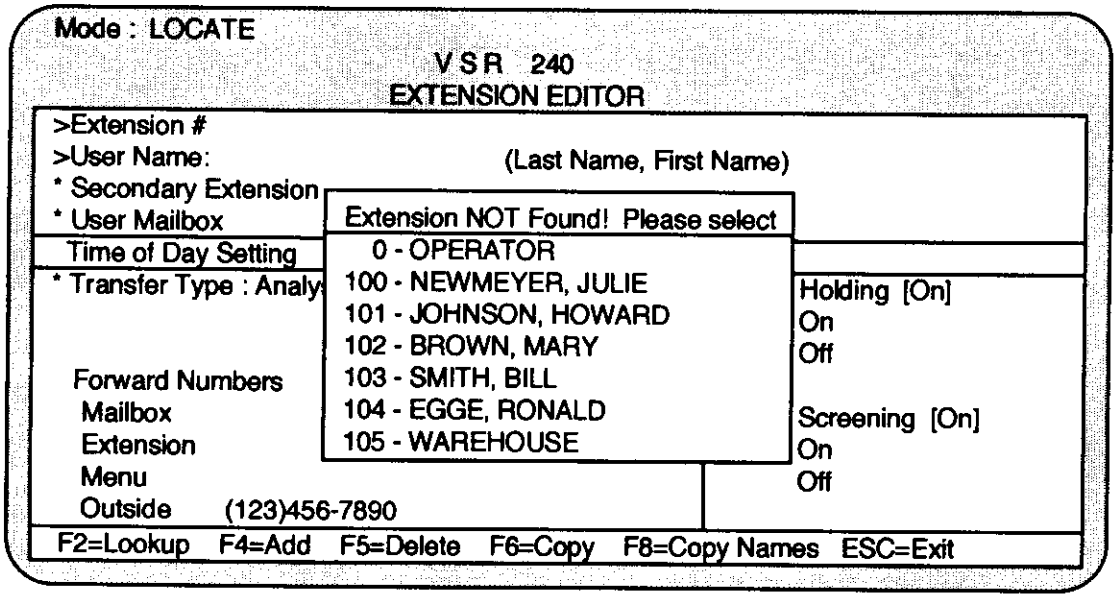

Figure 20

Edit Mode

We are assuming here that you have completed the Quick Setup PROCEDURE, and that there are currently extensions established. From the locate mode you may enter a valid extension number or press F2 to display a Lookup Window for a list of valid choices. Press return to confirm that choice and you will enter the EDIT MODE directly.

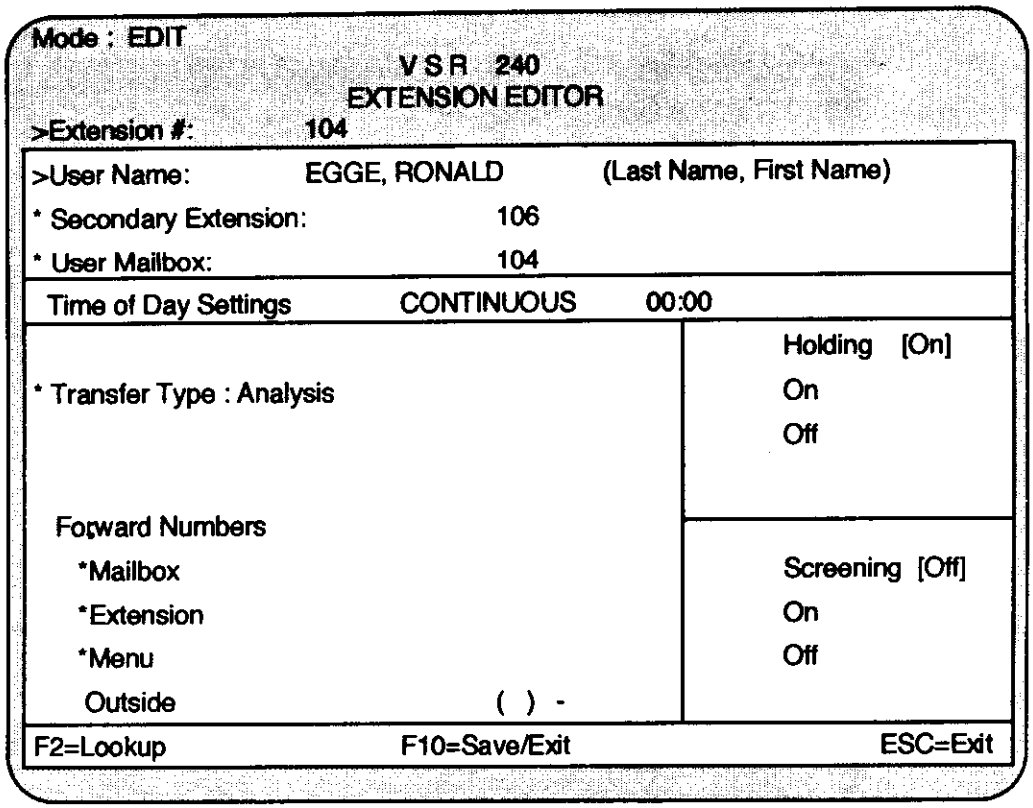

Figure 21

Extension Editor Fields

Extension Number

Since this is a key field you are not allowed to "edit" the field.

User Name

Enter the Extension Name. If it is a person then enter the last name first, followed by a comma and then the first name. The Extension Directory will use this field to locate a matching name (See Directories). If this extension belongs to a department, then enter the department name such as SALES or ACCOUNTING. Be sure to put that type of an extension in a Class of Service that is not placed on the directory. Note: This is a mandatory field.

Secondary Extension

If you specify a secondary extension and the line is busy or does not answer the VSR 200 system will try that extension before placing the caller in your mailbox. If holding is allowed and the secondary extension is busy, the caller will be placed on hold only at the primary extension.

User Mailbox

If the extension is set to Analysis (See Transfer Type) and it does not answer or is busy, the caller will be prompted with the options to leave a message, go to the operator or transfer to another extension. If they elect to leave a message then they will be directed automatically to the User Mailbox defined here. If no User Mailbox

is defined the caller will not be given the option to leave a message. Note: This is a Lookup Field.

Time of Day Settings
The fields explained below will, in a later release of the software, be controlled by Time. In other words, you may have different settings for different times. Since this is not available it will not be explained until it is released.

Transfer Type
This field defines what happens when the extension is being called. This is a Forced Lookup Field, with six different options. If you select Blind or Analysis, no other information is required; however, if you select Forwarding, then you must enter the number which the extension is to be forwarded.

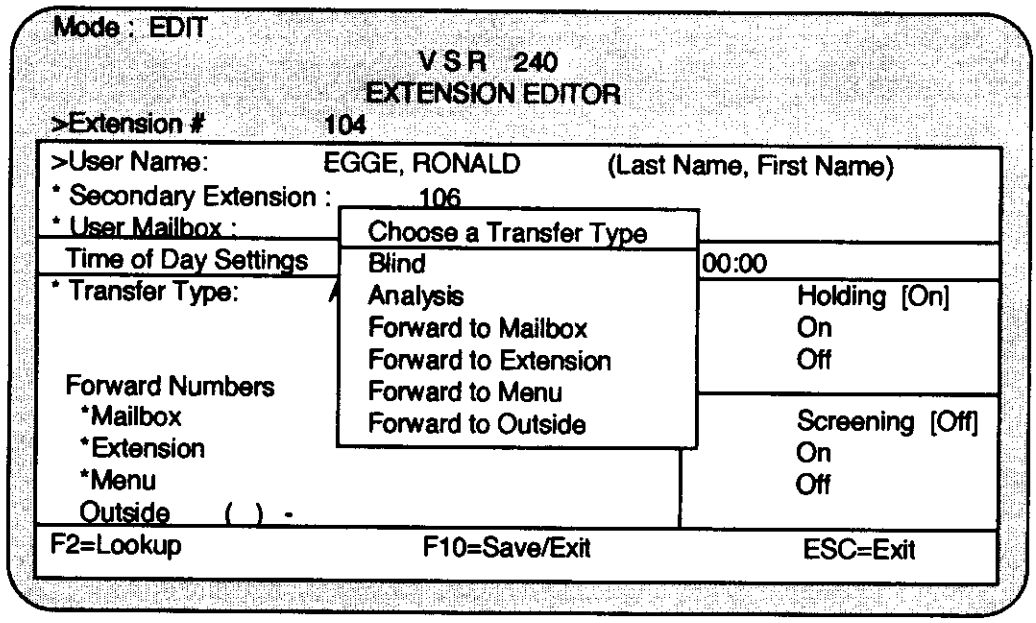

Figure 22

Blind Transfer
A blind transfer is when the caller is transferred to the extension and the VSR 200 system does not monitor the results of the call (connect, busy, no answer). If the extension doesn't answer or the line is busy the caller will usually return to the VSR 200 extension (Transfer Recall). When the VSR 200 system answers, the caller will get the main menu again. For this reason, most extensions use Analysis, which is also the default.

Analysis
This type of transfer monitors the call for a connect, busy, or no answer. If it receives a connect, the VSR 200 system hangs up which completes the transfer. If the line is busy or it does not answer, the caller is then prompted with several options. (See User Mailbox, Holding).

Forwarding
If you wish to forward your extension elsewhere and your phone system doesn't have these features, you may do so with the VSR 200 system. First, select the Transfer Type by "toggling" the field to either Forwarding to a Mailbox, Extension, Menu, or Outside number. Then leave the Transfer Type field and enter the appropriate number in either the Mailbox, Extension or Menu fields. You may store numbers in each field but only the one that matches the currently selected transfer type will be in use. Note: These last fields are look-up fields.

Holding
Holding can be toggled ON or OFF. If holding is ON, the caller will be given an option to hold if this extension is busy. If the caller elects this option, they will be placed in a queue and told their place in line. The system will retry the extension periodically according to the Holding Interval in the defaults file (See System Defaults). If there are two callers waiting and the first chooses not to wait any longer, the second caller will be prompted that they have been advanced to first. If a Secondary Extension is defined, VSR 200 system will first try that extension but if it is also busy the caller will be placed on hold with the primary extension. If there was a no answer at the primary extension and the secondary extension was busy, the caller would not be given a holding option, rather they would be transferred to the User Mailbox. If no User Mailbox is defined, they will only be given the options to Transfer to another extension or to Go To the Operator.

Screening
If you are using the VSR 200 system to answer your telephone lines and you wish to know who is calling before you answer the call, then this field should be set to ON. You may toggle screening ON or OFF. The incoming caller will be asked to give their name. The VSR 200 system will record the name, call your extension and play the name to you. You will be given the option to either accept the call or hang-up to reject the call (See User Guide). If you reject the call, the caller is given the appropriate options for a no answer call.

Add Mode

To access the Add Mode you must first be in the Locate Mode. Press F4 and a blank record will appear on the screen. You may enter an Extension number. Make sure that it is the right length (number of digits) and that it doesn't already exist. You may press the F2 key to get a List of extensions which currently are on the system. After you have entered the Extension number you may make entries to any of the fields just as in the EDIT MODE. When you are done, press F10 to save then ESC to exit, or just ESC and follow the prompts. You will remain in the ADD MODE to add another record or if you press escape again you will go back to the LOCATE MODE.

Delete Mode

To access the DELETE MODE you must first be in the LOCATE MODE. Press F5 and you will be placed at the Extension number field. Enter the Extension to be deleted. This is a Lookup Field so that you may press F2 and select an Extension number to be deleted. That selected mailbox record will then be displayed and you will be prompted to confirm the deletion. When you are done, you return to the DELETE MODE to delete another record. In order to return to the LOCATE MODE you must press escape again. You may not delete the Operator Extension.

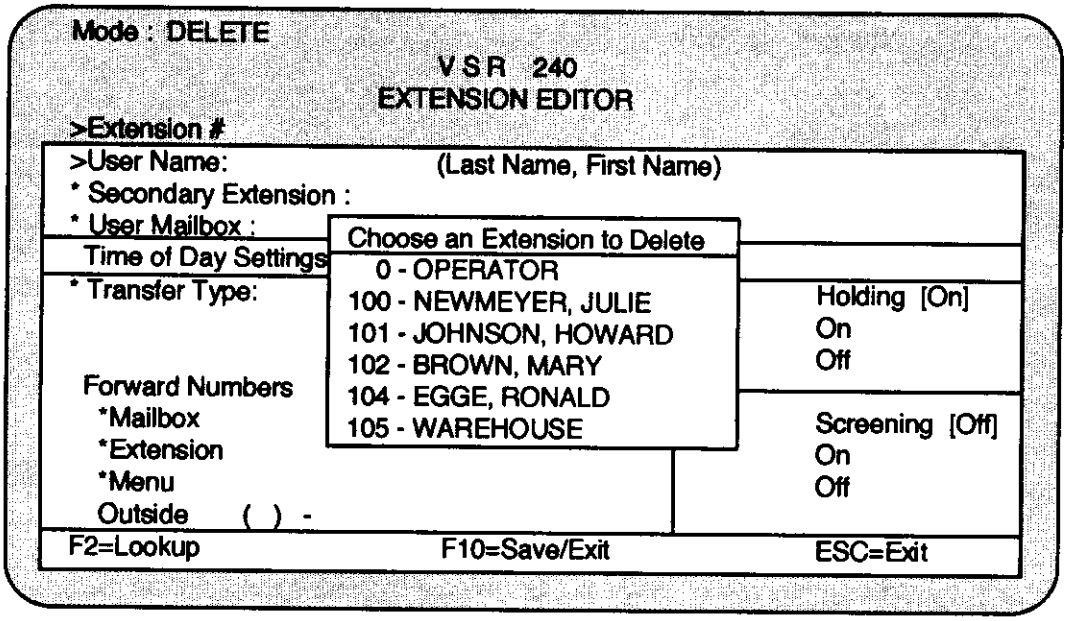

Figure 23

CAUTION

Deleting Extensions which are REFERRED TO by other mailboxes, extensions, menus, or any other files may produce undesirable situations. Be careful that the Extension you delete is not referred to by any other file.

MAILBOX EDITOR

To access the Mailbox Editor, select Editors from the Main Menu and from the submenu select Mailbox.

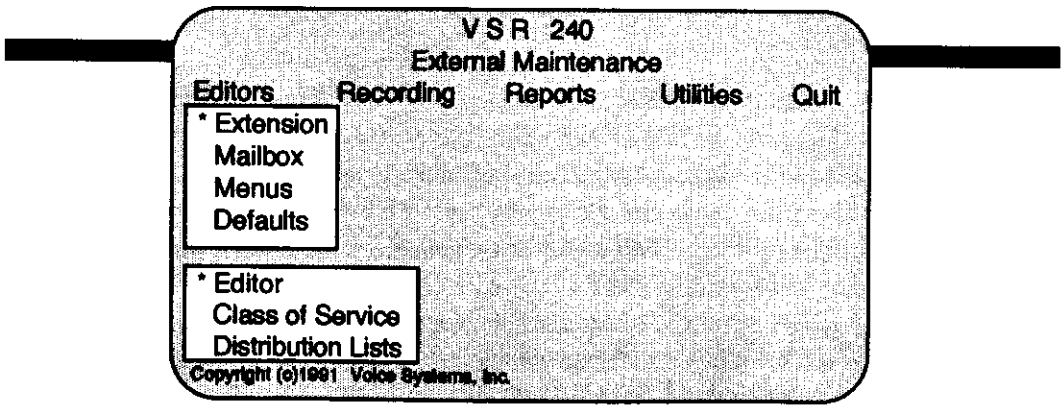

Figure 24

When first entering the mailbox editor you are in the LOCATE MODE. It is from here that you may access any of the other modes. The current mode is displayed in the upper left hand corner.

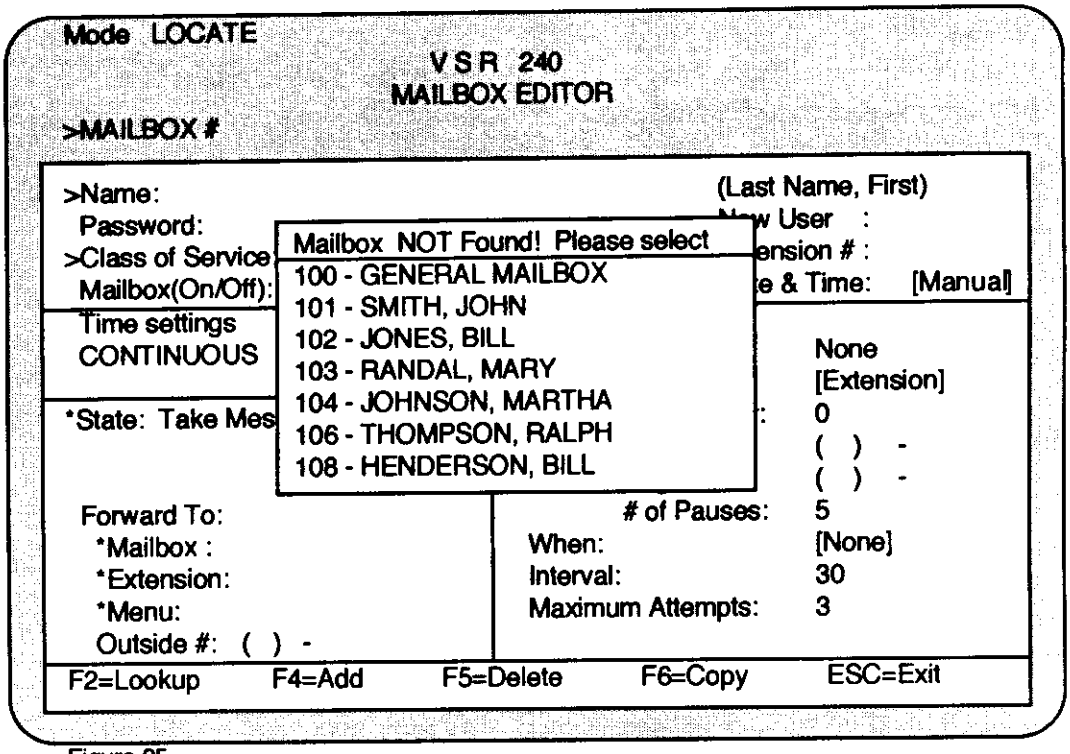

Figure 25

Edit Mode

We Assume that you have completed Quick Setup, and that there are mailboxes established. From the locate mode you may enter a valid mailbox number or press F2 to display a Lookup Window for the valid choices. (See Lookup Window). Press return to confirm that choice and you will enter the EDIT MODE.

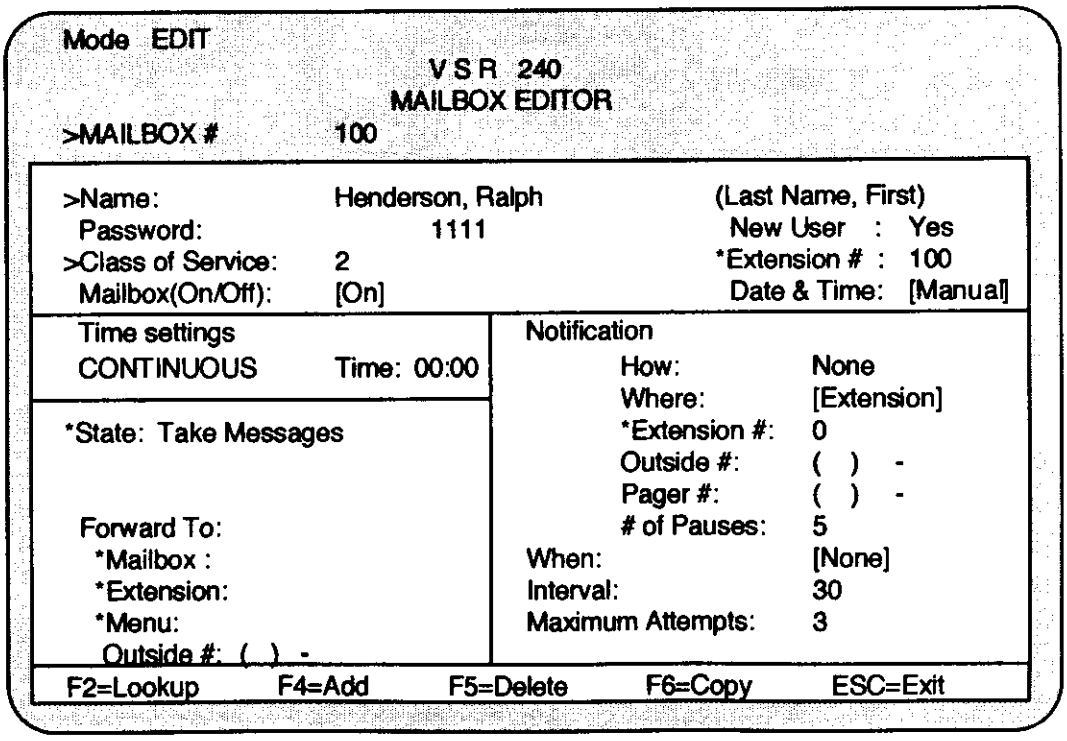

Figure 26

Mailbox number
In the Edit Mode this field can not be edited, since it is a key field.

Name
Enter the Mailbox Name. If it is a person then enter the last name first, followed by a comma and then the first name. The Mailbox Directory will use this field to locate a matching name. If this is not a person's name, such as a department, then just type in the name, such as SALES or ACCOUNTING. Be sure to put that type of a mailbox in a Class of Service that is not placed on the directory.

Password
You cannot edit the password here as that can only be done by the user. What you can do, however, is to reset the password to all ones ("1"). If the password has already been set by the user, all asterics or stars ("*") will appear in the password field. To reset the password, press the F7 key and confirm the reset. The password will be set to all ones ("1"). Resetting the mailbox password does not delete any messages, however, it re-establishes the User as a New User and he/she must re-record their greeting, name, and password. Note: The number of ones ("1") that are displayed is according to the Password Length set by Defaults Editor.

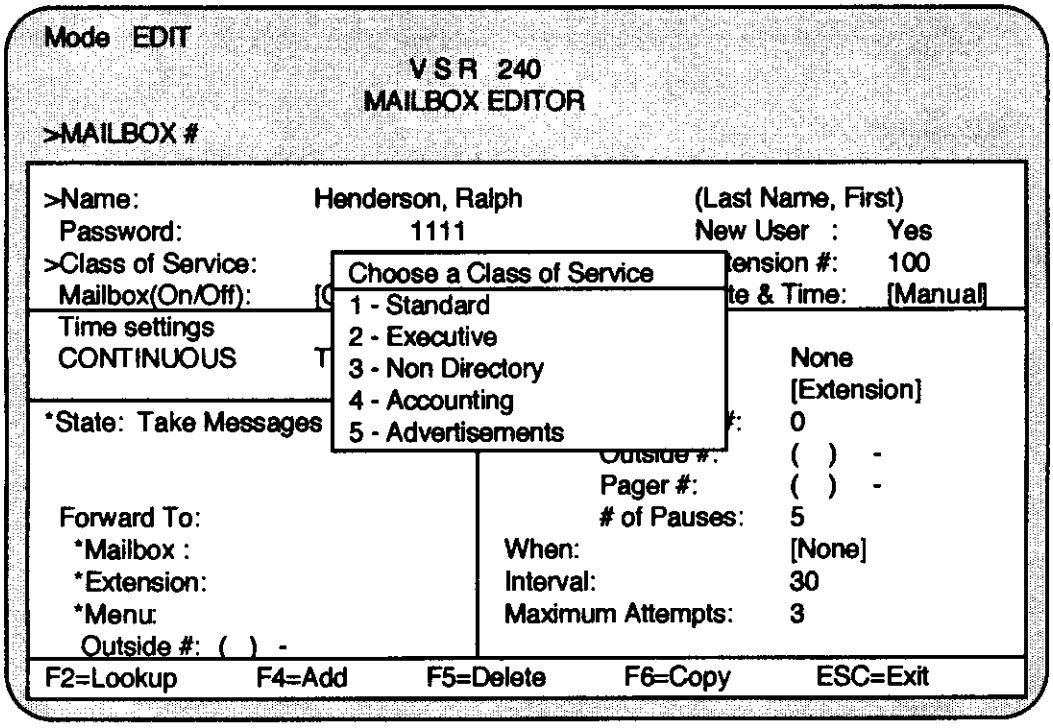

Figure 27

Class of Service
A Class of Service is a grouping where those Mailboxes belonging to that Group or Class have certain rights or settings peculiar to that group.

For instance, Any mailbox having a Class of Service of #1 may have their messages limited to 120 seconds or 2 minutes, while a mailbox which has a Class of Service of #2 may have the maximum allowed message length of 16 minutes. It is important to consider these types of settings as they will preserve space.

These will be discussed in depth later, in the Class of Service Editor. Note: This is a Lookup Field and a Mandatory Field.

Mailbox (On/Off)

A mailbox may be turned off and therefore not accessible by a Caller or User. Typically you may want to turn a mailbox off when someone leaves, but not delete it since you expect another party to use that mailbox at a later date. The user cannot turn-off their own mailbox.

Extension Number

The Extension Number is used for Message Waiting Lamp Notification. (See Message Waiting Lamps). If notification is allowed for this mailbox, the Message Waiting Lamp will be "lit" at whatever extension is entered in this field. This is a Lookup Field.

Date and Time

When a message is sent to a Mailbox, the date and time of the message is stored with the message. A copied message will have the date and time when the message was copied. (See User's Guide Copying a Message). Date and Time is a toggle field which allows the user to receive the Date and Time AUTOMATICALLY after each message or MANUALLY by pressing the "6" key after the message is played.

Time Settings

The fields explained below will, in a later release of the software, be controlled by Time. In other words you may have different settings for different times. Since this is not available now, it will not be explained until it is released.

State

The mailbox can be set to different states which are listed below. The default is Take Messages. This is the normal operation. The State field is a Lookup field, however, no entry can be made directly. This is called a Forced Lookup. This field sets the current State.

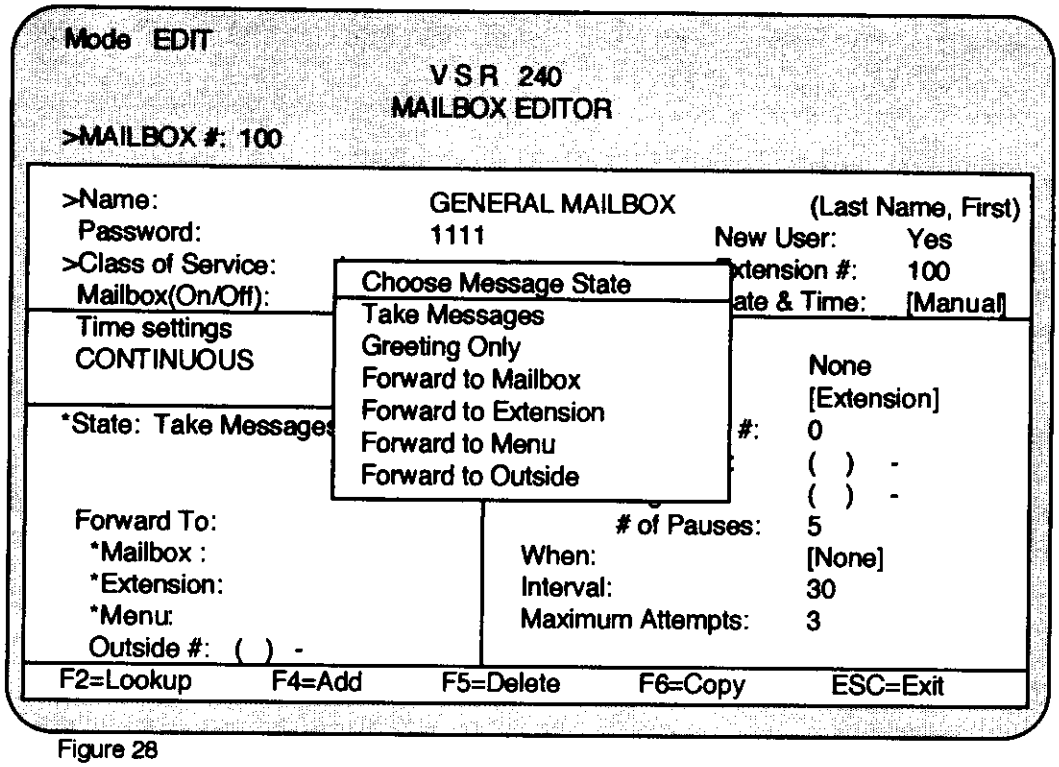

Figure 28

Take Messages
The mailbox will play the greeting and take messages. This is its normal operation.

Greeting Only
The mailbox will play the greeting but will return the caller to the previous menu. This might be useful if you previously used this mailbox as a Voice Mail Resume box and received enough Resumes. You would record a greeting to state that fact and no more messages could be received.

Forwarding to
A mailbox may be forwarded to another Mailbox, Extension, Menu, or Outside Telephone Number (your telephone system may not be capable of forwarding to an outside telephone number). Placing a number in any of the next four fields stores that information but the User must change the Mailbox State to put a number into effect.

Mailbox - Enter a valid mailbox Number or press F2.

Extension - Enter a valid extension Number or press F2.

Menu - Enter a valid menu description or press F2.

Outside # - Enter a telephone number for the system to dial.

Telephone Notification
You will only be allowed to edit the next series of fields if Telephone Notification is set (in the selected Class of Service) to either Phone, or Both. These fields apply to notification by telephone and act independent of message waiting lamp notification. (See Class of Service). Note: The telephone numbers and where the User is to be notified can be changed from within the User's Mailbox (see User Guide).

How
This field is not editable and only displays the current type of notification.

Where
You may select where to notify. This is a toggle field and the choices are Extension number, Outside number, Pager number or Disabled. The default is Disabled.

Notifying to an Extension
Calls the extension according to the Interval (in minutes) and the maximum number of attempts. The VSR 200 system greets the called party with "This is the VSR Voice Message Center calling for... ", mailboxes recorded name, and "Please enter your password". If the correct password is not entered then this is considered an invalid attempt and the party is called again at the next interval.

Notifying to an Outside Number
This is the same as Notifying to an extension number only the VSR 200 system calls the designated outside number.

Notifying to a Pager number
This option calls a digital pager with your mailbox number, notifying you that there is a new message waiting to be retrieved.

Extension number
Enter the extension number of where you are to be notified. Note: This is a Lookup Field.

Outside number
Enter the outside number of where you are to be notified.

Pager number
Enter your digital pager telephone number.

Number of pauses
A pause is a specified amount of time to wait before continuing a process. The amount of time is entered in milli-seconds in the Defaults File. When you dial a digital pager and it answers, you hear a series of tones. You usually wait until the tones are finished then enter your phone number and hang up. Here, VSR dials the pager, but instead of listening for the tones, it must pause for a period of time and then enter the mailbox number. This might take some experimentation to determine how many pauses are required.

When
This is currently not used in this VSR release.

Interval
This is the period of time in minutes between notifications. The range is between 0 and 999 minutes. The default is 30 minutes.

Maximum Attempts
This is the maximum number of times that the VSR 200 system will attempt to notify the Mailbox User. The range is between 0 and 99 attempts. The default is "3".

Add Mode
To access the Add Mode you must first be in the Locate Mode. Press F4 and a blank record will appear on the screen with defaults in some fields. You may enter a mailbox number. Make sure that it is the right length (number of digits) and that it doesn't already exist. You may press the F2 key to get a List of mailboxes which currently are on the system. After you have entered the Mailbox number, you may make entries to any of the fields just as in the EDIT MODE. When you are done, press F10 to save then ESC to exit, or just ESC and follow the prompts. You will remain in the ADD MODE to add another record or, if you press escape again, you will go back to the LOCATE MODE.

Delete Mode
To access the DELETE MODE you must first be in the LOCATE MODE. Press F5 and you will be placed at the Mailbox number field. Enter the Mailbox to be deleted. This is a Lookup Field so that you may press F2 and select a Mailbox. That selected Mailbox will then be displayed and you will be prompted to confirm the deletion. When you are done, you return to the DELETE MODE. In order to return to the LOCATE MODE you must press escape again. You may not delete the default Mailbox, 10, 100, 1000, 10000, or 100000.

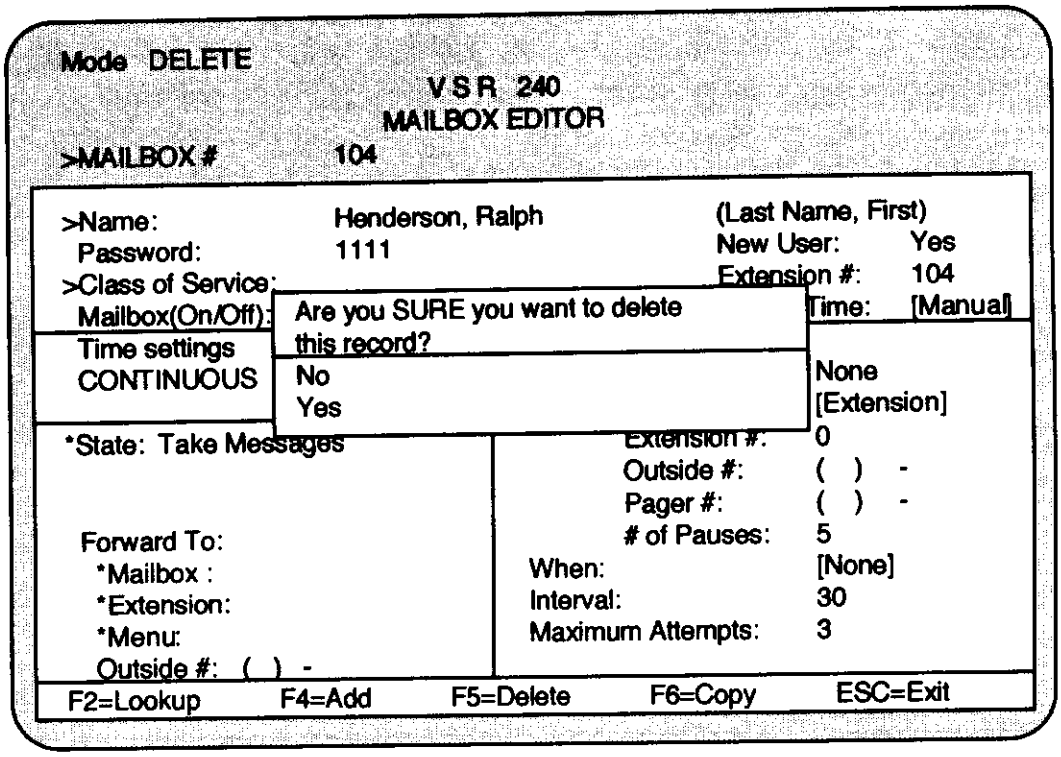

Figure 29

CAUTION

Deleting Mailboxes which are REFERRED TO by other mailboxes, extensions, menus, or any other files may produce unwanted situations. Be careful that the Mailbox you delete is not referred to by any other file.

CLASS OF SERVICE EDITOR

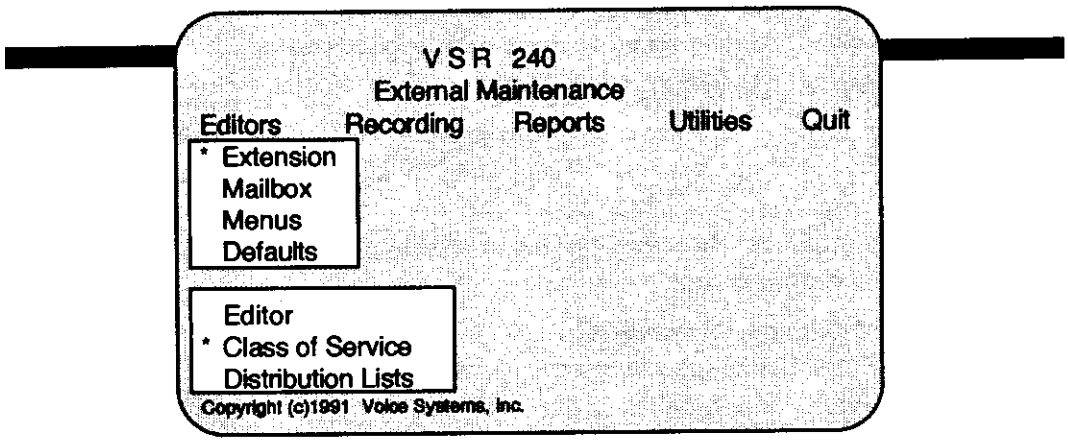

Figure 30

A Class of Service is basically a grouping where those Mailboxes belonging to that Group or Class have certain rights or settings specified by that Class of Service. For instance, Any mailbox having a Class of Service of #1 may have their messages limited to 120 seconds or 2 minutes, while a mailbox having a Class of Service of #2 may have a maximum message length of 16 minutes. It is important to consider these types of settings as they will conserve space. You may change the class of service for a Mailbox in the Mailbox Editor. It is not

necessary to make different classes as the default class of "1" will be sufficient, however, you may want to restrict or extend certain privileges contained within the Class of Service. In DELETE mode, if the Class Of Service to be deleted is in use anywhere, then the message "Class Of Service is in use and cannot be deleted" is displayed in a window and the user must press the [Enter] key to return to the Class Of Service editor screen.

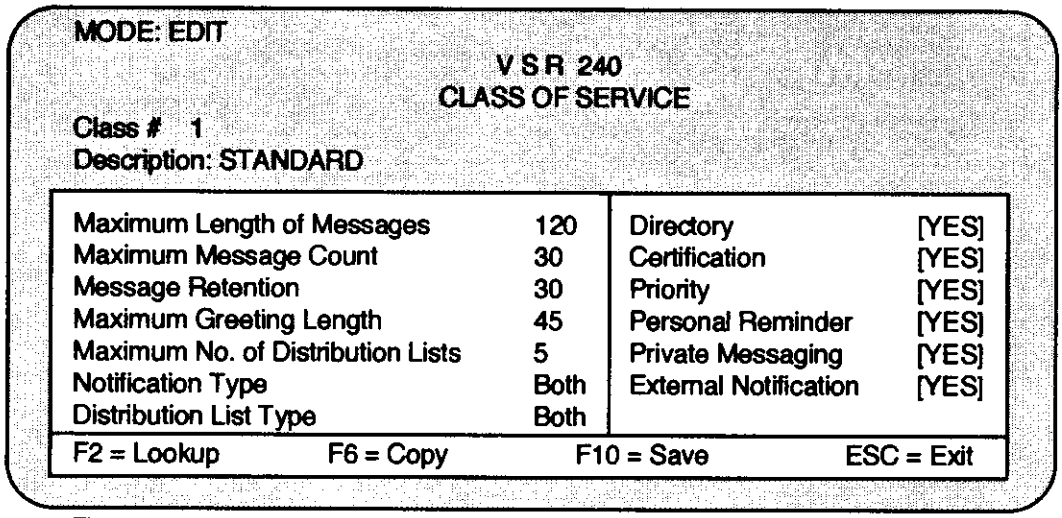

Figure 31

Edit Mode

Class number
The class number cannot be edited as it is a key field.

Description
Use any description you wish that you will understand at a later date. You may want to use the department as a description.

Maximum Message Length
Enter the maximum length recording time in seconds for a message. The range is between 30 and 999 (1/2 minute to 16 minutes.) The default is 120 seconds or two minutes. This is plenty of time to leave a message. However, certain groups of people may want longer recording times.

Maximum Message Count
Enter the Maximum number of messages which a mailbox may retain. The range is between 10 and 99. It is important to keep this as low as possible since Users may tend to save messages that are unnecessary and wastes valuable space on the disk. The default for Maximum Message Count is 30.

Maximum Retention
Enter the Maximum number of days that a message is allowed to be retained in a User's Mailbox. When a message has reached the Maximum Retention days it is deleted by the "Clean-up" program that evening. The range for Maximum Retention is from 2 to 999 days and the default is 30 days. We suggest you keep this period to a minimum.

Maximum Greeting Length
Enter the Maximum of Length of the User's Mailbox Greeting, in seconds. The range is between 20 and 99 and the default is 45 seconds.

Maximum number of Distribution Lists
Enter the Maximum number of Personal Distribution Lists this Class of Service shall be allowed. The range is between 1 and 99 lists and the default is five.

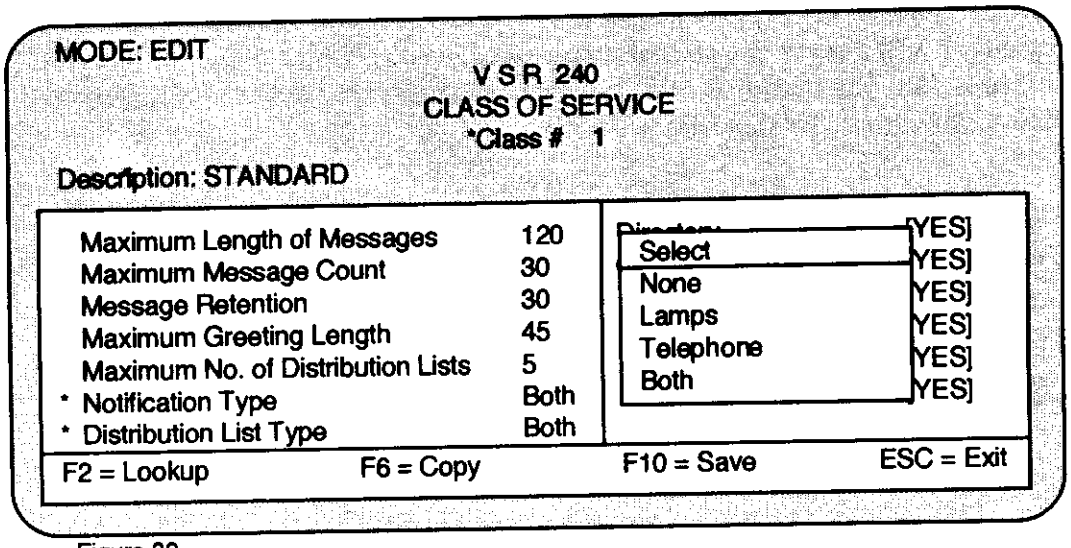

Figure 32

Notification Type
This field determines what notification this Class of Service will be allowed. This is a Forced Lookup field and the choices are: None, Lamps, Telephone, or Both. (See Notification in the Mailbox Editor)

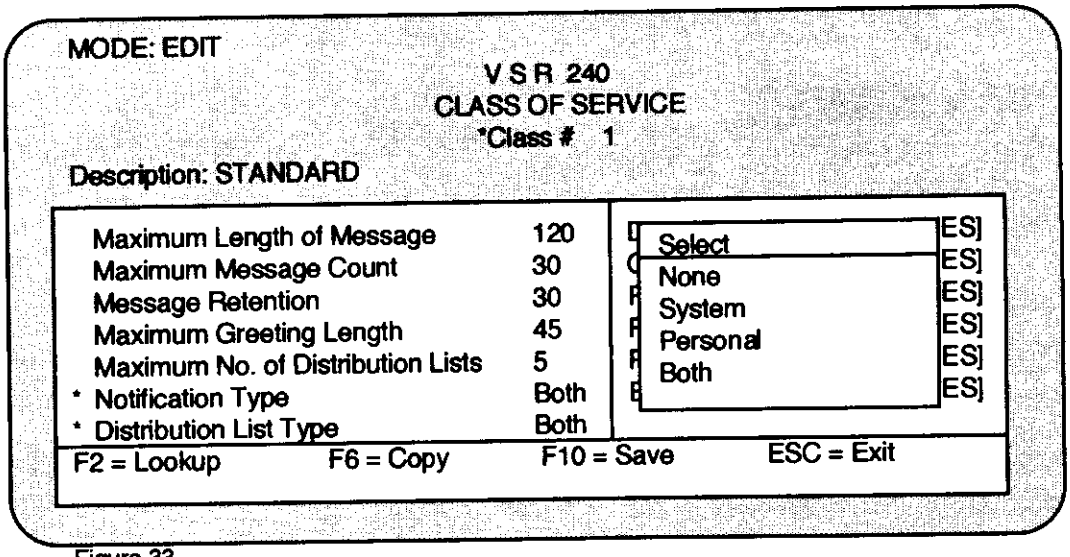

Figure 33

Distribution Type
This field determines what distribution lists this Class of Service will be allowed. This also is a Forced Lookup field and the choices are: None, Personal, System, or Both.

Directory
You may toggle this field (YES/NO) to place the User on or off the Mailbox and Extension Directories. Whether or not a User is placed in the directory is governed by several settings. If an extension exists AND it has an affiliated Mailbox AND that Mailbox has a recorded name and a Name entered in the Name field, then it will appear on the Extension Directory. If a Mailbox has a recorded name and the Name is entered in the Mailbox Name field, it will appear on the Mailbox Directory. However, if the Mailbox in either case has a Class of Service in which the directory is set to NO, then neither the Mailbox nor the Extension will appear in either of their respective directories. You may find, for instance, that you do not want executive management to appear on the directory. Note: The default for this field is YES.

Certification
From within their mailbox, a User may send a message Certified to another User. When that message is retrieved the VSR 200 system will automatically send a CERTIFICATION back to the sender. This is a short message giving the sender the date and time of receipt of the messaged. You may toggle this feature YES/NO. The default is YES.

Priority
Within their mailbox a User may send a message with Priority to another User. This type of message will always be retrieved at the top of the list, or at least in order sent if there are more than one priority messages. You may toggle this field YES or NO. Note: The default is YES.

Personal Reminder
Not available in this software release.

Private Messages
Within their mailbox a User may send to another User a message that is Private, which cannot be copied by the User retrieving the message. You may toggle this field YES or NO. Note: The default is YES.

