

## Vanguard Applications Ware PRODUCT ADVISORY NOTICE BRI Voice Feature for Release 5.3.23

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### What's in This Notice

This advisory notice describes the integration of Voice Relay, over an ISDN BRI interface, in these Vanguard products:

- Vanguard 320
- Vanguard 6400 Series
- Vanguard 6520/6560

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### Voice Applications

The BRI Voice feature provides basic rate ISDN Voice support for Vanguard products using the Voice Relay or Voice over IP features supported by Applications Ware. This feature is enabled by a CSK; QSIG\_OPTION.

Switched voice calls over the ISDN B-channels are controlled by D-channel Common Channel Signaling messages. The BRI B-channel voice traffic is compressed and packetized before transmission over either Frame Relay or IP. Voice compression and packetization is performed between Vanguard nodes. The PCM (Pulse Code Modulated) format is used between the Vanguard node and a PBX.

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## Applications

# Applications

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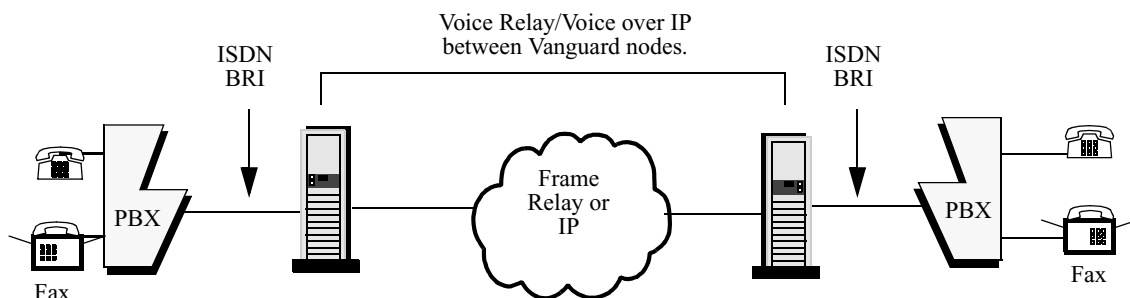
### Introduction

This section describes an application example for voice on a BRI interface.

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### Application Examples

Figure 1 illustrates an application for voice on a BRI interface. In this application example, the physical interface is a 4-wire S-bus. The S-bus characteristics are defined by ITU recommendation I.430.



**Figure 1. Applications for Voice Access via BRI**

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### Q.SIG Trunk Between PBX and Vanguard

Figure 1 shows a Q.SIG trunk between a PBX and a Vanguard product at each end of the network, for support of voice or fax calls. These trunks are point-to-point connections supporting either negotiated or fixed TEI assignment. Within the network, voice calls are switched. Each of the two B-channels on the BRI interface support one voice call each.

Typically, the Vanguard voice interface is configured as the NT-side, with clocking provided to the PBX. Alternatively, the Vanguard voice interface can be configured as TE-side, deriving clocking from the PBX.

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### ISDN Trunk Between PBX and Vanguard

If the PBX is provisioned as an ISDN BRI interface, the Vanguard BRI Voice feature will support Euro-ISDN instead of Q.SIG signaling.

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### Q.SIG/ISDN Interworking

A Q.SIG or Euro-ISDN BRI voice call can inter-connect to any other Vanguard BRI/PRI, FXS, FXO, or E&M voice port.

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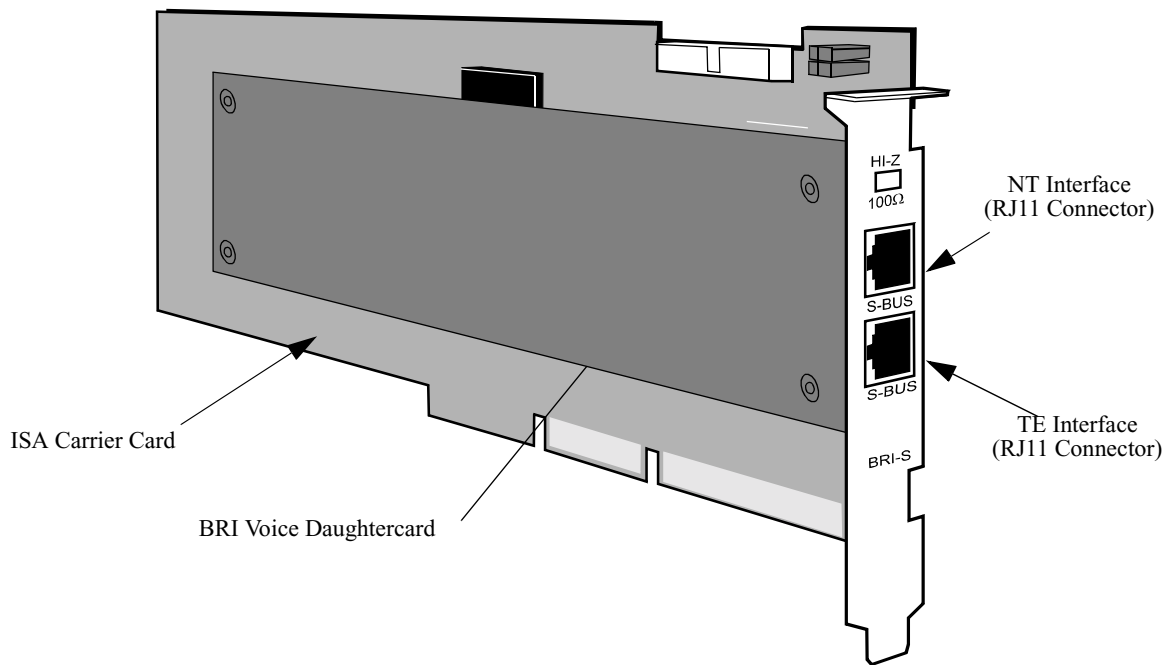
## Hardware Installation

### Introduction

The ISDN BRI Voice Daughtercard is an optional card that provides two connectors for ISDN Basic Rate Interface(s), one on the NT and one on the TE interface.

