
Data Collection System (DCS) 3000

User Guide

Chapter 7

Software Version Numbers: VANGuard V 3.0m

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DCS VANGuard



The features and functions of the VANGuard are presented in the following sections:

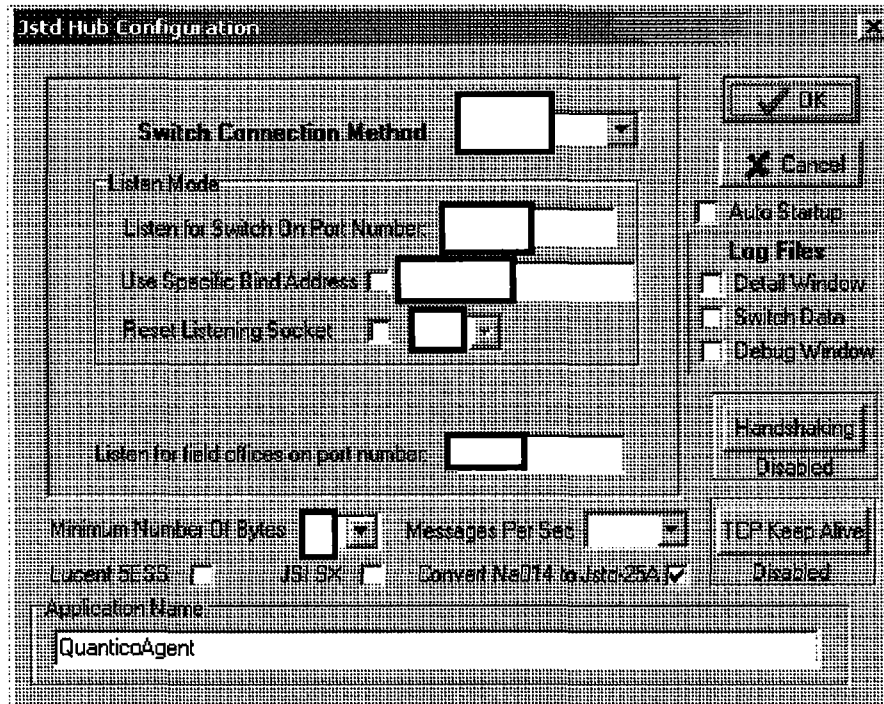
- VANGuard Settings and Options
- Using the DCS VANGuard

 **Note:**

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VANGuard Settings and Options



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Figure 7-1: VANGuard Configuration Window – Listen Mode





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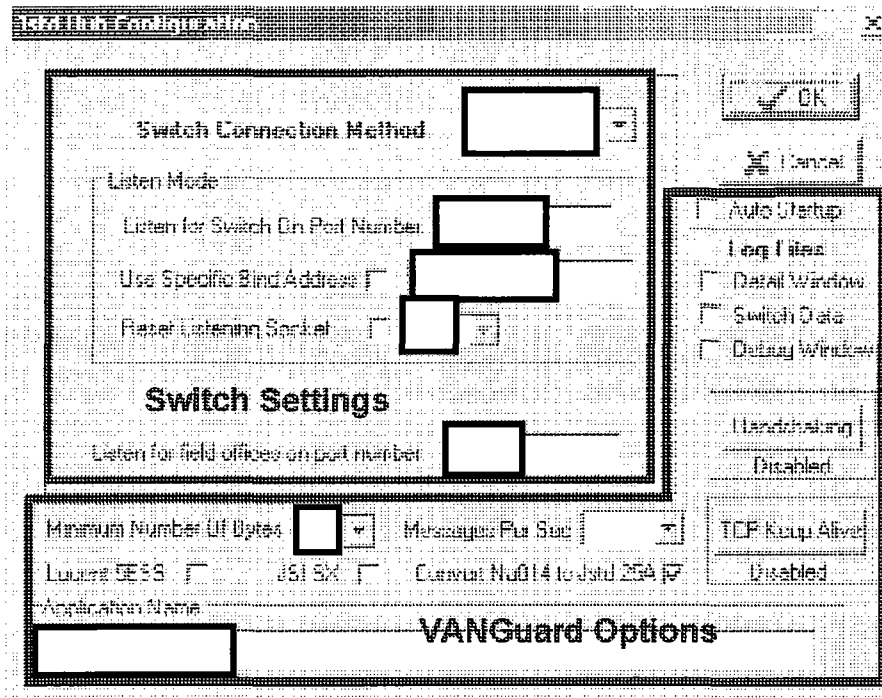


Figure 7-2: VANGuard Configuration Window

The Settings and Options section of this chapter are presented in the following order:

- VANGuard Options
- Switch Settings

VANGuard Options

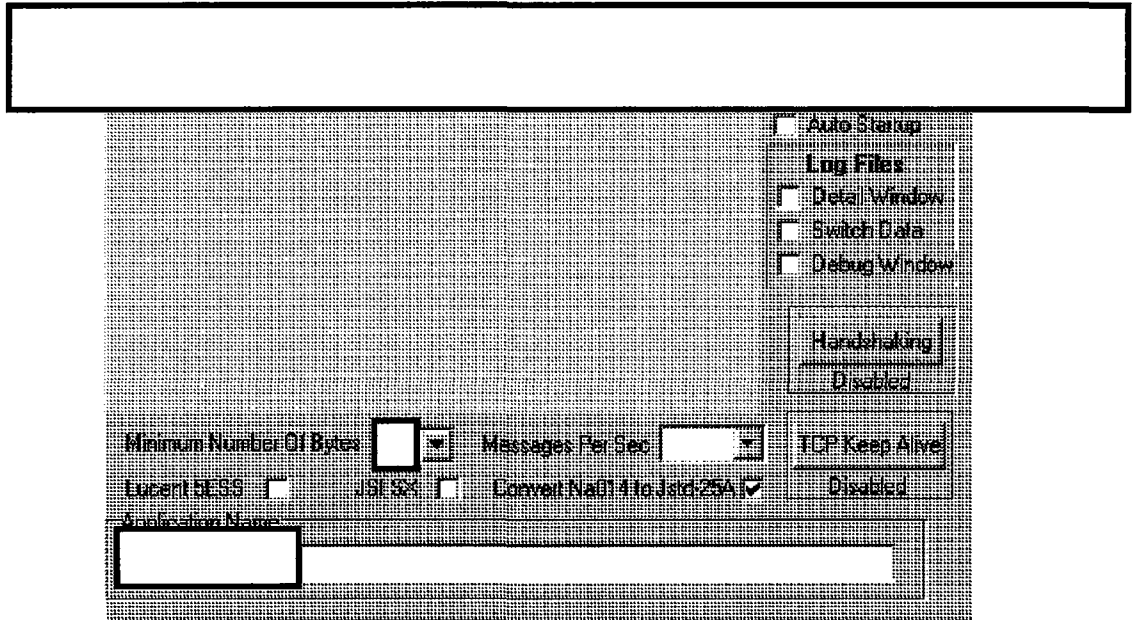
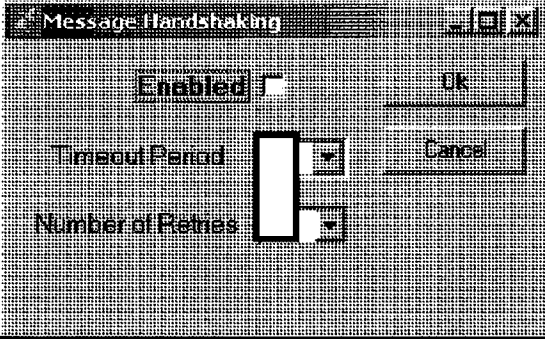
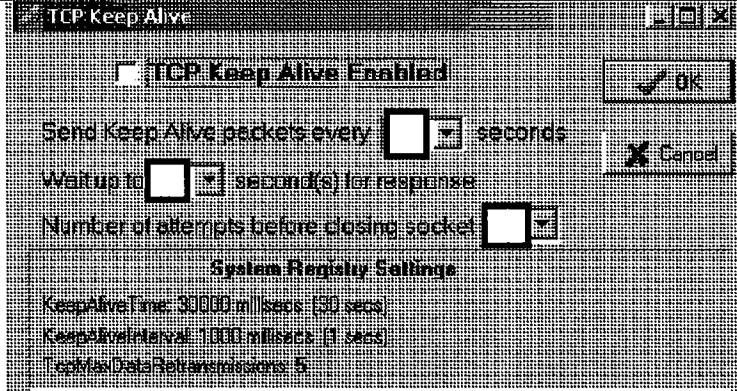


Figure 7-3: VANGuard Configuration Window – VANGuard Options

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This table describes the VANGuard Options.

Setting/Option	Description
Minimum number of bytes	
Messages Per Sec	
Lucent 5ESS	
ISI SX	
Convert Na014 to Jstd-25A	
Application Name	
Auto Startup	
Log Files	

Setting/Option	Description
<p><i>Detail Window</i></p> <p><i>Switch Data</i></p> <p><i>Debug Window</i></p>	
<p>Handshaking</p> <p><i>Message Handshaking Window</i></p>	
<p>TCP Keep Alive</p> <p><i>TCP Keep Alive Window</i></p>	

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Switch Settings

Listen Mode

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Figure 7-4: VANGuard Configuration Window - Listen Mode

This table describes the Switch Settings available for Listen Mode.

Setting/Option	Description
Switch Connection Method	
Listen for Switch on Port Number	
Use Specific Bind Address	
Reset Listening Socket	
Listen for field offices on port number	

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Connect Mode

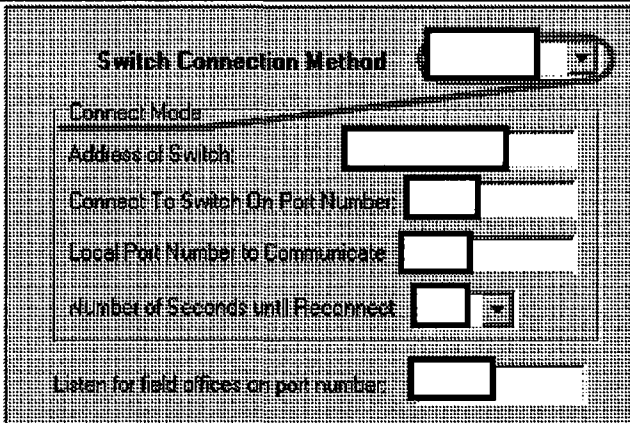


Figure 7-5: VANGuard Configuration Window - Connect Mode

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This table describes the Switch Settings available for Connect Mode.

Setting/Option	Description
Switch Connection Method	
Address of Switch	
Connect to Switch on Port Number	
Local Port Number to Communicate	
Number of Seconds until Reconnect	
Listen for field offices on port number	

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Using the DCS VANGUARD



Step-by-step procedures for using the VANGUARD are presented in the following order:

- Working in the VANGUARD Window
- Setting up the VANGUARD
- Establishing a Connection
- Monitoring Activity
- Buffering Target Data Files
- Shutting Down the VANGUARD
- Quick Steps

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Working in the VANGuard Window



- Changing the Display
- Clearing the Screen
- Using the Find Feature
- Selecting and Copying Data

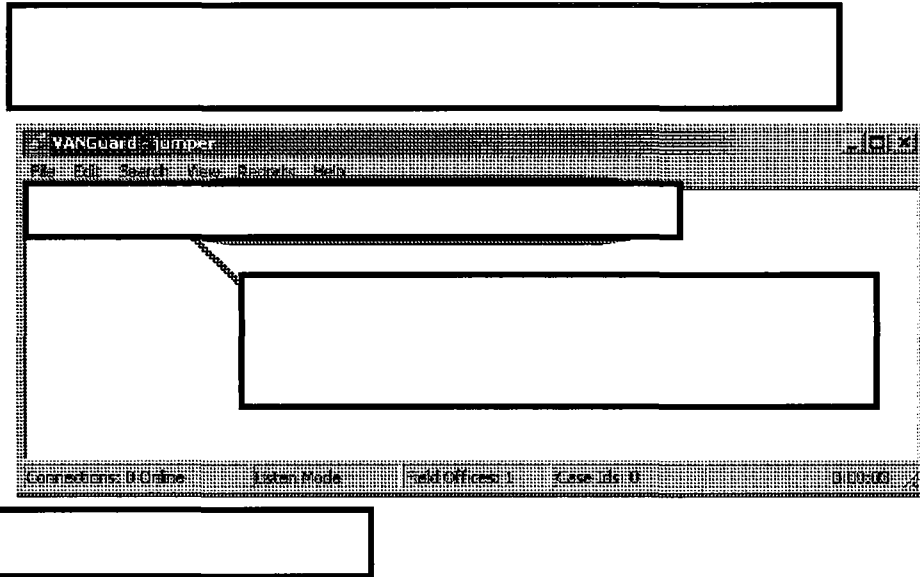
Changing the Display

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To view Field Office information:

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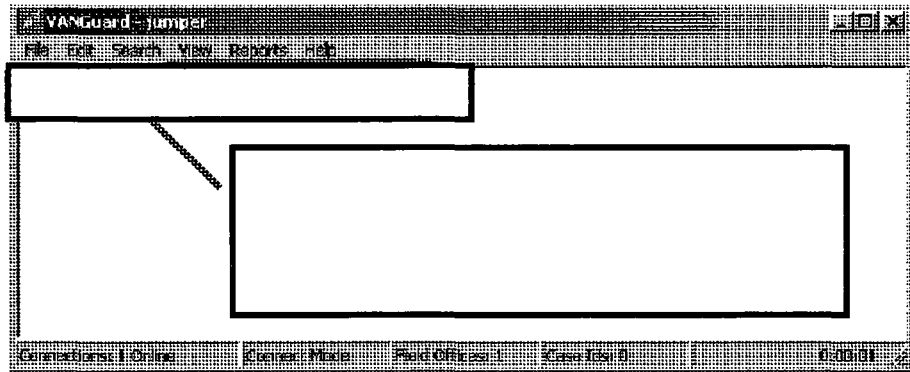




To view Frame Relay information:



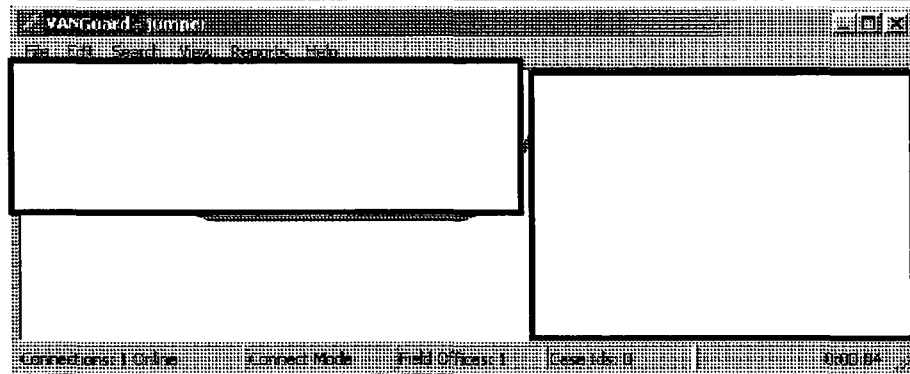
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To view bytes received from Frame Relay:

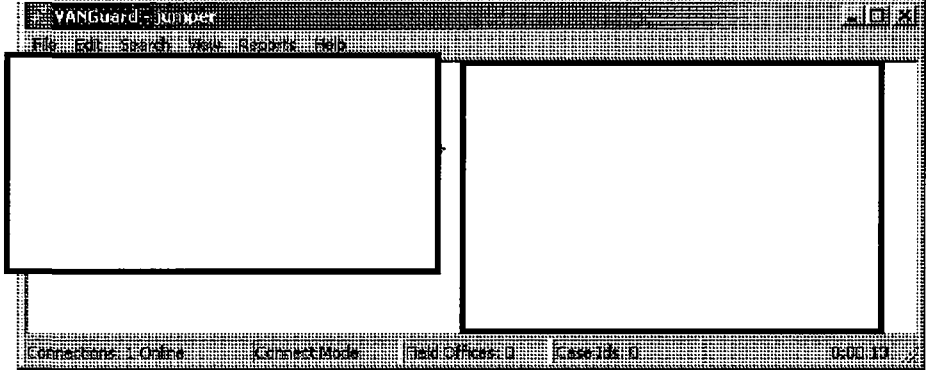


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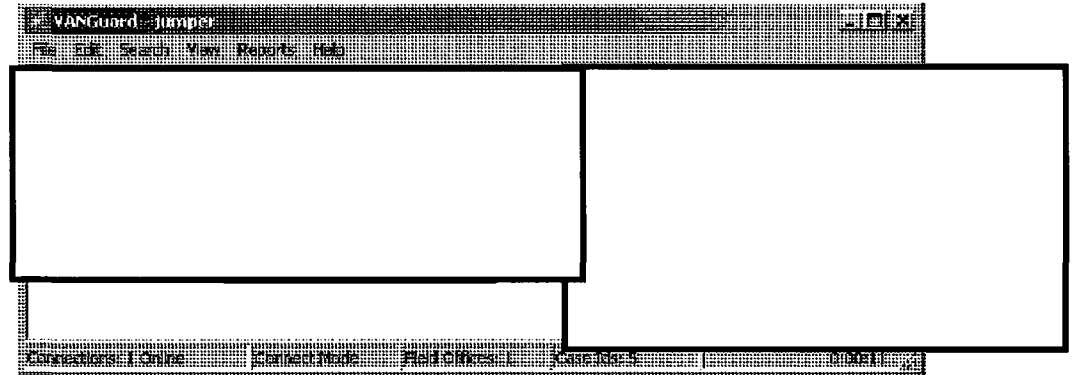
To view bytes buffered to disk:



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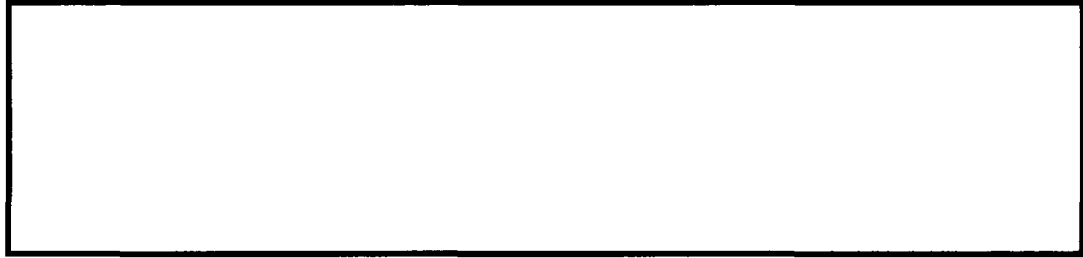
To view bytes sent to Field Offices:



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Clearing the Screen



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To clear detail messages from the VANGuard window:

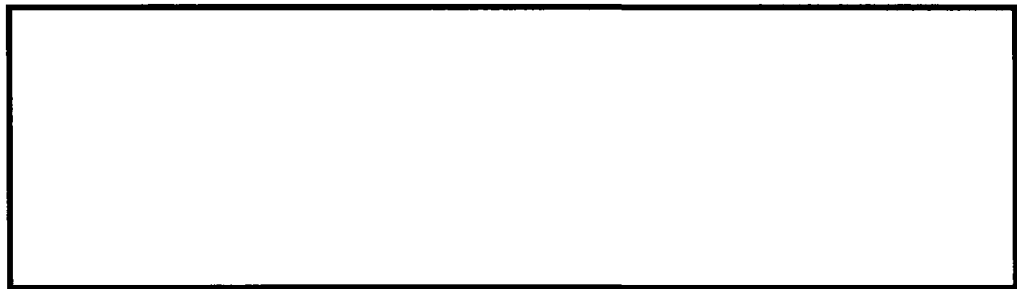
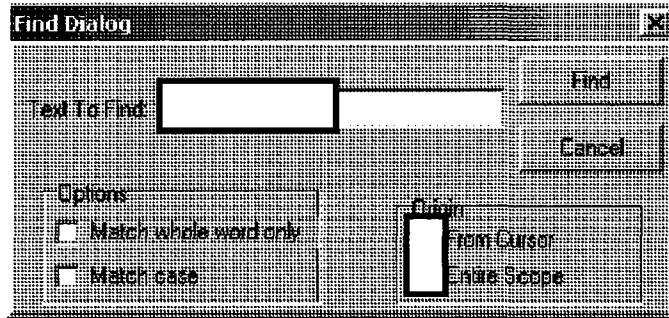