External Notification
Notification may be in the form of Message Waiting Lamps, an Internal Telephone Call, or External Notification to either an Outside Telephone number, or a Pager. You may not want to allow any telephone calls to the outside, since the User controls the telephone numbers used by notification. To restrict this type of notification toggle this field to NO. The default is yes.

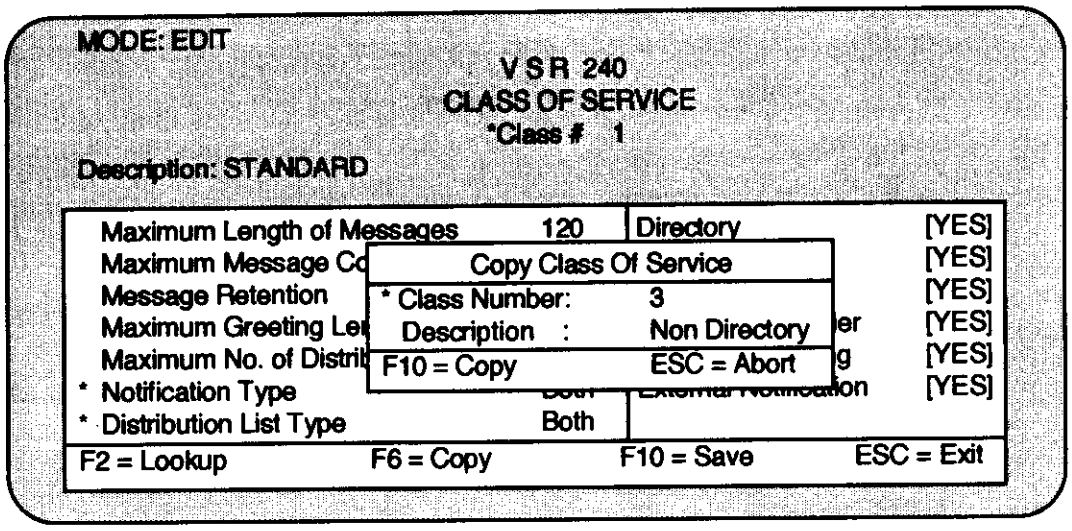

Figure 34

Copy Function

If you want to create a new Class of Service and you want it to be similar to one that exists, then from that Class you may use the copy function and all the fields will be transferred (except that you must enter the Class Number and the Description of the New Class of Service). The copy function is F6.

DISTRIBUTION LIST EDITOR

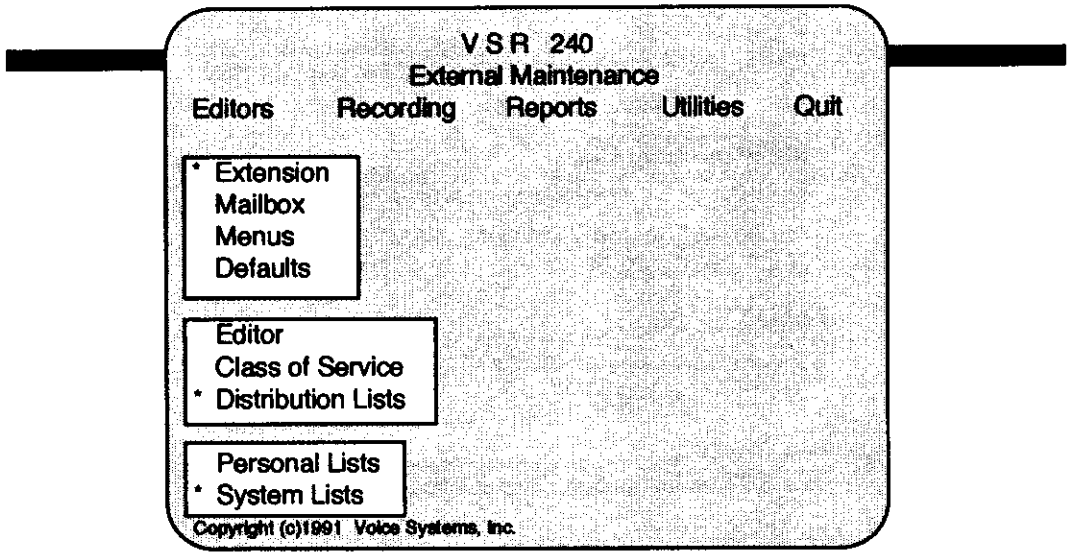

Figure 35

A distribution list is a pre-defined list of mailboxes to which a single message may be distributed. System distribution lists are available to every user provided that their Class of Service allows this feature. (See Class of Service) Personal Lists are created by the administrator but are unique to the User.

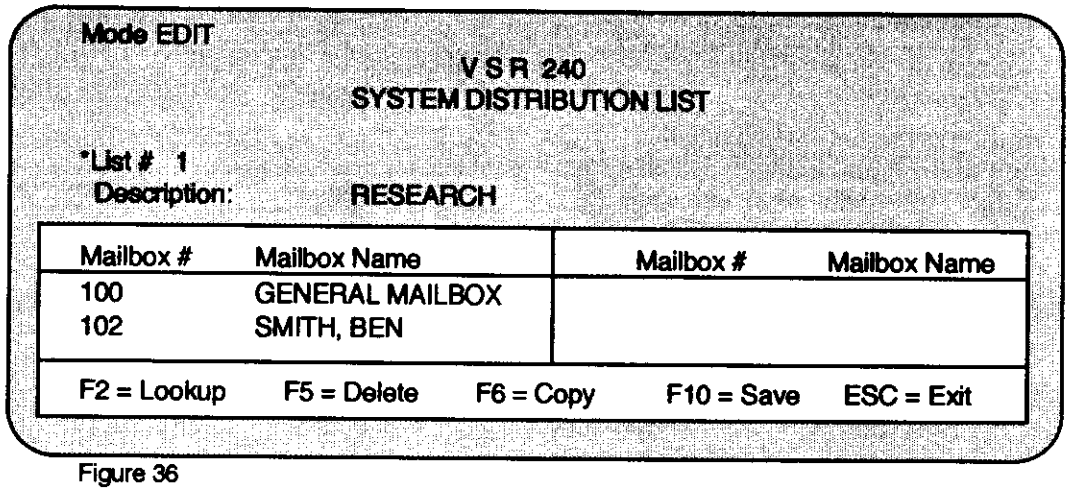

Figure 36

System Lists Editor

There are no pre-defined lists, so even though you are first placed in the Locate mode you will find no list defined.

Add Mode

To ADD a list press F4.

List number

Enter a list number. The system will not allow you to use the same number twice.

Description

Enter the description of the list, such as Accounting, Administration, Executive, etc.

Mailbox number

Enter a valid mailbox number to be added to the list. You may not enter the same mailbox number twice on a list. Note: This is a Lookup Field.

Mailbox Name

If a Mailbox Name exists it will be displayed to the right of the Mailbox number.

Delete Mode

To DELETE a list press F5 from the Locate Mode.

Copy Mode

To COPY a list you must have selected the list and be in the EDIT MODE. Press F6 to COPY and you will be prompted to enter the New List number and its description. All the mailboxes which are included in the current list will be added to the new list. To make changes, simply LOCATE the new list and make the necessary changes.

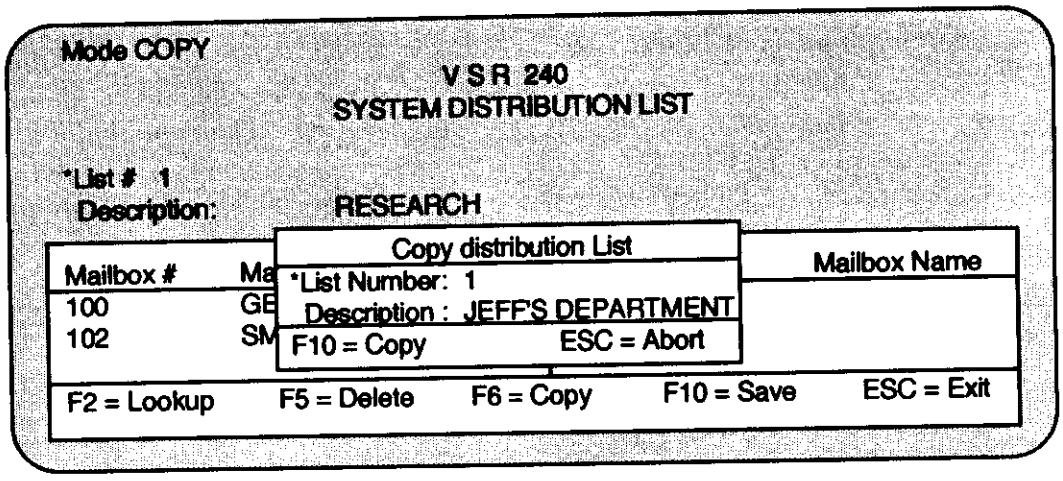

Figure 37

Personal List Editor

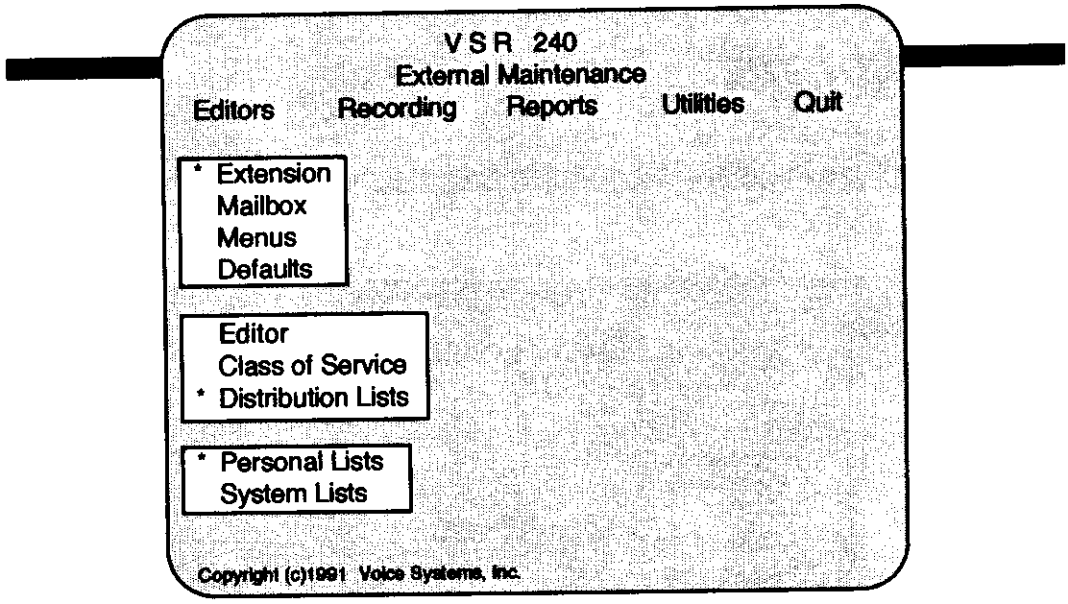

Figure 38

Personal Lists are edited in the same manner as System List with the exception that the Personal List is tied to a mailbox. You must first enter the Mailbox number and then the List number to locate a list. You may re-use the List numbers between Personal Lists, however just as in the System List you may not have two lists with the same number belonging to the same mailbox.

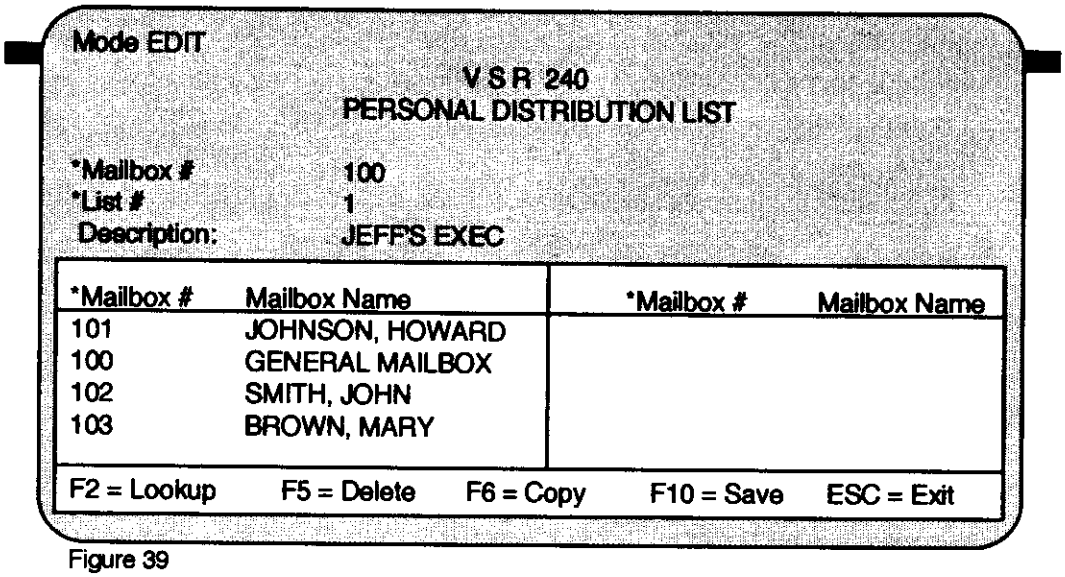

Figure 39

MENU EDITOR

To access the Menu Editor, first select Editors from the Main Menu, then select Menus.

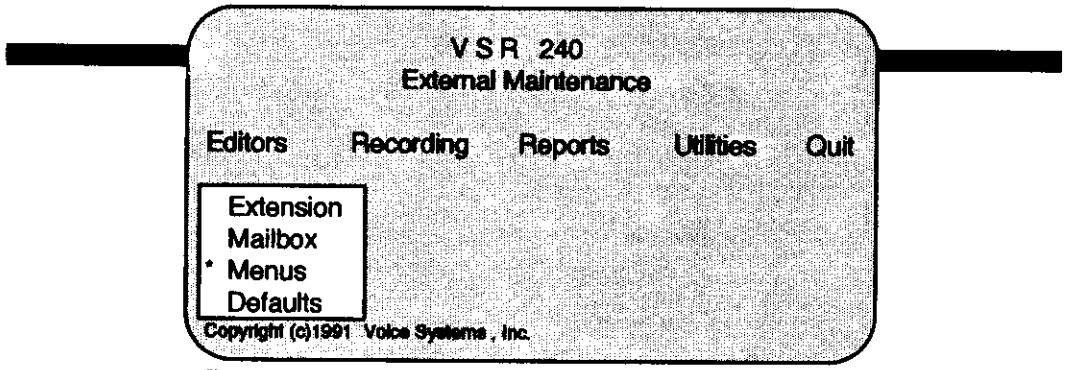

Figure 40

A word about Menus. Each menu has associated voice prompts which play when the menu is called. Menus also have Key Assignments which define what function is to be performed when the caller presses the keys. Menus also can be used to call other menus. Pressing the pound key will return the caller from one menu to a previous menu.

If you build a series of menus, keep these things in mind to make it easier for the caller.

- Limit your choices on each menu to five.
- Don't layer the menus too deep.
- Be consistent with the keys.
- Make sure that the Voice Prompts match the keys.

When first entering the Menu Editor you are in the LOCATE MODE. It is from here that you may access any of the other modes. The current mode is displayed in the upper left hand corner.

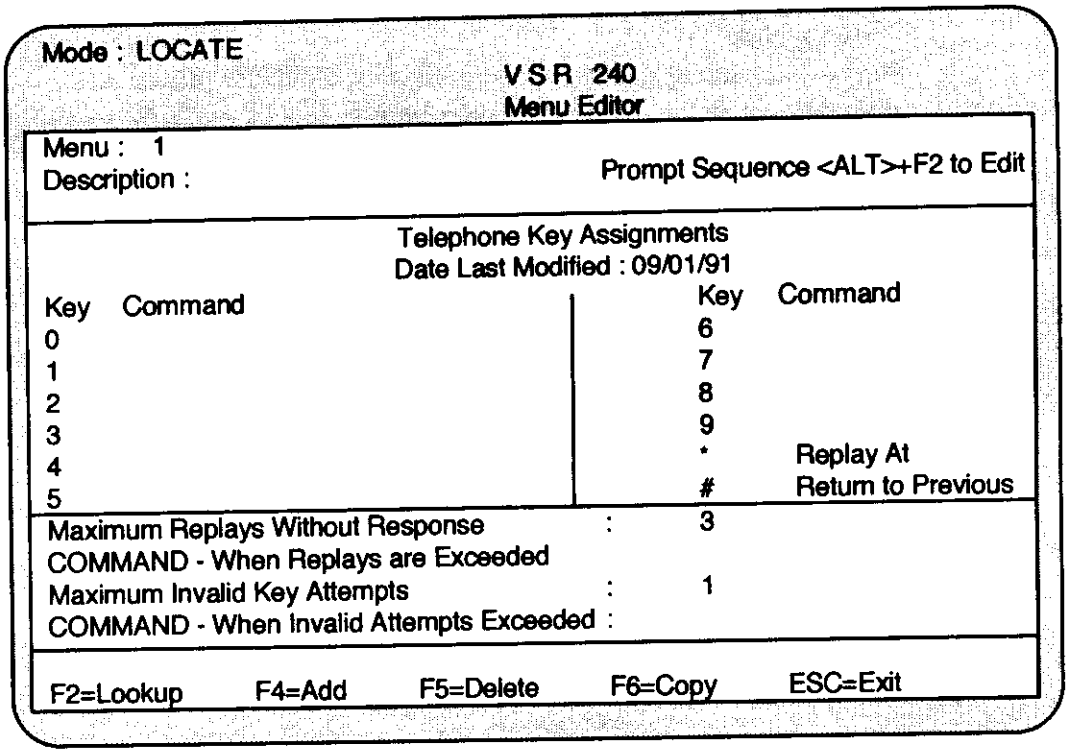

Figure 41

Whether you run Quick Setup or enter the Menu Editor for the first time directly, the VSR 200 system sets up two menus automatically to give you a head start. They are the Day Menu and the Night Menu, with different prompts and key assignments. For instance, on the Night Menu, the Prompts explain the company is closed at night, and that there is no transfer to the Operator. This will become more clear as each of the fields is discussed.

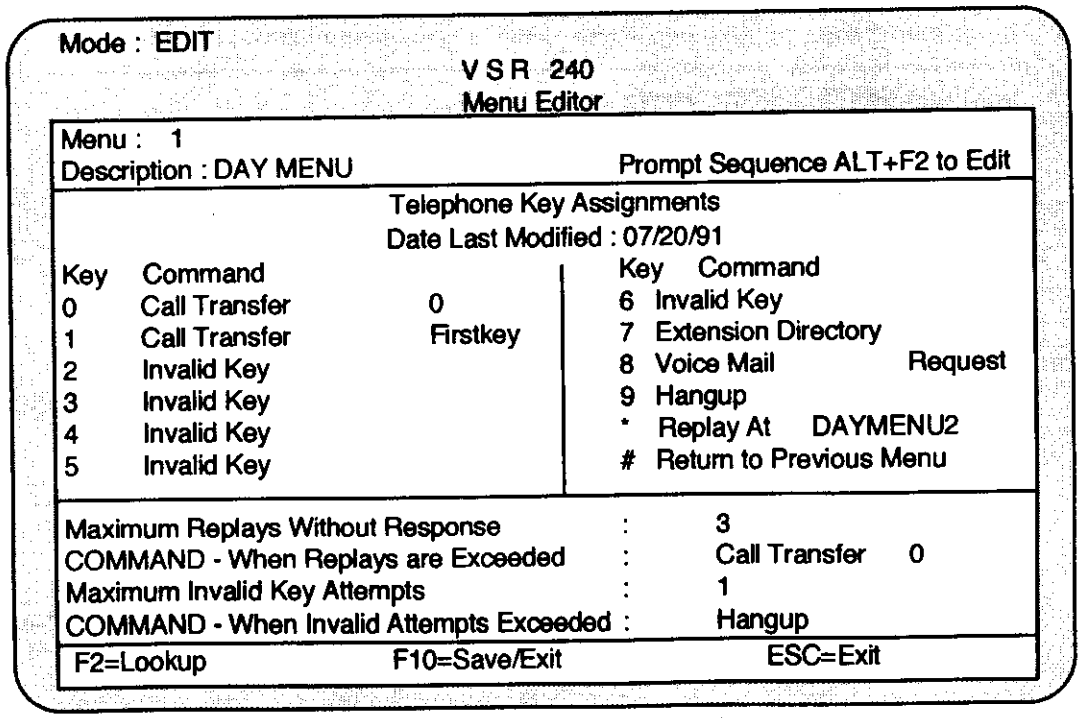

Figure 42

Menu number
The Menu number is only for reference and cannot be edited.

Description
While Description is a Key Field it CAN be EDITED. Enter a description that you can easily refer back to (not Menu 1, Menu 2, etc.).

Prompt Sequence
From anywhere in the Menu Editor you may press the ALT key and F2 (ALT-F2) and a window will appear for you to edit or add to the voice prompts which are played to give the choices for the menu. We have pre-programmed the Day Menu to have five prompts: DayMenu1, DayMenu2, DayMenu3, DayMenu4 and DayMenu5. These prompt files are pre-recorded and general. You will want to find an appropriate voice and use the Recording Function (See RECORDING) to re-record these prompts to fit your company's needs.

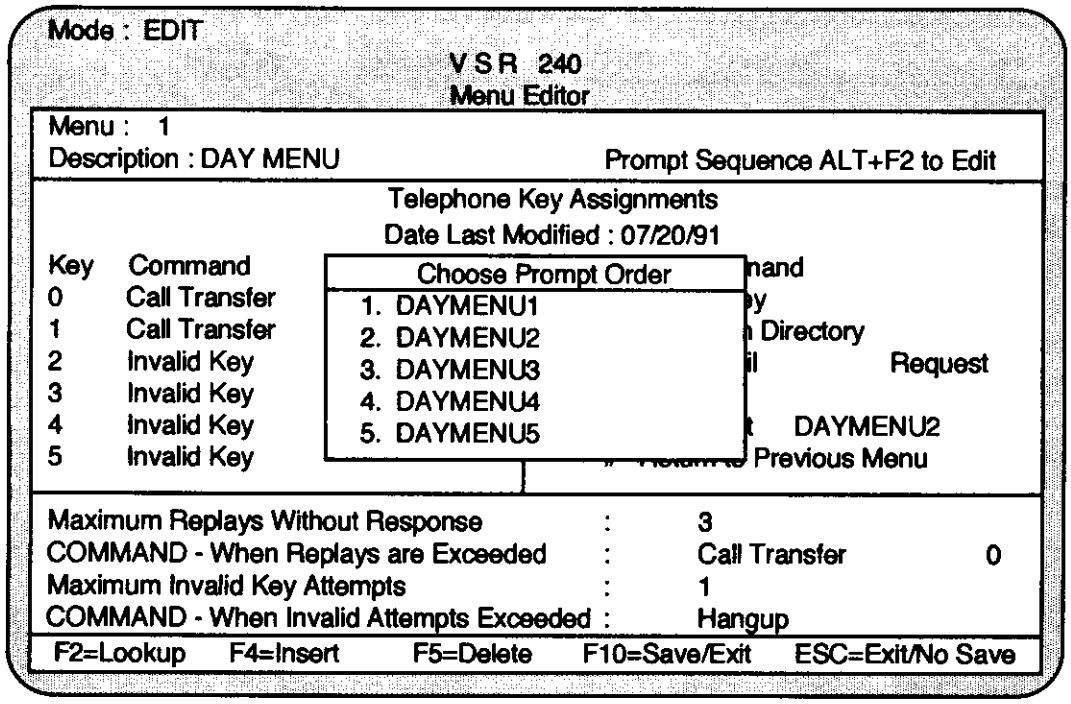

Figure 43

In the Prompt Edit Window you have several choices. You may ADD up to five total prompts, Delete Prompts, or Insert a prompt.

Add Prompt
To add a prompt to the end of the list simply go to the next vacant field and either enter the file name directly or press F2 to select from a list of all the prompts.

Delete Prompt
To delete a prompt, place the cursor over the prompt you wish to delete and press F5. Note: The prompts will be moved up so that there is no blank prompt between two valid ones.

Insert Prompt
To insert a prompt ahead of another, place the cursor over that prompt and press F4. This will open a blank field and push the other prompts down.

Enter Studio
You may enter the Recording function directly from the Prompt Selector in the Menu Editor by pressing "F3". The function is similar to the Recording function explained under RECORDING, however you can only record over the highlighted prompt. If you wish to create a new prompt, then enter that name on the prompt line and press "F3". If you want to record a prompt that exists but is not currently chosen, press "F2" first and select that prompt from the list, then press "F3".

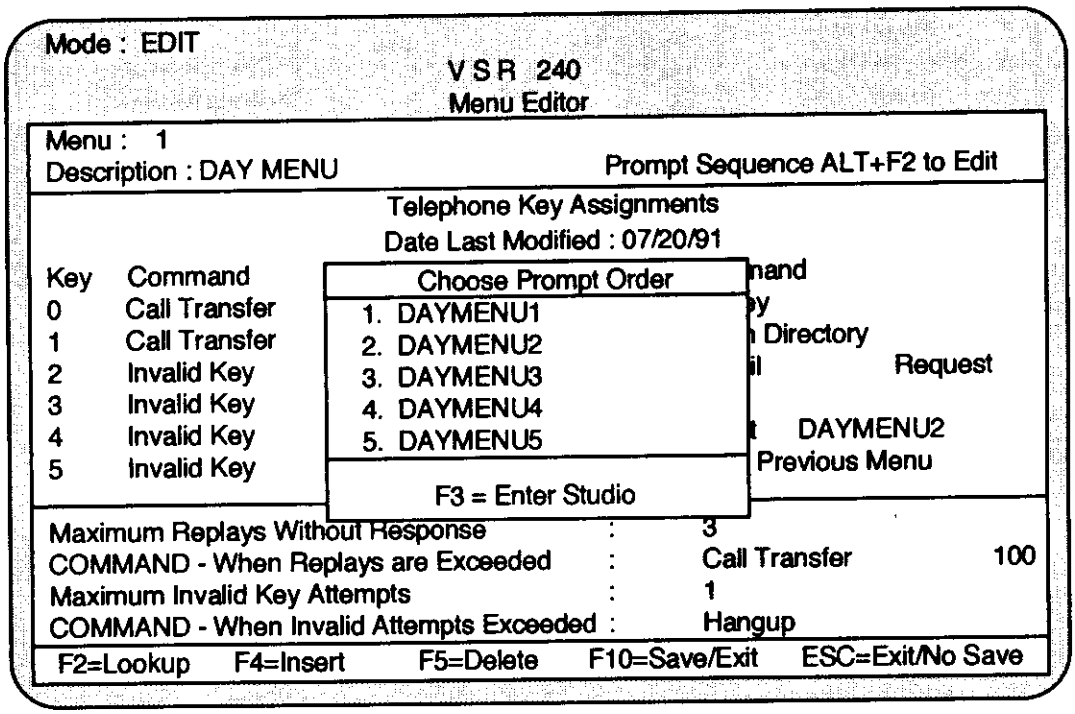

Figure 44

Save
YOU MUST SAVE using F10. If you use ESC to go back to the Menu Editor, any changes you have made will not be saved. After you have saved these prompts, they will now be played at any time this menu is called.

Key Assignment
There are twelve keys on the telephone key pad (0-9, #, *). Each key

in a menu can be assigned a different function. Some functions have additional information required such as Call Transfer to Extension number, and others do not, such as Hangup. The Key numbers appear in two columns on the screen 0-5 on the left and 6-9, # and * on the right. To the immediate right of each number is the Command or Function that key is to be assigned. Move the cursor to the Key which you wish to change. The cursor bar will highlight the Command area. Press Return or F2 for a Lookup Window. Select the Command Type you wish and it will be placed in the Command field.

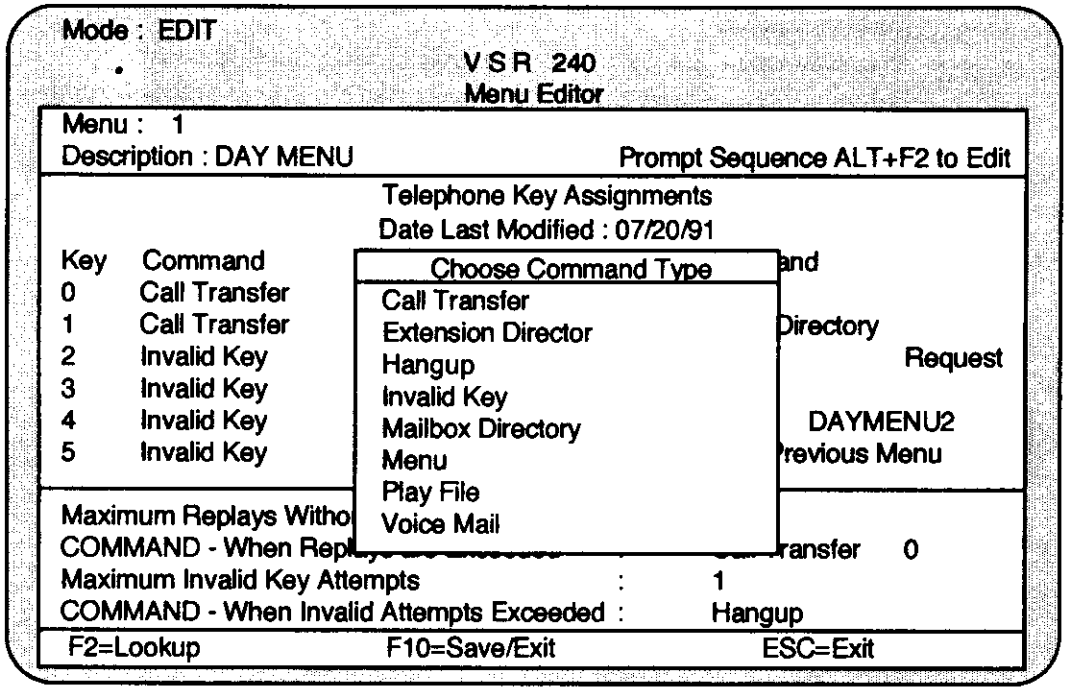

Figure 45

Command Types

Call Transfer

When you select this Command you are prompted with three choices: Direct, Request and Firstkey.

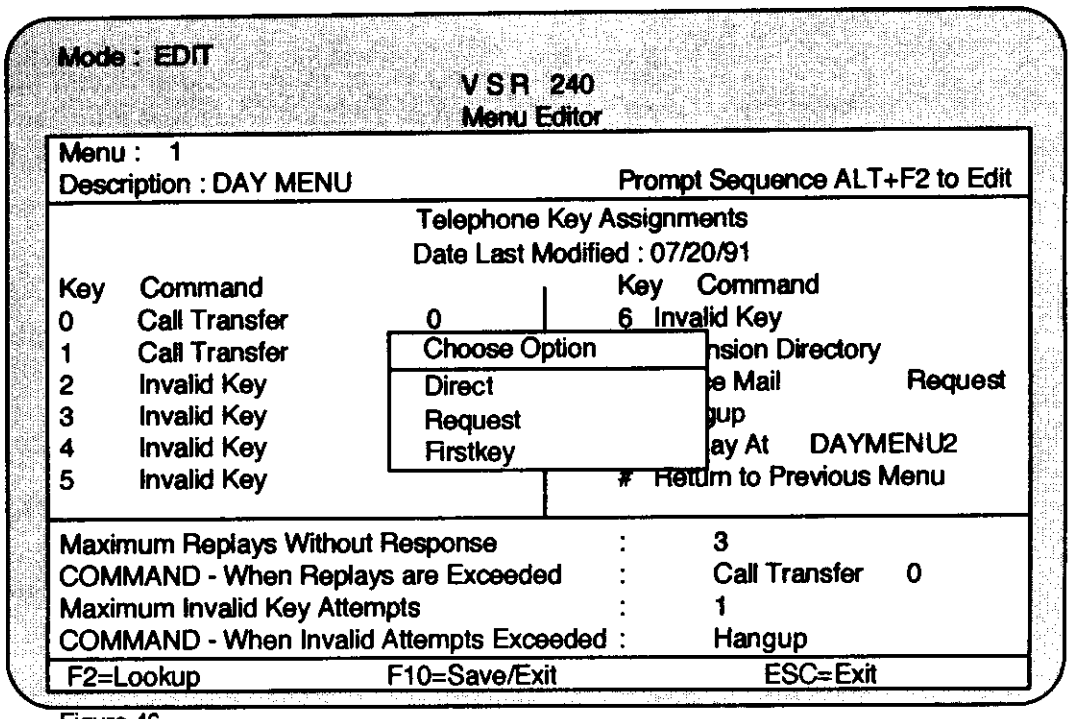

Figure 46

1) Direct Transfer

If you select Direct you must then enter a valid extension number. When this Key is pressed the caller will be transferred directly to that extension. In the Day Menu the "0" key has been assigned to transfer to "0". If your operator cannot be accessed by pressing "0", assign the operator's extension here.

2) Request

If you select Request, the caller is requested to enter the extension to which they want to transfer.

3) Firstkey

By selecting Firstkey, the VSR 200 system knows to wait for the remaining digits of the extension. For instance, if your telephone system is set up to use extension numbers which are in the 100 and 200 series, then assign Keys "1" and "2" to Call Transfer Firstkey so that the caller can enter the extension immediately.

Extension Directory

Directories are explained in detail in the Class of Service section; however, this Command executes the Extension Directory Function.

Hangup

When a key is assigned to Hangup it will place the Channel or Line ON-HOOK and hangup the caller. We suggest that you assign key "9" to hangup to be consistent with the VSR 200 system.

Invalid Key
If you do not wish to assign a key to any other function then it must be assigned as an Invalid Key. A Key with this assignment when pressed will play a prompt to the caller of "Invalid Selection" (See Invalid Attempts).

Mailbox Directory
Directories are explained in a later section; however, this Command executes the Mailbox Directory Function.

Menu
Assigning a Key to a Menu will transfer the caller to another Menu. To return to the previous menu press the pound key. After you select Menu from the Common Types you must enter a valid Menu Description or Press F2 for a Lookup Window.

Play File
Play File works the same as Prompt Editor (ALT-F2), except that the Play File prompts will only be executed if a Key is pressed. Play Files are selected just as the prompts were and they are contained in the same list. When a Play File is complete, it returns to the menu that called it. An example of a play file might be information on your company, product information, or directions to your office.

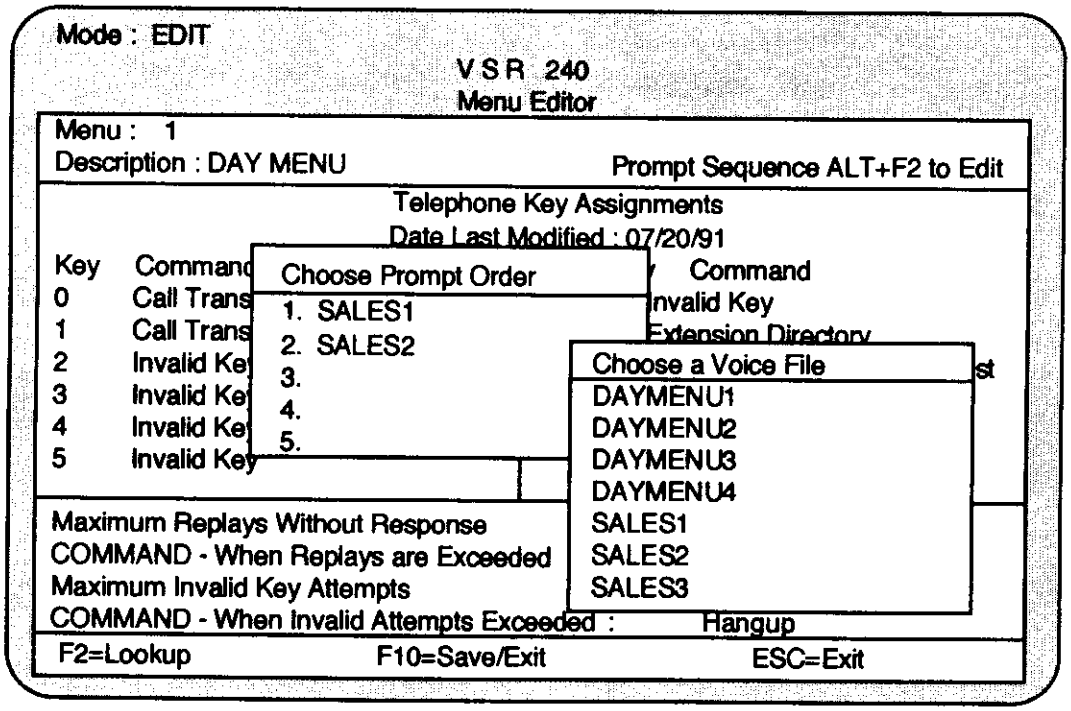

Figure 47

Voice Mail
When you select this Command you are prompted with a window giving three choices: Direct, Request and Firstkey.

1) Direct Transfer
If you select Direct you must then enter a valid mailbox number. When this Key is pressed the caller will be transferred directly to that Mailbox. You might use this function to transfer someone to a General Mailbox, or to leave a Message for a particular department.

2) Request
If you select Request, the caller is requested to enter the mailbox to which they want to transfer.

3) Firstkey
By selecting Firstkey the VSR 200 system knows to wait for the remaining digits of the mailbox number. For instance, if your MAILBOX NUMBER is NOT THE SAME as your extension number series, then you could separately assign keys for direct access to the Mailboxes. Say your mailbox series is 400 and 500 and your extension series is 100 and 200, then you could assign Voice Mail Firstkey to Keys "4" and "5".

Star Key "*"
The star key is used throughout the program to repeat the Voice Prompts. You may select only the prompt at which to start the replay. For Instance, DayMenu1 says "Thank you for calling our company" and DayMenu2 says "If you know the extension of the party you are trying to reach you may dial it now". You wouldn't want to repeat DayMenu1, so you would start the replay with Daymenu2.

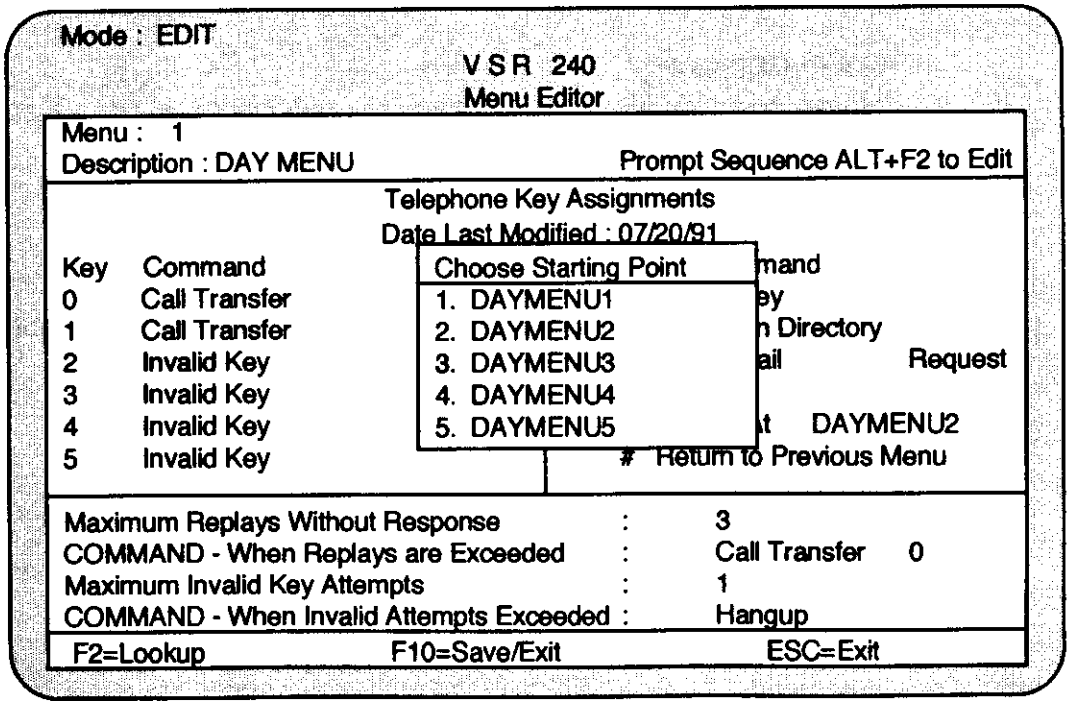

Figure 48

Pound Key "#"
The pound key is consistently used throughout the VSR 200 system to go back to the previous menu. It is not assignable and only its function is displayed.

Maximum Replays
Enter here the number of times you wish the menu to automatically repeat (if there is no response) its prompts before it "Times Out" and Executes the Replay Command (See Below). Note: The default is one.

Replay Command
This is the Command to execute when the Maximum Number of replays has been exceeded. These Command Types are the same as the Key Assignment except that only the following Commands are available here:

Call Transfer
Hangup
Menu
Voice Mail

It is important to set this up correctly. Callers who have rotary phones or touch tone and the DTMF is too short will follow the path you have established here.

The Day Menu is set up to transfer to "0". However, when there is no operator available, such as at Night, then the caller should be transferred to a Voice Mailbox, (Voice Mail Direct) such as the General Mailbox.

Invalid Attempts
This is the maximum number of times the caller can press an invalid key before the VSR 200 system executes the Maximum Attempts Command. Note: The default is three.

Maximum Attempts Command
This Command is handled exactly the same as the Maximum Replay Command. It is suggested that you allow three attempts since the caller had attempted to respond.

DEFAULTS

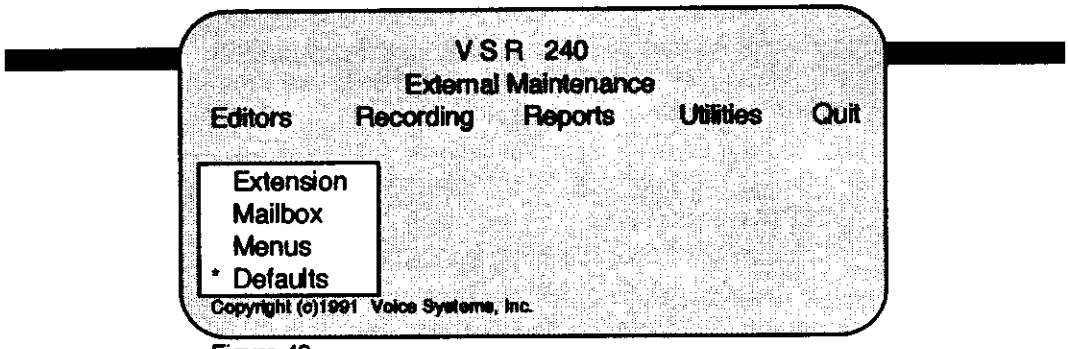

Figure 49

SYSTEM SETTINGS

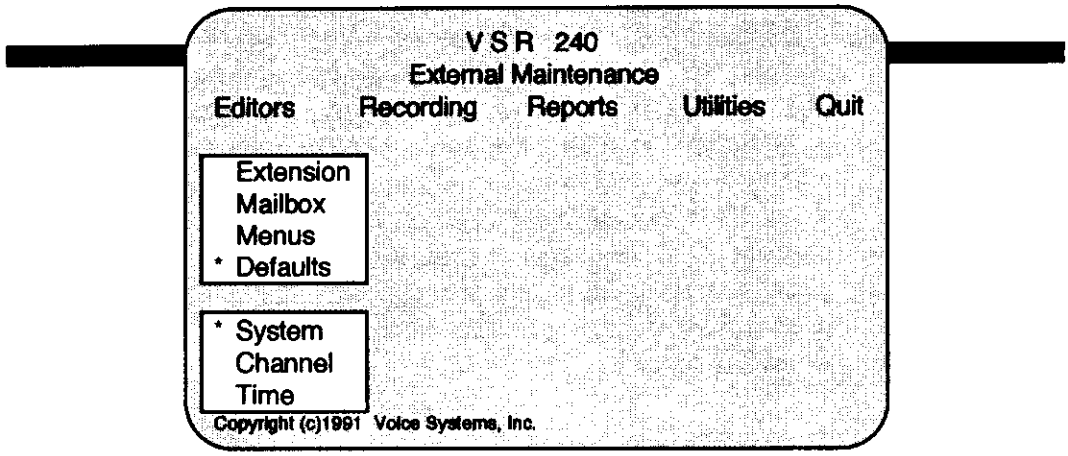

Figure 50

This editor is divided between 1) System Wide Settings, 2) Mailbox Defaults\Settings, and 3) Extension Defaults/Settings.

Mode EDIT

V S R 240
SYSTEM SETTINGS

System Wide Settings

Clean-up Time	12:30 [AM]	Notification Attempts Normal	3
Extension Size (Digits)	3	Notification Attempts Emergency	
Mailbox Size (Digits)	3	* Operator	0
Logging Blocked Lines	[OFF]	Password Size (Digits)	4
Logging Retention (Days)	3	Pause Time (Seconds)	
* Logging	Both	* Phone System	
* Administrative Mailbox	112	Delay Before Pager Analysis	0
* General Mailbox	100	Work Hours	08:00 [AM] to 09:00 [PM]
Maximum Invalid Attempts	3		
Maximum Replays	2		
Minimum Message Length	1		
No. of Rings Before Answer	1		

Page Down F2 = Lookup F10 = Save Exit ESC Exit

Figure 51

1) System Wide Settings

These settings affect the overall operation of the Voice Mail, Call Transferring, and Menu (Auto-Attendant) Systems. These settings are critical. Before you change any of them you must first have a good understanding of their purpose.

