Ascend

Multiband VSX

PN 7820-0300-002

Declarations

Part 15 Warning

Warning

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case, the user will be required to correct the interference at his own expense.

Warning

To users of digital apparatus in Canada:

THE DIGITAL APPARATUS DOES NOT EXCEED THE CLASS A LIMITS FOR RADIO NOISE EMISSIONS FROM DIGITAL APPARATUS SET OUT IN THE RADIO INTERFERENCE REGULATIONS OF THE CANADIAN DEPARTMENT OF COMMUNICATION.

LE PRESENT APPAREIL NUMBERIQUE N'EMET PAS DE BRUITS RADIO-ELECTRIQUES DEPASSANT LES LIMITES APPLICABLES AUX APPAREILS NUMERIQUES DE LA CLASSE A PRESCRITES DANS LE REGLEMENT SUR LE BROUILLAGE RADIOELECTRIQUE EDICTE PAR LE MINISTERE DES COMMUNICATIONS DU CANADA.

Customer Service

Customer Service

If you have questions about Ascend's VSX or desire assistance, contact Ascend Communications in one of the following ways:

- In the U.S., you can reach the Ascend Technical Assistance Center by telephone by dialing (800) ASCEND-4, that is (800) 272-3634. For the Ascend main office, dial (510) 769-6001.
- Outside the U.S., you can reach the Ascend Technical Assistance Center by telephone by dialing (510) 769-8027. For the Ascend main office, dial (510) 769-6001.
- You can send a facsimile transmission (FAX) to Ascend at (510) 814-2300.
- You can send electronic mail to Ascend at the Internet address:

  `Support@Ascend.com`

- You can send written communications through U.S. Mail to Ascend at this address:

  Ascend Communications, Inc.
  1275 Harbor Bay Parkway
  Alameda, CA 94502

Contents

Preface

Welcome to the Ascend Multiband VSX *Operations Guide*.

What We Cover in this Manual

This manual contains most of the information you need to install and configure your Multiband VSX, and use it to place and manage videoconference calls. It includes:

- Information about ordering your ISDN lines
- An overview of videoconferencing
- An overview of configuration information and a table in which you can record your configuration
- Instructions for installing and configuring your Multiband VSX
- An overview of the user interface
- Instructions for placing and managing videoconference calls
- Instructions for customizing the directory and implementing security on the Multiband VSX
- Guidelines for diagnosing and resolving problems

Instructions are included for using the Multiband VSX when it is connected to a desktop computer as well as a PalmTop Controller.

What We Don't Cover in this Manual

This manual assumes that you know how to use your computer and are familiar with your communications software. If you have questions about using either one, refer to the manual for the product.

This manual also assumes that your ISDN service provider or the service provider who installed your ISDN line can provide you with the information about your ISDN line that is required for configuring your Multiband VSX.

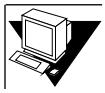
How to Use this Manual

This manual gives you background in the basics of the videoconferencing application, then takes you step-by-step through instructions for setting up the Multiband VSX, using it to place and manage videoconference calls, and diagnosing and resolving problems you could encounter.

If you want to...	See...
Get information about ordering ISDN lines	"Before You Begin: Ordering Your ISDN BRI Lines"
Get an overview of videoconferencing	Chapter 1, "Videoconferencing with the Multiband VSX"
Install and configure the Multiband VSX	Chapter 2, "Before You Connect Your Multiband VSX" Chapter 3, "Connecting Your Multiband VSX" Chapter 4, "Getting Your Multiband VSX Up and Running"
Learn about the user interface	Chapter 5, "User Interface"
Place a videoconference call	Chapter 7, "Placing and Clearing Calls"
Manage a videoconference call	Chapter 9, "Managing Videoconference Calls"
Customize the directory	Chapter 6, "Customizing the Directory"
Implement security	Chapter 8, "Implementing Security"
Use Advanced configuration parameters	Chapter 10, "Advanced Configuration"
Diagnose and resolve problems	Chapter 11, "Troubleshooting" Appendix C, "LEDs" Appendix D, "ISDN Cause Codes" Appendix E, "System Event Messages"
See the technical specifications for cable pinouts	Appendix A, "Cable Pinouts"
Upload new a new version of the system software	Appendix B, "Uploading System Software"

Conventions Used in this Manual

This manual uses the following conventions:



The computer icon indicates instructions for using the Multiband VSX while it is connected to a desktop computer.

The PalmTop Controller icon indicates instructions for using the Multiband VSX while it is connected to a PalmTop Controller.

variables — **Variables are indicated by brackets [ ].**

commands — **In instructions where you need to type a command, the syntax of the command is indicated by `courier` font.**

enter — **When you see the instruction, "press** enter**," enter is either the Enter key or the Return key, depending on your keyboard.**

Before You Begin: Ordering Your ISDN BRI Lines

If you have not already done so, you should order your ISDN lines. In North America, ISDN BRI lines are delivered off of an AT&T 5ESS or Northern Telecom DMS-100 switch. ISDN BRI is extremely flexible, offering many different types of services and, therefore, many configuration options.

The phone company will start by telling you what switch type you are connected to. Based on the switch type, photocopy the appropriate table below and fax or mail it to your ISDN service provider.

If Your Switch Type is AT&T 5ESS

Parameter	Value	Notes
Terminal Type	A	
Number of CSD	2	
Number of CSV	1	
Number of Call Appearances	1	
Display is Y/N	No	Note that the value of this field is not relevant for proper operation of the Ascend product.
Ringing/Idle Call Appearances	Idle	This value is the default for terminal type A.
Autohold is Y/N	No	This value is the default for terminal type A.
Onetouch is Y/N	No	This value is the default for terminal type A.

If your Switch Type is Northern Telecom DMS-100

Parameter	Value	Notes
Signalling	Functional	
Protocol Version Control (PVER)	1 or 2	A value of 1 is NTI custom. A value of 2 is National ISDN-1 (NI-1) and also requires a TID to be assigned as a suffix to a SPID.
TEI Assignment	Dynamic	
Maximum Number of Keys	3	Note that any number that is one greater will work.
Release Key is N or a Key Number	No	Note that the value of this field is not relevant for proper operation of the Ascend product.
Ringing Indicator is Y/N	No	Note that the value of this field is not relevant for proper operation of the Ascend product.
EKTS is Y/N	No	

1 Videoconferencing with the Multiband VSX

Welcome to the Multiband VSX *Operations Guide.* This chapter:

- Lists Multiband VSX features
- Provides an overview of videoconferencing
- Describes the advantages of using the Multiband VSX
- Provides an overview of call types available on the Multiband VSX
- Recommends AIM Calls for certain codecs

Multiband VSX Features

The Multiband VSX is Ascend's low-cost inverse multiplexer designed for videoconferencing. Its modular design comprises a base unit with one RJ45 connector, and an easy-to-install Upgrade Module that provides you three more RJ45 connectors for connecting to multiple ISDN BRI lines. You can order the unit with the Upgrade Module installed, or add it later as your requirements grow.

The Multiband VSX includes the following features:

- The modular design supports connection to up to four ISDN BRI lines
- It implements Ascend Inverse Multiplexing (AIM) as well as BONDING protocols
- It can manage or be managed by an Ascend unit at a remote site
- It is software upgradable to accommodate added features
- With the Upgrade Module installed, it operates at bandwidths up to 384 kbps

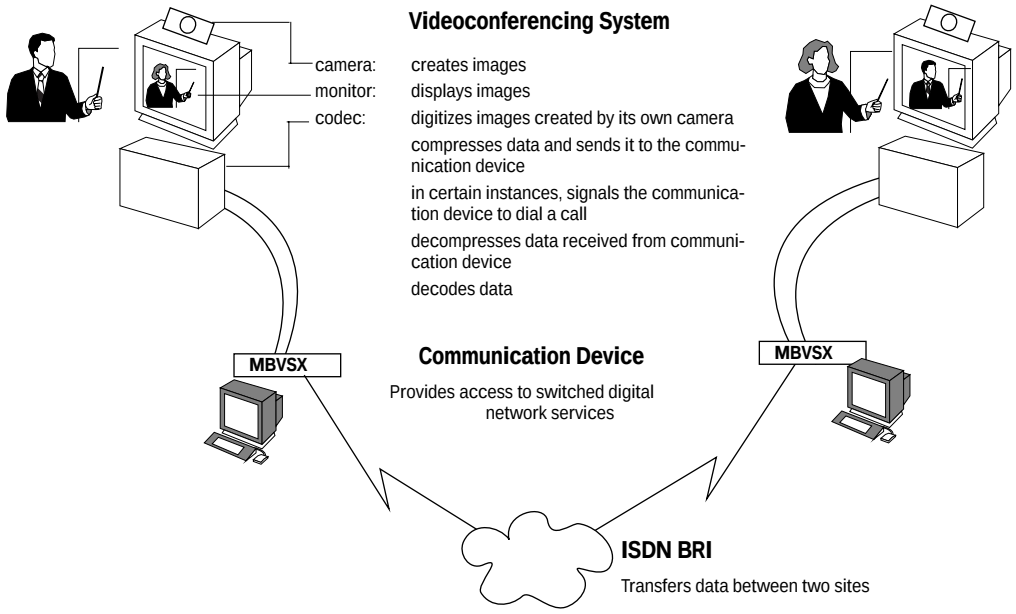
Overview of Videoconferencing

A videoconference comprises three components:

- A videoconferencing system at each site
- A network that can accommodate the bandwidth requirements of a videoconference call
- A communication device (or devices) at each site that provides access to the network

Figure 1-1 illustrates the three components of a videoconference, using the Multiband VSX as the communication device and ISDN BRI services as the network service.

Figure 1-1: Videoconferencing Components



The high bandwidth requirements of early videoconferencing systems limited video teleconferencing to sites connected via leased lines. Three developments have made videoconferencing a more viable and affordable method of teleconferencing:

- Improved compression techniques in videoconferencing systems has reduced their bandwidth requirements
- The proliferation of affordable switched digital services, both 56 Switched and Integrated Services Digital Network (ISDN), has provided a more flexible and cost-effective means for transmitting calls
- The development of inverse multiplexers, communication devices that aggregate the bandwidth available on multiple ISDN lines to provide a connection bandwidth equal to the sum of the combined channels, has provided a way to maximize the bandwidth available on switched digital services

Switched Digital Services and Inverse Multiplexing

Switched digital services provide a cost-effective means for the transient and flexible bandwidth requirements of data communications. Inverse multiplexing provides a way to aggregate switched digital bandwidth as needed to create a single connection equal to the sum of available channels.

112K to 128K Videoconference Calls (2-channel)

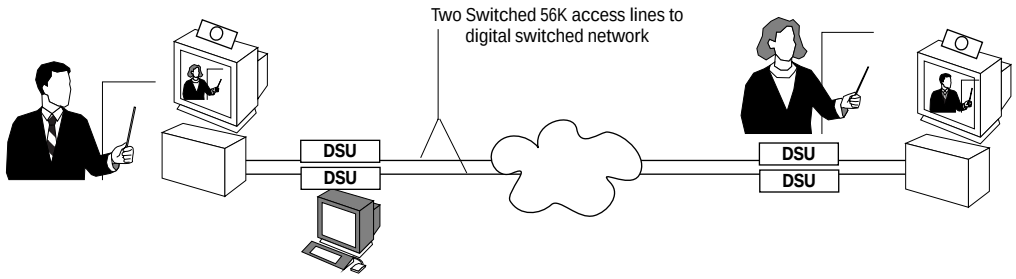
Switched 56K services were the first switched digital services used for videoconferencing. Users could achieve 112kpbs of bandwidth by aggregating two 56 kbps calls. Each port on a codec sent data to a data service unit (DSU) which then placed a call over the network.

As ISDN became available, users could achieve 128kbps of bandwidth by installing ISDN lines and replacing the DSUs with an ISDN terminal adapter (TA). The TA could access ISDN, thus providing for two 64kbps connections using the two B channels.

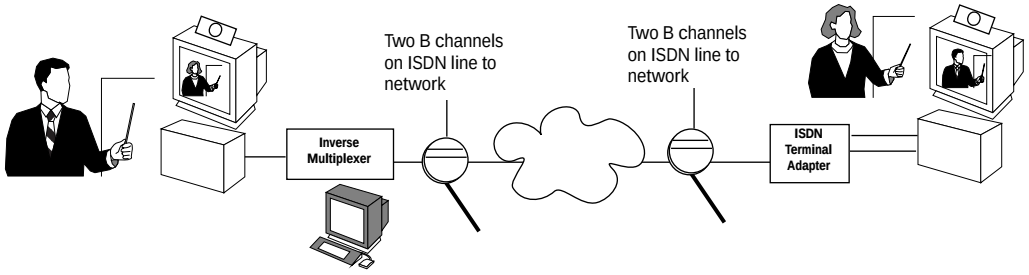
Figure 1-2 illustrates the two types of scenarios that require videoconferencing at rates of 112kbps to 128kbps.

Figure 1-2: 2-Channel Videoconferencing Scenarios

Using two Switched 56 calls for an aggregated 112 kbps:



Using two ISDN B channels to aggregate 112-128kbps:



Inverse Multiplexed Calls

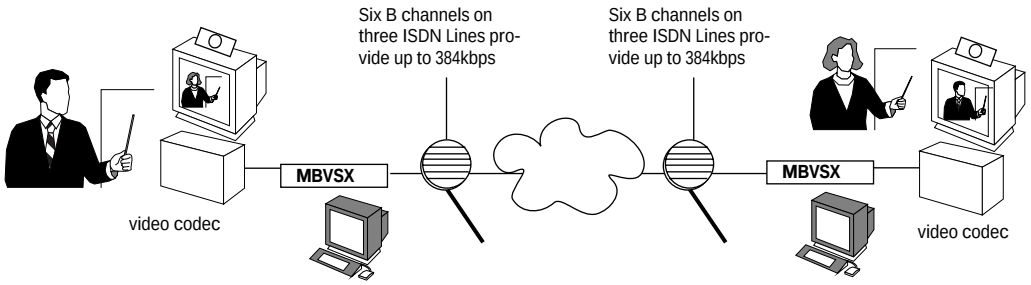
Inverse multiplexers, which replace the TAs as communication devices, combine individual switched connections at 56kbps to 64kbps to provide a single connection equal to the sum of all the individual switched connections. Inverse multiplexers provide for videoconferencing at data rates higher than 112kbps to 128kbps.

Ascend Inverse Multiplexing (AIM), a proprietary inverse multiplexing protocol, is implemented on all Ascend inverse multiplexing units. In addition to providing for higher data rates, the AIM protocol offers three ways to manage your calls.

BONDING is another inverse multiplexing protocol. It is implemented on many other vendor's products and is compatible with all Ascend units.

Figure 1-3 illustrates a scenario that can videoconference at data rates higher than 128kbps.

Figure 1-3: Videoconferencing at Data Rates Higher than 128 kbps



Advantages of the Multiband VSX

As videoconferencing and switched digital technology have advanced, Ascend products have kept pace with these improvements, allowing you to take advantage of new capabilities as well as connect with sites that use older technologies.

The Multiband VSX supports two-channel calls to sites that are restricted to two channels (112kbps to 128 kbps) and AIM or BONDING (inverse multiplexing call types) to sites that have the capacity to videoconference at a higher data rate.

Overview of Multiband VSX Call Types

The three basic videoconference call types supported by the Multiband VSX are:

- AIM
- BONDING
- 2-Channel

The type of call you place depends on the videoconference configuration at your site as well as the remote site. Table 1-1 on page 10 lists call-type recommendations for selected codecs.

Chapter 7, "Placing and Clearing Calls," contains more guidelines for selecting a call type, and, if you choose AIM, the management type you want to use.

The following sections describe the types of calls available on the Multiband VSX.

AIM

AIM is a proprietary inverse multiplexing protocol available on all Ascend units that perform inverse multiplexing. It provides for three call management types:

AIM Manual

AIM Manual is the most robust and feature rich of the three AIM call management types supported. The Multiband VSX performs inverse multiplexing and provides an end-to-end management channel for remote management, bandwidth management, and detection and correction of network slips, which requires 0.2% of the bandwidth.

Codecs that require an exact clocking rate, (that is, they expect to exchange data with the Multiband VSX at the same rate at which data is transferred over the communication's link) cannot spare the 0.2% bandwidth required by the Multiband VSX for this type of call.

AIM Static

When you place an AIM Static call, the Multiband VSX performs inverse multiplexing, but does not provide for an end-to-end management channel. Though you cannot remotely manage another unit or manage bandwidth, the video codec can take advantage of the complete aggregated bandwidth.

AIM Delta

AIM Delta mode provides the error control and monitoring capabilities of AIM Manual, and provides the codec with an exact clocking rate.

It provides this by placing the number of 56kbps calls necessary to aggregate bandwidth equal to a specified number of 64kbps calls, then using the extra bandwidth for management control and error monitoring.

For example, if the codec requires 384 kbps of bandwidth (an aggregate of six 64kbps channels), the Multiband VSX places seven 56kbps calls for an aggregate of 392kbps (7 x 56 = 392). The codec uses 384 kbps of the bandwidth; the Multiband VSX uses the remaining 8kbps for management control and error monitoring.

AIM Delta calls do not allow you to control bandwidth, and they are more costly than AIM Manual or AIM Static calls because they require that more calls be placed than are actually required for the videoconference.

This Call Management type is available only if you have the Upgrade Module installed.

BONDING

BONDING is an inverse multiplexing protocol that is provided for compatibility with other vendor's equipment. Two BONDING management types are supported on the Multiband VSX:

BONDING Mode 0

BONDING Mode 0 calls are similar to 2-channel calls. This protocol must be used when the device on the far end is connected in dual port mode to a video codec.

BONDING Mode 1

BONDING Mode 1 calls are similar to AIM static calls; the Multiband VSX performs inverse multiplexing, but does not provide an end-to-end management channel.