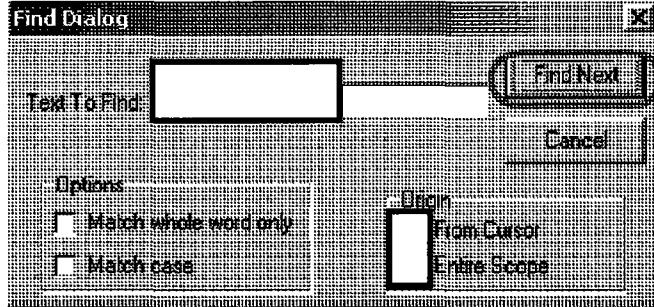
Using the Find Feature



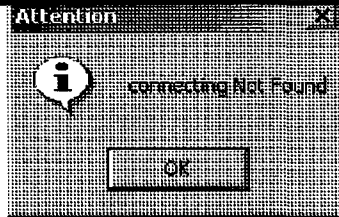
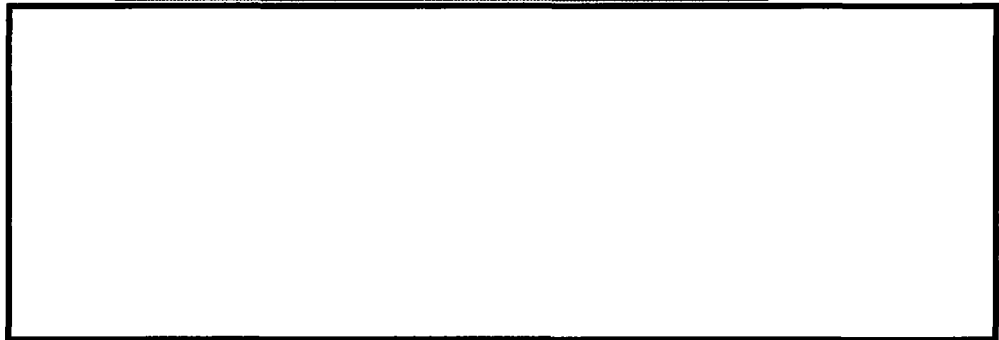
To search for a word, number, or phrase:

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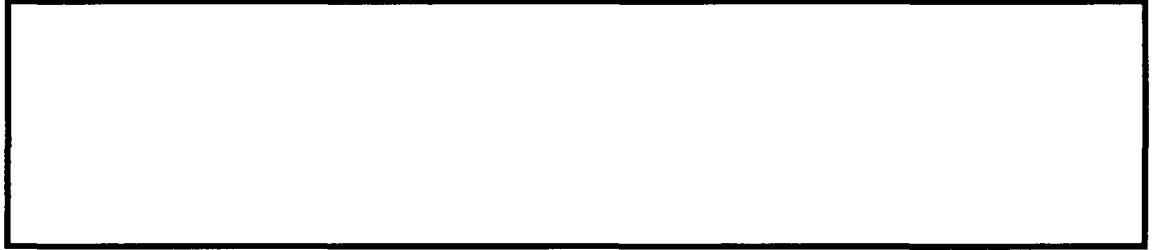




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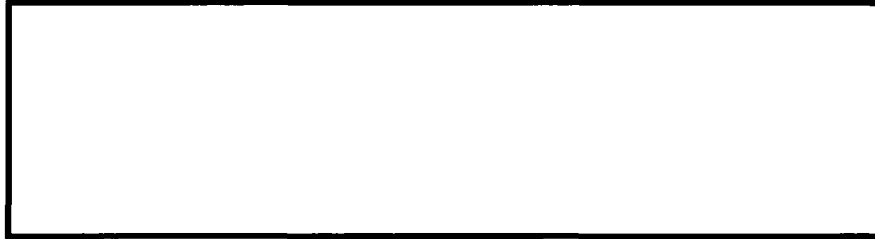


Selecting and Copying Data

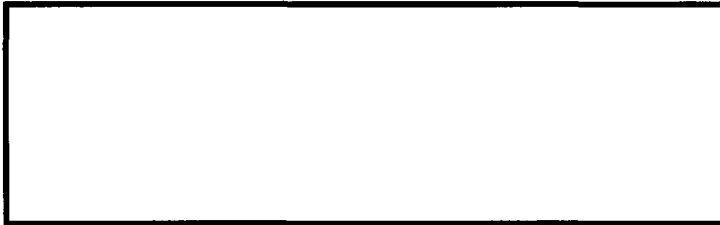


To copy a text selection:

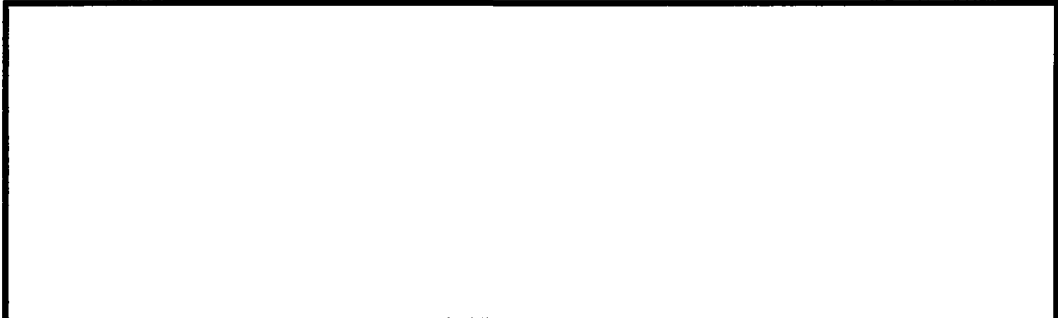
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To copy all text:



Setting up the VANGuard



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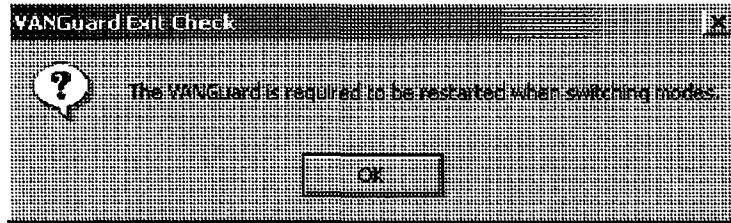


Figure 7-6: VANGuard Exit Check Window

Note:



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To set up the VANGuard for listen mode:





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The image shows a screenshot of the 'Jstcd Hub Configuration' dialog box. The dialog has a title bar with 'Jstcd Hub Configuration' and a close button. It contains several sections of controls:

- Switch Connection Method:** A dropdown menu with a blank selection.
- Listen Mode:** A section with several options:
 - 'Listen for Switch On Port Number' with a text input field.
 - 'Use Specific Bind Address' with a checkbox and a text input field.
 - 'Reset Listening Socket' with a checkbox and a text input field.
 - 'Listen for field offices on port number' with a text input field.
- Log Files:** A section with three checkboxes: 'Auto Startup', 'Detail Window', and 'Debug Window', all of which are unchecked.
- Handshaking:** A section with a label 'Handshaking' and a dropdown menu set to 'Disabled'.
- TCP Keep Alive:** A section with a label 'TCP Keep Alive' and a dropdown menu set to 'Disabled'.
- Other Settings:** A section with 'Minimum Number Of Bytes' (checkbox and text input), 'Messages Per Sec' (checkbox and text input), 'Lucent SSS' (checkbox), 'JSI SX' (checkbox), and 'Convert Na014 to Jstcd 25A' (checkbox, checked).
- Application Name:** A text input field with a blank value.

Buttons for 'OK' and 'Cancel' are located in the top right corner.



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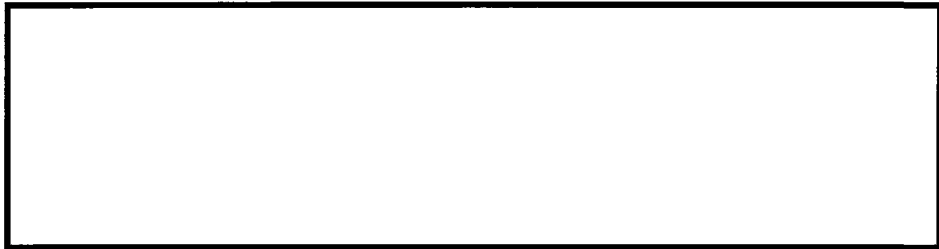
Note:



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To set up the VANGuard for connect mode:



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Jstd Hub Configuration

Switch Connection Method: []

Connect Mode: []

Address of Switch: []

Connect To Switch On Port Number: []

Local Port Number to Communicate: []

Number of Seconds until Reconnect: []

Listen for field offices on port number: []

Minimum Number Of Bytes: [] Messages Per Sec: []

Lucent PESS: ISISX: Convert Net 4 to Jstd-254:

Application Name: []

OK
 Cancel
 Auto Startup
Log Files
 Detail Window
 Switch Data
 Debug Window
 Handshaking: Disabled
 TCP Keep Alive: Disabled

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[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

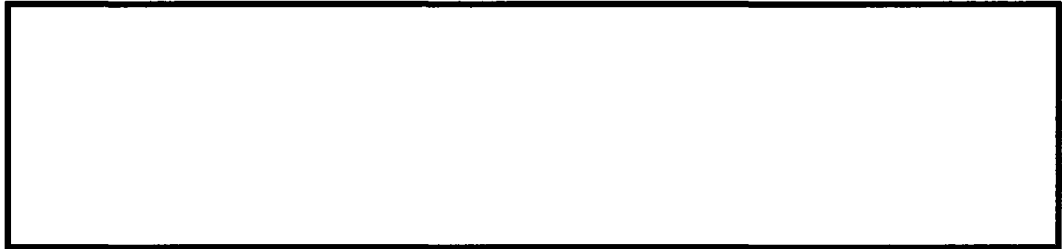
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Note:

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Establishing a Connection

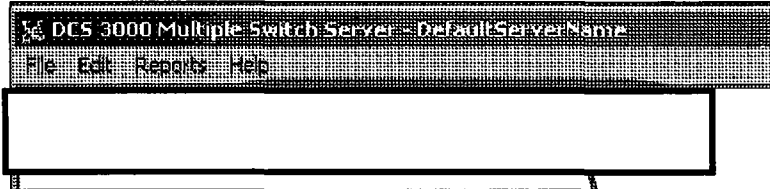
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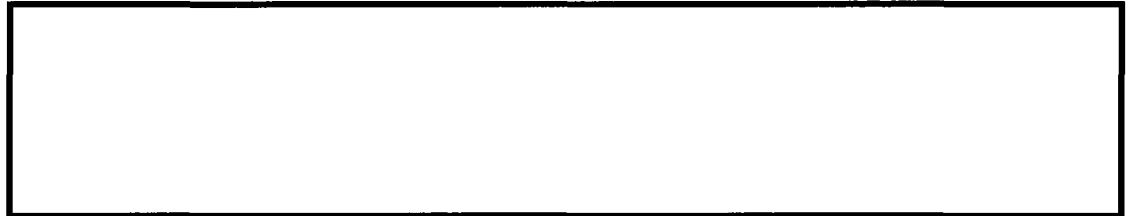
To connect to the switch:



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Monitoring Activity



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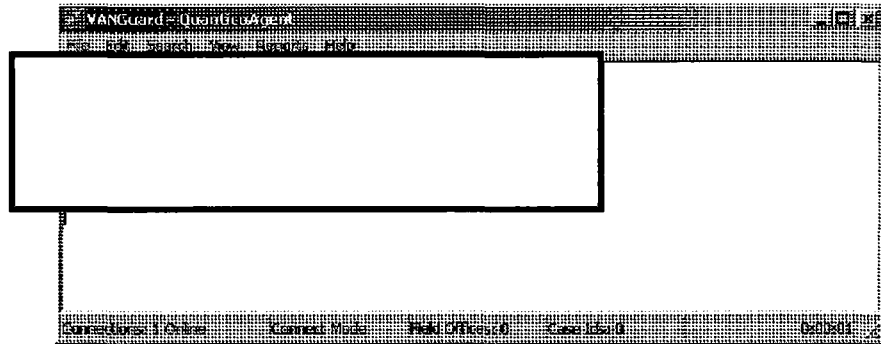
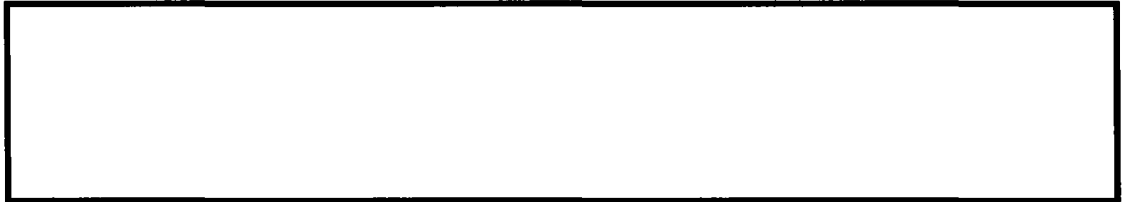


Figure 7-7: VANGuard Connection Messages



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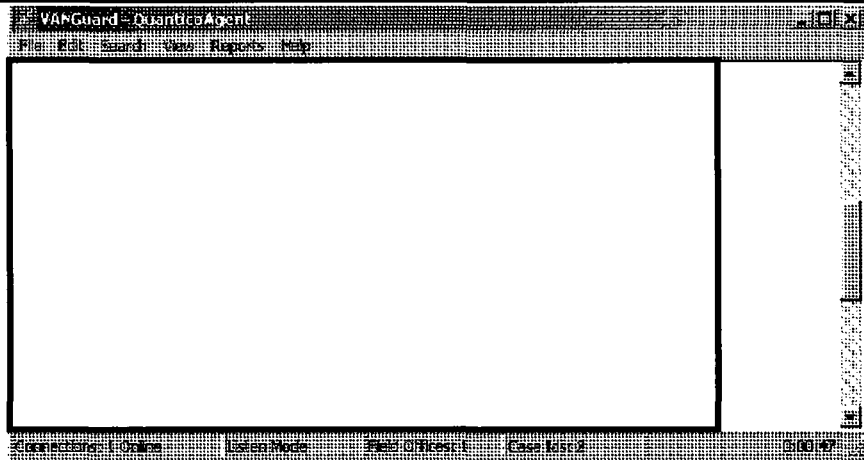
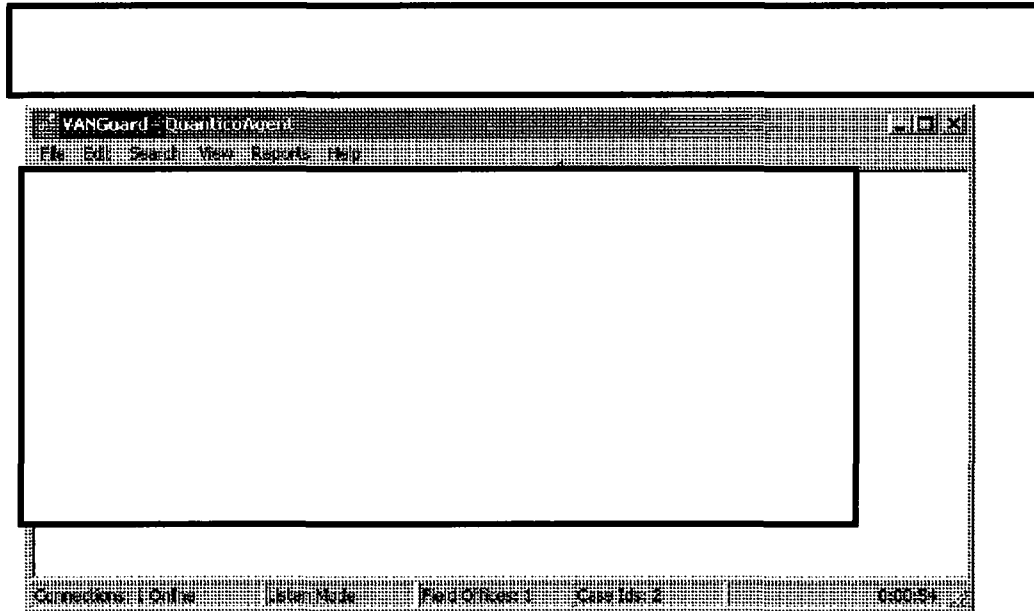
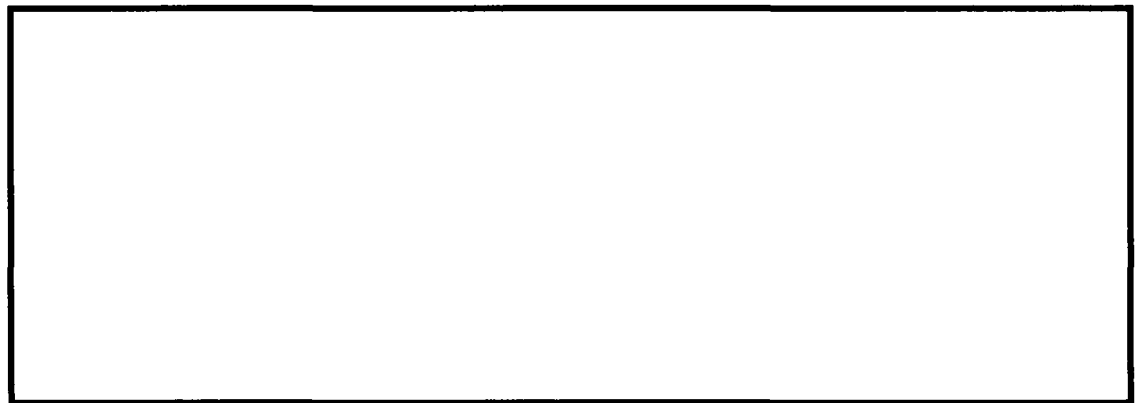


Figure 7-8: Data Transmission Messages



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Figure 7-9: Data Transmission Messages



Note:



This table describes examples of messages displayed in the VANGuard window.

Message	Explanation
Connected Detected	
Socket Connection Error: Connection Refused	
Socket Connection: Connected	
VANGuard connection: received case id	

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Message	Explanation
VANGuardConnection: 81 Bytes Sent	
VANGuard connection: removed case ID	
VANGuard connection: Disconnected	
Switch: Attempting to Reconnect	

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The VANGuard tracks the connection and data transmission activity, which is viewed through various reports.

The VANGuard contains the following reports:

- Current Connection Status
- Ghost Connection Check
- Field Office History (*inactive*)
- AT&T Frame Relay History (*inactive*)

Current Connection Status



Connection Status Report window.

