VuLink

Video Conferencing System

For VuLink™ and VuLink™ RCS Models

Installation & Operation Manual

Gentner®

Perfect Communication through Technology, Service, and Education®

VuLink™ Installation and Operation Manual
Gentner Part No. 800-170-001
Revision 3.1

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1 Introduction

About VuLink

The VuLink™ video conferencing system developed by Gentner comprises a set-top unit with a user-friendly software interface. Each screen in the VuLink software can be easily navigated using the specially designed remote control.

VuLink's main function is the making and receiving of video conference calls. VuLink supports the H.320 and H.323 standards, enabling you to make Integrated Services Digital Network (ISDN), 56k Restricted ISDN (ISDN-R), Local Area Network (LAN), Local Area Network-Wide Area Network (LAN-WAN), and Voice calls.

VuLink's integrated Microsoft® Internet Explorer 4.0 browser allows you to access the Internet during a H.320 ISDN call and send and receive a single Annex D image or sequence of images to the person you are calling. This enables you to share web pages and documents and make presentations while in a call.

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Technical Services

If you need any additional information on how to install, set up or operate your system, please contact us at one of the locations listed below. We welcome and encourage your comments so we can continue to improve our products and serve your needs.

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Product Registration

Please register your VuLink online by visiting Gentner Technical Support at **www.gentner.com**. When your product is properly registered, Gentner Communications is better able to serve you should you require technical assistance. Registration information is also used to notify you of upgrades and new product information.

Using This Manual

To find information on a particular topic, consult either the table of contents or the index. To obtain the definition of a term used in this manual, consult the glossary at the back of this guide. To begin using VuLink immediately, consult the Quick Start Guide supplied with your VuLink. This provides all the information required to connect and configure your VuLink.

Scope of the Manual

This manual deals with the operation of the VuLink unit and its associated software. However, although some VuLink screens provide access to Gentner's VuConsole remote management tool, this manual does not discuss VuConsole. For more information on VuConsole, contact your Gentner representative.

Terminology

This section lists some of the terminology used in this manual and defines how these terms are used within the context of the VuLink.

· Keys
The word **key** always refers to a key on the remote control or remote control keyboard. For example: Press the Exit key to exit the LAN Settings screen without saving your changes.

· Icons
The word **icon** always refers to an element on the VuLink interface that you can highlight and select. For example: Highlight and select the Video Settings icon on the Menu screen to access the Video Settings screen.

· Highlight
Highlighting an icon or option on a drop-down list involves using the arrow keys to move the red box on the screen to the field, check box, or drop-down list that you want to edit. Once you have highlighted the item you want, you usually have to select it as well. For example: To add a new entry to the Phone Book, highlight and select the Add icon.

· Select
Pressing the **Select** key confirms the option or icon you have highlighted and executes the required action. For example: Highlight and select the Spid Settings icon. The SPID Settings screen is displayed.

2Getting Started

Unpacking

When you unpack the VuLink box contents, you should have the following:

! **Gentner Communications is not responsible for product damage incurred during shipment. You must make claims directly with the carrier. Inspect your shipment carefully for obvious signs of damage. If the shipment appears to be damaged, retain the original boxes and packing material for inspection by the carrier. Contact your carrier immediately.**

VuLink Main Unit

Power Supply Unit

Country Specific Power Cord

Mic and Mic Cable

ISDN Cables (1 w/VL322, 3 w/VL326)

Gray Ethernet (LAN) Cable

Phono Plug to 3.5 mm Mono Plug

Yellow/Black Dual Phono Cable

SCART Adapter Block (European customers only)

Installation and Operation Manual, Quick Start Guide, and Audio/Video Products CD

Gray Serial Cable   Remote Control and Batteries   Keyboard (Inside Remote)

Camera (RCS Models Only)   Camera Cable (RCS Only)   External Infrared Receiver (RCS Only)

If any item is missing, please contact your supplier.

Before using the VuLink, please read the enclosed end-user license agreement—it contains important information concerning your use of the VuLink software. Please read the section on ISDN and the safety regulations pertaining to your specific location.

US Users

This equipment uses an S/T interface and is designed to connect to an external NT1 Terminal Adapter. To be able to connect to the public network, you must supply an approved NT1 Terminal Adapter.

Positioning the VuLink

Place the VuLink main unit on a flat hard surface, which allows adequate airflow through the ventilation holes. Do not place the main unit in direct sunlight or near sources of direct heat.

We recommend that you place the VuLink on top of the monitor. This gives a more natural appearance to a video conference, since you will remain in the line of sight of the camera, but you will also be able to view the video image of the person you are calling, without adjusting your position.

The difference between the VL322 and VL326 is that the VL326 features a higher H.320 data rate (56-384kbps vs. 56-128kbps). Also, the VL326 has 3 ISDN BRI vs. the VL322's 1 ISDN BRI.

If you are using the VL322 Remote Camera Systems (RCS) or VL326 RCS models, you can place the camera on top of the monitor. For RCS models, the camera can be positioned up to five meters away from the VuLink unit. Connect the camera to the VuLink using the supplied five-meter cable.

Connecting the VuLink

This section describes how to connect your VuLink. The connection procedure is basically the same for all models. Any exceptions are listed in the text.

Before you can begin using your VuLink, you must connect the VuLink to the following:

· Power supply
· Monitor
· Microphone
· Audio speakers
· LAN and/or ISDN
· Camera (RCS models only)
· External infrared receiver (RCS models only)

You can also connect other devices to the VuLink. For more information, see the connection information on the following two pages.

RCS models only ←
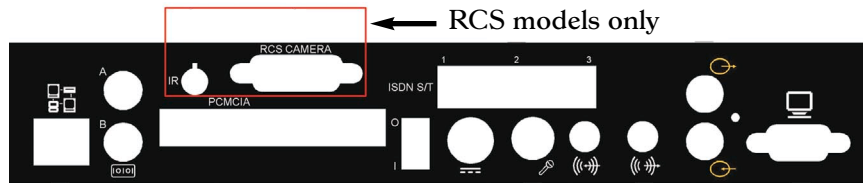
VuLink Back Panel

All connections are made at the back of the VuLink. The diagram above shows the back panel connections that have to be made for VuLink VL326 models. For VL322 models, the only difference is that there is only one ISDN connector. The RCS models have two additional connectors above the PCMCIA slot, the IR and the RCS camera connector.

Before you begin to connect your VuLink, ensure that the on/off switch is in the Off state (up) and that the power supply has been connected to VuLink

The table below describes the purpose of each of the connectors on the back panel.

Connector	Description
Ethernet	If you want to use your VuLink to make or receive calls over your local area network (LAN), connect the gray Ethernet cable to this connector.
Serial Ports A and B	If you want to connect external devices to the VuLink, for example a PC, use the gray serial cable to connect the device to the serial ports.
IR (RCS Models Only)	Connect the External infrared receiver to this connector.
RCS Camera (RCS Models ONLY)	Connect the RCS camera cable to this connector. The other ends of the cable are connected to the camera.
PCMCIA	If you want to use flash cards to upload information to your VuLink, remove the cover over the slot and insert the flash card.
O/I Switch	This is the main on/off switch for your VuLink.
ISDN S/T 1, 2, and 3	Connect the ISDN cables labeled 1, 2, and 3 to the appropriate connector. (VL322 models have only one ISDN cable.)

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Connector	Description
DC 12 and 5V	Connect one end of the power supply unit to the DC 12&5V connector.
Mic	Connect the Audio-Technica® microphone to the Mic connector.
Audio In	If you want to use a line audio device, connect the device to this connector.
Audio Out	Connect the audio speakers to this connector using the 3.5mm phono cable. If the monitor has internal speakers connect directly to the monitor using the black connector on the Yellow/black dual phono cable.
Video Out	If you are using a composite monitor, connect the yellow part of the yellow/black dual phono cable to this connector. Then connect the other end of the cable to the composite monitor.
Video In	If you want to use an auxiliary camera, connect the camera to this connector.
VGA Monitor	If you are using a VGA monitor, connect your monitor cable to this connector.

Power Supply

The VuLink must only be operated with the power supply unit and must be connected to an earthed power socket.

Composite Monitor

VuLink can be connected to a composite monitor. The type of composite monitor you can use depends on the VuLink model. VL322N and VL326N models must be connected to a National Television Standards Committee (NTSC) monitor, while VL322P and VL326P models must be connected to a Phase Alternating Line (PAL) monitor. VL322 RCS and VL326 RCS models must be connected to a monitor that uses the same video standard (NTSC or PAL) as the camera being used.

If you are not sure how to connect external devices, see the instructions supplied with your television or monitor.

European users can use the SCART block if the television comes with a SCART connector. Connect the yellow plug to the video out connector

! **Should a replacement be required, it must be obtained from an authorized supplier of VuLink systems. Use of an unauthorized power supply may be dangerous and invalidates all warranties.**

on VuLink and the black to the audio out. Connect the Video out (yellow) to the Video connector on the SCART block and the Audio out (black) to the Audio (L/MONO) connector and connect the SCART block to the television.

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TECHNICAL SUPPORT: 1.800.283.5936 (USA) OR 1.801.974.3760

3Camera

About the Camera

Your VuLink comes complete with a Sony EVI-D30L (NTSC) or EVI-D31L (PAL) camera.

Depending on the VuLink model, the camera may be integrated or supplied as a separate unit. VL322 and VL326 VuLink models have an integrated camera, which is attached to the top of the VuLink unit. However, in the case of the VL322 Remote Camera System (RCS) and VL326 RCS models, the camera is supplied as a separate unit from the VuLink.

These non-integrated cameras are designed for use at up to five meters from the VuLink. The main advantage of a non-integrated camera is that it allows you to position the VuLink unit and the camera in separate locations if, for example, space is limited.

The type of camera supplied depends on the VuLink model. The camera types, NTSC and PAL, have to be used with the corresponding VuLink main unit.

Camera Presets

You can set up a number of preset positions for your camera. Each preset position corresponds to a number between one and 10. When you select a preset, the camera will immediately turn to point in the corresponding direction. VuLink can store 10 presets (numbered 0-9) for the main camera. The procedure for setting the presets is the same for the main camera and the far end camera. When the video image displayed is the local video image the presets are set for the main camera.

To enter a camera preset:
1. Point the camera in the desired direction using the arrow keys.
2. Use the Zoom + and Zoom - keys to zoom the camera in and out, until you are satisfied with the video image.
3. Press the Select key. The following dialog box appears:
4. Use the arrow keys to highlight and select one of the preset
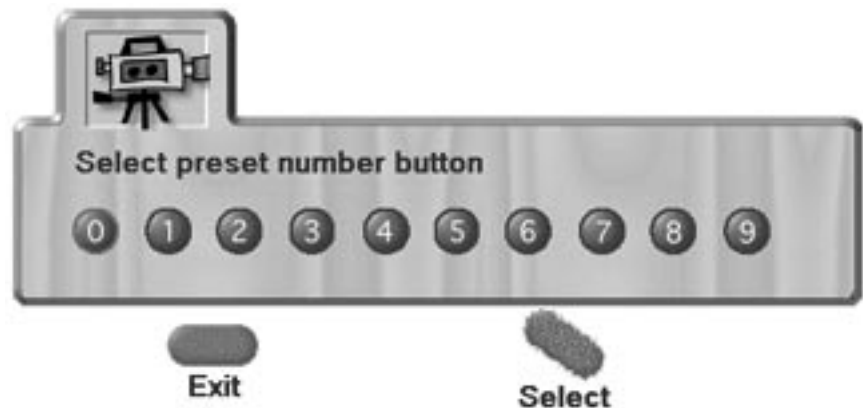
numbers between zero and nine. Alternatively, simply press the desired number key.

When the preset has been stored, the following dialog box is displayed:
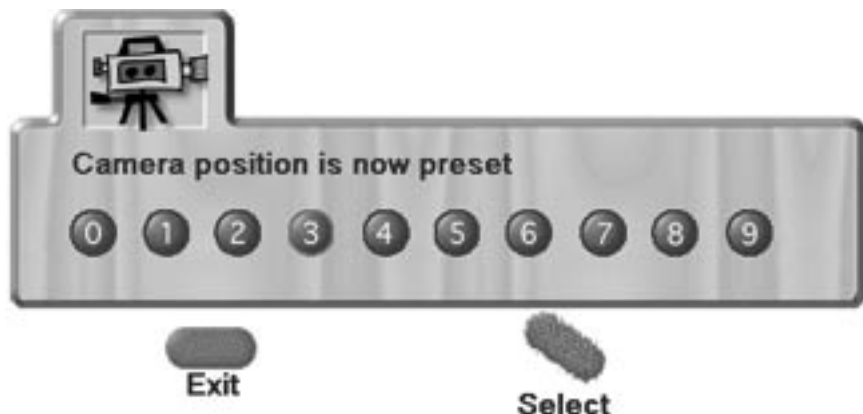
5.   When you have finished entering presets, press the Exit key to
     return to the Main screen.

To Select a Preset

To select a camera preset, press and release the number key between 0
and 9 that corresponds to the preset position you want. If you select a
preset during a call, the PIP (Picture-in-Picture) will be displayed if the
SmartPIP is non-zero. If the Far icon is displayed, the preset selected is
the far preset, not the local preset.

Do not hold the number icon down too long, otherwise VuLink will misinterpret your action as a speed dial request. (For more information on speed dial, see the Setting up Speed Dial section in Chapter 7 Making Calls).

Camera Control

Controlling the Main Camera

This section describes how you can control the main camera. The main
camera is the camera that was supplied with your VuLink.

The camera is a so-called PTZ camera, which means you can pan, tilt,
and zoom the image with the camera controls. To point and tilt the
camera in a different direction, simply press the appropriate arrow key.
To zoom in and out of a video image, use the Zoom + and Zoom - keys.

When you have finished adjusting the camera position, the Main screen
will be automatically re-displayed after approximately 30 seconds.

If you want to return to the Main screen immediately, press the Exit key.
When the camera is moved during a call, the PIP (Picture-in-Picture) is
activated so that you can see how you are adjusting the camera. If you
activated the SmartPIP feature, the PIP is removed, after a short delay.
For more information on the SmartPIP function, see page 40.

Using an Auxiliary Camera

If you use another camera in addition to the main camera, it is known as
an auxiliary camera. This section describes how you can control up to
two auxiliary cameras.

The type of auxiliary camera you can use depends on your main camera
delivered with your VuLink. If the main camera is NTSC the auxiliary
camera has to be NTSC too. The same applies for PAL cameras and the
RCS models.
If you are using an auxiliary camera, pressing the Aux1/2 key will switch
between the main camera and the auxiliary.

When you select the auxiliary camera, the auxiliary icon (shown a right)
will appear.

To return to the main camera, simply press the Aux 1/2 key again. If you are using an auxiliary camera, press the Aux1/2 key repeatedly to cycle between cameras.

Controlling the Far-End Camera

This section describes how you can control the far-end camera. The far-end camera is the camera located on the premises of the person that you are calling. In other words, it is the "main" camera of the person you are calling.

This feature is available only if it is also supported by the video conferencing system of the person you are calling. Not all systems support far-end camera control.

During a LAN or ISDN call, it is possible to control the far end camera to adjust the video image you are seeing from the far end. You can control the far-end camera remotely by pressing the Far key.

If the system at the far end supports far-end camera control, the far-end camera icon (shown at left) is displayed.

If this icon does not appear, the system at the far end does not support far-end camera control.

Please note that you will not be able to control the far-end camera until about 20 seconds after the call has connected.

You can control the far-end camera in exactly the same way as you would the main camera, by using the arrow keys. You can also switch to a remote auxiliary camera by pressing the Aux 1/2 key.

Not all systems support all of the features of far-end camera control described in this section. You may be able to connect to the far end system but not be able to control the camera, although the Far icon may be displayed.

4 Remote Control

About the Remote Control

The VuLink interface is designed in such a way that every feature of the VuLink can be accessed using the remote control.

To begin using your remote control, open the panel at the back of the remote control and insert the four AAA batteries supplied. Take care to insert the batteries in the correct direction, as illustrated by the line drawings in the battery compartment.

When replacing batteries, ensure that the new batteries are AAA non-rechargeable and always replace the entire set. If you mix used and fresh batteries, you may damage your remote control.

Using the Remote Control

Programming the Remote Control

If you connected your VuLink unit to a composite monitor, you can use the VuLink remote control to control the television volume. To do this, you will have to program your remote control before using the VuLink for the first time.

If you connected your VuLink to a VGA monitor, you do not need to program your remote control.

To program your remote control:
1. Press and release the IR Setup key on your remote control.
2. Press and release the Power key.
3. Enter the three-digit code for your television.

   For a list of codes corresponding to every make of television, see Appendix A. If there is more than one code for your make of television, you will have to experiment to find the correct code.

4. Press and release the IR Setup key once again.

   The LED on the remote control flashes three times to indicate that the remote control has been programmed successfully.

Navigating with the Remote Control

Navigating with the remote control is easy. You can use the arrow keys and the Select key at the bottom of the remote control.

You can also use the remote control keyboard to navigate the VuLink screens. For more information on navigating with the remote control keyboard, see the Using the Keyboard section later in this chapter.

You have to both highlight the screen item and press the Select key before the VuLink will execute any action.