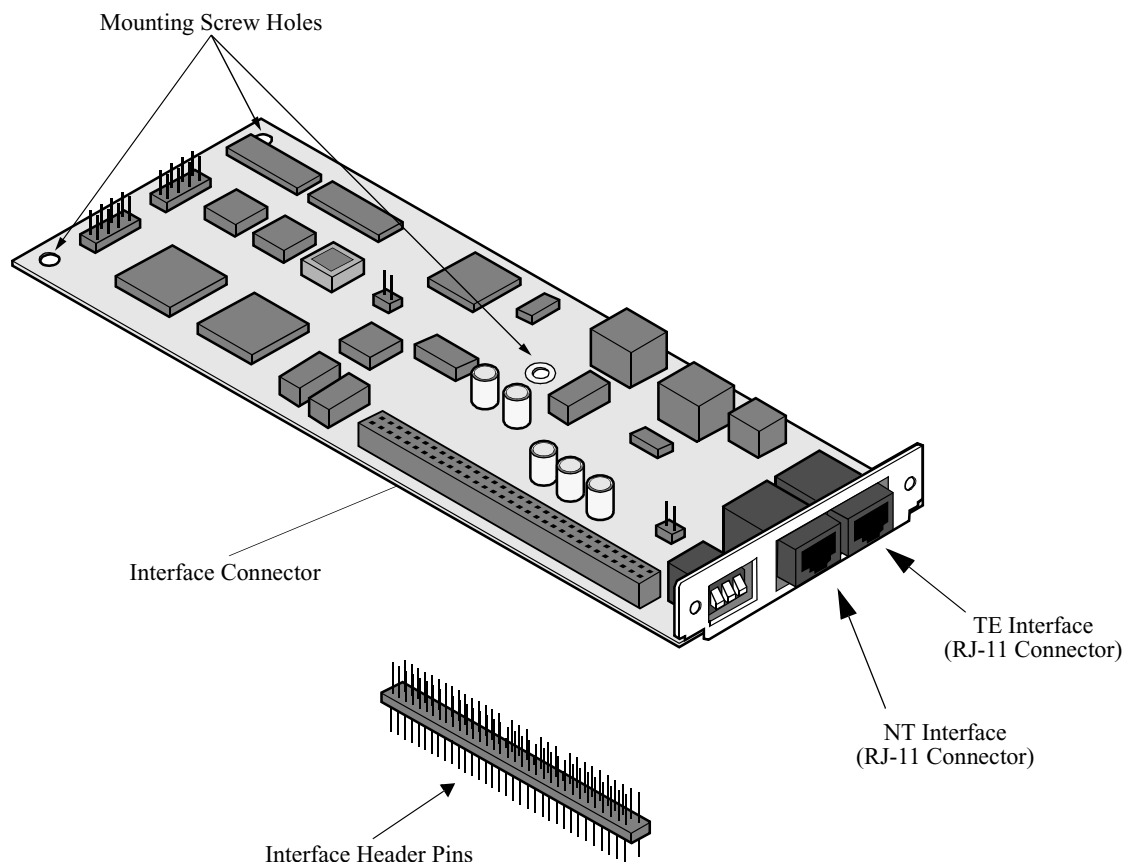
■ **Note**

The ISDN BRI Voice Daughtercard is currently not certified for connection to the Public Switched Telephone Network. The only application for this product is connection to a local PBX.



**Figure 2. ISDN BRI Voice Daughtercard and Carrier Card for Vanguard 6520/6560**

## Hardware Installation



**Figure 3. ISDN BRI Voice Daughtercard for Vanguard 320 and 6400 Series Products**



### Warning!

Before installing the card, read the following safety advice carefully:

#### To Avoid any Harm to Yourself

*Before* installing the card, power down the Vanguard.

#### To Avoid Damaging the Card or the Vanguard product

Handle the card carefully. The electrical components are sensitive to static electricity. Before touching the card, make sure that you are not carrying any static electricity by touching a grounded metal object.

*Do not* touch the connectors on the end of the card or the pins on the integrated circuits. The skin's natural oils can change the resistance of the contacts.

Avant d'installer la carte, veuillez lire les conseils de sécurité suivants:

#### Pour votre protection

Eteignez le Vanguard *avant* d'installer la carte.

## Hardware Installation

### **Pour ne pas endommager la carte ou le Vanguard**

Manipulez la carte avec soin. Les composants électriques sont sensibles à l'électricité statique. Avant de toucher la carte, assurez-vous que vous n'êtes pas porteur d'électricité statique en étant en contact avec un objet métallique relié à la terre.

*Ne touchez pas* les connecteurs à l'extrémité de la carte ou les broches sur les circuits intégrés. Le sébum de la peau peut modifier la résistance des contacts.

Bitte lesen Sie vor der Installation der Karte folgende Sicherheitshinweise sorgfältig durch:

### **Schutz vor Personenschäden**

Schalten Sie den Vanguard *vor* der Installation der Karte ab.

### **Um eine Beschädigung der Karte oder des Vanguard**

Zu vermeiden, sollten Sie mit der Karte sehr vorsichtig umgehen. Die elektrischen Bauteile sind anfällig gegen statische Elektrizität. Bevor Sie die Karte berühren, sollten Sie sicherstellen, daß Sie nicht elektrostatisch aufgeladen sind, indem Sie einen geerdeten Metallgegenstand berühren.

*Vermeiden* Sie in jedem Fall eine Berührung der Kontaktstifte am Rand der Karte oder an den integrierten Schaltkreisen. Der Widerstand der Kontaktstifte kann durch das natürliche Fett der Haut verändert werden.