2-Channel

Two-channel calls, also known as dual port calls, use two switched channels to connect two ports of a single device to the remote site. The codec performs inverse multiplexing in this case.

Suggested AIM Calls for Codecs

The following table lists a few popular codecs and makes suggestions for the type of AIM call that works best with each:

Table 1-1: Suggested AIM Calls for Codecs

Codec	Recommended AIM Call
CLI	AIM Manual
GPT/BT	AIM Static
Mitsubishi	AIM Static
PictureTel 1000 PictureTel 3000 PictureTel 4000	AIM Static or Manual AIM Manual AIM Manual
VTel	AIM Manual

2 Before You Connect Your Multiband VSX

You should already have your ISDN BRI line or lines installed at your site. Once you install your Multiband VSX, you need to configure it for your ISDN BRI lines and your codec. This chapter provides:

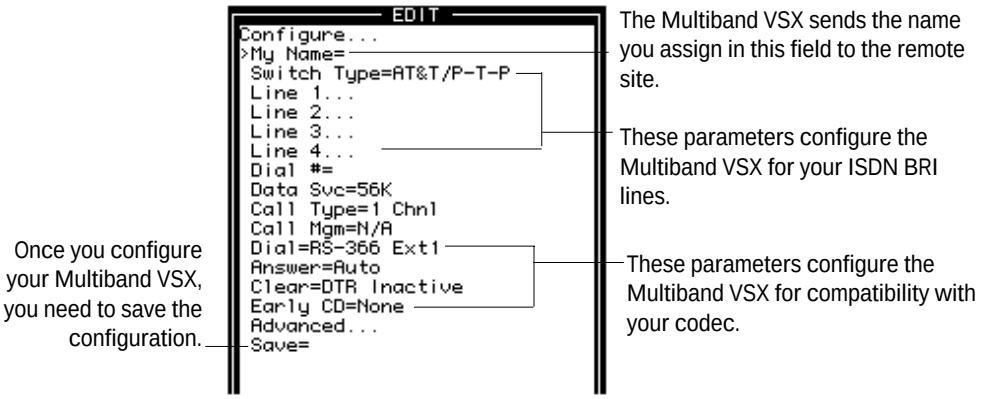
- A description of what you need to configure on your Multiband VSX upon initial installation at your site
- Descriptions of configuration parameters
- Tables in which you can record your configuration requirements

What You Configure on the Multiband VSX

On installation, you configure the Multiband VSX for the following:

- Compatibility with your ISDN BRI line provisioning
- Compatibility with your codec

The Configure profile, illustrated below, provides you a convenient way to set up the Multiband VSX. It is displayed by the system software any time you power up the Multiband VSX, and is always accessible through the Main Edit Menu. (See Chapter 5, "User Interface for information about the Main Edit Menu.)



The information you need to configure your Multiband VSX is described in the following section. For your convenience, a table in which you can record your configuration information is provided on page 21. Complete the tables and refer to them when you configure the Multiband VSX. Configuration instructions are contained in Chapter 4, "Getting Your Multiband VSX Up and Running."

Configuration Information

This section describes the information required for configuring your Multiband VSX. The headings correspond to the fields on the Configure profile.

My Name

This is a name you assign to your Multiband VSX. If the communication device at the remote site is a Multiband, it displays this name during the videoconference call.

Switch Type

Switch type refers to the central office switch of your ISDN service provider. Switch type options are:

- AT&T Point-To-Point (AT&T/P-T-P)

  This is the factory default. This switch type supports one terminal adapter (such as your Multiband VSX) on the ISDN BRI line.

- AT&T/Multi-Point (AT&T/Multi-P)

  This switch type supports multiple ISDN devices sharing the same line.

- Northern Telecom, Incorporated (NTI)

  This switch type supports multi-drop for multiple ISDN devices sharing the same line.

- National ISDN-1

  This switch type is a North American ISDN specification supported by both AT&T and NTI.

- [Country Name]

  This option is for sites located outside North America. Several country names are available for this field.

Line 1...4

The Multiband VSX needs certain information about your ISDN BRI line provisioning. The base unit supports one ISDN BRI line. The base unit with the Upgrade Module installed supports up to four ISDN BRI lines. If you are using only the base unit, complete the table for Line 1. If you are using a Multiband VSX with the Upgrade Module installed, complete a table for each line installed at your site.

Line 1...4: Chan Usage

Chan usage refers to how the B1 and B2 channels are used. A "B" channel can be switched or not used at all.

Generally, both channels are switched. However, "B" channels can be used in any of the following combinations:

B1	B2
Switch	Switch
Unused	Switch
Switch	Unused

Line 1...4: Enabled

The Multiband VSX is set by factory default to have each of its RJ45 jacks connected to an ISDN BRI line. The base unit has one RJ45 jack; the Upgrade Module provides three additional RJ45 jacks.

This parameter lets you disable an RJ45 jack if you do not intend to connect it to an ISDN BRI line.

If you are using only the base unit, check "Yes" in the ISDN Line Configuration table for Line 1.

If you are using the Multiband VSX with the Upgrade Module installed, in the appropriate table, check the box next to "Yes" if you are connecting the Multiband VSX to the line; otherwise, check the box next to "No".

Line 1...4: My Num A/My Num B

My Num A and My Num B refer to the phone number or numbers assigned to each ISDN line. These are the phone numbers the remote end dials to establish a videoconferencing call with your site.

You can have two numbers assigned to each BRI line. Because of the way the Multiband VSX handles multiple channel calls, you should enter the minimum number of right-most digits that are required to distinguish one phone number from the other.

For example, if you are using the base unit and the telephone numbers assigned to your line are:

- 510 555-1234
- 510 555-1235

You would enter the following digits in the following fields:

- Line 1...
  - My Num A: 4
  - My Num B: 5

If the numbers assigned to your line are:

- 510 555-1543
- 510 555-1679

You would enter the following digits in the following fields:

- Line 1...
  - My Num A: 543
  - My Num B: 679

Or, if you had the Upgrade Module installed, the Multiband VSX connected to three ISDN lines, and the numbers assigned to your line are:

- Line 1:
  - 510 555-1131
  - 510 555-1132

- Line 2:
  - 510 555-1251
  - 510 555-1252
- Line 3:
  - 510 555-1361
  - 510 555-1362

You would enter the following digits in the following fields:

- Line 1...
  - My Num A: 131
  - My Num B: 132
- Line 2...
  - My Num A: 251
  - My Num B: 252
- Line 3...
  - My Num A: 361
  - My Num B: 362

Line 1...4: Service Profile Identifiers (SPID) 1 and 2

A service profile identifier is a number used by a central office switch for identification purposes.

If your switch type is AT&T/P-T-P, you *do not* have any SPIDs assigned to your ISDN line.

If your switch type is AT&T/Multi-P, NTI, or NI-1, you have one or two SPIDs assigned to your ISDN line.

Dial

This parameter lets you designate whether you want to control dialing through the codec as well as the Multiband VSX, or restrict control of dialing to the Multiband VSX. The codec-controllable option you select depends on your codec type. Your options are as follows:

- Terminal

  Choose terminal if you want to restrict the placing of calls to dialing through the Multiband VSX user interface.

- RS-366

  Choose this option if you want to allow calls to be placed by either dialing through your codec or the Multiband VSX user interface *and* your codec supports the RS-366 dialing protocol. Most codecs purchased for use in North America support this protocol.

- X.21

  Choose this option if you want to allow calls to be placed by dialing through either your codec or the Multiband VSX user interface *and* your codec supports the X.21 dialing protocol. Most codecs purchased for use in Europe support this option.

- V.25 bis

  Choose this option if you want to allow calls to be placed by dialing through either your codec or the Multiband VSX user interface *and* your codec supports the V.25 bis dialing protocol. Older model codecs (some V-Tel codecs, for example) support this protocol.

Answer

This parameter lets you designate how videoconference calls are answered. Your options are as follows:

- Auto

  Use this option if you do *not* want to manually answer videoconference calls. If you choose this option, the Multiband VSX answers the call and automatically passes it to the codec.

- DTR+Ring

  Use this option if you want to manually answer videoconference calls from the codec keypad. If you choose this option, the Multiband VSX signals the codec when it answers a call, then waits for a DTR signal before it passes the call to the codec.

- None

  Choose this option if you don't want to answer any videoconference calls. Choosing this option is equivalent to turning off the ringer on your telephone.

Clear

This parameter lets you determine how videoconferencing calls are cleared. Your options are as follows:

- Terminal

  Choose Terminal if you want to clear calls only through the Multiband VSX user interface. If you choose this option, you cannot clear calls through your codec.

- DTR Inactive

  Choose this option if you want to allow the clearing of calls through the codec's keypad.

Early CD

This parameter tells the Multiband VSX whether it should activate carrier detect early (after the first channel of a multiple channel call is connected), or wait until all channels are connected. If you want to activate carrier detect early, this parameter lets you determine whether it should be activated early for incoming calls, outgoing calls, or both.

The options in the Early CD field are:

- None (Do not activate carrier detect early. This is the default.)
- Originate (Activate carrier detect early for outgoing calls.)
- Answer (Activate carrier detect early for incoming calls.)
- Both (Activate carrier detect early for both incoming and outgoing calls.)

The following tables list configuration values for dialing modes. Table 2-1 lists values for codec-controllable dialing; Table 2-2 lists values for Multiband VSX controllable dialing.

Table 2-1: Configuration Values for Codec-Controllable Dialing Modes

Codec Type	Dial	Answer	Clear	Early CD
PictureTel	RS366	Auto	DTR Inactive	None
	X.21	X.21	DTR Inactive	None
CLI	RS366	Auto	DTR Inactive	Both
VTel	RS366	DTR+Ring	DTR Inactive	None
	v.25 bis	V.25 bis	DTR Inactive	None
GPT/BT	RS366	Auto	DTR Inactive	None

Table 2-2: Configuration Values for Multiband VSX Controllable Dialing Mode

Codec Type	Dial	Answer	Clear	Early CD
PictureTel	Terminal	Auto	Terminal	None
CLI	Terminal	Auto	Terminal	None
VTel	Terminal	DTR +Ring	Terminal	None
GPT/BT	Terminal	Auto	Terminal	None

Configuration Table

The configuration table on the following pages provides a convenient way to plan your configuration and record it for future reference. Instructions for configuring your Multiband VSX are contained in Chapter 4, "Getting Your Multiband VSX Up and Running."

Table 2-3: Configuration Information

Name		
Switch Type	☐ AT&T/P-T-P ☐ AT&T/Multi-P ☐ NTI ☐ NI-1 ☐ Country Name _____	
Chan Usage		
Line 1	☐ Switch/Switch ☐ Unused/Switch ☐ Switch/Unused	
Line 2	☐ Switch/Switch ☐ Unused/Switch ☐ Switch/Unused	
Line 3	☐ Switch/Switch ☐ Unused/Switch ☐ Switch/Unused	
Line 4	☐ Switch/Switch ☐ Unused/Switch ☐ Switch/Unused	
Enabled		
Line 1	☐ Yes ☐ No	
Line 2	☐ Yes ☐ No	
Line 3	☐ Yes ☐ No	
Line 4	☐ Yes ☐ No	
My Num A	Line 1	
	Line 2	
	Line 3	
	Line 4	
My Num B	Line 1	
	Line 2	
	Line 3	
	Line 4	
SPID 1	Line 1	
	Line 2	
	Line 3	
	Line 4	

Table 2-3: Configuration Information (Continued)

SPID 2	Line 1	
	Line 2	
	Line 3	
	Line 4	
Dial	☐ Terminal ☐ RS-366 ☐ X.21 ☐ V.25 bis	
Answer	☐ Auto ☐ DTR+Ring ☐ None	
Clear	☐ Terminal ☐ DTR Inactive	
Early CD	☐ None ☐ Originate ☐ Answer ☐ Both	

3 Connecting Your Multiband VSX

You should already have ordered your ISDN BRI line or lines and had them installed at your site.

This chapter:

- Describes what is in your Multiband VSX package
- Describes how to connect your Multiband VSX to your codec, computer, and ISDN BRI line or lines
- Describes the LEDs on the front panel
- Describes how to install the Multiband VSX Upgrade Module

What Is in Your Multiband VSX Package

The following are packaged with your Mult

- The Multiband VSX base unit
- If you ordered the Multiband VSX with installed on the base unit
- Cables:
  - 2 DB9-DB25 converter cables (part r
  - 1 to 4 RJ48C Straight Through C cab 001)
  - 1 Palm Top VT100 cable (part numb
- Power transformer (part number 4505-0
- This *Operations Guide*

In addition, you may have cables for your cc of the cables that may be included:

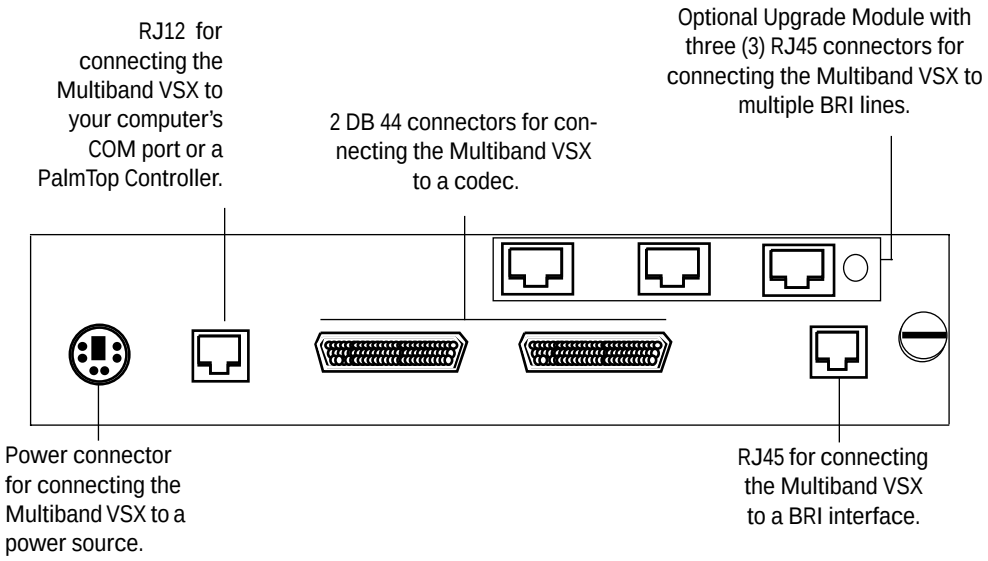
- For Picture Tel codecs: (2) part number
- For CLI Eclipse codecs: (2) part number
- For CLI Rembrandt or Radiance codecs MBHDV35CL
- For GPT/BT codecs: (1) part number M MBHDV.35
- For VTel codecs: (2) part number MBHI

See Appendix A, "Cable Pinouts," for inforr

Back Panel of the Multiband VSX

The following illustration is of the back panel of the Multiband VSX.

Figure 3-1: Back Panel of the Multiband VSAX

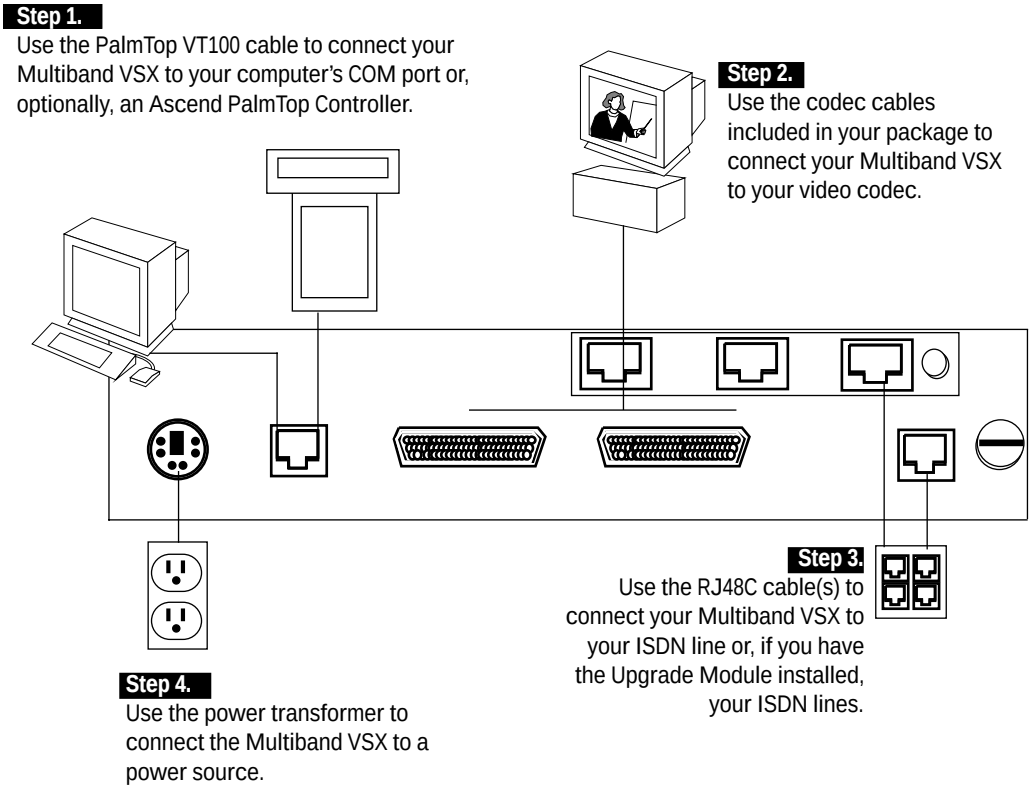


Connecting Your Multiband VSX

The Multiband VSX is easy to install. The following illustration of the back panel describes how to connect the Multiband VSX to:

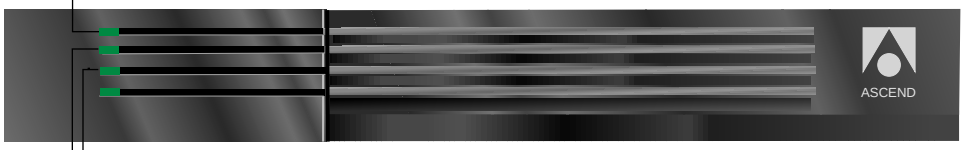
- The COM port on your computer or, optionally, a PalmTop Controller
- Your video codec
- Your ISDN BRI line or, if the Upgrade Module is installed, your ISDN lines
- A power source

Figure 3-2: Connecting Your Multiband VSX



Multiband VSX LEDs

Figure 3-3: Multiband VSX LEDs



POWER LED comes on when the Multiband VSX is connected to a power source and stays on until it is disconnected from the power source.