Clean-up Time

On a daily basis the system runs the clean-up program automatically. In this field you enter the time when that program is to run. AM/PM is a toggle field. The default is 12:30 AM which is 30 minutes after midnight. (See Utilities\Cleanup)

Extension Size

This is the number of digits in your extension series. For instance, if you series is 100 through 999 then the number of digits is "3". If you ran Quick Setup this has been set for you already. WARNING - You may not have extensions with different numbers of digits. If you change this field after you have set-up the extensions, it will have adverse effects on the system. This field also governs any editor which uses the extension size. The only extension permitted, which is not the same size, is "0" for operator. Note: The range for this field is from 2 to 6.

Transaction Logging

The VSR 200 system simultaneously logs each major activity for the day. Each day a new log is started in the VSR/LOGS directory. The log file name consists of the date beginning with the year, then month, then day. For example, if today's date where 06/01/91, the log for that date would be named "19910601". Each time a Channel is answered, each major operation is recorded, beginning with the time of day, until that transaction is complete. (See Technical Section, Transaction Log Codes).

You may log to a File, Screen (displayed below the status screen), or both, or you may choose not to log. the number of days logs are retained is determined by Logging Retention. (see below). Note: The degault is both.

Logging Blocked Lines

You may turn ON/OFF the system's ability to log Blocked Line Groups. (See Channel Assignment\Blocked Line Groups). Note: the default is ON.

Logging Retention

This field determines the number of days which a log is to be

retained before it is deleted. The range is from 1 to 90 days. The default is 30 days, and the only reason you would make it longer is if you had some trouble that you wanted to track. To view a log, use the Report Function.

Mailbox Size
This is the number of digits in your mailbox series. For instance, if your series is 100 through 999 then the number of digits is "3". If you ran Quick Setup this has been set for you already. WARNING - You may not have mailboxes with different numbers of digits. If you change this field after you have set-up the mailboxes, it will have adverse effects on the system. This field also governs any editor which uses the mailbox size. Note: The range is from 2 to 6.

Administrative Mailbox
The Administrative mailbox is either the Administrators personal mailbox or a separate mailbox belonging to the Administrator. It would be better if the Administrator only had one mailbox to track messages. If an error has been detected by the system, a message will be deposited in this mailbox. In addition, the Administrator has the right to enter any mailbox using his/her password, BUT, only for the purpose of changing settings. The Administrator will not be allowed access to that mailbox's messages or the password.

Default Mailbox
Designate the mailbox you wish to take messages if no mailbox is designated by an extension. This was previously set using Quick Setup.

Maximum Invalid Attempts
An attempt is when a caller presses a key which is invalid or makes an entry which is invalid. The maximum number of invalid attempts used by the VSR 200 system is governed by an entry in this field, with the exception of Menus which are handled separately. If the maximum number of attempts are exceeded, the caller will be appropriately transferred, returned to a previous menu or disconnected.

Maximum Replays
A replay is a repetition of the prompt in the current function. The maximum number of replays, without a response, used by the VSR 200 system is governed by an entry in this field, with the exception of Menus which are handled separately. If the maximum number is exceeded, the caller will be appropriately transferred, returned to a previous menu or disconnected.

Minimum Message Length
Enter the minimum length of time in seconds for a message. If the caller attempts to record a message shorter than this time, they are prompted with "Your Message is Too Short".

Number Rings Before Answer
Enter the number of times you want an extension to ring before the VSR 200 system determines that it is a "Ring No Answer". Note: The default is "4".

Notification Attempts Normal
This feature will be available on a later release.

Notification Attempts Emergency
This feature will be available on a later release.

Operator
Enter here the extension which is designated as operator on your telephone system. The default is zero, however some telephone systems do not have this capability. If you have run Quick Setup this has already been set. Any time the caller is allowed to press "0" throughout the system (excluding menus) they will be transferred to the designated operator.

Password Size
Enter the number of digits to be used for the Mailbox Password. The password for Mailboxes is a fixed number of digits and cannot vary from one mailbox to another. If you should decide, after you have initiated some mailboxes that the password length is to be changed then you must Reset The Password of every mailbox on the system (See Mailbox Editor). Each User would have to Re-Record their Greeting, Name, and Password. The default for the system is "4" digits. If you ran Quick Setup, this field has been set already. The Password range is from "2" to "6" digits.

Pause Time
This feature is not used in this release.

Phone System
The VSR 200 system comes with many pre-defined telephone systems. If you ran the Quick Setup program, this field is already set. Otherwise, press F2 to select your phone system.

If yours does not exist among the pre-defined systems, you must use the Phone System Editor to create a new system. (See Phone System Editor)

Delay Before Pager Analysis
In some areas within the U.S. there can be considerable delays from the time you dial a pager number to the time when an audible signal is returned for the system to analyze. If this time delay is longer than the default time specified in this field, you will need to adjust it accordingly. The time is specified in milliseconds and can range from 0ms to 32000ms (where 1000 = 1 second).

Work Hours
Enter your company's work hours in standard time. Use the space bar to toggle AM or PM.

2) Mailbox Defaults/Settings
SETTINGS affect the overall operation of Voice Mail System and are designated by an (S) to the left of the field. DEFAULTS are used when a new Mailbox is created and only pre-fill certain fields with the expected value. Any default can be changed during editing. For more information on some of the fields below, see the section Mailbox Editor.

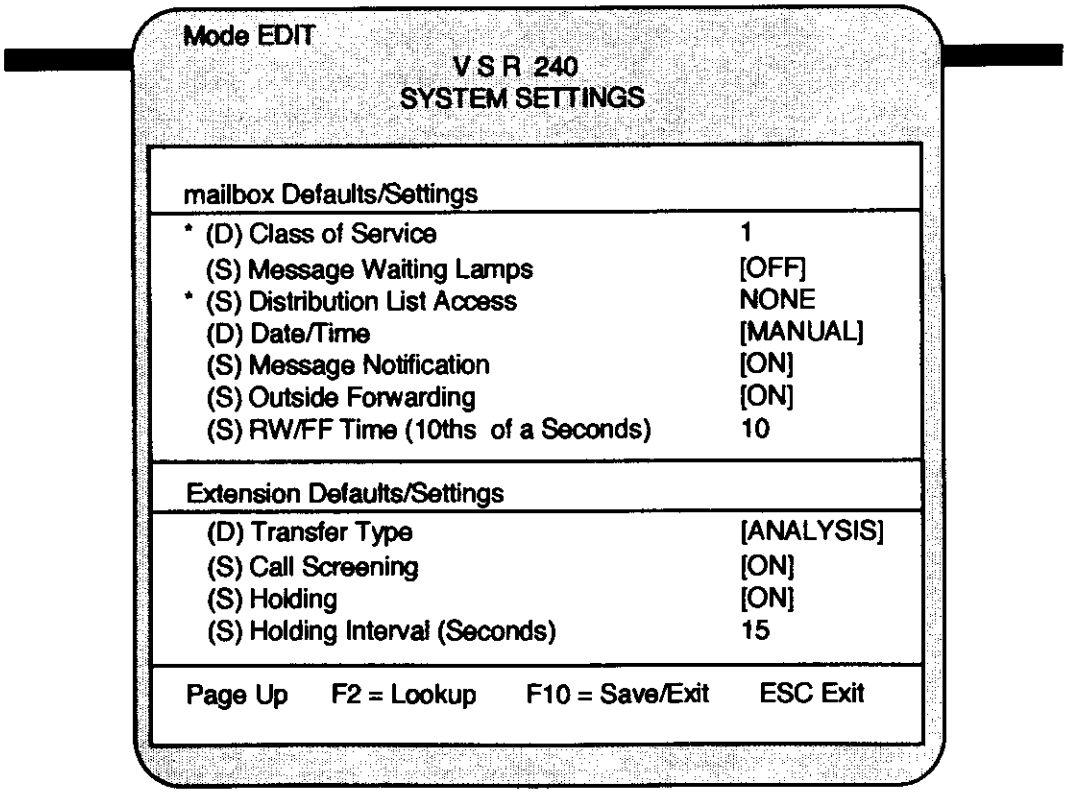

Figure 52

Class of Service (Default)
Enter a valid Class of Service number. When the system is first setup only one Class of Service "1" exists. To add additional Classes use the Class of Service Editor. This is a Lookup Field.

Message Waiting Lamps (Setting)
Toggle this field ON/OFF/AUTO-ON to globally turn message waiting lamp notification ON or OFF or to automatically re-light the lamp. (Some telephone systems cannot use the auto-on feature as it will cause multiple lights which must be canceled.

Distribution List Access (Setting)
This field gives the User access to No Lists (none), System Lists, Personal Lists or both. This field overrides Class of Service.

Date\Time (Default)
This default controls whether the Mailbox User hears the date and time of a message MANUALLY or AUTOMATICALLY. This is a toggle field.

Message Notification (Setting)
This field turns Telephone Notification ON or OFF. It overrides Class of Service settings.

Outside Forwarding (Setting)
This field toggles ON and OFF and controls the ability for mailboxes to be forwarded to an outside telephone number. You may want to set this to off to prevent unwanted long distance calls through the system.

RW/FF Speed (Setting)
When the User Retrieves their messages they have the ability to Rewind the message (go back) or Fast Forward (go ahead) in the message. This setting controls the amount of TIME in 10ths of a second that you will go ahead or back, every time you press the key. The keys for RW and FF are "*" and "#" respectively. Remember this only applies to listening to a message.

3) Extension Defaults/Settings
SETTINGS affect the overall operation of the Call Transfer System. They are designated by an (S) to the left of the field. EXTENSION DEFAULTS (D) are used when a new Extension is created, and pre-fill certain fields with the expected value which saves the

Administrator time. Any default can be changed during editing. For more information on the fields below see the Extension Editor.

Transfer Type (Default)
The Transfer type can be toggled between Blind and Analysis. Blind transfer is an immediate transfer without supervision. Analysis monitors the call for ringing, connect, busy or no-answer. The default for this field is Analysis.

Call Screening (Setting)
Call Screening can be toggled ON or OFF. The default is OFF. It overrides all other settings.

Holding (Setting)
Holding can be toggled ON or OFF. This setting overrides all other settings. The default for holding is ON.

Holding Interval (Setting)
Enter the time in seconds for the caller to be put on hold when they elect to hold for a busy extension. At the end of the hold interval the VSR 200 system will again retry the extension and give the caller the option to hold.

CHANNEL ASSIGNMENT EDITOR

The VSR 200 series equipment comes with 2 or 4 ports. These are Lines or Channels into the system. Each Channel works separately, so in a four port system four callers can be using the system at the same time. Each Channel may be assigned to a different function. For instance, two Channels may be assigned to handle incoming calls and a Menu assigned to those Channels. Two other Channels may be assigned to go directly to Voice Mail or Call Transfer Direct to an Extension. Within the Channel Assignment Editor you may also designate the Lines used for Notification and Blockage Groups. All three, Notification, Blockage, and Channel Assignment can be set for the different time settings you established in the Time Setting Editor.

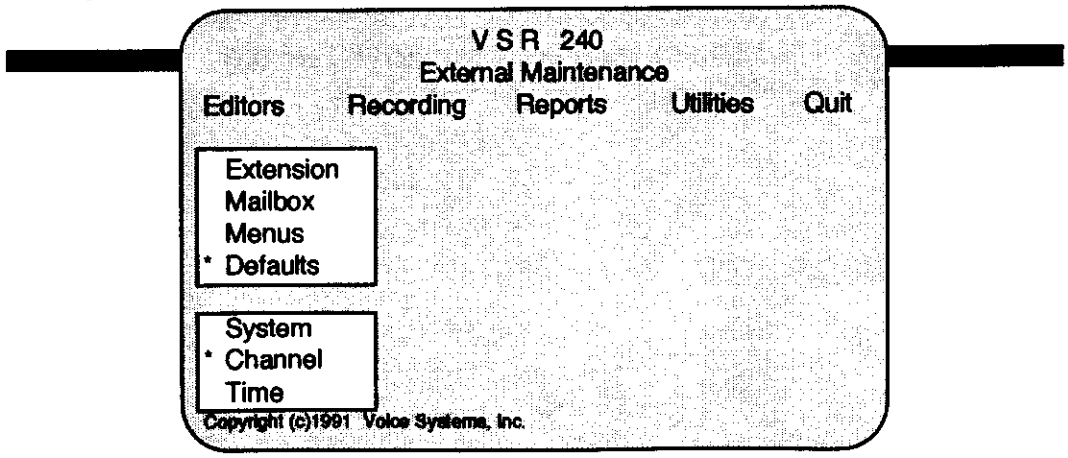

Figure 53

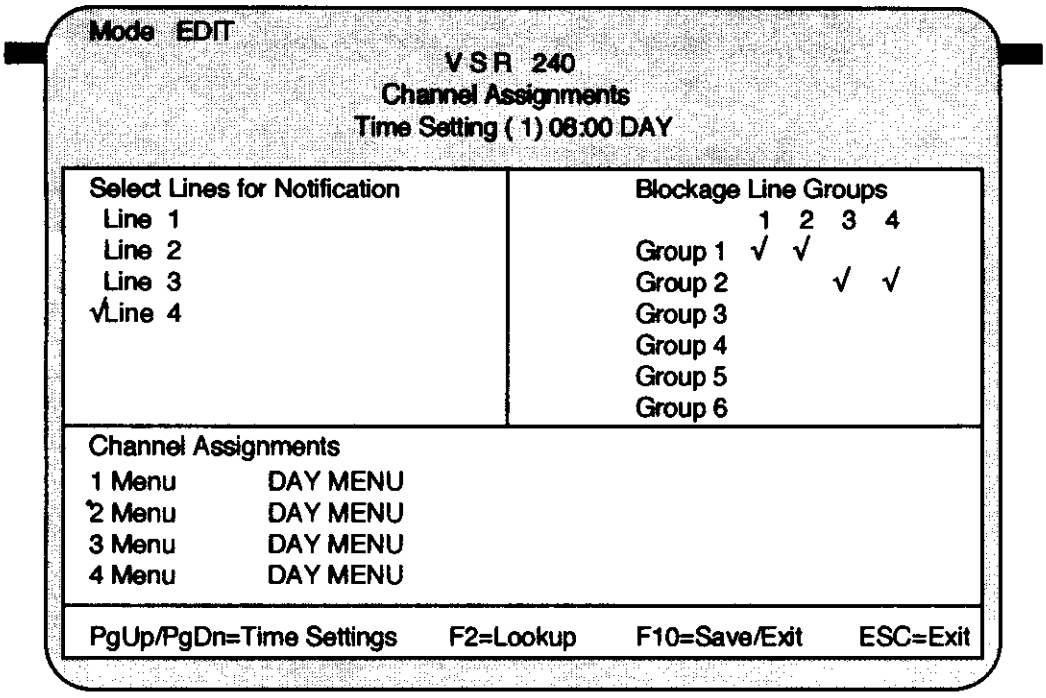

Figure 54

Note: To move around the partitions of this screen use the TAB and Shift TAB keys.

Channel Assignment

When you first enter this editor you are always on Time Setting (1). The time this setting begins is displayed at the Time Setting. To move from one Time Setting to another use Pg-up or Pg-dn. Press the TAB key twice and it will take you to the Channel Assignment Partition. When this screen is first accessed or after you have run Quick Setup the default assignments are DAY MENU for all Channels for time setting (1).

Changing the settings

Use the up and down arrows to move through the Channels. When you wish to change a Channel press the Return key. A window will pop-up with the following options: Menu, Call Transfer, or Voice Mail. Selecting Menu will allow you to choose from all valid menus. Call Transfer will allow either a Direct Transfer or a REQUESTED transfer. Voice Mail operates in the same manner.

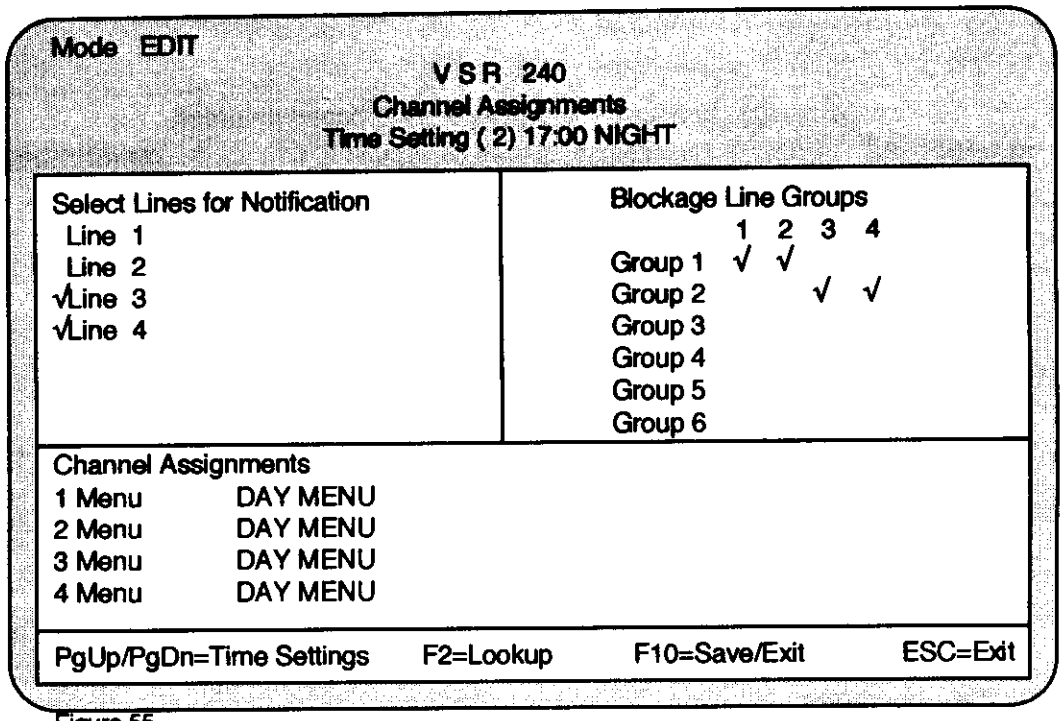

Figure 55

Notification Lines

To notify a Mailbox owner that they have a message, the VSR 200 system must use a Channel. This is also true for Lamp Notification. The selection process for Lines for Notification uses the CHECK (√) key. Arrow down to the Line you wish to use for notification, press the space bar and a check will appear. To remove the check press the space bar again. It is suggested that, in a four port system, that you use lines three and four for notification. If your phone system has message waiting lamps AND the lamp will only clear if the original port or extension used to set the lamp was also used to clear it, then set only the last line for notification. Having only one line for notification will delay notification, but since notifications are kept in a queue they will not be lost. Remember notification lines are different for the different time settings. Note: Selecting a line for Notification does not exclude it from incoming calls.

Blockage Groups

You may define up to six groups of lines. When all lines designated in a group are busy at the same time, then a blockage is recorded. You will be able to retrieve a blockage report at a later date. The blockage is also reported to the transaction log. Each line may be contained in only one group. For the VSR 200 series system you would probably just set up all lines in one group so that you would know when you system is at capacity.

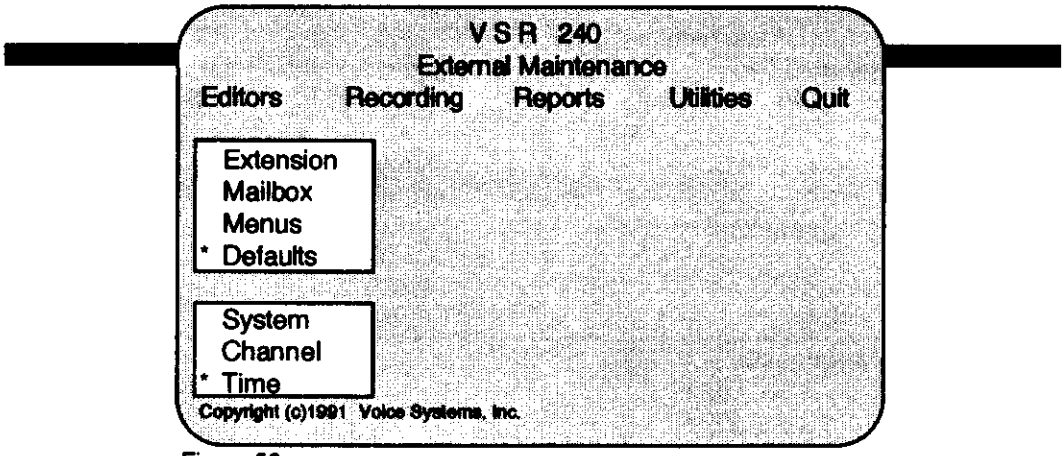

Figure 56

This editor allows you to define up to 10 different time settings which govern the operation of the System, set the Work Days On/Off and Define up to 14 Holidays for the current year.

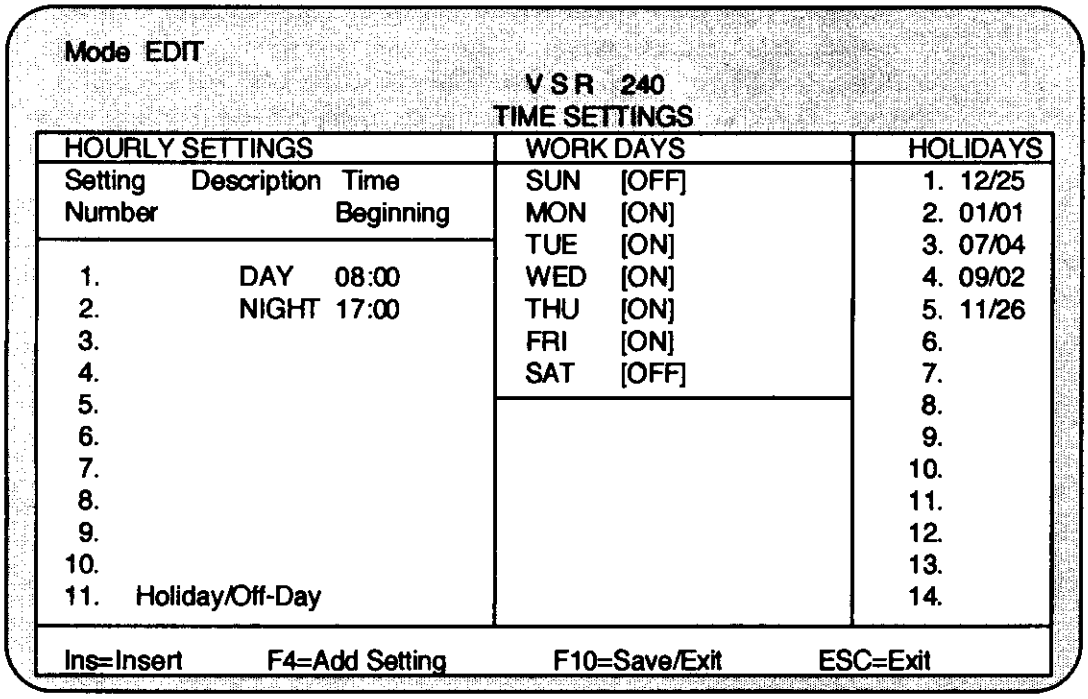

Figure 57

Hourly Settings

Each Setting has two fields, one for description and one for the Time at which the setting will begin. For example, if your work hours are from 8:00 AM to 5:00 PM and you have only a Day and Night Menu then you would have only two settings. If you had a lunch hour when you didn't answer the phone, or were closed, then you may have four settings. Day, Lunch Begin, Lunch End, and Night. Use the Channel Assignment Editor to assign menus to those times. Time Setting 11 is not editable and it is used for Holidays and Work Days Off.

Work Days

By default the Work Days are set to Monday through Friday as ON and Saturday and Sunday as OFF. If your days off are different, say Monday and Tuesday, then press the Tab Key to go over to Work Days and use the up & down arrows and the toggle each day On or Off. On the Days Off, the system will use Setting 11 and the menu it is assigned in the Defaults Editor.

Holidays

Use the Tab Key again to get over to Holidays and arrow down to edit any one of the Holidays. You need only enter the Month and the Day for each Holiday that your company allows. When that day arrives the VSR 200 system will follow the Channel Assignments for Setting 11.

RECORDING

MENU PROMPTS

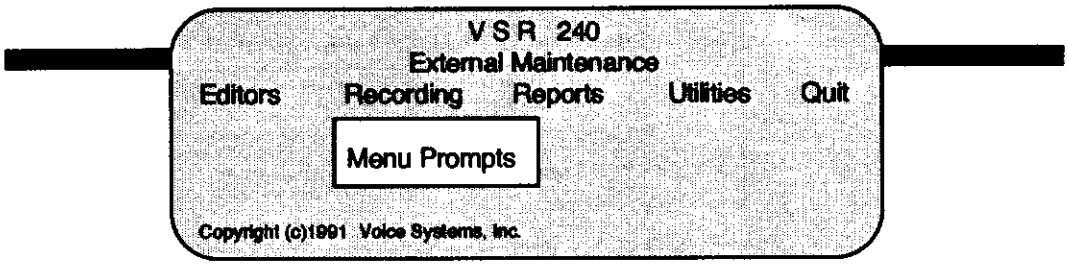

Figure 58

Recording can be accessed directly from the Main Menu or from the Menu Editor. Its function is to allow the Administrator to create recordings for Menu Prompts or Play Files. All files of this nature are in one directory with the same extension. (See Files & Directories).

Recording has two separate functions. One is to determine the File to be recorded, the Channel to record from and the Extension to call. The second function takes place at the Extension and is audible only over the telephone. During recording, control is at the recorder's fingertips. When they are finished control is returned to the screen. You therefore may dial an extension anywhere on your telephone system, preferable one in a quiet area and away from the computer. Recording for each file is done separately, so if you are going to record many files, it is suggested that there be one person at the VSR 200 system and one person recording on the telephone.

Tips

Planning

Be sure to plan your menus and recordings ahead of time. This will save you a lot of re-recording time.

Voice

Try to use a high quality voice to record. The system uses a feminine voice and if you match yours to the system's it would sound better. The voice should not be giddy, nor too monotone. Have the recorder take a breath before the recording and try to keep breathing to a minimum. If you wish to have VSR record your menu prompts to match the current voice, contact our technical support staff.

Sound

Try to record from an extension which is in a quiet area, without computers or air-conditioning in the background. If this is a problem you may want to wait until after working hours to achieve a high degree of silence.

Telephone

If the volume of the recording is much lower than the VSR prompts, then try using another telephone, or type of telephone.

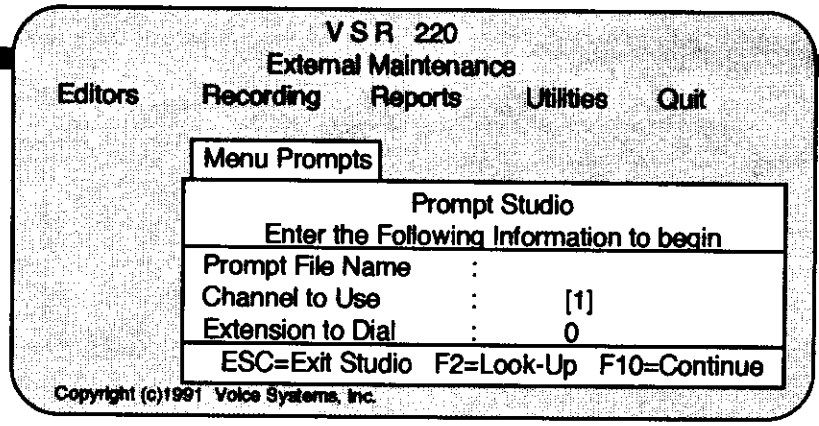

Figure 59

File
Enter the name of the new file to be recorded or press F2 to select from Existing Files.

Channel
Enter the Channel Number to dial out from. In the VSR 220 system you may use channels 1 and 2, and in a VSR 240 system channels 1-4. The default is "1".

Extension
Enter the extension at which you are going to record. This can be any extension on your telephone system whether it exists in the Extension file or not.

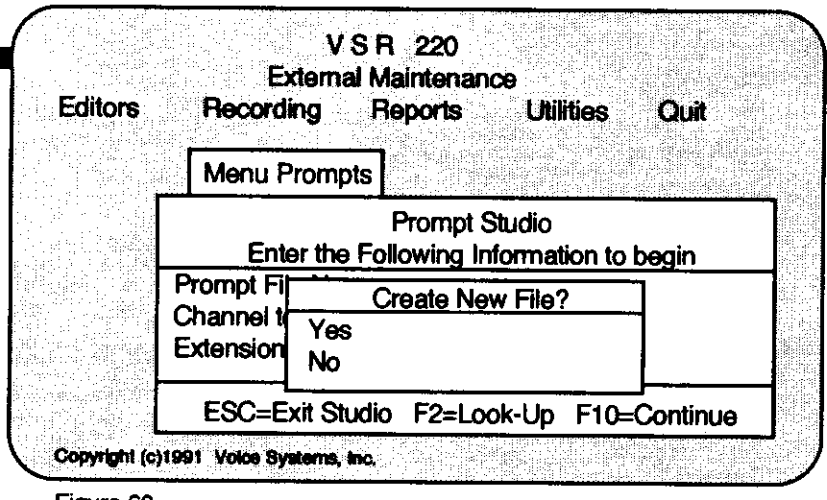

Figure 60

By pressing ENTER at the Extension field, you transfer control to the Extension, a backup copy of the current file is made, and the extension is dialed. If it is busy the VSR 200 system will inform you. If you connect, it will show the connection and the current status, while the file is being recorded.

The VSR 200 system will now play a prompt at the extension which gives the person recording the following options. (Note: The prompt only plays once to give the Recorder a chance to get ready rather than repeat several times.

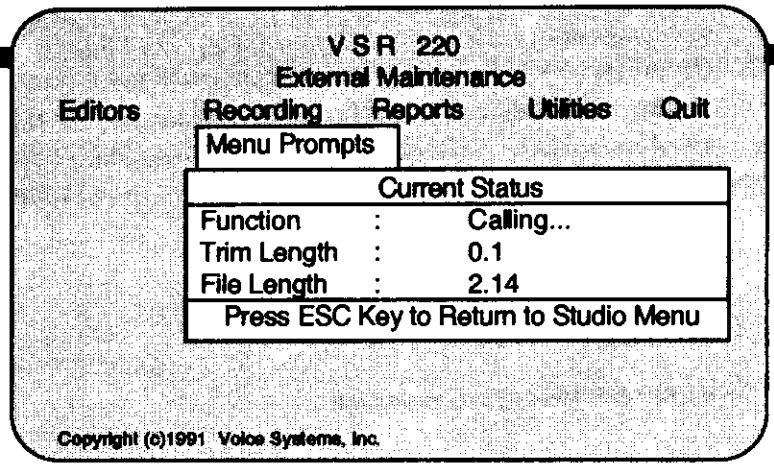

Figure 61

1) Play
Plays the current file.

2) Record
Plays "Recording" followed by a tone, at which time you then begin recording your prompt. Press any key to stop the recording.

3) Trim Front
When recording, if you do not start immediately, there may be too much blank time. To correct this, you can trim the front by an amount equal to the trim length, each time you press "3".

4) Trim End
When recording, you may not have stopped the recording immediately. To correct this, you can trim the end of the recording by an amount equal to the trim length, each time you press "4".

5) Change Trim Length
The Trim length is measured in 10ths of a second. The default is one-tenth of a second. Follow the prompts to change the length.

7) Restore
Occasionally you will find that you didn't want to re-record this file. Press "7" and the file will be restored to its original state.

9) Save & Exit
When you are done recording press "9" to save the file and return control back to the screen to record another prompt or exit the Recording function altogether. DO NOT HANG-UP WITHOUT PRESSING A NINE. You may have to reboot the system.

*** Repeat the prompts**

 # No effect

PRE-RECORDED PROMPTS

A MENU consists of two parts, a Voice Prompt and Key Assignments. The Key Assignments are set in the Menu Editor, and the Voice Prompts are recorded via the Recording function in the External Maintenance Program. Before

attempting to change any of the menus or recording, take time to plan. Even though the menus have eight possible key assignments, limit your choices per menu to five to ease the frustrations of the caller. When you first get the system there are three Menus, DAY, NIGHT and a MESSAGE CENTER MENU. Each of the menus have five pre-recorded prompts which are listed below:

DAY MENU

DAYMENU1

Thank you for calling our company

DAYMENU2

If you know your party's extension you may dial it now, otherwise please stay on the line and an operator will be with you momentarily.

DAYMENU3

For our corporate directory press 7, to leave a message press 8.

DAYMENU4

Press 0 to transfer to the operator, 9 to hang up.

DAYMENU5

or the star key to repeat these instructions.

NIGHT MENU

NGTMENU1

Thank you for calling our company. Our office hours are from 8:00 AM to 5:00 PM Monday thru Friday.

NGTMENU2

If you know your party's extension you may dial it now, otherwise...

NGTMENU3

For our corporate directory press 7, to leave a message for a specific individual press 8.

NGTMENU4

If you remain on the line you will be transfered to our general mailbox. Leave a message and when the operator comes on duty the next working day your message will be directed to the appropriate person.

NGTMENU5

Press 9 to hangup or to repeat these instructions press the star key.

MESSAGE CENTER MENU

MSGCTR1

Welcome to our Message Center.

MSGCTR2

If you know your party's mailbox number please enter it now otherwise press 6 for our mailbox directory.

MSGCTR3

If you would like to transfer to an extension and know the number press 7, otherwise press 8 for out extension directory.

MSGCTR4

press 0 to go to the operator, 9 to hangup.

MSGCTR5

or the star key to repeat these instructions.

You may re-record these Voice Prompts and make them appropriate for your company. Be sure that the Voice Prompts match the key assignments. If you wish VSR to record prompts for you, contact your dealer.

Day Menu and Night Menu differ in other ways also. During the day if you stay on the line without responding to the prompts then you are transfered to the Operator. During the night you will be transfered to the General or Default Mailbox. The default key assignments in both menus are as follows:

0 - Call Transfer Direct to 0
1 - Call Transfer First Key
2 - Call Transfer First Key
3 - Call Transfer First Key
4 - Call Transfer First Key
5 - Call Transfer First Key
6 - Call Transfer First Key
7 - Extension Directory
8 - Voice Mail Request
9 - Hang Up

**Using the menu editor, you may make keys which do not represent your extension series, invalid keys, or change them to other than Call Transfer First Key.

Voice Mail Menu

If you assign the Voice Mail Menu directly to a channel (See Channel Editor) then it assumes that you will enter voice mailbox numbers and will not request directly to transfer to an extension. It is set up as follows:

0 - Call Transfer Direct to 0
1 - Voice Mail First Key
2 - Voice Mail First Key
3 - Voice Mail First Key
4 - Voice Mail First Key
5 - Voice Mail First Key
6 - Mailbox Directory
7 - Extension Request
8 - Extension Directory
9 - Hang Up

**Using the menu editor, you may make keys which do not represent your extension series, invalid keys, or change them to other than Call Transfer First Key.

For more information on Key Assignments see the MENU EDITOR.

REPORTS

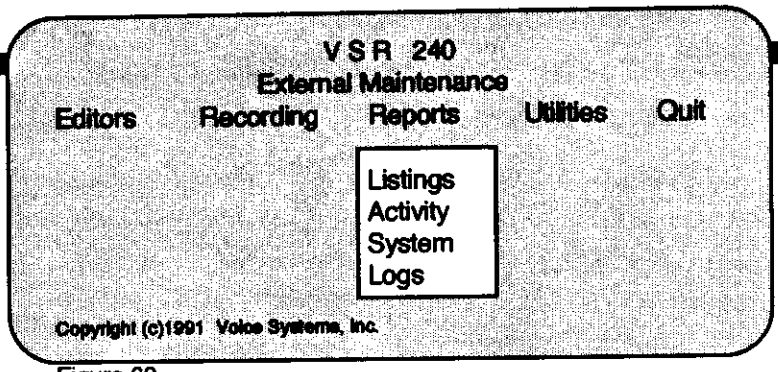

Figure 62

The reports function is accessed from the main menu in The External Maintenance Program. There are four different categories of reports:

1. **Listings**
2. **Activity**
3. **System**
4. **Logs**

The Listing reports and the Activity reports can be selected by Range and can each be sorted by one of two choices. For instance, an extension listing could be selected using a range of 100 to 110 and sorted either by extension number or name. Activity reports contain information which is not only selected by range but date as well. Most of the System reports are one-page informational reports for which there is no specified date or range. All reports can be printed to the screen, a printer, or a file. Examples of Reports are found in the Appendix.

LISTINGS

A report LISTING contains information on a specific range of items, which is listed in a specific order, and the information is static. There are six different listing reports:

1. **Extension**
2. **Mailbox**
3. **Menu**
4. **Class of Service**
5. **Phone System**
6. **Personal Distribution**
7. **System Distribution**

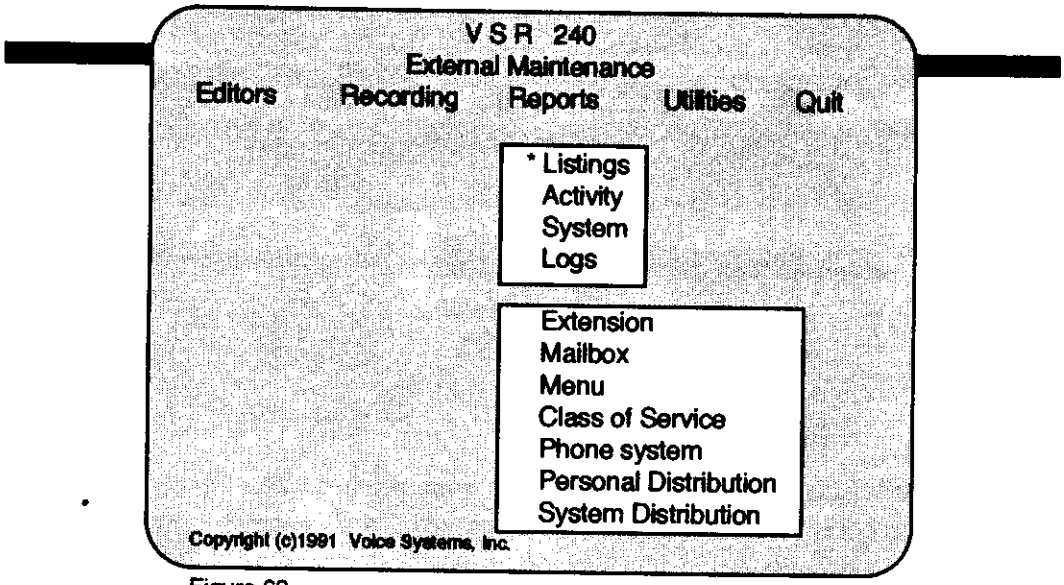

Figure 63

After you select the report you want, you are asked to select the item upon which the selection is to be based. Press F10 to continue or F9 to exit. In this case, we have selected the Extension report and decided that the report should be selected by Extension.

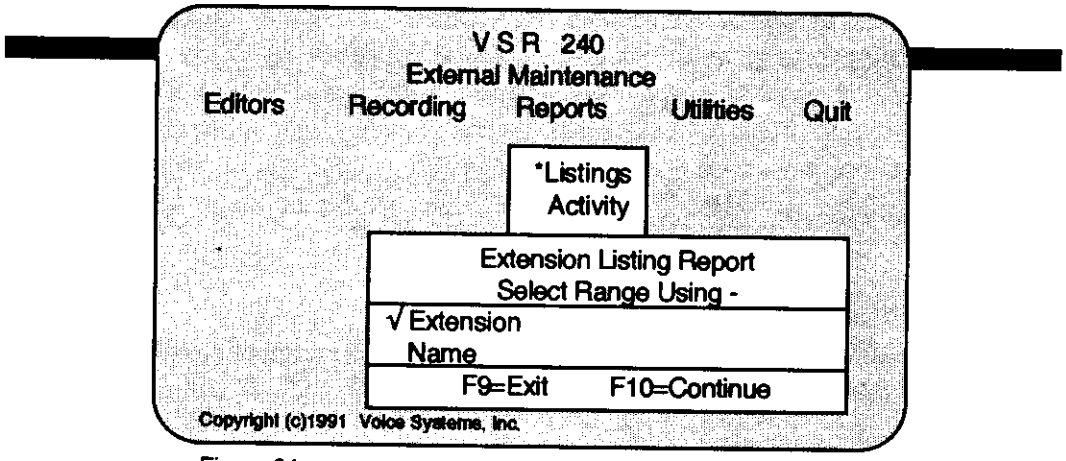

Figure 64

Next, you are prompted to enter the *start* and *end* of the range of "Extensions" on which you will base your report. When you are finished press F10 to continue.

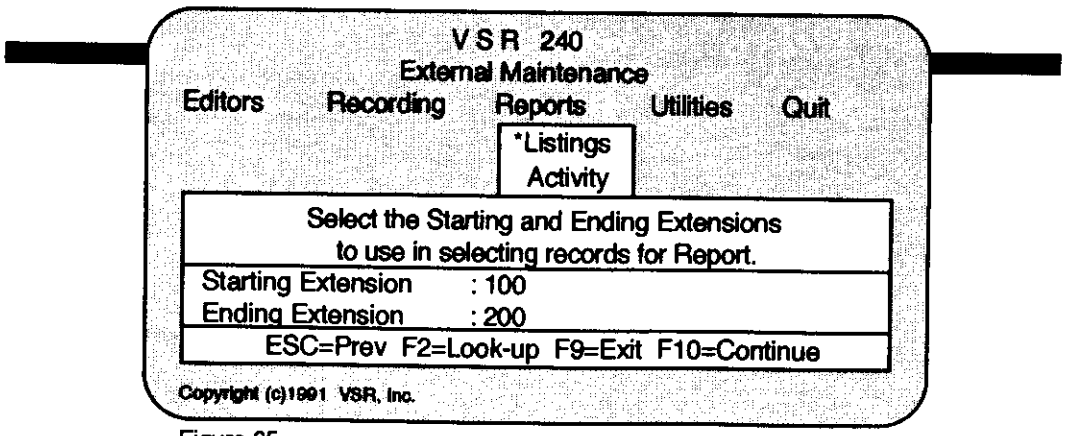

Figure 65

Even though you selected the Report by extension, you may still sort either by the extension or the name. Select the sort order and press F10 to continue.

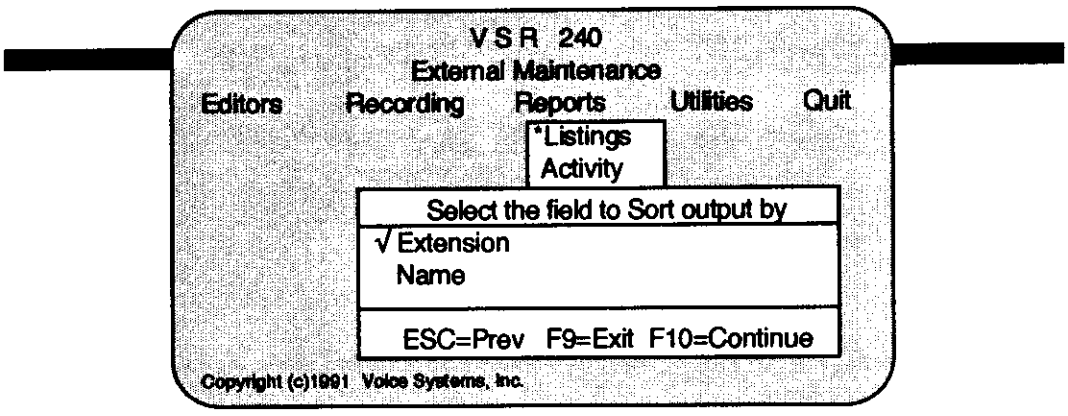

Figure 66

The last step is to send the report to the screen, printer or a file. Move the arrow down to the item of your choice, and press the space bar to toggle the check mark. If you are ready to continue, press F10. When the report is sent to the screen you may page up and down through it. When you are done press ESC.

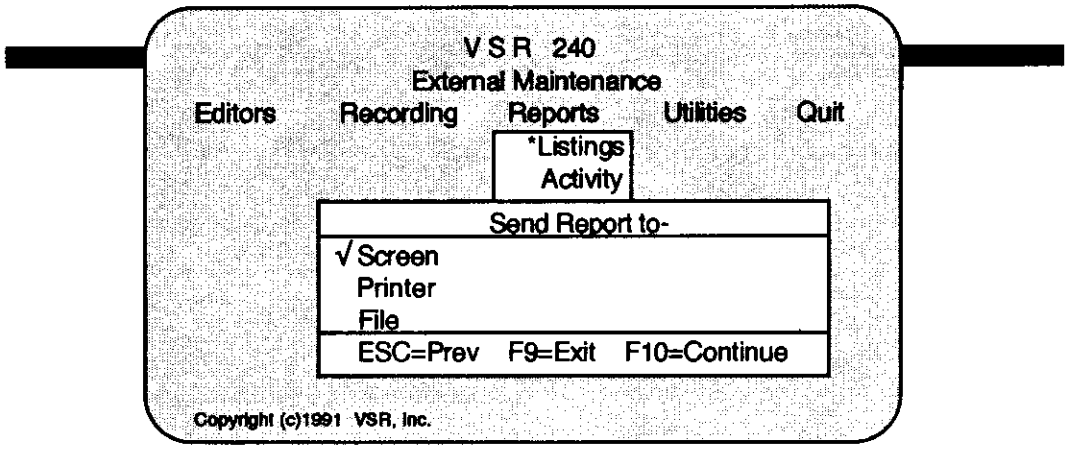

Figure 67

ACTIVITY

An activity report contains information on a specific range of items, in a specific order. The activity associated with that item is measured over a period of time and thus requires a range of dates upon which to base the report. There are five different activity reports as shown in the back of this chapter.