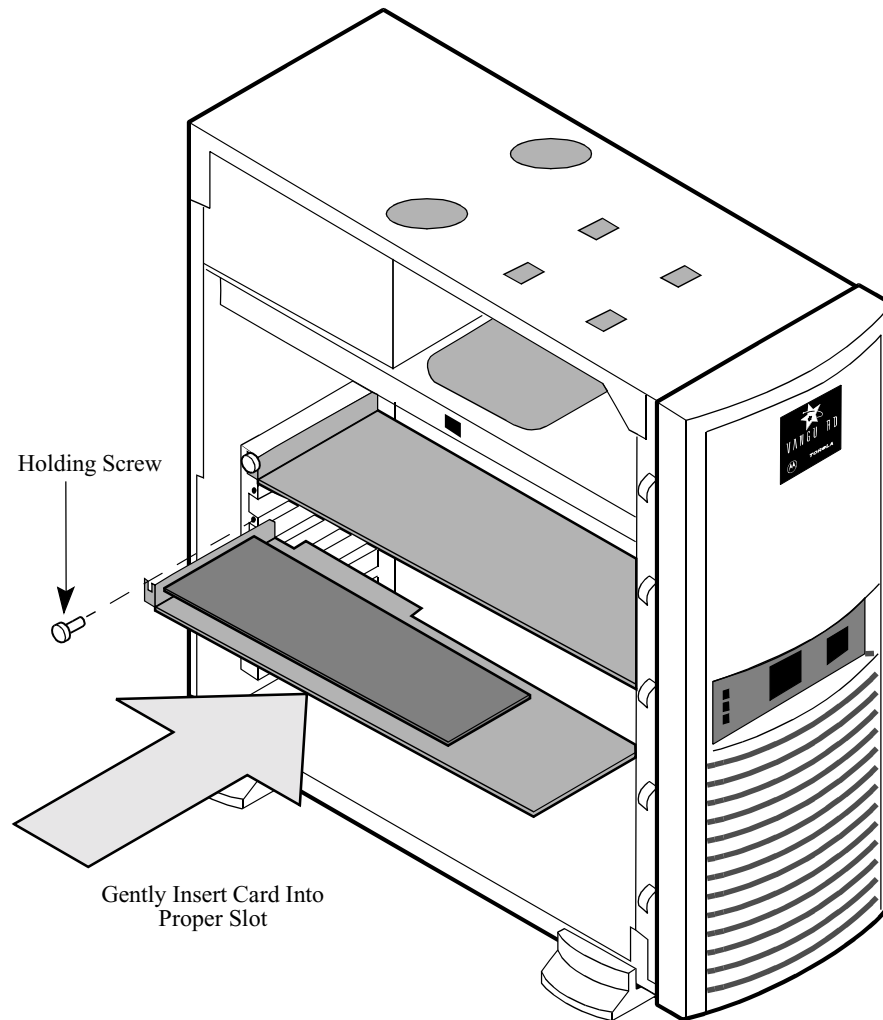
## Vanguard 6520/ 6560 Installation

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Perform these steps to install this daughtercard and carrier card into the Vanguard 6520/6560.

<b>Step</b>	<b>Action</b>
1	Verify that the power is OFF by removing the power cord.
2	Remove the top cover.
3	Unlock the latch at the top of the support bar by turning the latch counterclockwise 1/4 turn.
4	Pull the support bar out from the chassis.
5	Gently insert the card into the slot. Use the holding screw (Figure 4) to secure the card.
6	Replace the support bar and top cover.
7	Reconnect the power cord and apply power to the unit.

**Hardware Installation**



**Figure 4. Installing the BRI Voice Card in a Vanguard 6520/6560**

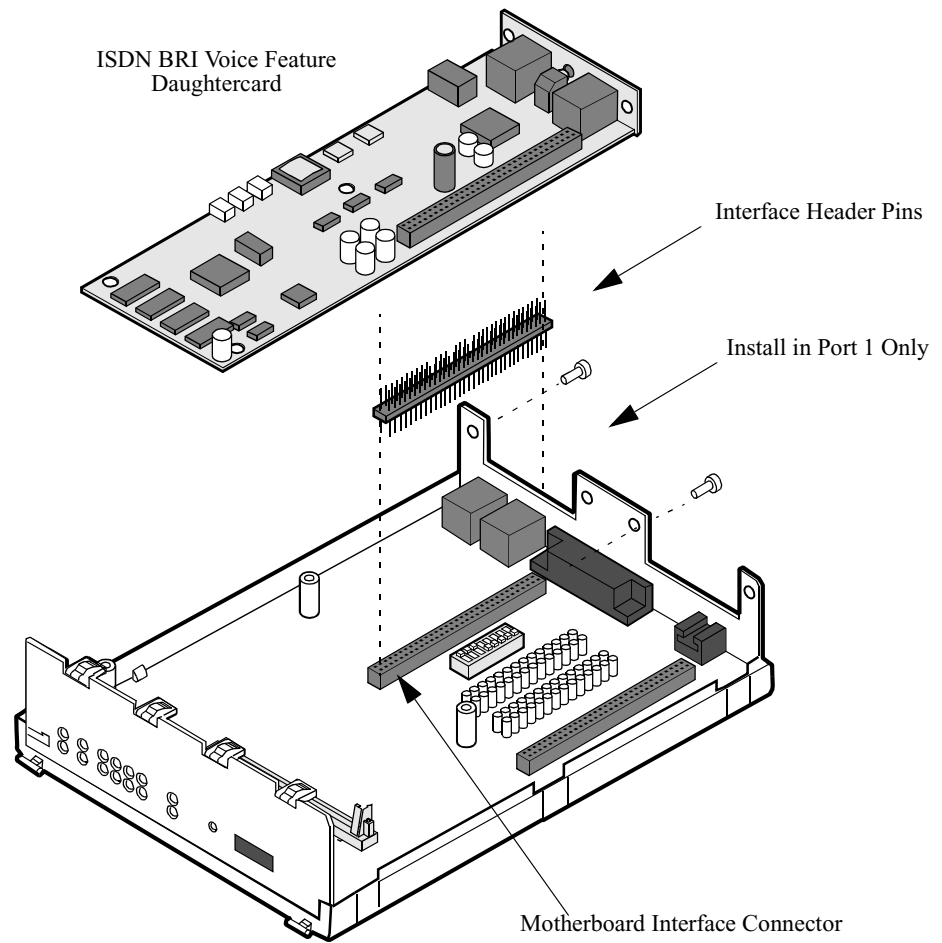
**Hardware Installation**

**Vanguard 320  
 Installation**

Perform these steps to install this daughtercard in a Vanguard 320.