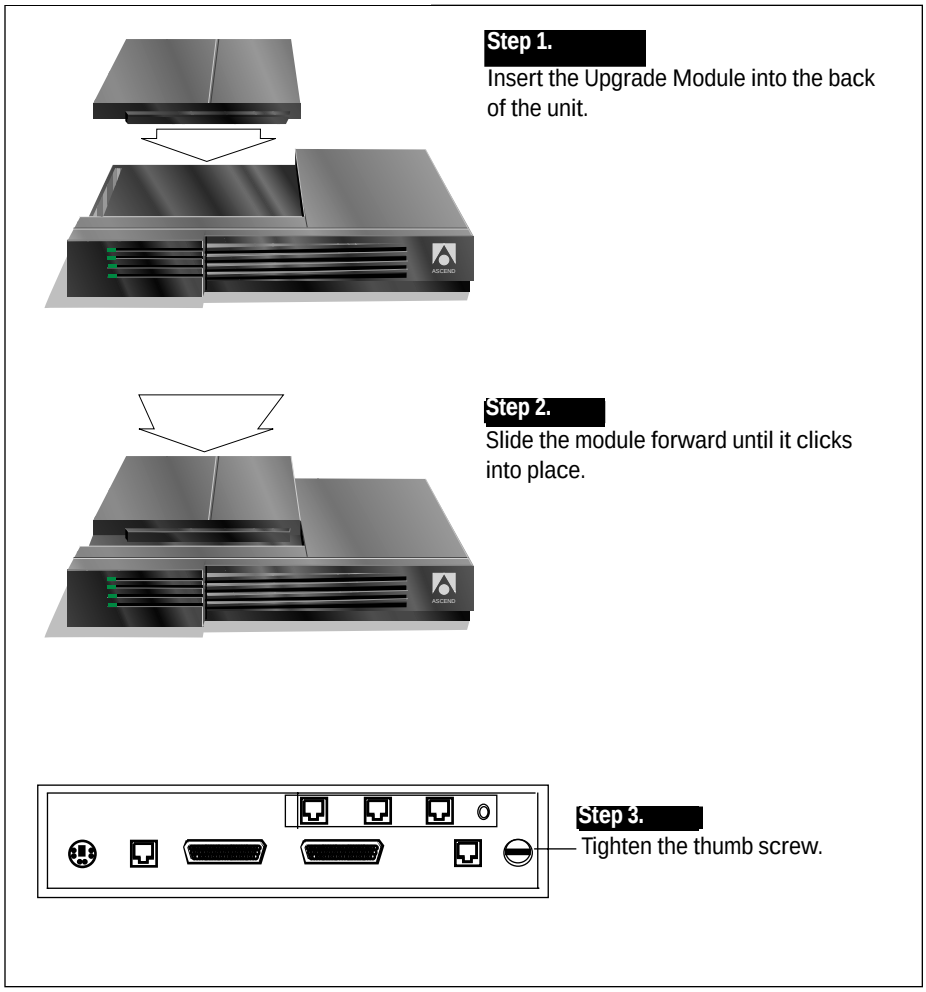
WAN LED is on if there is an active session on either port.

FAULT LED comes on during self-test. If it stays on longer than 30 seconds, or if the light blinks, there is a problem with the unit. See Chapter 11, “Troubleshooting.”

Installing the Upgrade Module

The following illustrates how to install the Upgrade Module:

Figure 3-4: Installing the Upgrade Module



4 Getting Your Multiband VSX Up and Running

At this point, you should already have installed your ISDN BRI lines, connected your Multiband VSX, and completed the configuration tables in Chapter 2, "Before You Connect Your Multiband VSX."

This chapter describes how to get your Multiband VSX up and running. It includes instructions for:

- Configuring your communications program
- Configuring the Multiband VSX:
  - for your ISDN BRI lines
  - for your codec
  - for a test call
  - advanced parameters
- Saving the Configure profile
- Testing your setup

Refer to the configuration tables in Chapter 2 as necessary to configure your Multiband VSX.

Configuring Your Communications Program

If you are not sure how to use your communications program, consult the manual for the program.

▲ **Start your communications program and configure it as follows:**

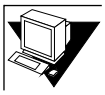
The program should be set for the following parameters:

- VT100
- 9600 bits per second
- 8 data bits
- No parity
- 1 stop bit
- No flow control
- Direct connect

Configuring Your Multiband VSX Using a Computer

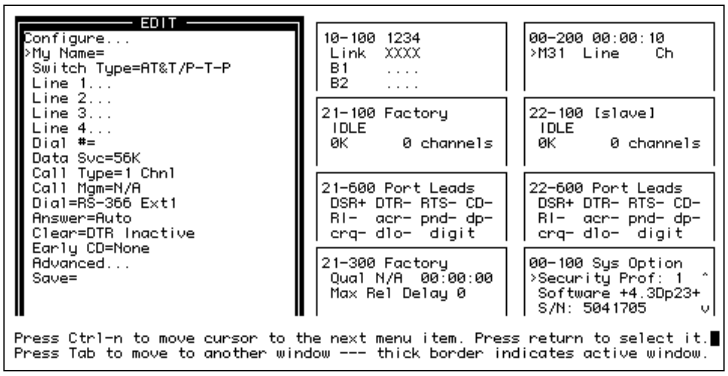
If you have not already done so, review Chapter 2, "Before You Connect Your Multiband VSX," and complete the configuration table. Refer to it as necessary to configure your Multiband VSX.

Your Multiband VSX should be powered on and your communication program open. To begin configuring your Multiband VSX:



1 Press ctrl-L to refresh the screen.

The user interface appears with the Configure profile in the Edit window and the cursor at My Name:



⇨NOTE⇨ **If question marks appear in the upper right hand corner of all windows, you may not be connected to your BRI line.**

2 At My Name, press enter.

Brackets appear under the selection:

```
My Name:
 []
```

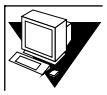
3 Type the name you want to assign to your unit in the brackets, and press enter to accept it.

The name you typed appears in the field, and an asterisk appears in the Save field. For example:

An asterisk in the Save field indicates that you have made a change to the configuration.

4 Press ctrl-N to move the cursor to Switch Type.

You are now ready to configure your Multiband VSX for your ISDN BRI lines. Continue to the next section.



Configuring for Your ISDN BRI LInes

The cursor should be at the Switch Type field. Refer to the ISDN Line information tables in Chapter 2, "Before You Connect Your Multiband VSX," for the information you need to configure for your ISDN line provisioning.

1 **With the cursor on Switch Type, press enter until your switch type appears in the field.**

2 **Press ctrl-N to move the cursor to Line 1 and press enter.**

The parameters for Line 1 appear in the Edit window with the cursor on Enabled:

Note: N/A appears in the SPID 1 and SPID 2 fields if you left Swtich Type at the default, AT&T/P-T-P.

3 **At Enabled, press ctrl-N to move the cursor to Chan Usage.**

4 **At Chan Usage, press enter until your selection appears in the field, then press ctrl-N to move the cursor to My Num A.**

5 **At My Num A, press enter.**

Brackets appear under the selection.

6 **In the brackets, type the first number assigned to your phone line and press enter to accept your entry.**

The phone number appears in the My Num A field when you press enter.

7 **If you have two phone numbers assigned to this line, press ctrl-N to move the cursor to My Num B, then press enter, then continue to the next step.**

If you have only one phone number assigned to your line, press ctrl-N twice to move the cursor to SPID 1, and skip to step 10.

When you press enter at My Num A, brackets appear under the selection.

8 **In the brackets, type the first phone number assigned to your line, then press enter to accept it.**

The phone number appears in the My Num A field when you press enter.

9 **If you have two numbers assigned to this line, press ctrl-N to move the cursor to My Num B, press enter, then type the second number assigned to this line in the brackets that appear under the parameter. Press enter to accept your entry.**

10 **If you have a SPID assigned to your line, press ctrl-N to move the cursor to SPID 1, and continue to the next step.**

If you have no SPIDs assigned to this line, skip to step 14.

11 **With the cursor on SPID 1, press enter, then type the number in the brackets that appear under the parameter. Press enter to accept your entry.**

12 **If you have a second SPID assigned to this line, press ctrl-N to move the cursor to SPID 2, and continue to the next step.**

If you have no other SPIDs assigned to this line, skip to step 14.

13 **With the cursor on SPID 2, press enter, then type the second SPID assigned to the line in the brackets that appear under the parameter. Press enter to accept your entry.**

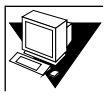
14 **Press esc.**

The Configure profile appears in the Edit window.

15 **If the Upgrade Module is installed, repeat steps 2 to 14 for each line you have installed.**

16 **When you have finished configuring your Multiband VSX for each line installed at your site, press ctrl-N five times to move the cursor to Call Type.**

You are now ready to configure the Multiband VSX for your codec. Continue to the next section.



Configuring for Your Codec

The cursor should be on Call Type. Refer to the configuration table in Chapter 2, "Before You Connect Your Multiband VSX," for the information you need to configure the Multiband VSX for your codec.

1 **With the cursor on Dial, press enter until the dialing protocol you want to use for dialing calls appears in the field. Then press ctrl-N to move the cursor to Answer.**

2 **Press enter until the protocol you want to use for answering calls appears in the field. Then press ctrl-N to move the cursor to Clear.**

3 **Press enter until the protocol you want to use for clearing calls appears in the field. Then press ctrl-N to move the cursor to Early CD.**

4 **Press enter until the option you want to use for activating carrier detect appears in the field.**

You are now ready to save the Configure profile.

Saving Your Configure Profile

Your configuration does not become active until you save your Configure profile. To save your Configure profile:

▲ **Press ctrl-N to move the cursor to Save, then press enter.**

A message indicating that the profile has been stored appears in the Edit window, then is replaced by the Configure profile. The name you assigned to the Multiband VSX appears in the title bar:

You are now ready to test your setup.

Testing Your Setup

Once you have configured the Multiband VSX, you can place a 1-channel call to test your setup. To place a test call:

1 **Press ctrl-N until the cursor reaches Dial #, then press enter.**

Brackets appear under the field.

2 **Type your telephone number in the brackets, then press enter. If you have two phone numbers assigned to your ISDN BRI line, you must enter the phone number you entered in the My Num B field.**

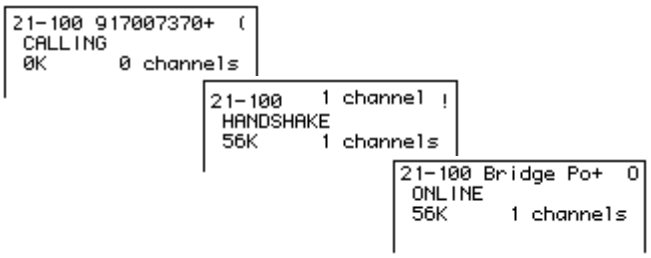
When you press enter, the number appears in the Dial # field.

3 Press ctrl-D to display the Do Menu.

The Do menu appears in the Edit window:

4 Press ctrl-N until the cursor reaches 1= Dial, then press enter.

The Multiband VSX places a call to itself. The messages in the status windows track the progress of the call:



You can see the image created by the camera and hear the sounds from the room in which the camera is located.

5 When the test call is succesfully completed, press ctrl-D to display the Do menu.

The Do menu appears in the Edit window.:

6 Presss ctrl-N to move the cursor to 2=Hang Up, then press enter.

The call is cleared.

You are now ready to place a call and/or customize your directory. If you already know how to use the user interface, skip to Chapter 6, "Customizing the Directory."

If you want to place a call, skip to Chapter 7, "Placing and Clearing Calls."

Configuring Your Multiband VSX Using the PalmTop Controller

If you have not already done so, review Chapter 2, "Before You Connect Your Multiband VSX," and complete the configuration table. Refer to it as necessary to configure your Multiband VSX.

Your Multiband VSX should be powered on and your communication program open. The Configure profile is displayed in the PalmTop Controller screen. The cursor is on My Name:

```
Configure...
>My Name=Branch Office
 Switch Type=NI-1
```

To begin configuring your Multiband VSX:

1 With the cursor on My Name, press →:

Brackets appear under the selection:

```
My Name:
 []
```

⇨NOTE⇨ **If question marks appear in the upper right hand corner of all windows, you may not be connected to your BRI line.**

2 Type the name you want to assign to your unit in the brackets, and press → to accept it.

The name you typed appears in the field, and an asterisk appears in the Save field. For example:

```
>My Name=Branch Office
 Switch Type=NI-1
```

3 Press ↓ to move the cursor to Switch Type.

You are now ready to configure your Multiband VSX for your ISDN BRI lines. Continue to the next section.

Configuring for Your ISDN BRI LInes

The cursor should be at the Switch Type field. Refer to the ISDN Line information tables in Chapter 2, "Before You Connect Your Multiband VSX," for the information you need to configure for your ISDN line provisioning.

1 **With the cursor on Switch Type, press > until your switch type appears in the field.**

2 **Press V to move the cursor to Line 1 and press >.**

The first two parameters for Line 1 appear in the screen with the cursor on Enabled:

```
Configure...
 Line 1...
 >Enabled=Yes
  Chan Usage=Switc
```

3 **At Enabled, press V to move the cursor to Chan Usage.**

4 **At Chan Usage, press > until your selection appears in the field, then press V to move the cursor to My Num A.**

5 **At My Num A, press >.**

Brackets appear under the selection.

6 **In the brackets, type the first number assigned to your phone line and press > to accept your entry.**

The phone number appears in the My Num A field when you press >.

7 **If you have two phone numbers assigned to this line, press V to move the cursor to My Num B. Then press >.**

If you have only one phone number assigned to your line, press V twice to move the cursor to SPID 1, and skip to step 10.

When you press > at My Num B, brackets appear under the selection.

8 **In the brackets, type the first phone number assigned to your line, then press > to accept it.**

The phone number appears in the My Num A field when you press >.

9 **If you have two numbers assigned to this line, press V to move the cursor to My Num B, press >, then type the second number assigned to this line in the brackets that appear under the parameter. Press > to accept your entry.**

10 **If you have a SPID assigned to your line, press V to move the cursor to SPID 1, and continue to the next step.**

If you have no SPIDs assigned to this line, skip to step 14.

11 **With the cursor on SPID 1, press >, then type the number in the brackets that appear under the parameter. Press > to accept your entry.**

12 **If you have a second SPID assigned to this line, press > to move the cursor to SPID 2, and continue to the next step.**

If you have no other SPIDs assigned to this line, skip to step 14.

13 **With the cursor on SPID 2, press >, then type the second SPID assigned to the line in the brackets that appear under the parameter. Press > to accept your entry.**

14 **Press Shift-Z.**

The Configure profile appears with the cursor on Line 1.

15 **If the Upgrade Module is installed, repeat the steps 2 to 14 for each line you have installed.**

16 **When you have finished configuring your Multiband VSX for each line installed at your site, press V five times to move the cursor to Call Type.**

You are now ready to configure the Multiband VSX for your codec. Continue to the next section.

Configuring for Your Codec

The cursor should be on Call Type. Refer to the configuration table in Chapter 2, "Before You Connect Your Multiband VSX," for the information you need to configure the Multiband VSX for your codec.

1. **With the cursor on Dial, press > until the dialing protocol you want to use for dialing calls appears in the field. Then press V to move the cursor to Answer.**
2. **Press > until the protocol you want to use for answering calls appears in the field. Then press V to move the cursor to Clear.**
3. **Press > until the protocol you want to use for clearing calls appears in the field. Then press V to move the cursor to Early CD.**
4. **Press > until the option you want to use for activating carrier detect appears in the field.**

You are now ready to save the Configure profile.

Saving Your Configure Profile

Your configuration does not become active until you save your Configure profile. To save your Configure profile:

▲ **Press V to move the cursor to Save, then press >.**

A message indicating the profile has been stored appears in the Edit window, then is replaced by the Configure profile. The name you assigned to the Multiband VSX appears in the title bar:

```
Message #117
   Profile stored
```

You are now ready to test your setup.

Testing Your Setup

Once you have configured the Multiband VSX, you can place a 1-channel call to test your setup. To place a test call:

1 **Press > until the cursor reaches Dial #, then press >.**

Brackets appear under the field.

2 **Type your telephone number in the brackets, then press >. If you have two phone numbers assigned to your ISDN BRI line, you must enter the phone number you entered in the My Num B field.**

When you press >, the number appears in the Dial # field.

3 **Press DO.**

The Do menu appears in the Edit window:

```
01 1 port, 56k
DO...
>0=Esc
 1=Dial
```

4 **Press V until the cursor reaches 1= Dial, then press >.**

The Multiband VSX places a call to itself. You can see the image created by the camera and hear the sounds from the room in which the camera is located.

5 **When the test call is succesfully completed, press DO to display the Do menu.**

The Do menu appears in the Edit window:

```
01 1 port, 56k
DO...
>0=Esc
 2=Hang Up
```

6 **Presss V to move the cursor to 2=Hang Up, then press >.**

The call is cleared.

You are now ready to place a call and/or customize your directory. If you already know how to use the user interface, skip to Chapter 6, "Customizing the Directory."

If you want to place a call, skip to Chapter 7, "Placing and Clearing Calls."