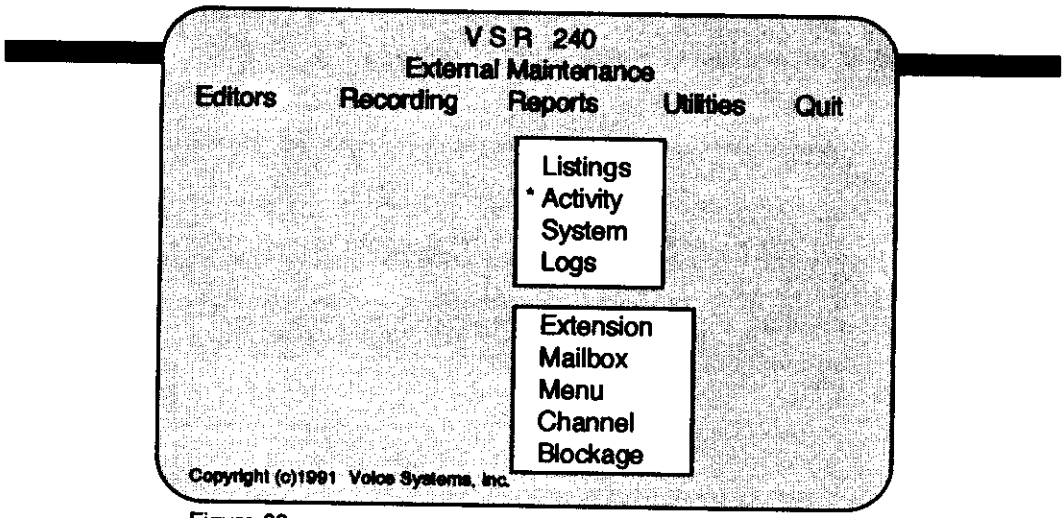

Figure 68

1. **Extension**
2. **Mailbox**
3. **Menu**
4. **Channel**
5. **Blockage**

In our example, first select the extension upon which the report is based.

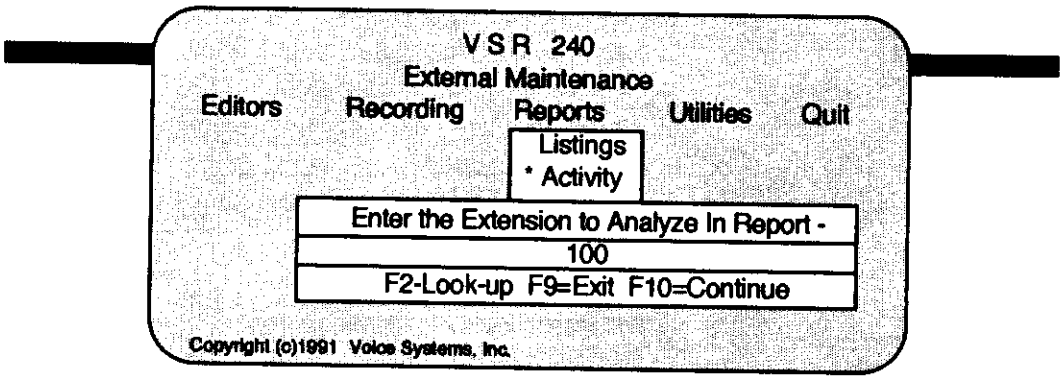

Figure 69

Select either a Detailed or Summary report.

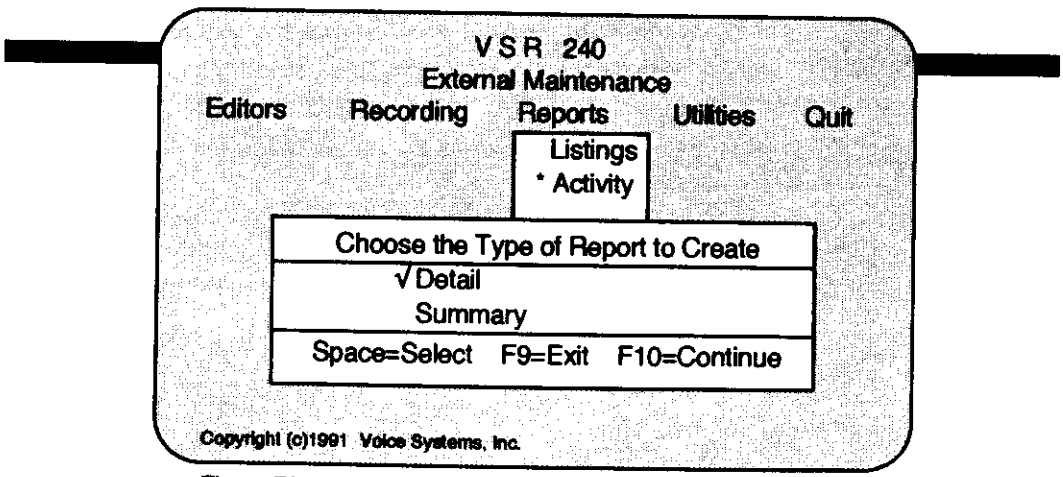

Figure 70

Each report is based on a particular date range. Enter the starting and ending date for the report. If you're not sure of the date range of the data then press F2 for available dates.

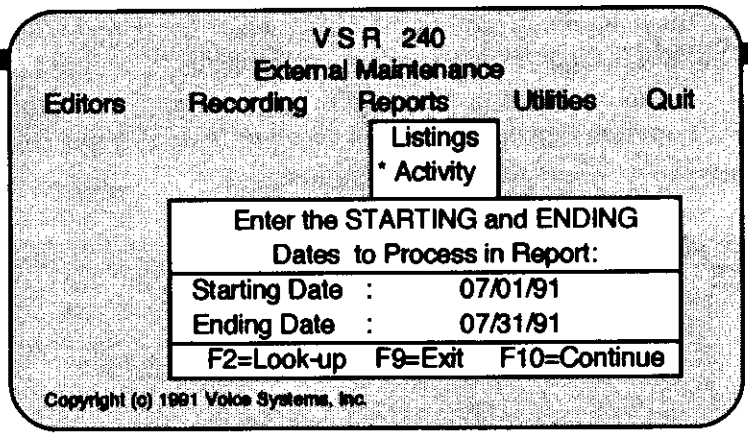

Figure 71

SYSTEM

System reports are usually one or two page reports which contain information from files such as settings or defaults. There is no specified range or sort order. There are seven different system reports.

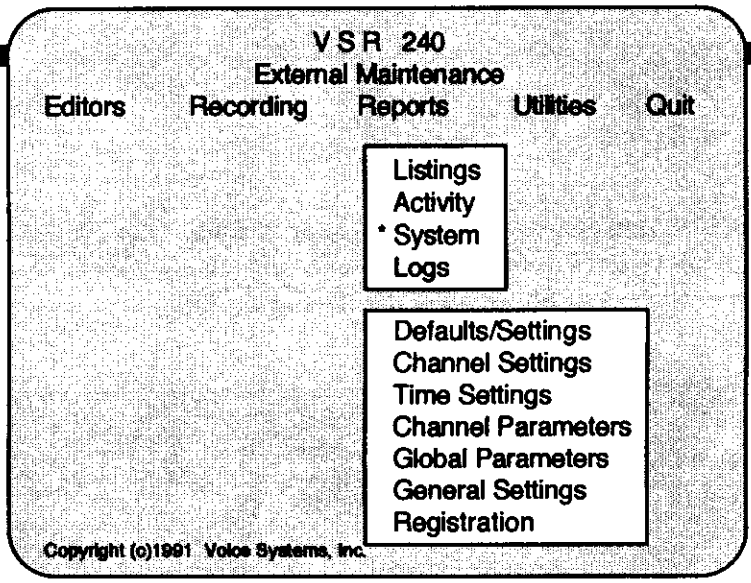

Figure 72

1. Defaults/Settings
2. Channel Settings
3. Time Settings
4. Channel Parameters
5. Global Parameters
6. General Settings
General information on the Hardware and Software.
7. Registration
Use this option to print out or write to diskette, your registration sheet and sent it to:

Voice Systems Research • Software Registration
P.O. Box 445 • W. Sacramento, CA 95691

LOGS

Each call to the system is logged to a file as a separate item. Using a series of codes (See Log Codes) each Transaction during that call is added to the log entry. A separate log file is kept for each day which is named with the day as follows YYYYMMDD.log. For example a log for 08/09/91 would be named 19910809.log. You may choose a particular transaction file to print. In addition, a continuing record is kept of any errors which may or may not be critical to the system's operation. There are two log reports.

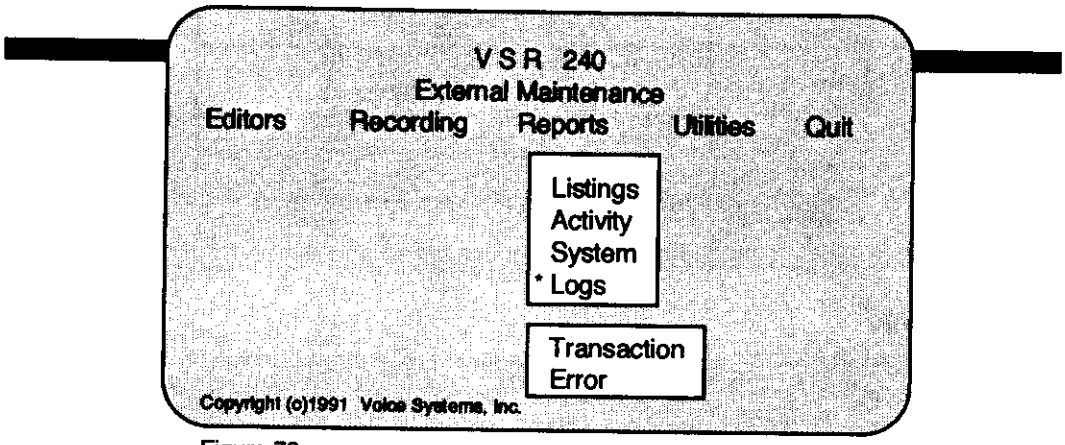

Figure 73

1. Transaction
2. Error

The Transaction logs can be printed out one at a time. If you know the date of the log you wish to print, you may enter it directly, according to the format described above or press F2 for a list of existing log files.

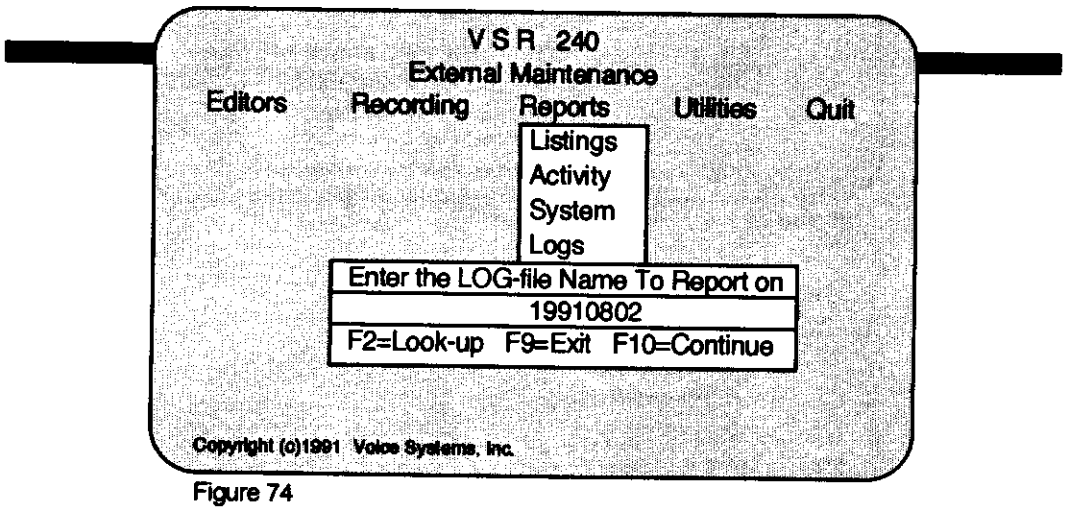

Figure 74

The Error log is one file. If you wish to print the Error log file, simply select Error from the Log Menu and send the report.

UTILITIES

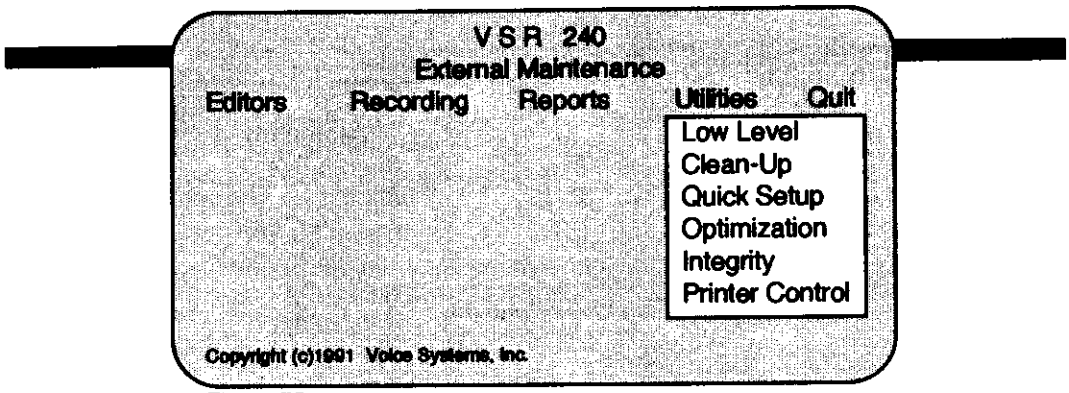

Figure 75

LOW LEVEL

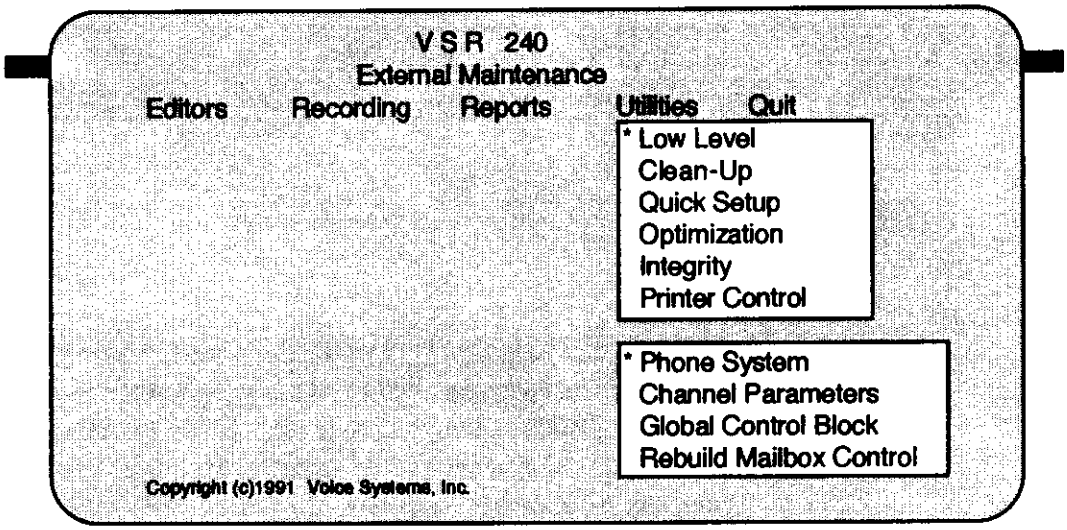

Figure 76

PHONE SYSTEM EDITOR

The Phone System Editor is a multiple record file. Each record represents the configuration of one Phone System. The configuration has four parts: Dialing Prefixes, Hang-up Detection, Tone Table and Feature Prefixes. All prefix fields in this editor allow up to 10 digits of any character, alpha or numeric. We have pre-loaded several Phone System configurations for your convenience. They are the following:

Mfg.	**Model Number**
Mitel	SX100
Mitel	SX50
Mitel	SX2000VS
Panasonic	616
Panasonic	1232
Panasonic	DBS
Premier	ESP1224
Toshiba	Perception
Toshiba	Strata VI
Trillium	Panther II

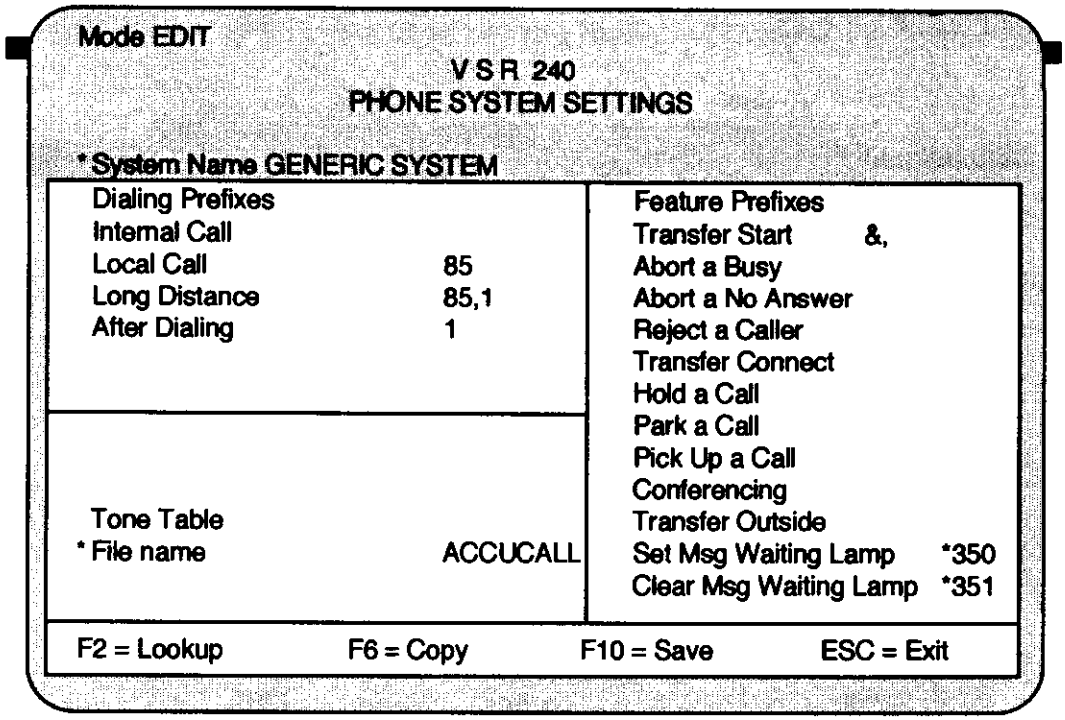

Figure 77

Edit Mode

Dialing Prefixes

Dialing Prefixes are the required DTMF which precede dialing, such as the telephone system requires a "9" to reach an outside line, or it may require an "8" to make a long distance call. If the system changes from an internal dial tone to an external dial tone, it will most likely require a pause before dialing the actual telephone number. A pause is represented by a comma ",".

Internal Call

Enter any digits required to make an internal call.

Local Call

Enter any digits required to make a local call. Note: The system uses this feature only for telephone notification.

Long Distance

Enter any digits required to make a long distance call. Note: The system uses this feature only for telephone notification.

After Dialing

In some systems, an internal call may require a specific digit to be dialed after the extension number. For instance, to bypass auto-answer and force the telephone to ring in the Panasonic DBS system, a "1" is required immediately following the digit.

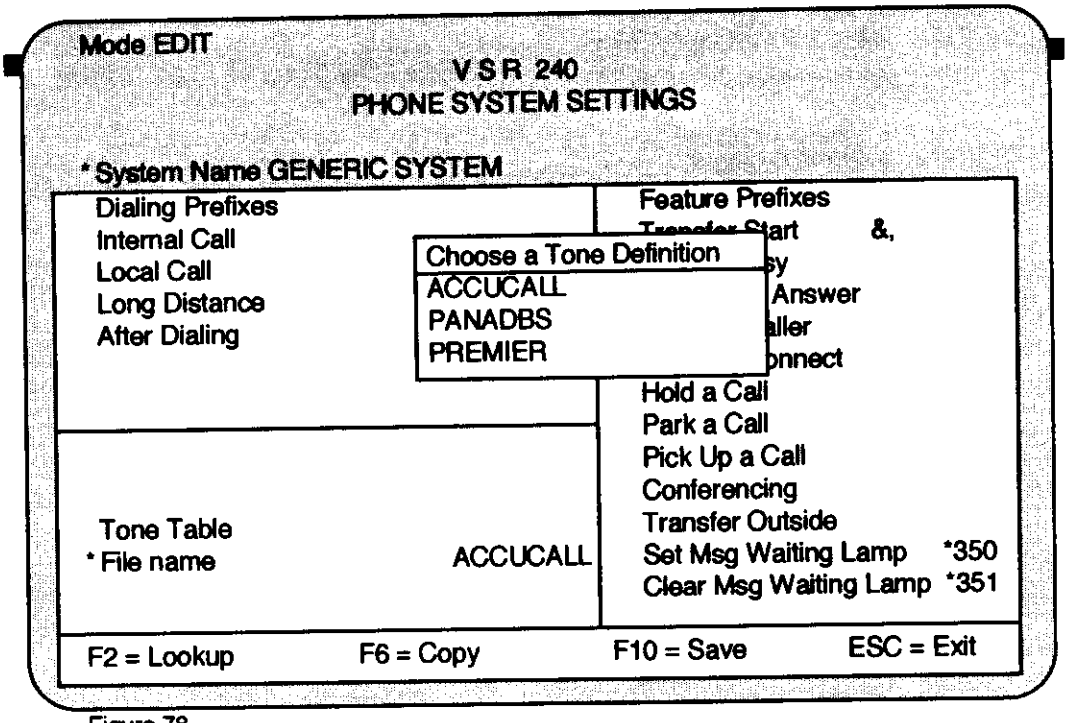

Figure 78

Tone Table

Enter the tone table directly or press F2 to select from the various tables. If you did not use one of the pre-loaded phone systems and need to ADD one, for now, select the default tone table, ACCUCALL. If you are having trouble transferring, holding, connecting, or recognizing busy signals, then you will have to run the ACCUCALL program. (See Running Accucall)

Feature Prefixes

These are the DTMF tones which will be used to accomplish any of the tasks listed below. In some systems they are known as feature codes. Use the ampersand "&" to represent a hook flash and the comma "," to represent a pause. You may enter up to 10 digits of any kind in these fields.

Transfer Start

Enter the characters required to start a transfer from extension to extension. This is usually a hook flash followed by a pause "&," and defaults to this. If your phone system uses a code of a number of digits for a hook flash then you should enter it here.

Abort a Busy

Usually if an extension is busy you need only perform another transfer start and you will abort the busy extension and be reconnected with the first extension. However some systems, such as the Premier require you to perform a hook flash, pause, followed by another hook flash to abort that extension. In that case, the Abort a Busy field would require another hook flash. If the transfer start you hook flash then you may have to use a code here.

Abort a No Answer
This field would most likely be handled the same as abort a busy.

Reject a Caller
Used to Reject a call during Call Screening when destination extension elects to reject the call by hanging up.

Transfer Connect
This is used to complete a Transfer. This field is sent prior to retrieving a call that was parked.

Hold a Call
You may find that a flash hook will allow you to put the caller on hold however you have trouble picking them up again or transferring. If this is true, you may use a feature code to hold the call.

Pick up a Call
If your telephone system requires that you put the caller on hold with a feature code, then you may have to pick-up the call with a feature code.

Conferencing
Not used in this release.

Park a Call
Not used in this release.

Transfer Outside
Enter any code required to transfer a call outside.

Set Msg Waiting Lamp
If your telephone system has message waiting lamps, and allows them to be set from a single line port, then enter the code in the following format:

If the format is Feature Code followed by the Extension, then enter only the feature code. The VSR system sends the extension number automatically.

Example: If the feature code is "*23"

Enter "*23".

If the extension doesn't follow the Feature Code or there are characters to be sent after the extension number, use an "E" to represent the extension and follow this example.

Example: # sign required before extension and feature code required after the extension

Enter "#E*23".

If your system requires a message count MC to be included in the characters sent, do the following.

Example: Repeat previous entry followed by MC

Enter "#E*23MC".

Clear Msg Waiting Lamp

If your telephone system has message waiting lamps, and allows them to be set from a single line port, then enter the code for clearing the message waiting lamps using the above examples. If you are using a message count MC, you may be required to send "00" to clear rather than "MC".

Add Mode

To Add a telephone system press the F4 key when you are in the Locate Mode.

Delete Mode

To delete a telephone system press the F5 key when you are in the Locate Mode.

Copy Mode

To copy an existing phone system to a new one press the F6 key. You will be prompted to enter the New Phone System. Press F10 to copy or ESC to exit.

CHANNEL PARAMETER EDITOR

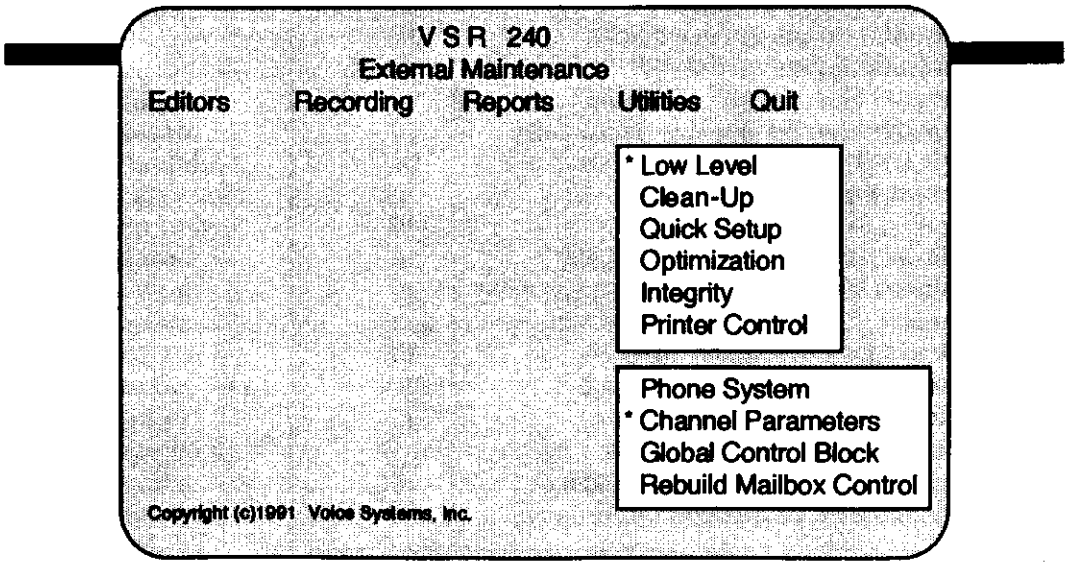

Figure 79

To access the Channel Parameter Editor select Low-Level from the Utilities menu. The CPE governs the settings used by the Rhetorex Voice Board for each channel. All channels in the VSR 200 system are assumed to be attached to the same source, either to a PBX or a Central Office. Therefore the settings are the same for all channels.

WARNING!!!!!! UNLESS YOU ARE VERY KNOWLEDGEABLE ABOUT THE OPERATION OF THE PBX AND THE VOICE BOARD, DO NOT ATTEMPT TO CHANGE THESE SETTINGS WITHOUT THE ASSISTANCE OF YOUR DEALER OR OUR TECHNICAL SUPPORT STAFF.

Mode EDIT

V S R 240
Page 1
RHETOREX CHANNEL PARAMETER BLOCK SETTINGS

Description Internal	Values	Unit of Measure
Minimum DTMF Duration For Play Break	3	16 ms Ticks
Minimum DTMF Duration For Non Play Break	2	16 ms Ticks
threshold Before Silence is Discarded	0	16 ms Ticks
Number of Rings before Analysis Complete	4	rings
Interval Before Beginning Pcpm Analysis	25	10 millisecs
Interval Without Signal Before PCPM	4000	10 millisecs
Delay Before Loop Current is Answer	10	10 millisecs
Delay After Loop Drop Before PCPM	10	10 millisecs
Vox Setting	2	1,2 or 3
Duration of signal before PCPM Complete	650	10 millisecs
Acceptable Tolerance Above Nom. 1st Low	13	%
Acceptable Tolerance Below Nom. 1st Low	13	%
Acceptable Tolerance Above Nom. 2nd Low	13	%
Acceptable Tolerance Below Nom. 2nd Low	13	%

Page Down F2 Lookup F10 Save Esc Exit

Figure 80

Mode EDIT

V S R 240
Page 2
RHETOREX CHANNEL PARAMETER BLOCK SETTINGS

Description Internal	Values	Unit of Measure
Acceptable Tolerance Above Nom. High	13	%
Acceptable Tolerance Below Nom. High	13	%
Maximum Time For 1st Low Int. As Busy	90	10 millisecs
Maximum Time For 2nd Low Int. As Busy	90	10 millisecs
Maximum Time for High Int. As Busy	90	10 millisecs
Attempts Before Returning Busy	2	Non Ringback Cyls
Minimum Signal Duration (Glitch)	15	10 millisecs
Minimum non Signal Duration (Spike)	19	10 millisecs
Maximum Time Short Low Consid. Dbl. Ring	90	10 millisecs
Maximum Time Long Low Consid. Dbl. Ring	225	10 millisecs
Minimum for a Short Ring Cadence	90	10 millisecs
Maximum for a Long Ring Cadence	700	10 millisecs
Maximum for a Short Ring Cadence	530	10 millisecs
Cycle on Which to begin Analysis	1	10 millisecs
Maximum ON for a single busy cadence	78	10 millisecs
Maximum OFF for a single busy cadence	58	10 millisecs

Page Up/Down F2 Lookup F10 Save Esc Exit

Figure 81

Channel Parameter Definitions

CP Field	Default	Description
DtmfDetect	3	Minimum duration ON to detect DTMF during Play functions (16 ms ticks).
rsv2	0	Reserved.
DtmfDelay	2	Minimum duration ON to detect DTMF during non Play functions (16 ms ticks).
SilenceDly	-1	Threshold before silence is discarded during Record functions (16 ms ticks). Default is disabled or never.
NoAnswer Rings	4	Number of RINGBACK Cycles before posting a PCPM Analysis complete.
CallProgDly	25	Interval before beginning PCPM Analysis after dialing digit string.
AbTimeout	4000	Interval without signal before a PCPM Analysis complete event is posted to the System Event Queue.
LcValid	0	Delay after dialing digit string before loop current drop is considered Answer.
LcWait	10	Delay after loop current drop before a PCPM Analysis complete event is posted to the System Event Queue.
Vox	2	1= OPTIMIZE SIGNAL; 2= OPTIMIZE VOICE; 3= Create PCPM table entries.
CabTimeout	650	Duration of continuous signal before PCPM Analysis complete event to the System Event Queue.
Above1Off	13	Comparing the current cycle to the previous, this is the percent variance allowed during an Off period above the previous Off.
Below1Off	13	This is the percent variance allowed during an Off period below the previous cycle.
Above2Off	13	Comparing the current cycle to the previous,this is the percent variance al lowed during an OFF period above the previous Off.
Below2Off	13	This is the percent variance allowed during an OFF period below the previous OFF.
AboveOn	13	Comparing the current cycle to the previous, this is the percent variance allowed during an ON period above the previous ON.

CP Field	Default	Description
Below On	13	This is the percent variance allowed during an ON period below the previous cycle.
BusyOffMax1	90	Max OFF for a double busy cadence.
BusyOffMax2	90	Maximum OFF for a double busy cadence.
BusyOnMax1	90	Max ON for a double busy cadence.
BusyCycles	2	Number of non RINGBACK cycles required before posting Call Analysis complete event to the System Event Queue (Units are cycles).
Glitch	15	Minimum signal duration for valid PCPM signal detection.
Spike	19	Minimum non signal duration for valid PCPM signal detection.
RingOffMax1	90	Maximum OFF for a double ring.
RingOffMin2	225	Minimum OFF for an interring of a double cadence.
RingOnMax	90	Minimum ON for a short ring cadence.
RingOffMaxA	700	Maximum OFF for a long ring cadence.
RingOffMaxB	530	Maximum OFF for a short ring cadence.
StartOn	1	The PCPM cycle on which to begin analysis.
BusyOnMax	78	Maximum ON for single busy cadence.
BusyOffMax	58	Maximum OFF for a single busy cadence.

GLOBAL EDITOR

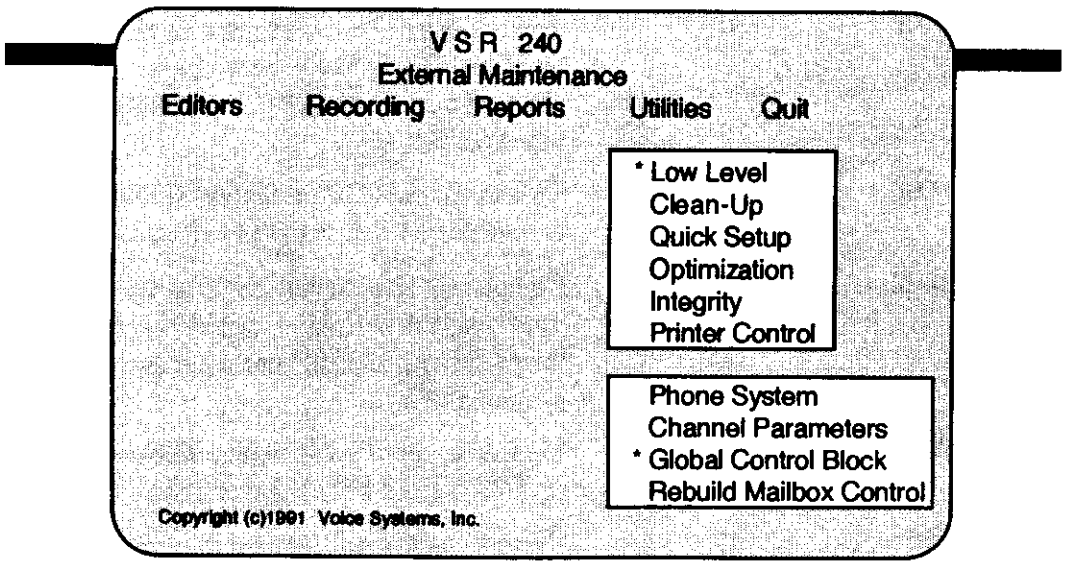

Figure 82

MODE:EDIT

V S R 240
RHETOREX CONTROL BLOCK SETTINGS

Description	Values	Unit of Measure
Flash Character	&	Ascii Character
Flash Time	50	10 miliseconds
Pause Time	200	10 miliseconds
Digitizing Rate	0	HZ
Duration of break during Pulse dial	6	10 miliseconds
Duration of make during Pulse dial	4	10 miliseconds
Interval between DTMF Digits	5	10 miliseconds
Delay Before posting OFFHOOK event	50	10 miliseconds
Min. inbound ring OFF for Valid Ring	5	100 miliseconds
Max. Rings before RINGS is reset	80	100 miliseconds
Min. Silence for sound to silence	4	10 miliseconds
Duration of DTMF tone when dialing	10	10 miliseconds

PgUp/PgDn F10 Save/Exit ESC Exit

Figure 83

MODE:EDIT

V S R 240
RHETOREX CONTROL BLOCK SETTINGS

Description	Values	Unit of Measure
Min. Duration ON for valid loop digit	2	10 miliseconds
Min. Duration OFF for valid digit	2	10 miliseconds
Min. Separation OFF for valid digit	25	10 miliseconds
Min. Duration of current off	0	10 miliseconds
Max. Duration ON for valid loop digit	50	10 miliseconds

PgUp/PgDn F10 Save/Exit ESC Exit

Figure 84

Global Character Definitions

GP Field	Default	Description
FlashChar	'&'	Dial string hook flash character.
Flash Dur	50	Duration of ONHOOK state during flash.
PauseDur	200	Dial string pause duration.
Rate	0	Reserved.
PulseBreak	6	Duration of break interval during pulse dial.
PulseMake	4	Duration of make interval during Pulse dial.
PulseDly	100	Interval between pulse digits.
DtmfDly	5	Interval between DTMF digits during tone dialing.
OffDly	50	Delay before posting OFFHOOK event.
MinRing	3	Minimum duration of inbound ring ON for valid ring (100 ms ticks).

GP Field	Default	Description
MinOff	5	Minimum duration of inbound ring OFF for valid ring (100 ms ticks).
RingReset	80	Maximum no ring signal before RINGS (Fcn_7) is reset (100 ms ticks).
MinSilence	4	Minimum duration of silence for sound to silence transition informational event.
DtmfOn	10	Duration of DTMF tone when dialing.
MinPulseOn	2	Minimum duration ON for valid loop pulse digit.
MinPulseOff	2	Minimum duration OFF for valid loop pulse digit.
MinDigitSep	25	Minimum separation OFF for valid loop pulse digit.
LcOff	-1	Minimum duration of loop current off to generate Event 20. Default is disabled or none.
MaxPulseOn	50	Maximum duration ON for valid loop pulse digit.

CLEAN-UP

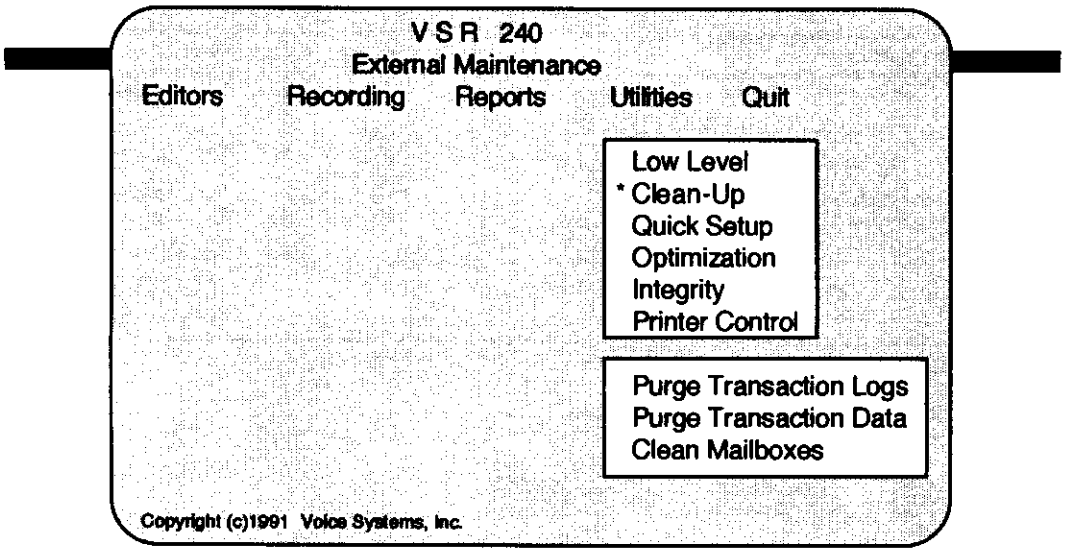

Figure 85

To access the Clean-up Program select it from the Utilities menu. Select clean-up from the submenu. Clean-up is normally run automatically each day at the time set by the System Defaults Editor (See System Defaults). The purpose of this program is to delete old logs, to remove deleted messages and to rebuild message control files if necessary. If Clean-up is run from the menu manually, then the optimization program, which is not absolutely necessary, does not run. You may run that program from a separate menu selection. After Clean-up is complete (amount of time varies with number of mailboxes), then you may exit the system and restart the VSR program.

Purge Transaction Logs
Transaction logs will only be retained for the number of days specified in the defaults file. If you wish to delete logs on a batch

basis and before the normal day, then select this function and specify the date.

Purge Transaction Data
Each day when the Clean-Up process runs, data from the Transaction logs are accumulated and re-compiled into several data files. These files are used for reports. Periodically, you should purge these files to recover disk space.

Clean mailboxes
This function runs the Clean-Up program immediately.

OPTIMIZATION

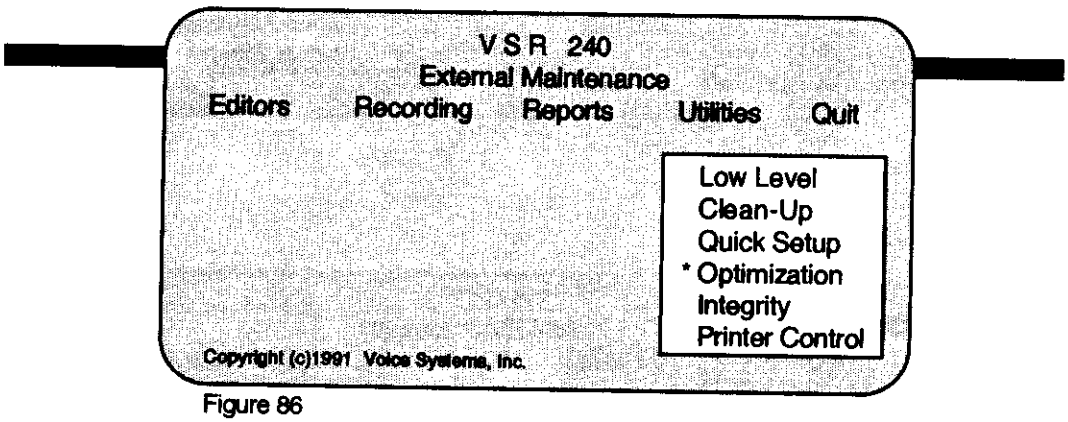

Figure 86

The VSR 200 system uses a hard drive to store message files. When files are to be stored, the disk operating system (DOS) finds the next available space. If the length of the message file is greater than the space, then the file may be saved to several places on the disk. This "splitting" of the file is known as fragmentation. It causes slow downs in the system as the drive has to "seek" the next part of the file. If all files on the drive where together in one (contiguous) space, then the drive would operate at optimum speed.

The VSR 200 system uses an optimization utility which runs automatically during the Clean-up process (see Clean-up). This utility re-organizes the disk so that each file is stored contiguously. You may run this program manually by selecting Optimization from the Utility menu. It usually takes about ten to fifteen minutes to complete. DO NOT TURN OFF THE SYSTEM OR RESET IT DURING THE RUNNING OF THIS PROGRAM.

INTEGRITY

The Integrity section pertains to "Passwording" maintenance and on-line programs, as well as backing-up and restoring data while formatting diskettes.

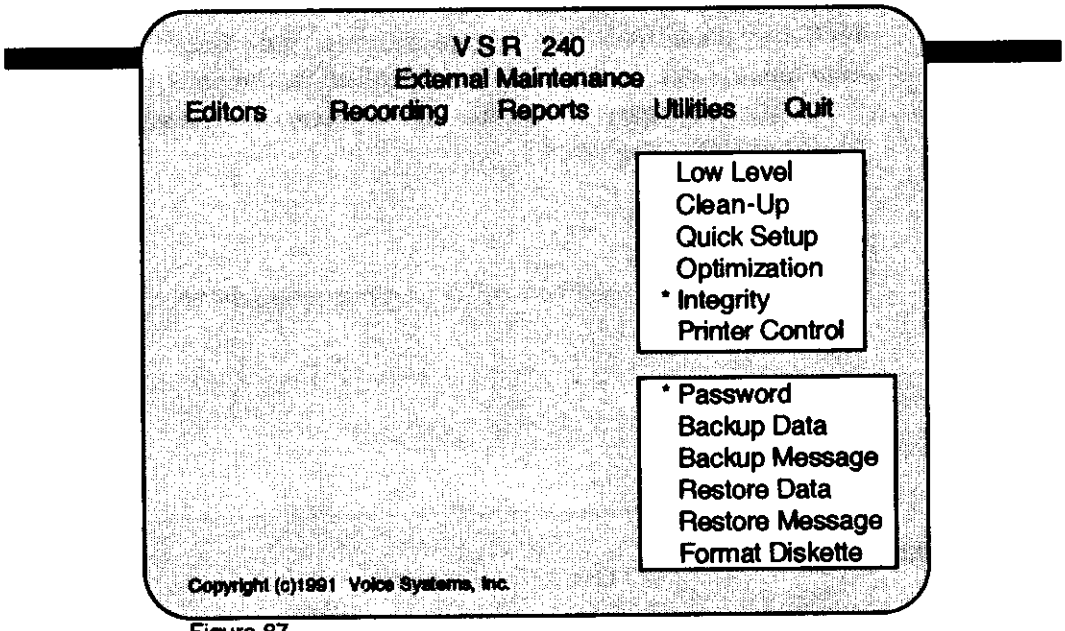

Figure 87

PASSWORD

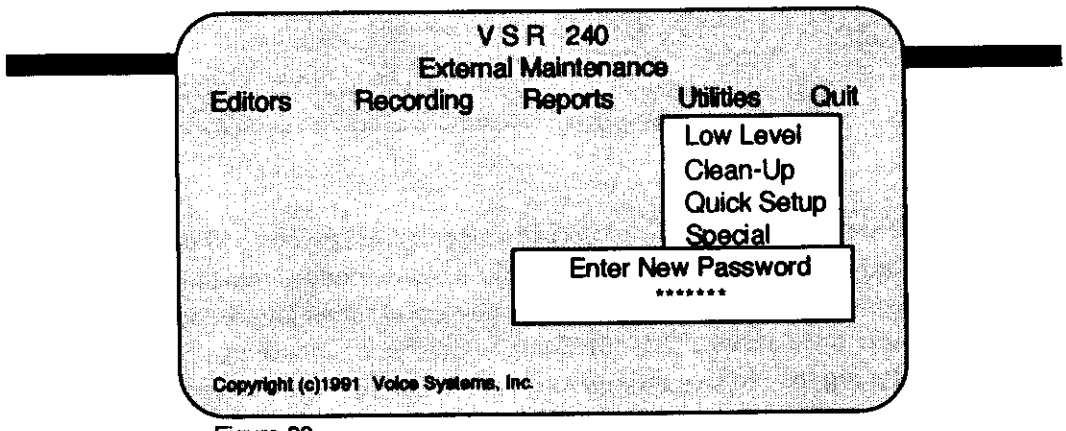

Figure 88

When you first enter the External Maintenance Program the default Password is "PASSWORD" (All capital letters). We advise that you immediately change the password. Select the Integrity Menu from the Utilities Menu. Select Password, and you will be asked to enter your password and verify it before you go any further. You must have your VSR Diskette #1 in Drive A. You may change the password at any time later by the same procedure. The password should be one that both the Administrator and the Telephone Dealer or your Voice Mail Representative would have access to. Write the password down and only as a back-up give it to some responsible employee or owner in your company. To change the Password you must place the VSR Diskette #1 in Drive A. Slide the write-protect tab on the floppy disk "closed" to allow the Password to be recorded.