When you move around the screen, a red box indicates your position on the screen. When you have highlighted a field, icon, or drop-down list, you have to press the Select key to confirm your choice. The Select key is located to the right of the navigation pad and in the middle of the arrow keys. It is similar in function to the right mouse icon on a conventional PC mouse.

Using the Navigation Keys

In addition to the standard numeric keyboard (0-9, # and *), the remote control supplied with your VuLink includes a number of navigation keys. This section describes the keys on your VuLink remote control.

Dial/Hangup	Starts a call. If you press Dial/Hangup during a call, it terminates the call.
Power	Puts VuLink into power save mode. The screen goes blank. The VuLink is woken up by an incoming call or by pressing any key except the Power key.
Web	Starts the integrated Internet Explorer browser.
Volume +/-	Increases or decreases the volume.
Mute	Allows a private conversation by muting audio such that far end cannot hear you.
IR Setup	Allows you to program the remote control.
Zoom +/-	Zooms the camera in and out. Pressing Zoom + makes image larger, while pressing Zoom - makes it smaller.
Send	Allows you to send an Annex D single image to the person you are calling.
Aux 1/2	Allow you to switch between the main camera and one or more auxiliary cameras.
PIP	Allow you to switch to PIP (Picture-in-Picture) mode during a call. Pressing this key repeatedly moves the PIP into each of the four corners of the video image and then switches it off. When dialing a H.323 call, the PIP key also acts as the '.' separator for an IP address.
Far	Allow you to switch between far-end and local (main) cameras during a call.
User	In future releases of VuLink, you will be able to program this key for your own purposes. This functionality is, however, not currently supported.
Menu	Displays the Menu screen.

Info	Displays the About VuLink screen, which provides configuration information for your VuLink. If you press this key during a call, it displays the Call Information screens. You can also access VuConsole Help, if you have installed and are running VuConsole.
Select	Confirms the choices you have made on a screen.
Arrow keys (**Up, Down Left, Right)**	Allow you to move between fields on a screen. In the Internet Explorer browser, you can use the arrow keys to move the mouse cursor. The arrow keys are also used to control the main and far-end cameras.
Back	Corresponds to the Back button in the Internet Explorer browser. Pressing back allows you to return to the page that you viewed immediately before the page you are currently on. It can also be used as a backspace key and to move back in an entry you have made in a field.
Next	Use the Tab key to move to the next field in an Internet Explorer form on a web page.
Exit	Allows you to exit the current screen.

Using the Keyboard

The VuLink remote control contains a full QWERTY keyboard. To use your remote control in keyboard mode, lift the central section of the remote control cover to reveal the keyboard.

When using the remote control in keyboard mode, the following keystrokes are equivalent to the remote control keys.

Key Stroke	Equivalent Remote Control Key
Alt + **1**	Power
Alt + **2**	Dial/Hangup
Alt + **3**	Mute
Alt + **4**	Far
Alt + **5**	User
Alt + **6**	Send
Alt + **7**	PIP
Alt + **8**	Aux 1/2
Alt + **9**	Menu
Alt + **0**	Info
Alt + **-**	Web
Enter	Select
Escape	Exit

You can use the conventional Windows shortcut keys to access the menus in the Internet Explorer browser.

To access any menu, hold down Alt on the remote control keyboard and press the letter that is underlined in the menu name. For example, to access the File menu, hold down Alt and press 'f'. The File menu is displayed.

5 Configuring VuLink

The Welcome Screen

There are three occasions when you will have to configure the VuLink:

· When you turn on your VuLink for the first time
· After a software upgrade
· After resetting VuLink to factory settings

Turn on VuLink using the switch on the back of the unit. After about 10 seconds the VuLink logo appears. After about 30 seconds the Welcome screen is displayed.

Welcome

VuLink

Press Exit to continue

If the Main screen is displayed, the VuLink has already been configured and is ready for use. For more information on the Main screen, see Chapter 6 Menu Options.

If the Welcome screen is not displayed automatically, check that both the VuLink unit and the monitor are turned on and that you have selected the correct input for the composite monitor. A red LED on the front panel of the VuLink indicates that the power supply to the VuLink is working correctly.

Press the Exit key to begin the configuration process.

Setup Options

The VuLink configuration process consists of the following steps:

· ISDN setup
· LAN setup
· VuConsole setup
· SmartDial setup

You do not have to complete each step to begin using your VuLink. For example, if you choose to use your ISDN connection, you do not have to complete the screens for LAN setup. Similarly, you need to complete VuConsole setup only if you plan to use the VuConsole software for remote management of your VuLink unit. If you do not select the Enable LAN check box, the VuConsole Settings screen will not appear.

If you do not want to complete any of these screens, simply press the Exit key. The next screen in the configuration process is displayed automatically.

ISDN Setup

ISDN setup needs to be performed only if you want to use an ISDN connection to make and receive H.320 ISDN calls.

You can configure your VuLink to use an ISDN connection or to operate over your LAN, or both. This section describes how you can configure your VuLink to make calls over an ISDN connection.

The ISDN setup screen is displayed when you press the Exit key in the Welcome screen.
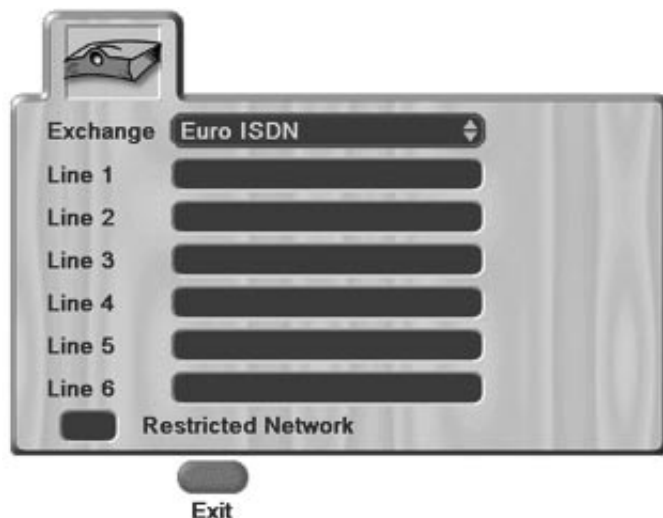
Required Information

Before you begin the ISDN setup, it is recommended that you connect your VuLink unit to your ISDN connection using the supplied ISDN cable(s). The number of cables that you need will depend on the number of ISDN channels that are available to you and on the VuLink model. You will need one ISDN cable if you are using the VL322 model and three if you are using the VL326.

The following section lists the information that you will require for the ISDN Settings screen:

· The type of ISDN exchange to which VuLink is to be connected
· The local ISDN numbers for the lines to be used
· Whether or not the ISDN network is restricted to 56k (ISDN-R)

This information should be available from your system administrator or telephone company.

ISDN Settings

1. Select the ISDN exchange type to which VuLink is to be connected from the Exchange drop-down list.
2. Enter the local ISDN line numbers in Line 1 to Line 6 fields.

   The amount of ISDN numbers that you need to enter depends on how many ISDN channels you are using. You need to enter a number for each of the two, four, or six lines, in order to receive 2B, 4B, and 6B bonded calls respectively. For NI1 or DMS100, the full 10-digit number must be entered. For other exchanges and localities, the area code should be omitted.

The VuLink connects to an ISDN network via an S/T interface. In some parts of the world, the telephone company supplies an S/T interface, while in other parts, they provide a U interface, requiring the sourcing of a Network Termination 1 (NT1) unit. Check with your system administrator or telephone company if you are unsure of the type of interface provided.

If you selected National ISDN 1 or Nortel DMS100 from the Exchange drop-down list, see the additional steps in the SPID Settings section.

There will be a slight delay after pressing the Exit key before the ISDN Settings screen is displayed.

3. If the local ISDN exchange is an ISDN-R 56k restricted network, select the Restricted Network check box.
4. Press the Exit key to exit the ISDN Settings screen.

    The LAN Settings screen is displayed.

SPID Setup

SPID settings are relevant for US users only.

If you selected National ISDN 1 or Nortel DMS100 from the Exchange drop-down list, you will have to enter SPID settings in addition to the regular ISDN settings. Service Profile IDs (SPIDs) are used to identify what sort of services and features the switch provides to the ISDN device.

If you selected National ISDN 1 or Nortel DMS100 as the exchange type on the ISDN Setup screen, the SPID Settings icon is automatically displayed.

To enter SPID settings:
1. Highlight and select the SPID Settings icon.

    The SPID Settings screen is displayed.
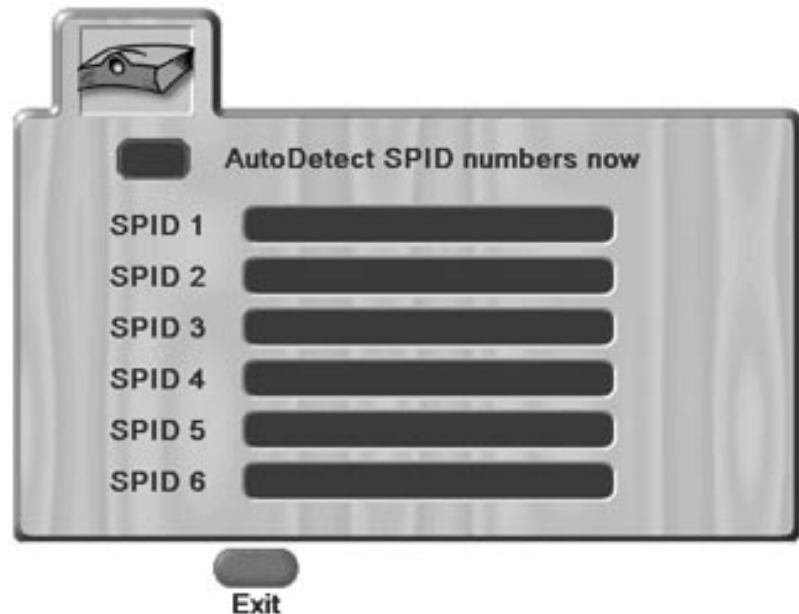
2. Select the AutoDetect SPID numbers now check box, unless you know that your SPIDs are an unusual configuration.

    The VuLink detects your SPIDs automatically. You will have to restart your VuLink to view the SPIDs, which are now displayed in the SPID 1 to SPID 6 fields.
3. Press the Exit key to exit the SPID Settings screen.

To check SPID detection

1. On the Menu screen, highlight and select the ISDN Settings icon and then highlight and select the Line Settings icon.

   The ISDN Settings screen is displayed.

2. Highlight and select the SPID Settings icon.

   The SPID Settings screen is displayed. Your SPIDs should now be displayed in the SPID 1 to SPID 6 fields.

   If your SPIDs are not displayed, they were not detected. You will have to enter the SPIDs manually on this screen.

If you know that your SPIDs are an unusual configuration, deselect the AutoDetect SPID numbers now check box and enter the SPIDs manually in the SPID fields.

LAN Setup

When you press the Exit key in the ISDN Settings screen, the LAN Settings screen is displayed. LAN setup is required if you want to be able to use the Internet Explorer browser, or use VuConsole for remote management of your VuLink.

Required Information

Before you begin the LAN setup, it is recommended that you connect your VuLink unit to your LAN using the gray Ethernet (LAN) cable.

The following sections list the information that you will require for the LAN Settings and H.323 Settings screens.

LAN Settings Screen

To use VuLink over a LAN, you need to know if the LAN uses Dynamic Host Configuration Protocol (DHCP).

If the LAN does not use DHCP, you need to know the following information before you can begin LAN setup:
· The IP address to be assigned the VuLink
· The subnet mask
· The IP address of default gateway
· The IP address of the Domain Name System (DNS) server, if you want to use a DNS server for name lookup
· The IP address of the Windows Internet Naming Service (WINS) server, if you want to use a WINS server for name lookup.

To be able to place a LAN call or surf the Internet, you must enter the IP address of either the DNS server or the WINS server on this screen.

H.323 Settings Screen

To complete the H.323 Settings screen, you will need the following information:

· If you use a gatekeeper, the IP address of the gatekeeper
· The E164 and H.323 names that were assigned by your system administrator
· The prefixes for any gateway used

The LAN and H.323 information should be available from your system administrator or network specialist.

LAN Settings

You do not need to complete the H.323 Settings screen unless your network uses H.323 gateways and gatekeepers.

1. Select the **Enable LAN** check box.
2. Select the **Use DHCP** check box if your network supports DHCP.

   If your network supports DHCP, you do not need to enter any other settings. DHCP automatically generates an IP address for the VuLink and your LAN setup is complete.

If your LAN does not support DHCP

1. Enter the IP address of the gateway in the Default Gateway field.

   If you do not need external access from your local subnet, this field can remain as 0.0.0.0.

2. Enter the IP address that your system administrator has assigned to the VuLink in the IP Address field.

3. Enter the subnet mask to be used in the Subnet Mask field. If you are using a static IP, you have to use a default gateway.

4. If you use a DNS server for name lookup, select the DNS check box. The DNS Server field is enabled.

5. Enter the address of the DNS server in the DNS Server field.

6. If you use a WINS server for name lookup, select the WINS check box. The WINS Server field is enabled.

7. Enter the address of the WINS server in the WINS Server field.

8. Press the Exit key to exit the LAN Settings screen.

IP addresses must be unique on your local network. Duplicate addresses result in unpredictable and unforeseen network problems.

H.323 Settings Screen

When you press the Exit key in the LAN Settings screen, the H.323 Settings screen is displayed.

The H.323 Settings screen allows you to configure the H.323 gateways and gatekeepers. On the H.323 Settings screen, the VuLink's network name is displayed by default in the LAN Machine Name field.

1. Select the gatekeeper mode from the Gatekeeper Mode drop-down list. Select from None (no gatekeeper will be used), AutoDetect (VuLink auto detects and selects the gatekeeper), and Explicit (you enter the IP address of the gatekeeper).

2. Enter the IP address of the gatekeeper in the Gatekeeper Address field.

3. Enter the E164 name in the E164 Name field if your gatekeeper software contains an E164 name. This is essential to receive calls from an H.320 system via gateway.

4. Enter the H.323 name in the H.323 Name field if your gatekeeper software contains an H.323 name.

If using a gatekeeper, both the E164 and H.323 IDs must be entered.

If these prefixes are not configured, the LAN-WAN call type is not available when making a call.

5. Enter the prefixes that your gateway uses to place specific types of LAN/WAN calls in the Gateway Prefix field for the rate you are using.

    If you do not use a gateway, these fields can remain blank.

    To access other rates, select the **More Rates** icon. You can enter the gateway prefix(es) for the appropriate rate(s).

6. Enter the delimiter that the gatekeeper is to use when placing nx64k calls. Your system administrator sets a symbol or digit as the delimiter.
7. Press the Exit key to exit the H.323 Settings screen.

    The VuConsole Settings screen is displayed.

VuConsole Setup

You need to enter the VuConsole settings only if you plan to use the VuConsole software for monitoring and remote management of your VuLink unit. Enabling remote management does not prevent local use in any way.

VuConsole Settings

1. Select the Enable VuConsole check box.
2. Enter a VuConsole password in the VuConsole Password field if you want to restrict access to VuConsole.

   VuConsole passwords are not case-sensitive.

3. Select the Use VuConsole Phone Book check box if you want VuLink to use the VuConsole phone books.
4. Enter the current date and time in the Day, Month, Year, and Time fields.

   Since these settings are used to generate the call log for VuConsole, it is essential that the date and time on the VuLink are accurate. The time must be entered in 24-hour clock format.

5. Press the Exit key to exit the VuConsole Settings screen.

The SmartDial Settings screen is displayed.

You may be prohibited from accessing the VuConsole Phone Book even if you select the Use VuConsole Phone Book check box. Furthermore, if you subsequently deselect the Use VuConsole Phone book check box, all VuConsole entries are immediately removed from the VuLink Phone Book.

SmartDial Setup

The SmartDial feature uses smart logic to derive the number that the VuLink has to dial for both internal and external calls.

The SmartDial Settings screen is displayed during configuration only if you selected the Enable VuConsole check box in the VuConsole Settings screen.

PBX

Max Extension   4

Area Code

Country Code

External Line

Area Access

International Code

Exit

If the VuLink is not connected to a Private Branch Exchange (PBX) or the PBX does not support direct mapping from external numbers to internal numbers, this field should remain blank.

SmartDial Settings

1. Enter the prefix digits of your telephone number in the PBX field.
2. In the Max Extension field, enter the maximum number of digits that internal extensions in your company may have when VuLink is used on a PBX.
3. Enter the area code (where applicable) of the area where the VuLink is situated in the Area Code field. If your country does not use area codes, leave this field blank.
4. Enter the international country code for the country where the VuLink is situated in the Country Code field.
5. If VuLink is connected to a PBX, enter the prefix to access an external line in the External Line field.
6. Enter the code that precedes the area code for long distance calls in the Area Access field.
7. Enter the international dialing prefix in International Code field.
8. Press the Exit key to exit the SmartDial Settings screen.

The Setup Summary screen is displayed.