<b>Step</b>	<b>Action</b>	
<b>1</b>	Unplug the power cord from the primary power source and remove interface and power cables.	
<b>2</b>	Remove the top cover and front door of the Vanguard.	
<b>3</b>	<b><i>If you are...</i></b>	<b><i>Then...</i></b>
	Adding a daughtercard	Connect the 68-pin interface header onto the motherboard.  <b>■ Note</b> When installing this daughtercard into a Vanguard 320, you must install the card in slot number 1, as indicated in Figure 5.
	Replacing a daughtercard	a) Remove the daughtercard mounting screw that attaches the daughtercard to the board.  b) Unscrew the two rear panel coverplate screws. Unplug the existing daughtercard. If no daughtercard is installed, remove the metal blanking plate.  c) Align the standoff on the motherboard with the hole on the new daughtercard.
<b>4</b>	Push the daughtercard down into the connector being careful to align the pins. (See Figure 5.)  <b>■ Note</b> Do not apply excessive pressure when pushing the daughtercard into the connector or you may damage the card.	
<b>5</b>	Fasten the screw that attaches the daughtercard to the motherboard, then fasten the two rear panel coverplate screws. Daughtercard replacement/addition is complete.	
<b>6</b>	Replace the top cover and front door, snapping them together.	
<b>7</b>	Reconnect the interface and power cables.	
<b>8</b>	Power on the unit.	

**Hardware Installation**




**Figure 5. Vanguard 320 ISDN Daughtercard Installation**



**Hardware Installation**

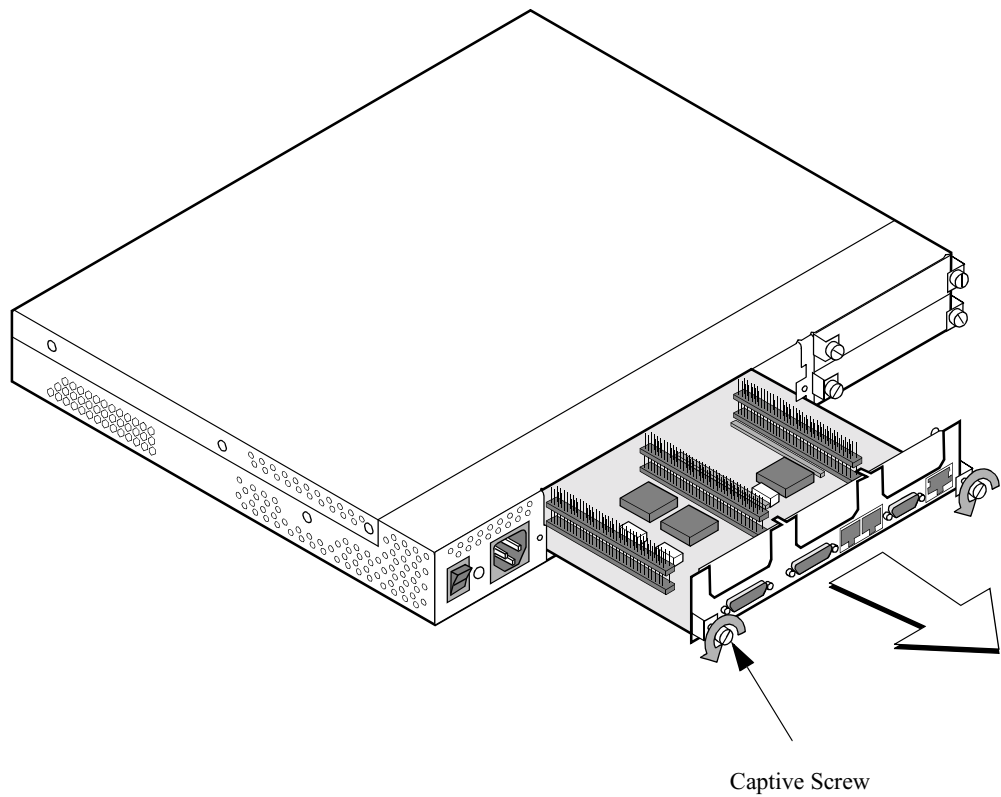
**Vanguard 6430/  
 6450 Installation**

To install daughtercards in a Vanguard 6430 or 6450, you must first remove the motherboard from this products enclosure, as shown in Figure 6. Perform these steps to install this daughtercard.

<b>Step</b>	<b>Action</b>	
<b>1</b>	Power down the unit and remove the cables and power cord.	
<b>2</b>	Loosen the captive screws on either side of the motherboard rear panel.	
<b>3</b>	Use the ejector lever (below the captive screw on the left side of the motherboard) to carefully slide the motherboard out.  <div style="text-align: center;">  <b>Caution!</b> </div> Exercise extreme care, when sliding the motherboard out, to prevent components mounted to the underside of the board from being knocked off.	
<b>4</b>	Place the motherboard on a clean flat surface.	
<b>5</b>	<b>If you are...</b>	<b>Then...</b>
	Adding a daughtercard	Connect the 68-pin interface header onto the motherboard.  <b>■ Note</b> You can install this daughtercard in any of the three daughtercard slots found in the Vanguard 6430 or 6450.
	Replacing a daughtercard	a) Remove the daughtercard mounting screw that attaches the daughtercard to the board.  b) Unscrew the two rear panel coverplate screws. Unplug the existing daughtercard. If no daughtercard is installed, remove the metal blanking plate.  c) Align the standoff on the motherboard with the hole on the new daughtercard.
<b>6</b>	Push the daughtercard down into the connector being careful to align the pins. (See Figure 5.)  <b>■ Note</b> Do not apply excessive pressure when pushing the daughtercard into the connector or you may damage the card.	