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IP ADDRESS	NAME	CASES	STATUS
------------	------	-------	--------

Figure 7-10: Connection Status Report Window - Connected

IP ADDRESS	NAME	CASES	STATUS
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Figure 7-10a: Connection Status Report Window - Disconnected

The following information is provided about each MultiServer:

- IP Address of the MultiServer
- Name of the MultiServer
- Number of Cases (targets monitored)
- Status: date connected & duration of connection

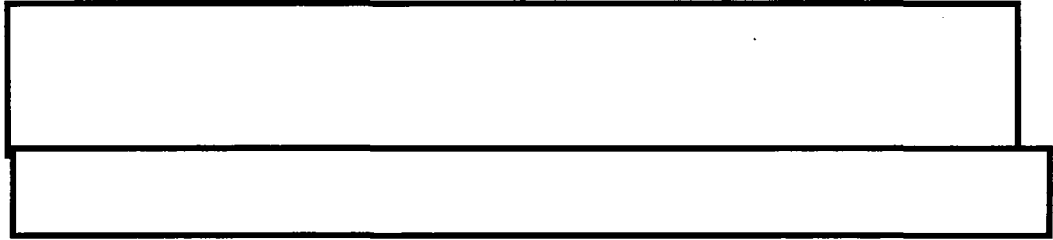


To view the connection status report:

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Ghost Connection Check



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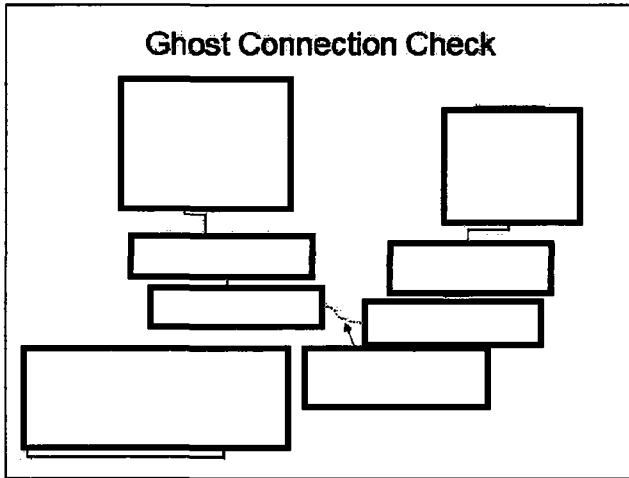
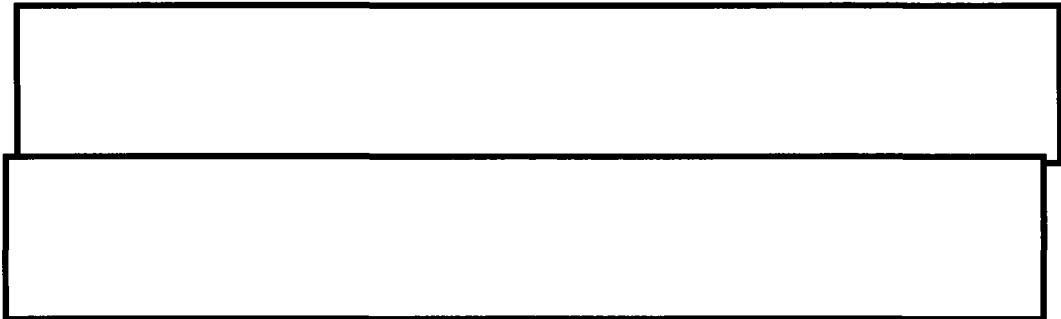


Figure 7-11: Ghost Check Display



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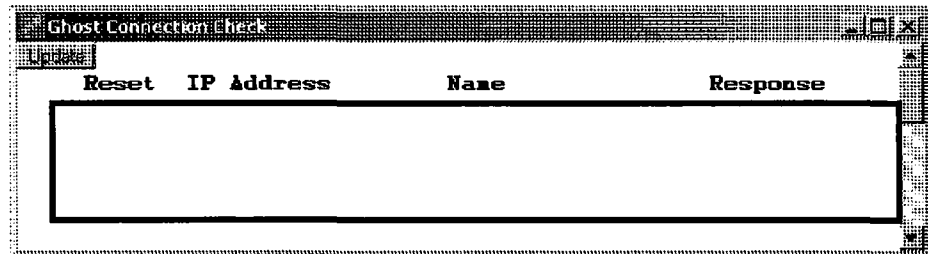
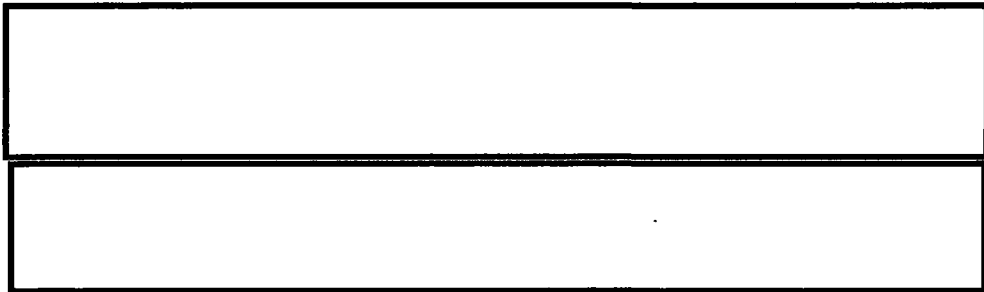


Figure 7-12: Ghost Connection Check Window – Message Received



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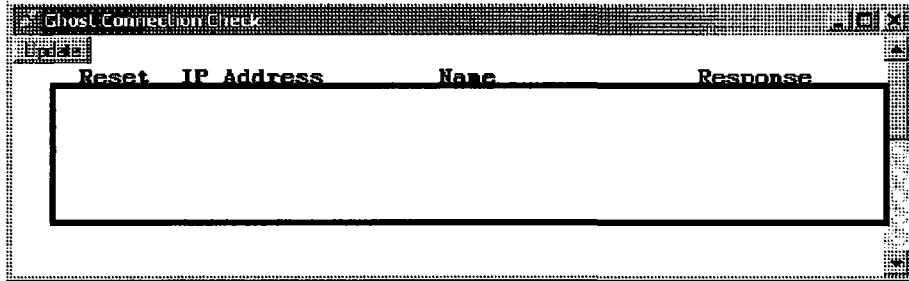


Figure 7-12a: Ghost Connection Check Window – No Response



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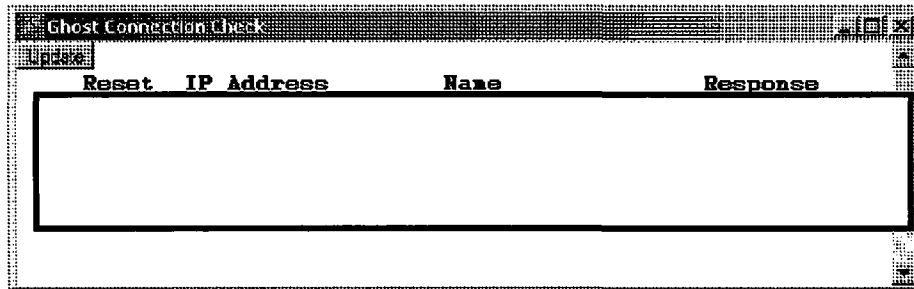


Figure 7-12b: Ghost Connection Check Window – Connection Reset

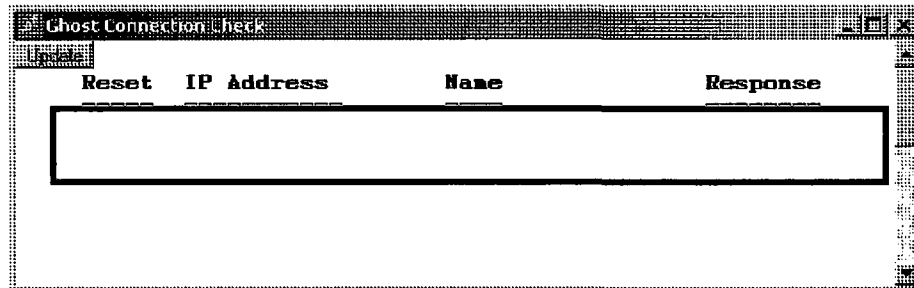


Figure 7-12c: Ghost Connection Check Window



To view the ghost connection check:



To update the ghost connection check report:

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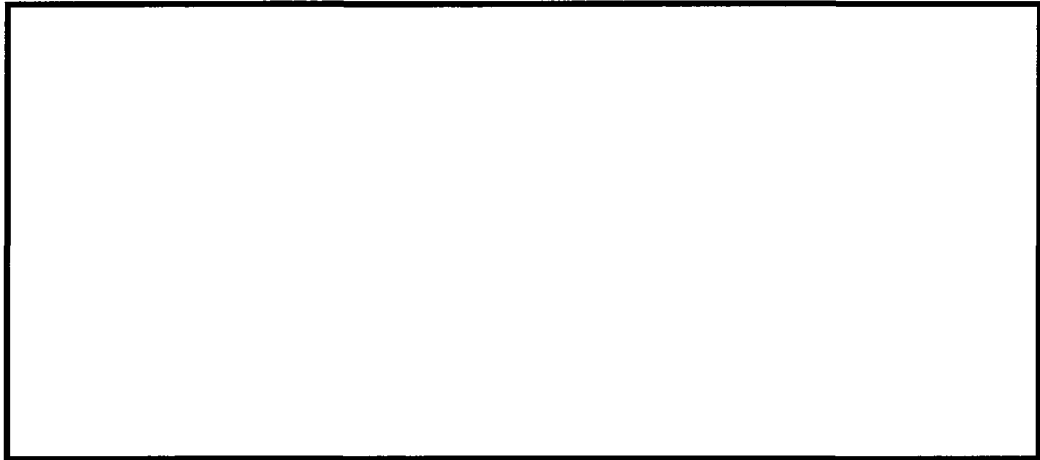
To reset a connection:

Field Office History

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AT&T Frame Relay

Buffering Target Data Files



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This table describes the four VANGuard data directories.

Folder	Contents
Cache	
Logs	
Messages	
TMP	

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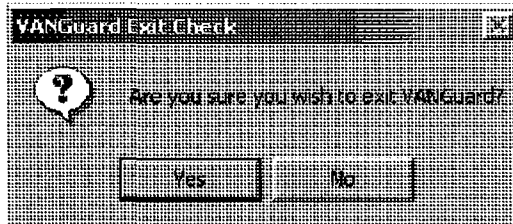
Shutting Down the VANGuard



To shut down the VANGuard:



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Note:



Quick Steps: DCS VANGUARD

Working in the VANGUARD Window

To view Field Office information:

To view Frame Relay information:

To view bytes received from Frame Relay:

To view bytes buffered to disk:

To view bytes sent to Field Offices:

To clear detail messages from the VANGUARD window:

To search for a word, number, or phrase:

To copy a text selection:

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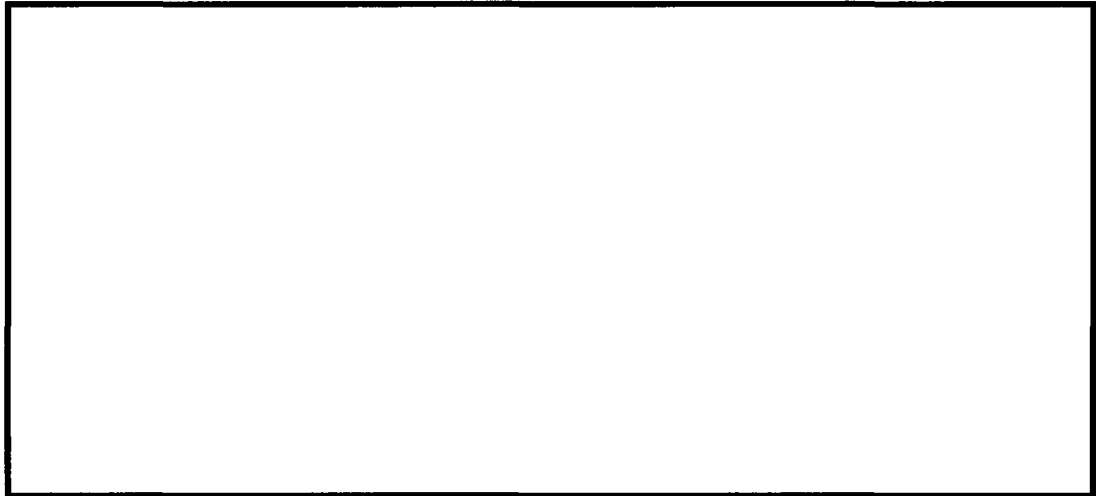
To copy all text:



Setting up the VANGuard

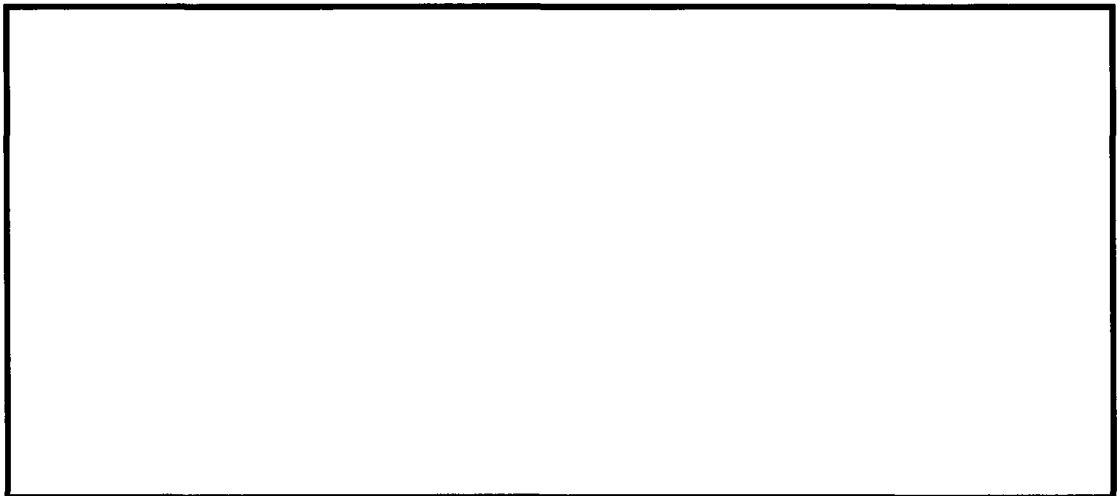
To Set up the VANGuard for listen mode:

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To set up the VANGuard for connect mode:

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Establishing a Connection

To connect to the switch:

Monitoring Activity

To view the connection status report:

To view the ghost connection check:

To update the ghost connection check report:

To reset a connection:

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Shutting Down the VANGuard

To shut down the VANGuard:

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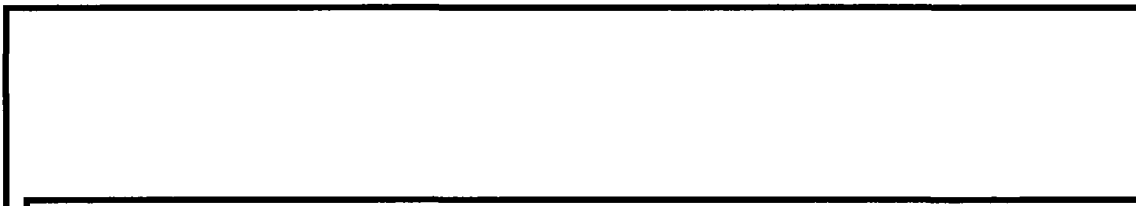
Data Collection System (DCS) 3000

User Guide

Chapter 8

Software Version Numbers: MultiVANGuard V 2.0q

DCS MultiVANGuard

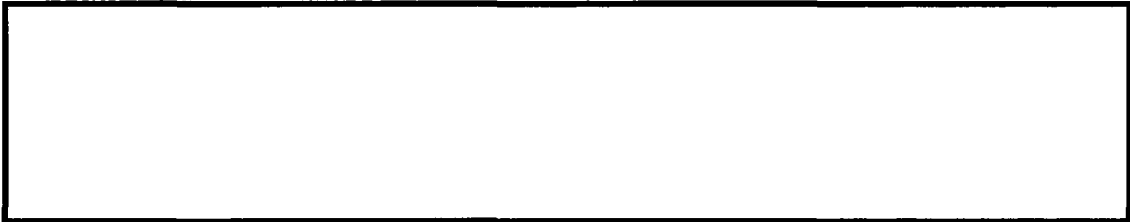


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ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED
DATE 05-22-2007 BY 65179 DMH/TAM/KSR/ch

Some capabilities of the MVG include:



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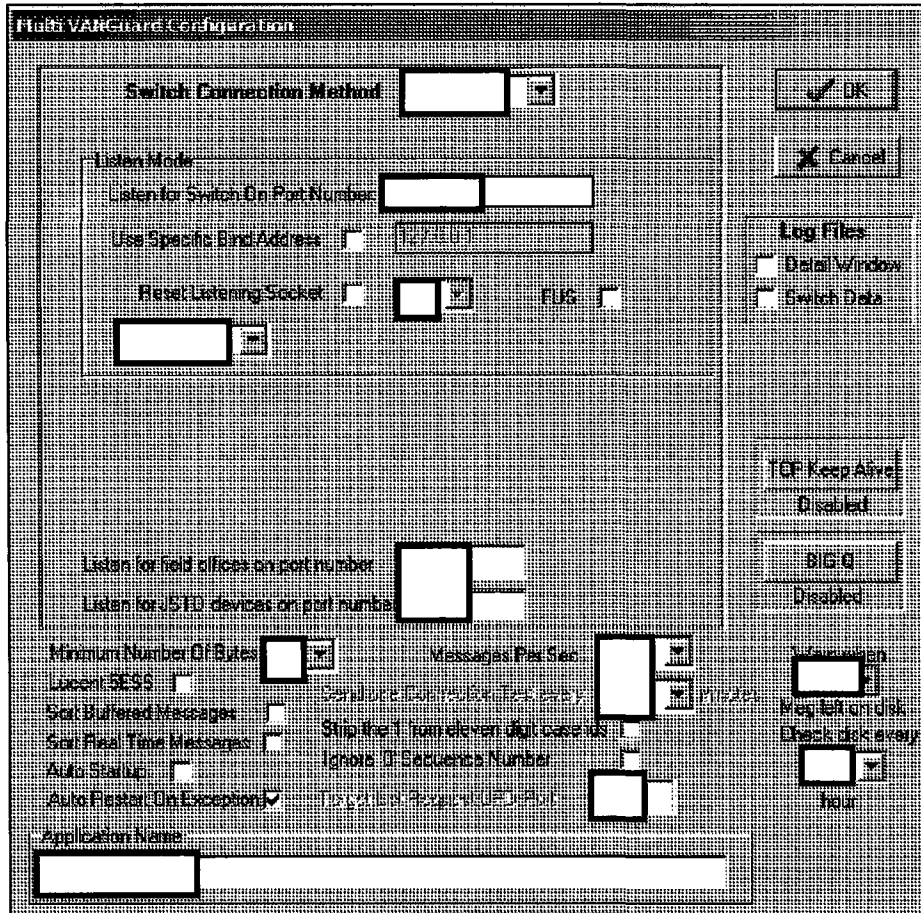
The features and functions of the MVG are presented in the following sections:

- MVG Options and Settings
- Using the DCS MVG

MVG Settings and Options

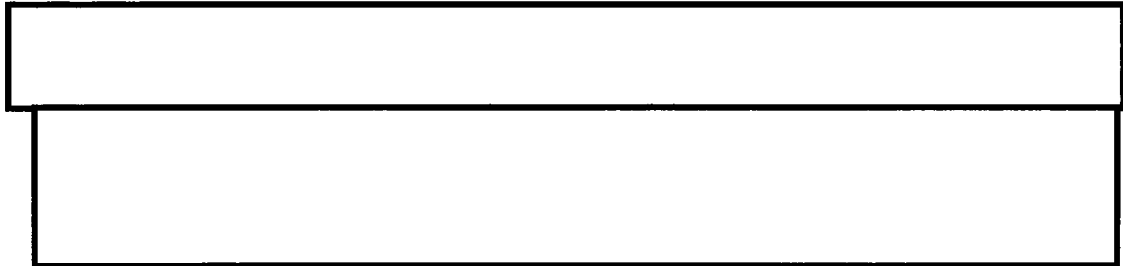


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Figure 8-1: MVG Configuration Window



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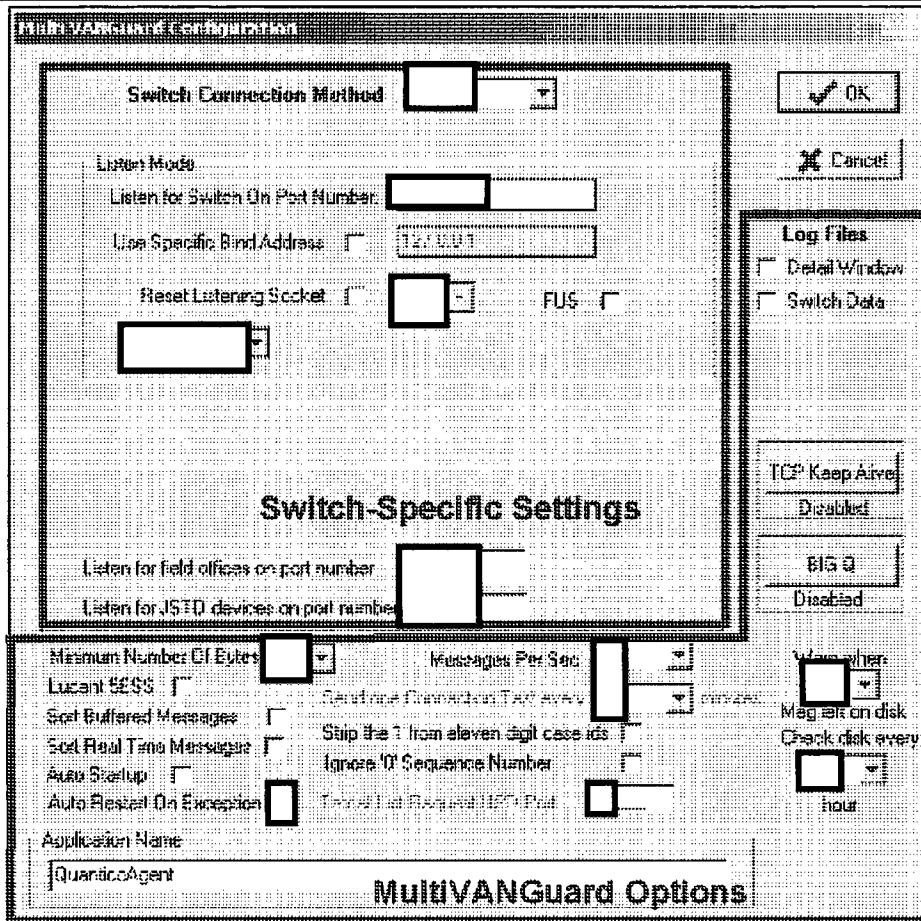


Figure 8-2: MVG Configuration Window

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The Settings and Options section of this chapter are presented in the following order:

- MultiVANGuard Options
- Switch-Specific Settings

MultiVANGuard Options

	<p>Log Files</p> <p><input type="checkbox"/> Detail Window</p> <p><input type="checkbox"/> Switch Data</p>
<p>TCP KeepAlive</p> <p>Disabled</p>	
<p>BIG D</p> <p>Disabled</p>	
<p>Minimum Number Of Bytes <input type="text" value=""/></p> <p>Lucent 5ESS <input type="checkbox"/></p> <p>Sort Buffered Messages <input type="checkbox"/></p> <p>Sort Real Time Messages <input type="checkbox"/></p> <p>Auto Startup <input type="checkbox"/></p> <p>Auto Restart On Exception <input type="checkbox"/></p> <p>Application Name <input type="text" value=""/></p>	<p>Messages Per Sec <input type="text" value=""/></p> <p>Send in a Connection Timeout <input type="text" value=""/> minutes</p> <p>Strip the T from eleven digit case ids <input type="checkbox"/></p> <p>Ignore ID Sequence Number <input type="checkbox"/></p> <p>Targeted: Freeze PD P/N <input type="checkbox"/></p> <p>Warn when <input type="text" value=""/></p> <p>Msg len on disk <input type="text" value=""/></p> <p>Check disk every <input type="text" value=""/> hour</p>

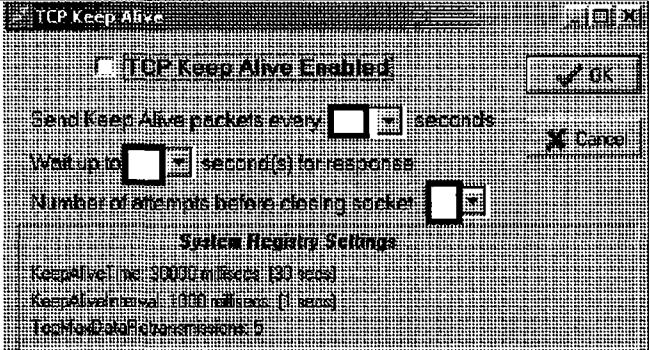
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Figure 8-3: MVG Configuration Window – MultiVANGuard Options

This table describes the MultiVANGuard Options.

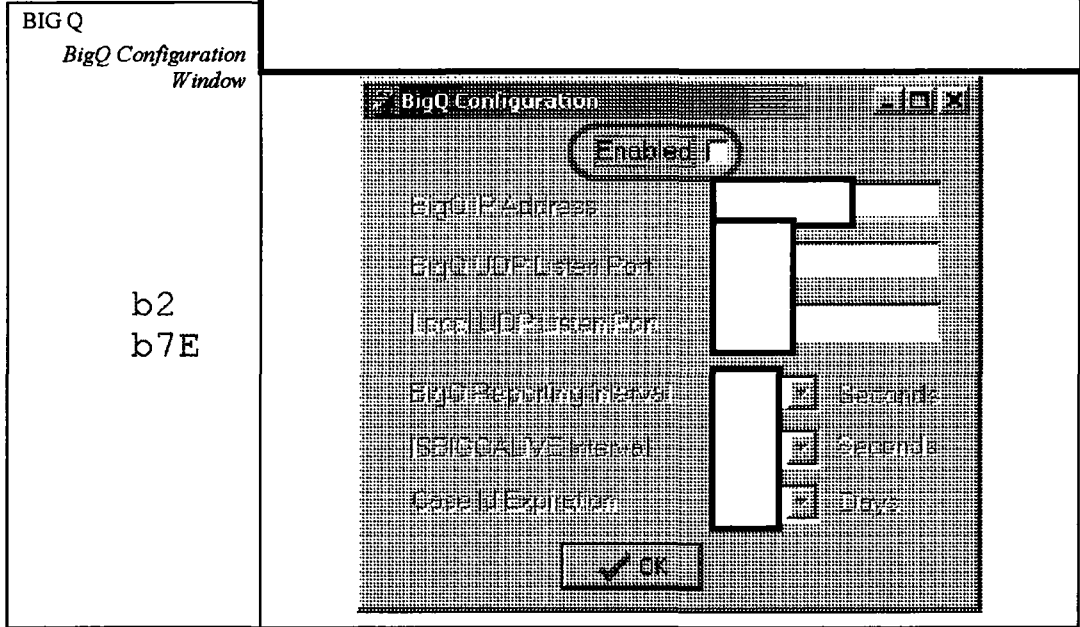
Setting/Option	Description
Minimum Number of Bytes	
Lucent 5ESS	
Sort Buffered Messages	

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Setting/Option	Description
Sort Real Time Messages	
Auto Startup	
Auto Startup On Exception	
Messages per Sec	
Send one Connection Test every X minutes	
Strip the 1 from eleven digit case Ids	
Ignore '0' Sequence Number	
Target List Request UPD Port	
Warn when x Meg left on disk	
Check disk every x hour	
Log Files <i>Detail Window</i> <i>Switch Data</i>	
TCP Keep Alive	
<i>TCP Keep Alive Window</i>	

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Switch-Specific Settings

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Listen Mode

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Switch Connection Method [dropdown]

Listen Mode

Listen for Switch On Port Number [input] [input]

Use Specific Bind Address [input: 127.0.0.1]

Presel Listening Socket [dropdown] FUS

[input]

Listen for field offices on port number [dropdown]

Listen for STD devices on port number [dropdown]

Figure 8-4: MVG Configuration Window - Listen Mode

This table describes the Switch-Specific options for the MVG in Listen Mode.

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Setting/Option	Description
Switch Connection Method	
Listen for Switch on Port Number	
Reset Listening Socket	
FUS	
Drop-down list	
Listen for field offices on port number	
Listen for JSTD devices on port number	

Connect Mode



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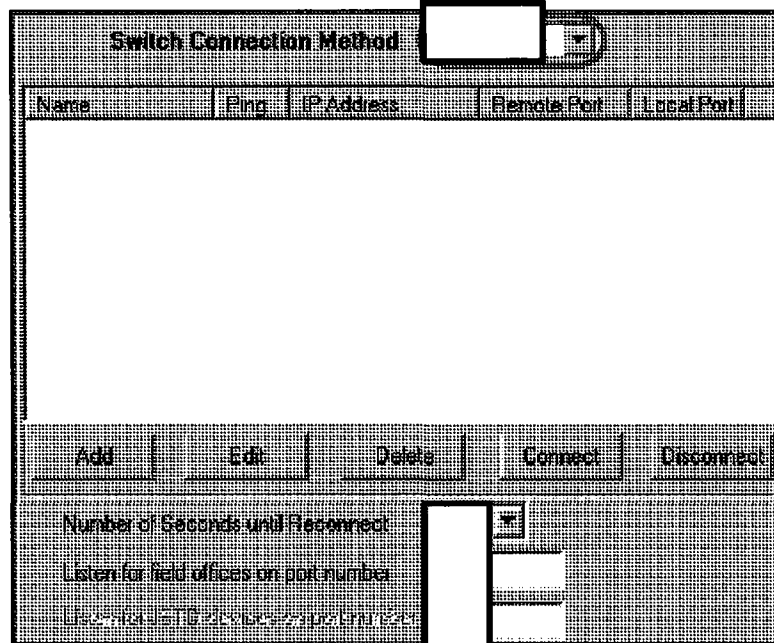
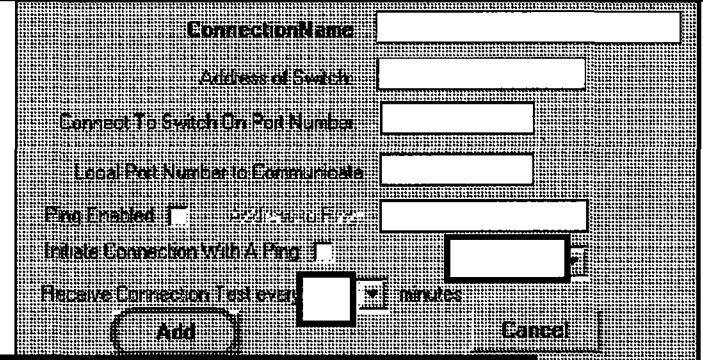
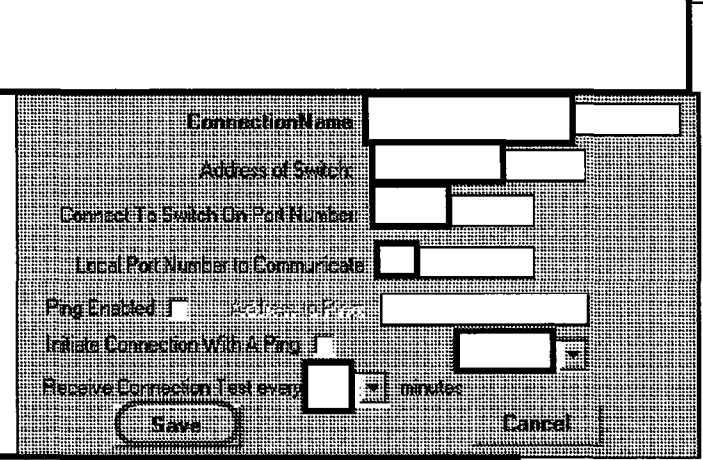



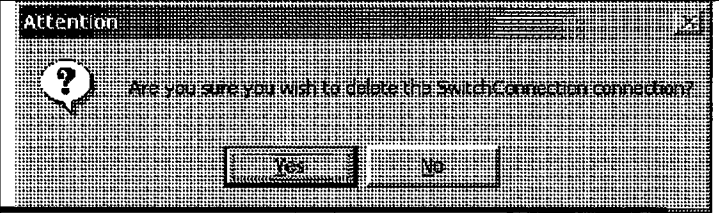
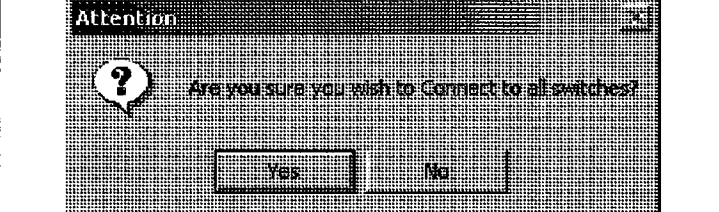
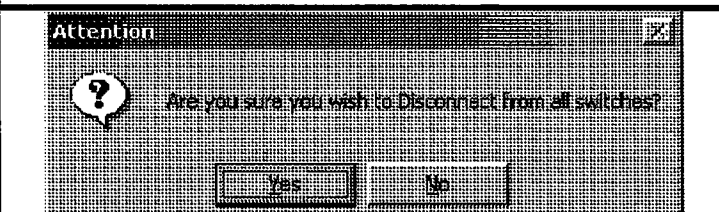
Figure 8-5: MVG Configuration Window - Connect Mode

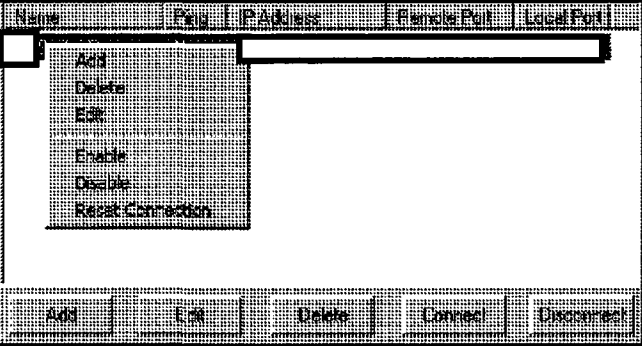
This table describes the Switch-Specific options for the MVG in Connect Mode.

Setting/Option	Description
Switch Connection Method Connection Name	
Add	
Edit	

b2
b7E

b2
b7E

Setting/Option	Description
Delete	
Connect b2 b7E	
Connection Reset	
Disconnect b2 b7E	
Number of Seconds until Reconnect	
Listen for field offices on port number	
Listen for JSTD devices on port number	

Setting/Option	Description
Short-cut (Right Click Mouse) b2 b7E	 <p>The screenshot shows a network configuration interface. At the top, there are columns for Name, Prio, PAddress, Remote Port, and Local Port. A context menu is displayed over the table with the following options: Add, Delete, Edit, Enable, Disable, and Refresh Connection. Below the table, there are five buttons: Add, Edit, Delete, Connect, and Disconnect.</p>

b2
b7E

Using the MVG



- Working in the MVG Window
- Configuring the MVG
- Establishing a Connection
- Monitoring Activity
- Buffering Target Data Files
- Shutting Down the MVG
- Quick Steps

Working in the MVG Window

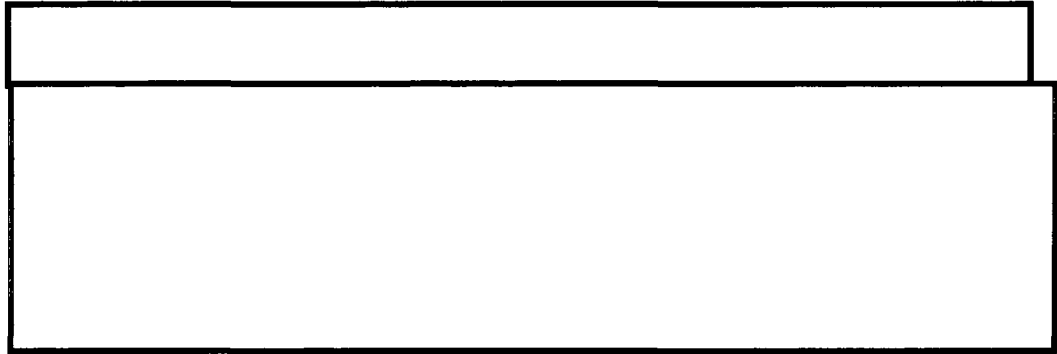


b2
b7E

- Changing the Display
- Clearing the Screen
- Using the Find Feature
- Selecting and Copying Data



Changing the Display



b2
b7E

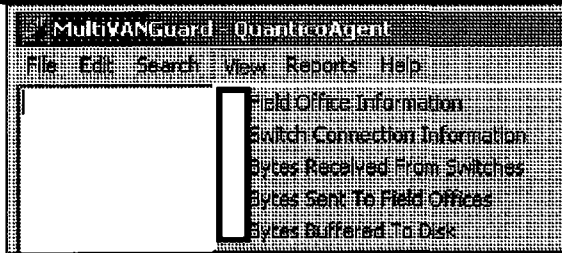


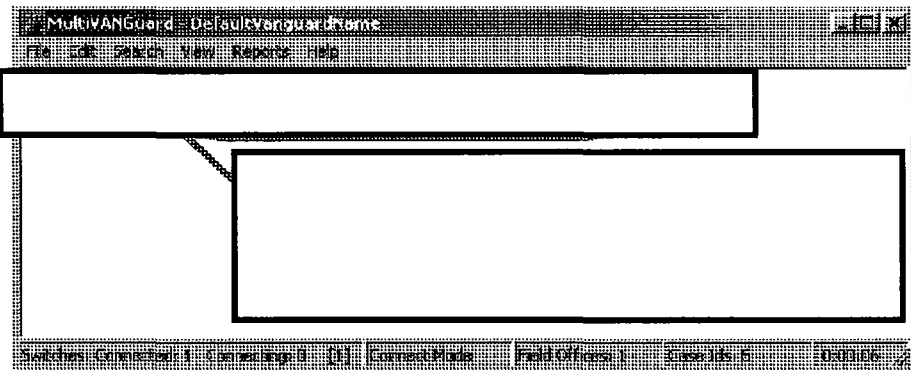
Figure 8-6: MVG Connection Messages



To view Field Office information:

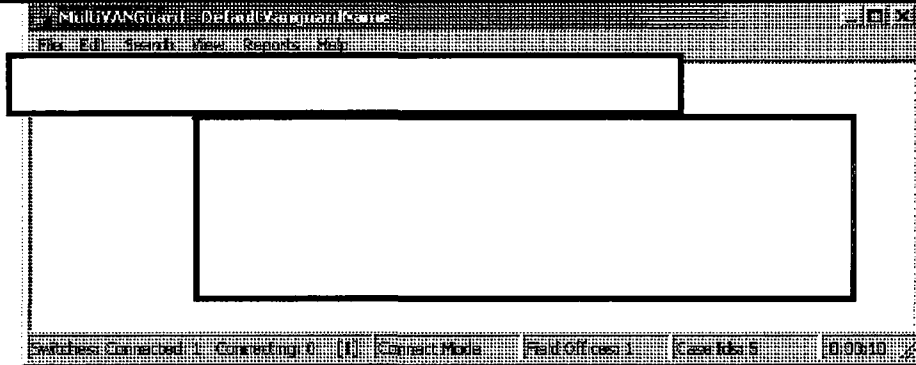


b2
b7E





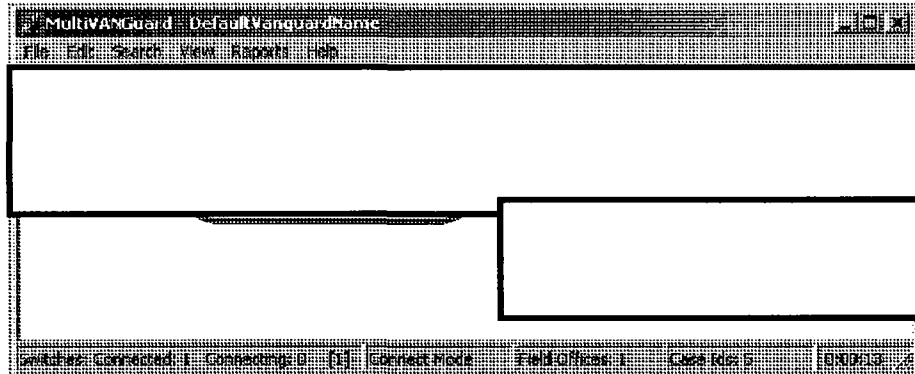
To view switch Connection information:



b2
b7E



To view bytes received from switches:

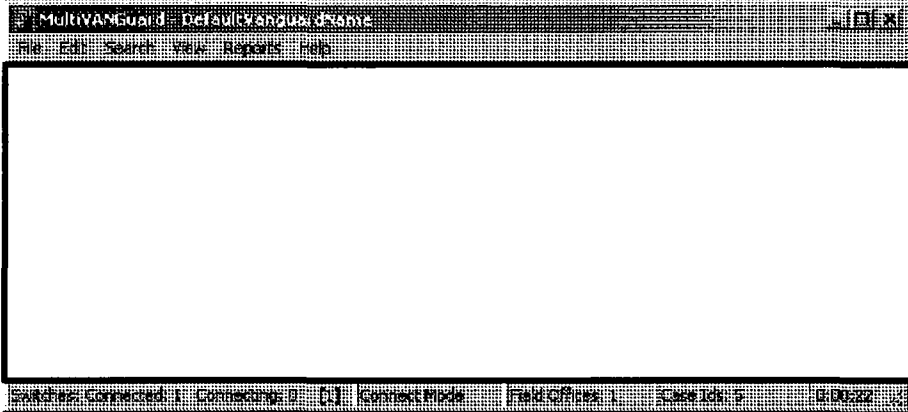


b2
b7E





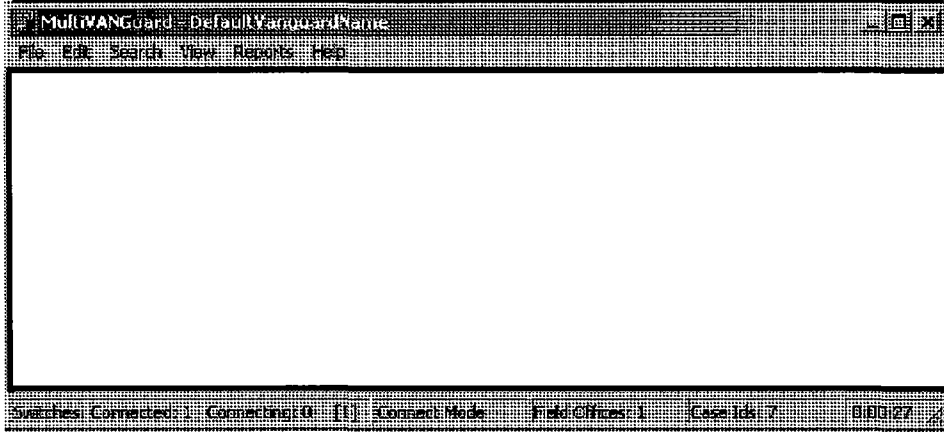
To view bytes buffered to disk:



b2
b7E



To view bytes sent to Field Offices:



b2
b7E



Clearing the Screen



b2
b7E



To clear detail messages from the MVG window:



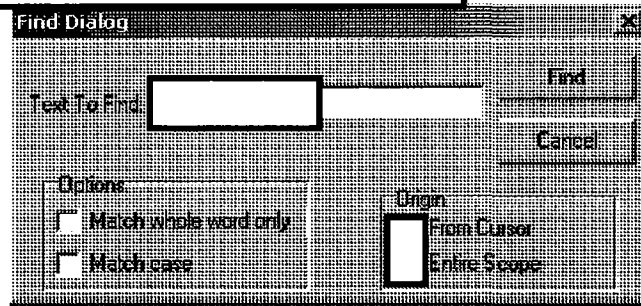
Using the Find Feature



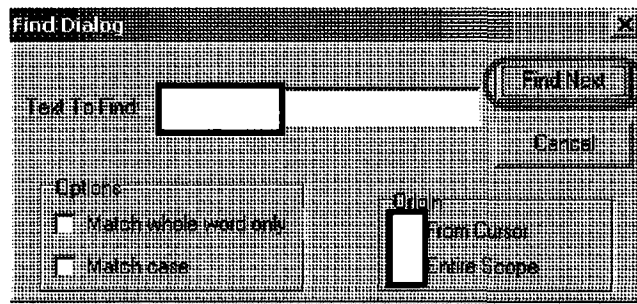
To search for a word, number, or phrase:

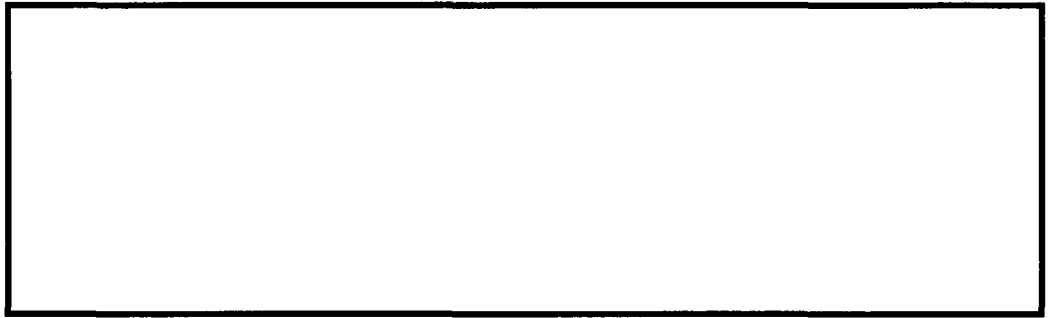


b2
b7E

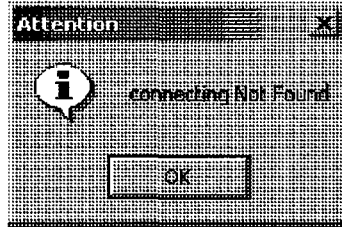


b2
b7E





b2
b7E



Selecting and Copying Data

b2
b7E



To copy a text selection:



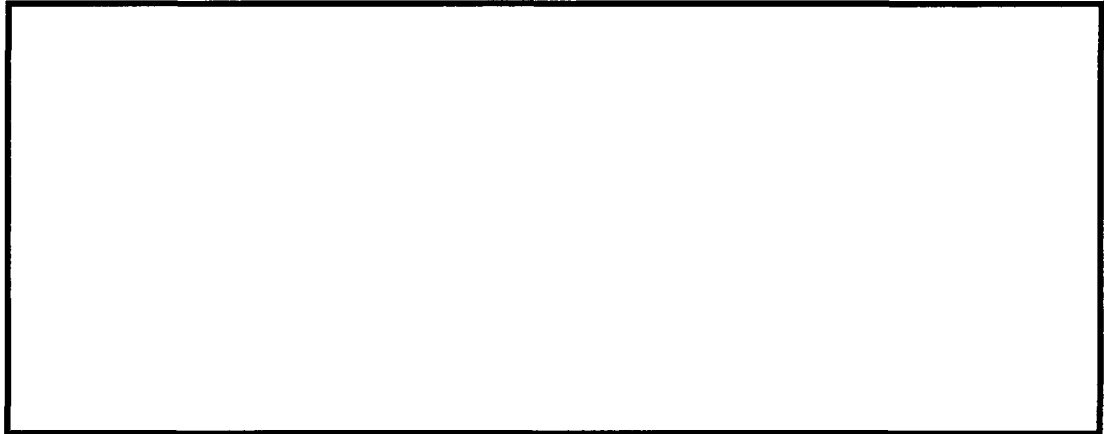
b2
b7E



To copy all text:



Configuring the MVG



b2
b7E

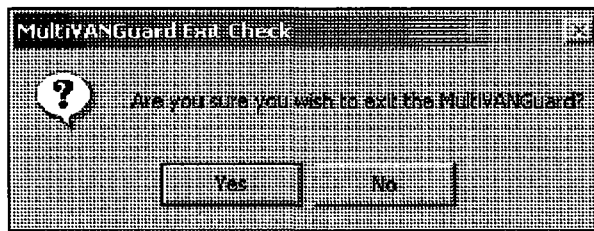


Figure 8-7: VANGuard Exit Check Window



b2
b7E

- Listen Mode
- Connect Mode
- Adding a Connection
- Editing a Connection
- Deleting a Connection
- Configuring an Alias



To set up the MVG for listen mode:



b2
b7E

Multivanguard Configuration

Switch Connection Method: []

Listen Mode:

Listen for Switch On Port Number: []

Use Specific Bind Address: []

Reset Listening Socket: []

Listen for field offices on port number: []

Listen for JTD devices on port number: []

Minimum Number of Bytes: []

Ignore BESS:

Sort Buffered Messages:

Sort Real Time Messages:

Auto Enable:

Auto Restart On Exception:

Application Name: []

Messages Per Sec: []

Stop the T from eleven digit case file:

Ignore Sequence Number:

Subscribed Resources: []

Warn when:

Write to disk:

Check disk every: []

hour

OK

Cancel

Log Files

Delete Windows

Switch Data

TCP Keep Alive

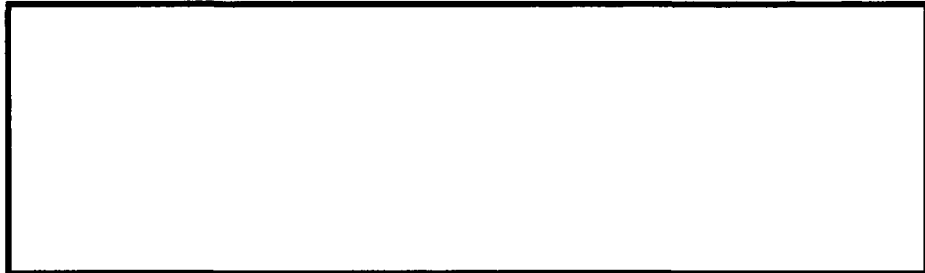
Disabled

HTTP

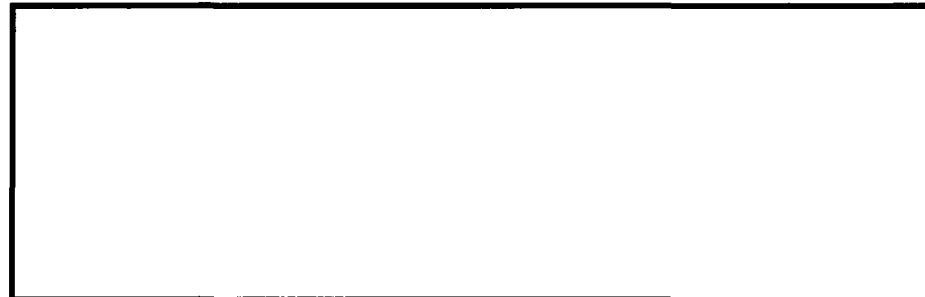
Disabled

b2
b7E





b2
b7E



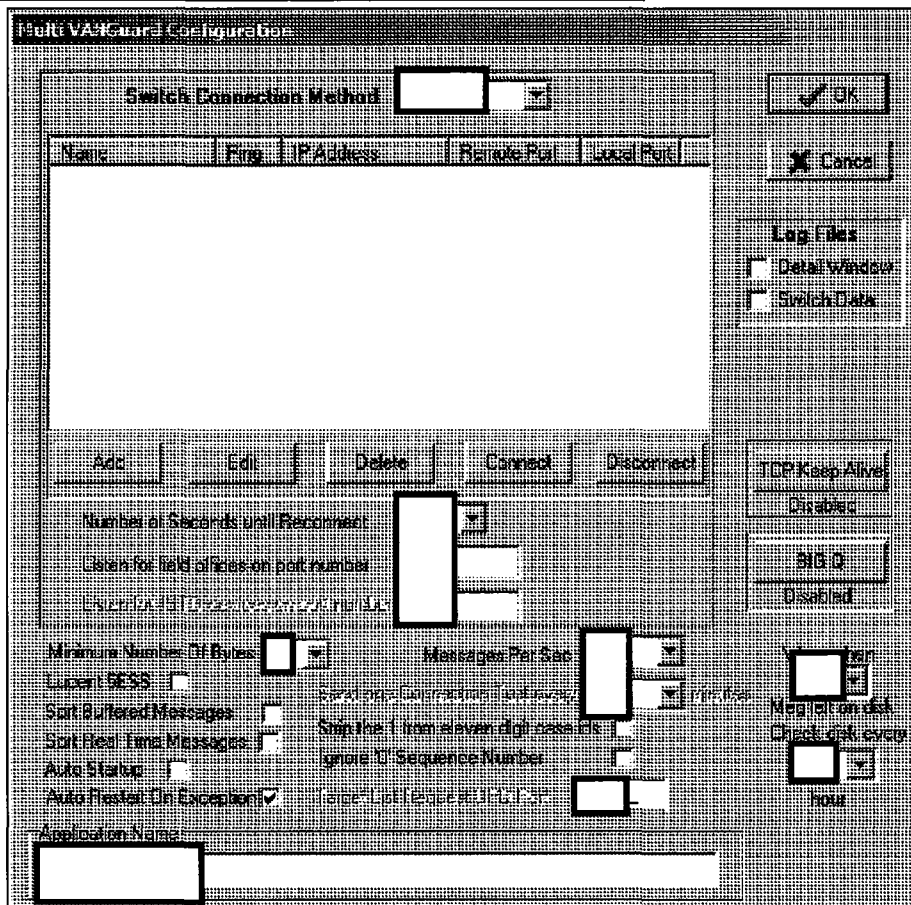
Note:



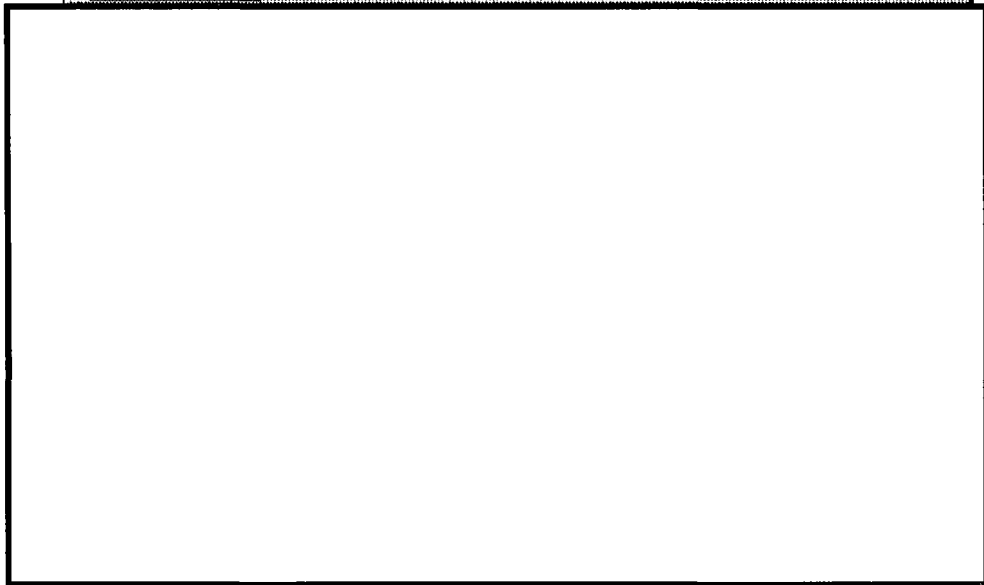
To set up the MVG for connect mode:

b2
b7E



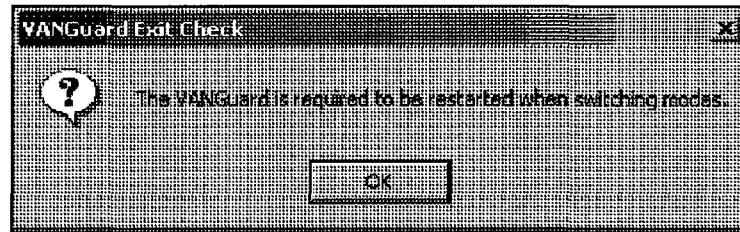


b2
b7E

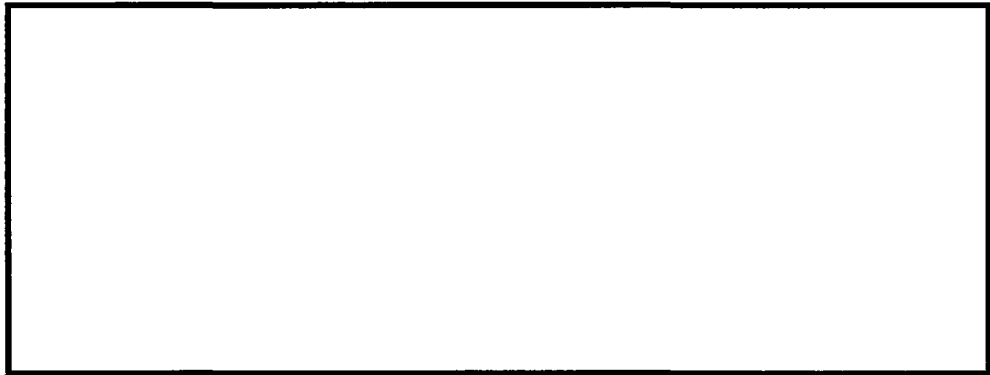




Note:



b2
b7E



To Add a Connection



b2
b7E



To add a connection:





Switch Connection Method

Name	Ping	IP Address	Remote Port	Local Port

Add Edit Delete Connect Disconnect

Number of Seconds until Reconnect

User for field devices on port number

User for I/O devices on port number

b2
b7E



Connection Name

Address of Switch

Connect To Switch On Port Number

Local Port Number to Communicate

Ping Enabled Minimum 1 Ping

Initial Connection With A Ping

Receive Connection Test every minutes

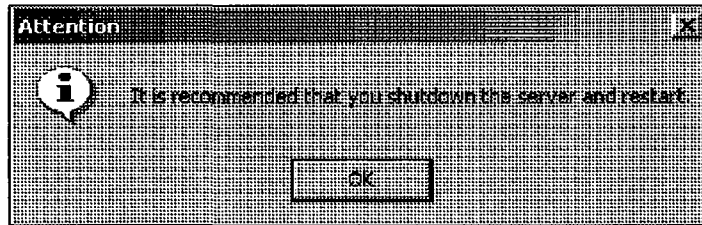
Add Cancel

b2
b7E

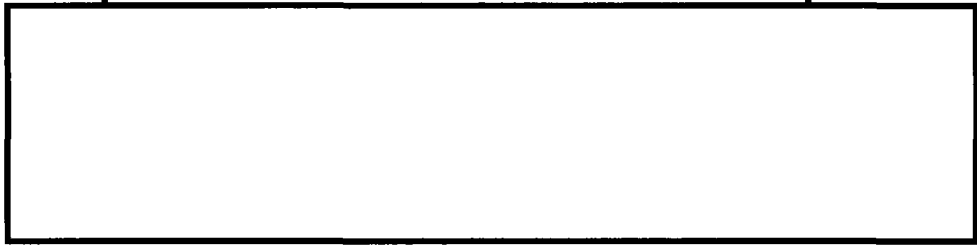




b2
b7E



Note:



b2
b7E

Note:



To Edit a Connection



To edit a connection:

b2
b7E



Switch Connection Method

Name	Ping	IP Address	Remote Port	Local Port

Add Edit Delete Connect Disconnect

Number of Seconds until Reconnect

Listen for field offices on port number

Listen for field offices on port number

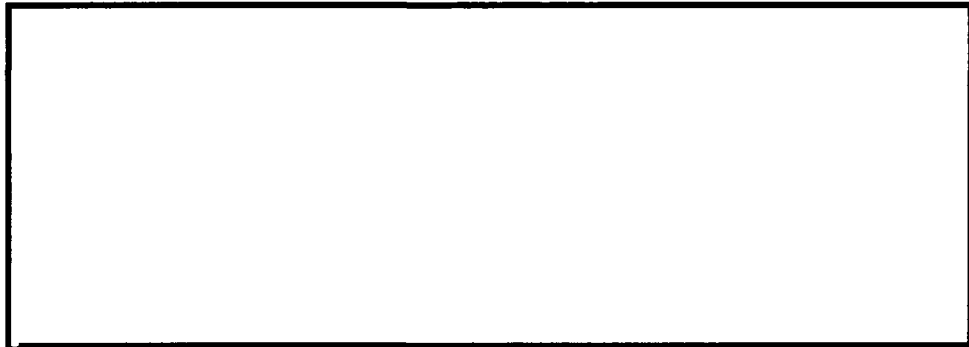
b2
b7E



Attention

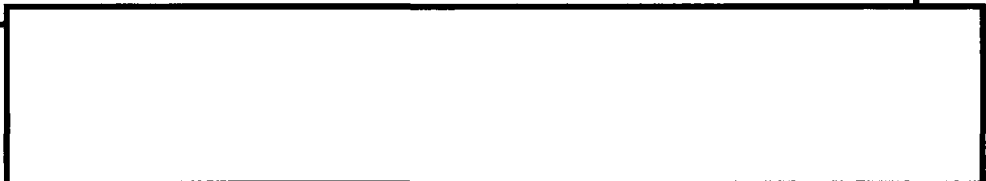
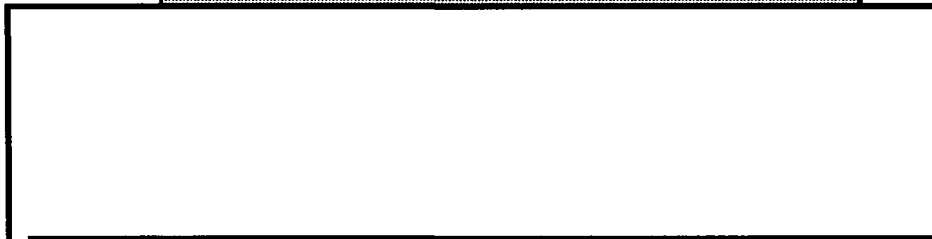
Are you sure you wish to Disconnect from all switches?

Yes No

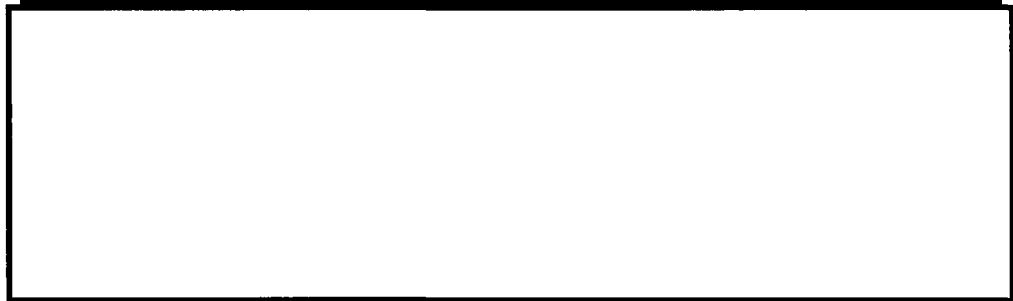


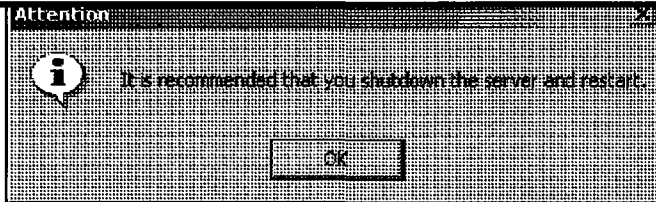
b2
b7E

Connection Name	<input type="text"/>
Address of Switch	<input type="text"/>
Connect To Switch On Port Number	<input type="text"/>
Local Port Number to Communicate	<input type="text"/>
Ping Enabled <input type="checkbox"/>	Address Ping <input type="text"/>
Initiate Connection With A Ping <input type="checkbox"/>	<input type="text"/>
Receive Connection Test every <input type="text"/> minutes	
<input type="button" value="Save"/>	<input type="button" value="Cancel"/>



b2
b7E





Note:



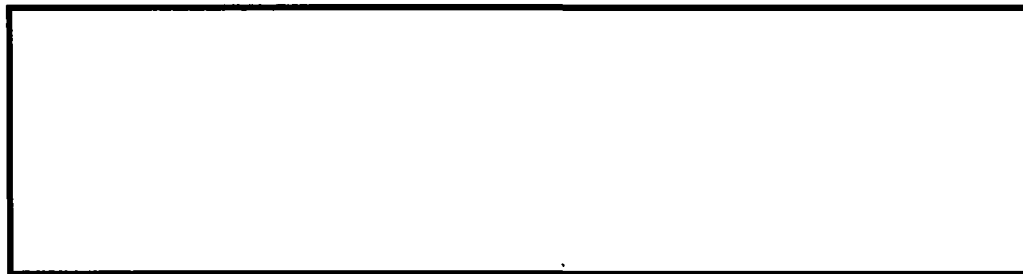
b2
b7E



Note:



To Delete a Connection



b2
b7E



To delete a connection:





b2
b7E

Switch Connection Method

Name	Port	IP Address	Remote Port	Local Port

Number of Seconds until Reconnect:

Listen for field offices on port number:

Listen for DCS/DCSAS on port number:



Attention

Are you sure you wish to Disconnect from all switches?

b2
b7E

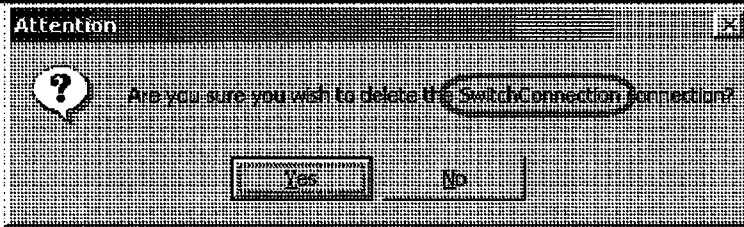
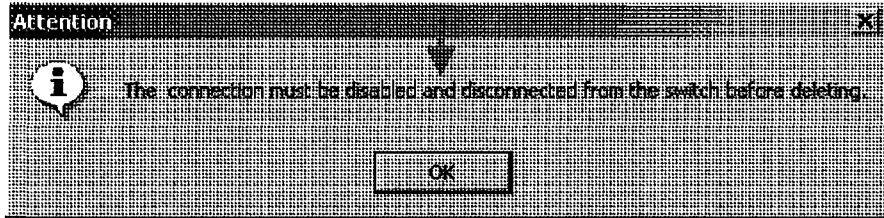




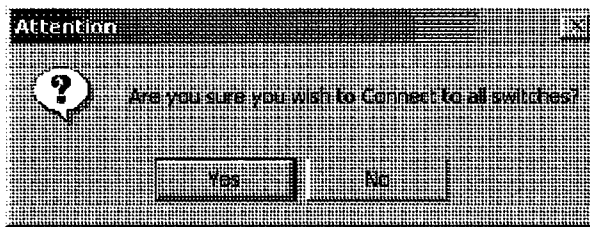
Note:



b2
b7E

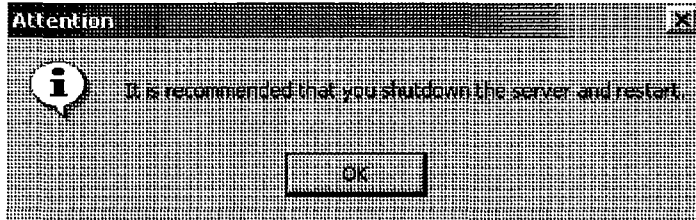


b2
b7E





Note:



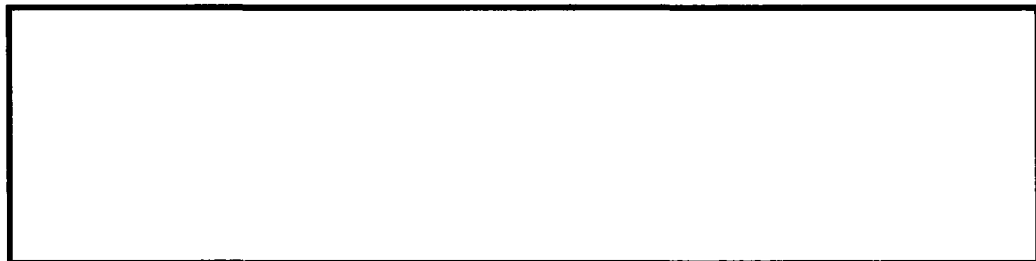
b2
b7E



Note:



To Configure an Alias



b2
b7E





b2
b7E

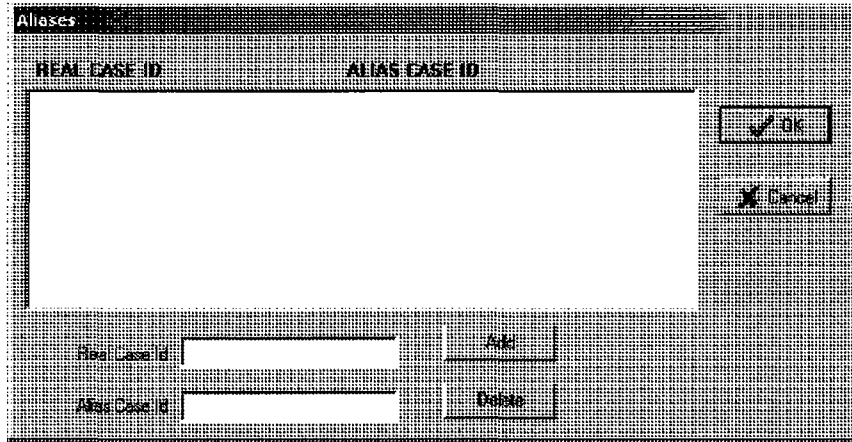


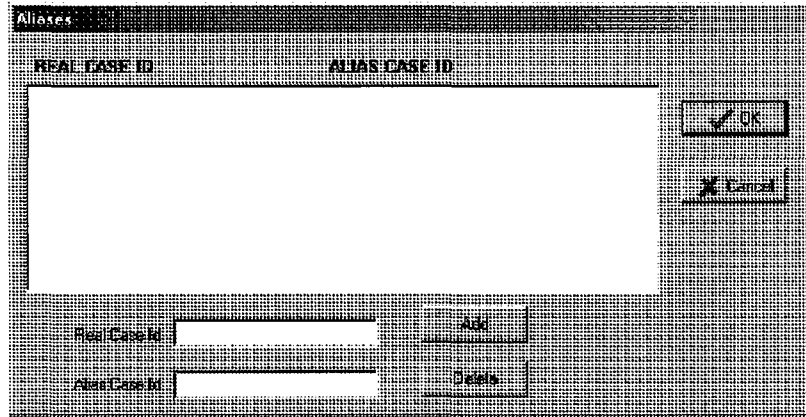
Figure 8-8: MVG Aliases Window



To establish an Alias:



b2
b7E



b2
b7E



b6
b7C

A screenshot of a software dialog box titled "Aliases". It features two columns: "REAL CASE ID" and "ALIAS CASE ID". The "REAL CASE ID" column contains a single entry with a checkmark in its right-hand cell. The "ALIAS CASE ID" column is empty. At the bottom, there are two input fields labeled "Real Case ID" and "Alias Case ID", each with a small white square to its right. To the right of these fields are two buttons: "Add" and "Delete". On the far right side of the dialog, there are two buttons: "✓ OK" and "✗ Cancel".

b2
b7E



To remove an Alias:



b6
b7C

A screenshot of a software dialog box titled "Aliases". It features two columns: "REAL CASE ID" and "ALIAS CASE ID". The "REAL CASE ID" column contains a single entry with a checkmark in its right-hand cell. The "ALIAS CASE ID" column is empty. At the bottom, there are two input fields labeled "Real Case ID" and "Alias Case ID", each with a small white square to its right. To the right of these fields are two buttons: "Add" and "Delete". On the far right side of the dialog, there are two buttons: "✓ OK" and "✗ Cancel".

b6
b7C



b6
b7C

Aliases

REAL CASE ID	ALIAS CASE ID
<input type="text"/>	<input type="text"/>

OK Cancel

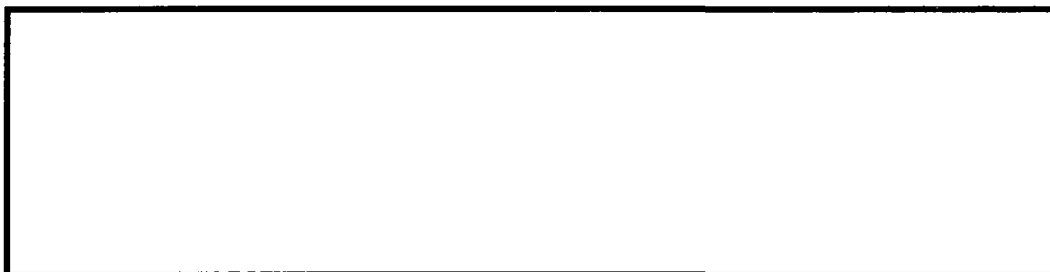
Real Case ID: Add

Alias Case ID: Delete

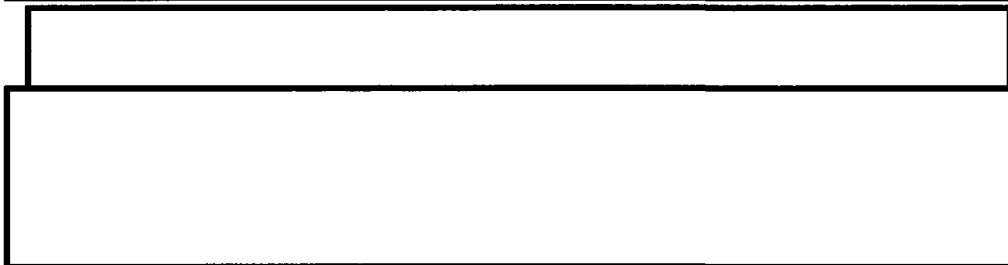
b2
b7E



Establishing a Connection



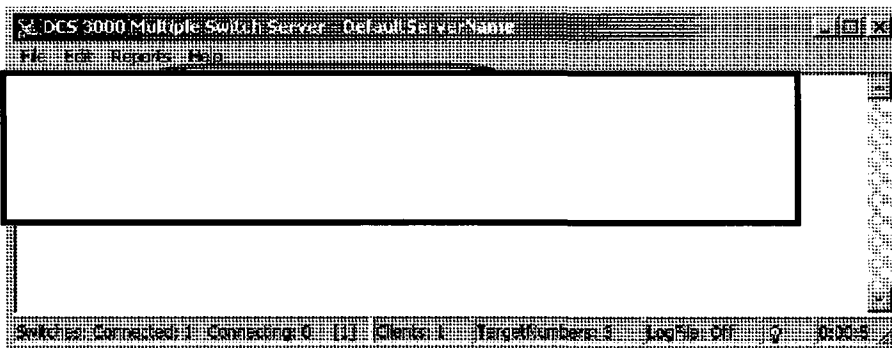
b2
b7E



To connect to the switch:



b2
b7E



- OR -



b2
b7E

MultiVANGuard Configuration

Switch Connection Method: [Dropdown]

Listen Mode: [Dropdown]

Listen for Switch On Port Number: [Text]

Use Specific Bin Address: [Text]

Reset Listening Spool: [Text] FLS:

[Text]

Listen for field office on port number: [Text]

Listen for GED devices on port number: [Text]

Maximum Number of Bytes: [Text] Messages Per Sec: [Text]

Useful DCS: [Text]

Get Buffered Messages: [Text]

Get Real Time Messages: [Text]

Auto Start: [Text]

Auto Restart On Exception: [Text]

Application Name: [Text]

[Buttons: OK, Cancel]

Log Files:
 Detail Window
 Snapshot

TCP Keep Alive:
Enabled

NRG:
Disabled

Warning:
[Text]

Mag on disk:
[Text]

Check disk every:
[Text]

b2
b7E



Switch Connection Method: [Dropdown]

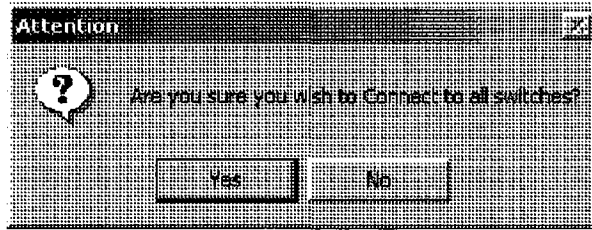
Name	Ring	IP Address	Remote Port	Local Port

[Buttons: Add, Edit, Delete, Connect, Disconnect]

Number of Seconds until Disconnect: [Text]

Listen for field office on port number: [Text]

Listen for GED devices on port number: [Text]



b2
b7E

Note:



Note:



To disconnect all switches:



b2
b7E

- OR -



MultivANGuard Configuration

Switch Connection Method: [Dropdown]

Listen Mode: [Dropdown]

Listen for Switch On Port Number: [Text]

Use Specific Bind Address: [Text]

Reset Listening Socket: [Text] [Text]

[Text]

Listen for hold off on port number: [Text]

Listen for DCS devices on port number: [Text]

Messages Number of Bytes: [Text]

Export SPSS:

Send Blocked Messages:

Send Packet Tracer Messages:

Auto Start:

Auto Restart On Exception:

Application Name: QuanticoAgent

Messages Per Sec: [Text]

Send on Connection Failure: [Text]

Support from server on load:

Ignore ID Sequence Number:

Send on Sequence Number: [Text]

Log Files: Local Window Station Data

TCP Keep Alive: Disabled

RIP Q: Disabled

Warn when Message on disk: Check disk space:

b2
b7E



Attention

Are you sure you wish to Disconnect from all switches?