Setup Summary


```
              The following are the settings you have chosen:
Name:      VuLink699410019
Use DHCP: Enabled              Gatekeeper: None
IP Address: 0.0.0.0            E164 Name: None
Gateway:   0.0.0.0            H323 Name: None
Subnet:    0.0.0.0            VuConsole: Disabled
DNS:       0.0.0.0            Phonebook: Disabled
WINS:      0.0.0.0            Date:       4.9.2001
Restriction: Disabled         Time:       15:11
Exchange:  Euro ISDN
SmartDial:  .....
Line1:
Line2:
Line3:
Line4:
Line5:
Line6:
              Press Select to confirm or Exit to Cancel
```

The Setup Summary screen summarizes the settings you have entered on all of the screens described in this chapter. At this point, you have two alternatives:

· Press the Exit key if you have made a mistake.
  This enables you to start from the beginning and enter the correct settings.
· Press the Select key to accept the settings you have entered and to complete configuration.

VuLink restarts after a few seconds. The startup procedure lasts 30 seconds or more.

When the VuLink has restarted, the Main screen is displayed.

6 Menu Options

Main Screen

When you turn on your VuLink, the VuLink logo appears and a simple tune is played to verify correct operation of the audio. Then the Main screen is displayed.
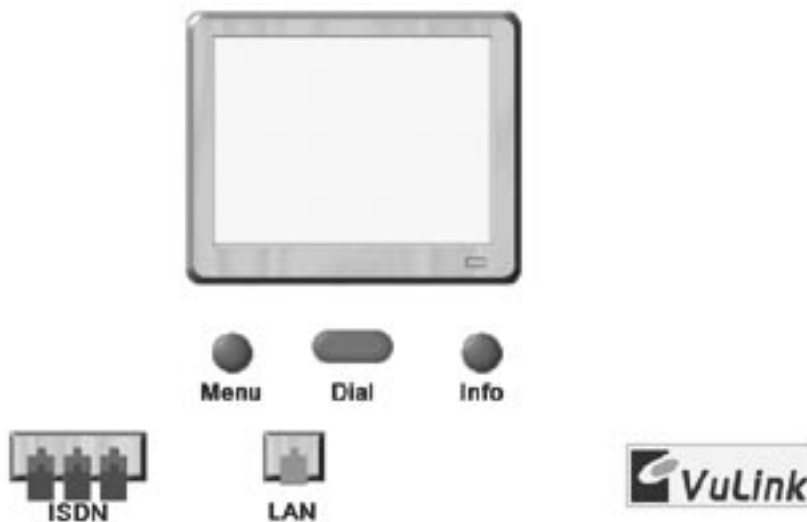
The window in the center of the screen displays the camera input. There are three icons below the camera input: Menu, Dial, and Info. By pressing the corresponding keys on the remote control you can access the Menu, Dial and Info screens.

In the bottom left corner of the screen, indicators display the status of the ISDN and LAN connections. When you turn on the VuLink, the ISDN indicators are initially yellow. This signifies that VuLink is unsure of the state of the lines. It may take up to 20 seconds for VuLink to determine whether there are physical lines attached to the ports, depending on the ISDN supplier and how the supplier handles layer 1 signaling.

When the VuLink has detected the ISDN lines, the indicators turn green. The VL326 model has three ISDN ports, therefore three ISDN indicators are displayed, one for each port. When the three ISDN ports are being used and functioning properly, all three indicators should be green. If you are using only one port, one green indicator will be displayed and the other two indicators will appear in red. The VL322 model has only one ISDN port; therefore one green indicator and two gray indicators will be displayed when the ISDN connection is set up properly.

On public ISDN networks, VuLink may not notice if a line is subsequently removed. This is a consequence of ISDN implementation on some public networks.

If there is a problem with the connections, the indicators turn red. If all three ISDN indicators are red, you might have selected the wrong exchange type. Go through the setup of the lines and the ISDN settings again to check that the lines are set up correctly. See Chapter 2 Getting Started. If one indicator is red, while the other two are green, this suggests that the problem lies with either the ISDN cable or the actual ISDN line.

If the LAN indicator is red, this means that the VuLink cannot detect the Ethernet (LAN) cable. Check that the Ethernet cable has been connected and that it is not loose. If the problem persists, contact your system administrator. The LAN indicator is not displayed if the LAN has been disabled.

Menu Screen
Press the Menu key at any time to display the Menu screen.

Phone Book | User Settings | Audio Settings | Video Settings | Internet Explorer

Advanced Settings | VuConsole Settings | LAN Settings | ISDN Settings | Trouble Shooting

Exit
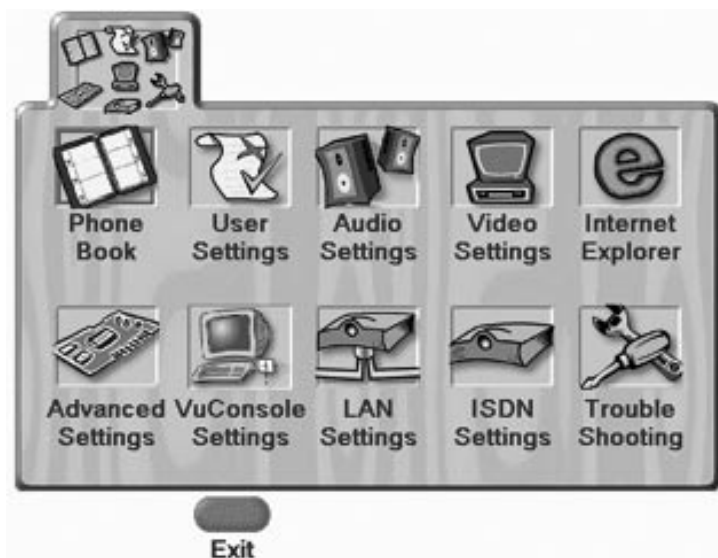
From the Menu screen, you can access all of the VuLink screens by highlighting and selecting one of the following icons:

· Phone Book
· User Settings
· Audio Settings
· Video Settings
· Internet Explorer
· Advanced Settings
· VuConsole Settings
· LAN Settings
· ISDN Settings
· Trouble Shooting

Dial Screen

The Dial icon on the Main screen opens the Dial screen.
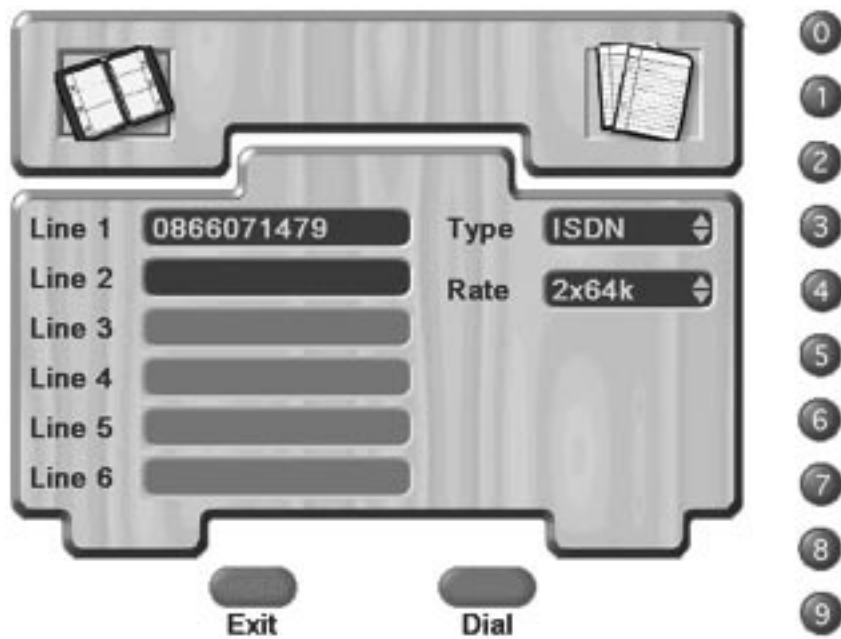
From the Dial Screen, you can access the Phone Book (top left icon), the Last Numbers Dialed (top right icon), and make calls.

Info Screen

Press the Info key at any time to display the Info screen. If displayed outside a call the Info screen provides an overview of the remote control and how to navigate in VuLink.
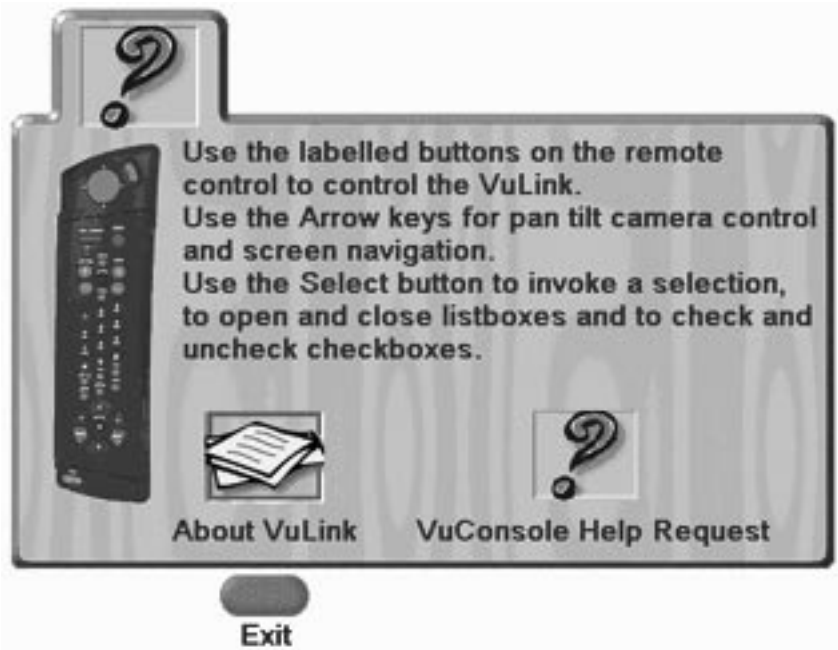
If displayed while in a call, the Info screen displays call information. For more information on the call information screens, see Chapter 7 Making Calls. You can access the About VuLink screen and the VuConsole help network using the icons on the Info screen.

About VuLink

The About VuLink icon allows you to access the VuLink Information screen.

Here you can check the VuLink setup. The following information is displayed:

· The hardware serial number of VuLink
· The software version
· The Brick software version (which is the ISDN subsystem)
· The IP address of your VuLink
· The H.323 gatekeeper registration status

The remaining fields show the success (or failure) of the self-test of power which runs each time VuLink is turned on. If any of these show failure, contact technical support.

If the LAN has not been enabled or if VuLink has not found a DHCP server when required, the IP Address field remains blank or displays 0.0.0.0.

VuConsole Help Request

Selecting the VuConsole Help Request icon sends a request for help to all VuConsole management systems on the network. To do this, VuConsole needs to be running on a machine on the network. The response from the user of VuConsole depends on the operator. If there are no VuConsole systems active, a message is displayed:

No VuConsole present for Help request.

Phone Book

The VuLink Phone Book comprises two main screens, the Phone Book screen and the Add/Modify Entry screen.

To navigate between the alphabetical tabs in the Phone Book, use the arrow keys. A red line indicates which tab is currently selected.
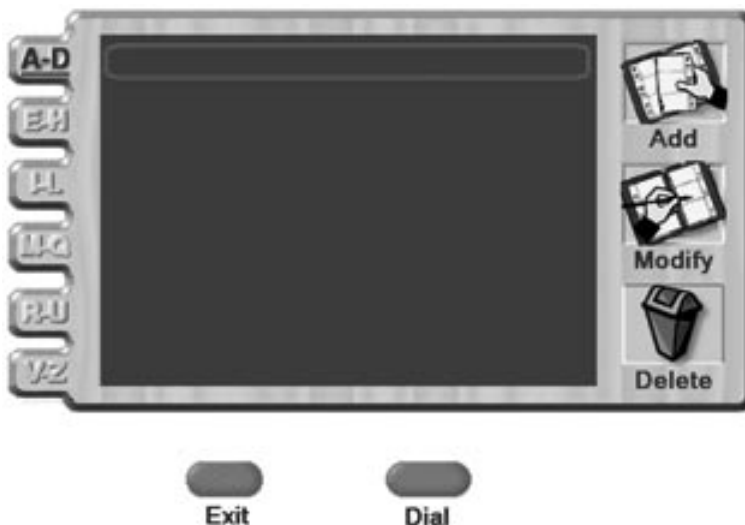
Adding a New Entry

1. Highlight and select the Add icon.

   The Add/Modify Entry screen is displayed.

2. Enter the name of the person you want to add in the **Name** field.
3. Select the type of call you want to make from the **Type** drop-down list.
4. Select the rate of the call from the **Rate** drop-down list.
5. Enter the telephone number(s) in the Line fields.
6. Enter a number between 0 and 9 in the Speed Dial field if you want to assign a speed dial number to the entry.
7. Press the **Exit** key to save your entry and to exit the Add/Modify Entry screen.

   The new entry is displayed on the Phone Book screen.

Modifying an Entry

If you are using VuConsole with your VuLink, entries from external phone books may be displayed alongside entries from your local Phone Book. However, you can only modify entries from the local Phone Book. Any external entries are identified by a special suffix (an asterisk or other user-defined suffix) and cannot be modified here.

The default suffix is an asterisk (*). You can change this suffix on the VuConsole Settings screen.

1. Highlight the entry that you want to modify using the arrow keys on the remote control.
2. Highlight and select the Modify icon.

   The Add/Modify Entry screen is displayed.

3. Use the arrow keys to navigate to the field that you want to modify.
4. Modify the entry as desired.
5. Press the **Exit** key when you have finished modifying the entry.

The Phone Book screen is displayed.

Deleting an Entry

The Delete icon allows you to permanently delete entries from your Phone Book. Unlike the Add and Modify icons, no intermediate screen is displayed when you highlight and select the Delete icon.

1. Select the entry that you want to delete using the directional pad or arrow keys on the remote control.
2. Highlight and select the **Delete** icon.

The following dialog box is displayed:

3. Press the **Select** key again to delete the entry.

If you do not want to delete the entry, press the **Exit** key to escape from the Delete option and to return to the Phone Book screen.

The following message is displayed to confirm that the entry was deleted:
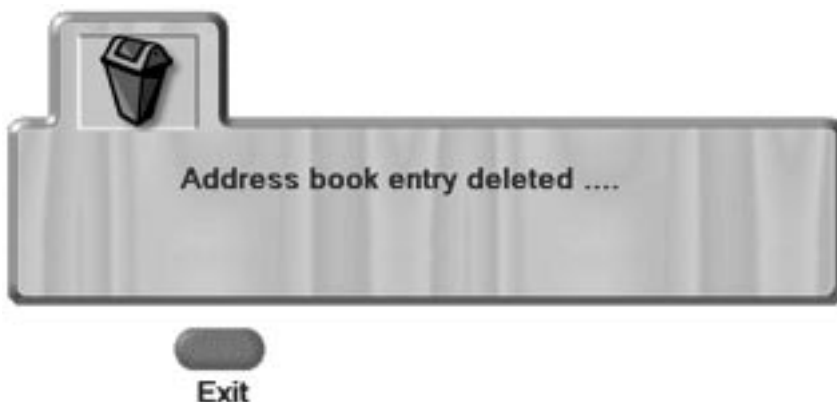
Setting up Speed Dial

You can assign speed dial numbers to entries in the Phone Book using the number keys 0-9. Once you have assigned a speed dial number to an entry, you can use it to dial that person from any VuLink screen by simply pressing and holding down the corresponding number on the remote control keypad.

1. On the Add/Modify Entry screen, enter the speed dial number that you want to assign to the entry in the Speed Dial field.
2. Press the Exit key.

When you press the Exit key, your changes are saved automatically.

The Phone Book screen is displayed.

The speed dial number must be a number between zero and nine. If the number that you entered is invalid, the following message is displayed:

Error: Invalid Speed Dial

If the speed dial number has already been assigned to an entry, the following message is displayed:

**Warning: Duplicate speed dial entry found
Press Exit to overwrite.**

If you do not want to overwrite the existing entry, use the arrow keys to return to the Speed Dial field where you can change the speed dial number.

User Settings

You can access the User Settings screen by highlighting and selecting the User Settings icon on the Menu screen.

The User Settings screen allows you to enter your preferences for the user interface. Any changes you have made are saved when you press the Exit key and leave the screen.
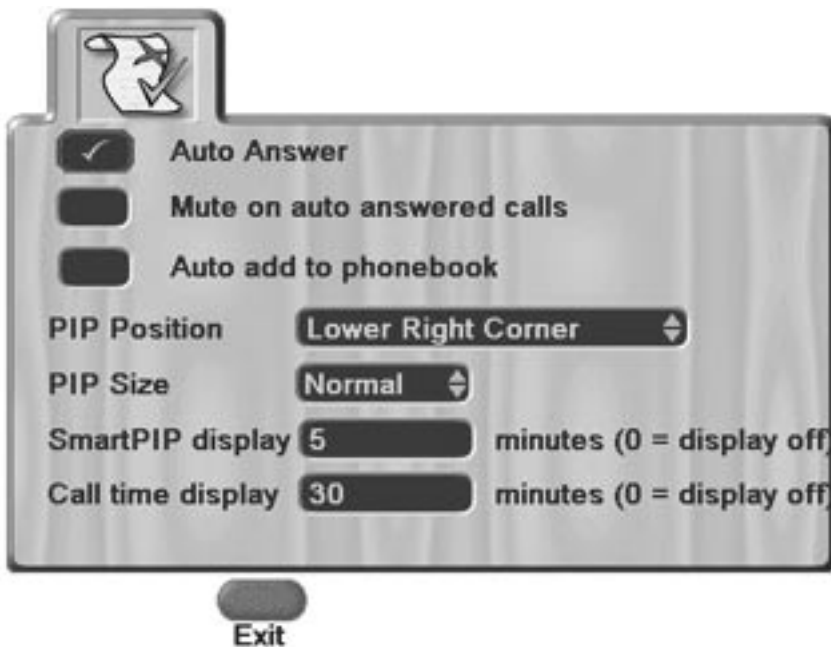
Auto Answer
You can select the Auto Answer check box to set VuLink to automatically answer all incoming calls. If you deselect this check box, you have to manually answer incoming calls.