Select Integrity from the Utilities Menu. Select Password and enter the new password (from 2 to 10 digits). Press return when you are finished. You will be asked to verify your entry again. If you enter the same exact Password, then you are prompted to put in VSR Diskette #1 and either Abort (do not change the password) or continue. If the correct disk is in Drive "A" then the password will be changed and recorded. Slide the write-protect tab on the floppy disk to "open" to protect the disk from any inadvertent writing.

If you forget your Password you must contact VSR Technical Support Monday through Friday during the hours of 8:00 AM and 5:00 PM Pacific Standard Time and they will assist you with restoration.

BACKUP

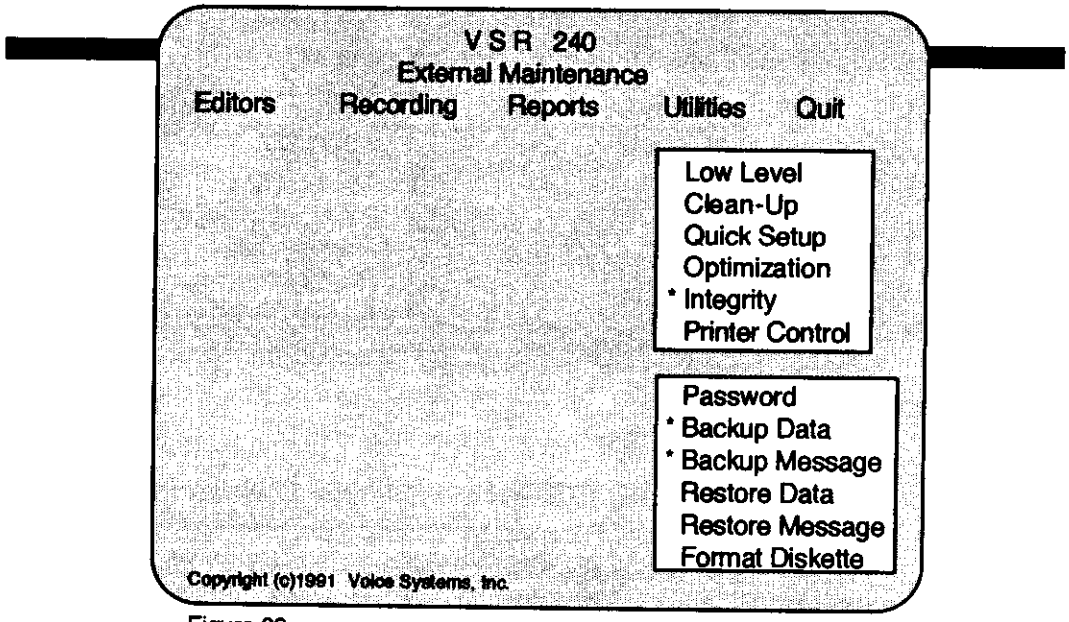

Figure 89

To back-up the system to a floppy disk, place a High Density, Double Sided, Pre-Formatted Disk (Formatted using the VSR 200 system) in Drive "A". Select "Integrity" from the Utilities Menu, then select Backup Data. The system will then ask you to Insert VSR Diskette #1 into Drive "A". If you have already done this, then simply press return and the back-up will begin. You may have to use more than one disk so have several Pre-Formatted disks available and make sure that they are labeled correctly. To back-up messages select Backup Messages and follow the same procedure as above. Below is an example of the prompts which will be displayed during backup.

Insert backup diskette 01 in drive A:
WARNING! Files in the target drive A:\ root directory will be erased Press any key to continue . . .

Press Return -

Logging to file C:

\BACKUP.LOG
\VSR\DEFAULTS.DAT
\VSR\CPB.DAT
\VSR\COMPANY.DAT
\VSR\PSD.DAT

RESTORE

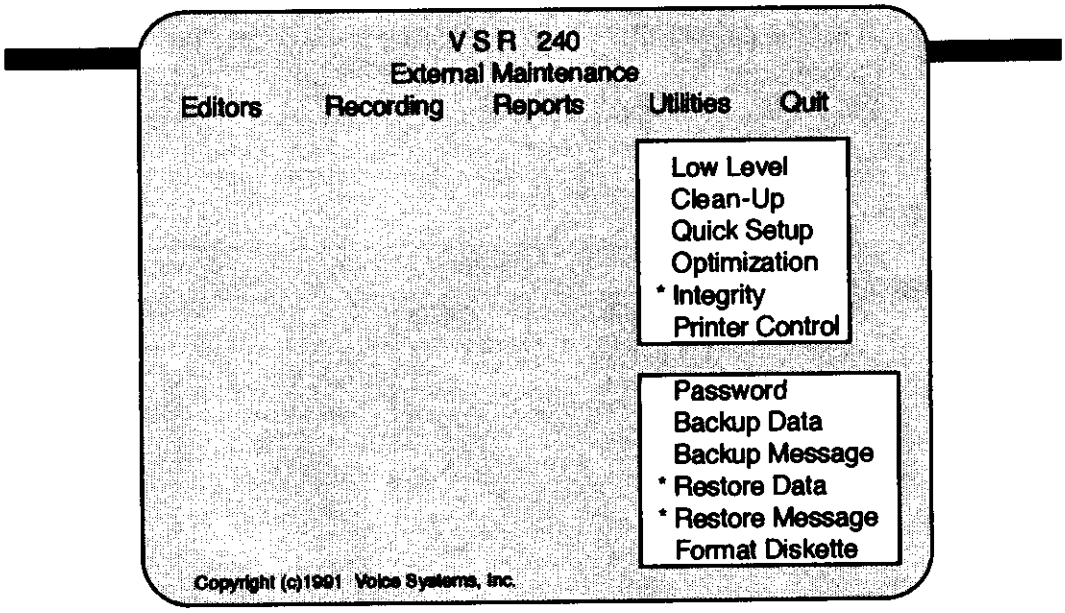

Figure 90

The VSR 200 system External Maintenance Program uses the DOS Backup and Restore Program to backup data files and message files. The essential files in the VSR 200 system consist of: The Program Files (Backed-up on VSR Diskette #1), The Data Files which were established either by the Quick Setup Program, or directly through the Editors, and the Message Files. Should the system fail, hardware or software, you may need to perform a restoration. Since the Program files can be restored directly from the Distribution List we need only to restore DATA & MESSAGES. Data is the most important since you have gone to all the trouble to Build the various files. MESSAGES can be important but loosing them will not affect the operation of the system as a whole. It may, however, aggravate users of the system. A company must make its own decision on when and what to back-up. It is not practical to back-up messages everyday since they are changing every minute and this would take a lot of time, however some companies may want to do that, just in case they have some failure. Below is an example of the prompts which will be displayed during Restore.

Files were backed up 07-11-1991
Restoring files from drive A:
Diskette: 01

\VSR\DEFAULTS.DAT
\VSR\CPB.DAT
\VSR\COMPANY.DAT
\VSR\PSD.DAT

Note: All Restored files will be displayed, not just those shown above. (See File Structure)

Note: Fastback or PC tools - You may consider purchasing a copy of either of these or other back-up utilities to back-up the system in a way that compresses the backed-up files and uses less disk space. (See Directory Structure)

FORMAT DISKETTE

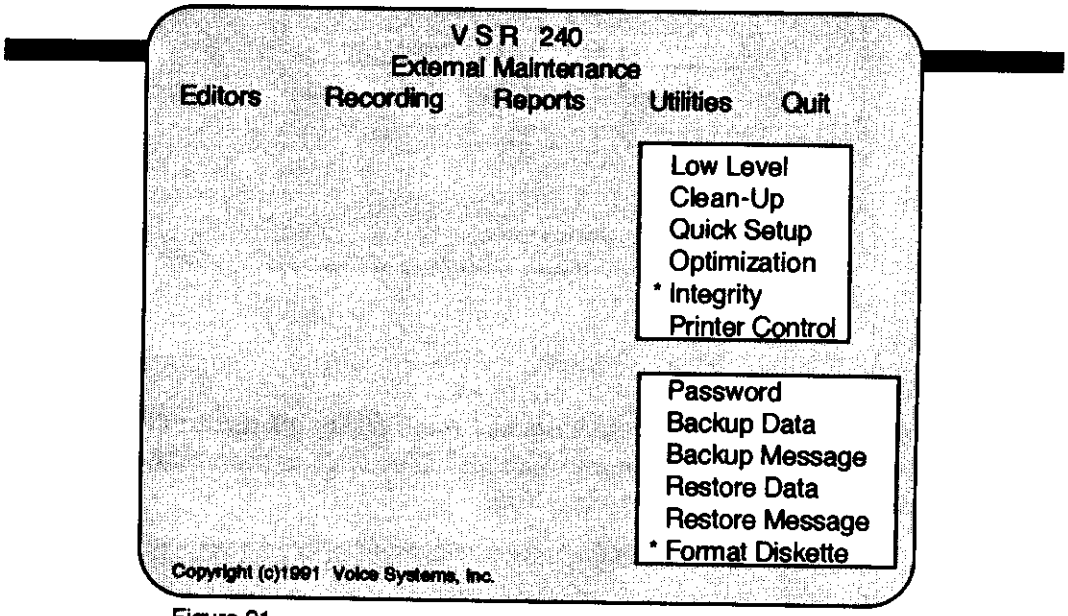

Figure 91

From the Integrity Menu you can format a floppy disk. The VSR system uses the DOS command to FORMAT the disk. If you select this function, you will be prompted as follows.

FORMAT DRIVE A:
Insert new diskette for drive A:

% Percent of Format Complete

Format complete

Volume label (11 characters, ENTER for none)?

1213952 bytes total disk space

1213952 bytes available on disk

512 bytes in each allocation unit

2371 allocation units available on disk

Volume Serial Number is 096A-0DF3

PRINTER CONTROL

By selecting this function from the utilities menu you can change the print output (used for reports) from LPT1: (for a Parallel printer) to COM1: for a serial printer.

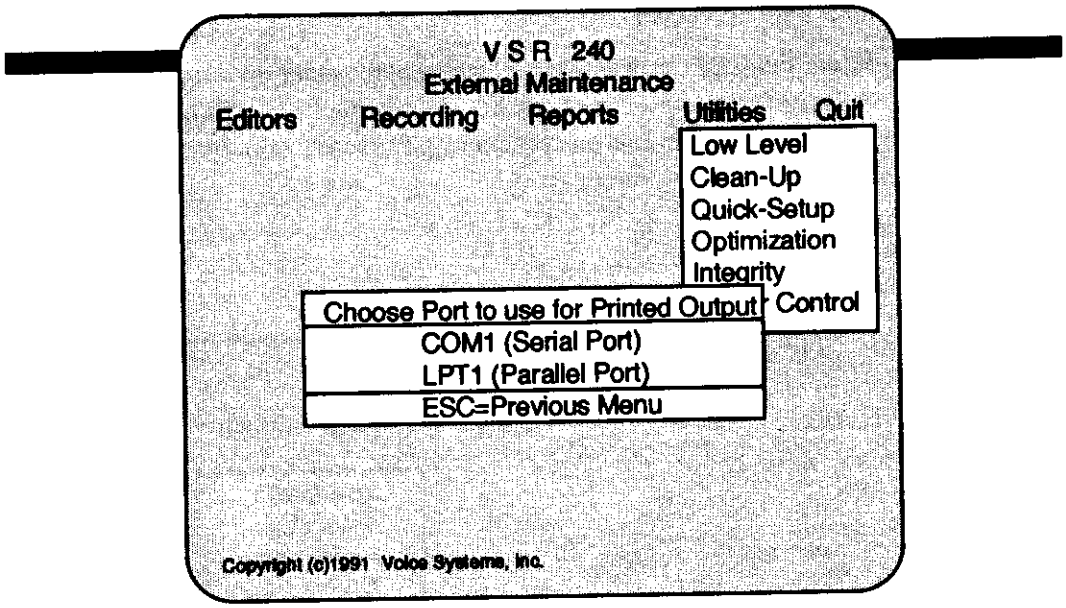

Figure 92

If you choose COM1: (Serial Port), then you must define a number of parameters as shown below and dictated by your printer. If you are unsure of the printers requirements, try the default settings first.

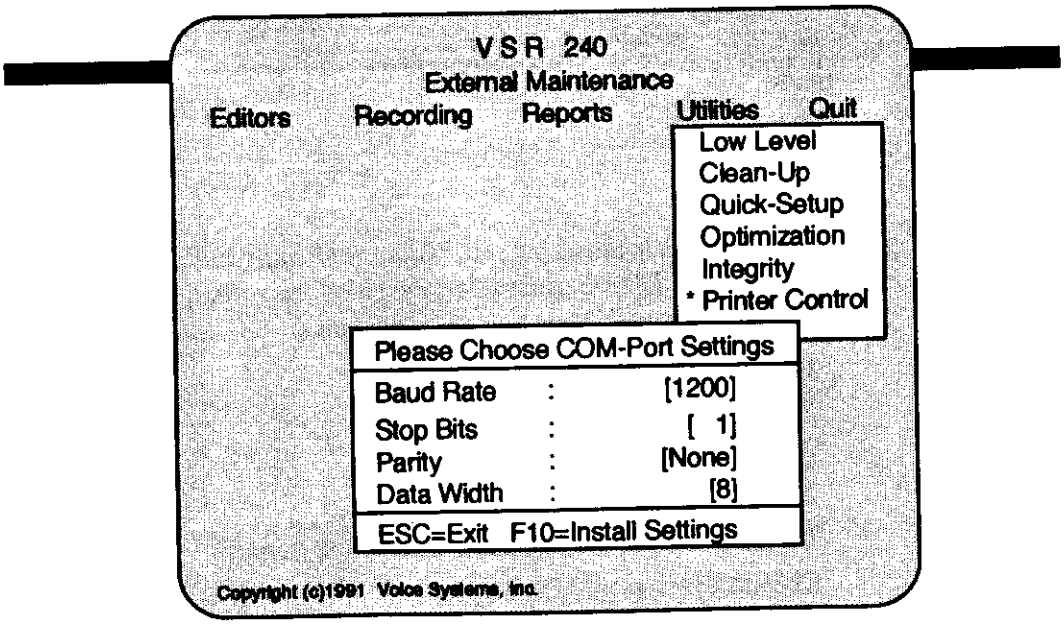

Figure 93

In order for these settings to be in effect you must exit the External Maintenance Program and toggle the system off, then on again. If you are familiar with rebooting the system (pressing CTRL-ALT-DEL), then you may also do this.

ADMINISTRATOR PRIVILEGES

The designated Administrator has the following privileges:

1. They may enter a User's mailbox using their password and make changes to the extension or mailbox settings. However, they are not allowed into the message area of the mailbox and therefore cannot retrieve messages or change the mailbox password. Note: If any other User is using the Administrator's Password, they will not be able to retrieve their messages.

2. The Administrator will receive Administrative messages from the system if problems occur, such as, call transferring problems, minimum voice storage, or diskette failures.

3. The designated Administrator may make several changes to the system while it is On-Line by use of the Administrative Option "7" in their mailbox.
(See below)

ADMINISTRATOR MAILBOX OPTIONS

After selecting option "7" in the Administrator mailbox they will have the following options:

1 - Extension Maintenance
2 - Mailbox Maintenance
3 - Channel Maintenance
4 - Utilities

Options number one and two are a duplication of functions available to the Administrator through the External Maintenance program, and, therefore, the features will not be explained in detail.

Extension Maintenance

1 - Add a new extension
2 - Change mailbox number referred to by a specific extension

Mailbox Maintenance

1 - Add a new mailbox
2 - Turn off mailbox
3 - Change Class of Service
4 - Reset password
5 - Change notification interval
6 - Change maximum notification attempts
7 - Change notification password requirement
8 - Change lamp notification number

Channel Maintenance

1 - Reset a channel
If a channel ceases to function while others continue to operate, you may Reset the one channel without affecting the others.

2 - Reset system
This option will shut down the system and then restart it. If equipment problems continue after resetting it, then turn the system power off and back on again.

Utilities

1 - Toggle message waiting lamp
With this option you may turn a message lamp on or off.

2 - Record function
You may record up to 99 prompt files using this function. Its option is similar to the Recording function in the External Maintenance program, however, the prompt files can be named with numbers instead of names (01 - 99).

TECHNICAL SUPPORT

It is the firm belief of our company that to succeed, our customers must have our support. Whether you are a dealer or an end user, we will make our Technical Support Team available to you. During our normal working hours from 7:00 a.m. to 5:00 p.m. you may reach our team by calling our main telephone number:

916-920-3100

&

Press "2"

FOR SERVICE

After hours you may press "2" for service, then either "1" for Emergency Service or "2" for Normal Service. Emergency Service means that you leave a message and a Technician will be paged. The Technician On-Call will return your call as soon as possible. Normal Service means the Technician will receive your message and return your call the next working day.

If you are an end user, we suggest that you first contact your dealer for support, however, we will never turn away your call.

TROUBLE SHOOTING

General

Problem: When you turn the system on, nothing happens.

- Make sure the system is plugged into a "live" power outlet. If it is plugged into an Uninterruptable-Power-Supply (UPS), make sure the UPS is on.

Problem: When you turn the system on, it continually beeps.

- This usually indicates a problem with the keyboard. Turn the system off, unplug the keyboard, plug it back in and turn the system back on. If the beeping returns, turn the system off, press every key on the keyboard and make sure it pops back up. Turn the system back on again.

Problem: After turning the system on, the cursor appears next to C:\VSR.

- When this happens a special file is missing - contact technical support for assistance.

Problem: After turning the system on, the message "No Rhetorex Board Installed" appears at the top of the screen.

•This message will appear usually when the on-line system attempts to come up before the driver software for the board(s) has been loaded. Contact technical support for assistance.

Problem: After turning the system on, the message "Sorry... Either missing a driver or no system board present" appears on the screen.

•This message will appear when the on-line system software has not been properly serialized. Contact technical support for assistance.

On-Line System

Problem: On the status screen, under the "Current Activity" column, only one channel shows "Waiting for Call" while the rest of the channels still show "Initializing".

•This can happen when something causes the tables that are downloaded to the boards to become corrupted. Some low-level utilities can cause this to happen. Rebooting the system should resolve this problem.

Problem: A user can not log into his/her mailbox.

•Possible solutions:

1. If the user's mailbox contains the maximum number of messages allotted to it, the system will play a prompt stating the mailbox is not available. The user can still log into his/her mailbox by pressing the '*' key and entering his/her password while that prompt is playing.

2. The system responds to the log-in attempt with "invalid password". The user usually has inadvertently changed their password under the "mailbox maintenance" option. Reset the user's password and tell them to log in using the "default password". (Be sure to remind them to change it).

Message-Waiting Lamps

Problem: The message waiting lamp won't light at a given extension.

•This will happen if the class-of-service assigned to the mailbox does not permit lamp setting.

Problem: No message waiting lamps will light.

•Check the System Defaults editor, screen 2, to make sure message

waiting lamps are activated. Also make sure those extensions that have message-waiting lamps have a class-of-service assigned to their associated mailboxes that permits their use. Finally, make sure the feature prefix codes for Setting and Clearing message-waiting lamps have been defined in the Phone System Definition editor under Utilities (External Maintenance).

Problem: External notification won't work for a given mailbox.

•This will happen if the class-of-service assigned to the mailbox does not permit external notification.

Problem: No external notifications are working.

•Check "Notification Attempts Normal" on the first page of the defaults editor; it must contain a value greater than 0 [zero]. Make sure the class-of-service assigned to the associated mailboxes permits notification.

Problem: The message-waiting lights do not consistently come on or go off in accordance with messages deposited.

•When a user calls into his/her mailbox and comes in on the line that the message waiting light was originally set on, almost all PBXs and KSUs will automatically turn the lamp off. In the defaults editor, set the "message-waiting lamps" field to ALWAYS (version 1.3 and above). This will force voice mail to set a users message-waiting lamp every time a priority or new message is deposited and every time the logged-in user exits his/her mailbox with priority or new messages still pending.

BUILDING TONE TABLES

The ACCUCALL PLUS (TM) utility gives you the ability to configure the VSR 200 system to your phone system by training it to recognize ringing, ringing with no answer, busy signals, and re-order tone (Re-order tone, available on some systems, is a special tone used by some phone systems to indicate a hang-up or error). When you are finished, you will have built a tone table which can be used with the VSR 200 system.

Building a Tone Table consists of the following steps:

1. Configure ACCUCALL.
2. Testing for the various tones, "no answer", "busy", and "re-order tone" signals, etc.
3. Add scan results into Filter table.
4. Reconfirm Tones.

5. Adjust Configuration, if needed.
6. Save the new configuration to a tone table.
7. Re-configure the VSR 200 system for the new tone table.
8. Reboot the System.

STEP 1: Configure Accucall

1. Change Directory to C:\RDSP (Command: CD\RDSP).
2. Determine a name for your telephone system (eight characters), such as PANA1232 for Panasonic 1232.
3. Command: Copy Generic.ton PANA1232.ton (use your phone name) and press return.
4. Command: ACCUCALL PANA1232.ton.
5. Press the "F5" key for Setup.
6. Move to "Out Dial Channel Number" and enter a "1".
7. Set "Auto Run Quick Frequency Scan" to NO.
8. Move to "Out Dial Number" and enter an extension number (near you) to test. (May require a single line phone to detect)
9. Press "F7" to save.

STEP 2: Run the Line Tests

RING Test

1. Press "F6" key to go into AUTO RUN mode.
2. Place the test extension on-hook.
3. Press "F9" to begin analysis.
4. The phone will ring 4 to 5 times and finish.
5. Press "F8" key to add the new tone.
6. Enter a "descriptive" name for this tone. The name should include phone system + tone type. An example is Mitel SX200D Ring.
7. Enter Tone TYPE. Select RING1 for single rings or RING2 for double rings.
8. Move to PCPMCODE and enter 8 (The No Answer Code)
9. Write down the frequencies detected (FREQUENCY1 and FREQUENCY2).
10. Press "F8" again and the tone will be added to the table.
11. Press "F8" a third time to confirm.

BUSY Test

1. Press "F10" to return to the AUTO RUN screen.
2. Take the test Extension off-hook.
3. Press the "F9" key to begin analysis.
4. When the test is complete press the "F8" key to add the tone.
5. Enter a descriptive name for this tone just as in the Ring Test. Example: Mitel SX200D Busy.
6. Enter Tone TYPE, select BUSY1 for single busy tone or BUSY2 for double busy tones.
7. Compare the frequencies detected for the "busy" with those you wrote down for "no answer". If they are the same or are within 40Hz of each other then move to CADENCE and press the [SPACE] bar to change it to YES and go on to 8, otherwise skip to 9.
8. Change busy's FREQUENCY1 and FREQUENCY2 to match those of "no answer's".
9. Move to PCPMCODE and enter 7.
10. Press "F8" to add the tone to the table.
11. Press "F8" a third time to confirm the addition of the tone.

RE-ORDER TONE Test

1. Many switches DO NOT provide a re-order tone when a caller hangs up. Before you attempt to run this test, determine whether or not your phone system sends re-order tone on a hang-up. If it does, proceed on, otherwise continue with step 3, below.
2. Press "F10" to return to the AUTO RUN screen.
3. Change the "Out Dial Number" to a non-existent extension, which will produce an error or fast busy tone when dialed.
4. Press the "F9" key to begin analysis.
5. When the analysis is complete, press "F8" key to add the tone.
6. Type in a descriptive name for this tone, such as Mitel SX200D Reorder.
7. Enter the Tone TYPE as BUSY1.
8. Move the TERMINATING and press the [SPACE] bar to toggle the field to YES.
9. Move to PCPMCODE and enter "7".
10. Press "F8" to add the tone to the table.
11. Press "F8" a third time to confirm the addition.

STEP 3: Load the Filter Table

1. Press "F10" to go back to the MAIN MENU.
2. Press "F3" to go to the FILTERS screen.
3. Enter the frequencies into the table that appear under the "UNDEFINED TONE FREQUENCIES" window.
4. Press "F10" to return to the MAIN MENU.

STEP 4: Test the New Configuration

1. Press F2 to RUN ACCUCALL with the current configuration.
2. Enter the "OUT DIAL NUMBER" extension once again.
3. First, place the Extension On-Hook, and press "F9" to test for "No Answer". In the PCPM ANALYSIS window the PCPM code should be "8".
4. Second, take the Extension Off-Hook, and press "F9" to test for "Busy". The system should return a PCPM code of "7".
5. This concludes testing of your "No Answer" and "Busy" signal analysis.

STEP 5: Make Adjustments as Needed

1. If either of the two tests above failed, you will need to make adjustments to either the BUSY or NO ANSWER tone settings via the TONE EDITOR.
2. The first item to check is whether or not both signal types use the same frequency. If so, then BUSY must be set to be detected by CADENCE, rather than frequency.
3. If this doesn't work, return to step 1 above, and retry using a different "Out Dial Channel Number" and a different "Out Dial Number". If you need help, contact VSR technical support.

STEP 6: Saving the New Configuration

1. If the test were a success save the new configuration by pressing "F10" until you return to the Main Menu.
2. Press "F7" key to go to the FILE screen.
3. Enter the Tone Table Name. If "accucall.ton" does not appear in the highlighted bar, enter it.
4. Press "F8" to save the new settings.

STEP 7: Re-Configuring VSR 200 for the New Tone Table

1. Change directory to \VSR (Command: CD\VSR).
2. Enter "e" for the External maintenance Program.
3. Use the Phone System Editor and select your Phone System.
4. In the Edit Mode move to Tone Table, press "F2" and select the new Tone Table you have created.
5. Save the Phone System and leave the Maintenance Program.
6. Reboot the VSR system (CTRL-ALT-DEL) and the system will come up configured with the new tone table.

RE-INSTALLATION OF SOFTWARE

If the VSR 200 series software needs to be "Re-installed" for any reason, then take the VSR 200 system off-line and place VSR Diskette #1 in the floppy drive A. This install program can install the entire VSR software. Note: IT IS NOT NECESSARY TO RUN INSTALL WHEN YOU FIRST RECEIVE THE SYSTEM, AS THE SOFTWARE IS PRE-INSTALLED.

Running Install

From the \VSR prompt enter A:INSTALL.EXE. After the program loads, you will be prompted to select the programs to be installed.

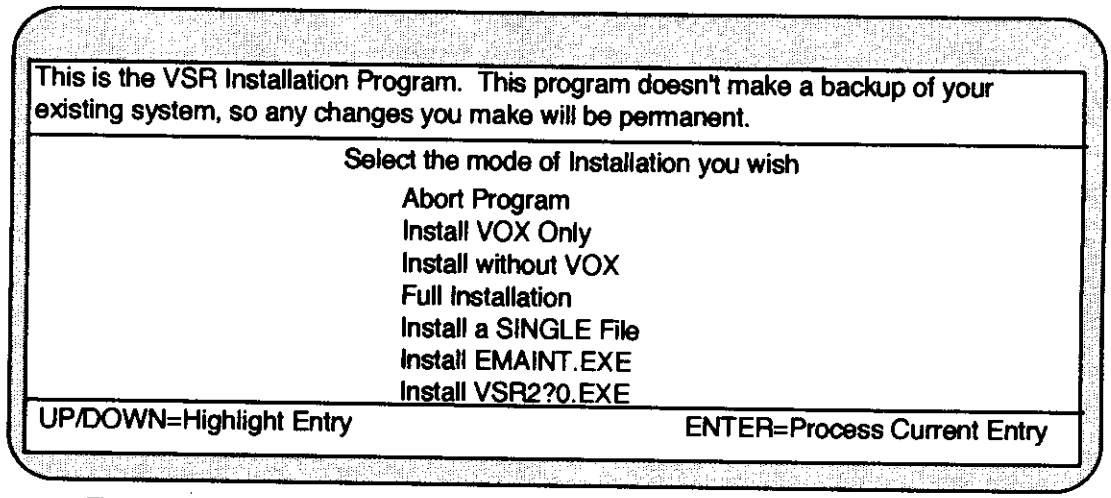

Figure 94

INSTALL Menu Options

Abort Program
Halts the Installation Program and returns control to DOS.

Install VOX Only
Restores Voice prompt files that are located in the \VSR\PROMPTS directory, including all default menus, such as DAYMENU1 or NGTMENU1 and VSR's index play file, All.vip. Expect this to take while.

Install without VOX
This performs a full system reinstallation WITHOUT the Voice prompts files (VOX) described above.

FULL Installation
This reinstalls ALL SOFTWARE.

Install SINGLE File
This option will allow the user to restore individual files BY NAME from a comprehensive list. Use the space bar to toggle the Check Mark "√" next to the file you wish to restore. It would be best to consult VSR Technical support before restoring individual files.

Install EMAINT.EXE
This option restores the EXTERNAL MAINTENANCE Subsystem EXCLUSIVELY.

Install VSR2?0EXE
Restores the VSR On-Line System only.

Warning
Although this program will not remove files it encounters, it is possible that files sharing the same name as those of the VSR system may be overwritten. This is most likely to happen when installation includes VOX or Voice Prompt files. Very often, administrators will re-record their own series of DAY or NIGHT Voice prompts using the same names as the VSR default prompts (i.e. DAYMENU1). Changes to those prompts may be lost in favor of the information contained on the INSTALLATION DISKS.

FILES AND DIRECTORIES
The following is a list of the directories which the VSR 200 system uses, and the types of files which are contained therein.

c:\ (Root Directory) -
Config.Sys
Autoexec.bat

c:\vsr
VSR's Executable programs (EXE extension)
VSR's Data Files (DAT extension)

c:\vsr\prompts
VSR's User Voice prompts (VOX extension)
VSR's Index Play File (VIP extension)

c:\vsr\logs
VSR's Transaction & Error Logs
(LOG extension)
DOS Backup Log
Report Files (Based on Logs)

c:\vsr\util

VSR's utility files

c:\vsr\mailbox

VSR's Mailbox Files, Messages, Control Files, Mailbox Recorded Greeting, Mailbox Name. Each mailbox's control file and messages are kept in a separate directory which is named with the mailbox #. Mailbox "100" would be stored in the c:\vsr\mailbox\100 directory. Personal Distribution Lists as well as current notifications are also stored here.

c:\rdsp

Rhetorex - driver, Accucall program, Configur program, Config file and all tone tables (TON extension)

c:\vsr\multiple

Messages which belong to more than one mailbox

c:\vsr\defaults

Phone System defaults (SWC)

Autoexec.bat

Config.sys

c:\vsr\notify

Notification

c:\vsr\misc

Temporary Recording Files (Scratch)

REMOTE MAINTENANCE

The VSR Remote Maintenance package (optional) includes both a 2400 baud modem and the Host version of CO/SESSION. The CO/SESSION program will load automatically when the VSR 200 system is started. It stays resident in memory during the operation of the system. To access the system you must install the modem on to the serial port in the back of the VSR CPU and provide a single jack for connection.

The Remote Maintenance package allows access to the VSR system from a remote location. This requires that the dealer or customer purchase one copy of CO/SESSION REMOTE PROGRAM which can be used with all remote locations. (Available at local computer stores). In addition, the VSR Technical Support Team retains copies of the REMOTE program for access to your systems.

This section of the manual will attempt only to explain those features which are necessary to VSR remote maintenance and not all the features available with CO/SESSION.

Remote Site

The remote access module is comprised of 2 separate programs: The remote or (off-site) program is called SUPPORT. The Support program has many options, such as: Remote viewing of the On-Line system, access to External Maintenance, File transfer capabilities, and on-line chat with a customer.

Support

Support is simple to use. It can be invoked by typing SUPPORT.

Program memory resident. To enter the program from this point on, Press <ALT> <LeftShift>.

Connecting to the REMOTE site.

Step 1
Once the CO/SESSION SUPPORT 5.01v menu appears, press F1.

Step 2
Enter the phone number for the VSR system.

Step 3
Press Return and wait for connect.

When the modems connect, your screen will display the current screen on the HOST computer (see below). Your computer is the host's system. You are now able to operate the VSR 200 system from your remote site.

Host (VSR 200)

The CO/SESSION program XAPPLICA is memory resident on the VSR 200 system. Once installed the host program will remain in memory until it detects a connect. Other than an information bar on the bottom of the screen, the host program will remain in the background on the host machine.

Using the CO/SESSION remote maintenance package is a simple, cost effective way to manage remote sites without being there. CO/SESSION allows complete access to the VSR Teleprocessing system, allows file transfer capabilities, plus many other functions.

SHUTTING DOWN THE SYSTEM

To shut down the VSR 240 system, hold the shift key down and press "F10". The system will ask you to enter your password. This is the same password you use in the External Maintenance Program. You are then prompted 1) Shutdown Immediately or 2) Wait for Channels to clear. CAUTION: Do not shut down the system unless, either all channels are inactive or the system is "frozen" and it is necessary. Shutting down while channels are active may cause undesirable side-effects.

TRANSACTION LOGGING

The following are codes which represent different functions when a call is made to the VSR system. One call consists of a series of functions and therefore is logged as such. These codes will appear together on the line below the status screen during operation or in the daily transaction log file.

Format:

time channel status line

Codes:	**Description**
Ans	= Line answered incoming call
M#	= Menu followed by menu number #
CT#frwe#	= Call Transfer ext number # forwarded to extension number #
CT#frwmb#	= Call Transfer ext number # forwarded to mailbox number #
CT#frwm#	= Call Transfer ext number # forwarded to menu number #
VM#	= Voice Mail mailbox number # being left a msg
VM#frwe#	= Voice Mail mailbox number # forwarded to extension number #
VM#frwmb#	= Voice Mail mailbox number # forwarded to mailbox number #
VM#frwm#	= Voice Mail mailbox number # forwarded to menu number #
VM#ow	= Voice Mail mailbox number #, owner logged in
snt # to #	= sent msg number # to mailbox number # or to distribution list type: dls# = system list # dlp# = personal list # dlm = manual list
rtv#	= retrieved message number #
sv#	= saved message #
dl#	= deleted message #
cop#	= copied message to mailbox number #
*** ca#,result**	= call analysis: #=ext. #, result = CA result code
cb#	= blind call to extension or phone #
md	= mailbox directory used
ed	= extension directory used
huCOUHLC	= how channel was terminated. LC = Loop Current drop UH = User Hangup CO = Computer Hungup

mwl#sr = message waiting lamp

= Extension number where lamp is at

s = set lamp

r = reset lamp

nte#,#p = notification from mbx #, to ext #

nto#,#p = notification from mbx #, to outside #

ntp#,# = notification from mbx #, to pager #

p = if present, indicates password required

; = status separater

... = ellipse indicating status line continued on another line.

copc# = Copied message with comment #

CT#Frwo# = CTF Forward to outside #

VM#Frwo# = VMF Forward to outside #

BKO# = Blockage Group # On

BKF# = Blockage Group # Off

* call analysis result codes:

7 = Busy

8 = No Answer

9 = No Ringback

10 = Connect

11 = Operator Intercept detected

REPORTS

REPORT EXAMPLES

LISTINGS

EXTENSION LISTINGS

Page: 1 — VSR 240 Extension Listing — Date: 09/22/91 Time: 14:01:00

Ext. Ext. 2	User Name	Box Number	Hold Screen	Transfer Type	Time
0	OPERATOR	126	Yes No	Analysis	Cont.
107 125	TECH SUPPORT	131	Yes No	Analysis	Cont.
108	FREDRICKSON, CRAIG	108	Yes No	Analysis	Cont.
109 108	DIGIOVINE, RON	109	Yes No	Analysis	Cont.
111	BARNARD, TIM	111	Yes Yes	Analysis	Cont.

MAILBOX LISTING

Page: 1 — VSR 240 Mailbox Listing — Date: 09/22/91 Time: 14:01:00

Box Number	User Name	Status	COS	Messages	Time Notify
100	DEFAULT	Active Take Msg	1	New 0 Svd 0	Continuous None
108	FREDRICKSON, CRAIG	Active Take Msg	1	New 0 Svd 0	Continuous None
109	DIGIOVINE, RON	Active Take Msg	4	New 0 Svd 0	Continuous None
111	BARNARD, TIM	Active Take Msg	1	New 0 Svd 0	Continuous Extension
112	HANNER, JEFF	Active Take Msg	1	New 0 Svd 0	Continuous Pager

LISTING'S cont'd.

MENU LISTING:

Page: 1 VSR 240 Menu Listing Date: 09/22/91 Time: 14:01:00

Description : DAY MENU Menu Number : 1 Last Modified : 10/16/91

Prompts 1. DAYMENU1 2. DAYMENU2 3. DAYMENU3 4. DAYMENU4 5. DAYMENU5

Key	Command		Key	Command	
0	Call Transfer	126	6	Invalid Key	
1	Call Transfer	Firstkey	7	Extension Directory	
2	Call Transfer	107	8	Voice Mail	Direct
3	Play File	<See List>	9	Hangup	
4	Invalid Key		*	Replay Prompts At	DAYMENU2
5	Invalid Key		#	Go to Previous Menu	

Maximum Replays Without Response : 1
COMMAND - When Replays Are Exceeded : Call Transfer 126
Maximum Invalid Key Attempts : 3
COMMAND - When Invalid Attempts Exceeded : Hangup

Key 3 : SALES1,SALES2,SALES3,SALES4

CLASS OF SERVICE LISTING:

Page: 1 VSR 240 Class of Service Listing Date: 09/22/91 Time: 14:01:00

Class Number: 1 Description: CLASS 1

Maximum Length of Messages . . . . : 180 seconds
Maximum Message Count . . . . . : 30
Message Retention . . . . . : 30 days
Maximum Greeting Length . . . . . : 45 seconds
Maximum Number of Distribution Lists: 5
Notification Interval . . . . . : 15 minutes
Notification Type . . . . . : System Only
Distribution List Type . . . . . : Both
Directory . . . . . : Yes
Certification . . . . . : Yes
Priority . . . . . : Yes
Personal Reminder . . . . . : Yes
Private Messaging . . . . . : Yes
External Notification . . . . . : Yes

PHONE SYSTEM LISTING:

Page 1 Active Phone System Date 10/22/91

System Name : PANASONIC 616

Dialing Prefixes
- Internal Call :
- Local Call : 9,
- Long Distance : 9,1
- After Dialing :

Tone Table
- Filename : PANA616

Feature Prefixes
- Transfer Start : &,
- Abort a Busy :
- Abort a No Answer :
- Reject a Caller :
- Transfer Connect :
- Hold a Call :
- Park a Call :
- Pick-up a Call :
- Conferencing :
- Transfer Outside :
- Set Msg Waiting Lamp :
- Clear Msg Waiting Lamp :

PERSONAL DISTRIBUTION LISTING:

Page 1 Personal Distribution [Box 122] (1 - PROGRAMMERS) Date 10/22/91

Mailbox Number	User Name
125	SARDELLA, ERIC
116	WELLS, DAN
122	WYCOFF, DON

SYSTEM DISTRIBUTION LISTING:

Page 1 System Distribution (2 - VSR TECHNICAL) Date 10/22/91

Mailbox Number	User Name
111	BARNARD, TIM
116	WELLS, DAN
125	SARDELLA, ERIC
122	WYCOFF, DON

ACTIVITY REPORTS

EXTENSION ACTIVITY:

Extension Activity
Detail Report
From 09/26/91 to 09/28/91

Date 10/22/91

Date / Extension	Name	# of Calls
09/26/91		
0	OPERATOR	2
107	TECH SUPPORT	0
108	FREDRICKSON, CRAIG	2
109	DIGIOVINE, RON	0
111	BARNARD, TIM	2
112	HANNER, JEFF	12
Daily Total		18
09/27/91		
0	OPERATOR	1
107	TECH SUPPORT	0
108	FREDRICKSON, CRAIG	1
109	DIGIOVINE, RON	2
111	BARNARD, TIM	1
112	HANNER, JEFF	2
Daily Total		07
Period Total		
0	OPERATOR	3
107	TECH SUPPORT	0
108	FREDRICKSON, CRAIG	3
109	DIGIOVINE, RON	2
111	BARNARD, TIM	3
112	HANNER, JEFF	14
Total Transactions		25

MAILBOX ACTIVITY:

Mailbox Activity
Detail Report
From 09/26/91 to 09/28/91

Date 10/22/91

Date / Mailbox	Name	# of Calls
09/26/91		
100	DEFAULT	0
108	FREDRICKSON, CRAIG	3
109	DIGIOVINE, RON	0
111	BARNARD, TIM	0
112	HANNER, JEFF	8
Daily Total		11
09/27/91		
100	DEFAULT	0
108	FREDRICKSON, CRAIG	1
109	DIGIOVINE, RON	1
111	BARNARD, TIM	0
112	HANNER, JEFF	0
Daily Total		2
Period Total		
100	DEFAULT	0
108	FREDRICKSON, CRAIG	4
109	DIGIOVINE, RON	1
111	BARNARD, TIM	0
112	HANNER, JEFF	8
Total Transactions		13

MENU ACTIVITY:

Menu Activity
Detail Report
From 09/26/91 to 09/28/91

Date 10/22/91

Date / Menu	Description	Times Accessed
09/26/91		
1	DAY MENU	119
2	NIGHT MENU	15
3	DAY DEMO	11
4	NIGHT DEMO	0
5	SERVICE MENU	0
	Daily Total	145
09/27/91		
1	DAY MENU	26
2	NIGHT MENU	9
3	DAY DEMO	3
4	NIGHT DEMO	0
5	SERVICE MENU	0
	Daily Total	38
Period Total		
1	DAY MENU	145
2	NIGHT MENU	24
3	DAY DEMO	14
4	NIGHT DEMO	0
5	SERVICE MENU	0
Total Transactions		183

CHANNEL ACTIVITY:

Channel Usage
Detail Report

From 09/26/91 to 09/27/91

Date / Channel	Number of Times	Duration	Average Duration	Maximum Duration of
09/26/91				
1	41	:40.32	.59	:04.25
2	2	:02.36	:01.18	:01.20
3	261	:31.02	.07	:04.41
4	46	:40.53	.53	:04.41
Total	350	01:55.03	.19	
09/27/91				
1	13	:26.43	:02.03	:06.35
2	1	.02	.02	.02
3	53	:17.24	.19	:02.01
4	11	:15.07	:01.22	:06.57
Total	78	:59.16	.45	
Channel Totals				
1	54	01:07.15		
2	3	:02.38		
3	314	:48.26		
4	57	:56.00		
Period Totals :	428	02:54.19		

BLOCKAGE ACTIVITY:

Blockage Activity
Detail Report
From 09/26/91 to 10/22/91

Date 10/22/91

Date	Group #	Time(HH:MM)
09/26/91		<<No Blockages>>
09/27/91		00:30

SYSTEM REPORTS

DEFAULTS/SETTINGS:

Page 1 Defaults/Settings Report Date 10/22/91

Phone System	: PANASONIC 616
Logging	: File
Printer Port	: LPT1:
Log Retention (days)	: 30
RWFF Speed (in 1/20 sec Intervals)	: 25
Ring Count	: 1
Number of Digits in a Extension	: 3
Number of Digits in a Mailbox	: 3
Number of Digits in a Password	: 4
Time for Cleanup to be done	: 00:30
Call Screening Permission	: Yes
Call Holding Permission	: Yes
Starting Hour of Day	: 08:00
Ending Hour of Day	: 17:00
Xfer and Message Notify Ring Count	: 3
Maximum Retries for Invalid Keys	: 3
Number of Replays before Timeout	: 2

Page 2 Defaults/Settings Report Date 10/22/91

Default Mailbox on Timeout	: 126
Default Class of Service	: 1
Operator's Extension	: 126
Holding Time (in minutes)	: 60
Pause Time when Recording a Message	: 10
Message Waiting-Lamps Permission	: No
Distribution Lists Permission	: Off
Date/Time Settings	: Manual
Message Notification Permission	: On
Default Greeting Length	: 45
Global Forwarding Permission	: Off
Default Transfer Type	: Call Analysis
Administrators Mailbox	: 111
Minimum Message Length	: 1
Light Lamps	: Once
Interval between Emergency Notify Failures	: 0
Non-User Interval between Failures	: 5

CHANNEL SETTINGS:

Page 1 — Time Setting (1) [DAY] Channel Settings Report — Date 10/22/91

	Channel #	
Notification	1	: Off
	2	: Off
	3	: On
	4	: Off
Blockage	1	: Group 1
	2	: Group 1
	3	: Group 1
	4	: Group 1
Setting	1	: Menu [DAY MENU]
	2	: Menu [DAY MENU]
	3	: Menu [DAY MENU]
	4	: Menu [DAY DEMO]

Time Setting (2) [NIGHT] Channel Settings Report

	Channel #	
Notification	1	: Off
	2	: Off
	3	: On
	4	: Off
Blockage	1	: Group 1
	2	: Group 1
	3	: Group 1
	4	: Group 1
Setting	1	: Menu [NIGHT MENU]
	2	: Menu [NIGHT MENU]
	3	: Menu [NIGHT MENU]
	4	: Menu [NIGHT DEMO]

CHANNEL SETTINGS cont'd.