Yes No



b2
b7E



Note:



Monitoring Activity



b2
b7E

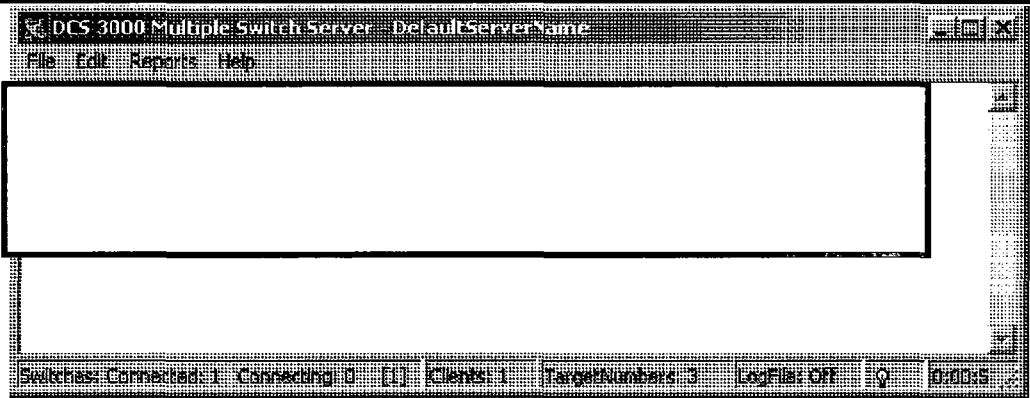
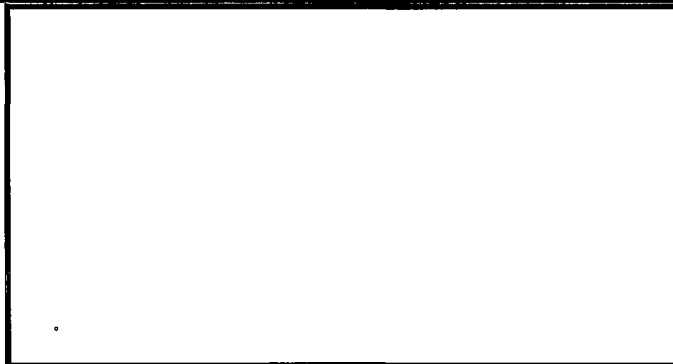
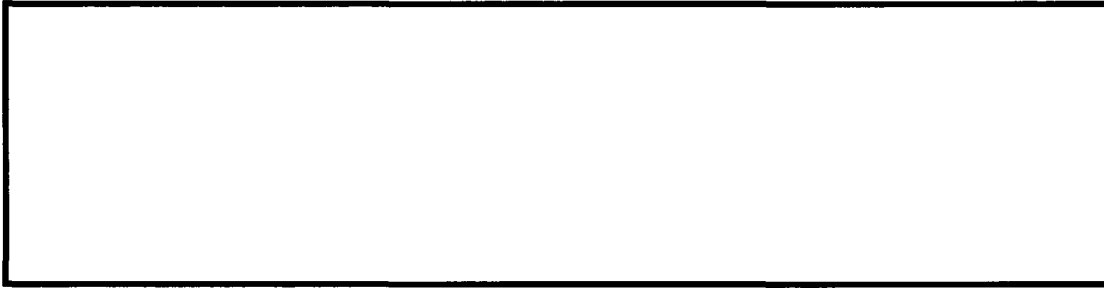


Figure 8-9: MVG Connection Messages



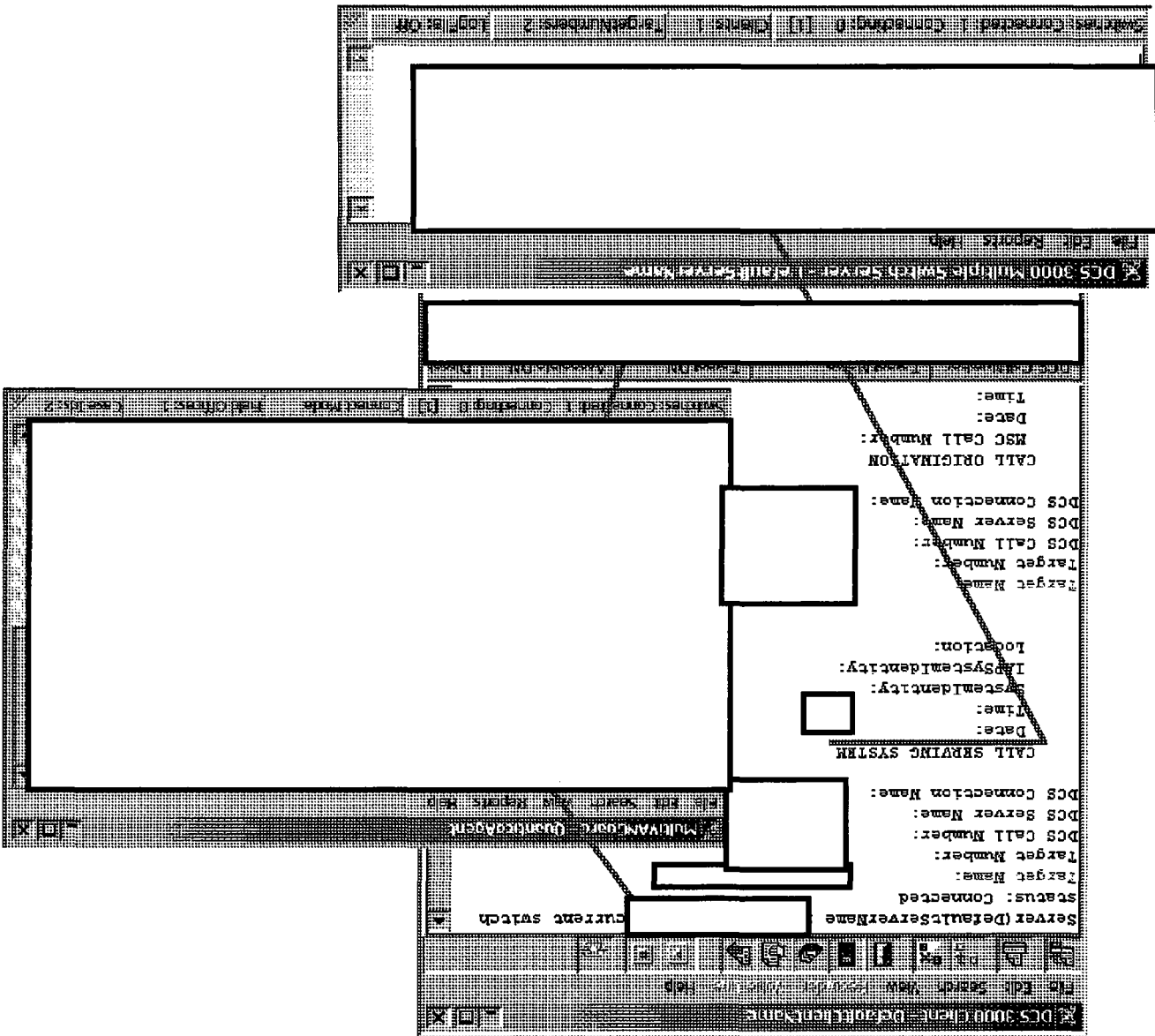
b2
b7E

Figure 8-10: Data Transmission Messages



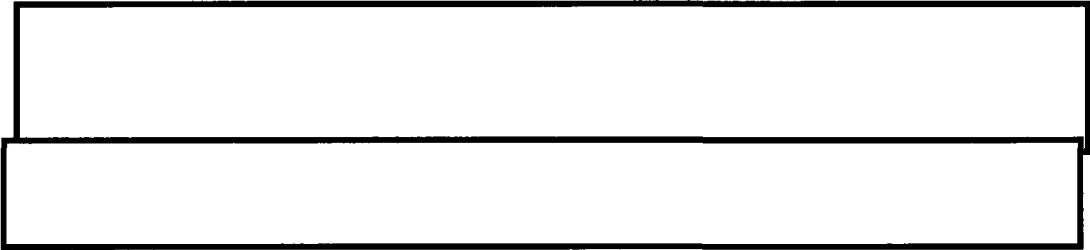
b2
b7E

Figure 8-11: Data Transmission Messages



b6
b7C

b2
b6
b7C
b7E



b2
b7E

Note:



This table describes some message that may appear in the MVG window.

Message	Explanation
Connected Detected	
Socket Connection Error: Connection Refused	
Socket Connection: Connected	
MVG connection: received case id	
MVGConnection: 81 Bytes Sent	
MVG connection: removed case ID	
MVG connection: Disconnected	
Switch: Attempting to Reconnect	

b2
b7E



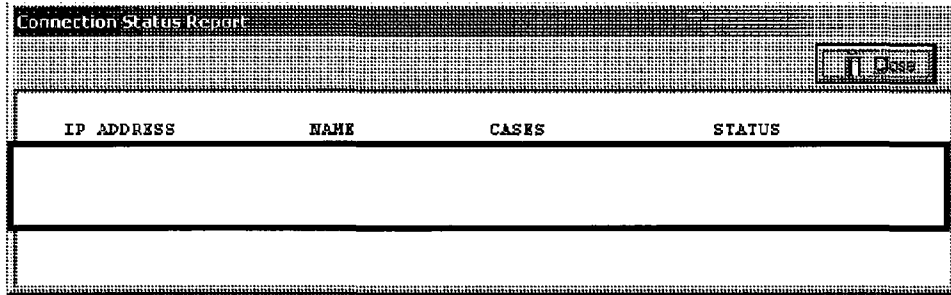
The MVG contains the following reports:

- Current Field Office Connection Status
- Field Office Ghost Connection Check
- Switch Data Check
- Field Office Data Check

Current Field Office Connection Status



b2
b7E



The screenshot shows a window titled "Connection Status Report" with a "Print" button in the top right corner. Below the title bar is a table with four columns: "IP ADDRESS", "NAME", "CASES", and "STATUS". The table body is currently empty.

IP ADDRESS	NAME	CASES	STATUS
------------	------	-------	--------

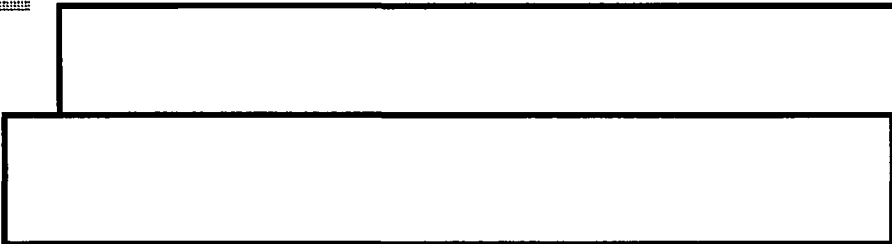
Figure 8-12: Connection Status Report window

The following information is provided about each MultiServer:

- IP Address of the MultiServer
- Name of the MultiServer
- Number of Cases (number of targets monitored)
- Status: date connected & duration of connection

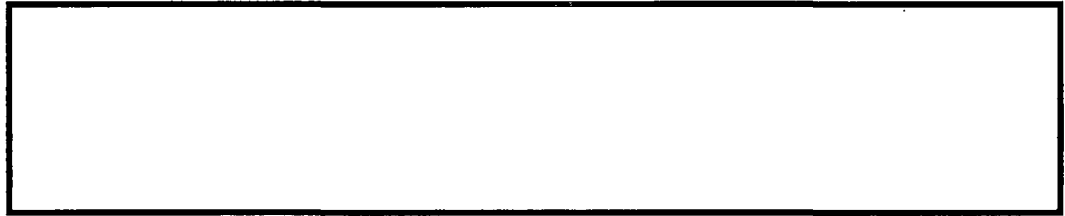


To view the field office connection status report:



b2
b7E

Field Office Ghost Connection Check



b2
b7E

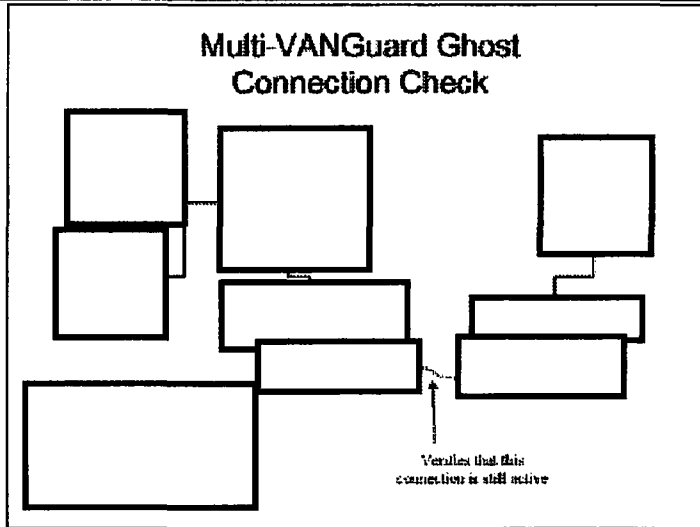
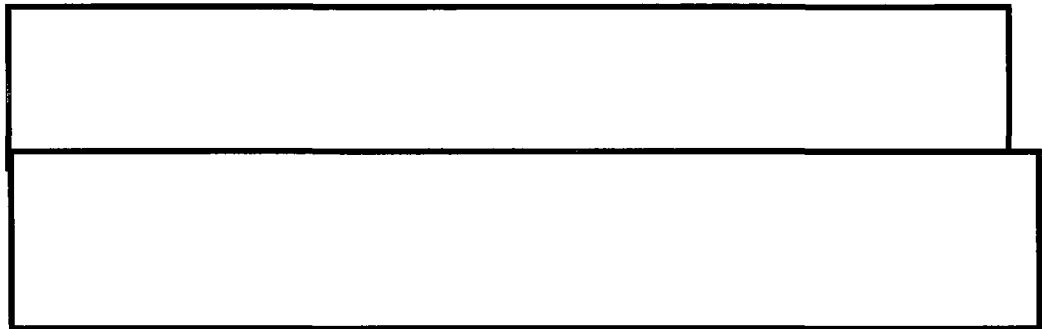


Figure 8-13: Field Office Ghost Check Display



b2
b7E

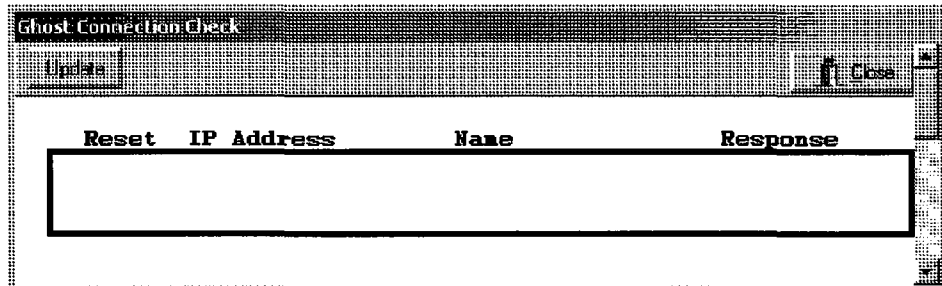


Figure 8-14: Field Office Ghost Connection Check Window

b2
b7E



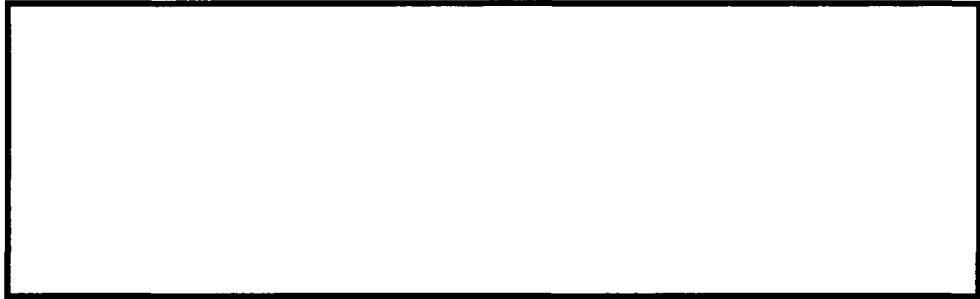
To view the field office ghost connection check:

b2
b7E

Ghost Connection Check			
Reset	IP Address	Name	Response



To update the field office ghost connection check report:

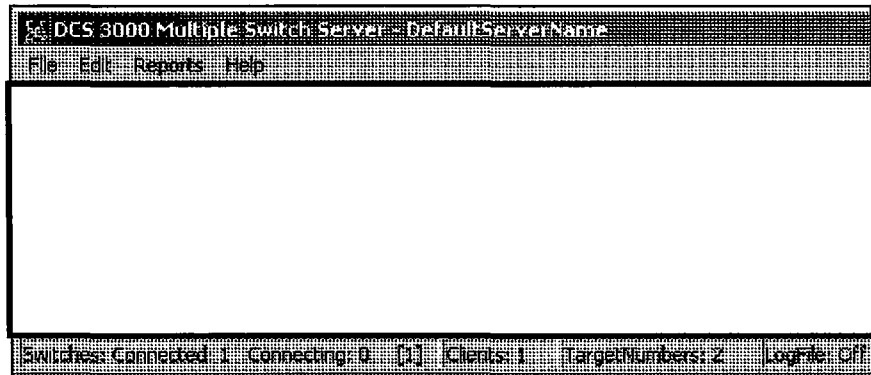


b2
b7E

Ghost Connection Check			
Reset	IP Address	Name	Response
[Empty table body]			

The MultiServer displays the inquiry from the MVG.

b2
b7E





To reset the connection:

[Redacted]

b2
b7E

Ghost Connection Check			
Reset	IP Address	Name	Response
[Redacted]			

The MultiServer displays the inquiry from the MVG.

DCS 3000 Multiple Switch Server - DefaultServerName					
File	Port	Records	Req.		
[Redacted]					
Switches Connected:	1	Connecting:	0	Clients:	1
Target Numbers:	2	Loop:	Off		

b2
b7E

The response field now indicates ACK Received.

Ghost Connection Check			
Reset	IP Address	Name	Response
[Redacted]			

[Redacted]

Field Office Data Check



b2
b7E

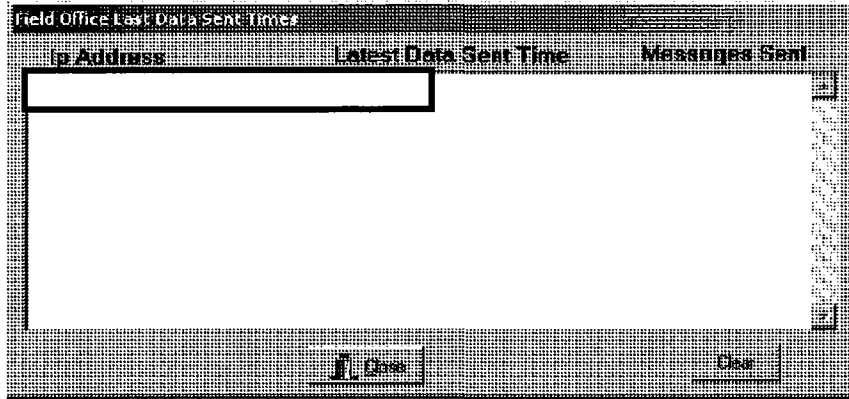
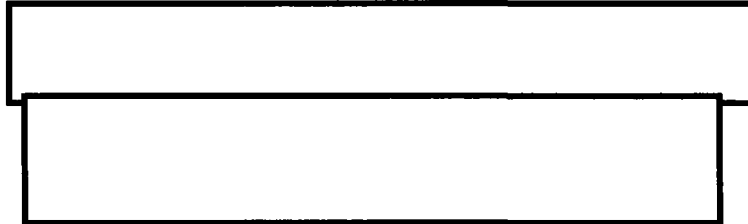


Figure 8-18: Field Office Ghost Connection Check Window



To view the number of records sent to Field Offices:



b2
b7E

Buffering Target Data Files

b2
b7E

This table describes the four MVG data directories.