Mute on Auto Answered Calls
You can select the Mute on auto answered calls check box to set VuLink to automatically mute the audio whenever a call is automatically answered.

Auto Add to Phone Book
You can select the Auto add to Phone Book check box to automatically add every phone number dialed from your VuLink. Only the number is added to the Phone Book—you must add any further details manually.

PIP Position
You can select the position of the PIP from the PIP Position drop-down list. The default position of the PIP is the lower right corner.

PIP Size

You can select the size of the PIP from the PIP Size drop-down list. The default is Normal.

SmartPIP Display

You can enter the number of minutes you want the PIP to be displayed for in the SmartPIP Display field. The PIP is automatically displayed once the call commences for the duration of time entered in this field. If you do not want to have the PIP displayed at all, enter 0.

Call Time Display

You can enter the number of minutes before which you want the call time to be displayed in the Call Time Display field. The Call Time display is visible in the top right corner of the screen for approximately 10 seconds. If you do not want the call time to be displayed at all, enter 0.

Audio Settings

To access the Audio Settings screen from the Menu screen, highlight and select the Audio Settings icon. The Audio Settings screen is displayed.
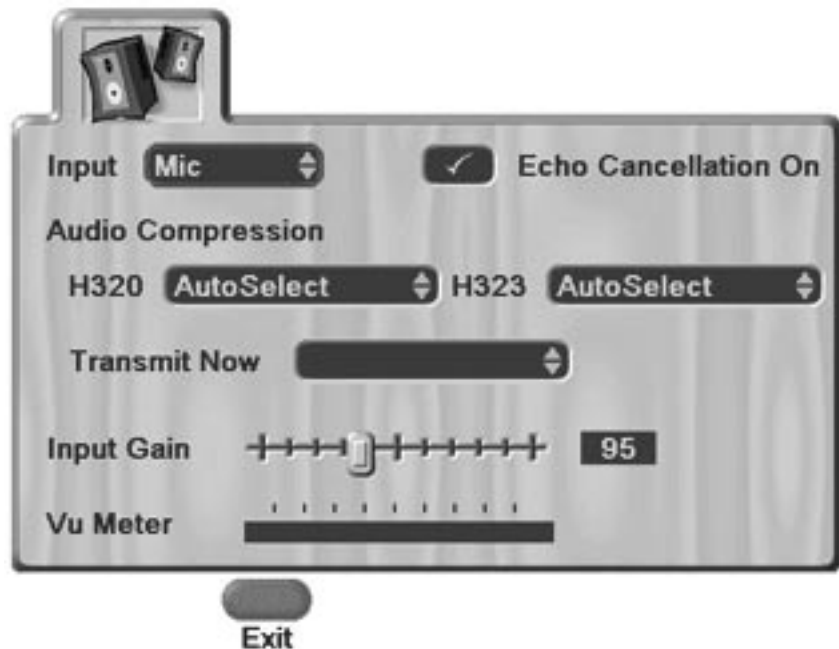
When you start up your VuLink for the first time, the default audio settings are displayed on the Audio Settings screen. These settings are optimized for use with the Audio-Technica microphone supplied with your VuLink. It is recommended that you do not change these settings unless you want to use a microphone other than the one supplied, or unless you want to use multiple microphones.

The Audio Settings screen contains the following fields and drop-down lists:

Input

The Input field displays the source of the audio input. The Input drop-down list contains two options, Mic and Line.

Select Mic if you are using the microphone supplied with your VuLink or any compatible microphone that is connected to the same connector on the back of the VuLink. Select Line from the Input drop-down list if you are using any line-level audio source.

Echo Cancellation On

The Echo Cancellation On feature reduces the amount of echo during a call.

Selecting the Echo Cancellation On check box activates the echo cancellation feature. The Echo Cancellation On check box is selected by default.

Audio Compression

The Audio Compression fields specify the compression algorithm to be used when making an ISDN or LAN call. This section consists of two fields, H.320 and H.323. The default setting for both fields is AutoSelect. It is recommended that you do not change this setting because the AutoSelect option enables the VuLink to detect automatically which compression algorithm is most suitable for a particular call type. If you are not satisfied with the default AutoSelect setting, you can choose one of the other options from the H.320 or H.323 drop-down lists.

Transmit Now

The Transmit Now field allows you to change the audio compression settings during an H.320 ISDN call. The Off option is used to turn off the audio input and to allocate all bandwidth to video.

Input Gain

The Input Gain slider is used to adjust the degree of gain or amplification applied to the microphone or line input signal. The input gain value is displayed in the box to the right of the slider. For the Audio-Technica microphone, the correct input gain value is 95.

Gentner recommends that you do not change this value, since higher values make the VuLink more sensitive to audio input and may adversely affect echo cancellation. If you choose to use a different microphone, you may have to adjust the input gain value accordingly.

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VuMeter

The VuMeter measures the strength of the audio input signal. When you are speaking normally, a few segments of bright green are displayed on the left of the VuMeter bar.

· Green segments indicate that the sound is normal and the sound quality for the receiver should be good.

· Yellow segments indicate that the sound is getting loud and the sound quality is beginning to deteriorate for the receiver.

· Red segments indicate that the sound is too loud and the sound quality for the receiver will be poor.

Video Settings

You can access the Video Settings screen by highlighting and selecting the Video Settings icon on the Menu screen.

It is not recommended that you change the video settings, unless you want to use a camera other than the one supplied by Gentner.
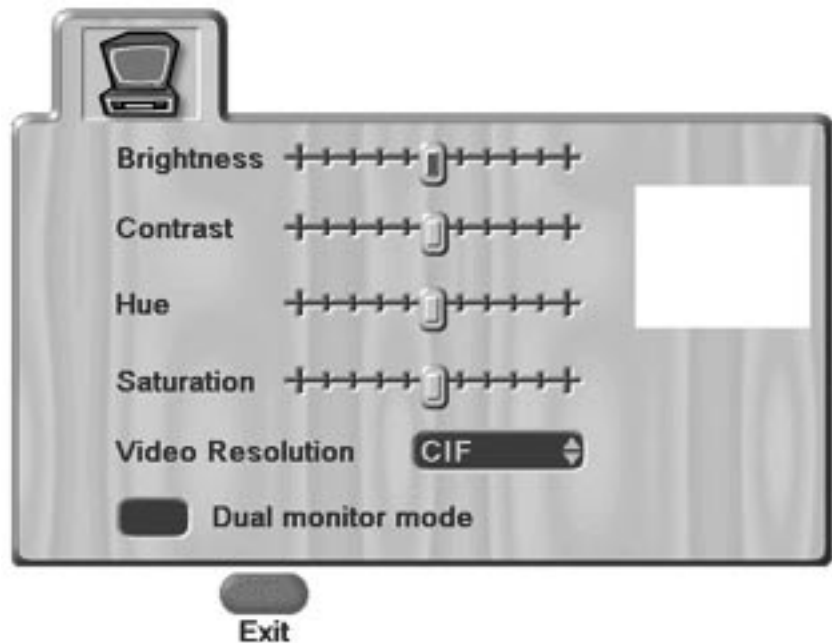
If you are unhappy with the picture quality when viewing the video image of yourself on the monitor, it is better to adjust the settings on the monitor itself than to change the video settings.

On the Video Settings screen, you can adjust the settings for the video output and set VuLink to use dual monitor mode.

All of the settings on the Video Settings screen are set to optimize video transmission when using the camera supplied with your VuLink. The original setting for each slider on the Video Settings screen is at or near the middle of the scale. If you decide to change any of the video settings, you can return to the original settings by moving the sliders back to their original position in the middle of the scale, or by resetting VuLink to factory settings. For information on how to reset Vulink, see Trouble Shooting.

When you have finished making your changes, press the Exit key to return to the Menu screen.

Brightness
The Brightness slider allows you to adjust the brightness of the transmitted picture. If the picture is too dark, use the arrow keys to move the slider to the right. If the picture is too light, use the arrow keys to move the slider to the left.

Contrast
The Contrast slider allows you to adjust the contrast between objects in the picture. If you want to increase the contrast, use the arrow keys to move the slider to the right. If you want to decrease the contrast, use the arrow keys to move the slider to the left.

Hue
Hue is a standard control on NTSC monitors and does not apply to PAL monitors. The Hue slider allows you to adjust color drift that might occur on NTSC monitors. Moving the Hue slider rotates the phase of the color wheel.

Saturation
The Saturation slider allows you to adjust the intensity of color that will be displayed. To increase the saturation, use the arrow keys to move the slider to the right. To reduce the saturation, use the arrow keys to move the slider to the left.

Video Resolution
You can change the video resolution during a call by choosing CIF or QCIF from the Video Resolution drop-down list. VuLink defaults to send CIF images.

Dual Monitor Mode
You can select the Dual Monitor Mode check box to set VuLink to use two monitors. Dual monitor mode is particularly useful if you want to run the web browser, share single images, and presentations during a call.

To use dual monitor mode, you must ensure that one VGA and one composite monitor are connected to the VuLink. You cannot use dual monitor mode if you have only one monitor connected to your VuLink.

During a call, the composite monitor displays the video image, while the VGA monitor is used to display a graphic or presentation, or to surf the Internet. This is a default setting and cannot be changed. You can also use the VGA monitor to access the VuLink Menu screen.

[!] **If you choose to reset VuLink to factory settings, you will lose all the information that you entered on the LAN, ISDN, and User Settings screens. The only information that will not be affected by resetting the VuLink is your Phone Book.**

You cannot access all of the VuLink screens during a call. Some screens, such as the LAN Settings and ISDN Settings screens, are disabled since changing the settings on those screens would disrupt the transmission. Also, during a call the Info screen displays call information instead of VuLink information.

When you are not in a call, the Main screen is displayed on both monitors. The text 'Dual Monitor Mode' is overlaid on the small video window to remind you that the Dual Monitor Mode check box is selected.

During power-on, VuLink detects whether or not a VGA monitor is connected. You cannot select Dual Monitor Mode unless a VGA monitor is detected.

Internet Explorer

You can launch the Internet Explorer browser in three ways:

· By highlighting and selecting the Internet Explorer icon on the Menu screen
· By pressing the Web key on the remote control
· By pressing Alt+Web on the remote control keyboard

The Gentner home page is displayed. The start page URL can be changed on the Internet Explorer Options dialog box. For more information, see the section Navigating the Web browser in this chapter.

Using a Proxy Server

If your network uses a proxy server for Internet access, you will have to configure the VuLink to use the proxy server.

1.   Select **View-Internet Options**.

     The Internet Explorer Options dialog box is displayed.
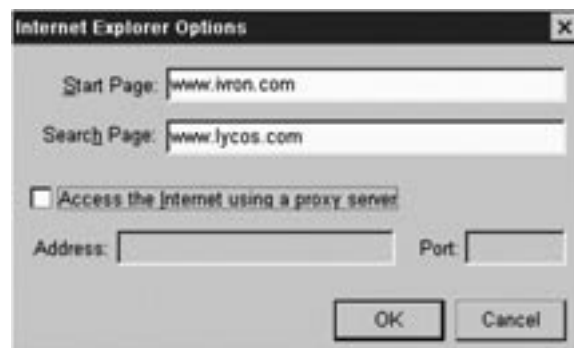
2.   Select the **Access Internet using a proxy server check box.**
     This activates the Address and Port fields.

3.   Enter the IP address of the proxy server in the **Address** field.
4.   Enter the port used by the proxy server in the **Port** field.
5.   Click **OK**. VuLink is now configured to use the proxy server.

Accessing the Internet via a proxy server

See your system adminis-
trator for proxy server
details.

If your network uses a proxy server for Internet access, you might have
to enter a user name and password to use Internet Explorer.

The Enter Network Password dialog box limits access to the network by
requiring users to enter their user name and password. Use a general
network logon user name and password.

When the Enter Network Password dialog box is displayed, the IP
address of the proxy server is displayed as the resource to be accessed.
(The IP address of the proxy server was entered when the VuLink was
configured initially.)

1. Enter your network user name in the **User name** field.
2. Enter your password in the **Password** field.
3. If you do not want to enter the password every time you launch the
   browser, select Save this password in your password list. Note that the
   password is not saved upon system reboot.
4. Click **OK**. The start page is displayed.

If your logon details are incorrect, the following message will be
displayed when you try to launch the Web browser:

HTTP Error 407

407 Proxy Authentication Required

You must authenticate with a proxy server before this request can be serviced. Please log on to your
proxy server, and then try again.

Please contact the Web server's administrator if this problem persists.

To display the Enter Network Password dialog box again, enter a new
URL in the Address field. If this does not work you have to exit the web
browser and relaunch Internet Explorer. Enter your user name and
password again in the Enter Network Password dialog box.

If you are still having difficulties in logging on, consult your system
administrator since your user name or password may be invalid.

The web browser cannot be used during LAN calls.

About the web browser

The Internet Explorer icon on the Menu screen allows you to surf the Internet, both during and outside of a call. If you have set your VuLink to use dual monitor mode, you can use Internet Explorer during a call to share a web page with the person you are calling, or to send a single image or presentation. The person receiving the call does not have to have their VuLink in dual monitor mode. Any teleconferencing unit that supports Annex D format can share web pages and receive images sent by VuLink.

The VuLink browser is based on Microsoft, Internet Explorer 4.0 and can display the majority of web sites. However, it does not support sites containing Java or VBScript or multimedia plug-ins.

Navigating the web browser

The Web browser is very similar to most Internet browsers and consists of a menu bar, an Address field, and a toolbar. You can navigate the browser in the same way as you would any web browser, by using the control pad on the remote control to move the cursor around the screen. To select a hyperlink or press a button, simply point the cursor at the hyperlink or button and press the Select key.

Menu Bar

The menu bar contains four menus, File, View, Go, and VuLink. Each menu contains several menu options.

```
File   View   Go   VuLink
```

You can also use the shortcut keys to select a menu by pressing the Alt key and the underlined letter. For example, pressing Alt+F displays the File menu.

To select a menu, position the cursor over the menu name and press the Select key. The list of menu options is displayed.

File

The File menu contains two options:

· Open displays the Open dialog box which allows you to browse the directories on your flash card for an .htm or .html file.
· Close closes the browser window.

View

The View menu contains four options:

· Text Size
Selecting Text Size displays a sub-menu, which allows you to change the size of the browser text. There are five text sizes to choose from. A checkmark (÷) indicates which size is currently selected.

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· Stop
Clicking Stop prevents the browser from downloading the page
further.

· Refresh
Clicking Refresh reloads the page. This is useful if the page did not
load correctly the first time or if the web page was retrieved from the
cache on your computer and the information on it is outdated.

· Internet Options
Clicking Internet Options displays the Internet Explorer Options dialog
box.
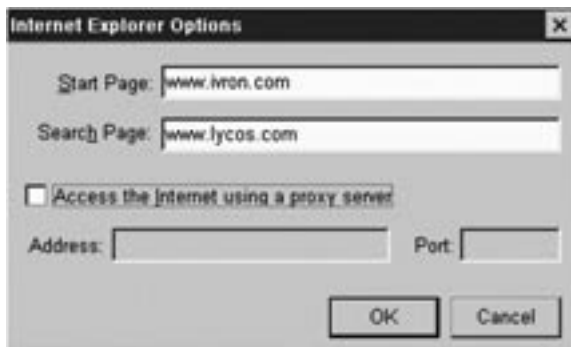
In the Internet Explorer Options dialog box, you can specify the Start
Page, Search Page, and proxy server settings.

Go
The Go menu contains four options:

· Back
Clicking Back allows you to return to the previous page in a sequence.

· Forward
If you clicked Back to return to a previous page in a sequence,
clicking Forward allows you to return to the page you were on when
you originally clicked Back.

· Home
Clicking Home displays the start page that you entered in the Internet
Explorer Options dialog box.

· Search
Clicking Search displays the search page that you entered in the
Internet Explorer Options dialog box.

VuLink

The VuLink menu contains two options:

· Video Settings
Selecting Video Settings displays a sub-menu, which allows you to change the size of the PIP (picture-in-picture). There are three sizes to choose from: Large, Medium, and Small. A checkmark indicates which size is currently selected.

This option is useful only if you want to display the PIP at the same time as the browser. To display the PIP, press the PIP key.

· Switch to VuLink
Clicking Switch to VuLink allows you to return to VuLink without closing the browser. To return to the browser, simply press the Web key. The page that you were viewing before you switched to the VuLink is displayed.

Address Field

The Address field is located to the right of the menu bar. The Address field allows you to enter the address of the web page that you want to view.

Use the remote control keyboard to type the address of the web page in the Address field in the following format: http://www.ivron.com. When you have entered the address, press the **Enter** key. The browser will send a request to the server to retrieve the web page that you entered.