5 User Interface

This chapter describes the user interface. It includes:

- A general overview of the user interface
- A description of the windows in the user interface
- An overview of menus and profiles, and instructions for how to move between them
- An illustrated guide for locating profiles, and a table that lists the keystrokes you use to move around in the user interface
- Instructions for editing profiles
- Instructions for restarting your Multiband VSX from the user interface
- An overview of status windows and information about how to interpret the information displayed in them

Overview of the User Interface

The system software that resides on the Multiband VSX tells it how to operate. The user interface gives you access to the system software so you can:

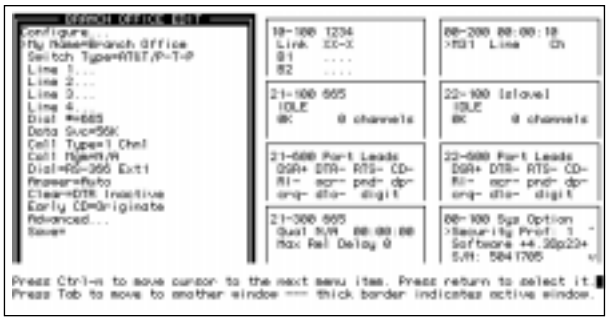
- Configure Multiband VSX operating parameters
- Activate security on your Multiband VSX
- Place calls manually
- View information about calls, telephone lines, and the Multiband VSX's system
- Restart your Multiband VSX

The user interface comprises two types of windows:

- The Edit window
- Status windows

All windows are displayed when your Multiband VSX is connected to a computer.

View of the user interface when the Multiband VSX is connected to a computer.

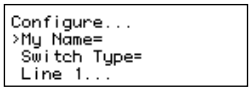


⇨NOTE⇨

Flashing question marks indicate a problem with the BRI interface.

Three lines of a window are visible at a time when the Multiband VSX is connected to a PalmTop Controller. For example:

View of the user interface on a PalmTop Controller



The Edit Window

Menus and profiles are displayed in the Edit window.

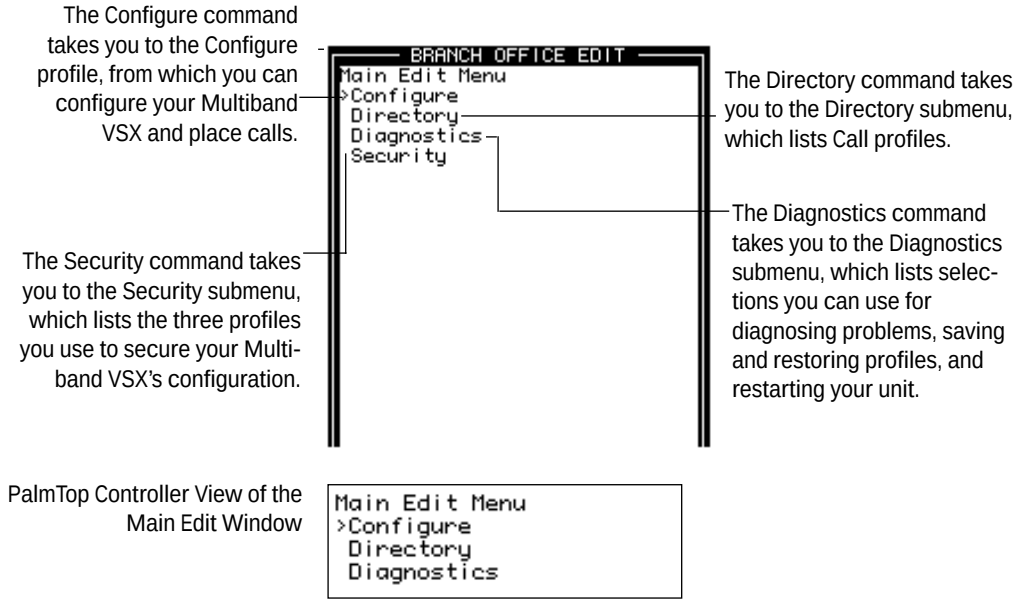
Menus

There are two types of menus in the user interface:

- The Main Edit Menu
- Submenus

Main Edit Menu

The Main Edit Menu is the entry point for all profiles. The Configure profile, Directory submenu, Diagnostics submenu, and Security submenu are listed on the Main Edit Menu:



PalmTop Controller View of the Main Edit Window

```
Main Edit Menu
>Configure
 Directory
 Diagnostics
```

Submenus

Submenus list either profiles or other submenus. The following example is the submenu that is displayed when you select the Directory submenu from the Main Edit Menu:

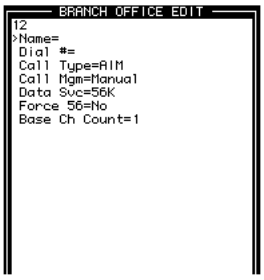

```
Directory
>**
 01 1 port, 56k
 02 1 port, 64k
```

View of the Directory Submenu on a PalmTop Controller.

Profiles

Profiles list the parameters associated with a feature or capability, as well as the fields in which you enter a value to set the parameters.

The following illustration is an example of a Call profile. A Call profile is displayed when you select it from the Directory submenu:




```
08 AIM Manual 64k
>Name=AIM Manual 64k
 Dial #=
 Call Type=AIM
```

View of a Call Profile on a PalmTop Controller.

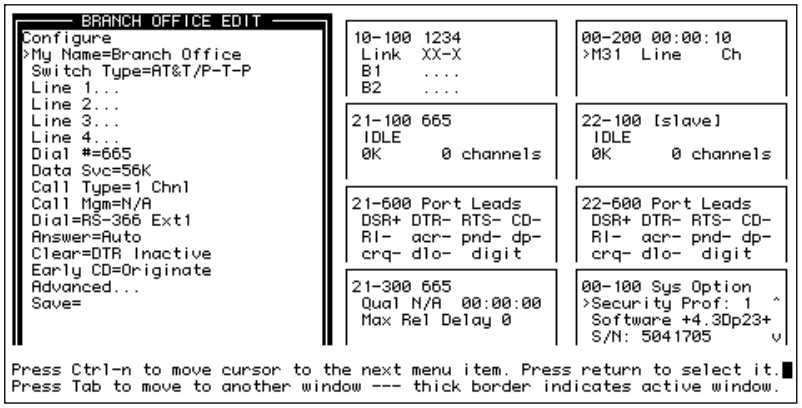
Status Windows

Status windows give you a tool for diagnosing problems and viewing the status of the Multiband VSX. They display information about:

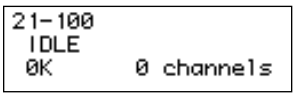
- The current session
- Your ISDN BRI telephone line
- The status of calls
- Events on host ports 1 and 2
- The status of port leads
- The Multiband VSX's system

For information about interpreting information displayed in status windows, see "Interpreting Information in Status Windows" on page 68 of this *Operations Guide*.

The eight status windows display information that helps you monitor calls.



View of a status window on a PalmTop Controller.



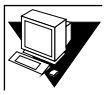
Navigating Through the User Interface

This sections describes how to get around in the user interface. It includes:

- Instructions for getting to the Main Edit Menu
- Instructions for choosing a sumenu from either the Main Edit Menu or another submenu
- Instructions for moving to and between status windows
- A guide for finding profiles
- A list of the keystrokes you use to navigate through the user interface

Getting to the Main Edit Menu in the Edit Window

To get to the Main Edit Menu from any other menu in the User Interface:



▲ **Press esc until you see the Main Edit Menu.**

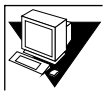
If you press esc when you are in a profile and get a message asking you if you want to Exit and save or Exit and discard, see "Saving Changes to a Profile" on page 58 later in this chapter.

▲ **Press Shift- Z until you see the Main Edit Menu.**

If you press Shift- Z when you are in a profile and get a message asking you if you want to Exit and save or Exit and discard, see "Saving Changes to a Profile" on page 58 later in this chapter.

Choosing a Submenu from the Main Edit Menu or Another Submenu

To choose a submenu from the Main Edit Menu or a submenu:



1. **If necessary, press ctrl-N until the cursor reaches the submenu you want to select.**
2. **Press enter to accept the selection.**

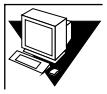
   The submenu you select appears in the Edit window.

1. **If necessary, press V until the cursor reaches the submenu you want to select.**
2. **Press > to accept the selection.**

   The submenu you select appears in the Edit window.

Choosing an Item from a Submenu

To choose an item from a submenu:



1. **If necessary, press ctrl-N until the cursor reaches the item you want to select.**
2. **Press enter to accept the selection.**

   The submenu or profile you select appears in the Edit window.

1. **If necessary, press V until the cursor reaches the item you want to select.**
2. **Press > to accept the selection.**

   The submenu or profile you select appears in the Edit window.

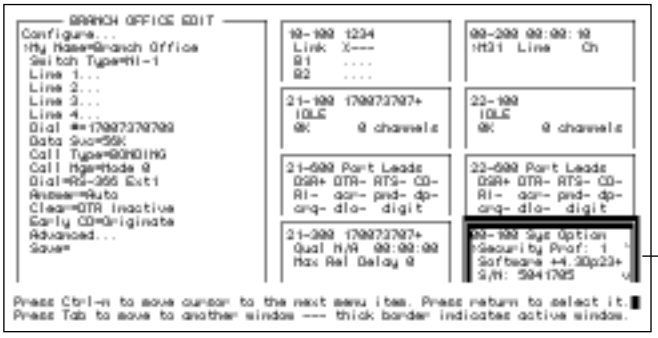
Moving To and Between Status Windows

Status windows 00-200 and 00-100 contain more information than can be displayed in the window at one time. By making the window active, you can scroll through it to view the additional information.

To move from the Edit window to a status window:

- **Press tab until the thick border appears around the status window you want to select.**

  The following is an example of the 00-100 status window after it has become active:



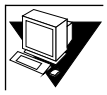
A thick black border appears around the 00-100 status window, indicating that it is active. You can scroll through the window to view additional information about your Multiband VSX's system.

1. **Press Ctrl.**

   The Main Status menu appears.

2. **Press V to move the cursor to the status window you want to view, then press > to select it.**

   The status window you selected appears.



User Interface Computer Keyboard Navigation Keystrokes

Table 5-1:, "User Interface Computer Keystrokes," lists the keystrokes available for navigating through the user interface when the Multiband VSX is connected to a computer.

Table 5-1: User Interface Computer Keystrokes

Press	to...
ctrl - N or ↓	move to the next item on a menu or profile.
ctrl - P or ↑	move to the previous item on a menu or profile.
ctrl - L	refresh the screen.
ctrl - D	display the Do menu.
ctrl - O	move to the previous window.
ctrl - I or tab	move to the next window.
delete	delete characters from a field.
esc	move between menus and profiles.
enter	accept an entry in a field or a menu.

⇨NOTE⇨ **Your communications program must be set up for the arrow keys if you want to use them. Consult the documentation for your communications program if you have any questions.**

User Interface PalmTop Controller Keypad Navigation Keystrokes

Table 5-2:, "User Interface PalmTop Controller Keystrokes," lists the keystrokes available for navigating through the user interface when the Multiband VSX is connected to a PalmTop Controller.

Table 5-2: User Interface PalmTop Controller Keystrokes

Press	to...
V	move to the next item on a menu or profile.
Λ	move to the previous item on a menu or profile.
DO	display the Do menu.
SHIFT->	delete characters from a field.
SHIFT-Z	move between menus and profiles.
>	accept an entry in a field or a menu.
STAT	move to a status window.

Guide to Profiles

Figure 5-1:, "How to Get to Profiles," provides a guide for locating specific profiles.

Figure 5-1: How to Get to Profiles

To Get to the Configure profile...

To Get to a Call profile...

To get to the Diagnostics submenu...

To get to a Security profile...

1. At the Main Edit Menu, select the profile or the submenu on which the profile appears and press enter.
2. At a submenu, select the profile you want and press enter.

1. At the Main Edit Menu, select the profile or the submenu on which the profile appears and press >.
2. At a submenu, select the profile you want and press >.

Editing a Profile

You edit a profile by changing the its parameter values. You change a parameter's value by:

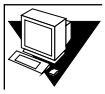
- Selecting from multiple choices within a field, or
- Entering the information directly into a field

⇨NOTE⇨ **If you try to edit a profile and the user interface does not let you make changes, a Security profile that requires a password has been activated. See "Editing a Protected Profile" on page 60 for instructions for how to edit a protected profile.**

Selecting from Multiple Choices

For items in which you are limited to specific choices — for example, Call Type in the Configure profile — the selections available to you are displayed in the parameter's field. The default choice appears in the field the first time you choose the profile and remains until you change it.

To enter information in fields where multiple choices are offered:



1. **If necessary, press ctrl-N to move the cursor to the parameter in which you want to make a selection.**
2. **Press enter.**

   The selection in the field changes to the next available choice.
3. **Continue pressing enter until the selection you want appears in the field.**
4. **Press ctrl-N to move the cursor to the next field.**

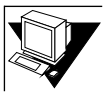
1. **If necessary, press V to move the cursor to the parameter in which you want to make a selection.**
2. **Press >.**

   The selection in the field changes to the next available choice.
3. **Continue pressing > until the selection you want appears in the field.**
4. **Press V to move the cursor to the next field.**

Entering Information Directly into the Field

For items in which you are not limited to given selections — for example, the name you use to identify a site on a Call profile — you enter information by typing it in the field.

To enter information directly into a field:



1 **Press ctrl-N to move the cursor to the field in which you want to enter information.**

2 **Press enter.**

Brackets appear underneath the selection. For example:

```
Dial #:
[]
```

3 **Type your entry and press enter to accept it.**

1 **Press V to move the cursor to the field in which you want to enter information.**

2 **Press >.**

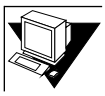
Brackets appear underneath the selection. For example:

```
Dial #:
[]
```

3 **Type your entry and press > to accept it.**

Saving Changes to a Profile

To implement changes you make to a profile, you must save it. You save changes to the Configure profile by selecting the Save feature listed on the profile. To save changes to all other profiles:



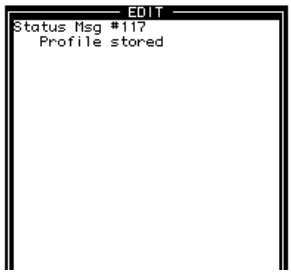
1 In any profile, when you are finished editing the appropriate parameters, press esc.

The following message appears:

2 Press ctrl-N to move the cursor to 2=Exit.

3 Press enter to select it.

A message indicating that the profile has been saved is displayed in the Edit window:



⇨NOTE⇨ **If, when you try to save a profile, you see the following message displayed: "Security violation. Invalid Security level.", a security profile that requires a password has been activated. See "Editing a Protected Profile" on page 60.**

1 **In any profile, when you are finished editing the appropriate parameters, press [Shift]-[Z].**

The following message appears:

```
EXIT?
>0=ESC (Don't exit)
 1=Exit and discard
 2=Exit and accept
```

2 **Press [V] to move the cursor to 2=Exit.**

3 **Press [>] to select it.**

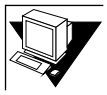
A message indicating that the profile has been saved is displayed in the Edit window:

```
Message #117
   Profile stored
```

⇨NOTE⇨ **If, when you try to save a profile, you see the following message displayed: "Security violation. Invalid Security level.", a security profile that requires a password has been activated. See "Editing a Protected Profile" on page 60.**

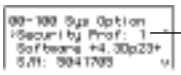
Editing a Protected Profile

If a restricted security profile is activated on your Multiband VSX, you may have to activate a non-restricted security profile in order to edit the profile you want. (See Chapter 8, "Implementing Security," later in this manual for information about how security is implemented on the Multiband VSX.)



1 Check the 00-100 status window to see which Security profile is activated.

The activated Security profile is listed in the 00-100 Sys Option status window. For example:



2 Press ctrl - D to display the Do menu.

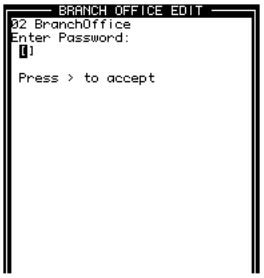
The Do menu appears in the Edit window:

3 Press ctrl-N until the cursor reaches P=Password. Then press enter to select it.

A message appears asking you to select the Security profile for which you want to enter a password:

4 If necessary, press ctrl-N to move the cursor to the Security profile you want to activate. Then press enter to select it.

A message appears in the Edit window asking you for your password:



5 In the brackets, type the password for the profile you want to activate and press enter to accept it.

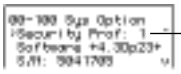
The following message appears briefly in the Edit window:

When the message disappears, the profile or submenu from which you accessed the System Do menu appears in the Edit window.

6 Follow the instructions on page 56 to continue editing the profile.

1 Check the 00-100 status window to see which Security profile is activated.

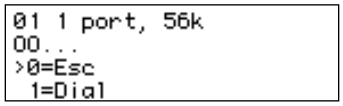
The activated Security profile is listed in the 00-100 Sys Option status window. For example:



Activated Security profile.

1 Press DO to display the Do menu.

The Do menu appears in the Edit window:



2 Press V until the cursor reaches P=Password. Then press > to select it.

A message appears asking you to select the Security profile for which you want to enter a password:

```
Configure...
Security profile...?
>00-301 Default
 00-302 BranchOffice
```

3 If necessary, press V to move the cursor to the Security profile you want to activate. Then press > to select it.

A message appears in the Edit window asking you for your password:

```
Configure...
Enter Password:
 [ ]
```

4 In the brackets, type the password for the profile you want to activate and press > to accept it.

The following message briefly appears:

```
Message #119
 Password accepted.
 Using new security
      level.
```

When the message disappears, the profile or submenu from which you accessed the System Do menu appears in the Edit window.