**Hardware Installation**

<b>Step</b>	<b>Action (continued)</b>
<b>7</b>	Fasten the screw that attaches the daughtercard to the motherboard, then fasten the two rear panel coverplate screws. Daughtercard replacement/addition is complete.
<b>8</b>	Reinstall the motherboard by reversing Steps 1 through 3.



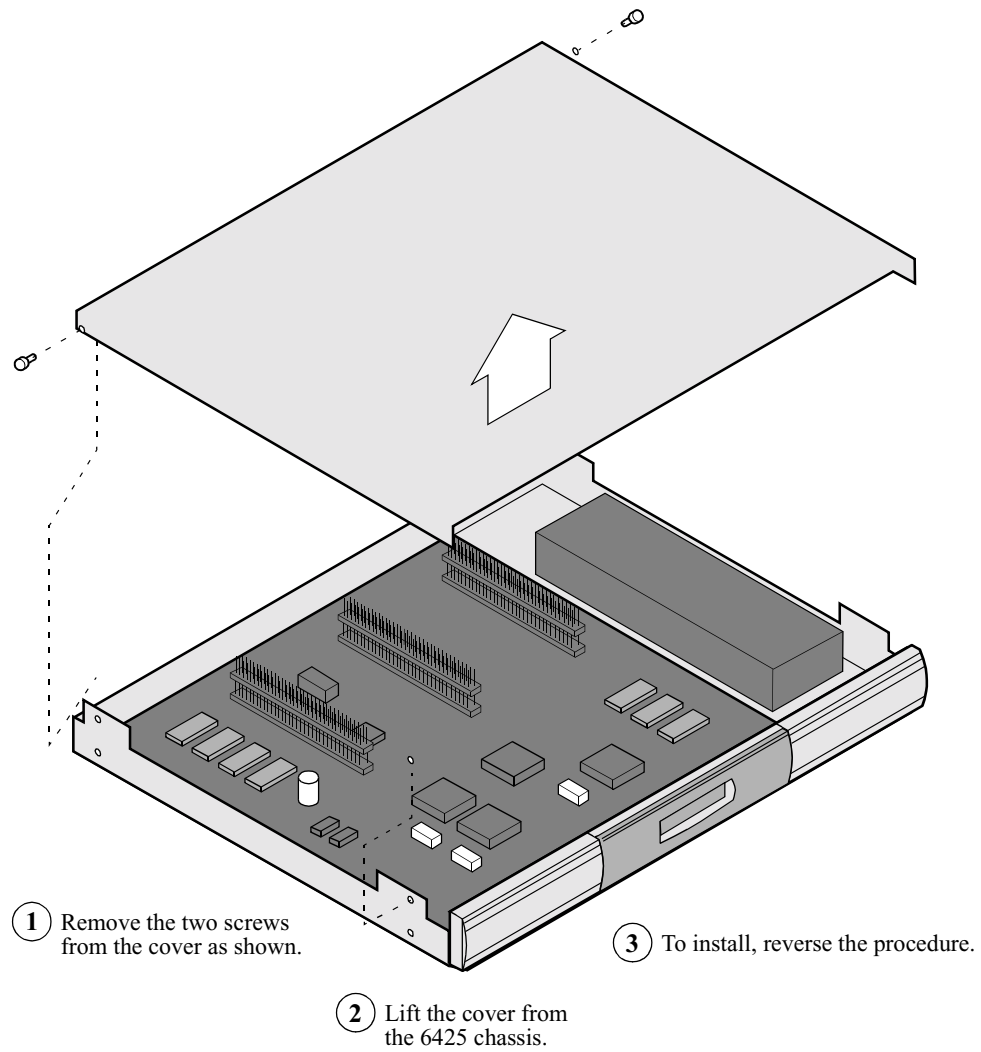
**Figure 6. Vanguard 6430/6450 Installation**

**Hardware Installation**

**Vanguard 6425  
 Installation**

Figure 7, and this procedure, show how the Vanguard 6425 enclosure is opened to allow access to the motherboard and install this daughtercard.

<b>Step</b>	<b>Action</b>	
<b>1</b>	Remove the two screws (one on each side) which secure the top cover to the base enclosure section.	
<b>2</b>	Slide the top cover back to clear the tabs in the front panel, then lift the rear part of the top cover up to clear the back panel.	
<b>3</b>	Lift the top cover completely from the enclosure base and set aside.	
<b>4</b>	Place the motherboard on a clean flat surface.	
<b>5</b>	<b><i>If you are...</i></b>	<b><i>Then...</i></b>
	Adding a daughtercard	Connect the 68-pin interface header onto the motherboard.  <b>■ Note</b> You can install this daughtercard in any of the three daughtercard slots found in the Vanguard 6425.
	Replacing a daughtercard	a) Remove the daughtercard mounting screw that attaches the daughtercard to the board.  b) Unscrew the two rear panel coverplate screws. Unplug the existing daughtercard. If no daughtercard is installed, remove the metal blanking plate.  c) Align the standoff on the motherboard with the hole on the new daughtercard.
<b>6</b>	Push the daughtercard down into the connector being careful to align the pins. (See Figure 5.)  <b>■ Note</b> Do not apply excessive pressure when pushing the daughtercard into the connector or you may damage the card.	
<b>7</b>	Fasten the screw that attaches the daughtercard to the motherboard, then fasten the two rear panel coverplate screws. Daughtercard replacement/ addition is complete.	
<b>8</b>	To replace the cover, reverse the steps described above.	