If you recently visited the web page, you can click the down arrow to the right of the field to display a list of the most recently visited web pages. Highlight and select the relevant web page to display that page.

Toolbar

The browser toolbar is located to the right of the Address field and contains eight buttons:

Back Clicking Back allows you to return to the previous page.

Forward If you clicked Back to return to a previous page in a sequence, clicking Forward allows you to return to the page you were on when you originally clicked Back.

Stop Clicking Stop prevents the browser from downloading any more information.

Refresh Clicking Refresh reloads the web page.

Home Clicking Home displays the start page you entered in the Internet Explorer Options dialog box.

Search Clicking Search displays the search page you entered in the Internet Explorer Options dialog box.

Presentation Mode Clicking Presentation Mode allows you to send a presentation or document to the person you are calling. To use this feature, you must first save the presentation in HTML format. The Web browser waits until each page is fully loaded before sending the presentation. For more information on how to send presentations, see Chapter 8 Sending Data and Images.

Presentation mode can only be used during ISDN calls. If you are not in a call, or are making a LAN call, clicking Presentation Mode will have no effect.

Open Clicking Open displays the Open dialog box, which allows you to browse for an .htm or .html file on a flash card and send the file as a single image.
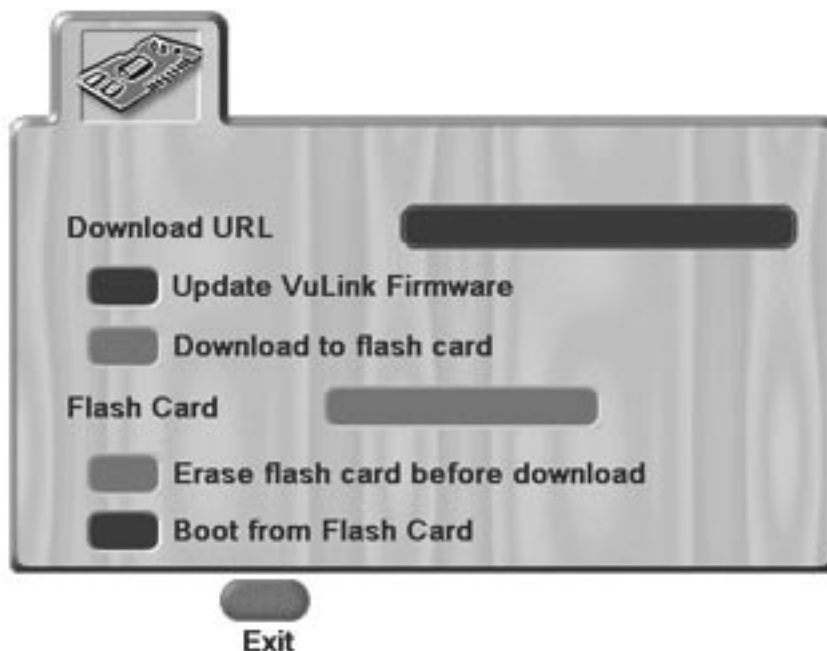
Advanced Settings

You can access the Advanced Settings screen by highlighting and selecting the Advanced Settings icon on the Menu screen.

Only qualified personnel who understand the functions of the screen should use the Advanced Settings screen.

The Advanced Settings screen is mainly used to download updates of the VuLink firmware.

Care should be taken when downloading files since the only integrity check is a Cyclic Redundancy Check (CRC).

Download URL

The Download URL field is used when you want to download something from the web to the VuLink or a Flash card. Firmware updates for the VuLink can be downloaded from a web server. When a new version of the firmware is released you get the URL for the location from your reseller or from Gentner. Enter the URL in the Download URL field. It is not necessary to enter the http:// prefix.

Update VuLink Firmware

Select the Update VuLink Firmware check box if you want to update the VuLink firmware without downloading updates to a flash card.

Download to Flash Card

Instead of updating the VuLink directly you can download the firmware updates to a flash card (a PCMCIA memory card) and then boot VuLink from the flash card to update the firmware. Before you use a flash card for the first time, you have to remove the cover on the PCMCIA slot on the back of the VuLink. For information on how to open the PCMCIA slot, see Chapter 8 Sending Data and Images.

Do not turn off your VuLink while downloading to a flash card.

To download to a flash card:
1. Enter the URL in the **Download URL** field.
2. Insert a flash card in the PCMCIA slot.
3. Select **Download to flash card**. This check box is enabled when a flash card is inserted in the PCMCIA slot.

A series of message boxes is displayed informing you of the progress of the download. When download is complete, it asks you to turn off and restart VuLink.

Flash Card

The Flash Card field is enabled when a flash card has been inserted in the PCMCIA slot on the back of VuLink. VuLink automatically detects the flash card and displays the name of the flash card in this field. If more than one flash card is inserted, select the flash card you want to use.

Erase Flash Card Before Download

The Erase Flash Card Before Download check box is enabled when a flash card has been inserted in the PCMCIA slot on the back of VuLink. Select this check box if you want to remove all files on the flash card prior to downloads.

Boot from Flash Card

The Boot from Flash Card check box directs the VuLink to boot from a flash card. Select **Boot from Flash Card** if you want to run another

user interface on the VuLink, instead of the main user interface, or if you have firmware updates on the flash card.

VuLink checks if there is a flash card in the PCMCIA slot the next time you turn it on. If a flash card is detected, VuLink searches for a file called autorun.inf and executes the instruction in that file.

If you want to return to running the main user interface, you have to restart VuLink without any flash cards inserted. Go to the Advanced Settings screen and deselect the Boot from Flash Card check box, then turn off VuLink. Remove the flash card and turn on your VuLink again. The main user interface is reapplied.

Upgrading VuLink Firmware

In this section the procedure for upgrading the VuLink firmware is described. There are two possible procedures for updating the VuLink firmware. The first procedure described here is to get the updates from a web site. The second procedure described here is for updating VuLink from a flash card.

To upgrade VuLink firmware from a web site:
1. Enter the URL in the **Download URL** field.
2. Select the **Update VuLink Firmware** check box.
3. Press the **Exit** key.

This process may take several minutes depending on the speed of access to the web server.

The VuLink firmware is updated.

A series of message boxes is displayed informing you of the progress of the download. And, when download is complete, asking you to turn off and restart VuLink.

To upgrade VuLink firmware from a flash card:
1. Insert the flash card in the PCMCIA slot.
2. If you have more than one flash card inserted, select the flash card you want to update from in the flash Card field.
3. Select the **Boot from Flash Card** check box.

A series of message boxes is displayed informing you of the progress of the update. And, when update is complete, asking you to turn off and restart VuLink.

The Vulink firmware is updated.

LAN Settings

You can access the LAN Settings screen by highlighting and selecting the LAN Settings icon on the Menu screen and then highlighting and selecting the Network Settings icon.

The LAN Settings screen allows you to view or modify any of the LAN settings made when the VuLink was configured initially.

When you access the LAN Settings screen from the Menu screen, the LAN settings that you entered during configuration are displayed. If you want to modify any of the LAN settings, simply make the changes in the appropriate field.

When you have made your changes, the following message box is displayed:

You cannot modify LAN settings during a call. When you are in a call, the LAN Settings icon is always disabled.

Restart required for changes to take effect
Press Select to restart now or Exit to continue.

You will have to restart VuLink to allow the changes to take effect. Press the Select key to restart VuLink with the new LAN settings.

Alternatively, press the Exit key to exit the LAN Settings screen without saving your changes.

All of the network information should be available from your system administrator.

H.323 Settings Screen

You can access the H.323 Settings screen by highlighting and selecting the LAN Settings icon on the Menu screen and then highlighting and selecting the H.323 Settings icon.

The H.323 Settings screen allows you to view or modify the H.323 gateways and gatekeepers that you entered when the VuLink was configured initially.

If you want to modify any of the H.323 settings, simply make the changes in the appropriate field. You will have to restart VuLink to allow the changes to take effect.
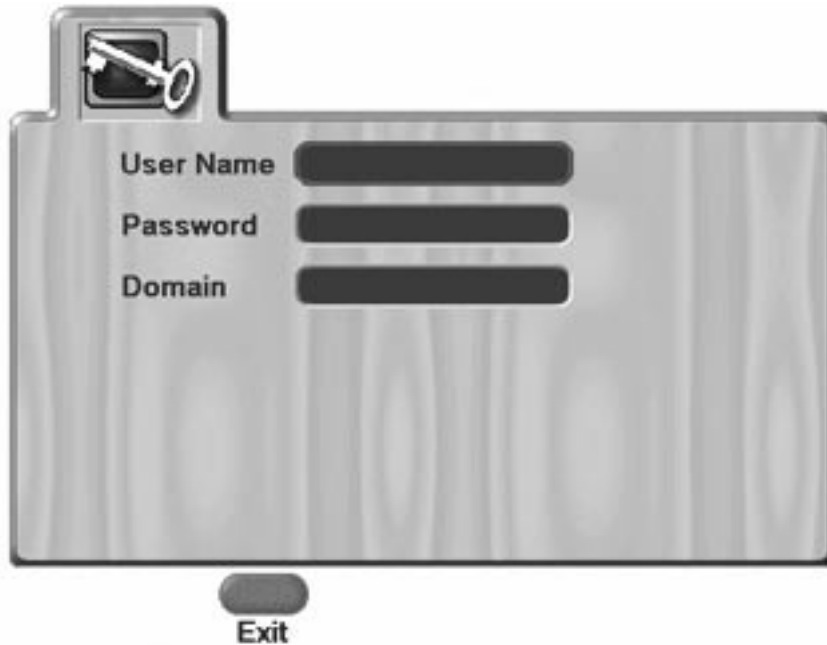
Accessing the User ID Screen

You can access the User ID screen by highlighting and selecting the
LAN Settings icon on the Menu screen and then highlighting and
selecting the User ID icon.

The User ID screen allows you to set up a user ID for logging on to the
LAN. VuLink supports Microsoft® Net BIOS logon to Windows NT
domains.

If you do not set up a user ID your network will ask you to enter your user
name and password when you try to access your server.

On the User ID screen, you can enter the following information:

User Name
Enter the user name that you use for logging on to the network in the
User Name field.

Password
Enter the password that you use for logging on to the network in the
Password field. When you enter a password in this field, a star is used to
represent each character of the password so that the password is not
visible to other people.

Domain
Enter the network domain your password gives access to in the Domain
field. If you do not know the domain, ask your system administrator.

Press the Exit key to set up the user ID.

**Setting up a user ID is
optional.**

ISDN Settings

You can access the ISDN Settings screen from the Menu screen by highlighting and selecting the ISDN Settings icon and then highlighting and selecting the Line Settings icon.

The ISDN Settings screen allows you to view and modify any of the ISDN settings made when the VuLink was configured initially. If you want to modify any of the ISDN settings, simply make the changes in the appropriate field.

You cannot modify ISDN settings during a call. When you are in a call, the ISDN Settings icon is always disabled.

When you have made your changes, the following message box is displayed:

> Restart required for changes to take effect
> Press Select to restart now or Exit to continue.

You will have to restart VuLink to allow the changes to take effect. Press the Select key to restart VuLink with the new ISDN settings. Alternatively, press the Exit key to exit the ISDN Settings screen without saving your changes.

Lines 1-6

The amount of ISDN numbers that you need to enter depends on the number of ISDN channels that are available to you and on the particular VuLink model you are using. For example, for the VL322 model, only one ISDN cable is connected to the VuLink, while for the VL326, three ISDN cables must be connected to the VuLink.

Each ISDN cable carries two ISDN channels. The Line 1 and Line 2 fields correspond to the two channels carried by the first ISDN cable. The Line 3 and Line 4 fields correspond to the channels carried by the second ISDN cable, and the Line 5 and Line 6 fields correspond to the channels carried by the third ISDN cable. Therefore, if you are using the VL322 VuLink, you will only have to enter ISDN numbers in Line 1 and Line 2 fields, but if you are using the VL326 model, you will have to enter an ISDN number in each of the six Line fields.

If you selected National ISDN 1 or Nortel DMS100 from the Exchange drop-down list, you must enter the full ISDN number of the person you want to call. The full ISDN number comprises the area code (where applicable), and local ISDN number. For other types of ISDN exchange, you only need to enter the local ISDN number.

Accessing the SmartDial Settings Screen

You can access the SmartDial Settings screen from the Menu screen by highlighting and selecting the ISDN Settings icon and then highlighting and selecting the SmartDial Settings icon. The SmartDial Settings screen is displayed.

The SmartDial feature uses smart logic to derive the number that the VuLink has to dial for both internal and external calls.

How SmartDial Works

When you make a call, SmartDial matches the number you have dialed with the settings that you made when you configured your VuLink initially and removes any unnecessary numbers. For example, if you want to make a long distance external call, SmartDial will compare the number you have dialed with its own settings. From the area code, which will be different to the VuLink's own area code, it will deduce that you are trying to dial an external number. SmartDial will therefore insert the prefix required to access an external line.

Similarly, if you want to make an internal call, SmartDial will recognize that the PBX number is the same for both calls, which means that the call must be using the same exchange. To make the call, SmartDial will simply dial the appropriate extension number.

SmartDial and VuConsole

SmartDial in combination with VuConsole allows remote VuLink units to share central address books stored on VuConsole. Each entry in the VuConsole phone books contains all dialing information for every VuLink managed by VuConsole international access code, country code, area code (where applicable), and local telephone number.

When downloading a Phone Book that belongs to a VuLink in a different location, you must remember that some of the dialing rules may differ, depending on the location. For example, area codes are not used in every country. To dial a call, the VuLink needs to know the dialing rules locally. This is the purpose of the SmartDial feature.
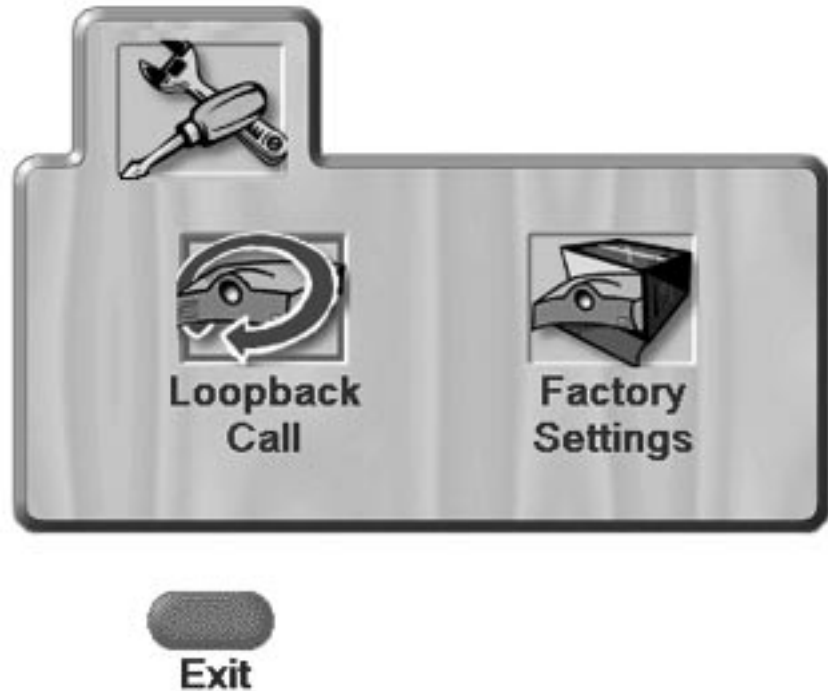
For information on setting up SmartDial, see page 29.

SmartDial works only with ViewConsole.

Troubleshooting

You can access the Troubleshooting screen by highlighting and selecting the Troubleshooting icon on the Menu screen.

The Troubleshooting screen consists of two icons, the Loopback Call icon and the Factory Settings icon.

Loopback Call Screen

You can access the Loopback Call screen by highlighting and selecting the Loopback Call icon on the Troubleshooting screen.

A loopback call is a call in which the VuLink unit calls itself. The main purpose of making a loopback call is to test that your VuLink unit is capable of receiving and transmitting voice, audio, and video data correctly.

If you are having problems with an outbound call, even though a loopback call indicates that the VuLink is working correctly, the problem is likely with your ISDN configuration. You can check your ISDN settings on the ISDN Settings screen. If these appear to be in order, the problem may be with the ISDN network.