Time Setting (11) [Holiday/Off-Day]
Channel Settings Report

	Channel #	
Notification	1	: Off
	2	: Off
	3	: On
	4	: Off
Blockage	1	: Group 1
	2	: Group 1
	3	: Group 1
	4	: Group 1
Setting	1	: Menu [NIGHT MENU]
	2	: Menu [NIGHT MENU]
	3	: Menu [NIGHT MENU]
	4	: Menu [NIGHT DEMO]

TIMES SETTINGS:

Page 1 System Time Settings Report Date 10/22/91

Workday Setting
[Sun] : Off
[Mon] : On
[Tue] : On
[Wed] : On
[Thu] : On
[Fri] : On
[Sat] : Off

Time Period 1	: DAY	[08:00]
Time Period 2	: NIGHT	[17:00]
Time Period 11	: Holiday/Off-Day	

TIME SETTINGS: cont'd

Page 2 System Time Settings Report Date 10/22/91

Holiday Setting	1	: 01/01
	2	: 07/04
	3	: 12/25
	4	:
	5	:
	6	:
	7	:
	8	:
	9	:
	10	:
	11	:
	12	:
	13	:
	14	:

CHANNEL PARAMETERS:

Page 1 System Channel Parameters Date 10/22/91

Minimum DTMF Duration For Play Break (16 ms Ticks)	: 3
Minimum DTMF Duration For Non Play Break (16 ms Ticks)	: 2
ThreshHold Before Silence is Discarded (16 ms Ticks)	: 0
Number of Rings before Analysis Complete (10 millisecs)	: 4
Interval Before Beginning Pcpm Analysis (10 millisecs)	: 25
Interval Without Signal Before PCPM (10 millisecs)	: 4000
Delay Before Loop Current is Answer (10 millisecs)	: 10
Delay After Loop Drop Before PCPM (10 millisecs)	: 10
Vox Setting (1,2 or 3)	: 2
Duration of signal before PCPM Complete (10 millisecs)	: 650
Acceptable Tolerence Above Nom. 1st Low (in %)	: 13
Acceptable Tolerence Below Nom. 1st Low (in %)	: 13
Acceptable Tolerence Above Nom. 2nd Low (in %)	: 13
Acceptable Tolerence Below Nom. 2nd Low (in %)	: 13
Acceptable Tolerance Above Nom. High (in %)	: 13
Acceptable Tolerance Below Nom. High (in %)	: 13
Maximum Time For 1st Low Int. As Busy (10 millisecs)	: 90
Maximum Time For 2nd Low Int. As Busy (10 millisecs)	: 90
Maximum Time for High Int. As Busy (10 millisecs)	: 90
Attempts Before Returning Busy (Non Ringback Cyls)	: 2
Minimum Signal Duration for Detection (10 millisecs)	: 15
Minimum non Signal Duration for Detect (10 millisecs)	: 19
Maximum Time Short Low Consid. Dbl. Ring (10 millisecs)	: 90
Maximum Time Long Low Consig. Dbl. Ring (10 millisecs)	: 225
Minimum for a Short Ring Cadence (10 millisecs)	: 90
Maximum for a Long Ring Cadence (10 millisecs)	: 700
Maximum for a Short Ring Cadence (10 millisecs)	: 530
Cycle on Which to begin Analysis (10 millisecs)	: 1
Maximum ON for a single busy cadence (10 millisecs)	: 78
Maximum OFF for a single busy cadence (10 millisecs)	: 58

GLOBAL PARAMETERS:

System Global Parameters	Date 10/22/91
Flash Character (Ascii Character)	: &
Flash Time (10 miliseconds)	: 50
Pause Time (10 miliseconds)	: 200
Digitizing Rate (HZ)	: 0
Duration of break during Pulse dial (10 miliseconds)	: 6
Duration of make during Pulse dial (10 miliseconds)	: 4
Interval between DTMF Digits (10 miliseconds)	: 5
Delay Before posting OFFHOOK event (10 miliseconds)	: 50
Min. inbound ring OFF for Valid Ring (100 miliseconds)	: 5
Max. Rings before RINGS is reset (100 miliseconds)	: 80
Min. Silence for sound to silence (10 miliseconds)	: 4
Duration of DTMF tone when dialing (10 miliseconds)	: 10
Min. Duration ON for valid loop digit (10 miliseconds)	: 2
Min. Duration OFF for valid digit (10 miliseconds)	: 2
Min. Separation OFF for valid digit (10 miliseconds)	: 25
Min. Duration of current off (10 miliseconds)	: 0
Max. Duration ON for valid loop digit (10 miliseconds)	: 50

GENERAL SETTINGS:

General System Settings	Date 10/22/91
Software Version Number	: 1.2
Software Serial Number	: 9009 3510 0000
DOS Version Number	: 4.01
Number of Mailboxes on System	: 21
Number of Extensions on System	: 13
Number of Menus on System	: 5
Conventional Memory (in k-bytes)	: 640
Extended Memory (in k-bytes)	: 0
Remaining Recording Time on Disk (in hours)	: 3.95

Program Description	Date Stamp	Time Stamp
Class of Service Editor	07/10/91	14:54
System Defaults Editor	07/30/91	08:36
Phone System Definition Editor	07/10/91	14:54
Channel Parameter Editor	08/07/91	09:39
Global Parameter Editor	08/07/91	09:39
System Distribution List Editor	08/12/91	10:53
Personal Distribution List Editor	08/07/91	09:29
External Maintenance Main Program	10/22/91	10:22
On-Line Voice Mail System	08/29/91	14:21
Report and Analysis	10/22/91	13:59
Quick-Setup Program	10/18/91	10:38
Control Transfer Utility	10/09/91	10:35
External Studio Recorder/Editor	10/21/91	09:36
Log-File Parser	10/21/91	10:30

```
LOG REPORTS

   TRANSACTION LOG:

                                   DATE: 09/26/1991
085338 4 ;Ans;M1;huUH085341
085430 4 ;Ans;M1;huC0085546
085813 4 ;Ans;M1;huC0085824
085838 4 ;Ans;M1;ca126,8;M1;VM111ow;huUH085935
090144 4 ;Ans;M1;M1;huC0090251
090415 4 ;Ans;M1;VM111ow;VM107ow;VM108ow;M1;huUH090756
091027 3 ;Ans;M1;huUH091046
090945 4 ;Ans;M1;VM112ow;huUH091112
090929 1 ;Ans;M1;VM122ow;huUH091123
091109 2 ;Ans;M1;VM116ow;huUH091229
091112 3 ;Ans;BK00;M1;VM126ow;huUH091553
091135 4 ;Ans;M1;VM125ow;M1;VM125;snt NN------.AAA to 125;M1;M1;huUH091616
091604 3 ;Ans;M1;M1;M1;VM126;snt NN------.AAA to 126;huUH091716



   ERROR LOG:

19910930 135134 Function says: 'BOOT' (retcode 0)
19910930 135209 Function says: 'BOOT' (retcode 0)
19910930 160126 Function says: 'BOOT' (retcode 0)
19911001 164740 Function says: 'PlaceCall2:
        No Dial Tone, Forcing no answer.' (retcode 42)
19911001 165214 Function says: 'BOOT' (retcode 0)
19911002 170705 EE2 EN=2 D'No such file or directory'
        F'\vsr\mailbox\600\600.day'
19911003 065541 EE2 EN=2 D'No such file or directory'
        F'Rename2 fails in deletemessage.'
19911007 094023 EE2 EN=2 D'No such file or directory'
        F'PlayMbxMsg: Unable to Topen message.'
19911007 121846 Function says: 'PlaceCall2:
        No Dial Tone, Forcing no answer.' (retcode 42)
```

The following is a reprint of the Accucall Plus(tm) Program from the Rhetorex(tm) manual.

Theory of Operation

Tones

Both the public telephone network, and private branch exchanges (PBX) use audible tones to indicate the progress of a call. These tones include dialtone, busy signals, and ringing signals.

Dialtone is used to tell the caller that the network or PBX is ready to receive address signals - the address being the number or extension you wish to call.

Busy signals can be divided into two basic types, trunk busy and station busy. Trunk busy indicates that all paths in the network are busy, while station busy indicates that the number or extension you called is in use.

Ringing signals indicate to the called station that there is an incoming call. A simulated ring signal is returned to the caller indicating that a path is established and the called number or extension is being rung. This signal is referred to as ringback.

Dialtone, busy, and ringback are audible tones with specific pitch or frequencies and cadences. The cadence is the on - off timing associated with the tone. Tones are generally comprised of one or two frequencies and are referred to as single tones or dual tones respectively.

For example, in the public phone network, trunk busy or more commonly fast busy, is a dual tone of 480 hertz and 620 hertz with a cadence of 250 milliseconds on and 250 milliseconds off. Station busy, the common busy signal, is also a dual tone of 480 and 620 hertz. However, the cadence is 500 milliseconds on and 500 milliseconds off. Ringback is a dual tone with frequencies of 440 hertz and 480 hertz, and a cadence of 2 seconds on and 4 seconds off.

Recognizing the State of the Call

By listening to the call progression tones, you recognize the state of the call. When you hear a busy tone, you understand that the line is busy and retry at a later time. In the case of ringback, you wait for answer. If the call is not answered within a reasonable time period, you abandon the call and try again

later.

The AccuCall Plus utility allows you to determine, test and define the frequency and cadence elements of call progression tones. By defining the set of tones appropriate for your environment, you can program the RDSP voice processing board to recognize the state of a call and handle the call appropriately.

The RDSP listens for defined frequencies and attempts to establish the cadence of on - off timing. If a cadence is established, the RDSP device driver compares the established tone to a database of defined tones.

A tone is recognized if the established tone matches a tone in the database. Each tone in the database is associated with a tone type. Tone types are ring and non ring, where non ring is normally busy. If the established tone matches a non ring type tone, the RDSP device driver notifies the application which might try another extension, or retry the call later.

If the established call matches a ring type tone, the RDSP device driver continues monitoring the call for a defined interval. If the frequency and cadence are interrupted, the RDSP device decides that the call has been answered and notifies the application accordingly. If the defined interval expires without answer detection, the RDSP device driver notifies the application, which can then try another extension or retry the call later.

Creating a Tone Table

A database of defined tones can be generated from the AccuCall Plus utility. This database is referred to as the Tone table. Each tone in the database is defined by a number of fields or parameters which include cadence on time, cadence off time, tone type, tone identifier, and two frequencies.

The RDSP listens for frequencies through filters. You can think of a filter as an ear that can hear only a specific frequency. This is analogous to hearing only low-pitched sounds. An ear that hears only low notes would hear a bass drum, but not a flute. An ear that hears only high-pitched notes would hear a flute, but not a bass drum. The RDSP has 12 programmable filters.

A tone is recognizable if the components of the tone are detected by one or two filters. Single and dual tones are recognizable, but tones comprised of more than two frequencies are not.

The AccuCall Plus utility allows you to generate the values of the 12 programmable filters. The filters are defined in a Filter table.

Getting Started

AccuCall Plus uses a number of different screens to perform unique functions. While most of the screens contain one or more sections or "windows" for data entry, some screens provide information only. All
screens display the function keys and their commands, appropriate to the function you are currently using.

AccuCall Plus Conventions

Throughout this manual, you will see the following key assignments:

- The up arrow and down arrow move the cursor one line in the direction of that arrow

- The left arrow and right arrow move the cursor one space in the direction of that arrow

- In fields with fixed words or values, the spacebar toggles through the available selections. These items appear on the screen in reverse highlight. They include words like BUSY, YES, NO, ENABLED and DISABLED.

- Pressing F1 while in any AccuCall Plus function takes you into a help screen appropriate to that current function. For example, if you are using the Setup screen, pressing F1 takes you to the help screen for Setup.

- Pressing F10 takes you one level back from the function you are using. If you are in Setup, F10 takes you to the Main menu. If you are in the Main menu, F10 returns you to DOS.

- The tab key will move you from one window to another.

Each screen displays a horizontal name bar at the top of the screen which displays the name of the current screen in the left corner. At the bottom of each screen is a function key guide. Function keys that display a new screen are capitalized. Function keys that operate on the current screen have the first letter of the associated name capitalized.

Loading AccuCall Plus

After installing your RDSP hardware and software, and loading the RDSP device driver, you are ready to launch AccuCall Plus. At the DOS command line enter:

```
>ACCUCALL
```

The AccuCall Plus utility loads and displays the Main menu screen.

Load a Tone Table

AccuCall Plus allows you to load a Tone table from the DOS command line by specifying the path and filename of the Tone table. To do this, at the DOS command line, enter:

```
ACCUCALL \tonepath\tonefilename
```

If this is your first experience with AccuCall Plus, loading the sample Tone table will provide you with an example file to study. To load the sample Tone table, enter:

```
>accucall accucall.ton
```

at the DOS command line.

AccuCall Plus Function Screens

The Main menu screen is an informational screen that displays the names of tones defined in the Tone table, and lists the main functions of AccuCall Plus. A summary of the main functions is presented below. The sections that follow describe each function in detail.

Screen Name	Function Description
RUN	Performs call analysis based on the current Tone table and Filter table. Verifies that a particular call progression sequence is recognizable. F2

	selects the RUN screen.
FILTERS	Use to edit the Filter table and the filter characteristics. F3 selects the Filters screen.
SETUP	Use to adjust system parameters and system resource parameters that influence call progression analysis. F5 selects the Setup screen.
AUTO RUN	Automatically runs sequence to characterize the frequencies and cadence of the call progression signal. Enter a phone number and then press F9 to begin this process. F6 selects the Auto Run screen.
FILE	Use to load or save a Tone table and Filter table file from disk. F7 selects the Files screen.
EDIT TONES	Use to edit or create a tone description. F8 selects the Edit Tones screen.

Main Menu

When you first load AccuCall Plus, the Main menu is displayed. This is an informational screen. As shown in Figure 2, after you load a file, the name of all tones defined in the file are displayed. The description window displays the tone definition of the selected tone. The cursor control keys (up arrow and down arrow) are used to highlight or select a tone. Use the insert or delete key to add or delete tones. Insert takes you to the Edit Tones screen to define and add a new tone to the tone table. To delete a tone, select it with the cursor control keys and press the delete key.

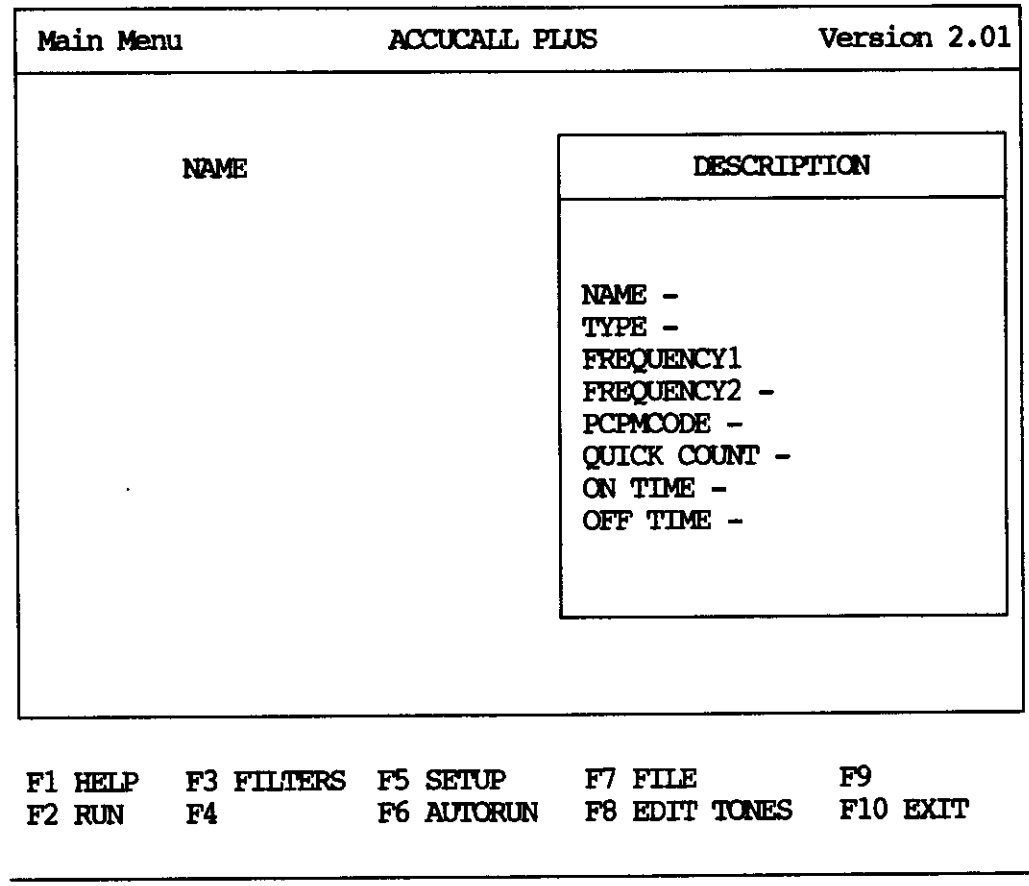

Figure 1. Main Menu

Figure 2 shows the Main menu screen after a number of tones have been identified and added to the database.

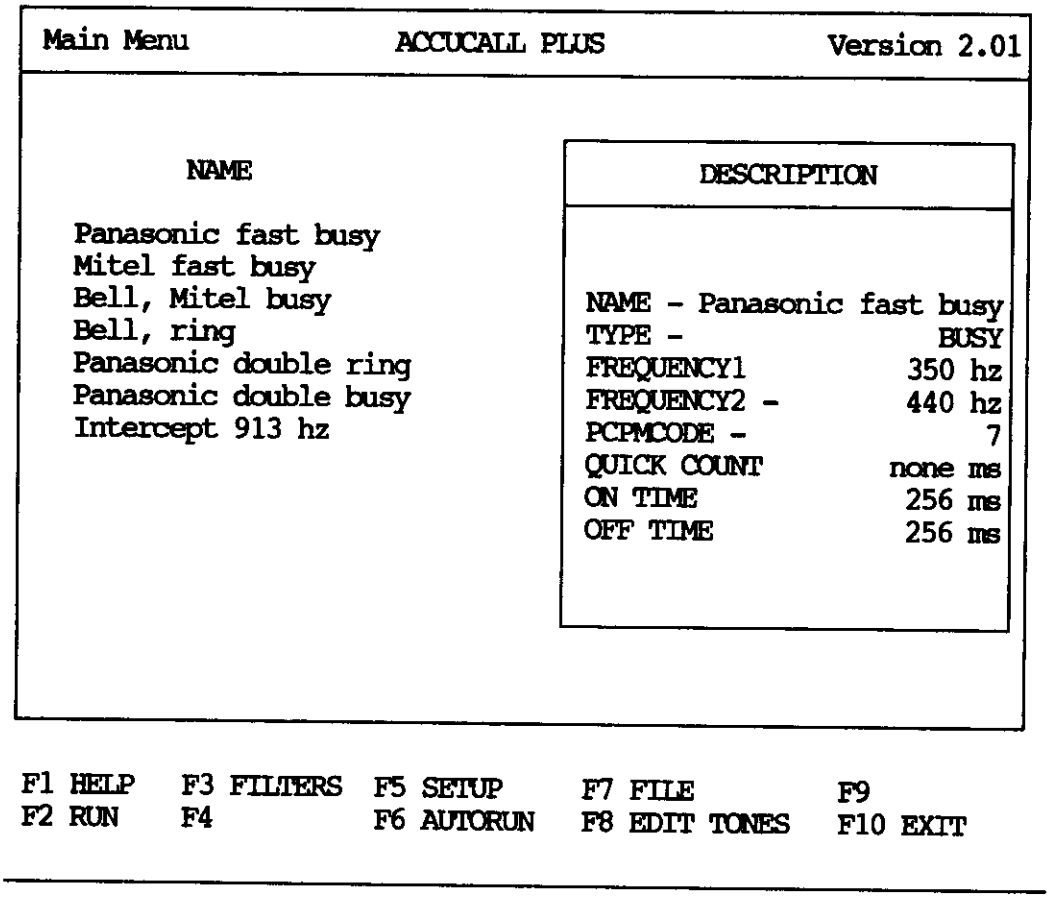

Figure 2. Main Menu with Entries

The Run Screen

The Run screen dials a phone number and performs call monitoring based on the current Tone Table and Filter Table. This verifies that a particular call progression sequence is recognizable.

This screen is divided into two sections. The PCPM Analysis window allows you to enter a phone number to dial, displays the status of

the operation as it proceeds, and displays the results when analysis is complete.

The Call Progress Results window maintains a history of results as the operation repeats through multiple iterations.

The PCPM Analysis window contains the following items.

Item	Description
Phone No.	Enter the phone number you wish to dial. Run analyzes the call analysis tone that is present after dialing the number. Use the comma (,) to insert needed delays into the dial string. The Phone No. is used on the Setup screen and Auto Run screen. Changing this number on one screen automatically changes it on the other screens.
Verification Count	Enter the number of iterations the Run function should repeat the operation.
Adjust Filters Characteristics	As Run repeats through multiple iterations, the filter characteristics can be adjusted to align with the detected tone. To enable automatic filter adjustment, use the spacebar to select YES.
Recording File Name	To record the results of the Run analysis to a file, enter a DOS filename.
Function	During the Run operation several RDSP functions are executed. This operation takes the phone line offhook, dials the Phone No., then monitors the phone line for call progression tones. The Function area displays each function as it executes.
Status	As functions listed above execute, the status of the function is displayed in this area.
PCPM Code	When a non ring call progression tone is identified from the Tone Table, call monitoring terminates and the PCPM Code assigned to the tone is displayed. If the identified tone is a Ring

type tone, and the call is not answered within the interval assigned to No Answer Rings on the Setup screen, the PCPM Code is again displayed. A PCPM code of 10 is displayed if answer is detected at the dialed number.

Last Tone

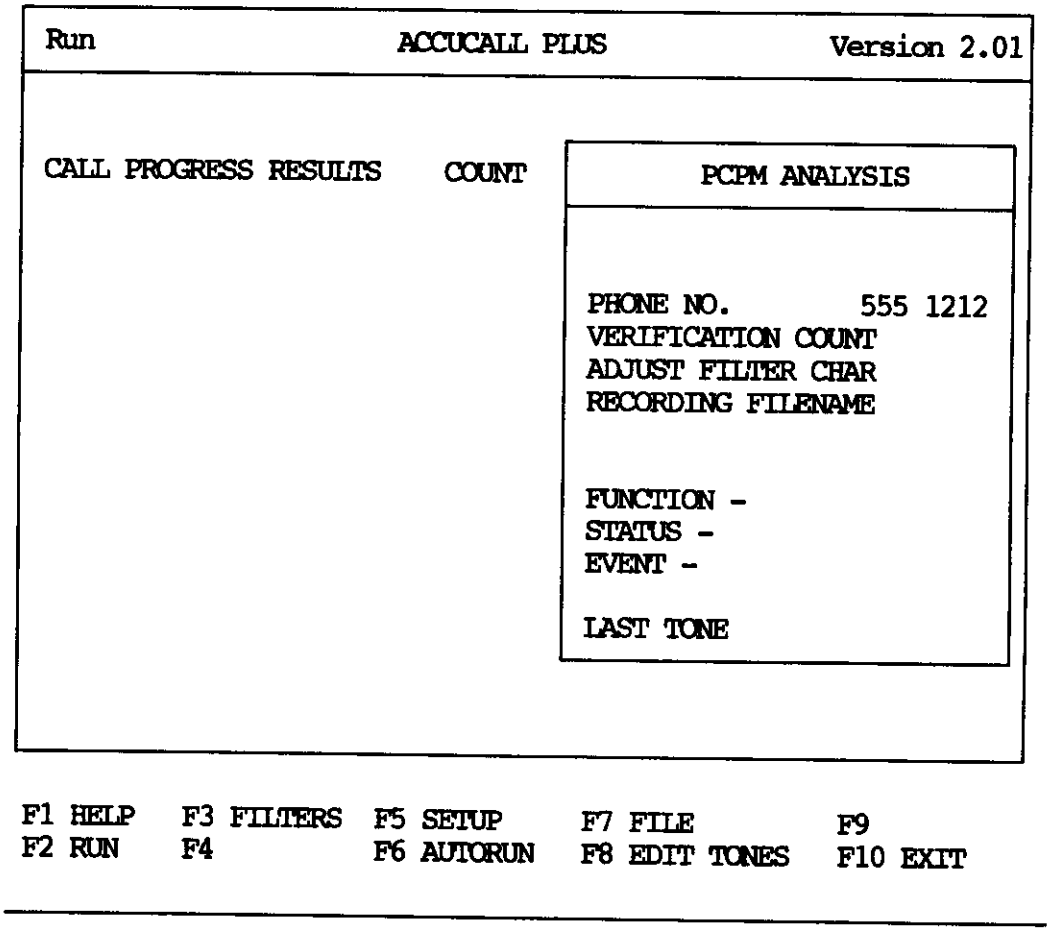

Figure 3. The Run Screen

The Setup Screen

The Setup screen allows you to adjust system parameters that influence call monitoring. This screen is divided into four windows:

Window	Description
Run/AutoRun	Displays the edit fields that define limits of the Parameters Run and Auto Run functions.
Global Parameters	Contains the edit fields that influence the timing of DTMF and PULSE digits when dialing phone numbers.
Channel Parameters	Contains the edit fields that influence the RDSP call monitoring functions.
Environment	A read-only information window displaying the RDSP revision level and software interrupt level.

Use the TAB key to switch between windows.

If you elect to save the setup parameters in a file (F7), the parameter file ACCUCALL.CGF will be created in the current directory. ACCUCALL searches for ACCUCALL.CFG during startup and initializes the Setup parameters accordingly.

The Setup screen Run/AutoRun Parameters are

Parameter	Description
Hardware Interrupt	Enter the Interrupt Request Line to be used by the RDSP device driver when transferring information to the RDSP board. Valid values are 2 through 7. The default value is 4.
Out Dial Channel	Enter the logical channel number to use during Run and AutoRun operations. Valid values are 1 to N where N is the number of installed channels.
Auto Run Verification Count	Enter the number of times the AutoRun operation should execute when determining a call monitoring tone frequency and

cadence.

Auto Run Minimum	Enter the minimum number of call progression cadence.
Cycles	Cycles that Auto Run should analyze during each call.
Auto Run Align Frequencies	If detected frequencies are to be aligned with existing filters in filter table, use the spacebar to select yes or no.
Auto Run Quick Frequency Scan	If the signal of the destination phone has a limited cadence,enable the quick scan. Use the spacebar to select yes or no for quick scan.
Log Results To Disk	To save the results of the AutoRun operation in a disk file, use the spacebar to select YES. If you are having difficulty characterizing a tone, enable the logging feature. This will provide the Tech Support staff with detailed information about the characterization process.
Use Internal Speaker	During the process of tone characterization, it is best to have a speaker available to monitor the phone line signal. This allows you to verify the tone with the characterization process. If a speaker is not available, Accucall can emulate the signal on the phone line using the system speaker. The spacebar enables or disables this feature.
Phone No.	Enter the phone number you wish to dial. Auto Run will analyze the call analysis tone that is present after dialing the number. Use the comma (,) to insert needed delays into the dial string.

The Setup screen Global Parameters are

Parameter	Description
Dtmf On	Enter the duration of a DTMF digit when dialing. The default value is 100 milliseconds.
Dtmf Delay	Enter the interval between DTMF digits when dialing. The default value is 50 milliseconds.
Pulse Make	Enter the duration of a make interval during a pulse dial. The default value is 40 milliseconds.
Pulse Break	Enter the duration of a break interval during a pulse dial. The default value is 60 milliseconds.
Pulse Delay	Enter the interval between pulse digits. The default value is 1000 milliseconds.

The Setup screen Channel Parameters are displayed on two pages. Use the PgUp or PgDn keys to display a page. The Channel Parameters are:

Parameter	Description
No Answer Rings	Enter the number of rings to wait before reporting a no answer condition during the Run operation. The default value is 4.

Call Progress Delay Enter the interval after dialing digits before beginning call monitoring. The default value is 250 milliseconds.

AbTimeout	Enter the maximum interval to wait for a signal before abandoning a call. The default value is 40,000 milliseconds.
BusyCycles	Enter the number of non ring cycles to wait before reporting the identified tone during the Run operation. The default value is 2.

Glitch	Enter the minimum interval of silence that must be detected for a valid off cadence. The default value is 150 milliseconds.
Spike	Enter the minimum interval of sound that must be detected for a valid on cadence. The default value is 190 milliseconds.
Vox (OUTDIAL)	Beginning with Revision 2.2.0 of the RDSP device driver, PCPM analysis can be optimized for detection of VOICE or SIGNAL. Use the spacebar to select the optimization suitable for your application.
Above1Off	Comparing the current cycle to the previous, this is the percent variance allowed during an OFF period above the previous OFF.
Below1Off	The percent variance allowed during an OFF period below the previous OFF. AboveOn Comparing the current cycle to the previous, this is the percent variance allowed during an ON period above the previous ON.
BelowOn	The percent variance allowed during an ON period below the previous ON.

The Setup Screen Environment values are

Parameter	Description
Driver Release	The current revision level of the RDSP Dos device driver is displayed in this area.
Software Interrupt	This area displays the software interrupt level of the installed RDSP device driver.

AutoRun

Use the AutoRun screen to dial a phone number and then monitor the call analysis tone and characterize the frequency and cadence of the signal. The frequency and cadence values can be assigned to

entries in the Tone table and Filter table.

This screen is divided into three sections. The first section, AutoRun Parameters, contains four items:

Item	Description
Outdial Number	Enter the phone number you wish to dial. Auto Run analyzes the call analysis tone that is present after dialing the number. Use the comma (,) to insert needed delays into the dial string.
Verification Count	Enter the number of times to redial number for gathering data.
Minimum Cycles	Enter the minimum number of cycles for gathering data.
Frequency Range	Either Full (300 - 1700Hz) or High (800 - 1700Hz). The default is Full. If AutoRun cannot fully characterize a tone because the cadence is too short to complete analysis, use the spacebar to select High. This will limit analysis to higher frequencies and require less time.

The Outdial Number is used on several screens including the Setup screen and Run screen. This number is carried across the various screens. Changing it on one screen automatically changes it on the other screens. To use AutoRun, enter the Phone number and press F9 to start the process. AutoRun automatically dials, scans, and reports information to the screen. The tone frequencies are displayed in the Frequencies Detected window, and the cadence is displayed in the Cadence Detected window as a horizontal bar graph.

When AutoRun processing is complete, you can add the tone to the tone table by pressing F8. This takes the information gathered by AutoRun, opens the Edit Tones screen, and transfers the AutoRun results to the screen. Finish the Edit Tones process, then add the tone to the table by pressing F8 again. This selects the Add feature of Edit Tones.

Edit Tones

The Edit Tones screen allows you to edit a tone description. This screen is divided into two windows, Description and Cadence. The Description window displays the edit fields that describe the tone. The Cadence window displays a graphic characterization of the tone type. As you edit the cadence or timing related fields, the Cadence window highlights the interval of tone represented by the field. If you enter Edit Tones from the Main Menu, and have a tone selected, the screen displays that tone. If you enter from the AutoRun screen, the frequency and cadence information collected by the AutoRun operation is transferred to the appropriate fields.

The Edit Tones screen displays the following:

Parameter	Description
NAME	You must assign a name of up to 27 characters to the tone. The name should be descriptive of the tone and might include the PBX manufacturer, type of ring or even a specific phone number.
TYPE	Each tone is classified as BUSY1, BUSY2, RING1, RING2, or OTHER. Use the spacebar to select a classification. As you scroll through the classifications, the graphic characterization in the Cadence window will change.
TERMINATING	In addition to detection during standard call transfer or call out monitoring, a tone may be detected by the RDSP device driver during play and record operations. Tones designated as terminating that are identified during playback or record operations will cause the operation to terminate. The application is notified with event code 31. Use the spacebar to select yes or no for terminating type tone.
CADENCE	Normally a tone will be defined by both cadence and frequency. However if the frequency is unknown, call progress monitoring can analyze the cadence without requiring frequency specifications. Use the spacebar to

select Yes or No for CADENCE type tone.

FREQUENCY1 — A tone can be comprised of 0, 1, or 2 frequencies. If the frequencies are unknown and cannot be determined through the AutoRun function, leave this are blank. Otherwise enter the first frequency of the tone in Hertz.

FREQUENCY2 — Enter the second frequency of a dual tone. If the tone frequencies are unknown, or the tone is a single tone, leave this area blank.

PCPMCODE — Assign a numeric identifier to the tone. Similar type tones should be assigned the same identifier. By default all busy type tones are assigned identifier 7, and all ringback type tones are assigned identifier 8. When the RDSP recognizes a tone, the RDSP device driver informs the application by returning the Pcpmcode of the recognized tone. If the tone is a ringback type tone, the Pcpmcode is returned after a specified number of rings. If answer is detected, the device driver returns Pcpmcode 10.

QUICK COUNT — This feature of call monitoring allows you to detect unique tones in a short time. If a tone is present for the interval specified by Quick Count, the RDSP will inform the application and stop call monitoring. This allows for tone recognition by frequency without cadence verification.

ON TIME — Enter the standard ON or sound interval for the tone in milliseconds. For the public switched network, a ringback signal has a standard ON time of 2 seconds, and a busy signal has an ON time of 500 milliseconds. Special information tones or intercept tones are normally ON for either 275 milliseconds or 375 milliseconds depending on the tone.

ON MAXIMUM — Enter the percentage of variance above the standard VARIANCE ON time allowed for a matching on cadence. Coupled with the ON MINIMUM VARIANCE, this allows you to specify an acceptable range for the tone

	ON time. Use the plus (+) and minus (-) keys to increase or decrease the variance above the standard ON time.
ON MINIMUM VARIANCE	Enter the percentage of variance below the standard ON time allowed for a matching cadence. Use the plus (+) and minus (-) keys to increase or decrease the variance below the standard ON time.
OFF TIME	Enter the standard OFF or silence interval for the tone in milliseconds. For the public switched network, a ringback signal has a standard OFF time of 4 seconds, and a busy signal has an OFF time of 500 milliseconds.
OFF MAXIMUM VARIANCE	Enter the percentage variance above the standard OFF time allowed for a matching OFF cadence. Coupled with the OFF MINIMUM VARIANCE, this allows you to specify an acceptable range for the tone OFF time. Use the plus (+) and minus (-) keys to increase or decrease the variance above the standard OFF time.
OFF MINIMUM VARIANCE	Enter the percentage of variance below the standard OFF time allowed for a matching cadence. Use the plus (+) and minus (-) keys to increase or decrease the variance below the standard OFF time.

In addition to the parameters listed above, the additional parameters are displayed when either BUSY2 or RING2 type tones are selected.

Parameter	Description
ON2TIME	Enter the standard ON time for the second half of a double busy or double ring cycle.
ON2MAX VARIANCE	Enter the percentage variance above the standard ON2 time allowed for a matching ON cadence. Coupled with the ON2MIN VARIANCE, this allows you to specify an acceptable range for the tone ON time. Use the plus (+) and minus (-) keys to increase or decrease the variance above the standard ON time.

ON2MIN VARIANCE	Enter the percentage variance below the standard ON2 time allowed for a matching ON cadence. Use the plus (+) and minus (-) keys to increase or decrease the variance below the standard ON time.
OFF2TIME	Enter the standard OFF time for the second half of a double busy or double ring cycle.
OFF2MAX VARIANCE	Enter the percentage variance above the standard OFF2 time allowed for a matching OFF cadence. Coupled with the OFF2MIN VARIANCE, this allows you to specify an acceptable range for the tone OFF time. Use the plus (+) and minus (-) keys to increase or decrease the variance above the standard OFF time.
OFF2MIN VARIANCE	Enter the percentage variance below the standard OFF2 time allowed for a matching ON cadence. Use the plus (+) and minus (-) keys to increase or decrease the variance below the standard OFF time.

When you finish editing a tone, you must press F8 to add the changed or new tone to the database. Pressing F8 brings up one of the following messages:

"Tone does not exist - Press F8 to add"

"Tone exists - Press F7 to replace"

Therefore, to add a new tone, you must press F8 twice.

Filters

The Filters screen allows you define a filter table. This screen is divided into two windows.

The Filters window allows you to define the frequencies of the 12 programmable filters. The Filter Characteristics window allows you to adjust the sensitivity of the filters.

The filters allow the RDSP to hear the frequencies. If a tone is described by both cadence and frequency, the tone is not recognized unless a filter is programmed to detect the frequency.

Just as you cannot see with your eyes closed, the RDSP cannot hear a frequency without a filter enabled.

Use the up arrow and down arrow to select a filter or filter characteristic. Move between the Filters window and the Filters Characteristics windows with the TAB key.

The filter characteristics are

Parameter	Description
MINIMUM ENERGY	Enter the db level of signal that will trigger the filter. The default MINIMUM ENERGY level of -42 db is normally sufficient to detect call monitoring tones.
DUAL TONE RATIO	Enter the db level corresponding to the ratio of the weaker frequency to the stronger frequency for valid dual tone detection. The default ratio of -9 db is normally sufficient to detect dual frequency tones.
IN BAND RATIO	Enter the db level corresponding to the ratio of energy inside the filter to the energy outside the filter. The default ratio of 3 db is normally sufficient to detect single frequency tones.
OUT BAND RATIO	Enter the db level corresponding to the ratio of the 3rd strongest frequency to the 2nd strongest frequency. The default ratio of 6 db is normally sufficient to detect dual frequency tones.
VOICE THRESHHOLD	Enter the minimum number of milliseconds of frequency that must be detected during an on cadence to detect a valid tone. The default threshhold of 96 milliseconds is normally sufficient.

Filter Assignments

The RDSP firmware can operate 12 independent filters per channel during call progress monitoring. The filters are assigned in the order they appear in the filter table. For standard call progress monitoring, the order of the filters is not important.

However, Terminating type tones require special consideration. The first four filters provide extended monitoring during record and playback operations. If a tone is defined as Terminating and the frequencies of the tone are assigned within the first four filters, then the tone can be detected during playback and record operations.

This allows the application program to terminate operation when a call progress tone is recognized. Many PBXs will generate a fast busy tone when one of the parties hangs up.

Table of Contents

VSR

Introduction

This information manual is design to help sales and customer service agents get a better understanding of VSR voice processing systems. It has been designed to be used as both a reference and training manual and will be periodically updated to keep up with future VSR enhancements.

Service

VSR provides the best support and service in the industry, if you require more information or technical support please call.

Voice Systems Research
3950 Industrial Blvd., Suite 400C
West Sacramento, CA 95691

VSR Fax Number:	916-920-4530
VSR Telephone Number:	916-920-3100
For Technical Support:	Press 2
Sales Department:	Press 3
Product Information and VSR Demonstration:	Press 7
VSR Business Hours:	7:00 A.M. to 5:00 P.M. Pacific Standard Time.
Technical Support:	Available on a 24 hour basis, after pressing "2" for service, Press 1, for emergency service. Press 2, for normal service.

Emergency service means that you leave a message, and a technician will be paged, and return your call as soon as possible. Normal service means a technician will receive your message and return your call the next working day.

VSR

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Voice Processing

In the same way that computers process text, voice processing systems, use software to digitize the human voice so it can be stored, sorted, indexed, copied, converted, and retrieved.

The main components of voice processing systems are automated attendant, voice mail and transaction processing which integrate and work with phone systems to provide a complete communication solution.

Automated Attendant

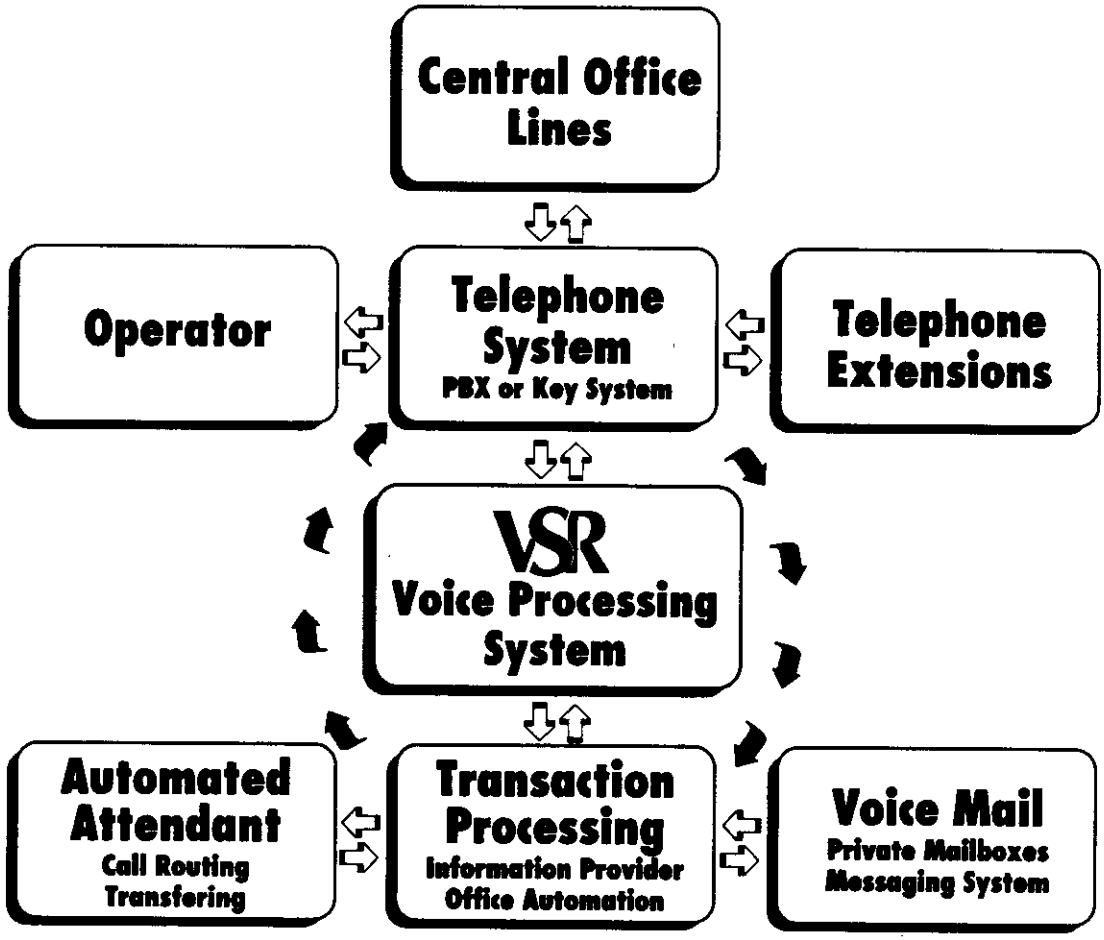
Provides unattended call answering and routing, directing callers through voice response to their intended extensions.

Voice Mail

Provides a message system for both internal and external business communications. Allowing users to send, receive, edit, transfer and forward messages.

Transaction Processing

Allows for the creation of custom applications to provide information and carry out specific transactions.



System Design

Hardware

VSR uses the IBM XT/AT™ compatible computer platform as the engine for its voice processing systems. The high quality and reliability of this platform allows VSR to provide the latest in state-of-the-art technology at an affordable price.

CPU

IBM compatible computers with Intel 286™, or 386™ processors.

Voice Card

Rhetorex™ RSDP, state-of-the-art digital voice boards.

Hard Drive

Quantum™ or Maxtor™ hard drives are used for voice and file storage. Average access time is < 17 ms.

Monitor

9" VGA or monochrome industry standard monitors.

"Turn-key" system design, allows VSR to provide pre-configured, pre-programmed systems that are easy to use and install.

Keyboard

81 key IBM compatible.

Operating System

MS-DOS 5.0.

Software

Relying on industry standard hardware allows VSR to concentrate on designing custom software to meet a wide range of voice processing needs. All VSR software is proprietary and only works on VSR turn key systems.

Line Sizes:	*2 to 8 Ports*
Voice Storage:	*4 to 20 Hours*
Available Classes of Service:	*99*
Maximum Number of Mailboxes:	*200*
Operating Modes:	*Day, Night, Holiday*
Mailbox Number Length:	*2 to 6 Digits*
Number of Distribution Lists:	*99*
Number of Reports:	*22*

VSR voice processing software has a full range of automated attendant, call processing, voice mail, and administrative features. Detail explanations of these features can be found on the following pages.

Automated Attendant Features

The VSR automated attendant is capable of manipulating an incoming call in one of four ways:

1. Routing a call to an extension.
2. Sending the call into a mailbox.
3. Directing a call into a prompt-driven menu.
4. Processing incoming in-band signals.

Call Routing

The VSR voice processing system can be programmed to route calls to pre-defined extensions or prompt callers to enter an extension that they would like to be transferred to, and then route the caller to that extension.

Sending a Call to a Mailbox

A call can be sent into a pre-defined mailbox, or prompt the caller to enter a mailbox and leave a message.

Directing a Call into a Prompt-Driven Menu

A call can be directed into a menu that will play prompts and ask the caller to respond or listen to specific information.

Playing Files

Up to 5 pre-recorded voice files, can be assigned to each menu as play files for prompting and routing callers.

Directories

Extension and/or mailbox directories can be setup that will prompt callers to enter up to 8 characters of the last name of the person they are trying to reach, playing back the names and extensions of any matching entries.

Process In-Band Signals

With in-band signaling the VSR system can provide better integration, routing callers directly into voice mail boxes, and re-setting message waiting lamps.

Call Processing Features

Blind Transfer

A blind or unsupervised transfer sends a caller to another extension without monitoring the progress of the call. The phone system is responsible for handling the call from this point onward.

Supervised Transfer

Sends a caller to another extension and monits the progress of the call. "Monitoring the progress" means that the VSR voice processing system will follow the call and determine the proper action based upon programming and the availability of the defined extension.