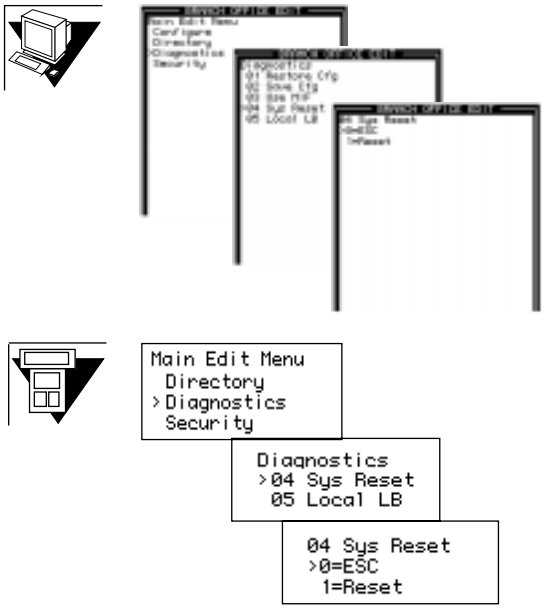
5 Follow the instructions on page 56 to continue editing the profile.

Restarting Your Multiband VSX from the User Interface

You can restart your Multiband VSX by disconnecting it from its power source, then reconnecting it.

You can also restart using the Sys Reset command, which is listed on the Diagnostics submenu.

To get to the Sys Reset command:



To restart your Multiband VSX using the Sys Reset command:

1 **With the 04 Sys Reset command appearing in the Edit window, press ctrl-N until the cursor reaches 1=Reset, then press enter to select it.**

The Multiband VSX begins resetting itself and the following message appears in the Edit window:

When the reset process is complete, the following message appears in the Edit window:

When the Self Test is complete, the Configure profile appears in the Edit window:

⇨NOTE⇨ **Flashing questions marks indicate a problem with the BRI interface.**

1 With the 04 Sys Reset command appearing in the Edit window, press V until the cursor reaches 1=Reset, then press > to select it.

The Multiband VSX begins resetting itself and the following message appears in the Edit window:

```
Message #134
  System reset
  in progress
```

When the reset process is complete, the following message appears in the Edit window:

```
   Multiband VSX       ??
Power-On Self Test
     Running
```

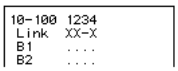
When the Self Test is complete, the Configure profile appears:

```
Configure...
>My Name=
 Switch Type=
 Line 1...
```

⇨NOTE⇨ **Flashing questions marks indicate a problem with the BRI interface.**

Interpreting Information in Status Windows

The tables on the following pages describe the information displayed in each status window, and provide guidelines for interpreting the information.

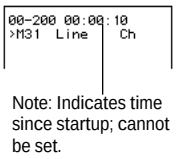


10-100 Net BRI

The 10-100 Net BRI status window displays information about the status of your telephone line. The number or numbers following the window identifier indicates the number of lines you can connect to it. The status window on the left, for example indicates that the Multiband VSX can be connected to up to four ISDN BRI lines.

Table 5-3: 10-100 Net BRI Status Window

Field	Describes status of	Indicators	Meaning
Link	physical link	-	Channel disabled
		x	No physical link
		.	Physical link, but no logical link
		P	Point-to-point connection
		M	Multi-point with one SPID
		D	Multi-point with two SPIDs
B1	B1 channel	*	In use
B2	B2 Channel	.	Not available
		-	Idle
		d	Dialing



Note: Indicates time since startup; cannot be set.

00-200 System Events

The 00-200 System Events status window displays the last 31 events that have happened on the Multiband VSX since it was powered up. Tab to the System Events status window and press ctrl-N to move through the list of events. (To help you diagnose problems, Appendix D lists ISDN codes and their meanings; Appendix E lists system event messages and their meanings.)

Table 5-4: 00-200 System Events Status Window

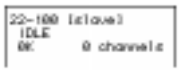
Field	Indicators	Meaning
>M31 Line [ ] Ch [ ]	M[ ]	Message number (1-31)
	Line	Line where event occurred. If field is blank, line was not involved in event.
	Ch	Channel where event occurred. If blank, no channel was involved in event.

21-100 Host 1 Status

The 21-100 Host 1 Status window displays information about the status of a call on port 1.

Table 5-5: 10-100 Host 1 Line Status Window

Indicators	Meaning
Idle	No call is up.
Handshake	Multiband VSX is negotiating with communication device on far end.
Online	Call is up.
BW Added	Bandwidth has been added to the call.
BW Removed	Bandwidth has been removed from the call.

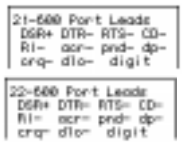


22-100 Host 2 or Slave Port Status Windows

The 22-100 Host 2 or Slave Port Status window displays information about the call on port 2.

Table 5-6: 10-100 Host 2 Line Status Window

Indicators	Meaning
Idle	No call is up
Handshake	Multiband VSX is negotiating with communication device on far end.
Online	Call is up.
BW Addded	Bandwidth has been added to the call.
BW Removed	Bandwidth has been removed from the call.

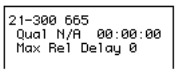


21-600 and 22-600 Port Leads

The 21-600 and 22-600 Port Leads status windows displays the status of port leads on host 1 and host 2. The Multiband VSX uses port leads to control port communication.

Table 5-7: 21-600 and 22-600 Port Leads Status Windows

Indicators	Meaning
DSR	Data Set Ready.
DTR	Data Terminal Ready.
RTS	Ready to Send.
CD	Carrier Detect.
RI	Ring Indicator.
acr	Abandon call and retry.
pnd	Present new digit.
dp	Digit present.
crq	Call request.
dlo	Data line occupied.
digit	Last digit dialed.

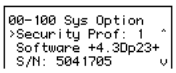


21-300 Line Quality

The 21-300 Line Quality status window displays information about the your ISDN BRI lines.

Table 5-8: 21-600 Line Quality Status Window

Field	Indicators	Meaning
Qual	Good Fair Marg Poor N/A	
Max Rel Delay	Number (up to 3072)	Maximum relative delay (number of frames) between channels



00-100 Sys Option

The 00-100 Sys Option status window displays the following information about your Multiband VSX:

- The Security profile that is activated
- The software version that is currently installed
- Its serial number

In addition, you can view information about its configuration by pressing *ctrl*-*N* (**V** if you are using the PalmTop Controller) to scroll through the status window.

6 Customizing the Directory

The user interface has a Directory that lets you configure and store in Call profiles the parameters for videoconference calls. You can create additional Call profiles or customize existing ones.

This chapter:

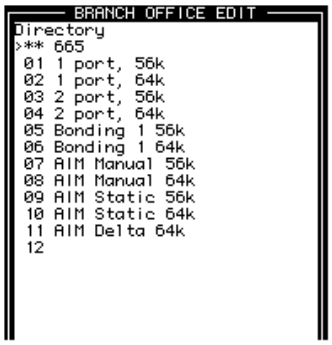
- Provides an overview of Call profiles
- Describes how to get to a Call profile
- Includes a table that lists the parameters on the Call profile and describes all possible entries in their fields

Overview of the Directory and Call Profiles

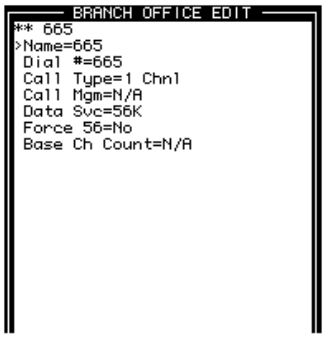
The Directory lists all Call profiles. Call profiles contain all the information the Multiband VSX requires for videoconference calls. The following is an example of a Directory and a Call profile:

Asterisks indicate that the profile labeled “665” is the active profile.

The profile you use to place a call is the active profile. Until you load another profile into the codec’s keypad or select another profile to use for placing a call, the Multiband VSX uses the parameters of the active profile to place a call. This feature is similar to the redial function on a telephone.

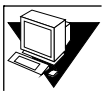


A Call profile, which is accesible through the Directory submenu, contains information required for the call.

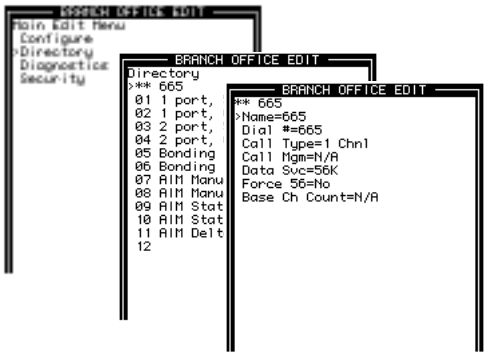


Getting to a Call Profile

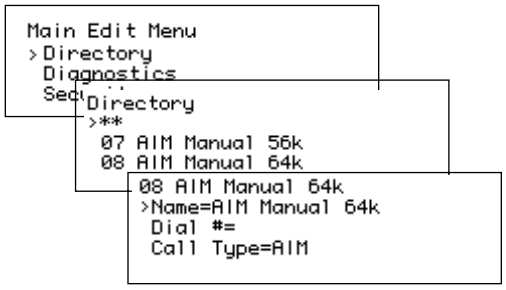
To get to the Call profile you want to edit, select it from the Directory submenu. The Directory submenu is accessible through the Main Edit Menu:



1. At the Main Edit Menu, select Directory and press enter to display the Directory submenu.
2. At the Directory submenu, select a Call profile and press enter to display it.



1. At the Main Edit Menu, select Directory and press > to display the Directory submenu.
2. At the Directory submenu, select a Call profile and press > to display it.



Use the information in Table 6-1 on page 76 to edit the profile.

If you have any questions about how to use the user interface, See Chapter 5, “User Interface,” for instructions.

Table 6-1: Call Profile	
Name	Enter a descriptive name for this profile.
Dial #	Enter the phone number for the remote site. If you are placing a 2-channel call, and each channel has a unique phone number, the syntax is: `(phone number)!(phone number)`
Call Type	Refers to the type of call you want to place. Options are: **1chnl** if you want to place a test call to yourself. **2chnl** if you want to connect two ports of a single device to the remote site over two switched channels. This is also referred to as a dual channel call. If you make this selection, N/A appears in the Call Mgm field. **BONDING** if the unit on the remote site is anything other than an Ascend unit, you want to place the call over switched channels, and you want the Multiband VSX to perform inverse multiplexing to provide the bandwidth required for the call. **AIM** if the unit on the remote site is an Ascend unit, you want to place the calls over switched channels, and you want the Multiband VSX to perform inverse multiplexing to provide the bandwidth required for the call.

Table 6-1: Call Profile (Continued)

Call Mgm	Refers to how you want the Multiband VSX to manage AIM or BONDING calls. **AIM** Options are: **Manual** if you want the Multiband VSX to provide an end-to-end management channel for bandwidth management, remote management, and session control. This type of call requires 0.2% of the bandwidth to monitor for bad channels and network slips. Some codecs cannot spare the 0.2% bandwidth required by the Multiband VSX for this type of call. **Static** if you want the Multiband VSX to perform inverse multiplexing and your codec requires 100% of the bandwidth used for the call. **Delta** if you want the Multiband VSX to perform inverse multiplexing and provide an end-to-end management channel *and* your codec needs 100% of the bandwidth required for the call. The Multiband VSX creates multiples of 64kbps calls out of 56kbps calls, then uses extra bandwidth for management control and error monitoring. An AIM Delta call does not allow you to control bandwidth, and the call is more costly than an AIM manual call. **BONDING** Options are: **Mode 0** if the communication device at the far end uses the BONDING protocol and is connected in dual port mode to a codec. **Mode 1** if the communication device at the far end is *not* an Ascend unit *and* the codec the Multiband VSX is connected to requires an exact clocking rate.
Data Svc	**56K** (default) if your local phone company and the complete path to the remote site supports 56kbps only. **Voice** if you are sending data over the voice network. **56KR** if your local phone company and the complete path to the remote site supports 56kbps service only. Same as 56K, but required on some older switches. **64K** if your local phone company and the complete path supports 64kbps.
Base Ch Count	Refers to the number of channels you want the Multiband VSX to use when placing a call. Default value is **2** if you are using only the base unit; **8** if you have the Upgrade Module installed. 1 or 2 are valid entries if you are using the base unit only. Any number between 1 and 8 is valid if you have the Upgrade Module installed.
Inc Ch Count	Refers to the number of channels you want the Multiband VSX to add incrementally when it adds bandwidth. **1** is the default. If the Upgrade Module is installed, any number between 1 and 7 is valid.

Table 6-1: Call Profile (Continued)	
Dec Ch Count	Refers to the number of channels you want the Multiband VSX to subtract in decrements when it subtracts bandwidth. **1** is the default. If the Upgrade Module is installed, any number between 1 and 7 is valid.

7 Placing and Clearing Calls

If you configured the Multiband VSX so you can control dialing through your codec, you can place a call through either the codec or your Multiband VSX's user interface. Before placing a videoconference call, you need to determine the call type and, if necessary, the call management type you want to use for the call.

This chapter describes:

- Pre-defined Call profiles
- The considerations for selectin the call type and management type you need for a videoconference
- How to place a call through your codec
- How to place a call through the Multiband VSX user interface
- How to clear calls through your codec
- How to clear calls through the Multiband VSX user interface

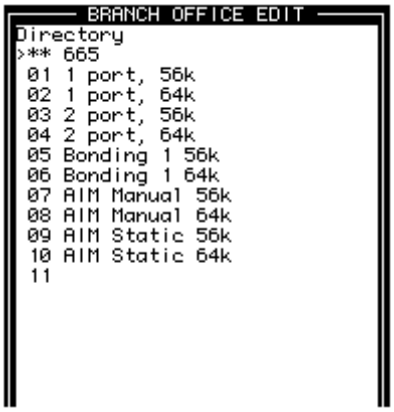
If you have any questions about the types of calls and types of call management available on the Multiband VSX, see Chapter 1, "Videoconferencing with the Multiband VSX," in this *Operations Guide*.

See Chapter 3, "Connecting Your Multiband VSX," if you have any questions about dialing modes.

Pre-Defined Call Profiles

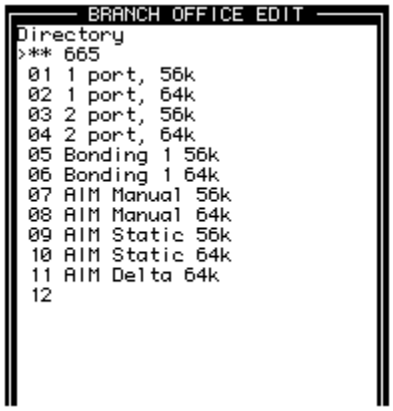
The Multiband VSX supports AIM, BONDING, and 2-channel call types. If you place an AIM call, you also need to determine the call management type you want to use.

For your convenience, several of the Call profiles have been preconfigured for the most common variations of call types. These Call profiles are listed in the Directory. Two factory-default versions of the Directory, one for the base unit and one for the installed Upgrade Module are illustrated below:



The Directory on the base unit contains the Call profiles preconfigured for:

- 1-channel calls at 56 and 64kbps
- 2-channel calls at 56 and 64kbps
- BONDING calls at 56 and 64kbps
- AIM Manual calls at 56 and 64kbps
- AIM Static calls at 56 and 64kbps



The Directory for the installed Upgrade Module contains profiles preconfigured for:

- 1-channel calls at 56 and 64kbps
- 2-channel calls at 56 and 64kbps
- BONDING calls at 56 and 64kbps
- AIM Manual calls at 56 and 64kbps
- AIM Static calls at 56 and 64kbps
- AIM Delta calls at 64kbps

Considerations for Selecting a Call Type and Call Management Type

The type of call you select for a videoconference call depends on the type of communication device the remote site is using. If you can use an AIM call, the call management type depends on your codec's bandwidth requirements.

Call Type Considerations

To determine the call type you want to use for a videoconference call, contact the remote site and ask the following question:

1 Which of the following describes the communication device you are using?

- ◇ Multiband VSX or other Ascend unit
- ◇ Inverse multiplexer manufactured by anyone other than Ascend
- ◇ ISDN Terminal Adapaters (TA)
- ◇ 2 Data Service Units (DSUs)
- ◇ Communication device is installed in video codec

2 Once you have identified the communication device used by the remote site, consult the following table to select a call type.

Table 7-1: Call Types by Communication Device

Communication Device	Call Type
Multiband VSX or other Ascend Unit	AIM
Inverse multiplexer (non-Ascend)	BONDING
ISDN Terminal Adapter	2-channel
2 Data Service Units (DSUs)	2-channel
Communication device installed in video codec	2-channel

If you can place an AIM call, continue to the next section to determine the call management type you can use for the call.

If you must place a 2-channel or BONDING call type, continue to the section "Placing a Call Through Your Codec" on page 83 for instructions for placing a call.

AIM Call Management Type Considerations

An AIM Manual call is the most robust and feature rich of the three AIM call management types. It allows you to:

- Remotely manage a Multiband VSX
- Monitor for errors (such as bad channels and network slips)
- Manage bandwidth
- Control a session

AIM Manual calls usually work when the remote site's videoconferencing setup matches yours:

- They are using an Ascend unit for inverse multiplexing
- Their codec is the same make and model as yours

However, there are certain circumstances in which an AIM Manual call may not work. For example, if your codec requires an exact clock rate (it expects to exchange data with the Multiband VSX at the same rate at which data is transferred over the communication's link), you may experience audio or video distortions with an AIM Manual call.

In general, use the following guideline for selecting a call management type:

- **Try placing an AIM Manual call.**
- **If there are audio or video glitches with an AIM Manual call *and* you want to manage a Multiband VSX at a remote site, try placing an AIM Delta call; if you don't care about management capabilities, try placing an AIM Static call.**
- **If there are audio or video glitches with an AIM Delta call try placing an AIM Static call.**

Placing a Call Through Your Codec

To place a call through your codec, you must have the Multiband VSX configured for a codec-controllable dialing mode. See Chapter 2, "Before You Connect Your Multiband VSX," if you have any questions about how to configure the Multiband VSX to control dialing through your codec.

Consult the documentation for your codec for detailed instructions on how to place a call through your codec.

To Place a Call Using the Active Call Profile

To place a call using the active Call profile (the one you last used to place a call):

1. **Press the key that initiates a call.**

   For example, on PictureTel codecs, the key is labeled "Video Call."