The Loopback Call screen is similar to the Dial screen. However, unlike the Dial screen, the Line fields are disabled, since the purpose of a loopback call is to test that your own VuLink is functioning correctly, not to dial another VuLink. For the same reason, you cannot access the Phone Book or Last Numbers screen. The Type drop-down list also contains fewer options for a loopback call than for a normal call. You cannot make a voice or LAN-WAN call, for example.
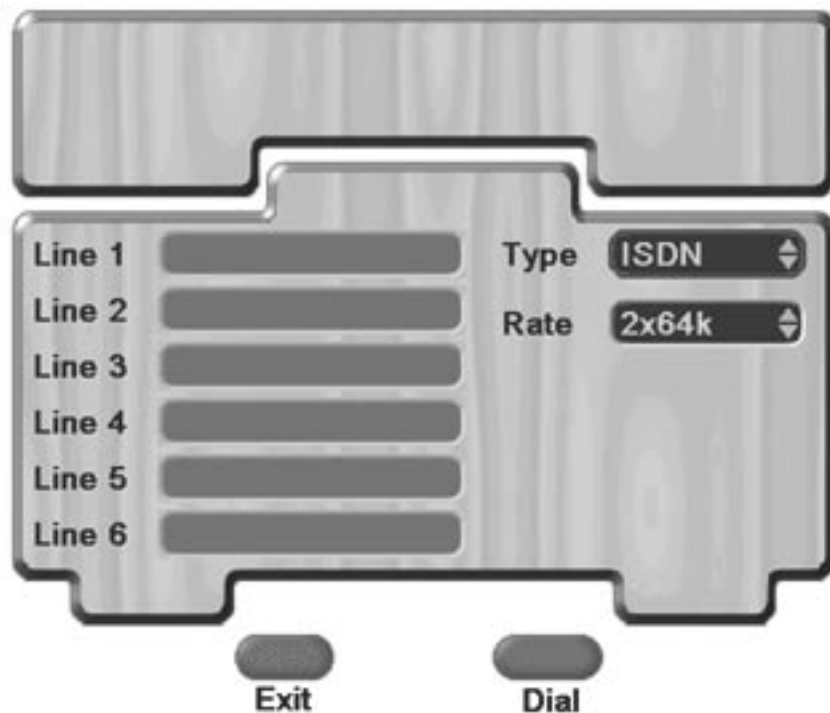
To make a loopback call:
1. Select the call type from the Type drop-down list.
2. Select the call rate from the Rate drop-down list.
3. Press the Dial/Hangup key to dial the loopback call. The Calling Loopback dialog box is displayed:
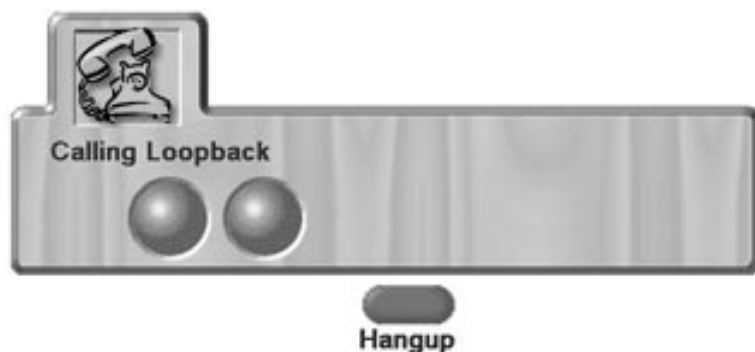
The number of balls that are displayed depends on the type of call. Two balls are displayed for an ISDN 256k call and one is displayed for a LAN call. As the call is connected, the balls will turn from blue to green.

4. Press the Dial/Hangup key again to terminate the loopback call.

There may be a slight delay after pressing the Dial/Hangup key before you see and hear yourself in a call.

Some gatekeepers may prohibit the VuLink from making a LAN loopback call. The function of a gatekeeper is to verify the destination address of a call prior to allowing the call to proceed. Since the originating number and destination number of the loopback call will be identical, the gatekeeper may not be able to recognize a loopback call.

! **If you choose to reset VuLink to factory settings, all LAN, ISDN, and user settings that you made will be lost. Only the Phone Book will remain unaffected. For this reason, only qualified personnel who understand the functions of VuLink should use the Reset to Factory Settings function.**

Factory Settings

You can reset VuLink to factory settings by highlighting and selecting the Factory Settings icon on the Trouble Shooting screen.

When you select the Factory Settings icon a dialog box is displayed.

You may want to reset VuLink to factory settings when you have made changes to the settings, but forgotten where, and want to get back to the original settings.

Press the Select key to reset VuLink. VuLink will restart automatically.

If you do not want to reset to factory settings, press the Exit key to exit without resetting and restarting VuLink.

7 Making Calls

Call Types

From the Dial screen, you can make the following types of calls:
· ISDN
· ISDN-R
· LAN
· LAN-WAN
· Voice

ISDN
There are three types of ISDN calls that can be made using VuLink:
· Bonded
· Unbonded
· ISDN-R
Only ISDN calls can be classified as "bonded" or "unbonded".

Bonded Calls:
A bonded call is a call that uses special hardware (IMUX) to bond the ISDN lines into a single logical channel. VuLink can dial bonded calls at rates of 128k, 192k, 256k and 384k. The main feature of a bonded call is that you have to enter only a single destination number when making a call.

Since the VL322 model has only one ISDN channel, it can make only 128k calls.

Unbonded Calls
An unbonded call is a call that treats multiple ISDN lines as single channels. Each line is 64k. You can dial a call with a rate of 1x64k, 2x64k, and so on, up to 6x64k. When making an unbonded call, you need to enter an ISDN number for each ISDN line you are using. For more information on using ISDN, see page 22.

The call setup procedure for an unbonded call can be longer than for a bonded call.

ISDN-R

An ISDN-R call is a call in which data is transmitted at a rate of 56k. This rate is used in some countries where bandwidth is limited. An ISDN-R call can be bonded (for example, 112k) or unbonded (for example, 4x56k). All the rates that are available to you are multiples of 56k.

LAN

The IP address will take the format xxx.xxx.xxx.xxx. An example of an IP address is 192.198.1.1. Use the PIP key to enter the dots.

You will not be able to make LAN calls using VuLink unless the LAN has been enabled and has been detected as being active. For more information on using the LAN, see page 25. When dialing a LAN call you must enter the IP address or the machine name of the receiving VuLink in the Line 1 field.

LAN-WAN

If both machines are registered with a gatekeeper, you can enter an H.323 ID (a "friendly" name, such as "VuLink 1") or an E164 name, which is similar to a telephone number.

Before making a LAN-WAN call, you must ensure that the LAN has been enabled, the gatekeeper has been configured, and that the gateway prefixes have been set up correctly. The LAN-WAN call type is available only when you are using a gateway and a gatekeeper. The rates that are available depend on the capabilities of your gateway and your network configuration. The number of line fields that are enabled depends on the rate that you choose.

The gateway is usually configured to dial any required PBX prefixes.

Voice

This call type uses a single ISDN line to call a digital or an analog telephone. The call becomes a conventional audio conference call.

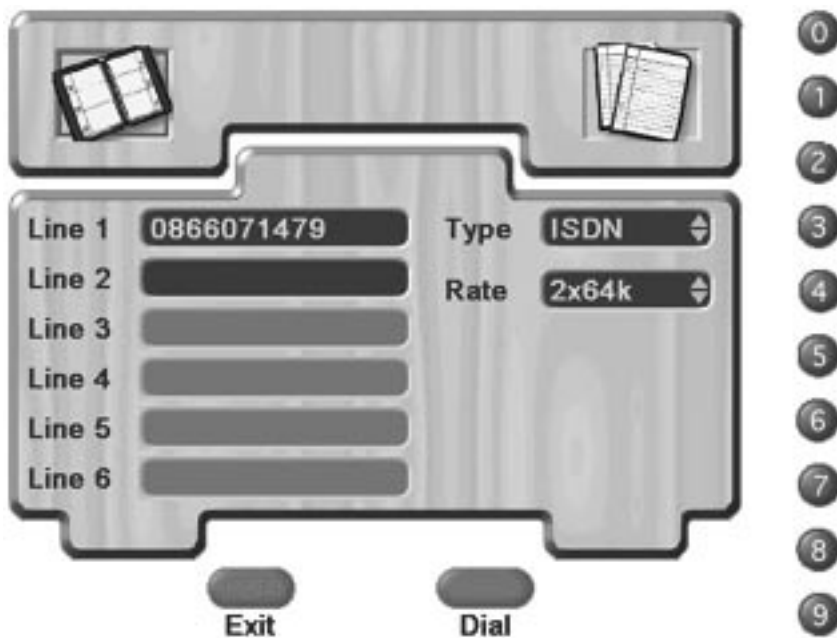## Dial Screen

This section describes how you dial each of the call types described in this chapter. It also describes how you can dial a call from the Phone Book or from the Last Numbers screen.

From the Main screen, press the Dial/Hangup key to display the Dial screen.

From the Dial screen, you can dial a call:
· From the Phone Book
· From the Last Numbers screen
· Directly from the Dial screen

To dial a call from the Dial screen:

1. Select the call type from the Type drop-down list.
2. Select the rate from the Rate drop-down list.
3. Enter the appropriate details in the Line fields. Enter the phone number to make an ISDN, ISDN-R, or Voice call. Enter the IP address or machine name to make a LAN or LAN-WAN call.

   The number of Line fields that are enabled depends on the call type you have selected. For more information on the call types, see the Call Types section at the beginning of this chapter.

4. Press the Dial/Hangup key.

The video window expands to fill the full screen. Call progress is indicated by the Calling dialog box:

As VuLink establishes a connection, the balls change color from blue to green. When the balls have turned completely green, the call has been connected.

If your VuLink is not configured to use the SmartDial feature, you will have to enter the full telephone number, including any PBX prefixes required for an external line and any required long distance or international prefixes, in the Line(s) field(s), just like a normal telephone call.

If SmartDial has been configured, you do not need to enter these prefixes. Simply enter the number you want to call as though it were a local telephone number.

SmartDial is only used with VuConsole phone books.

A LAN call connects much quicker than an ISDN call—you will see video in just a few seconds.

When you are making a video conference call and the call has been established you will see and hear the receiver.

When you are making a voice call and have been connected, you will see a picture of yourself displayed on the monitor. You will be able to hear the other person. A voice call icon appears:

The voice call icon is visible for the duration of all voice calls.

To dial a call from the Phone Book:
1. Highlight and select the Phone Book icon on the top left of the Dial screen. The Phone Book screen is displayed.
2. Highlight the relevant entry in the Phone Book.
3. Press the Dial/Hangup key. The Calling dialog box is displayed.

To dial a call from the Last Numbers screen:
1. Highlight and select the Last Numbers icon on the top right of the Dial screen. The Last Numbers screen is displayed.
2. Highlight the relevant number on the Last Numbers screen.
3. Press the Dial/Hangup key. The Calling dialog box is displayed.

Redialing a Call
Occasionally, when you dial a call, the call may not connect. This will occur if, for example, the person you are dialing is already in a call.
If the call is not connected, the following message box is displayed:

User Busy
Total Call Duration 00:00:00

Exit

Press the Exit key to discard the dialog box or wait until it disappears automatically
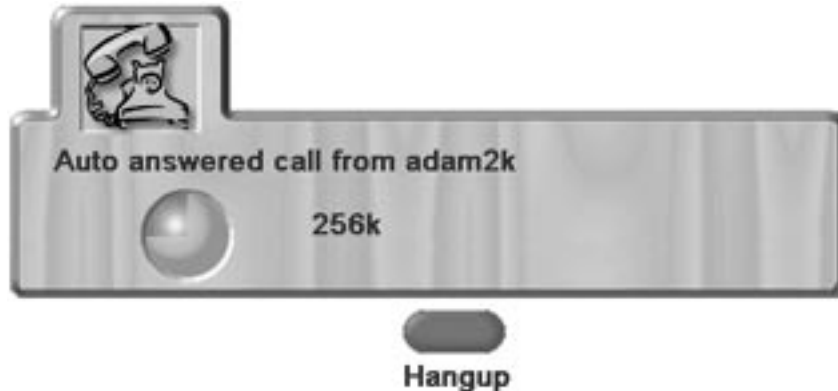
To redial a call:
1. Press the Dial key. The Dial screen is displayed. The details of the last call are displayed by default. If you want, you can change these details before redialing.

2. Press the Dial key again. The VuLink redials the call.

Receiving Calls

If the Auto Answer check box is selected on the User Settings screen, VuLink will automatically answer any incoming calls.

The Auto answered call dialog box is displayed:

This is the default setting. If you do not want VuLink to automatically answer all incoming calls, simply go to the User Settings screen and deselect the Auto Answer check box. See page 39.

If the Auto Answer check box is deselected, VuLink will not answer the call automatically. The Incoming call received dialog box is displayed:
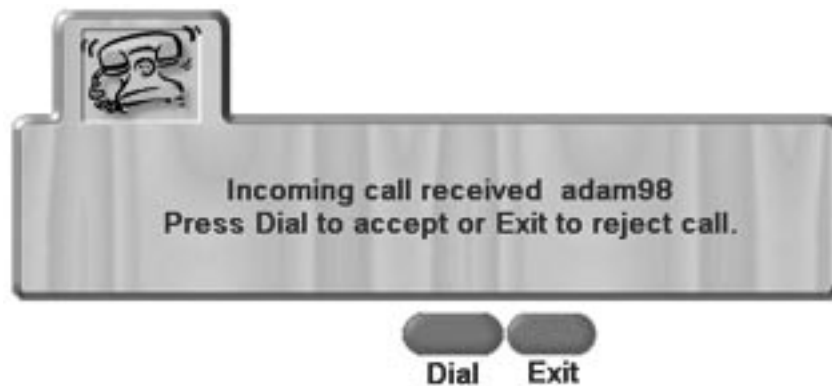
You have to intervene manually to either accept or reject the call. If you want to accept the call, press the Dial/Hangup key. If you want to reject the call press the Exit key.

If you accept the call using the Auto Answer function or by manual intervention, a full-screen video image of first the local end and then the far end is displayed on the VuLink.

It is important to respond quickly when the Incoming Call dialog box is displayed. Otherwise, the ISDN network may terminate the call.

Receiving an ISDN Call

If the call is unbonded, the dialog box will always display six balls. This is because VuLink cannot determine how many ISDN channels the caller is using.

If the call is bonded, the number of balls displayed will reflect the bonded rate of the call. For example, for a 3x192k call, three balls are displayed. For a 3x64k unbonded call, six balls are shown.

You can reject the call at any time during call setup by simply pressing the Dial/Hangup key.

If the caller's telephone number is available, it is also displayed in the Auto answering an ISDN call dialog box. This information may not be available if the telephone company charges for this service, or if the caller has chosen to suppress transmission of the number.

Receiving a LAN Call

In the case of a LAN call, the dialog box displays only a single ball and the rate of the call. If the caller has selected a rate that is higher than the VuLink's maximum rate, the higher rate is displayed in this dialog box, but the call will be connected at an appropriate rate.

If information for the caller is available, it is also displayed in the Auto answering a LAN call dialog box. If a gatekeeper is present, a friendly name will be displayed. Otherwise, the caller's IP address will be displayed.

Terminating a Call

During a call, either party can terminate the call. To terminate a call, press the Dial/Hangup key. The following message box is displayed:

Call Ending. Please Wait .....
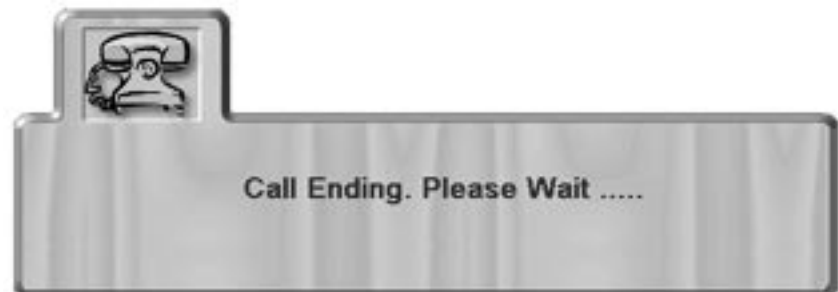
The call may not terminate immediately. For example, it may take several seconds to terminate a video call. However, during this time, the audio will be muted and the video image will be frozen. If the call was terminated normally by pressing the Dial/Hangup key, the following message box is displayed:

Normal Call Termination
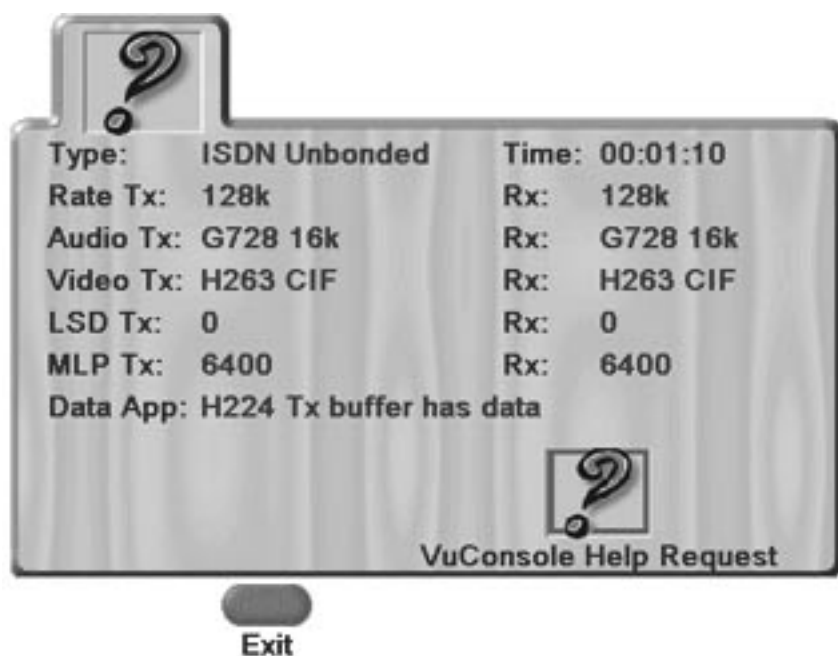Total Call Duration 00:00:00
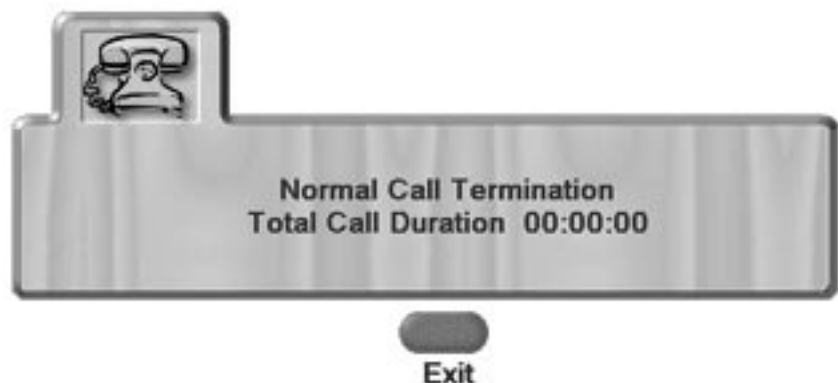
Exit

After approximately 10 seconds, this message box will disappear and the Main screen is displayed. Alternatively, pressing the Exit key will display the Main screen immediately.