**Figure 7. Opening the Vanguard 6425 Enclosure**

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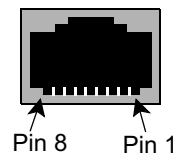
## Cabling

### Introduction

The daughtercard is equipped with two RJ-11 connectors. One provides NT-side physical layer pinouts while the other provides TE-side physical layer pinouts (see Figures 1 and 2). Plug the cable into the appropriate physical interface connector, consistent with the interface configuration parameters for physical layer framing.

### Cable Connector Pin Numbers and Pinouts

The connector pins are numbered from right to left as shown in Figure 8.



**Figure 8. Connector Pin Out**

This table shows the pinouts for the RJ11 connectors on the BRI Voice Daughtercard .

<b>Pin No.</b>	<b>Function</b>	
	<b>TE Connector</b>	<b>NT Connector</b>
1	Power Source 3 + (no connection)	Power Sink 3 + (no connection)
2	Power Source 3 - (no connection)	Power Sink 3 - (no connection)
3	Transmit +	Receive +
4	Receive +	Transmit +
5	Receive -	Transmit -
6	Transmit -	Receive -
7	Power Sink 2 - (no connection)	Power Source 2 - (no connection)
8	Power Sink 2 + (no connection)	Power Source 2 + (no connection)

## Configuration And Statistics

### Introduction

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This section describes the configuration and statistics related to the BRI Voice feature.

■ **Note**

SNMP is not currently supported by this release of Applications Ware.

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## Configuration

### Introduction

Configuration of the BRI Voice feature involves performing these tasks:

<b>Task</b>	<b>Activity</b>
<b>1</b>	Configure an X.25 port corresponding to the physical port on which the D-channel signalling will be carried.
<b>2</b>	Configure a virtual port for each B-channel.
<b>3</b>	Configure an ISDN BRI Interface for each BRI Voice Daughtercard.

### Configuring X.25

Refer to the Vanguard ISDN and/or X.25 Basic Configuration manuals (Part Numbers T0103-06 and T0107 respectively) for specific instructions on this activity. These port numbers can be selected for the various products supported:

<b>Product</b>	<b>Port Selections</b>
Vanguard 6560	7, 13, 19, 25, 31, 37, 43, 49
Vanguard 6520	13, 19, 25, 31, 37, 43, 49
Vanguard 6430/6450/6425	7, 10, 13
Vanguard 320	1, 4

#### ■ Note

While configuring this port, you can accept all default parameter values referenced in the Vanguard ISDN and/or X.25 Basic Configuration manuals.

### Configuring B-channel Virtual Ports

To configure a Voice Virtual Port, follow the procedures outlined in the Common Channel Signalling (CCS) section of the Voice Relay Manual (Part Number T0104-02). The only parameter difference you will notice is to select BRI as the access type. Set all other voice parameters to the appropriate values for you application. Remember that you can select a virtual port from the range of 100 through 254.

*Configuration And Statistics*

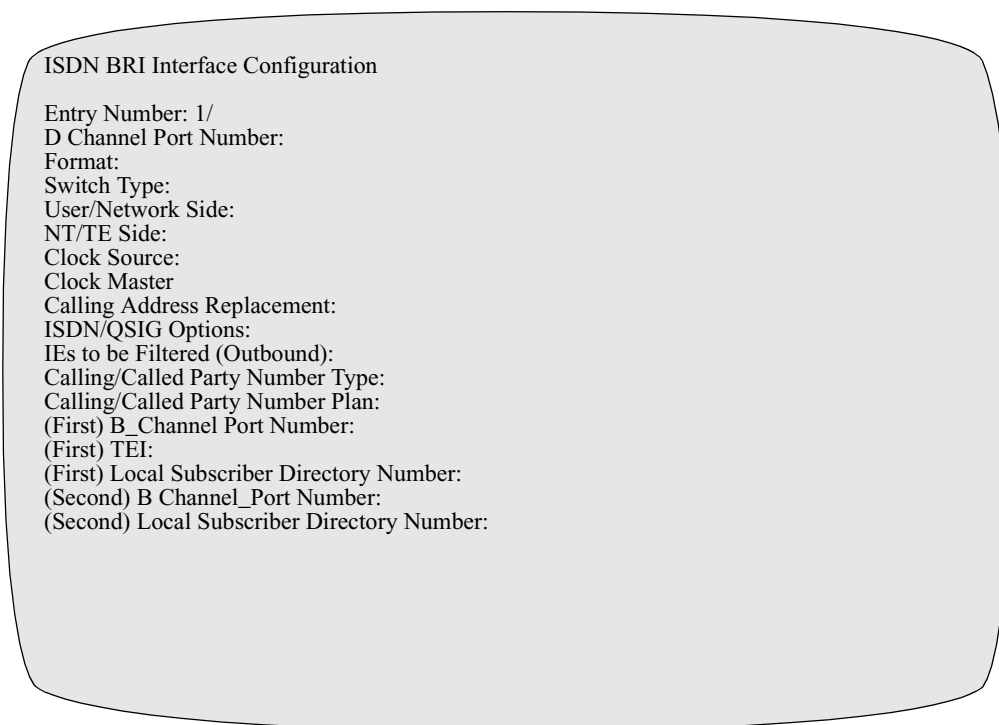
**Accessing the BRI  
ISDN Interface  
Configuration  
Menu**

Complete this procedure to access the BRI ISDN Interface Configuration menu.

<b>Step</b>	<b>Do This...</b>	<b>Result</b>
<b>1</b>	Select <b>Configure</b> from the CTP Main menu.	The Configure menu is displayed.
<b>2</b>	Select <b>Configure BRI ISDN Interface</b> from the Configure menu.	The screen for selecting the BRI ISDN interface choices appears.
<b>3</b>	Select <b>BRI ISDN Interfaces</b> from the choices.	The screen prompts you for an Entry Number that is used for CMEM identification.

**Configuration  
Menu**

Figure 9 illustrates a typical BRI Voice configuration screen.