Forwarding

A defined extension within the VSR voice processing system can be forwarded to another extension, a mailbox, or a menu.

Holding

With this setting ON, a caller can elect to hold for an extension. Caller will be prompted to press 1, to hold, and system will put caller on hold and tell them how many other callers are holding.

Screening

With this setting set to ON, a caller will be screened before being transferred to an extension. System will prompt caller to say his/her name at the tone, then put caller on hold and ring extension playing prompt saying "you have a call from (caller's name)" giving receiving party the option to press any key to accept the call, or hang-up to reject the call. If call is accepted, the call is transferred, if rejected the caller has the option of leave a voice mail message or try another extension.

Secondary Extension

An extension can define a "secondary extension" and have calls transferred to extension.

Voice Mail Features

Voice mail module provides the ability to leave messages to individuals and notify them of messages to be retrieved. Its features include:

1. Send Messages;
2. Log into a Mailbox;
3. Message Notification;
4. Interview Mailboxes ***(NEW FEATURE AVAILABLE IN '93)***

Leave a Message

Caller will here mailbox's personnel greeting then be prompted to leave a message.

Edit Recorded Message

After leaving message caller has the option to edit their message.

Discard Recorded Message

If the caller selects this option, the recorded message will be discarded and the caller will be asked to enter another mailbox number to send a message to or press 0 to go to the operator.

Label Recorded Message

Caller can select to label a message priority, certified, or private.

Log into a Mailbox

To log into a mailbox a user must enter their personal password. Once into their mailbox, the system will tell them how many new messages they have and give them the following options: followed by the * *(star)* key,

1. Retrieve messages.
2. Send a message.
3. Send to a distribution list.
4. Change mailbox settings.
5. Change extension settings.
6. Transfer elsewhere.

Retrieve Messages

If there are any priority, new, or saved messages in the mailbox the caller will use this option to retrieve them. Priority messages and new messages are made available for retrieval first, followed by saved messages. The following options are available during retrieval:

1. Play the message;
2. Save the message;
3. Delete the message;
4. Copy the message to another mailbox;
5. Reply to the message if it originated from another mailbox;
6. Play message's date/time stamp;
7. Skip to the next message; or
8. Skip to saved messages

Play a Message

This option plays messages to the caller, start to finish. The caller may press any key during the play to break out of it and perform another function.

Save a Message

This option saves the priority, or new message, or re-saves a saved message. After performing the save, the system then plays the next message.

Delete a Message

This option permanently removes a message from a mailbox. Once this option is selected the message is deleted.

Copy a Message

Allows the caller to send a copy of a message to another mailbox.

Reply to a Message

This feature allows a caller to immediately reply to a message that was sent by another system user. Upon selecting this option the system says "recording" to the caller, sounds a tone, records the callers reply, and allows the caller to send, edit, or discard the message.

Date and Time Stamp

Tells users of date and time message was left.

Skip a Message

Allows the user to skip quickly through new or saved messages without having to listen to each one.

Retrieve Saved Messages

This option causes the system to immediately go to saved messages.

Can users make changes to the VSR system?

Yes. VSR systems allow users to personalize, and change their mail box features.

Send a Message

When the user selects this option the system:

1. Requests the mailbox number.
2. Records the message.
3. Allows editing (replay, discard, append).
4. Allows labeling (priority, private, certified).
   Priority: Places message in front of new message.
   Private: Messages cannot be copied.
   Certified: User will receive notificaiton of delivery.
5. Sends the message.

Distribution Lists

There are 3 different distribution list options, (1) Manual List, (2) System List, and (3) Personnel List. With this selection the user is prompted to select the type of list desired, then records the message which is then sent to all those mailboxes on the distribution list.

Change Mailbox Settings

By selecting this option the user can:

1. Edit greeting;
2. Edit name;
3. Edit password;
4. Change mailbox mode;
5. Change notification; or
6. Change date/time announcement.

Edit Greeting

Allows the user to change mailbox greeting.

Edit Name

Allows the user to change recorded name.

Edit Password

This option allows the user to change his/her mailbox password.

Change Mailbox Mode

Enables the user to change the way the mailbox responds to a caller. A mailbox can (1) Take Messages, (2) Play Greeting Only, (3) Forward to Another Mailbox, (4) Forward to an Extension, (5) Forward to a Menu, (6) Forward to an Outside Number.

Notification
This option allows the user to assign specific telephone numbers at which to be notified of any new messages. The numbers can be either an extension number, an outside telephone number or a digital pager number.

Transfer Elsewhere
This option allows the caller to go to another mailbox or extension without having to backup to a menu.

Administrative Features

These features are only available to the user who is logged into a mailbox that has been assigned as the system administrator.

Extension Maintenance
The system administrator has the capability to add a new mailbox to the system, turn a mailbox on or off, change its class of service, reset mailbox password and reset a message waiting lamp.

Mailbox Maintenance
Provides the system administrator the capability to add a new mailbox to the system, turn a mailbox on or off, change its class of service, reset mailbox password and reset a message waiting lamp.

Add a Mailbox
This option will allow the system administrator to add a new mailbox to the system while on the phone.

Turn a Mailbox On/Off
This option allows the administrator to turn a mailbox on or off.

Change Class-of-Service
This option allows the system administrator to assign a different class-of-service to a mailbox.

Reset Mailbox Password or Make Mailbox a New-User
This option allows the system administrator to reset a mailbox password to the default (1111). This is useful when the user has forgotten their password.

Change Mailbox Lamp Extension
This option allows the system administrator to change the lamp notification extension number that is assigned to a mailbox.

Can users make programming changes without dealer assistance?

Yes. VSR recommends that a system administrator be assigned, and provides a special set of features to make programming and feature changes simple and easy.

Utilities

Toggle Message Waiting Lamp
With this option you may turn a message waiting lamp on or off.

Record Function
You may record up to 99 prompt files using this function. Its operation is similar to the recording function in the External Maintenance program.

Change Time
You may change the time one hour ahead or one hour back to accommodate for seasonal time changes.

Reports

Access to utilities and reports can only be done by logging into the system through the keyboard and monitor.

Administrative Reporting
This option provides the system administrator with the following reports which may be printed to the screen, a printer, or to a file:

Lists

- *Extension*
- *Mailbox*
- *Menu*
- *Class of Service*
- *Phone System*
- *Personal Distribution*
- *System Distribution*

Activity

- *Extension*
- *Mailbox*
- *Menu*
- *Channel*
- *Blockage*

System

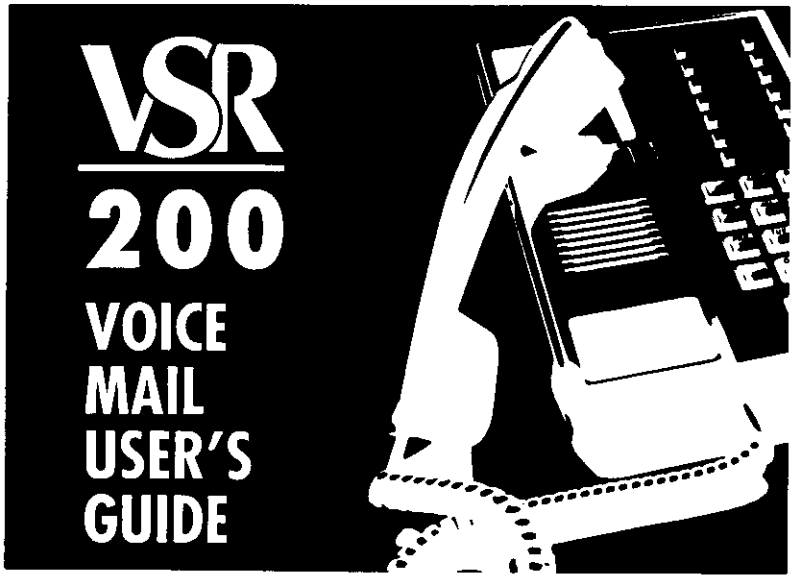
- *Defaults / Settings*
- *Channel Settings*
- *Channel Parameters*
- *Global Parameters*
- *General Settings*

Logs

- *Transaction*
- *Error*

User's Guide

The following is a condensed version of the VSR 200 Voice Mail User's Guide.



Quick Reference Guide

Main User Menu

Press 1
To Retrieve Messages – pages 4 & 5

Press 2
To Send Messages – page 6

Press 3
To Send Messages To A Distribution List – page 7

Press 4
To Change Mailbox Settings – pages 8 - 10

Press 5
To Change Extension Settings – page 11

Press 6
To Transfer To Another Menu Or Extension

Press #
To Reverse Through The Menus

Voice prompts are for your convenience. If you wish, simply press the appropriate key to move through the system at your own pace.

VSR

To Activate Your Voice Mailbox

Dial voice mail access number: _____

Enter user menu number:
(8 is the default setting) _____

Enter your mailbox number:
immediately followed by the * star key. _____

Enter activation password:
(Default is 1111) _____

To complete activation of your voice mailbox, you must record your personal greeting, name and password.

Once activation is complete, stay on the line and follow the voice prompts to record and send yourself a message. Press 2 to send a message then enter your voice mailbox number, record a test message, label and send it. Voice prompts will help you and confirm that the message was sent.

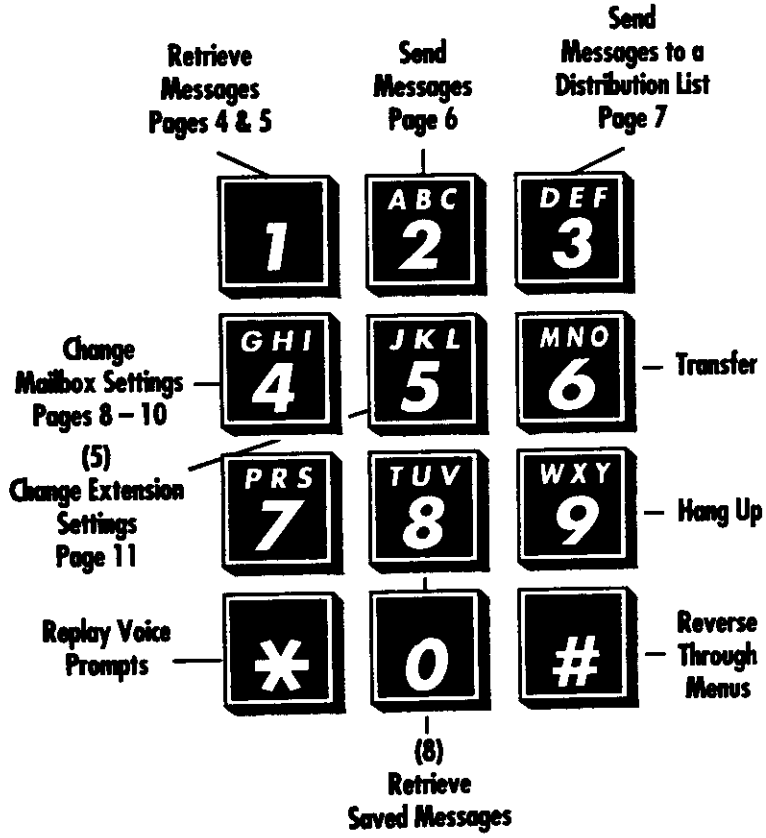
That's it! Your voice mailbox is now activated and you have successfully sent yourself a message.

Main User Menu

The main-user menu is your guide to accessing system features and options.

Logging into your voice mailbox.

1. *Dial voice mail access number.*
2. *Enter user menu number.*
3. *Enter mailbox number, immediately followed by a * star.*
4. *Enter your password.*

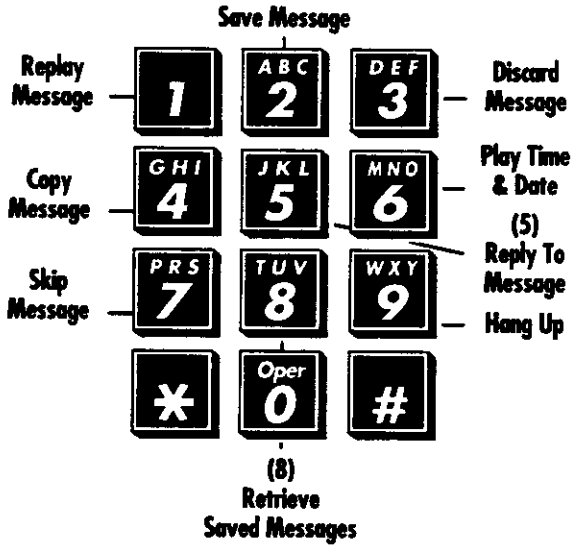


To Retrieve Messages

Log into your voice mailbox.

Press 1.

After listening to each message, you have the following options:



When you log into your voice mailbox the system will tell you if you have any messages, how many, and what type. Priority messages will be first followed by new messages and saved messages.

1 Replay Message: Replays voice mail messages.

2 Save Message: Saves voice mail messages.

3 Discard Message: Erases voice mail messages.

4 Copy Message: Allows you to copy any message and send it to another voice mailbox.

5 Reply To Message: Allows you to reply to a message sent by another voice mailbox user.

6 Play Time & Date: Tells you time and date a message was received.

7 Skip Message: Allows you to skip over a message.

8 Retrieve Saved Messages: Allows you to go directly to messages that are saved.

Voice prompts are for your convenience. If you wish, simply press the appropriate key to move through the system at your own pace.

*To rewind while listening to a message, press the * key.*

To fast forward, press the # key.

To Send Messages

This feature allows you to send messages to other voice mail users.

Log into your voice mailbox.

Press 2.

The system will ask you to enter the voice mailbox number of the person you wish to send a message to.

Press 1 to record message.

Once you have recorded your message you will be given the following options:

Press 1 to send.

Press 2 to edit.

Press 3 to discard.

Press 4 to label message certified, priority or private.

Press * to repeat instructions.

To Send Messages To A Distribution List

You can develop a list of voice mailboxes to send messages to (see system administrator for details on setting up system and personal lists).

Log into your voice mailbox.

Press 3.

The system will give you the following options.

Press 1 for system list.

Press 2 for personal list.

Press 3 for manual list.

This allows you to specify multiple voice mailboxes that you wish to send your message to.

Press * when finished.

Press # to abort.

To Change Mailbox Settings

Log into your voice mailbox.

Press 4.

The system will give you the following options:

You can personalize your voice mailbox to meet your specific needs.

Press 1 to edit greeting.

Press 2 to edit name.

Press 3 to edit password.

Press 4 to change mailbox mode.
This option is explained in further detail on page 9 of the user's guide.

Press 5 to change notification.
This option is explained in further detail on page 10 of the user's guide.

Press 6 to change date and time announcement.
You can select automatic or manual mode.

Changing Your Mailbox Mode

Log into your voice mailbox.

Press 4 to change mailbox mode.

Your voice mailbox can be pre-set to forward calls, take messages, or simply play your greeting.

You can select six modes for your voice mailbox.

Press 1 to take messages (normal mode).

Press 2 to play greeting only.

Press 3 to forward calls to another voice mailbox.

Press 4 to forward calls to another extension.

Press 5 to forward calls to a menu.

Press 6 to forward calls to an outside number.

See page 12 of the user's guide for further definition of these features.

Changing Notification

Log into your voice mailbox.

Press 4.

The system can be set to call your pager, or an outside number when messages are left in your voice mailbox.

Press 5 to change notification.

You can set your voice mailbox to notify you or your pager while you are at another extension or outside the office.

Notification is a two-part process. First you store numbers where you can be reached. Then you activate the number where you wish to be notified.

Press 1 to store/edit notification phone numbers.

You may store any extension number, outside number or pager number that you wish to be reached at while you are away from your desk.

Press 2 to change where you are to be notified.

Once you have stored notification numbers you can activate one of them at any time.

Changing Extension Settings

Log into your voice mailbox.

Press 5.

You can set up your extension to screen calls, allow callers to hold, or forward calls to another extension.

The system will tell you how your extension is set up and give you the following options.

Press 1 to change forwarding.

Press 2 to change screening.

Press 3 to change holding.

Press 4 to change secondary extensions.

See the system administrator for more details on changing extension settings.

VSR

In order to be successful selling voice processing a sales person must have an understanding of the technical requirements and limitations of phone systems and how they interface with voice processing systems. Being prepared will save you and your customers alot of time and frustration. If you are not sure about a feature or how a particular phone system will work with the VSR system, tell the customer you will get back to them and call VSR customer service for advice.

Phone System Compatibility

Before completing the bid of a VSR system, you must first determine phone system compatibility.

- ***There must be available analog single line telephone extensions.***
- ***Phone system must support "End to end DTMF."***
- ***Hook flash tansfer must be available.***
- ***Delayed ringing or hunt group must be programmable.***
- ***Calls must be retrievable from a softhold.***

Manufacturer	Model	Integrated	Compatible
Alacatel	ITT 3100		■
AT&T	Dimension		■
	Horizon		■
	Partner		■
	System 25	■	
	Legend II	■	
Fujitsu	Focus		■
	StarLog	■	
Harris	110		■
	D400		■
	D1000		■
	D1200 (20/20 v. 7.0)		■
Hitachi	DX		■
	HCX5000	■	
Intertel	GX 2456/32128	■	
	GMX	■	
Isoetec	96		■
	Easy 108		■
	Easy 228		■
ITT	ECS 136		■

Phone systems that integrate with VSR provide dedicated voice mail ports, or the ability to process in-band signalling. Compatible systems provide only an analog port for connection.

Please read the technical section in this manual before attempting to sell a VSR system.

Manufacturer	Model	Integrated	Compatible
Iwatsu	ADIX	■	
	ZTD	■	
Macrotel	MT80D	■	
Mitel	SX50	■	
	SX100/200A		■
	SX200D (1004)	■	
	SX1000		■
	SX2000	■	
NEC	16/48		■
	Mark II	■	
	NEAX 2400	■	
Nitsuko	Optima	■	
Northcom	Premier ESP	■	
Northern Telecom	SL1		■
Panasonic	308		■
	DBS	■	
	616		■
	1232		■
Rolm	CBX		■
SRX	SRX	■	
	System One		■
STC	Prostar		■
	56120EX	■	
Tadiran	Coral I/II/III		■
	EX124		■
Telrad	2464 v.02	■	
	Symphony	■	
TIE	Onyx	■	
Toshiba	DK 24/56/96	■	
	Perception	■	
	6E		■
	12E		■
	20E		■
Trillium	Panther		■
Vodavi	Starplus		■
	616		■

Configuration Table

After establishing phone system compatibility, the next step is to properly configure port size and required hours of message storage.

Ports

Call Traffic	**Port Ratio**
250 calls or less a day	4 ports per C.O. Line
251-499 calls a day	3 ports per C.O.Line
500 calls a day or more	2 ports per C.O. Line

All VSR systems are expandable with built-in upgrade paths.

NUMBER OF C.O. LINES: _____

(divided by) **PORT RATIO =** _____ ***NO. OF PORTS NEEDED***

Example: ABC Company has 12 C.O. lines and receives 300 class per day.

NUMBER OF C.O. LINES = 12

(divided by) **PORT RATIO 3 =** ***4 PORTS NEEDED***

Hours of Storage

NUMBER OF EMPLOYEES _____ *X (times)* **3 Minutes**

= _____ ***MINUTES REQUIRED***

MINUTES REQUIRED _____ *(divided by)* **60**

= _____ ***HRS OF STORAGE NEEDED***

Example: Company has 100 employees and averages 300 calls per day.

NUMBER OF EMPLOYEES (160) *X* **3 Minutes**

= (480) MINUTES REQUIRED

MINUTES REQUIRED (480) *(divided by)* **60 =** ***8 HOURS***

Example: The ABC company needs a 4 port 8 hour system.

This chart is only meant to be used as a guide to determine system size and configuration, each customer is different and may require more ports or hours of storage. Remember as with all advancing technology it is better to recommend a larger system in most cases, especially if there is any possibility of future growth.

VSR

Selling Voice Processing

Voice processing systems provide solutions to business communication problems, and can be easily justified because they simplify communication with customers and employees increasing productivity and saving money.

- *Eliminates "phone tag" and missed messages.*
- *24 hour accessibility.*
- *No need to call back – 50% of messages are one-way calls only.*
- *Reduces costs for receptionists, operators, or message center staff.*
- *Lower phone bills because of shorter call handling time.*
- *Advances phone system technology.*
- *Reduces time employees spend on the phone.*
- *Increases sales and improves customer service.*
- *Eliminates the need for an answering service.*
- *Eliminates lost messages.*
- *Helps to cut down on company paper flow.*

The VSR Advantage

- *The only full featured affordable "turn-key" system.*
- *Reliable industry standard components.*
- *24 hour, 7 day a week toll-free technical support.*
- *All systems are expandable with built in upgrade path.*
- *Friendly design that is easy to demonstrate.*
- *Systems are easy to install, reducing cost.*
- *Built in voice prompts make user training simple and easy.*
- *Easy to follow support material and documentation.*
- *Industry leader in design, value and service.*
- *Finacially solid company dedicated to improving business communications.*

VSR

Common Questions & Answers

Will the VSR system work with my phone system?

VSR systems will work with any phone system that has single line analog telephone connections.

Can callers always reach an operator?

Yes. VSR systems guide users through the system with voice prompts, and there is always the option of returning to the operator by simply pushing 0.

What type of phone lines can you use with VSR systems?

Loop start, Centrex, DID, and analog phone system extensions.

Are messages lost if there is a power outage?

Only messages being recorded at the time of the outage might be lost. All other messages and system functions will not be effected. The VSR system will reboot itself and go back into operation automatically when power is restored.

Do callers have to wait for prompts?

No. Once a caller feels comfortable with the system they can access features directly, and move through the system at their own pace.

What happens if callers do not have a touch tone phone?

During business hours the caller will be transferred to the operator, after hours they will be given a opportunity to leave a message.

Can users make changes to the VSR system?

Yes. VSR systems allow users to personalize, and change their mail box features.

Can users make programming changes without dealer assistance?

Yes. VSR recommends that a system administrator be assigned, and provides a special set of features to make programming and feature changes simple and easy.

Is directory assistance available?

Yes. Directory of a system users can be set-up and accessed to assist out side callers in finding there appropriate extension or mail box.

Does the VSR system provide message waiting light notification?

Yes, if the phone system allows message waiting lights to be operate from a single line phone.

Suggested Dealer List Pricing

All VSR systems are complete turn-key systems that are pre-programmed and pre-configured for easy installation.

VSR 100 Series

Flexible, automated attendant systems with five full-featured voice mail boxes.

Model No.	Description	Dealer Cost
VSR-120	2 Port, 1 Hour System	$ 2495.00
VSR-140	4 Port, 1 Hour System	$ 3395.00
VSR-160	6 Port, 1 Hour System	$ 3995.00
VSR-180	8 Port, 1 Hour System	$ 4495.00

VSR 200 Series

Full-featured voice processing system, complete with software, CPU, 9" monitor, keyboard, installation manual and user's guides.

STANDARD CONFIGURATIONS

Model No.	Description	Dealer Cost
VSR-224	2 Port, 4 Hour System	$ 2995.00
VSR-244	4 Port, 4 Hour System	$ 3995.00
VSR-288	8 Port, 8 Hour System	$ 5295.00

OTHER AVAILABLE CONFIGURATIONS

Model No.	Description	Dealer Cost
VSR-248	4 Port, 8 Hour System	$ 4295.00
VSR-264	6 Port, 4 Hour System	$ 4595.00
VSR-268	6 Port, 8 Hour System	$ 4795.00
VSR-284	8 Port, 4 Hour System	$ 4995.00

Warranty: The VSR 200 Series has a one year limited warranty, which covers any manufacturing defects, in material and/or workmanship. This warranty does not cover damage due to misuse, lighting, shipping damage or alteration to the product.

If defect does occur VSR retains the right to replace or repair product at its discretion. VSR makes no other warranties of any kind whether implied or expressed, including warranties of merchantability and fitness for a particular use. VSR is not liable for any incidental, accidental, consequential or punitive damages from any breech of warranty or other wise.

VSR

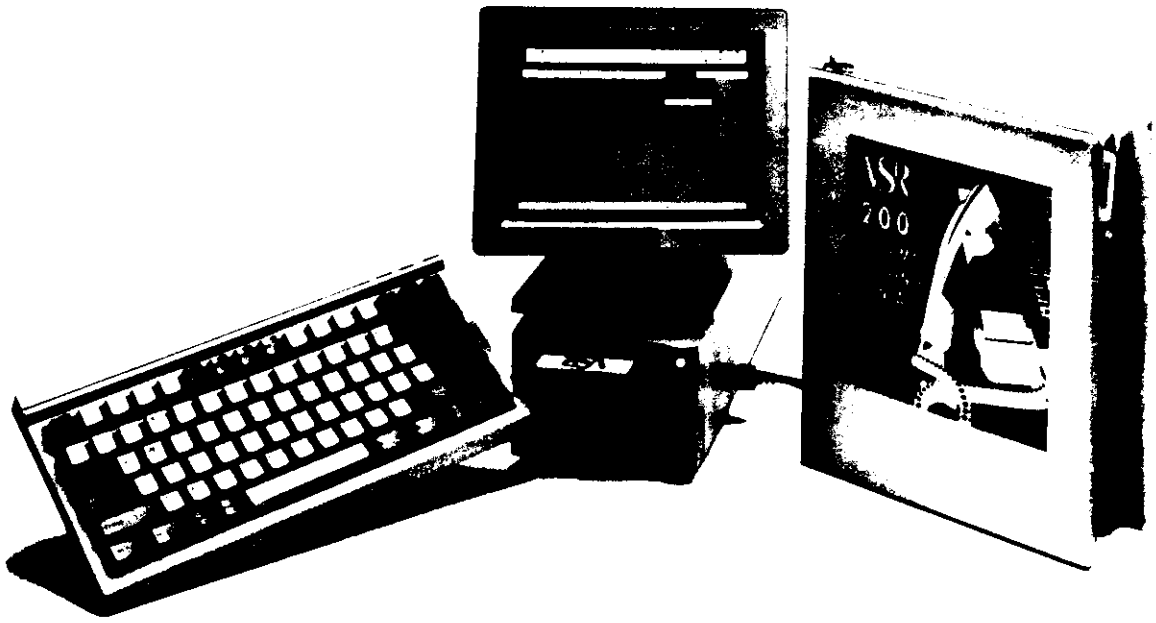
Accessories & Upgrades Pricing

Model No.	Description	Price
VSR W1	Wall Mount Kit for all VSR Systems	$ 75.00
VSR RM	Remote Programming Software for Remote Maintenance	$ 150.00
VSR MD	2400 BAUD Modem	$ 175.00
VSR UG	25 VSR 100/200 Series User's Guides	$ 25.00
VSR DS	250 VSR Data Sheets	$ 35.00
VSR-12U	Upgrade Kit for Converting VSR 100 to VSR 200 - Includes Drive for 4 Hours of Voice Storage	$ 1,000.00
VSR-24U	2 Port to 4 Port Upgrade Kit - Increases Systems Available Ports from 2 to 4	$ 1,500.00
VSR-26U	2 Port to 6 Port Upgrade Kit	$ 2,000.00
VSR-28U	2 Port to 8 Port Upgrade Kit	$ 3,000.00
VSR-46U	4 Port to 6 Port Upgrade Kit	$ 2,000.00
VSR-48U	4 Port to 8 Port Upgrade Kit	$ 2,500.00
VSR-68U	6 Port to 8 Port Upgrade Kit	$ 1,500.00
VSR-8HR	8 Hour Upgrade Kit- Increases Voice Storage Capacity to 8 Hours	$ 650.00
VSR-12HR	12 Hour Upgrade Kit	$ 750.00
VSR-20HR	20 Hour Upgrade Kit	$ 1,000.00
VSR-RM	VSR 200 Reference Manual	$ 30.00
VSR-IM	VSR Information Manual	$ 25.00

Spare Parts and Out of Warranty Pricing

Model No.	Description	Price
VSR-PS	Replacement Power Supply for VSR 100/200 Series	$ 80.00
VSR-DD	3.5" Disk Drive for VSR 100/200 Series	$ 80.00
VSR-2PB	Replacement 2 Port Voice Card	$ 850.00
VSR-4PB	Replacement 4 Port Voice Card	$ 1,150.00
VSR-MM	Monochrome Monitor - 9"	$ 200.00
VSR-VM	VGA Monitor - 9"	$ 300.00
VSR-KB	Replacement Keyboard	$ 80.00
VSR-HD	Replacement Hard Drive for Voice Storage	$ 400.00
VSR-RPL	Replacement CPU platform for VSR 100/200	$ 800.00

Affordable Voice Processing



A Better Value

At half the cost of comparable systems, the VSR 200 is the best value on the market today. It's a complete pre-programmed, turn-key system with voice mail, auto attendant, audio-text and call processing that can expand to meet a growing company's future needs.

Improves Communication

The VSR 200 will transform your existing phone system into a sophisticated voice processing system. Incoming calls will never go unanswered and callers will spend less time on hold – leaving a good impression. Office communications will be more efficient too; with the VSR 200's advanced features there's no need for memos, telephone message slips or time-consuming conversations.

Easy To Use

VSR voice processing systems are designed to be caller-friendly and easy to use. Callers and users are smoothly guided through each step by simple, built-in voice prompts. Programming the system is quick and easy, and with a little extra programming the VSR 200 can create custom applications. With a remote maintenance option and 12 month limited warranty, this is a worry free system that is simple to set up and effortless to use.

TOLL-FREE DEMO LINE
1-800-967-4VSR
(1-800-967-4877)

Voice Processing at Half the Cost

Now every business can enjoy the benefits of voice processing with VSR's state-of-the-art communication system at an affordable price.

- A complete turn-key system with pre-programmed software, CPU, 9" monitor, keyboard and Rhetorex™ voice card.
- Quick Set-Up™ program allows for installation in less than 30 minutes.
- Integrates with most major brands of PBX and key systems through single line interface.
- In-band signalling for custom integration.

Voice Mail Features

Simple mailbox activation.
Message retrieve, save, copy and delete.
Certified, priority and private messages.
Distribution lists.
Message waiting lamp notification.
Fast-forward/rewind, message skip.
Date and time stamping (auto/manual).
On/off site programming and recording.
Mailbox forwarding capability.
External notification.
Password security.
Offsite notification to pager, cellular or outside line.

Auto-Attendant Features

Transaction processing.
Flexible channel assignment.
Voice mail and extension directories.
Audiotext.
Easily constructed menu system.
Day/night and holiday modes.
Menu-prompt recording.

Call Processing Features

Caller holding/queuing.
Call screening.
Extension forwarding.
Secondary extension.
Definable primary/secondary operator.

Administrative Capabilities

Mailbox programming/notification.
Custom prompt recording.
Full maintenance and reporting.
Extension/mailbox creation and editing.
Remote programming.
Automatic disk optimization.
System back-up/restore.

Standard Configurations

Model No.	Ports	Hrs. of Storage
VSR-224	2	4
VSR-244	4	4
VSR 288	8	8

Systems are available in other configurations up to a maximum of 8 ports and 20 hours of voice storage.

Accessories

VSR W1	Wall mount kit for all VSR systems.
VSR RM	Remote programming software.
VSR MD	2400 BAUD modem.

System Specifications

Dimensions:	5.5" (H) x 3.6" (W) x 16" (D).
Weight:	10 lbs.
CPU's:	80286, 12 MHz clock speed. 80386, 20 MHz clock speed.
I/O Ports:	2 serial, 1 parallel.
Hard Drive:	Quantum™, 17 ms access time.
Voice Card:	Rhetorex™, RDSP-2108, RDSP-4108.
Approvals:	FCC, part 15, class B. No. FK34T65286TMN. FCC, part 68. No. 1A92PV-10975NME.
Telephone Interface:	RJ-14 Ringer Equivalence No. 03403B. C.O. line or single line extension.

Your authorized VSR dealer is:

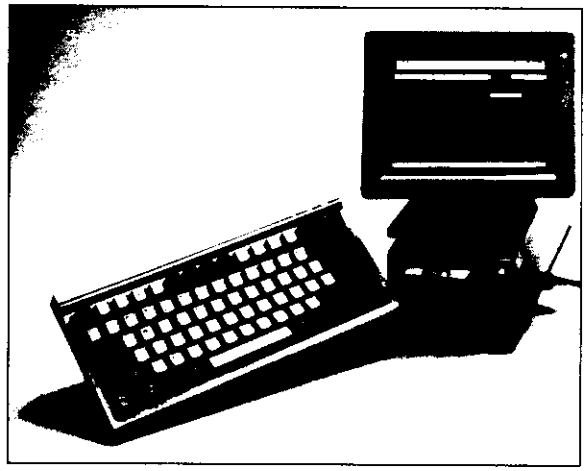
VSR
VOICE SYSTEMS RESEARCH

3950 Industrial Blvd., Suite 400 C ■ West Sacramento, CA 95691 ■ (916) 920-3100 ■ Fax (916) 920-4530

©1992 Voice Systems, Inc. Rev. 3, 5M 7.92

The Ultimate Automated Attendant

The best all-around value on the market today. The VSR 100 offers a full range of call processing features,including five voice mail boxes for the ultimate in convenience and flexibility.



- A complete turn-key system with pre-programmed software, CPU, 9" monitor, keyboard and voice card.
- Quick Set-Up™ program allows for installation in less than 30 minutes.
- Integrates with most major brands of PBX and key systems through single line interface.
- In-band signalling for custom integration.

Auto-Attendant Features

Transaction processing
Flexible channel assignment
Voice mail and extension directories
Audio-text
Easily constructed menu system
Day/night and holiday modes
Menu-prompt recording

Call Processing Features

Caller holding/queuing
Call screening
Extension forwarding
Secondary extension
Definable primary/secondary operator

Voice Mail Features

Simple mailbox activation
Message retrieve, save, copy and delete
Certified, priority and private messages
Distribution lists
Message waiting lamp notification
Fast-forward/rewind, message skip
Date and time stamping (auto/manual)
On/off site programming and recording
Mailbox forwarding capability
Password security

Administrative Capabilities

Mailbox programming/notification
Custom prompt recording
Full maintenance and reporting
Extension/mailbox creation and editing
Remote programming
Automatic disk optimization
System back-up/restore

System Configurations

Model No.	Ports	Hrs. of Storage
VSR-120	2	1
VSR-140	4	1
VSR-160	6	1
VSR-180	8	1

Accessories

VSR W1	Wall mount kit for all VSR Systems
VSR RM	Remote programming software
VSR MD	2400 BAUD modem

System Specifications

Dimensions:	5.5" (H) x 3.6" (W) x 16" (D)
Weight:	10 lbs.
CPU's:	80286, 12 MHz clock speed
	80386, 20 MHz clock speed
I/O Ports:	2 serial, 1 parallel
Approvals:	FCC, part 15, class B
	No. FK34T65286TMN
	FCC, part 68
	No. 1A92PV-10975NME
Telephone Interface:	RJ-14
	Ringer equivalence no. 03403B
	C.O. line or single line extension

VSR
VOICE SYSTEMS RESEARCH

Your Authorized VSR Dealer Is:

3950 Industrial Blvd., Suite 400 C ■ West Sacramento, CA 95691 ■ (916) 920-3100 ■ Fax (916) 920-4530

TECHNICAL INFORMATION

VSR

Minimum Requirements

Following is a listing of requirements that must be met when attempting to interface VSR to a particular phone system.

VSR systems connect to phone systems via analog ports, and require End-to-end DTMF and hook flash transfer, in order to work.

Requirements for System Operation

1. VSR systems connect to phone systems via analog ports. Most of the time analog ports can be installed into an existing phone system with an analog card, adapter or OPX extension.
2. The Phone system must support "End to end DTMF". Without end to end DTMF, VSR will not hear anything when the caller presses keys on the phone.

   If the system does not have this capability, it may be possible to "loop back" the trunks to provide DTMF to VSR. Another way of providing DTMF is to install a tonedialer.
3. Phone system must be able to do a hook flash transfer. This is only needed when VSR is going to be used to transfer calls.
4. The phone system must support some form of either delayed ringing or hunt groups. When VSR is up an running with no callers, it looks at all 8 ports to see if a caller is there. Since is it an extension, the phone system only rings one extension number at a time. If the phone system does not support this function, VSR will bring all the ports off hook at the same time, which would cause the system to be unavailable until the remainder of the ports cycle out.
5. Ring voltage: 10-130 VRMS 15.3 - 68.0 HZ.

Requirements for Automated Attendant

1. The phone system must be able to do a hook flash transfer. The automated attendant can be disabled, and the system used as voice mail only if the phone system does not do a hook flash transfer.
2. If VSR is going to be used to transfer to a extension, test to see if the person is there or not, and leave a voice mail message depending on the results of the test, the phone system must either support in-band signaling or have call progress tones.
3. The VSR system must be able to retrieve a caller once placed on a soft hold. When the caller transfers to an extension that is either busy or doesn't answer, The phone system must be able to retrieve that caller by either doing another hook flash, dialing a DTMF code, or a combination of both.

Please Note: Since all phone systems are different and unique, it is possible that some phone systems may not work with the VSR system even if they meet these minimum requirements. If there is any question, please contact VSR Technical Support before attempting installation.

Installation

Before attempting installation of any VSR voice processing system make sure that the phone system you are connecting to is compatible and meets VSR minimum requirements.

Pre-Installation Requirements:

- *Company name and address where system is to be installed.*
- *List of phone system extension numbers.*
- *Determine exactly how the automated attendant and voice mail will be configured.*
- *Names of all persons who are going to have voice mail boxes.*
- *Name and extension of person who is going to be assigned as system administrator.*
- *Determine the number of digits to be used for passwords, extensions and mail boxes.*
- *Scripts for voice prompts that need to be recorded.*
- *Make sure phone system has available analog single line extensions for connecting the VSR system.*
- *Phone system programming manual.*
- *Determine companies holidays, and normal business hours.*

Prepare all materials needed in advance of attempting installation.

Environment

The VSR 200 system should be installed in a location which is clean, within a temperature range of 65°F and 100°F, and stable or free from vibration, and secure whenever possible.

Electrical

VSR recommends Uninterruptible Power Supply (UPS) which is plugged into a dedicated electrical outlet (not used by other equipment). If this is not possible make sure that other systems using the same circuit do not draw large amounts of current or fluctuate abnormally. At the very least, the VSR 200 system should be plugged into a multi-plug outlet with a surge suppressor.

Assembling the System

Connect the monitor, keyboard and power supply to the VSR CPU. Press the ON/OFF button in front of the main unit. When the system boots up correctly you will be placed in the VSR External Maintenance Program.

Logging In

The default password is "password" (lower case). Simply enter it and press return.

Quick Set-Up™

Now return to the Utility Menu and Select Quick Set-Up. Follow the instructions for Quick Set-Up.

```
   V S R   240                    Date : 07/08/91
Quick-Setup Program               Time : 03:46:55

First we will identify your Company with the Basics

   Name          : ABC COMPANY, INC.
   Address 1     : 500 E. 1ST ST.
   Address 2     : SUITE 500C
   City          : SACRAMENTO
   State         : CA
   Zipcode       : 96591-99912
   Phone         : (916)555-1313

      F9=Exit Install          F10=Continue

      Copyright (c)1991  VSR, Inc.
```

The VSR 200 Series software is already installed but it needs to be configured for your telephone system's needs. Quick Set-Up, which is run from the utilities menu in the External Maintenance Program, is designed to make installation quick and easy. It makes the assumption that most installations require minimal changes in configuration and therefore establishes many default settings in advance.

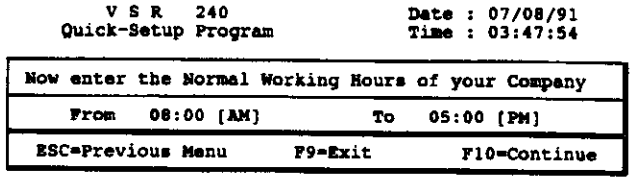
CAUTION - This program establishes Extensions, Mailboxes, and Defaults. In addition it sets up voice mailbox directories and control files. Once you have com-pleted this program, running it again will remove all the files and structures you have built. If you wish to add mailboxes, extensions, or change defaults after you have run Quick Set-Up, use the External Maintenance program. If you think you have made a mistake in the way you ran Quick Set-Up the first time, then you may run it again. The system will warn you if it has been previously run.

Configuration

The Quick Set-Up program uses a series of questions to configure your system. After you complete each screen, press F10 to continue. The following are screens and questions that you'll need to answer.

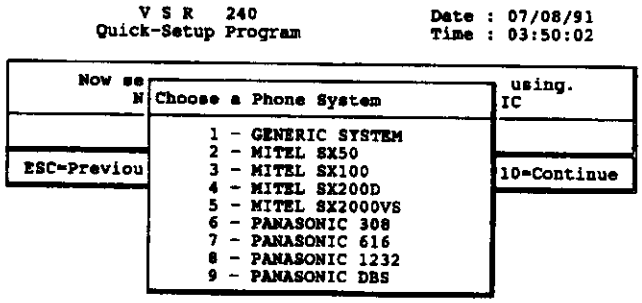
Company Information: Enter your company's name, address, and phone number on this screen.

Working Hours: Enter your working hours (see time settings), in standard time.



Phone System

Press F2 to see a list of the pre-defined phone systems. If yours is not listed, select generic and continue. Note: If you have selected generic, you may have to use the phone system editor to make changes which meet your telephone system's requirements.

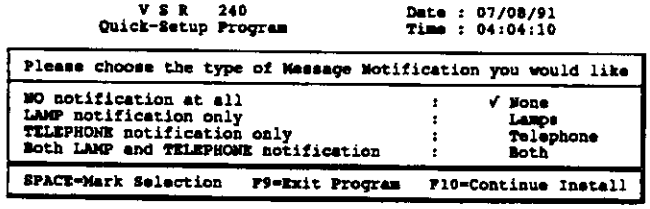


Notification

There are two types of Notification:

1. Message Waiting Lamps
2. Telephone Notification.

If you have message waiting lamps on all your phones, then select lamps only. If you have no lamps and you wish to be notified of messages by telephone, whether by pager or directly to your extension or outside telephone number, select telephone. If you have lamps and require telephone notification then select both. To select one of these press the down arrow key to highlight your choice and press the [ENTER] key to activate the CHECK "√".



Message Waiting Lamps

If you selected either lamps or both, enter the feature codes which SET or CLEAR message waiting lamps. An example of this might be "*10" to set lamps and "*11" which will CLEAR them. This field will accept up to 10 digits of any character *(see phone system editor for more information).* If you selected a system other than generic, the codes will be displayed.

```
   V S R   240                    Date : 07/08/91
Quick-Setup Program               Time : 04:04:10

Please choose the type of Message Notification you would like

NO notification at all                :        None
LAMP notification only                :   √    Lamps
TELEPHONE notification only           :        Telephone
Both LAMP and TELEPHONE notification  :        Both

SPACE=Mark Selection   F9=Exit Program   F10=Continue Install
```

Password Size

The password can be from three to six digits. The default size is "4".

```
   V S R   240                    Date : 07/08/91
Quick-Setup Program               Time : 04:09:31

How many characters long should a Password be?

                        4

ESC=Previous Menu   F9=Exit   F10=Continue Install
```

Number of Rings Before a No Answer

Enter the number of times you wish the system to ring an extension before it determines that there is no answer. Usually "4" rings gives sufficient time for the called party to answer.

```
   V S R   240                    Date : 07/08/91
Quick-Setup Program               Time : 04:13:30

Enter the Number of Times you wish the System to ring
an extension before it determines where is no answer.

                        4

ESC=Previous Menu    F9=Exit    F10=Continue Install
```

Number of Digits Extension\ Mailbox

Enter the size of your extension and mailbox numbers. The extension numbers can be a different size from the mailbox number, but to avoid confusion enter the same size for both. *Note: the system does not except an extension series which has different sizes, such as 100's and 2000's. The size range is from 2 to 6 digits.*

```
   V S R   240                    Date : 07/08/91
Quick-Setup Program               Time : 04:20:18

Choose the number of digits you require for both
Extensions and Mailboxes. Range is 3 to 6 digits.

     Number of digits in Extension   :   3
     Number of digits in Mailbox     :   3

ESC=Previous Menu      F9=Exit      F10=Continue
```

Create Extensions

Enter the starting and ending number in your extension number series. This step will NOT create the extensions so don't be concerned with unwanted extensions. Do not include "0" as the "0", (Operator) will be included automatically.

```
   V S R   240                          Date : 07/08/91
Quick-Setup Program                     Time : 04:21:17

+-----------------------------------------------------+
| Enter the Range of Extensions to Create.            |
|                                                     |
|     Starting Extension  :   100                     |
|     Ending Extension    :   120                     |
|                                                     |
| ESC=Exit      F9=Exit      F10=Continue             |
+-----------------------------------------------------+
```

Remove Unwanted Extensions

You may remove an extension by moving the cursor to that extension and pressing the space bar. The CHECK "√" will be removed. You may press the space bar again to re-mark the extension if you make a mistake.

```
   V S R   240                          Date : 07/08/91
Quick-Setup Program                     Time : 04:29:07

+-----------------------------------------------------+
| From the list shown, please UNMARK the Extension    |
| Numbers I SHOULD NOT Make.                          |
|                                                     |
| √  100  √  101  √  102  √  103  √  104              |
| √  105  √  106  √  107  √  108  √  109              |
| √  110  √  111  √  112  √  113  √  114              |
| √  115  √  116  √  117  √  118  √  119              |
| √  120                                              |
|                                                     |
|   ESC=Previous      F9=Exit      F10=Continue       |
+-----------------------------------------------------+
```

Remove Mailboxes

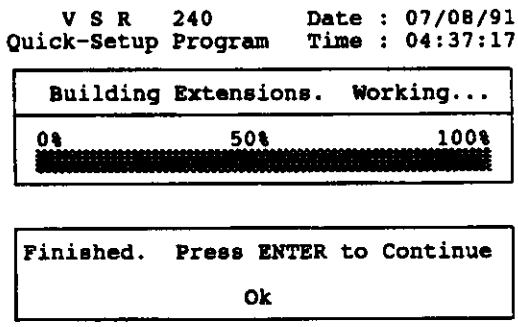
This list represents all valid extensions which you previously created. Remove the CHECK from any extensions which do not have associated mailboxes. For instance, the conference room, warehouse, or a second extension in the same office. *Note: If you wish to ADD mailboxes which don't have extensions then you must do so using the mailbox editor.*

```
   V S R   240                          Date : 07/08/91
Quick-Setup Program                     Time : 04:33:24

+-----------------------------------------------------+
| This list represents Extensions to be made. Remove the |
| check from Extensions that should have NO Mailbox.  |
|                                                     |
| √  100  √  101  √  102  √  103  √  104              |
| √  105  √  106  √  107  √  108  √  109              |
| √  114  √  115  √  116  √  117  √  118              |
| √  119  √  120                                      |
|                                                     |
| ESC=Previous Menu   F9=Exit   F10=Continue Install  |
+-----------------------------------------------------+
```

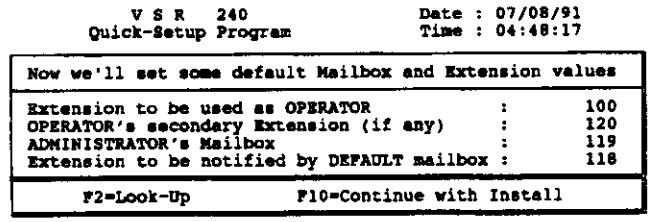
Building Extensions and Mailboxes

Quick Set-Up will now build the extensions and mailboxes and display its progress. From this point on you can only go forward in the program.