If, for any reason, the call was terminated due to a major ISDN error, an error code describing the fault is displayed as part of the call termination message. For more information on ISDN error codes, see Appendix B, ISDN Error Codes.

Call Information Screens

If you press the Info key on your remote control during a call, the Call Information screen for the particular call type is displayed. The Call Information screens provide detailed information on the call such as the call type, duration, rate, and status. The call information screens for the different call types are very similar to each other. This is the ISDN Unbonded call information screen:


```
Type:      ISDN Unbonded       Time:  00:01:10
Rate Tx:   128k                Rx:    128k
Audio Tx:  G728 16k            Rx:    G728 16k
Video Tx:  H263 CIF            Rx:    H263 CIF
LSD Tx:    0                   Rx:    0
MLP Tx:    6400                Rx:    6400
Data App:  H224 Tx buffer has data

                              VuConsole Help Request
```

Exit

The call information screens contain the following information:

· Call Type
· Time—duration of call
· Rate Tx/Rx—receive and transmit rates
· Audio Tx/Rx—the standard used for the audio coding and the rate at which transmission of the audio packets occurred
· Video Tx/Rx—the standard used for the video coding and the format in which the video packets were transmitted. For Voice Calls, this field will be unknown
· Lost Video Pkt Tx/Rx—displays the number of video packets lost both on the transmitting and receive channels (LAN (H.323) calls only)
· Lost Audio Pkt Tx/Rx—displays the number of audio packets lost both on the transmitting and receive channels (LAN (H.323) calls only)

For each of the fields, Tx stands for "**transmitted**" **and Rx** "**received.**"

· LSD Tx/Rx (H.320 ISDN calls)
· MLP Tx/Rx (H.320 ISDN calls)
· Data App—provides information on the far end camera control. For example, H224 Tx buffer has data means that you have tried move the far end camera (H.320 ISDN calls).
· VuConsole Help Request—if you have installed VuConsole, highlight the VuConsole Help Request icon and press the Select key to display VuConsole help.
· Exit—exits the ISDN Call Information screen

DTMF Tones

VuLink supports DTMF tone generation during ISDN and voice calls. DTMF tones are the system used by touch-tone telephones. A specific frequency, or tone, is assigned to each key so that it can easily be identified by a microprocessor.

To send DTMF tones:

1. Press the # key.
    The DTMF icon is displayed.

    Press the 0-9, * and # keys to produce tones.

2. Press the Exit key to exit from this mode.

DTMF tones are useful for accessing some automated video conferencing systems and also for dialing a LAN system via a gateway. If you are calling through a gateway using a gatekeeper, DTMF tones may be required to access the gateway. When using DTMF tones an automated operator lets you know which keys to press.

8 Sending Data and Images

Preparing a File

This chapter describes how you can use VuLink to access files on a PC, LAN, or flash card and send a single Annex D image or a sequence of images to the person you are calling. This enables you to make presentations and share documents and web pages during a call.

Before sending a file, you have to save the file in HTML format. To save a file as HTML you just select the 'Save to Web' or 'Save as Web Page' option.

You must also ensure that the file is saved in a location that can be accessed by the VuLink. VuLink can access files from an intranet server, web server, or flash card using the Internet Explorer browser. For more information on using the Internet Explorer browser, see page 44.

To access files on a flash card you first have to open the PCMCIA slot on the back of the VuLink and insert the card.

Opening the PCMCIA slot
The PCMCIA slot at the back of the VuLink has a plastic cover that can easily be removed, and put back when you have finished using the flash card.

Gentner recommends that you set your VuLink to dual monitor mode when sending data and images. Dual monitor mode allows you to display a file, web page, or presentation on one monitor, while still allowing you to view the video image of the other party on the second monitor.
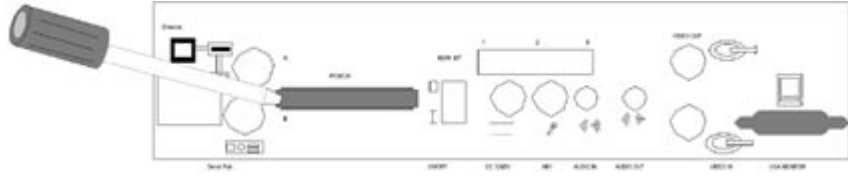
To remove the PCMCIA cover:

1. Carefully insert a flat screwdriver approximately 4mm under the cover from one side.
2. Rotate the screwdriver until the cover pops out.
3. Remove the cover by hand.

Insert the flash card horizontally in the direction the arrow on the card indicates.

Sending an Annex D Image

This section describes how you can use VuLink to send a single Annex D image. All images sent using VuLink use the H261 Annex D format.

VuLink can only send and receive still images during an H.320 ISDN video call.

To send a single image of a file or web page:

1. Launch the Internet Explorer browser.
2. Click the Open icon to browse for the appropriate file or enter the address of the web page in the Address field.

   If you want to re-size the image, hold down Shift and use the arrow keys to resize the picture. A black square on the browser window indicates the size of the Annex D image.

   If you want to move the Annex D image window, press the Ctrl and the relevant arrow key.

   To cancel the Annex D image, press the Shift+Enter or the Ctrl+Enter keys simultaneously.

It takes a several seconds to send an Annex D image, particularly in the case of a low bandwidth call.

3. If you want to send the whole image, press the Send key.

   The video image remains frozen while the Annex D image is being sent. The Sending Image icon is displayed.

Sending a Presentation

This section describes how you can use VuLink to send a presentation. To send a presentation, you must first save the presentation in HTML format.

VuLink can only send and receive still images during an H.320 ISDN video call.

To send a presentation:
1. Launch the Internet Explorer browser.
2. Click the Open icon to browse for the appropriate file or enter the address of the web page in the Address field.
3. Select the Presentation Mode icon on the browser toolbar.

Each page is automatically sent as soon as it completes loading. No further action is required from you.

The video image remains frozen while the presentation is being sent.

Receiving an Image

When VuLink receives an image during a call, a message is displayed informing you that an Annex D image has been received. The Image received icon is displayed.

If you choose to view the image, the video image of the person you are calling will freeze for a few moments while VuLink decodes the Annex D image. If you choose to discard the image, the image is deleted and cannot be retrieved.

Both single images and presentations are for immediate viewing only. You cannot save an image.

If you receive an Annex D image while using your VuLink in dual monitor mode, the Annex D image is automatically displayed on the VGA monitor, while the video image of the person you are calling is displayed on the composite monitor. If you receive an Annex D image while using your VuLink in single monitor mode, the Annex D image will temporarily replace the video image on the monitor. To return to viewing the video image, use the arrow keys on your remote control to move the camera. The video image of the person you are calling is displayed again and the Annex D image is discarded.

Discarding an Image
When you receive an image, you can choose to discard the image by pressing the Exit key. Once the image has been discarded, it cannot be retrieved.

Before you can receive another Annex D image, you have to discard the current image by pressing the Exit key. In presentation mode, the image is automatically replaced when a new image is received.

Using Microsoft NetMeeting

You can use Microsoft NetMeeting in conjunction with your VuLink to send data and images. NetMeeting runs on a PC and can be used to send audio and video data to a person who does not have video hardware. NetMeeting uses the T.120 standard.

Setting up NetMeeting

To use T.120 with VuLink, you must connect a PC running NetMeeting 2.1 to your VuLink. The person you are calling must also have installed NetMeeting 2.1 on a PC and the PC must be connected to a VuLink or other H.320 teleconferencing unit.

VuLink does not support NetMeeting 3, since NetMeeting 3 does not support serial port connection directly. It is a TCP/IP implementation only.

Connect the PC to the second (lower) serial port on the back of the VuLink. NetMeeting 2.1 must be set up to use the COM: port on the PC, and the COM: port set to use 9600 baud, 8 data bits, 1 stop bit, and no parity.

Video quality may deteriorate slightly while NetMeeting is active.

Starting the T.120 Session
It is not important which party initiates the call as long as only one party dials at a given time.

Appendices

**Appendix A:
Television Codes**

AOC	010, 019	Infinity	006
Candle	010, 031, 037, 081	JBL	006
		Jensen	033
Capehart	035	JVC	009, 065
Citizen	010, 027, 031, 038, 046, 081	Kloss Novabeam	022
		KTV	077
Conklin	000	Logik	018
Contec	028, 064, 077, 080	Luxman	037
		LKI	056
Craig	066, 077	Magnavox	006, 010, 017,
Curtis Mathes	010, 038		022, 024, 049,
CXC	077		081, 082
Daewoo	019, 027, 040, 041,† 046	Marantz	010
		MGA	070, 010, 019,
Dixi	011		061
Dynatech	032	Mitsubishi Monitor	016
Emerson	019, 076, 077, 078, 080, 087	MTC	010, 019, 032, 037, 038
Envision	010	NEC	010, 019, 037,
Fisher	060		070
Funai	076, 077, 091, 092, 093, 094	Orion	091, 092, 093, 094
GE	003, 021, 023, 025, 034, 036	Panasonic	002, 006, 034, 036, 067
Goldstar	012, 019, 037	Penney	001, 003, 010,
Harman Kardon	044		019, 021, 057
Hitachi	029, 037, 050, 054, 048, 058, 072, 085	Philco	006, 010, 019, 020, 022, 024, 081, 082

Philips	006	SSS	019, 077
Pioneer	008, 071	Sylvania	006, 010, 020,
Proscan	003		022, 024
Proton	019, 026, 035		039, 081, 082
Quasar	034, 036, 083	Tatung	032
Radio Shack	027, 068, 077	Techwood	037
RCA	001, 003, 019,	Teknika	007, 018, 019,
	029		027, 031, 037,
Sampo	010, 035		038, 046, 073,
Samsung	010, 019, 027,		076, 077, 081
	037, 038	TMK	037, 019
Sanyo	052, 055, 060,	Toshiba	060, 056
	086	Universal	021, 023
Scott	076	Vidtech	019
Sears	017, 055, 056,	Wards	006, 010, 018,
	057, 060, 069		019, 020, 021,
Sharp	028, 047, 059,		023, 024, 068,
	068		076, 082
Sony	005, 015, 045	Yamaha	019
Soundesign	019, 077	Zenith	004

Appendix B:
ISDN Error Codes

When a call fails to connect or terminates, VuLink reports this with a message. The error codes are specified in ITU-T specification Q.850 as "cause codes." VuLink displays a brief summary of the information in Q.850. The following paragraphs expand on the summary displayed on screen. Possible remedies are suggested.

Whenever VuLink returns an error in trying to connect a call, two checks need to be made before rushing to the detailed messages:

· Check that the number dialed is correct and includes any required PBX prefix, international or long distance access codes and, for international numbers, omits the foreign long distance prefix.

· Check that the exchange setting in the ISDN Settings screen matches the exchange to which the VuLink is connected. In the case of US exchanges, ensure the SPIDs are correct. After changing the exchange type, it is sometimes necessary to power down VuLink—this depends on the vendor of the ISDN PBX or telecom supplier.

The cause codes are divided by the ITU-T into classifications to assist understanding of the seriousness of the cause. These classifications are used below. All cause codes not listed are invalid and should never be returned. If they are, VuLink displays "Invalid Cause Code (xx)" where xx is between 0 and 255.

Normal Causes

These occur in normal operation and are usually capable of being remedied by user actions.

Cause 01: Unallocated Number (Cause 01)

This indicates that, although the number is a valid format, it has not been allocated by the telephone company. Either the person being dialed has been cut off or the number is incorrect.

Cause 02: No route to specified transit network (Cause 02)

This means that the call was placed by specifying a routing of networks. The most likely reason is that VuLink is attached to a local PABX, which attempts to route calls using a "cheapest" route method, which is currently unavailable.

Cause 03: No route to destination (Cause 03)

This means that the destination number is not supported by the PABX/Telephone system connected to VuLink. The most likely reason is that there is a mistake in the dial string (forgetting a PABX prefix for an outside line)

Cause 06: Channel unacceptable (Cause 06)

This means that the local PABX/ISDN provider does not accept the channel that VuLink has attempted to dial on.

Cause 07: Call awarded and being delivered (Cause 07)

This means that the call has been delivered on an existing channel at the far end. As this is highly abnormal in ISDN environments it suggests a configuration problem with the far end.

Cause 16: Normal Call Termination (Cause 16)

This is the normal situation – so much so that VuLink does not even mention the cause number. If the termination is not what is expected, then the network is providing no additional information. Check the ISDN settings carefully as well as the numbers dialed.

Cause 17: User Busy (Cause 17)

This simply means the far end system is in a call. Simply try again later. If it is known that the far end is NOT in a call, then the far end should be power cycled as it may be holding the line open for some reason.

Cause 18: No user responding (Cause 18)

There are two common reasons for this: the far end is switched off or it is in a "manual answer" mode and there is no one to answer the call.

Cause 19: No answer from user (Cause 19)

This is almost the same as Cause 18. The major difference is that cause 18 is more commonly returned when the far end is switched off whereas this message is more commonly a case of a "manual answer" system with no one to take the call.

Cause 21: Call rejected (Cause 21)

This means either that the user has deliberately rejected the call (VuLink systems, for privacy reasons, do not do this – they return a 'normal termination' when a user rejects a call) or the far end network has rejected the call, for example a PABX that chooses not to allow incoming calls for some reason.

Cause 22: Number Changed (Cause 22)

This means that the telephone company has changed the far-end number – you need to find the new number for the system.

Cause 26: Non selected user clearing (Cause 26)

This is an unusual cause, which means that the network cannot connect the call but cannot give any more information.

Cause 27: Destination out of order (Cause 27)

This means that the final connection to the far end was malfunctioning. It may be as simple as the equipment being switched off or there may be a line fault.

Cause 28: Invalid Number format (Cause 28)

The number dialed is an invalid format. This is always a case of dialing the wrong number and the network detecting this fact.

Cause 29: Facility rejected (Cause 29)

This means that the far end cannot accept the ISDN call correctly – maybe the number dialed is a voice line or a dedicated FAX machine instead of a video conferencing system.

Cause 30: Response to STATUS ENQUIRY (Cause 30)

This should never occur as it implies an invalid sequence being sent by VuLink to the local exchange. Check carefully that the VuLink ISDN settings are correct as setting up the wrong exchange type may cause this.

Cause 31: Unspecified reason for termination (Cause 31)

This indicates a normal call termination but no other message seems appropriate. This has been seen on some PABX systems when terminating a voice call to a non-ISDN line.

Resource Unavailable Causes

These occur when the ISDN network does not supply some required resource. None of these can be directly resolved by user action.

Cause 34: No circuit/channel available (Cause 34)

This usually means that there are not enough lines to connect the call – often seen in H0 calls when the last line cannot be dialed. Remedy is to try again later.

Cause 38: Network out of order (Cause 38)

This means that the ISDN network is not functioning and that this is likely to be the case for some considerable time. After checking the dialed number, consult the local ISDN service provider.

Cause 41: Temporary Failure (Cause 41)

This means that the ISDN network is not functioning correctly but it should not last for long. Retry the call after a few minutes and it should work.

Cause 42: Switching equipment congestion (Cause 42)

This means that the major ISDN trunk lines are very busy. The distinction between this and cause 34 is that cause 34 is usually generated when the local ISDN exchange is busy whereas Cause 42 is generated when the major trunk lines are busy.

Cause 43: Access information discarded (Cause 43)

This means that the network could not deliver all required information to the far end. Usually indicates the far end is not on a true ISDN line or it is not properly configured.

Cause 44: Requested circuit/channel not available (Cause 44)

This indicates that the local ISDN network could not supply what VuLink requested. This indicates either that VuLink was not properly configured or there is a problem in the VuLink ISDN interface.

Cause 47: Resources unavailable (Cause 47)

This means something was not available but no other message adequately describes the problem.

Service or Option Unavailable Causes

These occur when the VuLink is requesting some option, which the ISDN network cannot provide. VuLink does not make use of any advanced optional features of ISDN so this is either incorrect configuration of VuLink or the ISDN line. Simply re-trying the call is unlikely to resolve the problem (unlike previous category where it might).

Cause 49: Quality of service unavailable (Cause 49)

This would occur when the call is being routed through a non-ISDN link, which is experiencing problems. Try again later.