**Figure 9. BRI Voice Configuration Screen**



## ISDN BRI Interface Configuration

### Parameters

These ISDN BRI Interface parameters must be configured:

**■ Note**

Many of these parameters may or may not be displayed, depending on the setting selected for other parameters.

**\*D-Channel Port Number**

Range:	<ul style="list-style-type: none"> <li>• 0, 7, 13, 19, 25, 31, 37, 43, 49 for Vanguard 6560</li> <li>• 13, 19, 25, 31, 37, 43, 49 for Vanguard 6520</li> <li>• 7, 10, 13 for Vanguard 64xx products</li> <li>• 1, 4 for Vanguard 320</li> </ul>
Default:	<ul style="list-style-type: none"> <li>• (ISDN BRI Interface entry number *6) + 1 for Vanguard 6520/6560</li> <li>• ((ISDN BRI Interface entry number-1) *3) + 7 for Vanguard 64xx</li> <li>• 1 for Vanguard 320</li> </ul>
Description:	<p>Specifies the physical port associated with the ISDN D-channel.</p> <ul style="list-style-type: none"> <li>• 0: Both B-channels' access type is "Permanent". No D-channel data (Data format only).</li> <li>• Port No.: Packet Data on D-channel (X25) (Data format only) or B-channel access type is "Switched" type.</li> </ul> <p><b>■ Note</b>                      This setting relates to the first port associated to this BRI (this is not a Virtual Port).</p> <p><b>■ Note</b>                      A change to this parameter requires a node boot to take effect.</p> <p><b>■ Note</b>                      For Vanguard 320 - If the D-channel is configured to use Port 1, B-channel voice will use the hardware resources associated with either port 2 or port 3, whichever is available. If the D-channel is configured to use Port 4, B-channel voice will use the hardware resources associated with port 1.</p>

### Format

Range:	Data, Voice
Default:	Data
Description:	<p>Specifies the format of the BRI Interface.</p> <ul style="list-style-type: none"> <li>• Data: The interface is used for inter-nodal traffic.</li> <li>• Voice: The interface is used for switched voice traffic to be compressed and packetized. Select this option to begin configuring BRI Voice.</li> <li>• Transparent-CCS: D-channel sent via a TBOP connection. Pkt Voice B-channels sent as no-signalling calls.</li> </ul> <p>■ <b>Note</b>          This range is valid whenever the QSIG_Option CSK is installed.</p> <p>■ <b>Note</b>          The following parameters are what you will see when 'Voice' is selected.</p>

### Switch Type

Range:	ETSI, MASTER_QSIG, SLAVE_QSIG
Default:	ETSI
Description:	<p>Specifies switch type for the central office.</p> <ul style="list-style-type: none"> <li>• ETSI: Euro ISDN BRI (NET3)</li> <li>• MASTER_QSIG: master-side QSIG PBX</li> <li>• SLAVE_QSIG: Slave-side QSIG PBX</li> </ul>

### User/Network Side

Range:	User, Network
Default:	Network
Description:	<p>Specifies whether the BRI interface is emulating the network or user side of the interface.</p> <ul style="list-style-type: none"> <li>• User: The BRI interface is user-side.</li> <li>• Network: The BRI interface is network-side.</li> </ul> <p>■ <b>Note</b>          If QSIG is selected as the switch type (Master or Slave), this parameter does not appear.</p>

### NT/TE Side

Range:	NT, TE
Default:	TE
Description:	Specifies the physical layer framing: <ul style="list-style-type: none"><li>• NT: Sets the physical layer interface framing to NT and forces internal or slave clocking to be selected.</li><li>• TE: Sets the physical layer interface framing to TE and forces receive clocking to be selected.</li></ul>

### Clock Source

Range:	Internal, Slave
Default:	Internal
Description:	Specifies the clock source to be used instead of the clock specified in the X.25 port parameters. <ul style="list-style-type: none"><li>• Internal: take clocking from the BRI Voice Daughtercards internal oscillator.</li><li>• Slave: takes clocking from the shared clock bus connecting all CCS interfaces.</li></ul> <p>■ <b>Note</b> For NT side, Internal and Slave cause the hardware to provide clocking to the interface.</p> <p>■ <b>Note</b> For TE side, the clock source defaults to Receive (from the interface) and this parameter is not displayed.</p>

**\*Clock Master**

Range:	ENABLE, DISABLE
Default:	Disable
Description:	<p>Provides clocking to the shared clock bus connecting all CCS interfaces.</p> <ul style="list-style-type: none"> <li>• ENABLE: Use this BRI interface to provide clocking to all slaves.</li> <li>• DISABLE: Do not use this BRI interface to provide clocking.</li> </ul> <p>■ <b>Note</b>          If used, only one interface should be enabled as Master.</p> <p>■ <b>Note</b>          If Slave Clocking is selected, this parameter does not appear.</p>

**Calling Address Replacement**

Range:	NONE, RX, TX, RX-ONLY, TX-ONLY
Default:	NONE
Description:	<p>This parameter defines the rules for Calling Number replacement for ISDN/QSIG voice calls. If the Calling Number is going to be replaced the replacement number comes from the B-channel's Local Subscriber Directory Number.</p> <ul style="list-style-type: none"> <li>• NONE: No replacement.</li> <li>• RX: For an incoming call, replace the Calling Number.</li> <li>• TX: For a outgoing voice call, replace the Calling Number.</li> <li>• RX-ONLY: For an incoming call, replace the Calling Number only if the incoming Call Number is blank.</li> <li>• TX-ONLY: For an outgoing voice call, replace the Calling Number only if the outgoing Calling Number is blank.</li> </ul> <p>■ <b>Note</b>          You can combine these parameters by summing (e.g., RX+TX)</p>