   When you press the key, the codec displays a request for a telephone number on the video screen.

2. **Use the keypad to enter the phone number or numbers for the remote site and press the Enter key.**

   The codec displays a request for a second telephone number on the video screen.

3. **If you are placing a 2-channel call enter the phone number for the second channel. Otherwise skip to the next step.**

4. **Press the key (usually the Enter key) that places the call.**

   The codec signals the Multiband VSX to dial a call, using the profile it last used to place a call. When the call connects, the image from the remote site is displayed in the monitor.

To Change the Call Profile and Place a Call

If you want to use a profile other than the active profile (the one you last used) to place a call, you must load the new Call profile:

1 **Press the key that initiates the call.**

For example, on PictureTel codecs, the key is labeled "Video Call."

When you press the key, the codec displays a request for a telephone number on the video screen.

2 **Load a Call profile by pressing #0[call profile number] on the codec's keypad, and enter the phone number for the site to which you want to place the call.**

The Call profile you use depends on the type of call (call type/call mgm) you want to place.

Call Type/Mgm	Profile #
1-channel	01: 56K 02: 64K
2-channel	03: 56K 04: 64K
BONDING	05: 56K 06: 64K
AIM/Manual	07: 56K 08: 64K
AIM/Static	09: 56K 10: 64K
AIM/Delta	11 (64K only)

If the Call profile has a phone number entered in the Dial # field, you do not have to enter a phone number.

3 **Press Enter.**

The codec displays a request for a second telephone number on the video screen.

4 **If you entered profile 03 or 04 in Step 2, enter #0[call profile you entered in Step 2], and the phone number for the second channel. Otherwise skip to the next step.**

5 **Press Enter.**

6 **Press the appropriate key (usually the Enter key) to place the call.**

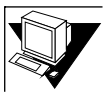
The codec signals the Multiband VSX to dial the call using the Call profile you entered in the codec's keypad.

Placing a Call Through the Multiband VSX

You can place a call through the Configure profile, the Directory sub-menu, or a Call profile.

Placing a Call Through the Configure Profile

To place a call through the Configure Profile:



1 **If necessary, press esc to get to the Main Edit Menu.**

2 **At the Main Edit Menu, with the cursor on Configure press enter.**

The Configure profile appears in the Edit window:

```
BRANCH OFFICE EDIT
Configure
>My Name=Branch Office
 Switch Type=AT&T/P-T-P
 Line 1...
 Line 2...
 Line 3...
 Line 4...
 Dial #=665
 Data Svc=56K
 Call Type=1 Chnl
 Call Mgm=N/A
 Dial=RS-366 Ext1
 Answer=Auto
 Clear=DTR Inactive
 Early CD=Originate
 Advanced...
 Save=
```

3 **Press ctrl-N until the cursor reaches the Dial # field, then press enter.**

Brackets appear under the field:

```
Dial #:
[]
```

4 **Enter the phone number for the remote site in the brackets, then press enter.**

If you are placing a 2-channel call, enter the phone number as follows:

```
(1st channel number)!(2nd channel number)
```

The number you entered appears in the field. The following is an example of an entry for a 2-channel call:

```
>Dial #=4155552222!415552223
 Data Svc=56K
```

5 **Press ctrl-N until the cursor reaches the Call type field, then press enter until the call type you want to select for the call appears in the field.**

6 **Press ctrl-N until the cursor reaches the Call mgm field, then press enter until the call management option you want to select for the call appears in the field.**

7 **Press ctrl-D to display the Do menu.**

The Do menu is displayed in the Edit window:

8 Press ctrl-N to move the cursor to 1=Dial, then press enter.

The Multiband VSX dials the call.

1 If necessary, press shift-Z to get to the Main Edit Menu.

2 At the Main Edit Menu, with the cursor on Configure press >.

The Configure profile appears:

```
Configure...
>My Name=
 Switch Type=
 Line 1...
```

3 Press V until the cursor reaches the Dial # field, then press >.

Brackets appear under the field:

```
Dial #:
 []
```

4 Enter the phone number for the remote site in the brackets, then press >.

If you are placing a 2-channel call, enter the phone number as follows:

```
(1st channel number)!(2nd channel number)
```

The number you entered appears in the field. The following is an example of an entry for a 2-channel call:

```
>Dial #=4155552222!415552223
 Data Svc=56K
```

5 Press V until the cursor reaches the Call type field, then press > until the call type you want to select for the call appears in the field.

6 Press V until the cursor reaches the Call mgm field, then press enter until the call management option you want to select for the call appears in the field.

7 Press DO to display the Do menu.

The Do menu is displayed in the Edit window:

```
01 1 port, 56k
OO...
>0=Esc
 1=Dial
```

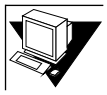
8 Press V to move the cursor to 1=Dial, then press >.

The Multiband VSX dials the call.

Placing a Call Through the Directory

You can place a call through the Directory using a Call profile that has a phone number entered in its Dial # field.

To place a call through the Directory:



1 If necessary, press esc to get to the Main Edit Menu.

2 At the Main Edit Menu, press ctrl-N to move the cursor to Directory, then press enter.

The Directory submenu appears in the Edit window:

```
BRANCH OFFICE EDIT
Directory
>** 17007370708
 01 1 port, 56k
 02 1 port, 64k
 03 2 port, 56k
 04 2 port, 64k
 05 Bonding 1 56k
 06 Bonding 1 64k
 07 AIM Manual 56k
 08 AIM Manual 64k
 09 AIM Static 56k
 10 AIM Static 64k
 11 AIM Delta 64k
 12
```

3 Press ctrl-N until the cursor reaches the Call profile you want to select for placing a call.

4 Press ctrl-D to display the Do menu.

The Do menu is displayed in the Edit window:

5 Press ctrl-N to move the cursor to 1=Dial, then press enter.

The Multiband VSX dials the call.

1 If necessary, press ctrl-Z to get to the Main Edit Menu.

2 At the Main Edit Menu, press V to move the cursor to Directory, then press >.

The Directory submenu appears:

```
Directory
>**
 01 1 port, 56k
 02 1 port, 64k
```

3 Press V until the cursor reaches the Call profile you want to select for placing a call.

4 Press DO to display the Do menu.

The Do menu is displayed in the Edit window:

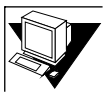
```
01 1 port, 56k
OO...
>0=Esc
 1=Dial
```

5 Press V to move the cursor to 1=Dial, then press >.

The Multiband VSX dials the call.

Placing a Call Through a Call Profile

To place a call through a Call profile:



1 If necessary, press esc to get to the Main Edit Menu.

2 At the Main Edit Menu, press ctrl-N to move the cursor to Directory, then press enter.

The Directory submenu appears in the Edit window:

```
BRANCH OFFICE EDIT
Directory                    ??
>** 665
 01 1 port, 56k
 02 1 port, 64k
 03 2 port, 56k
 04 2 port, 64k
 05 Bonding 1 56k
 06 Bonding 1 64k
 07 AIM Manual 56k
 08 AIM Manual 64k
 09 AIM Static 56k
 10 AIM Static 64k
 11 AIM Delta 64k
 12
```

3 Press ctrl-N until the cursor reaches the Call profile you want to select for placing a call. Then press enter.

The Call profile appears in the Edit window. For example:

4 Press ctrl-D to display the Do menu.

The Do menu is displayed in the Edit window:

5 Press ctrl-N to move the cursor to 1=Dial, then press enter.

The Multiband VSX dials the call.

1 **If necessary, press SHIFT-Z to get to the Main Edit Menu.**

2 **At the Main Edit Menu, press V to move the cursor to Directory, then press >.**

The Directory submenu appears:

```
Directory
>**
 01 1 port, 56k
 02 1 port, 64k
```

3 **Press V until the cursor reaches the Call profile you want to select for placing a call. Then press >.**

The Call profile appears. For example:

```
08 AIM Manual 64k
>Name=AIM Manual 64k
 Dial #=
 Call Type=AIM
```

4 **Press DO to display the Do menu.**

The Do menu appears:

```
08 AIM Manual 64k
OO...
>0=Esc
 1=Dial
```

5 **Press V to move the cursor to 1=Dial, then press >.**

The Multiband VSX dials the call.

Clearing a Call

You can clear a call from either your codec or the Multiband VSX's user interface.

Clearing a Call From Your Codec's Keypad

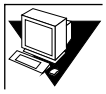
To clear a call from your codec's keypad:

▲ **Press the appropriate key to clear the call.**

The call is cleared.

Clearing a Call from the Multiband VSX

To clear a call from the Multiband VSX's user interface:



1 Press ctrl-D to display the Do menu.

The Do menu is displayed in the Edit window:

2 Press ctrl-N to move the cursor to 2=Hang Up, then press enter.

The Multiband VSX clears the call.

1 Press DO to display the Do menu.

The Do menu appears:

2 Press V to move the cursor to 2=Hang Up, then press >.

The Multiband VSX clears the call.

8 Implementing Security

Once you have configured your Multiband VSX, you should protect your configured profiles from unauthorized or inadvertent edits. Three Security profiles let you protect your configuration:

- 01 Default Security

  The default profile lets you define the set of profiles for which edit privileges are *not* restricted by a password.

- 02 [User defined name]

  This profile lets you define the set of profiles for which you want to restrict edit privileges with a password.

- 03 Full Access

  This level of security allows, with a password, edit privileges for all profiles.

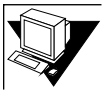
To implement security on the Multiband VSX, you edit the Security profile, then activate the profile.

Editing a Security Profile

To edit a Security profile:

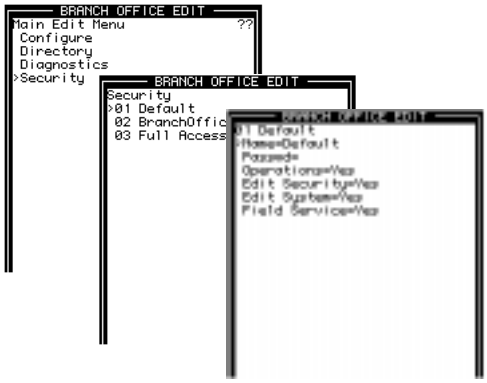
1 Get to the Security profile you want to edit.

The following illustrations shows how to go from the Main Edit menu to a Security profile.



1 At the Main Edit Menu, select Security and press enter to display the Security submenu.

2 At the Security submenu, select a Security profile and press enter to display it.



1 At the Main Edit Menu, select Security and press > to display the Security submenu.

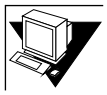
2 At the Security submenu, select a Security profile and press > to display it.

2 Use the information in Table 8-1: Security Profile, on page 97, to set the parameters.

Table 8-1: Security Profile	
Name	Enter a descriptive name for the Security profile. **This field is read only for 01 Default and 03 Full Access.**
Passwd	Enter the password you want to assign to this Security profile. The password you enter here restricts users to the parameters you define below. **This field is read only for 01 Default.**
Operations	**No** if you want to restrict the manual placement and clearing of calls and performance of any on-line diagnostics associated with a connection. If you select No in this field, N/A appears in all other fields. **Yes** (default) if you do not want to restrict the manual placement and clearing of calls and performance of any on-line diagnostics associated with a connection. **This field is read only for 03 Full Access**.
Edit Security	**No** if you want to restrict edit privileges to Security profiles. **Yes** (default) if you do not want to restrict edit privileges to Security profiles. **This field is read only for 03 Full Access**.
Edit System	**No** if you want to restrict edit privileges to profiles other than Security profiles. **Yes** (default) if you do not want to restrict edit privileges to profiles other than Security profiles. **This field is read only for 03 Full Access**.
Field Service	**No** if you want to restrict access to the terminal server interface and Ascend-provided field service operations (such as the upload of new software). **Yes** (default) if you do not want to restrict access to Ascend-provided field service operations. **This field is read only for 03 Full Access**.

Activating a Security Profile

Follow the steps below to activate a Security profile:



1 From anywhere in the user interface, press ctrl-D to display the Do menu.

The Do menu appears in the Edit window:

2 Press ctrl-N until the cursor reaches P=Password. Then press enter to select it.

A message appears asking you to select the Security profile you want to activate:

3 If necessary, press ctrl-N to move the cursor to the Security profile you want to select. Then press enter to select it.

A messsage appears asking you for your password:

4 Type the appropriate password in the brackets and press enter to accept it.

The following message appears briefly in the Edit window:

When the message disappears, the profile or submenu from which you accessed the System Do menu appears in the Edit window.

1 From anywhere in the user interface, press DO to display the Do menu.

The Do menu appears:

```
Configure...
>0=Esc
 1=Dial
```

2 Press V until the cursor reaches P=Password. Then press > to select it.

A message appears asking you to select the Security profile you want to activate:

```
Configure...
Security profile...?
>00-301 Default
```

3 If necessary, press V to move the cursor to the Security profile you want to select. Then press > to select it.

A messsage appears asking you for your password:

```
Configure...
Enter Password:
 [ ]
```

4 Type the appropriate password in the brackets and press > to accept it.

The following message appears briefly:

```
Message #117
   Profile stored
```

When the message disappears, the profile or submenu from which you accessed the System Do menu appears.

9 Managing Videoconference Calls

AIM Manual and AIM Delta calls let you take advantage of the Multiband VSX's on-line management capabilities.

Both types of call management allow you to manage the Ascend unit at the remote site.

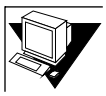
In addition, if you have the Upgrade Module installed, AIM Manual calls let you add and subtract bandwidth during a call, which gives you a tool for managing the quality of the videoconference session.

This chapter describes:

- How to adjust for audio or video problems
- How to manage the Ascend unit at the remote site
- How to add bandwidth during a videoconference call
- How to subtract bandwidth during a videoconference call

Managing the Ascend Unit at the Remote Site

If you placed a call using AIM Manual or Delta as the call management type, you can manage the Ascend unit at the remote site.

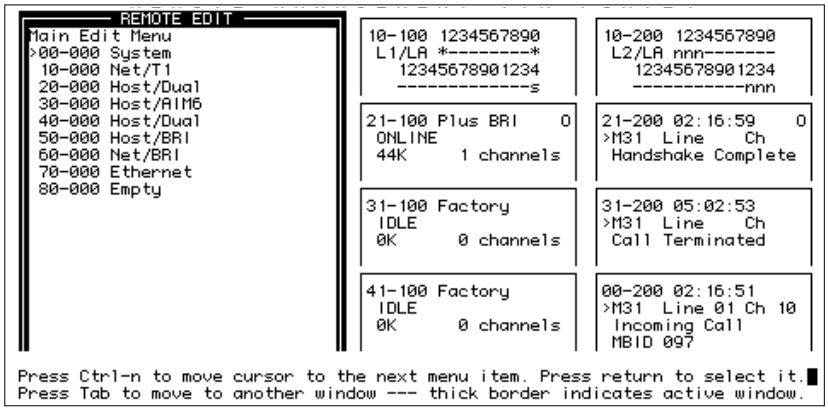


1 While a call is up, press ctrl-D to display the Do Menu.

The Do menu appears in the Edit window:

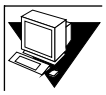
2 Press ctrl-N to move the cursor to 7=Beg/End Rem Term, and press enter.

The remote site's Edit window and status windows appear in the User Interface. The following is an example of an Ascend MAX unit.



Adjusting for Audio or Video Problems

If the remote site does not appear on your video screen, try the following:



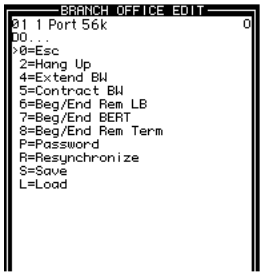
1 Make sure your call is connected.

Look at the 21-100 status window to see if the message "Online" appears. If " Online" appears, proceed to the next step.

If "Idle" appears in the status window, place the call again.

2 Press ctrl-D to display the Do Menu.

The Do Menu appears in the Main Edit window:



3 In the Do menu, press ctrl-N until the cursor reaches R=Resynchronize, and press enter.

The image from the remote end should appear on the video screen. If it does not, see Chapter 11, "Troubleshooting."

1 Make sure your call is connected.

Look at the 21-100 status window to see if the message "Online" appears. If Online appears, proceed to the next step.

If "Idle" appears in the status window, place the call again.

2 Press DO to display the Do Menu.

The Do Menu appears in the Main Edit window:

```
01 1 port, 56k
00...
>0=Esc
```

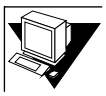
3 In the Do menu, press V until the cursor reaches R=Resynchronize, and press >.

The image from the remote end should appear on the video screen. If it does not, see Chapter 11, "Troubleshooting."

Adding Bandwidth to a Videoconference Call

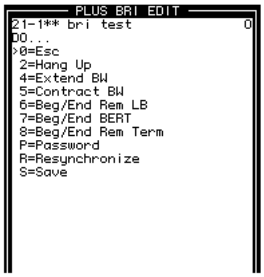
If the videoconference call is an AIM Manual call *and* you have the Upgrade Module installed, you can add bandwidth to the call to see if it improves the quality of the audio or video image.

To add bandwidth to a call:



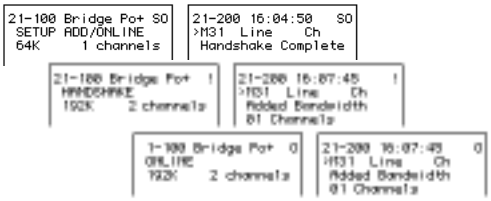
1 While a call is up, press ctrl-D to display the Do Menu.

The Do menu appears in the Edit window:



2 Press ctrl-N to move the cursor to 4=Extend BW, and press enter.

Messages displayed in status windows 21-100 and 21-200 track the progress of the added bandwidth. For example:



1 While a call is up, press DO to display the Do Menu.

The Do menu appears in the Edit window:

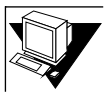
```
01 1 port, 56k
00...
>0=Esc
```

2 Press V to move the cursor to 4=Extend BW, and press >.

Messages displayed in status windows 21-100 and 21-200 track the progress of the added bandwidth.