Cause 50: Requested facility not subscribed (Cause 50)

Cause 57: Bearer capability not authorized (Cause 57)

Cause 58: Bearer capability not presently available (Cause 58)

Cause 63: Service or option not available (Cause 63)

All of these suggest one of two problems. The most likely problem is with the ISDN service provider (PABX or telephone company) but before calling them you should carefully check the exchange type in the ISDN settings screen as well as the 'restricted' setting on the same screen.

Service or Option Not Implemented Causes

These occur when VuLink is requesting something not implemented on the ISDN line. This is either incorrect configuration of VuLink or the ISDN line.

Cause 65: Bearer capability not implemented (Cause 65)

Cause 66: Channel type not implemented (Cause 66)

Cause 69: Requested facility not implemented (Cause 69)

Cause 70: Only restricted bearer capability available (Cause 70)

Cause 79: Service or option not implemented (Cause 79)

These cause codes are very similar to the service or option unavailable codes above except they imply a more permanent problem with the ISDN service provider.

Invalid Message Causes

These occur due to a problem in low-level communication between VuLink and the ISDN service provider. After checking the VuLink settings, power cycle the VuLink and try again.

Cause 81: Invalid call reference value (Cause 81)
Cause 82: Identified channel does not exist (Cause 82)
Cause 83: A suspended call exists but not this identifier (Cause 83)
Cause 84: Call Identity in use (Cause 84)
Cause 85: No Call suspended (Cause 85)
Cause 86: Call with this identity already been cleared (Cause 86)

Power cycling VuLink should solve these problems.

Cause 88: Incompatible destination (Cause 88)
Most likely cause is dialing the wrong number – for instance, trying to place a video call to a FAX machine. Check numbers carefully.

Cause 91: Invalid transit network selection (Cause 91)
This means that somewhere along the routing an invalid network was selected. If the final dialed number is correct, this is either a temporary problem cured by re-dialing or a local PABX is incorrectly configured.

Cause 95: Invalid Q931 message (Cause 95)
This is either a very temporary condition or the ISDN settings for VuLink specify the wrong exchange type.

Protocol Error Causes

These are a result of either a bug in VuLink or of the unsuccessful configuring of the ISDN exchange type. They are listed for completeness.

Cause 96: Mandatory information element missing (Cause 96)
Cause 97: Message type non-existent (Cause 97)
Cause 98: Message not compatible with call state (Cause 98)
Cause 99: Information element non-existent (Cause 99)
Cause 100: Invalid information element contents (Cause 100)
Cause 101: Message not compatible with call state (Cause 101)
Cause 102: Recovery on timer expiry (Cause 102)
Cause 111: Protocol error (Cause 111)

Other Causes

There is just one in this 'catch-all' category.

Cause 127: Internetworking (Cause 127)

This means an error occurred somewhere on a network which does not provide error reporting. Try again or consult your ISDN provider.

Appendix C: Re-Programming VuLink via Serial Line

This procedure is required in either of the following circumstances:

· A web-based download has failed during the copy to flash, rendering the VuLink inoperable.
· For some reason the VuLink cannot access the Internet via the built-in Ethernet port.

The following steps need to be performed.

1. Consult www.ivron.com/vulink/latest.htm or www.gentner.com for the location of latest release. Download the required file—this contains a single file called nk.bin. Unzip the file to get the nk.bin file.
2. Connect a serial cable to port A (upper connector) of VuLink and a PC running HyperTerminal. Set the communications settings on the PC to 57600 baud, 8 data bits, 1 stop bit, no parity, no flow control. Switch on VuLink and simultaneously hit any key on HyperTerminal to bring up the VuLink loader menu. If the text does not stop at the loader, switch off VuLink and try again.
3. Press the 4 key (Download over SERIAL, copy to FLASH and Run). On Hyper HyperTerminal, start the Transfer/Send File dialog. Select NK.bin as the file and 1K Xmodem as the protocol. When finished, VuLink will be running the new version.

Appendix D: Compliance Statements

American Users

1LXUSA-32757-XD-N

The Federal Communications Commission warns the users that changes or modifications to the unit not expressly approved by the party responsible for compliance could void the users authority to operate the equipment.

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 in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

· Re-orient or re-locate the receiving antenna.
· Increase the separation between the equipment and receiver.
· Connect the equipment into an outlet on a circuit different from that where the receiver is connected.
· Consult the dealer or an experienced radio/TV technician for help.

FCC part 68 requirements

The Federal Communications Commission (FCC) has established rules, which permit this device to be directly connected to the telephone network. Standardized jacks are used for these connections. This equipment should not be used on party lines or coin phones.

1. If this device malfunctions, it may also be causing harm to the telephone network; this device should be disconnected until the source of the problem can be determined and until repair has been made. If this is not true, the Telephone Company may temporally disconnect service.

2. The Telephone Company may make changes in its technical operations and procedures; if such changes affect the compatibility or use of this device, the Telephone Company is required to give adequate notice of the changes. You will be advised of your right to file a complaint with the FCC.

If the telephone company requests information on what equipment is connected to their lines, inform them of:

A. The telephone number to which it is connected.
B. The USOC jack required.
C. The FCC registration number.

In the event of equipment malfunction, an authorized agent should perform all repairs.

This equipment is an S/T interface and is designed to connect to an external NT1 Terminal Adapter. The user must supply an approved NT1 Terminal Adapter in order to connect to the public network.

Canadian Users

This 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 Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A prescrites dans le Règlement sur la brouillage radioélectrique édicté par le ministère des Communications du Canada.

Notice: The Industry Canada identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and equipment safety requirements. Industry Canada does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local Telecommunications Company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations. Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or if equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electrical inspection authority, or electrician, as appropriate.

European Users

This Information Technology Equipment has been tested and found to comply with the following European Directives:

i. EMC directive 89/336/EEC
ii. Telecommunications R&TTE directive 1999/5/EC
iii. Low Voltage directive (SELV) 73/23/EEC

This Equipment is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

This equipment has been found to comply with the requirements for ISDN BRI, Europe. Routes to approval have been EC Type Examination in addition to Production Quality Assurance (Annex I Annex III) Compliance means that this equipment can be connected to the public telecommunications infrastructure either directly or indirectly.
Any changes or modifications made to this equipment may void the user's authority to operate this equipment.

Australian and New Zealand Users

N11567

This equipment has been tested and found to comply with the requirements for Australian/New Zealand EMC standard AS/NZ 3548.
This equipment meets or exceeds requirements for safety in Australia (TS001/AS3260)

The telecommunication module in this equipment has been tested and found to comply with the Australian Telecommunications standard TS013.

General Notices

With exception to the power block and the Telecommunication ports all user interconnection points have SELV safety status as defined in EN60950 and IEC950.

This equipment is intended to be used with a Class 2 power supply UMEC Model # UP0403A-01P,
Rating: 5V @ 3A, 12V@ 2A.

Safety Information:

The VuLink contains a Lithium battery.

· Danger of explosion if battery is incorrectly replaced.
· Replace only with the same or equivalent type recommended by the manufacturer.
· Dispose of used batteries according to the manufacturer's instruction.

The VuLink consists of an internal ISDN interface card. This card has been assembled to a specific configuration in the VuLink so as to maintain optimal operation.

End-User Warranty

Gentner Communications Corporation (Manufacturer) warrants that this product is free of defects in both materials and workmanship. Should any part of this product be defective, the Manufacturer agrees, at its option, to:

A. Repair or replace any defective part free of charge (except transportation charges) for a period of one year from the date of installation for the end-user, provided the owner returns the product to the Manufacturer at the address set forth below. No charge will be made for parts or labor during this period;

B. Furnish replacement for any defective parts in the product for a period of one year from the date of original purchase. Replacement parts shall be furnished without charge, except labor and transportation.

This Warranty excludes assembled products not manufactured by the Manufacturer whether or not they are incorporated in a Manufacturer product or sold under a Manufacturer part or model number.

THIS WARRANTY IS VOID IF:
A. The product has been damaged by negligence, accident, act of God, or mishandling, or has not been operated in accordance with the procedures described in the operating and technical instructions; or,

B. The product has been altered or repaired by other than the Manufacturer or an authorized service representative of the Manufacturer; or,

C. Adaptations or accessories other than those manufactured or provided by the Manufacturer have been made or attached to the product which, in the determination of the Manufacturer, shall have affected the performance, safety or reliability of the product; or,

D. The product's original serial number has been modified or removed.

NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE, APPLIES TO THE PRODUCT. MANUFACTURER'S MAXIMUM LIABILITY HEREUNDER SHALL BE THE AMOUNT PAID BY THE END-USER FOR THE PRODUCT. No person or entity authorized to assume any obligation or other liability in connection with the products. No action, regardless of form, arising out of or relating to the product or this Warranty, may be brought by end-user more than one (1) year after the cause of action has accrued.

Manufacturer shall not be liable for punitive, consequential, or incidental damages, expenses, or loss of revenue or property, inconvenience, or interruption in operation experienced by the end user due to a malfunction in the purchased product. No warranty service performed on any product shall extend the applicable warranty period.

In case of unsatisfactory operation, the end-user shall promptly notify the Manufacturer at the address set forth below in writing, giving full particulars as to the defects or unsatisfactory operation. Upon receipt of such notice, the Manufacturer will give instructions respecting the shipment of the product, or such other matters as it elects to honor this warranty as above provided. This warranty does not cover damage to the product during shipping and the Manufacturer assumes no responsibility for such damage. All shipping costs shall be paid by the customer.

This warranty extends only to the original end user and is not assignable or transferable. This Warranty is governed by the laws of the State of Utah, without regard to the conflicts of interests provisions thereof.

Gentner Communications Corporation
1825 Research Way
Salt Lake City, Utah 84119

Glossary

A

Audio Rx Received audio modes

Audio Tx Transmitted audio modes

B

Baud The number of signaling elements that occur each second during data transfer.

Bonded Calls (2B, 4B, and 6B) Each ISDN channel consists of two lines. The first 64k of the first line are used for voice transmission and the rest for data transmission. Each line has a separate ISDN number, which you would normally have to enter when making a call. Therefore, if you want to make a call using three ISDN channels, you have to enter six ISDN numbers on the Dial screen. However, for a bonded call, you would only enter one destination number. The IMUX software will then work out the numbers of the other ISDN channels from the number dialed. See also, Unbonded calls.

C

Channel The term channel refers to a communications path between two computers or devices. In this manual the channels are the wires in the ISDN cables.

Com An interface on a computer to which you can connect a device.

Composite monitor Television monitor. See also, NTSC and PAL.

CRC Cyclic redundancy check is technique for detecting data transmission errors.

D

Delimiter A character that is used to indicate that a gateway prefix is being used. For example if, * is the delimiter and P is the gateway prefix, you enter *P and the VuLink automatically connects at 128K. See also, Gateway and Gateway prefix.

DHCP Dynamic host configuration protocol is a protocol for assigning dynamic IP addresses to devices on a network. With dynamic addressing, a device can have a different IP address every time it connects to the network. DHCP also supports a mix of static and dynamic IP addresses.

DNS server Domain name system (or service) is an Internet service that translates domain names into IP addresses. Because domain names are alphabetic, they're easier to remember.

DTMF tones Dual tone multi-frequency assigns a specific frequency, or tone, to each key on, for example, a remote control so that it can easily be identified by a microprocessor.

E

E164 The E164 name is a numeric name that is assigned to your gatekeeper. See also H.323.

Ethernet A local-area network protocol. See also LAN.

F

Firmware Firmware is software embedded in a device.

G

Gateway A gateway is a combination of hardware and software that links two different types of networks together.

Gateway prefix The gateway prefix lets you enter a prefix for the connection speed you wish to use. For example, if P is the prefix for a 128k connection, you enter P before the gateway IP and the gatekeeper automatically connects at 128k speed.

H

H.323 The H.323 name is an alphanumeric name that the Gatekeeper can recognize as an IP address. For example, ADAM3. The gatekeeper recognizes that it belongs to the IP address of Adam Smith and routes the call to the address. Since the H.323 name is not an IP address, the VuLink can keep this name even if it is moved within the network. See also E164.

An audiovisual conferencing standard that defines how data is transmitted across networks. In theory, H.323 should enable users to participate in the same conference even though they are using different video conferencing applications.

HTML Hyper text markup language is the authoring language used to create documents on the World Wide Web.

I

IP Internet protocol specifies the format of packets, also called data grams, and the addressing scheme on the Internet. IP works like the postal system; you send a package to an address with out a direct line between you and the receiver.

IP Address An identifier for a computer on a network. The format of an IP address is a 32-bit numeric address written as four numbers separated by periods. Each number can be zero to 255. For example, 1.160.10.240.

ISDN The Integrated Services Digital Network is a set of standards that support the transmission of voice, video, and data over a single network. An ISDN call is a call that is made over the ISDN network using the H.320 protocol. See also, ISDN-R.

ISDN number A phone number for the ISDN connection. Ask your system administrator for your ISDN number.

ISDN-R Integrated services digital network that is limited to 56k bits-per-second. It is sometimes used in the USA and in Saudi Arabia. See also, ISDN.

J

Java™ A high-level programming language for the World Wide Web.

L

LAN A computer network that spans a relatively small area. LANs are capable of transmitting data at very fast rates, much faster than data can be transmitted over a telephone line; but the distances are limited, and there is also a limit on the number of computers that can be attached to a single LAN.

LAN Call A call made over your local area network using the H.323 standard for video conferencing. H.323 is a protocol approved by the International Telecommunication Union (ITU) as a standard for the transmission of audio and video data. H.323 allows different teleconferencing devices to communicate.

LAN-WAN Call A LAN-WAN call is a call made from a local area network to a H.320 wide area network (WAN), via a gateway. See also LAN and WAN.

LED Light emitting diode is an electronic device that lights up when electricity is passed through it. LEDs are usually red.

Line input Anything with an audio output can be attached, for example a CD player, so that when you are showing a Power Point Presentation you can play audio that goes with it.

N

NTSC Monitor The national television standards committee is responsible for setting television and video standards in the United States. See also PAL Monitor.

P

PAL Monitor Phase alternating line is the dominant television standard in Europe. See also NTSC Monitor.

PBX Private branch exchange, a private telephone network used within an enterprise. Users of the PBX share a certain number of outside lines for making telephone calls external to the PBX.

PCMCIA Personal computer memory card international association has developed a standard for small, credit card-sized devices, called PC Cards.

PIP Picture in picture, a function that makes it possible to display one or more images of different origin on one screen.

Proxy Server A server that sits between a client application, such as a Web browser, and a real server. It intercepts all requests to the real server to see if it can fulfill the requests itself. If not, it forwards the request to the real server.

Q

QCIF Quarter common intermediate format is a video conferencing format that specifies data rates at a 1/4 the resolution of CIF. QCIF support is required by the ITU H.261 video conferencing standard. Sending QCIF (176 x 144 pixels) will increase the 'frame rate' sent on a low bandwidth call. See also CIF.

QWERTY Keyboard The arrangement of keys on a standard English computer keyboard or typewriter. The name derives from the first six characters on the top alphabetic line of the keyboard.

R

RCS Models Remote camera system, the VL322 RCS and VL326 RCS models are delivered with a non-integrated camera.

S

SCART An industry standard means of connecting a variety of audio-visual equipment together. The connection consists of a 21 way female socket (pin 21 being the metal shield of the connector) that is fitted to most videocassette recorders (VCRs) and television sets.

SPID Service profile identifier is a number that identifies a specific ISDN line. When you obtain ISDN service, your telephone company assigns a SPID to your line.

Most telephone companies in the U.S. use the Generic SPID Format, which is a 14-digit number. The first 10 digits identify the telephone number, called the Directory Number (DN). The remaining four digits identify a particular ISDN device, in the case where multiple devices share the same Directory Number.

Subnet Mask A filter that selectively includes or excludes certain values. It determines which part of a net the device should consider to be local.

T
T.120 T.120 comprises a series of protocols approved by the International Telecommunications Union (ITU-T) for document conferencing and application sharing during a teleconference.

U
Unbonded calls An unbonded call is a call that treats multiple ISDN lines as single channels. You need to enter all the numbers of the receiving end. If there are numbers missing, the VuLink will not establish a call. If a channel goes down during a call the call will be terminated. If a line goes down, the call will gradually terminate.

URL Uniform resource locator is the global address of documents and other resources on the World Wide Web. The first part of the address indicates what protocol to use, and the second part specifies the IP address or the domain name where the resource is located.

V
VBScript Visual basic scripting edition enables web authors to include interactive controls, such as buttons and scroll bars, on their Web pages. See also Java.

VGA Monitor Video graphics array is a graphics display system for PCs. All PCs made today support VGA. See also Composite Monitor.

VuLink Network Name This machine name takes the format VuLinknnnnnnnnn where 'nnnnnnnnn' is the 9-digit serial number of VuLink.

W
WAN Two or more local-area networks (LANs) connected via telephone lines and radio waves is called a wide-area network (WAN).

Gentner

WINS Server Windows internet naming service is a system that determines the IP address associated with a particular network computer. This is called name resolution. WINS supports network client and server computers running Windows and can provide name resolution for other computers with special arrangements. Determining the IP address for a computer is a complex process when DHCP servers assign IP addresses dynamically. For example, it is possible for DHCP to assign a different IP address to a client each time the machine logs on to the network. WINS uses a distributed database that is automatically updated with the names of computers currently available and the IP address assigned to each one.

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