### ISDN/QSIG Options

Range:	NONE, REPT, FORCE_PREF, FORCE_EXCL, BLOCK_SETUP_ACK, BLOCK_CALL_PROC, BLOCK_PROC_SETUP_ACK, BLOCKING_CALL_PROGRESS, BLOCK_ALERTING, BLOCK_SENDING_COMPLETE
Default:	NONE
Description:	<p>Select ISDN/QSIG Debug Options</p> <ul style="list-style-type: none"> <li>• NONE: no ISDN options enabled</li> <li>• REPT: generates a 'MED' priority report for each change in the ISDN/QSIG signaling state machine</li> <li>• FORCE_PREF: force the Pref/Excl bit to Preferred</li> <li>• FORCE_EXCL: force the Pref/Excl bit to Exclusive</li> <li>• BLOCK_SETUP_ACK: do not send a Setup_Ack (inbound call)</li> <li>• BLOCK_CALL_PROC: do not send a Call_Proceeding (inbound call)</li> <li>• BLOCK_PROC_SETUP_ACK: do not send a Call_Proceeding (inbound call) if Setup_Ack has already been transmitted.</li> <li>• BLOCK_CALL_PROGRESS: do not send a Call_Progress (inbound call)</li> <li>• BLOCK_ALERTING: do not send an Alerting (inbound call)</li> <li>• BLOCK_SENDING_COMPLETE: do not set Sending Complete.</li> </ul> <p>■ <b>Note</b>          A BRI interface boot is required to make changes take effect.</p> <p>■ <b>Note</b>          Any combination of above specified by summing (e.g. REPT+BLOCK_CALL_PROGRESS).</p>

### IEs to be Filtered (Outbound)

Range:	0 to 30 alphanumeric characters,
Default:	(blank)
Description:	<p>This parameter allows you to configure up to 5 non-standard IE's (Information Elements) to be filtered on any outbound ISDN/QSIG message. (for voice calls only). The syntax is as follows:</p> <p>&lt;CODESET&gt;: &lt;IE_TO_BE_FILTERED&gt; , &lt;CODESET&gt;: &lt;IE_TO_BE_FILTERED&gt;</p> <p>For example: 00:29,06:24</p> <p>Means for codeset '00' filter IE number 29hex and for codeset '06' filter IE number 24hex.</p> <p>■ <b>Note</b>          Enter 'FF:FF' to filter all non-standard IE's</p> <p>■ <b>Note</b>          Use the space character to blank this field.</p>

### Calling/Called Party Number Type

Range:	Unknown, International, National, Subscriber, Abbreviated
Default:	National
Description:	<p>This is the Calling/Called Party Number Type as defined by ITU-T</p> <ul style="list-style-type: none"> <li>• Unknown: Unknown</li> <li>• International: International number</li> <li>• National: National number</li> <li>• Subscriber: Subscriber number</li> <li>• Abbreviated: Abbreviated number</li> </ul> <p>■ <b>Note</b>          This is used in spoofed D-channel messages when interworking with a non-ISDN/QSIG voice port.</p>

### Calling/Called Party Number Plan

Range:	Unknown, ISDN, Telephony, Private
Default:	ISDN
Description:	<p>This is the Calling/Called Party Number Plan as defined by ITU-T</p> <ul style="list-style-type: none"> <li>• Unknown: Unknown</li> <li>• ISDN: ISDN numbering plan (E.164)</li> <li>• Telephony: Standard Telephone numbering plan</li> <li>• Private: Private numbering plan</li> </ul> <p><b>Note</b>          This is used in spoofed D-channel messages when interworking with a non-ISDN/QSIG voice port.</p>

### \*First B-Channel Port Number

Range:	0, 100 to 254
Default	Port No.
Description	<p>Specifies the first associated virtual voice port whose traffic will be on the ISDN interface.</p> <ul style="list-style-type: none"> <li>• Port No.: The first voice virtual port whose traffic will be on the ISDN.</li> </ul> <p><b>Note</b>          A change to this parameter requires a node boot to take effect.</p>

### (First) TEI

Range:	0 to 63, 127 (ISDN) 0 (QSIG)
Default:	0
Description	<p>Specifies the Terminal Endpoint Identifier:</p> <ul style="list-style-type: none"> <li>• Select 0 to 63 for fixed value, no TEI negotiation.</li> <li>• Select 127 for automatic TEI negotiation. This value will be assigned by the network side.</li> </ul>

### (First) Local Subscriber Directory Number

Range:	Up to 16 characters.
Default:	(blank)
Description	<p>Specifies the number used to replace the calling party address in SETUP messages associated with the first voice virtual port, according to the replacement rules specified by the “Calling Address Replacement” parameter.</p> <p>■ <b>Note</b> The only valid characters are 0 through 9.</p> <p>■ <b>Note</b> use the space bar to blank this field.</p>

### \*Second B-Channel Port Number

Range:	0, 100 to 254
Default	Port No.
Description	<p>Specifies the second associated virtual voice port whose traffic will be on the ISDN interface.</p> <ul style="list-style-type: none"><li>• 0: No second voice virtual port is specified for this ISDN interface.</li><li>• Port No.: The second voice virtual port whose traffic will be on the ISDN.</li></ul> <p>■ <b>Note</b> A change to this parameter requires a node boot to take effect.</p>

### (Second) Local Subscriber Directory Number

Range:	Up to 16 characters.
Default:	(blank)
Description	<p>Specifies the number used to replace the calling party address in SETUP messages associated with the second voice virtual port, according to the replacement rules specified by the “Calling Address Replacement” parameter.</p> <p>■ <b>Note</b> The only valid characters are 0 through 9.</p> <p>■ <b>Note</b> use the space bar to blank this field.</p>

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## **ISDN BRI Interface Statistics**

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### **Introduction**

The statistics available for BRI Voice feature are identical to those provided in the Vanguard ISDN Manual (Part Number T0103-05). Please refer to BRI Statistics section in that manual for additional information.

The statistics available for ISDN BRI Voice Virtual ports are identical to those provided in the Vanguard Voice Relay Manual (Part Number T0104-03). Please refer to the Voice Port Statistics section in that manual for additional information.

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