Default Values

Now that you have created extensions and mailboxes you need to complete this one last screen. All fields in this sections are lookup fields for your convenience.



Operator

Enter the extension to be used as operator. "0" is used in most cases. *(See setting up operator)*

Operator Secondary Extension

Enter a secondary extension for the operator. This is only if you have two people covering as operator. This is not a required field.
Note: You cannot use the operator's extension as a secondary extension.

Administrator Mailbox

Designate one user as the administrator. This person will have system error messages deposited to their mailbox as well as access to all mailboxes for extension & mailbox setting changes. (The designated administrator does not have access to the user's messages nor can they set or listen to the password.)

Default Mailbox Notification

The default mailbox is either 10, 100, 1000, 10000, or 100000 depending on the mailbox size. This will be used as a general mailbox where messages "without a home" can be directed. The general mailbox should notify some extension that it has a message. Designate that extension in this field.

Completing Configuration

What have you got?

You are done running Quick Set-Up and all extensions and mailboxes have been defined, but there is one more step in the configuration: Assigning names to the extensions. If the system were placed on line at this time you would have a full auto-attendant and voice mail system; however, the extension directory requires a name to be assigned to the extension. *Note: The extension directory also requires an associated mailbox and that a user record their mailbox name.*

Assigning Extension Names

1. Choose extension from the editors menu. From the locate mode press F2 to see a list of all the extensions you created using Quick Set-Up. Select each one, enter the name, last name first and press F10 to save. This name will be used for the extension directory. When you have finished with all the names use the copy names feature "F8" to copy all the extension names to their respective mailboxes.

Programming the phone system to transfer calls correctly to the VSR system is essential for proper installation.

Connecting to Your Telephone System

Cabling

The VSR 220 (two channel) requires ONE RJ14 jack and the VSR 240 (four channels) requires Two RJ14 jacks to connect to the telephone system. Each line must be connected to a single line or analog port at the telephone System. Use 4 conductor line cords in both cases to connect the jack to the modular connections in the rear of the VSR system. If you have the VSR 220 system there is only one jack and channels 1 & 2 are combined on that jack. The VSR 240 has two jacks when looking at the back of the system, channels 1 and 2 are on the right side and 3 and 4 are on the left.

Programming Phone System

- Assign extension numbers for access to voice mail by system users.
- Program phone system day, night, and holiday modes to match VSR system programming.
- If using automated attendant you must program C.O. lines to ring all incoming calls to the analog extensions that the VSR system is connected to. Delayed ringing or hunt group sequences must be assigned in order for the system to function correctly.
- If connecting voice mail only a delayed ringing or hunt group sequence needs to be set up for the analog extensions that the VSR system is connected to.

If you have problems getting the VSR system to function properly, double check the phone system connections and programming.

Testing Installation

After you have gone through Quick Set-Up, programmed and connected the phone system you need to run a few tests to make sure system is functioning correctly.

The first thing to do is turn the VSR system off. This will reboot system and initialize programming. When the system comes back on it will automatically bring the VSR program on-line.

If all channels come up with waiting for call you are ready to perform a few tests. It is important to note the results of each test.

Transferring a Call

When a telephone system rings another extension, it lets you know that the phone is ringing. This is called ringback. There are different ring cadences based on the status of the line and your particular phone system. Within the external maintenance phone system editor we have taken the time to include several predefined phone systems. These definitions would include the tone table which includes the ring cadences and dialing and feature prefixes. If your system is defined and you have trouble running the VSR 200 software with your telephone system, then the first thing is to determine what seems to be the problem.

Transfer Test with the VSR 200 System

The VSR 200 system is an extension like any other extension in the telephone system. If your telephone system does not permit "inter-extension transfer" or intercom transfer then make all calls into the VSR 200 system by using an outside line and calling back through your operator.

Connect

When the VSR system answers, dial another extension. You will be asked to "Please Hold". The dialed extension should ring. Pick-up that extension, say hello, and you should be connected. If you are not connected then proceed to the "Transfer Test WITHOUT the VSR system".

Ring - No Answer

If you were able to Connect, now in the same manner (by calling outside) dial that extension but do not answer the call. The extension should only ring four times (if you selected four rings in Quick Set-Up), then the VSR system should prompt "That extension does not answer" press "2" to leave a message (if there is an associated mailbox), "3" to dial another extension, or "0" to go to the Operator. If this failed, proceed to "Transfer Test WITHOUT VSR 200 system".

Busy

If the first two steps were successful try again only this time take the extension you are going to call off the hook. The VSR system prompt you "That extension is busy" and give you other options. If this was successful select the option to hold. Listen to the instructions carefully. You should be "First in Line". Now hang up the extension you called. The VSR system will ring that extension again. Pick it up and wait for a connect. If this test failed, proceed to "Transfer Test WITHOUT the VSR 200 system".

Transfer Test Without the VSR 200 System

If any one of these tests above failed, then the VSR system may need any one of the following:

1. Phone system feature codes may need to be modified.
2. Timing (Flash, DTMF, Pause) may have to be adjusted.
3. Accucall may have to be run to recognize the tones used in your system.

Before we make any modifications however, we need to make more tests using a single line telephone in place of the VSR system.

Disconnect the line cord from channel 1 and 2 on the VSR system and connect it to a single line phone.

Connect

From another phone, call using an outside line as you did in the tests above. Have the operator transfer you to the VSR extension number. Answer the single line phone and confirm that you have a connection. Press the hook-switch down on the single line phone and then release it. This is called a Hook Flash. Your system will usually give you re-order tone then dial tone. What you have done is put the first caller on hold and retrieve a new line on which to dial out. Dial another extension, answer it and confirm connection between the single line phone and the second phone. Hang-up the single line phone. The first extension you called should be connected to the second caller now. Please confirm this. We have just completed a transfer using a single line phone to represent what the VSR system does and we did it by using one hook flash. If this test works then most likely the next step would be to run the Accucall program to make sure that the tone table is detecting the ringing properly. *(See Technical Section)*

Busy

What if the second phone is busy? How do we go back to the first caller and tell them the line is busy? Perform the same example above only this time take the second phone off the hook. After you have dialed the second phone and heard the busy tone then perform another hook flash. You should be reconnected to the first caller. If you are not connected and the first caller is still on hold then try it again and this time try one hook flash, a pause, and a second hook flash. If the second hook flash worked then you must modify the phone system file using the phone system editor by adding an ampersand "&" (hook flash) followed by a "," (Pause) to the "Abort a Busy" and "Abort a No Answer" and the "Reject a Caller" fields.

Transfer Start	"&,"
Abort a Busy	"&,"
Abort a Transfer	"&,"
Reject a Caller	"&,"

If a second hook flash does not work, then you may have to insert required feature codes to start the transfer and/or abort the call. You may also have to run the Accucall program *(See Technical Section)* with which our technical support team will be glad to assist.

In-Band Signaling

Overview

Consider the following scenario. A call is placed to an extension which is busy. The extension is call forwarded on busy to the VSR 200 system. Before the caller is connected, a series of DTMF tones are sent to VSR such as: ***1123. Then the caller is connected. This is known as in-band signaling.

The VSR 200 series in-band software traps the information that is sent by the phone system, and routes the caller to a programmable location within VSR. Call forwarding is just one feature in this new software. With in-band signaling, integration with compatible phone systems becomes a reality.

Requirements

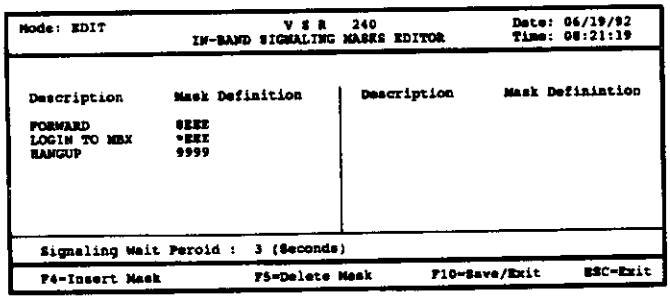
A VSR 200 system with in-band software version 2.1 or later.
A Phone system that will send DTMF digits to an analog port during any of following conditions:

1. Station call forwarded
2. Message waiting lamp depressed
3. Disconnect
4. Intercom or C.O. calls

Programming

The purpose of this documentation is to assist you in the programming the VSR system for integration. Please note, It is not within the scope of this document to explain the procedures of phone system programming.

Programming the VSR system to recognize in-band signals is a two stage process. First the mask editor is used to define each format of DTMF strings that VSR is going to receive. The mask editor is located in external maintenance under UITLITIES/LOW-LEVEL. The following example is actual data from an ONYX VS phone system.



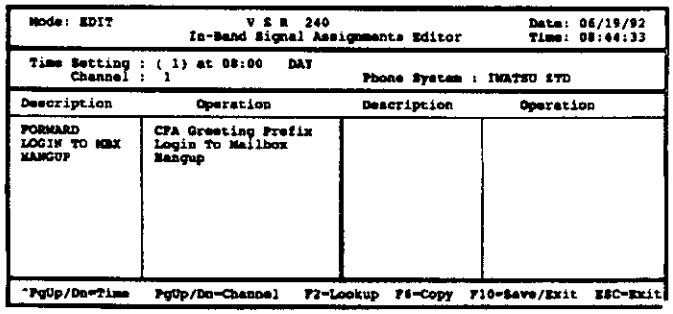
First enter the description, then enter the in-band mask. Valid mask characters are *,#,0-9, abcd. Also, to identify a digit belonging to an extension enter "E", to ignore a digit enter "I".

Example

INTERCOM	***1EEE	<—	The phone system will send "***1123" when a call is made from an extension to VSR. The "EEE" means extension.
MSG KEY	*EEE	<—	The phone system will send "*123" when a user presses his/her message waiting lamp.
FWD ALL	***3IIIEEE	<—	When all calls are forwarded, the phone system will send "***124123". The "124" is the calling parties extension, and "123" is the forwarded station.
FWD BUSY	***4IIIEEE	<—	The phone system uses the same mask as FWD ALL, but prefaces the extensions with the digit 4, which means the caller is on the phone.
FWD NO ANS		<—	Same as FWD ALL, and FWD BUSY. The digit "5" is sent for a call forward no answer.
CO CALL	***6TTT	<—	The phone system will send this series of DTMF tones when a C.O. call rings voice mail.
HANGUP	9999	<—	The phone system will send 9999 when a caller hangs up.

The signaling wait field defines the number of seconds the VSR system waits for in-band signals. The default wait period is 1 second, which will disable the in-band functions within VSR. Match the signaling wait period to your particular phone system.

The signal editor imports the description's from the mask editor and lets the user assign the operation of the related mask. For each mask, there are eight different functions. Also, the signal editor allows the assignment of an operation based on a specific channel, or time setting.



Please Note: Within the signal editor, settings can be programmed by channel and/or time. Special attention is needed when entering the operations. The screen that appears when a user first enters the editor contains the settings for channel one and time setting one. The remainder of the channels and time settings must also be filled for VSR to work properly. We recommend that you use the COPY function to COPY ALL TIMES and ALL CHANNELS before exiting this editor. If a specific application based on time or channel number is needed, then edit the appropriate screen using the PAGE UP/DOWN keys to change channels and CTRL PAGE UP/DOWN keys to change time settings.

Voice Mail

User hears "Please enter the mailbox number..." . This is typically used as for accessing voice mail through an intercom call.

Log Into Mailbox

User hears "Please Enter your Password". This function allows direct log in the users mailbox.

CFB Greeting Prefix

User hears "John Doe is on the phone ...." and gives the caller the option to leave a message, try another extension, or transfer to the operator.

CFA Greeting Prefix

User hears John Doe's Greeting and is prompted to leave a message. CFA stands for call forward calls.

CFNA Greeting Prefix

User hears " John Doe does not answer". The caller is prompted with the same options as CFB Greeting Prefix. CFNA stands for call forward no answer.

Menu

User Logs into a specific Menu. Typically for CO calls.

Hang-Up

When the phone system hangs up on a caller, it will send 9999 (on the ONYX) to free the voice mail port immediately.

Examples

The following are examples on how In-band signaling is used to interface with a generic phone system.

1. When a station is set to call forward RNA it will call voice mail, pause, and send this string of digits: "*6217"

   If we break this string down it will read like this.

Characters Not Used	Extension Number
*6	217

   The Mask Editor would contain the following line:

Description	Mask
Call Forward RNA	I6EEE

   The Signal Editor would contain the following line:

Description	Operation
Call Forward RNA	CFNA Greeting Prefix

2. A station is programmed to log directly into the mailbox when the message waiting lamp is pressed. The phone system sends the string "#5125".

Characters Not Used	Extension Number
#5	125

   The Mask Editor would contain the following line:

Description	Mask
Message Waiting Lamp	#IEEE

   The Signal Editor would contain the following line:

Description	Operation
Message Waiting Lamp	Log in to Mailbox

Special Considerations

1. Set extensions to transfer type BLIND.
2. Disable holding and screening in the system defaults editor.
3. In-band signaling can be disabled by setting signaling wait period to 1.

With in-band signaling disabled, the VSR system will not wait for a string of DTMF digits to be sent before a caller is connected.

Toshiba™ Interface

The following is information which can assist you in the installation of a VSR system and a Toshibar Strata DK series telephone system. The Toshiba software must be upgraded to Release 2 or 3, and the VSR software must be 2.1 or above (software upgrade free of charge through VSR).

Toshiba Hardware Requirements

Depending on Configuration
(1) PSTU - 8 Single Line Circuits and/or
(1) PESU - 2 Single Line Circuits
(1) CRCU-4/8 - 4 or 8 Circuit Receiver Card (Mounts on PCTU)
and either
(1) PCTU2 - (Version W or Higher) or
(1) PCTU3 - (Any Version)

Toshiba Program Requirements

Program
10-2 Button 02 —> Turn On - Refer to manual description
10-2 Button 04 —> Turn On - V/M will control lamp
10-2 Button 06 —> Turn On - 80 ms DTMF Required
10-2 Button 11 —> Optional - Echoes DTMF to caller
12-3 Make pause time 1.5 seconds
12-5 Leave Default
12-9 Leave Default
13 Message center can still be port 00's extension
15-0 Release 3 only —> Turn on for all CO lines.
Sends "D" tone on disconnect.
16 Make sure V/M can dial access CO lines for External Notification
31 Button 04 —> Applies to S/L ports used for V/M A/A
On = Analysis (Supervised) Transfer
Off = Blind Transfer
31 Button 05 —> Turn On for each S/L ports used for V/M A/A
31 Button 09 —> Turn On for each S/L ports used for V/M A/A
31 Button 15 —> Turn On for each S/L ports used for V/M A/A
Allows D Tone
31 Button 16 —> Turn On for each S/L ports used for V/M A/A
Sends Mailbox ID
31 Button 17 —> Turn On for each S/L ports used for V/M A/A
Allows DTMF Always
33 Put S/L ports used for V/M in a circular hunt.
35 Button 02 —> Turn On for all EKT Ports to Have MSG Lamps
35 Button 04 —> Turn On for all EKT Ports to Receive Lamp Notification.
37 Make Recall Timer Longer than "number of rings before no answer" time in the VSR System for S/L V/M A/A ports.
40 Give CO access to all lines to all S/L V/M A/A ports.

VSR's In-Band Mask & Signal Editor

Example

Call Forward: 8EEE
Mailbox Log in: 8EEE5
Hang-up: d

Signal Editor
Call Forward: CFNA Greeting Prefix
Mailbox Log in: Log in to Mailbox
Hang-up: Hang-up

Note: For a comprehensive look at the capabilities of in-band signaling please see the VSR's preliminary in-band signaling documentation. New VSR reference manuals will contain that document in the front of the manual.

Phone System Editor

The phone system editor contains information that the Strata DK series needs for transferring calls. The information contained within the editor should not be changed, unless some modification is needed. Some of the fields that are important to the integration of VSR and the Strata systems are discussed below:

The "Tone Table" field must contain the name of the file that holds the frequency and cadence information for each tone. The file for the DK56 is STRADK56 and the DK 96 is STRADK96.

The "Transfer Start" field contains the hook flash character "&". This is the default hook flash character and should not be changed.

VSR can light message waiting lamps to notify users of any new messages. The following are the code the phone system needs.

Set Message Waiting Lamp: 63
Clear Message Waiting Lamp: 64

Add "1" in the "After Dialing" field when using "Voice First" from EKT'S Program 10-1 Button 01

Caution: If you are installing an auto attendant BE CAREFUL to DISALLOW LONG DISTANCE DIALING or ACCESS TO ANOTHER CARRIER (i.e. 10288) on S/L V/M A/A ports. Please be advised that long distance fraud can happen through auto/attendant - voice mail systems as well as through the telephone system itself.

Using Voice Mail Only

If your application does not require an auto-attendant and the operator will be answering the calls and transferring to the extension, then program the telephones according to call forwarding below. Any transferred call or internal call will be forwarded directly to a V/M box when using CFB/NA and DND together.

Call Forwarding

All types will work. We recommend that you use CFB/NA for coverage when on the phone or away. Call forward each phone with voice mail to the first S/L port into the VSR system. Program the V/M ID code under intercom 656 as follows: Access intercom and dial "656", "pause" (MW/FL Key), "8" for V/M, "3 digit extension" (mailbox number), and then "# RDL" to save. The user can forward or remove forwarding at their phone without affecting what is stored here.

Message Waiting Lamps

Each EKT MW/FL (MSG) button can be programmed to automatically access its mailbox and request the password when the MW/FL (MSG) button is pressed, providing a V/M port set the lamp. If another extension set the lamp the user will be directed to that extension. To program this feature access intercom and dial "657", "pause" (MW/FL Key), "8" for V/M, "3 digit extension" (mailbox number), and then "# RDL" to save. This feature requires in-band signaling.

Disconnect (D-Tone)

The DK system is designed to send a disconnect tone to the V/M A/A S/L port when a caller has hung up. By defining D-Tone as a hang-up signal in the VSR In-Band Mask & Signal Editor the VSR can hang-up quickly after disconnect. Toshiba's Release 2 software (on the PCTU) sends D-tone to the V/M ports only on internal calls. Release 3 software can send D-tone on external (CO) as well as internal calls.

Note: The DK system only sends D-Tone on CO calls that have been disconnected by the Central Office which supplies "Tip-Open" as a disconnect signal. The DK will NOT recognize LOOP CURRENT REVERSAL (LCR) as a disconnect signal. With "LCR" the VSR system will have to "time out" before resetting its channel to "Waiting for Call", i.e. DMS-100 CO's provide loop current reversal on loop start lines.

Tone Detection

The VSR system detects ringing, busy, and other tones using the Rhetorex voice board. In VSR's Quick Set-Up program when you select a Toshiba DK 96 telephone system you automatically select a pre- configured tone table. This tone table is created using the Rhetorex's Accucall program and contains particular information for each tone. Listed below are the two tones saved in the DK96 tone table. Tones sometimes vary with the system, proper grounding, load, and distance from the KSU. This may cause faulty detection such as a connect when the phone actually did not answer. If it becomes necessary to change this table, please reference page '89' and "112" in the VSR Reference Manual. *VSR Technical Support would also be happy to assist you.*

STRATA DK 96 RING	STRATA DK 96 BUSY
Type: Ring 1	Type: Busy 1
Frequency 1: 400bz	Frequency 1: 400hz
Frequency 2: 480hz	Frequency 2: None
PCPM Code: 8	PCPM Code: 7
Quick Count: None	Quick Count: None
On Time: 1008ms	On Time: 272ms
Off Time: 2896ms	Off Time: 208ms

The VSR system has the capability of forwarding a mailbox to an outside number. This number can be controlled by the mailbox user, who could be potentially a "Voice Mail Hacker". There are two ways to protect against this situation.

1. You may disable this feature by using the Defaults System Editor and setting Outside Forwarding to "No".
2. You may toll restrict the S/L V/M A/A ports.

Panasonic® KXT Series Integration

Panasonic KXT Systems: KTX1232 Kxt616 Kxt308

Overview: The panasonic KXT series was the phone system that VSR grew from. The KXT phone systems are a simple key system interface. The VSR system monitors the tones of the system to determine the progress of a transfer. No in-band signaling is used. With some simple phone system programming, VSR will function correctly.

Software Revision Level

When running the Quick Set-Up program, select the appropriate Panasonic System.

Hunt Group Programming

If using the automated attendant, program VSR's extensions to ring (Fill in hunt group programming in the Technical Support Manual)

Call Transfering

The Panasonic phone systems do not use in-band integration VSR must rely on the tones of the phone system. The Panasonic provides 3 distinct tones to tell the progress of a call. Ringback, busy and re-order tone provide a means of telling VSR if the caller is on the phone or not.

Reorder tone is used when a caller hangs up on the system. If a caller disconnects without pressing 9, reorder tone is sent to VSR telling it to cycle out the call.

AT&T Merlin Legend™

The following is information which can assist you in the installation of the VSR 200 series teleprocessing systems and the AT&T Merlin Legend phone system.

Overview: The AT&T Merlin Legend and VSR communicate by using in-band signaling. The phone system informs VSR on the status of each call to determine what to do with the caller. VSR will transfer calls, and if the caller is not available, VSR will route the caller to the appropriate mailbox. After a message is left VSR can be configured to light message waiting lamps, notify beepers, call the users extension, or outside number.

AT&T Hardware Requirements

1 Analog 012 Card:
AT&T Part No: 61487
Provides 12 Analog circuits

1 400 Card:
AT&T Part No: 61483
Provides Internal DTMF

1 Ring Generator:
AT&T Part No: 61388A
Provides Ring Current

AT&T Programming Requirements

Program the Merlin Legend call groups for integrated voice mail. This will enable in-band signaling packets.

Transferring with the Auto-Attendant

If you are going to be using VSR to transfer calls, all extensions must be programmed to use the transfer type: BLIND. Blind transfers allow a quick transfer to the extension and free up the VSR channel immediately. When using blind transferring the extensions must be setup to call forward on a no answer or busy, back to VSR. If the user wishes not to be disturbed, then they should set the station to call forward immediate.

VSR's In-Band Mask and Signal Editors

Program the following for use with BLIND transferring. When a call is placed to VSR, the Legend will send packets of information that we must process. The mask editor defines the format of the information that VSR will receive. For a comprehensive look at the capabilities of in-band signaling, please see the VSR preliminary in-band signaling documentation. New VSR reference manuals will contain the document in the front of the manual.

In-Band Signaling Mask Editor with AT&T Merlin Legend Information

The signal editor takes the defined masks, and assigns a corresponding operation. Please note, the following is only a suggestion of how to use the available operations.

In-Band Signal Editor with AT&T Merlin Legend Information

Please Note: Within the signal editor, settings can be programmed by channel and/or time. Special attention is needed when entering the operations. The screen that appears when a user first enters the editor contains the settings for channel one and time setting one. The remainder of the channels and time settings must also be filled for VSR to work properly.

We recommend that you use the COPY function to COPY ALL TIMES and ALL CHANNELS before exiting this editor. If a specific application based on time or channel number is needed, then edit the appropriate screen using the PAGE UP/DOWN keys to change channels and CTRL PAGE UP/DOWN keys to change Time Settings.

With the following information programmed, the phone system will forward a call directly into the appropriate mailbox. If you wish to give the caller the option of leaving a message or trying another extension, use the operation "CFNA Greeting Prefix" instead of "CFA Greeting Prefix".

The Phone System Editor

The phone system editor contains information that the AT&T Merlin Legend needs for transferring calls. The information contained within this editor should not be changed, unless some custom modification is needed for transferring.

The Phone System Editor Contains Setting for AT&T Merlin Legend

Although, the Legend uses blind transferring, the phone system editor still requires a valid tone table in the "Tone Table" field. Use the tone table "GENERIC" when integrating with this phone system.

STC Prostar™

Overview: The STC Prostar telephone system is a simple key system designed for the small office. The VSR automated attendant/voice mail systems interface with the telephone system by using call progress tones to analyze the status of a transfer. Because the phone system is limited in its functionality, In-Band signaling is not supported on this phone system VSR was successfully installed on KSU version 5 and KTS version 3.

STC Programming

Program the STC Prostar to use analog ports for each VSR port needed. The STC Prostar ports can be either digital or analog. If camp can be disabled, VSR's automated attendant functions can inform the caller that the station is busy, and ask if he/she would like to hold.

Editing the Command Line

If you are going to use VSR's automated attendant to transfer calls with the STC Prostar, the command to start the system must be modified. When the VSR system transfers a call, it does a hook flash to put the caller on hold, and then it starts to look for steady dial tone. Because the STC Prostar does not produce dial tone after a hook flash, we must disable the detection.

1. Shut down the VSR on-line program and return to the C:\VSR>" prompt.
2. Type Edlin V.Bat and press return
3. Type: 3 and press return
4. Type the F3 key and press return
5. Enter the word NOTONE at the end of the line and press return.
6. Type: E and press return.

The command to start the system is now modified to not look for a steady dial tone after doing a hook flash. *Please Note: If you are installing VSR on a STC Prostar this procedure must be performed. VSR does not pre-configure this command for you.*

Tone Detection

The VSR system detects ringing, busy, and other tones using the Rhetorex Voice Board. In VSR's Quick Set-Up program, select the STC PROSTAR entry, and you automatically select a pre-configured tone table. This tone table is created using Rhetorex's Accucall program See Appendix 2 in the Reference Manual for details on Accucall.

Listed bellow are the tones VSR uses with the STC Prostar:

Prostar Ring		Prostar Busy	
Type:	Ring 1	Type:	Busy 1
Frequency 1:	411 Hz	Frequency1:	411 Hz
Frequency 2:	None	Frequency2:	None
PCPM Code:	8	PCPM Code:	7
Quick Count:	None	Quick Code:	None
On Time:	960 ms	On Time:	192 ms
Off Time:	1824 ms	Off Time:	176 ms

Prostar Error

Type:	Busy 1
Frequency 1:	411 Hz
Frequency 2:	None
PCPM Code:	7
On Time:	496 ms
Off Time:	432 ms
Terminating:	YES

Disconnecting From VSR

The STC Prostar telephone system is designed to send VSR an error tone upon disconnect. For VSR to cycle the channel properly when the caller hangs up, the STC Prostar error tone must be a valid entry in the file PROSTAR.TON. Because the error tone is used to recycle the channel, the "Terminating" field must be set to YES.

In-Band Mask & Signal Editors

The STC Prostar telephone system does not provide any form of call forwarding with in-band signaling. The VSR system must rely on the call progress tones to determine the status of the transfer. The mask and signal editors should contain no data, and the "Signaling Wait Period" must be set to 1 to disable in-band signaling.

Phone System Editor

The phone system editor contains information that the STC Prostar needs for transferring calls. The information contained within the editor should not be changed, unless some modification is needed. Some of the fields that are important to the interface of VSR and the STC Prostar are discussed below.

The "Tone Table" field must contain the name of the file that holds the frequency and cadence information for each tone. The file for STC Prostar is "PROSTAR".

The "Transfer Start" field contains the hook flash character "&". This is the default hook flash character and should not be changed.

VSR can light message waiting lamps to notify users of any new messages. The following are the codes the phone system needs.

Set Message Waiting Lamp: E,&,4
Clear Message Waiting Lamp: None

Premier ESP™

Telephone Equipment Needed

Single Line Ports
Ring Generator

Telephone System Software

Premier 1.3 Extended Software

Telephone System Programming for Inband Integration

Up to 15 voice mail/voice computer hunt groups can be programmed as voice mail stations.

Each voice computer hunt group can have its own "Dial Rule" which will send specific DTMF feedback tones when a call is placed to the voice mail system.

Set up the following voice computer groups and dial rules.

Voice Computer Group	Dial Rule	Description
6	"***1",1	User is Requested for a mailbox.
7	"***2",1	CO Call - Automated Attendant
8	"***3",4	Forward RNA calls to voice mail.
9	"***4",1	Log Directly into Mailbox.

Internal Calling

Program each station with a speed dial key containing the pilot extension number in voice computer group 6. This will allow the user to press a single key on the phone for voice mail.

Co Calls

Program the C.O. Lines you wish to route to the automated attendant to ring the pilot extension number in voice computer group 7. The caller will access the automated attendant.

Forward Calls

On each station, program the forward busy/ forward no answer extension number to the pilot extension in voice computer group 8. When an extension is busy or does not answer,the caller with be prompted with "User Name" and "does not answer press 2 to leave a message, 3 to try another extension or 0 to go to the operator.

Message Key

Program the alternate message source to be the pilot number ofthe voice computer group number 9. When a caller presses the lighted message waiting light, the VSR system will ask "Please enter your password".

Hang Up

Enable DTMF feedback tones on each VSR port. When a user hangs up, the Premier will send "**#" which notifies VSR to free up the channel.

VSR Programming

Enter the following information in external maintenance:

Mask Editor

Description	Mask	
Int Call	***1III	<— Voice Computer Group 6
CO Call	***2III	<— Voice Computer Group 7
FWD Call	***3EEE	<— Voice Computer Group 8
MSG Key*	***4EEE	<— Voice Computer Group 9
Hangup	**#	<— Station Programming

Signal Editor

Description	Function
Int Call	Voice Mail
CO Call	Menu (Day/Night)
FWD Call	Forward All Calls
MSG Key	Direct To Voice Mail
Hangup	Hangup

Affordable Voice Processing

A Better Value

At half the cost of comparable systems, the VSR 200 is the best value on the market today. It's a complete pre-programmed, turn-key system with voice mail, auto attendant, audio-text and call processing that can expand to meet a growing company's future needs.

Improves Communication

The VSR 200 will transform your existing phone system into a sophisticated voice processing system. Incoming calls will never go unanswered and callers will spend less time on hold – leaving a good impression. Office communications will be more efficient too; with the VSR 200's advanced features there's no need for memos, telephone message slips or time-consuming conversations.

Easy To Use

VSR voice processing systems are designed to be caller-friendly and easy to use. Callers and users are smoothly guided through each step by simple, built-in voice prompts. Programming the system is quick and easy, and with a little extra programming the VSR 200 can create custom applications. With a remote maintenance option and 12 month limited warranty, this is a worry free system that is simple to set up and effortless to use.

TOLL-FREE DEMO LINE
1-800-967-4VSR
(1-800-967-4877)

Voice Processing at Half the Cost

Now every business can enjoy the benefits of voice processing with VSR's state-of-the-art communication system at an affordable price.

- A complete turn-key system with pre-programmed software, CPU, 9" monitor, keyboard and Rhetorex™ voice card.
- Quick Set-Up™ program allows for installation in less than 30 minutes.
- Integrates with most major brands of PBX and key systems through single line interface.
- In-band signalling for custom integration.

Voice Mail Features

Simple mailbox activation.
Message retrieve, save, copy and delete.
Certified, priority and private messages.
Distribution lists.
Message waiting lamp notification.
Fast-forward/rewind, message skip.
Date and time stamping (auto/manual).
On/off site programming and recording.
Mailbox forwarding capability.
External notification.
Password security.
Offsite notification to pager, cellular or outside line.

Auto-Attendant Features

Transaction processing.
Flexible channel assignment.
Voice mail and extension directories.
Audiotext.
Easily constructed menu system.
Day/night and holiday modes.
Menu-prompt recording.

Call Processing Features

Caller holding/queuing.
Call screening.
Extension forwarding.
Secondary extension.
Definable primary/secondary operator.

Administrative Capabilities

Mailbox programming/notification.
Custom prompt recording.
Full maintenance and reporting.
Extension/mailbox creation and editing.
Remote programming.
Automatic disk optimization.
System back-up/restore.

Standard Configurations

Model No.	Ports	Hrs. of Storage
VSR-224	2	4
VSR-244	4	4
VSR 288	8	8

Systems are available in other configurations up to a maximum of 8 ports and 20 hours of voice storage.

Accessories

VSR W1	Wall mount kit for all VSR systems.
VSR RM	Remote programming software.
VSR MD	2400 BAUD modem.

System Specifications

Dimensions:	5.5" (H) x 3.6" (W) x 16" (D).
Weight:	10 lbs.
CPU's:	80286, 12 MHz clock speed. 80386, 20 MHz clock speed.
I/O Ports:	2 serial, 1 parallel.
Hard Drive:	Quantum™, 17 ms access time.
Voice Card:	Rhetorex™, RDSP-2108, RDSP-4108.
Approvals:	FCC, part 15, class B. No. FK34T65286TMN. FCC, part 68. No. 1A92PV-10975NME.
Telephone Interface:	RJ-14 Ringer Equivalence No. 03403B. C.O. line or single line extension.

Your authorized VSR dealer is:

VSR
VOICE SYSTEMS RESEARCH

3950 Industrial Blvd., Suite 400 C ■ West Sacramento, CA 95691 ■ (916) 920-3100 ■ Fax (916) 920-4530

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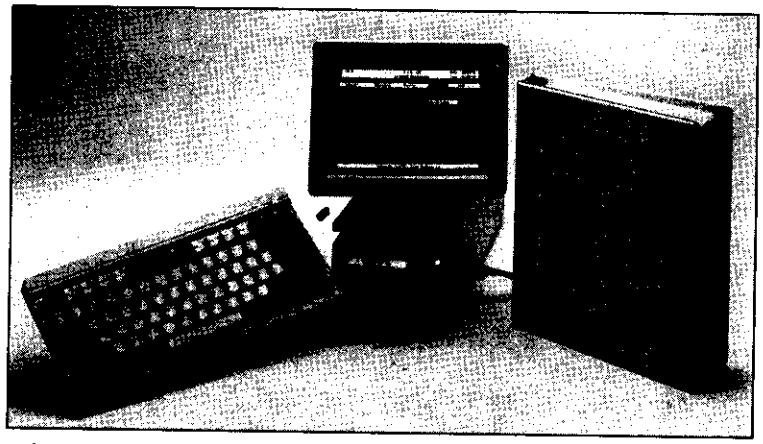
The Telecom Industry's Favorite Magazine
TELECONNECT

"CUTE MAIL" FROM VSR

THE VOICE-MAIL SYSTEM WITH A GREAT PERSONALITY

by Barbara Herman

You've heard techies throw around adjectives like "sexy" and "sleek" to describe otherwise inanimate products that you plug into the wall. Well, Voice Systems Research's (W Sacramento, CA) merry band of reps took a wholesome, folksy approach when describing their VSR 200 voice mail system. They call it "cute mail."



The VSR 200 Voice Mail System is a complete turnkey system that installs in about 30 minutes. Yes, we know, it's cute. But don't let its diminutive size fool you — the thing is feature-rich and very easy to use.

Before you roll your eyes or feign gagging, look at the photo. This thing **is** cute. Considering its diminutive size (it's about half the size of a computer), user friendliness, price and capabilities — "cute" is quite appropriate.

A turnkey product, the VSR 200 comes pre-configured and preprogrammed for easy installation and setup. Installation time for your average, non-lobotomized novice is 30 minutes. Systems come complete with CPU, two- or four-port line cards, high-speed hard-disk drive with over four hours of voice storage, nine-inch monitor, keyboard and VSR voice-processing software. It handles auto attendant, audiotex, voice mail and other call-processing tasks. It connects to Centrex, key or PBX systems through a single line extension or PBX interface.

To demonstrate how easy it is to install and use the VSR 200, Craig and Ron (the merry band) literally "installed" it in our office. They did a QuickSetup (10 minutes — mostly just filling in the obvious blanks stuff) which integrated the system with our phones, initialized a mailbox at my extension (two minutes), sent me goofy messages that I retrieved, and copied a message into my mailbox that Craig had previously sent Ron.

"There is nothing revolutionary about our voice-mail system," Ron told me matter-of-factly. "We don't pretend that there is."

"But," chimed in Craig, "what we do think is unique is that we are tapping into a consumer market that needs voice-mail systems that are feature-rich, easy to install, easy to use, inexpensive and backed by good service. Joe the baker does not need sophisticated IVR, so he certainly doesn't want to pay for it." Amen.

And I might add, Joe the baker also doesn't want a confusing piece of high-tech equipment he and his wife Elsa and their staff can't figure out. No problem.

Besides being easy from a administrative perspective — like I said, dealing with QuickSetup and the other configuration steps took about 30 minutes and most of that will be the dealer's responsibility — VSR has done a real nice job making the individual users' lives easy as well. I really had fun when I went through the steps of initializing my own mailbox, recording a greeting and picking up messages. The voice prompts made it all a piece of cake and so did the handy User's Guide that is about 12 pages of big print instructions and a glossary.

Craig and Ron stressed that you quickly get used to the system and eventually maneuver through everything with no help at all. I believe them. Considering all the things you can do (copy messages, transfer messages, broadcast, delete, save, change your greeting, etc.), it definitely won't take a rocket scientist to get the hang of this well-organized system. It really is simple.

The boys from VSR weren't lying. They kept their promise. It was easy to install and set up. It was easy to use. And it was — you guessed it — a cute little system. Retail pricing starts at $4,950. Voice Systems Research, 3950 Industrial Blvd., Ste. 400C, West Sacramento, CA 95691. 916-920-3100.©

VOICE SYSTEMS RESEARCH

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VSR 200 REFERENCE LIST

DEALERS

Access West
Sacramento, CA
(916) 371-7226
*Ray Ryan, ext. 115

Information Dynamics Corp.
Norcross, GA
(404) 449-5083
*Seth Downs

Quality Interconnect & Communications Corp
New York, NY
(212) 366-5000
*Sam Peryzer

END USERS

H.G. Brix
*Lisa Camaranno
(916) 646-9805

The Point
*Maureen Malloy
(916) 635-1005

P.O. Box 445 ■ West Sacramento, CA 95691 ■ (916) 920-3100 ■ Fax (916) 920-4530

SYSTEM WEIGHTS

2 Port, 4 Hour	**32 lbs.**
4 Port, 4 Hour up to 20 Hour	**33 lbs.**
4 Port, 4 Hour (386SX Cabinet)	**43 lbs.**
6 Port, 4 Hour up to 20 Hour	**43 lbs.**
8 Port, 4 Hour up to 20 Hour	**43 lbs.**
Wall Mount Kit	**13 lbs.**
Remote Maintenance Software Package	**2 lbs.**
Modem	**2 lbs.**

SPARE PARTS AND OUT OF WARRANTY PRICE LIST

Model #	Description		Price
VSR-PS	Replacement Power Supply for VSR 100/200 Series	$	80.00
VSR-DD	3.5" Disk Drive for VSR 100/200 Series	$	80.00
VSR-2PB	Replacement 2 Port Voice Card	$	850.00
VSR-4PB	Replacement 4 Port Voice Card	$	1,150.00
VSR-MM	Monochrome Monitor - 9"	$	200.00
VSR-VM	VGA Monitor - 9"	$	300.00
VSR-KB	Replacement Keyboard	$	80.00
VSR-HD	Replacement hard drive for standard 4 hours of voice storage	$	400.00
VSR-RPL	Replacement CPU platform for VSR 100/200	$	800.00

VSR ACCESSORIES & UPGRADES

Model	Description	Dealer Cost
VSR W1	Wall Mount Kit for all VSR Systems	$ 75.00
VSR RM	Remote Programming Software for Remote Maintenance	$ 150.00
VSR MD	2400 BAUD Modem	$ 175.00
VSR UG	25 VSR 100/200 Series User Guides	$ 25.00
VSR DS	250 VSR Data Sheets	$ 35.00
VSR-12U	Upgrade Kit for converting VSR 100 to VSR 200 - includes software and hard drive for 4 hours of voice storage	$ 1,000.00
VSR-24U	2 Port to 4 Port Upgrade Kit - increases systems available ports from 2 to 4	$ 1,500.00
VSR-26U	2 Port to 6 Port Upgrade Kit	$ 2,000.00
VSR-28U	2 Port to 8 Port Upgrade Kit	$ 3,000.00
VSR-46U	4 Port to 6 Port Upgrade Kit	$ 2,000.00
VSR-48U	4 Port to 8 Port Upgrade Kit	$ 2,500.00
VSR-68U	6 Port to 8 Port Upgrade Kit	$ 1,500.00
VSR-8HR	8 Hour Upgrade Kit - increases voice storage capacity to 8 hours	$ 650.00
VSR-12HR	12 Hour Upgrade Kit	$ 750.00
VSR-20HR	20 Hour Upgrade Kit	$ 1,000.00

Rebates are available to dealers who return unused voice cards, hard drives and CPU's to VSR. $175.00 for voice cards, $80.00 for hard drives, and $250.00 for CPU's.

VSR

VOICE SYSTEMS RESEARCH

Dealer Price List

All VSR systems are complete turn-key systems that are pre-programmed and pre-configured for easy installation.

VSR 100 Series

Flexible, automated attendant systems with five full-featured voice mail boxes.

Model	Description	Dealer Cost
VSR-120	2 Port, 1 Hour System	$ 2495.00
VSR-140	4 Port, 1 Hour System	$ 3395.00
VSR-160	6 Port, 1 Hour System	$ 3995.00
VSR-180	8 Port, 1 Hour System	$ 4495.00

VSR 200 Series

Full-featured voice processing system, complete with software, CPU, 9" monitor, keyboard, installation manual and user's guides.

STANDARD CONFIGURATIONS

Model	Description	Dealer Cost
VSR-224	2 Port, 4 Hour System	$ 2995.00
VSR-244	4 Port, 4 Hour System	$ 3995.00
VSR-288	8 Port, 8 Hour System	$ 5295.00

OTHER AVAILABLE CONFIGURATIONS

Model	Description	Dealer Cost
VSR-248	4 Port, 8 Hour System	$ 4295.00
VSR-264	6 Port, 4 Hour System	$ 4595.00
VSR-268	6 Port, 8 Hour System	$ 4795.00
VSR-284	8 Port, 4 Hour System	$ 4995.00

VSR Accessories

VSR W1	Wall Mount Kit for all VSR Systems	$ 75.00
VSR RM	Remote Programming Software for Remote Maintenance	$ 150.00
VSR MD	2400 BAUD Modem	$ 175.00

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VOICE SYSTEMS RESEARCH

VSR 200 TELEPHONE SYSTEM COMPATIBILITY GUIDE

MANUFACTURER	MODEL	INTEGRATED	COMPATIBLE
Alcatel	ITT 3100		▲
AT&T	Dimension		▲
	Horizon		▲
	Partner		▲
	System 25	▲	
	Legend	▲	
Fujitsu	Focus		▲
	Starlog	▲	
Harris	110		▲
	D400		▲
	D1000		▲
	D1200		▲
	20/20 v. 7.0	▲	
Intertel	GX 2456/32128	▲	
	GMX	▲	
Isoetec	96		▲
	Easy 108		▲
	Easy 228		▲
ITT	ECS 136		▲
Iwatsu	ADIX	▲	
	ZTD	▲	
Macrotel	MT80D	▲	
Mitel	SX50	▲	
	SX100	▲	
	SX200A/SX200D	▲	
	SX1000	▲	
	SX2000	▲	
NEC	16/48		▲
	Mark II	▲	
	NEAX 2400	▲	

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VOICE SYSTEMS RESEARCH

VSR 200 TELEPHONE SYSTEM COMPATIBILITY GUIDE
(continued)

MANUFACTURER	MODEL	INTEGRATED	COMPATIBLE
Nitsuko	Optima		▲
Northcom	Premier ESP	▲	
Northern Telecom	SL1		▲
Panasonic	308		▲
	DBS	▲	
	616		▲
	1232		▲
Rolm	CBX		▲
SRX	SRX	▲	
	System One	▲	
STC	Prostar		▲
Tadiran	Coral I/II/III		▲
	EX124		▲
Telrad	2464 v.02	▲	
	Symphony	▲	
TIE	Onyx	▲	
Toshiba	DK 24/56/96	▲	
	Perception	▲	
	6E		▲
	12E		▲
	20E		▲
Trillium	Panther		▲
Vodavi	Starplus		▲
	616		▲
	1224		▲
	2448		▲
	96ex	▲	
Walker/WIN			▲

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