Subtracting Bandwidth

Once you have added bandwidth to the call, you can subtract it at any time.



1 While a call is up, press ctrl-D to display the Do Menu.

The Do menu appears in the Edit window:

```
PLUS BRI EDIT
21-1** bri test                0
DO...
>0=Esc
 2=Hang Up
 4=Extend BW
 5=Contract BW
 6=Beg/End Rem LB
 7=Beg/End BERT
 8=Beg/End Rem Term
 P=Password
 R=Resynchronize
 S=Save
```

2 Press ctrl-N to move the cursor to 5=Contract BW, and press enter.

Messages displayed in status windows 2-100 and 21-200 track the progress of the bandwidth being subtracted from the call.

```
21-100 Bridge Po+  !
 HANDSHAKE
 128K    2 channels

21-200 16:09:12    !
>M31  Line    Ch
 Removed Bandwidth
 01 Channels

21-100 Bridge Po+  0
 ONLINE
 128K    2 channels

21-200 16:09:12    0
>M31  Line    Ch
 Removed Bandwidth
 01 Channels
```

1 While a call is up, press DO to display the Do Menu.

The Do menu appears in the Edit window:

```
01 1 port, 56k
00...
>0=Esc
```

2 Press V to move the cursor to 4=Extend BW, and press >.

Messages displayed in status windows 21-100 and 21-200 track the progress of the added bandwidth.

10 Advanced Configuration

Using Advanced configuration parameters you can customize certain Multiband VSX operations. This chapter:

- Describes how to get to Advanced configuration parameters
- Contains a table that lists the parameters and describes options in each field

Overview of Advanced Configuration

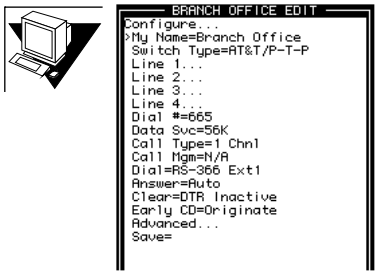
The Advanced configuration parameters allow you to do the following:

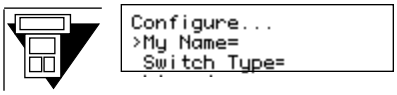
- Change the default rate at which the Multiband VSX communicates with your communications program
- Change the user interface to a command line (MIF) interface
- Prevent the Multiband VSX from being managed from a remote site
- Configure the Multiband VSX to dial multiple channels simultaneously
- Configure the Multiband VSX to revert to the default Security profile if it detects no user activity for the amount of time specified in the Idle logout field
- Defines the duration of time the Multiband VSX should wait before reverting to the default Security profile
- Disable the dual port feature

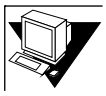
WARNING **If you have any questions about changing Multiband VSX operations using any parameter listed under Advanced, check with your system administrator or other technical advisor before attempting to edit any of them.**

Getting to Advanced Configuration Parameters

Advanced configuration parameters are accessible through the Configure profile, illustrated below:







1 **If necessary, press esc until the Configure profile appears in the Main Edit window.**

2 **Press ctrl-N to move the cursor to Advanced, and press enter.**

Advanced parameters appear in the Main Edit window when you press enter:

3 **Use the information in Table 10-1 on page 113 to change the Advanced configuration parameters.**

If you have any questions about how to change the parameters, review Chapter 5, "User Interface."

1 **If necessary, press Shift-Z until the Configure Profile appears in the Main Edit window.**

2 **Press V to move the cursor to Advanced, and press >.**

Advanced parameters appear in the Main Edit window when you press >:

```
Configure
 Advanced...
 >Term Rate=9600
```

3 **Use the information in Table 10-1 on page 113 to change the Advanced configuration parameters.**

If you have any questions about how to change the parameters, review Chapter 5, "User Interface."

Table 10-1: Advanced Configuration Parameters

Term Rate	Tells the Multiband VSX the rate at which it should talk to your communications program. 9600 is the default.
Console	Tells the Multiband VSX the system software interface you want it to display. Options are: **Standard** (default) displays the Edit window and 8 status windows. **MIF** (Machine Interface Format) displays a command-line interface.
Remote Mgmt	**Yes** (default) if you want to allow the Multiband VSX to be managed from a remote site. **No** if you do *not* want to allow the Multiband VSX to be managed from a remote site.
Parallel Dial	Tells the Multiband VSX how many channels it can dial at once. If you are using the base unit only, 1 or 2 are valid entries. If the Upgrade Module is installed, any number between 1 and 8 is valid.
Auto Logout	**Yes** if you want the Multiband VSX to automatically log out of a session when it is disconnected from the computer's com port or the PalmTop Controller for the amount of time specified in the Idle logout field. If you select Yes in this field, you must enter a value in the Idle logout field. **No** (default**)** if you do *not* want the Multiband VSX to automatically log out.
Idle Logout	Refers to the number of minutes you want the Multiband VSX to wait after it is disconnected from the computer's com port or PalmTop Controller before it logs out of a session. Any number between 0 and 60 is valid.
Dual Port Enable	Tells the Multiband VSX to perform dual port videoconferencing. **1&2 Dual** (default) if you want the second port to be active. **No** if you do *not* want the second port to be active.

11 Troubleshooting

This chapter contains a description of problems you could run into while configuring or conducting videoconferences using the Multiband VSX, as well as instructions for diagnosing problems and some suggestions for solving them.

This chapter is divided into the following sections:

- Problems Configuring the Multiband VSX
- Test Call Failures
- Problems Conducting Videoconferences

Problems Configuring the Multiband VSX

There are two symptoms described in this section:

- No profile appears when you start your communications program
- A profile appears, but it isn't the Configure profile

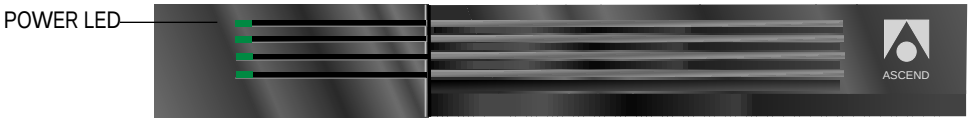
No Profile Appears When I Start my Communications Program

If no profile appears when you start your communications program, one of the following could be the problem:

- Your Multiband VSX is not receiving power
- Your Multiband VSX is not connected to the serial port of your computer or a PalmTop Controller
- Your communication program is not configured correctly for your Multiband VSX
- There is a hardware problem with the Multiband VSX

Follow the steps below to diagnose and correct the problem.

1 Check the POWER LED on the front panel of the Multiband VSX.



If the POWER LED is not on, the unit is not receiving power. It may not be connected to a power source. Continue to step 2.

If the light is on, continue to step 4.

2 Connect your Multiband VSX to a power source.

If your Multiband VSX is plugged into a power strip or surge protector, make sure the power strip or surge protector is plugged in and turned on.

Once you are sure the Multiband VSX is connected to a power source, if the POWER LED is on, continue to step 3.

If the POWER LED is still not on, contact the Ascend Technical Assistance Center at 1-800-ASCEND-4.

3 Check the FAULT LED

If the FAULT LED goes off within 30 seconds after you have connected the Multiband VSX to a power source, continue to step 4.

If the FAULT LED is blinking or on more than 30 seconds after you have connected the Multiband VSX to a power source, contact the Ascend Technical Assistance Center at 1-800-ASCEND-4.

4 Press ctrl-L to refresh the screen.

If no profile appears, continue to step 5.

If a profile appears but it isn't the Configure profile, go to the next section, "A Profile Appears But It Isn't the Configure Profile."

5 Check to see if your Multiband VSX is connected to your computer's serial port.

If necessary, connect the Multiband VSX to your computer. Then continue to step 6.

If your Multiband VSX is connected to your computer, continue to step 6.

6 Press ctrl-L to refresh the screen.

If no profile appears, continue to step 7.

If a profile appears but it isn't the Configure profile, go to the next section, "A Profile Appears But it Isn't the Configure Profile."

7 **Check to see if your communications program is configured for the Multiband VSX.**

Your communications program should be configured as follows:

VT100

9600 bits per second

8 data bits

No parity

1 stop bit

No flow control

Direct connect

8 **Press ctrl-L to refresh the screen.**

If a profile appears but it isn't the Configure profile, continue to the next section.

A Profile Appears But It Isn't the Configure Profile

If a profile other than the Configure profile appears when you power up the Multiband VSX, it may have already been configured.

- **Either press esc until the Main Edit Menu appears, then choose Configure from the Main Edit Menu, or**
- **Unplug the Multiband VSX and plug it in again.**

Test Call Failures

If your test call fails, it may be due to one of the following:

- The Multiband VSX may not be connected to your ISDN BRI lines
- The Multiband VSX may not be talking to the switch
- There is a problem with the Multiband VSX's configuration
- There may be a problem with the cables that connect the Multiband VSX to your Codec
- There is a network problem

The steps in the following sections give you guidelines for diagnosing and resolving problems with your test call.

Check Your ISDN BRI Connection

If question marks appear in the upper right hand corner of windows in the user interface (see the illustration below this paragraph), you may not be connected to your ISDN BRI line.

If no questions marks appear, continue to the section "Check Your Cables."

1 If necessary, connect to your ISDN BRI lines.

See Chapter 3, "Connecting Your Multiband VSX," if you have any questions about how to connect your Multiband VSX to your ISDN BRI line.

Once you are sure you are connected to your ISDN BRI line, check to

see if the question marks still appear in the windows.

If questions marks still appear in the windows, proceed to the next section "Check to See if the Multiband VSX Is Talking to the Switch."

If they no longer appear, try your call again. If you still have problems with the test call, proceed to step 2.

2 **If you are sure you are connected to your ISDN BRI lines and the test call still fails, check for an ISDN cause code.**

Cause codes appear in the 00-200 status window. For example:

```
00-200 00:06:16
>M31  Line 01 Ch 01
 No Connection
 Cause code 042
```

Refer to Appendix D, "ISDN Cause Codes," for information on how to interpret ISDN Cause codes.

Check to See if the Multiband VSX Is Talking to the Switch

If your test call fails and you are sure you are connected to your ISDN BRI line, the Multiband VSX may not be configured correctly.

Try the following:

▲ **Compare the values entered in the Switch type or Line parameters fields on the Configure profile with the information you entered in the Configuration table in Chapter 2, "Before You Connect Your Multiband VSX."**

If necessary, make any corrections.

If the information in the Configure profile matches the information entered in the configuration table, contact your service provider to make sure the table reflects the correct information. Make any necessary adjustments.

Once you are sure the configuration information is entered correctly in the Configure profile, try the call again.

If the call still fails, proceed to the next section.

Check Your Cables

The cables you received from Ascend for connecting your Multiband VSX to your codec are specific to your codec type.

1 **Make sure your cables are connected securely to the Multiband VSX and your codec.**

If necessary, secure the cables tightly, then try the test call again.

If you are sure both ends of the cables are securely fastened and your test call still fails, continue to the next step.

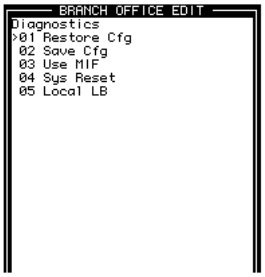
2 **Compare the part number imprinted on the cable you received for your codec with the part numbers listed in "What Is in Your Multiband VSX Package" on page 24 of this manual to verify that you received the correct cables for your codec.**

If the cables are appropriate, proceed to the next step.

If you received the wrong cable, contact the Ascend Technical Assistance Center at 1-800-ASCEND-4.

3 **Press esc to get to the Main Edit Menu. At the Main Edit Menu, press ctrl-N until the cursor reaches Diagnostics, then press enter to select it.**

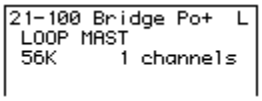
The Diagnostics submenu appears in the Main Edit window:



4 **Press ctrl-N to move to 05 Local LB and press enter to select it.**

5 **Press ctrl-N to move to CD, and press enter until Active appears in the field.**

If the message "Loop mast" appears in the 21-100 status window, your cables are okay:



If the message does not appear, contact the Ascend Technical Assistance Center at 800 ASCEND-4 (800 272-3634).

6 **Press esc twice to exit from the Local LB submenu.**

The Main Edit Menu appears in the Edit window. Continue to the next step.

Check To See if the Multiband VSX Can Place and Receive Calls

If your cables are okay, check to see if the your carrier service is a problem:

1 **Dial a known phone number using the Multiband VSX.**

If the call goes through, you know you can place calls. Continue to the next step.

If the call does not go through, contact your ISDN BRI service provider.

2 **Have someone call the telephone number or numbers (My num A and/or My num B) you entered in your Configure profile.**

If the calling party can reach you, your carrier service is not the problem. Contact the Ascend Technical Assistance Center at 1-800-ASCEND-4 and describe the steps you have taken to diagnose the problem.

If the calling party cannot reach you, your carrier service may be the problem. Contact your service provider.

Problems Conducting Videoconferences

There are generally two types of problems while conducting videoconferences:

- Audio or video distortions
- No image appears in the video screen

The following sections provide some guidelines for resolving problems when conducting videoconferences.

Audio and/or Video Distortions

If you experience audio and/or video problems during a videoconference call, you may need to place the call again using a different call type and/or management type.

- If you placed an AIM Manual call, try placing it again using AIM Delta as the call type and management type. (This is only valid if the Upgrade Module is installed.)

- If you placed an AIm Delta call, try placing it again using AIM Static as the call type and management type.
- If you place an AIM Static call, try placing it again using BONDING as the call type.
- If you BONDING call does not work, try placing the call again using 2-channel as the call type.

Remote Site Image Does Not Appear in the Video Screen

If you cannot see the remote site when you place your call, try the following:

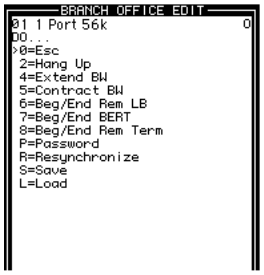
1 Make sure your call is connected.

Look at the 21-100 status window to see if the message "Online" appears. If "Online" appears, proceed to the next step.

If "Idle" appears in the status window, place the call again.

2 Press ctrl-D to display the Do Menu.

The Do Menu appears in the Main Edit window:



3 In the Do menu, press ctrl-N until the cursor reaches R=Resynchronize, and press enter.

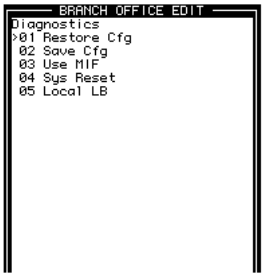
The image from the remote end should appear on the video screen. If it does not, continue to the next step.

4 **In the Do menu, press ctrl-N until the cursor reaches 2=Hang Up, then press enter.**

The call is cleared and the message "Idle" appears in the 21-100 status window. Proceed to the next step.

5 **Press esc to get to the Main Edit Menu. At the Main Edit Menu, press ctrl-N until the cursor reaches Diagnostics, then press enter to select it.**

The Diagnostics submenu appears in the Main Edit window:



6 **Press ctrl-N to move to 06=Beg/End Rem LB and press enter to initiate remote loopback.**

If you see an image on the video screen, you do not have a problem at your site. Contact the remote site and request that they perform a remote loopback procedure. If the remote site sees an image on their video screen when they perform remote loopback, the problem may be with the network. Continue to the next step.

If you do not see an image at your site when you perform a remote loopback operation, continue to the next step.

7 **With the cursor on 06=Beg/End Rem LB, press enter to end remote loopback.**

If you have determined that the problem may be with the network, contact your ISDN BRI service provider. Otherwise, continue to the next step.

8 **Press esc to exit from the Do Menu. If necessary, continue pressing esc until the Main Edit menu appears in the Edit window.**

9 **Press ctrl-N to move the cursor to Configure and press enter to select it.**

The Configure profile appears in the Edit window.

10 **Press ctrl-N to move the cursor to Clear, and press enter until Terminal appears in the field.**

11 **Press ctrl-D to display the Do Menu.**

12 **Press ctrl-N to move the cursor to 1=Dial, then press enter.**

The Multiband VSX places a call to the far side. If you see an image in the video screen when the call connects, the problem may be with your codec. Consult the manual for your codec.

If you do not see an image, contact the Ascend Technical Assistance Center at (800) ASCEND-4 (272-3634).

A Cable Pinouts

The tables in this Appendix identify the pinouts for your codec cables.

V.35 / RS-366 Cable to CLI

This cable (model number MBHD-V35CLI, part number 2510-0094-001) is used to connect to V.35 ports of the Compression Labs Rembrandt II codec with support for RS-366 dialing. It has the following pinouts:

Pair #	Signal	ABC MAX Male DB-44	Host V.35/RS-366 Male DB-25
1	V.35 FGND V.35 DTR	1 8	1 8
2	V.35 SD+ V.35 SD-	26 27	2 14
3	V.35 RD+ V.35 RD-	2 3	3 15
4	V.35 ST+ V.35 ST-	4 5	4 16
5	V.35 RT+ V.35 RT-	14 15	5 17
6	V.35 DSR V.35 DCD/CTS	6 36	6 19
7	V.35 RTS V.35 RI	7 43	7 18
8	V.35 TT+ V.35 TT-	16 17	4 16
9	RS-366 DPR RS-366 ACR	9 10	9 10
10	RS-366 CRQ RS-366 PND	11 12	11 12

Pair #	Signal	ABC MAX Male DB-44	Host V.35/RS-366 Male DB-25
11	RS-366 DLO SGND	13 25	13 25
12	RS-366 NB1 RS-366 NB2	21 22	21 22
13	RS-366 NB4 RS-366 NB8	23 24	23 24
14	RX/SEL	28, 44*	

* Pin positions separated by commas are jumped to each other.

V.35 / RS-366 Cable to PT

This cable (model number MBHD-449PT, part number 2510-0093-001) is used to connect to V.35 ports of the PictureTel codec with support for RS-366 dialing. It has the following pinouts:

Pair #	Signal	ABC MAX Male DB-44	Host Female DB-37	RS-366 Female DB-25
1	FGND	1	1	
2	SD+ SD-	26 27	4 22	
3	RD+ RD-	2 3	6 24	
4	ST+ ST-	4 5	5 23	
5	RT+ RT-	14 15	8 26	
6	DSR DCD/CTS	6 36	11 9, 13*	
7	RTS RI	7 43	7 15	
8	DTR SGND	8 25	12 19, 20, 37*	
9	TT+ TT-	16 17	17 35	
10	DPR ACR	9 10		2 3
11	CRQ PND	11 12		4 5

Pair #	Signal	ABC MAX Male DB-44	Host Female DB-37	RS-366 Female DB-25
12	DLO SGND	13 25		22 7
13	NB1 NB2	21 22		14 15
14	NB4 NB8	23 24		16 17
15	DSC	36		13
16	RX/SEL	28, 44*		

* Pin positions separated by commas are jumped to each other.

RS-449 / RS-366 / DB-37 Cable to VTC

This cable (model number MBHD-449VTC, part number 2510-0081-001) is used to connect to RS-449 ports of the VTel codec with support for RS-366 dialing. It has the following pinouts:

Pair #	Signal	ABC MAX Male DB-44	Host RS-449/RS-366 Male DB-37
1	FGND FGND	1 1	1 19
2	SD+ SD-	29 30	4 22
3	RD+ RD-	40 39	6 24
4	ST+ ST-	42 41	5 23
5	RT+ RT-	37 38	8 26
6	DSR DCD/CTS	6 36	2 9, 11, 18*
7	RTS RI	7 43	7 15
8	DTR SGND	8 25	12 37
9	RS-366 DPR RS-366 ACR	9 10	14 3
10	RS-366 CRQ RS-366 PND	11 12	10 33
11	RS-366 DLO	13	21

Pair #	Signal	ABC MAX Male DB-44	Host RS-449/RS-366 Male DB-37
12	RS-366 NB1 RS-366 NB2	21 22	16 28
13	RS-366 NB4 RS-366 NB8	23 24	32 34
14	RX/SEL	20, 28*	

* Pin positions separated by commas are jumped to each other.

** This cable does not support terminal timing.

B Uploading System Software

System software is continually being enhanced to support new features and improve performance by the Multiband VSX. The Multiband VSX is designed so that you can upgrade the system software and take advantage of these new features without returning the unit to the factory.

Contact the Ascend Technical Assistance Center at (800) 272-3634 for information about the latest version of system software and how to get it, then follow the instructions on the following pages to upgrade the system software on your Multiband VSX.

What You Need to Upgrade System Software

To upgrade the system software you need the following:

- The upgraded system software (supplied by Ascend Communications, Inc.)
- A personal computer with a serial port to which you can connect the Multiband VSX. If you receive the upgraded software on a floppy disk, you also need a 3.5" floppy disk drive attached to you computer.
- A communication program that supports VT100 terminal emulation and Xmodem transfer. It must be configured as follows:

  VT100 emulation
  9600 bits per second
  8 data bits
  No parity
  1 stop bit
  No flow control
  Direct connect
  Sending and receiving ASCII text

⇨NOTE⇨ **If you are using a Macintosh communications program, Macbinary must be turned off.**

Upgrading System Software

Upgrading system software is a three- or four-part process, depending on the Security profile that is currently activated. The steps required can include:

1 If necessary, activate a Security profile that allows for field upgrade.

2 Save your configured profiles to your computer's hard disk.

3 Download the system software to the Multiband VSX.

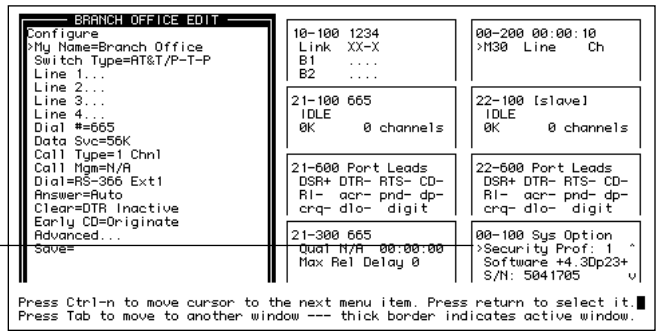
4 Restore your configured profiles to the Multiband VSX.

Instructions for completing these tasks are described in this appendix. Before you go any further, check to see which version of the system software is currently installed on your Multiband VSX and which Security profile is activated.

▲ **With your communication program open, press *ctrl*-*L* to refresh the screen; verify the version of the system software that is currently running and determine which Security profile is activated.**

The software version and active Security profile appear in the 00-100 Sys Option status window:

The version of the software currently installed on your Multiband VSX as well as the active Security profile appear in the 00-100 Sys Option status window.



Activate a Security Profile that Allows for Field Upgrade

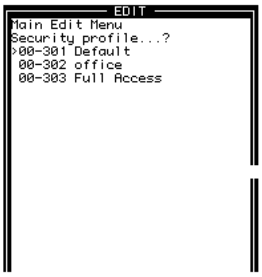
If the Security profile that is currently activated has Field Service disabled, you need to activate a Security profile that has Field Service enabled in order to upgrade your system software.

1 From anywhere in the Configuration Software, press ctrl-D to display the Do menu.

The Do menu appears in the Edit window:

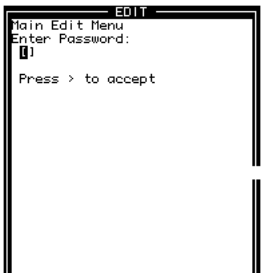
2 Press ctrl-N until the cursor reaches P=Password. Then press enter to select it.

The Configuration Software asks you to select the Security profile for which you want to enter a password:



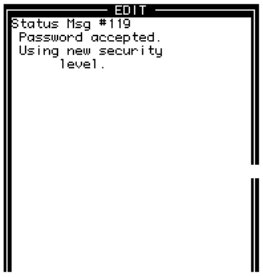
3 **If necessary, press ctrl-N to move the cursor to the Security profile you want to activate. Then press enter to select it.**

The Configuration Software asks you for your password:



4 **In the brackets, type the password for the profile you want to activate. Then press enter to accept it.**

The following message appears briefly in the Edit window:



When the message disappears, the Configuration Software returns to the profile or submenu from which you accessed the Do menu.

You are now ready to save your configured profiles to your computer's hard disk. Continue to the next section.

Saving Your Configured Profiles

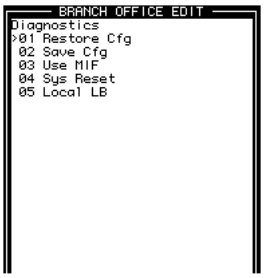
This procedure lets you save all configured profiles (except the password for your Security profiles) to your computer's hard disk.

⇨NOTE⇨ **Field Service must be enabled on all Security profiles before you can save your system software to your hard disk.**

1 If necessary, press enter until you see the Main Edit Menu in the Edit window.

2 At the Main Edit Menu, Press ctrl-N to move the cursor to Diagnostics, then press enter.

The Diagnostics submenu appears in the Edit window:



3 **Press ctrl-N to move the cursor to 02 Save Config. Then press enter.**

The following message appears:

```
Ready to download - type any key to start...
```

4 **Turn on the capture feature of your communications program and name the file to which you want to save your configured profiles.**

Consult the documentation for your communications program if you have any questions about how to turn on the capture feature.

5 **Press any key to start saving your configured profiles.**

Rows of configuration information are displayed on the screen as the file is downloaded to your hard disk. When the file has been downloaded to your hard disk file, your communications program displays a message indicating that the download is complete.

⇨NOTE⇨ **You can abort the save process at any time by typing ctrl-C.**

6 **Turn off the capture feature of your communications program.**

Consult the documentation for your communications program if you have any questions about how to turn off the capture feature.

7 **Print a copy of your configured profiles for later reference.**

If the printed copy seems to have fewer lines than what was displayed as the file was downloaded, repeat the save process.

You are now ready to upgrade the system software to your Multiband VSX. Continue to the next section.

Upgrading System Software

Contact the Ascend Technical Assistance Center at (800) 272-3634 for upgraded software.

WARNING

Uploading system software overwrites all existing profiles. Save your current profiles to your hard disk before you begin upgrading system software or you will have to reconfigure all your profiles. See "Saving Your Configured Profiles" earlier in this chapter.

1 In rapid succession, type the following key sequence:

esc [esc -

You must type all four keys within one (1) second in order for the Multiband VSX to recognize the sequence.

When the Multiband VSX recognizes the key sequence, it begins displaying the following string of Xmodem control characters:

CKCKC

2 As soon as the Xmodem strings are displayed, use the Xmodem file transfer protocol to send the upgraded system software file to the Multiband VSX.

If you have any questions about how to send files using the Xmodem file protocol, consult the documentation for your communications program.

Your communications program begins sending the file to your Multiband VSX. This normally takes anywhere from 5 to 15 minutes.

⇨NOTE⇨

The time displayed on the screen does not represent real time. Don't worry if your communication program displays several "bad batch" messages. This is normal.

When the upload process is complete, the Multiband VSX resets itself. When the self-test is complete, the Configure profile appears in the Edit window with all parameters set to default values.

You are ready to restore your configured profiles to your Multiband VSX. Continue to the next section.

Restoring your Configured Profiles

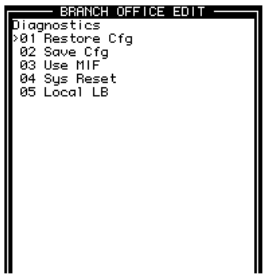
Once you have upgraded your system software, you can restore your saved configured profiles.

To restore configured profiles:

1 Press esc until the Main Edit Menu appears in the Edit window.

2 Press ctrl-N to move the cursor to Diagnostics. Then press esc.

The Diagnostics submenu appears in the Edit window with the cursor on Restore Cfg:



3 With the cursor on Restore Cfg, press enter.

The following message appears:

```
Waiting for upload data...
```

4 Send the configured profiles you saved to your hard disk to the Multiband VSX.

If you have any questions about how to send an ASCII file, consult the documentation for your communication program.

When the configured profiles have been restored, the following message appears:

```
Restore complete - type any key to return to menu
```

5 Type any key to display the Edit and status windows.

When you type any key, the Main Edit Menu appears in the Edit window:

All configured profiles that you saved are restored to the Multiband VSX except for the password on your Security profiles.

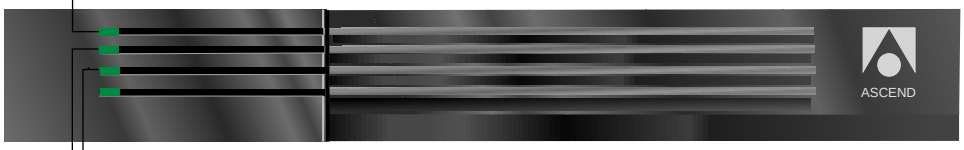
⇨NOTE⇨ **If the upgraded system software includes new parameters, you may have to reconfigure some parameters, as well as configure the new parameters.**

6 If you want to activate security on your Multiband VSX, set the password on the appropriate Security profile.

If you have any questions about how to activate Security profiles, see Chapter 8“Implementing Security”

C LEDs

POWER LED comes on when the Multiband VSX is connected to a power source and stays on until it is disconnected from the power source.



WAN LED is on if there is an active session on either port.

FAULT LED comes on during self-test. If it stays on longer than 30 seconds, or if the light blinks, there is a problem with the unit. See Chapter 11, “Troubleshooting,”.”

D ISDN Cause Codes

ISDN cause codes help you diagnose problems with calls. They appear in the 00-200 System Events status window:

ISDN cause codes are displayed in the 00-200 System Events status window.

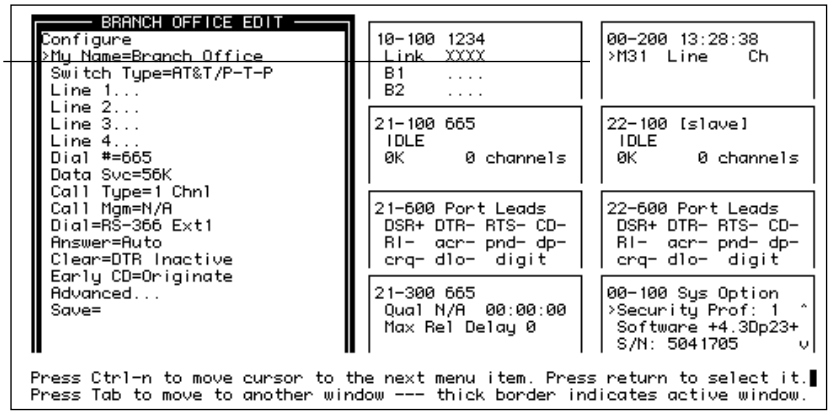


Table D-1, “ISDN Cause Codes,” on page 148, lists all ISDN cause codes.

⇨NOTE⇨ **The cause codes listed on this table are not valid for German 1TR6 networks (WANs).**

Table D-1: ISDN Cause Codes

Code	Cause
1	Unallocated (unassigned) number.
2	No route to specified transit network (WAN).
6	Channel unacceptable.
16	Normal clearing.
17	User busy.
18	No user responding.
21	Call rejected.
22	Number changed.
28	Invalid number format (incomplete number).
29	Facility rejected.
30	Response to STATUS ENQUIRY.
31	Normal, unspecified.
34	No circuit/channel available.
38	Network (WAN) out of order.
41	Temporary failure.
42	Switching equipment congested.
43	Access information discarded.
44	Requested circuit channel not available.
45	(What's) pre-emptied.
50	Requested facility not subscribed.
52	Outgoing calls barred.

Table D-1: ISDN Cause Codes (Continued)

Code	Cause
54	Incoming calls barred.
58	Bearer capability not presently available.
63	Service or option not available, unspecified.
65	Bearer service not implemented.
66	Channel type not implemented.
69	Requested facility not implemented.
81	Invalid call reference value.
82	Identified channel does not exist.
88	Incompatible destination.
96	Mandatory information element is missing.
97	Message type non-existent or not implemented.
98	Message not compatible with call state, or message type non-existent or not implemented.
100	Invalid information element contents.
102	Recovery on timer expiry.
127	Internetworking, unspecified.

E System Event Messages

System event messages display all the events that have happened on the Multiband VSX since it was powered up. They appear in the 00-200 System Events status window:

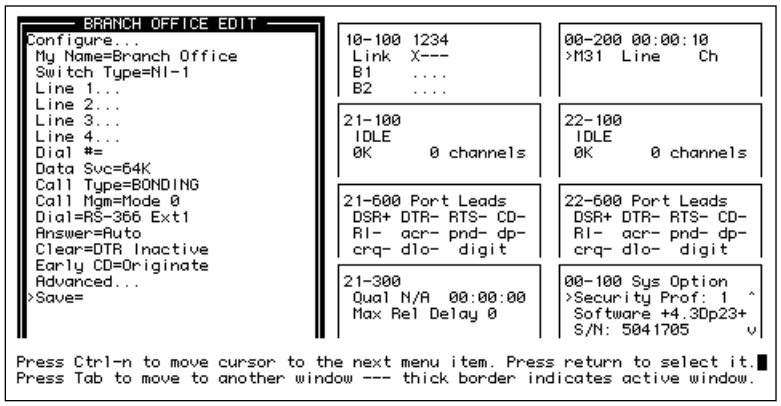


Table E-1, “System Events,” on page 152, lists all possible system event messages and their meaning.

Table E-1: System Events

Event Message	Meaning
`Busy`	The phone number was busy when the call was dialed.
`No Connection`	The far end did not answer when the call was dialed.
`No Channel Avail`	No channel was available to dial the initial call.
`Not Enough Chans`	A request to dial multiple channels or to increase bandwidth could not be completed because there were not enough channels available at that time.
`No Chan Other End`	No channel was available on the far end to establish the call.
`Network Problem`	The call setup was faulty because of problems within the WAN network or in the Line Profile configuration.
`Call Disconnected`	The call has ended unexpectedly.
`Far End Hung Up`	The far end terminated the call normally.
`Internal Error`	Call setup failed because of a lack of system resources, such as insufficient memory. If this type of error occurs, notify the Ascend Technical Assistance Center.
`Incoming Glare`	Multiband VSX could not place a call because it saw an incoming “glare” signal from the switch. If you receive this error message, you probably have selected incorrect Line Profile parameters. Glare occurs when an incoming call was placed simultaneously with an outgoing one.
`Wrong Sys Version`	The far-end product version was incompatible with the near-end Multiband VSX. The software version appears on the 00-100 Sys Option status menu.

Table E-1: System Events (Continued)

Event Message	Meaning
`Request Ignored`	The request to manually change bandwidth during a call was denied because the **Call Mgm** Call Profile parameter had the value *Dynamic*. With this value, Multiband VSX only allows automatic bandwidth changes.
`Remote Mgmt Denied`	A request to run the far-end Multiband VSX by AIM remote management was rejected because the **Remote Mgmt** System Profile parameter at the far end had the value *No*.
`Call Refused`	An incoming call could not be connected to the specified serial host port because the resource was busy or otherwise unavailable.
`No Phone Number`	No phone number exists in the Call Profile being dialed.
`Not FT1-B&O`	The local Multiband VSX attempted to connect an FT1-B&O call to the far-end, but the call failed because the call type at the far end was not FT1-B&O.
`No system DS0 Mins`	No maximum has been specified for the **Max DS0 Mins** System Profile parameter.
`No port DS0 Mins`	No maximum has been specified for the **Max DS0 Mins** or **Max Call Mins** Port Profile parameter.
`Dual Port req'd`	The call could not be placed because both ports of the dual-port pair were not available.

Index

Numerics

A

B

C

D

E

F

G

H

I

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y