Folder	Contents
Cache	
Logs	
Messages	
TMP	

b2
b7E

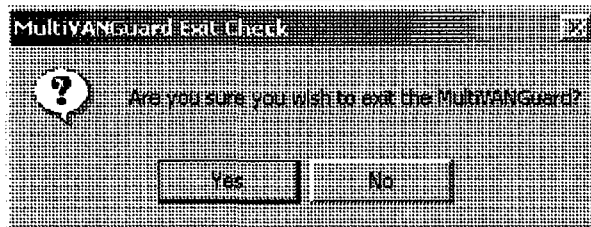
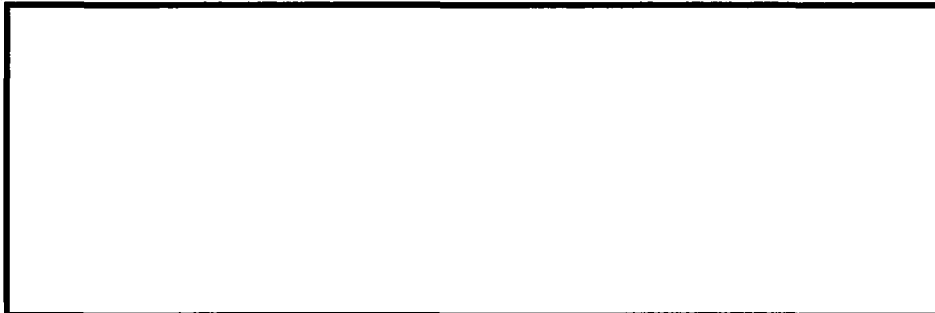
Shutting Down the MVG



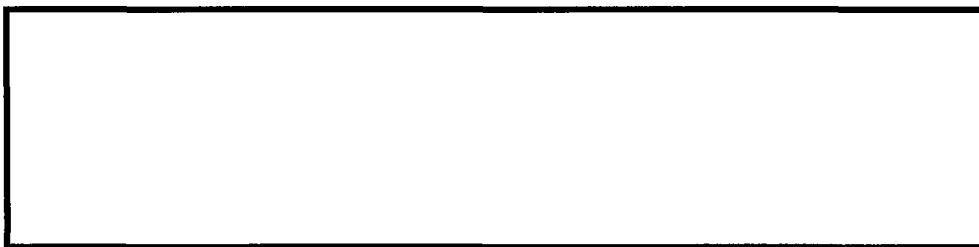
b2
b7E



To shut down the MVG:



b2
b7E



Quick Steps: MultiVANGuard

Working in the MVG Window

To view Field Office information:

To view switch connection information:

To view bytes received from switches:

To view bytes buffered to disk:

To view bytes sent to Field Offices:

To clear detail messages from the MVG window:

To search for a word, number, or phrase:

To copy a text selection:

b2
b7E

b2
b7E

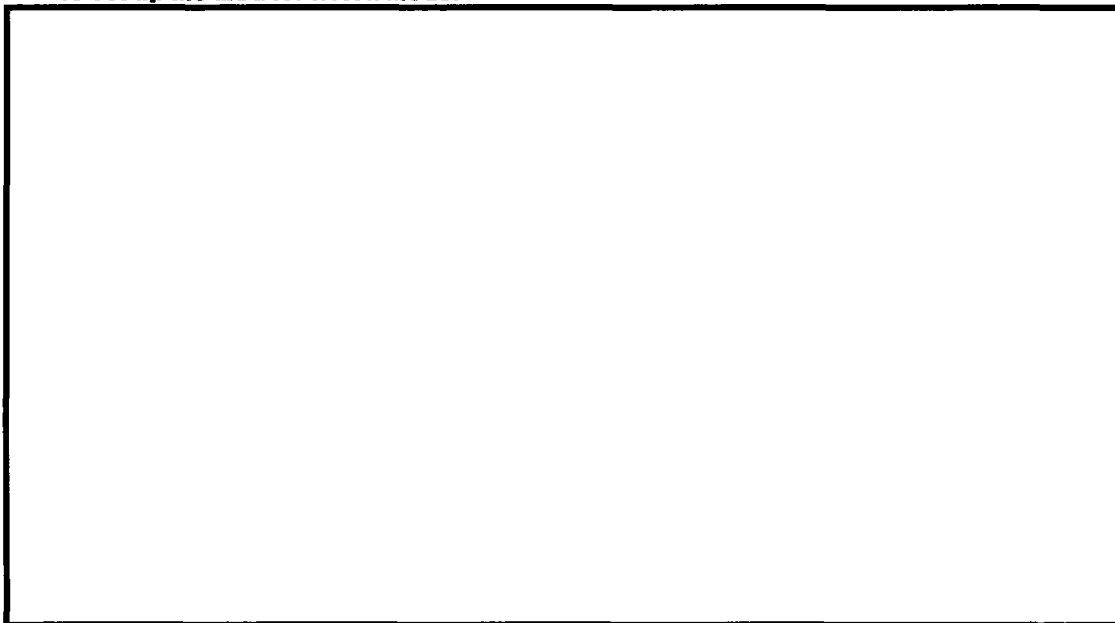
To copy all text:



Configuring the MVG

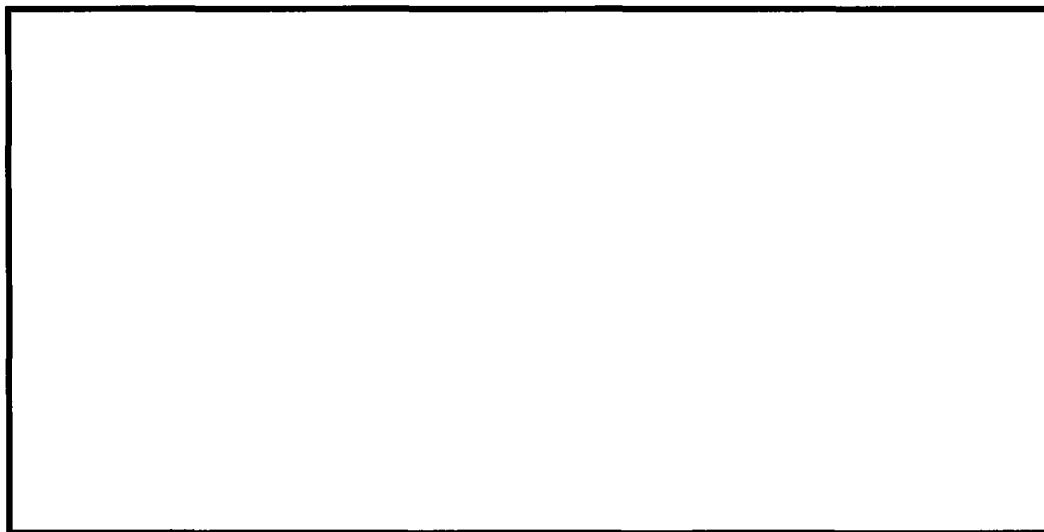
To set up the MVG for listen mode:

b2
b7E

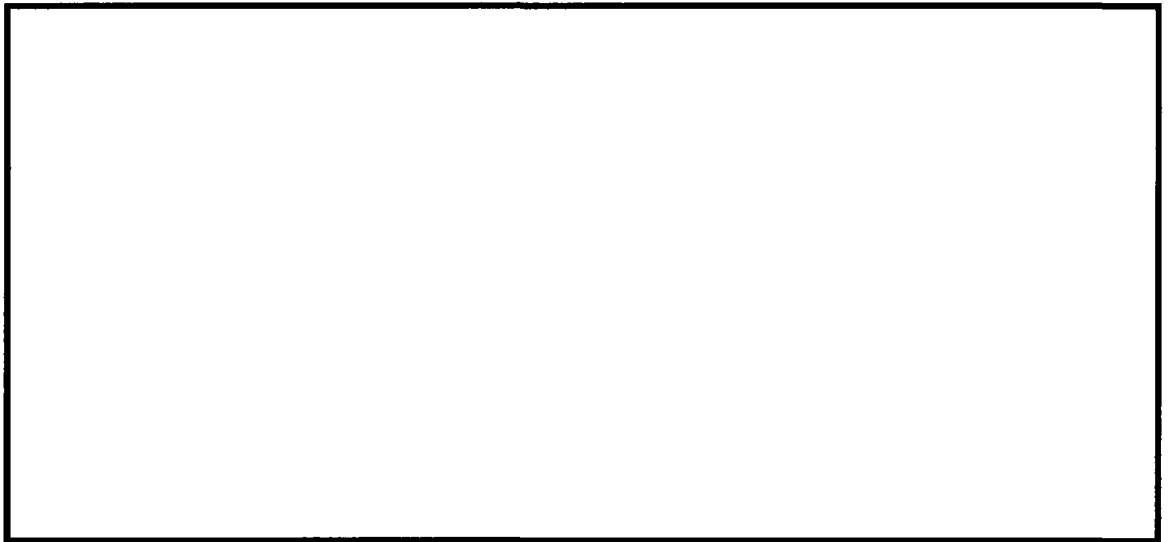


To set up the VANGuard for connect mode:

b2
b7E

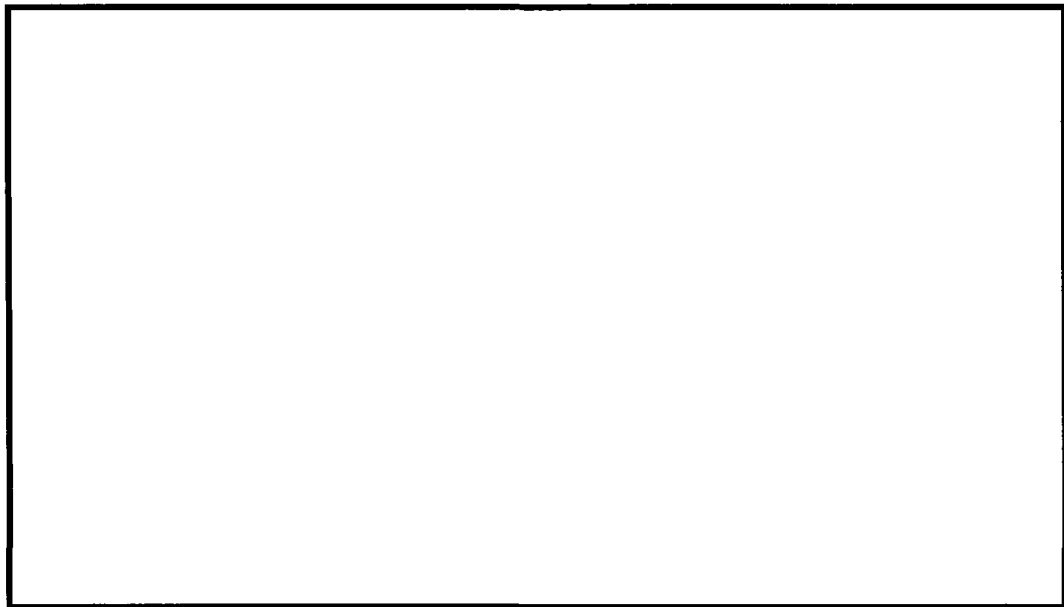


To add a connection:

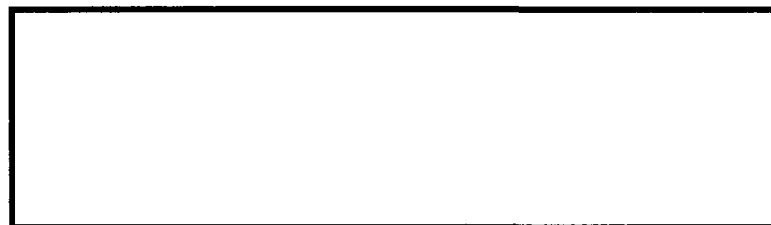


b2
b7E

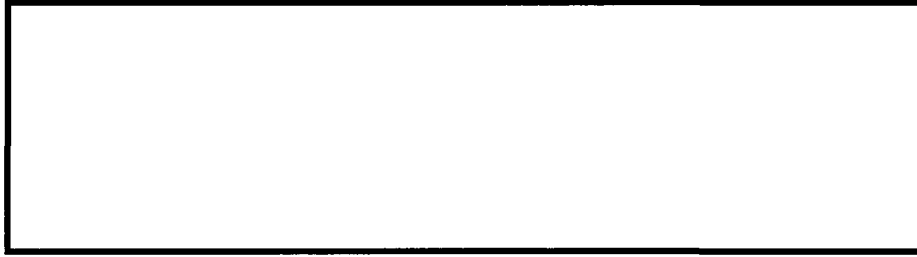
To edit a connection:



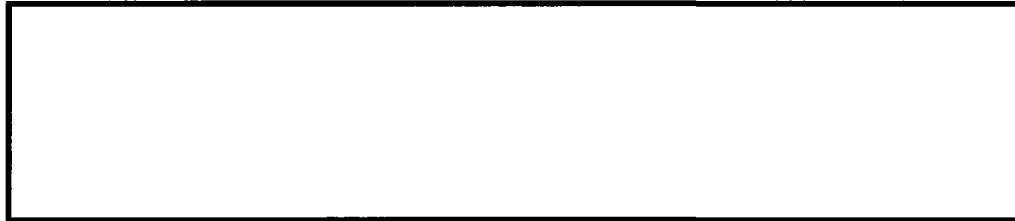
To delete a connection:



b2
b7E



To establish an Alias:



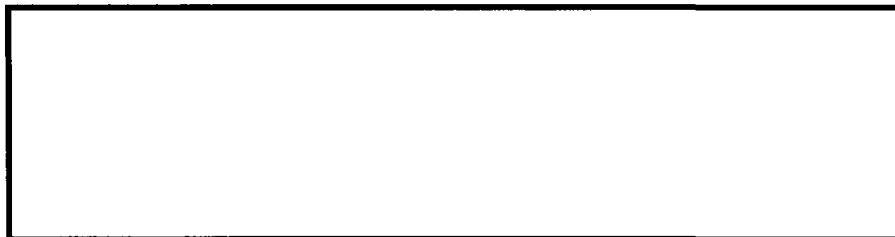
b2
b7E

To remove an Alias:



Establishing a Connection

To connect to the switch:



To disconnect all switches:



b2
b7E

Monitoring Activity

To view the field office connection status report:

To view the field office ghost connection check:

To update the field office ghost connection check report:

To reset the connection:

To view switch activity:

To view the number of records sent to Field Offices:

b2
b7E

Shutting Down the MVG

To shut down the MVG:

b2
b7E

Data Collection System (DCS) 3000

User Guide

Glossary

4ESS - Class 4 toll switch made by Lucent Technologies.

5ESS - Category of end office/wireless switches made by Lucent Technologies.

Access Tandem - A tandem switch that is used to interconnect between carrier for equal access. Typically, this used to interconnect ILECs with IXCs and/or CLECs.

Adaptive Differential Pulse Code Modulations (ADPCM) - A standardized technique for voice encoding and compression. It allows analog traffic to be carried within a 32Kbps digital channel.

Advanced Intelligent Network (AIN) - An evolving, service-independent architecture that allows a carrier to quickly and economically create and modify telecommunication services for its customers.

Advanced Mobile Phone Service (AMPS) - The cell based mobile telephone system that has been used in the United States since 1983. AMPS uses frequency modulation (analog) to transmit unencrypted voice and speech over the air.

A-Link - In the SS7 world, an A-link is a signaling link that connects a STP to a SSP or SCP. A-links operate at a transmission speed of 56 Kbps.

American National Standards Institute (ANSI) - A non-government organization that develops and distributes standards for transmission codes, protocols and high-level languages for suggested use in the United States.

Asymmetric Digital Subscriber Line (ADSL) - Technology using digital filtering to remove noise from twisted-pair copper lines, enabling broadband transmission. There are several varieties of ADSL.

using varying hardware, modulation software and compression techniques. ADSL-2 can deliver up to four VCR-quality video signals but has limited upstream response. ADSL can only work over distances of less than 12,000 feet, a requirement 60% of U.S. homes meet.

Asynchronous Transfer Mode (ATM) - An international standard for high-speed broadband packet-switched networks operating at broadband digital transmission speeds.

Automatic Location Information (Identifier) (ALI) - A feature of E911 systems that provides information such as name, phone number, address, nearest cross street, to operators answering 911 calls at public safety answering points (PSAPs).

Automatic Message Accounting (AMA) - The network functionality that measures, collects, formats and outputs subscriber network-usage data to upstream billing and other operating systems.

Automatic Number Identification (ANI) - More commonly known as "Caller ID." A service provided by local exchange carriers in which the telephone number of a caller is sent to the called-party's telephone between the first and second ring. This is one of several CLASS services, all of which require SS7 interoffice signaling.

B Channel - In an ISDN interface, the message-bearing 64 kbps digital channel used for digital transmission of high-speed data and video.

Backbone - Part of a network used to connect smaller segments of networks together.

Bandwidth - The relative range of frequencies that can be passed by a transmission medium. Usually measured in Hertz, bandwidth is assessed as a number of bits that can be transferred per second. The necessary bandwidth is the amount of spectrum required to transmit the signal without distortion or loss of information. FCC rules require suppression of the signal outside the band to prevent interference.

Base Station Controller (BSC) - In a wireless network, contains all the logic used to control the operations of the BTS, and acts as an interface between the BTS and the MSC.

Base Transceiver Station (BTS) - In a wireless network, the radio, antenna and tower equipment that, collectively, sends and receives information over the common air interface. Commonly called a "cell site."

Basic Rate Interface (BRI) - The ISDN interface standard for single-line ISDN service. This standard provides for two message-bearing 64 Kbps B channels for speech and data, plus a 16 Kbps D channel for network signaling and data.

Basic Trading Area (PCS Licenses) (BTA) - The secondary category of FCC geographical areas for Personal Communications Service (PCS) licenses. The country is divided into 50 Major Trading Areas (MTAs). Each MTA is divided into multiple BTAs. A BTA is composed of one or more counties.

Bit Rate - The number of bits transmitted over a communications medium per second.

Broadband - A term used to describe a channel with more bandwidth than a standard voice grade channel. Broadband channels are often used to carry multiple high-speed voice and data transmissions on a common communications path.

Bull's Eye – An option found in the DCS Client that is used to configure the remote database server handling queries for "last serving system" event messages.

Busy Line Verification (BLV) - In a public switched telephone network, a network-provided service feature that permits an attendant to verify the busy or idle state of station lines and to break into the conversation.

Call Content - The "content" of a communication is defined by 18 U.S.C. 2510(8) as "any information concerning the substance, purpose, or meaning of that communication." The phrase "call content" refers to the contents of lawfully intercepted communications.

Call Content Channel (CCC) - Originating from the switching equipment of a carrier, this is the medium through which Call Content is passed. Generally, it refers to voice communications.

Call Detail Record (CDR) - A description of the recommended information about each call that is necessary to record the use of features. This may include the following activities and elements; feature registration, feature de-registration, feature activation, feature deactivation, feature invocation, feature usage duration, and call leg usage. This same term is often used to describe an electronic record of a call that is used for subscriber billing purposes.

Call Intercept Provision Console (CIPC) - In a telecommunications network, the Nortel console that carrier personnel use to provision targets for electronic surveillance

Call-Identifying Information - Defined in 47 U.S.C. 1001(2) to mean "dialing or signaling information that identifies the origin, direction, destination, or termination of each communication generated or received by a subscriber by means of any equipment, facility, or service of a telecommunications carrier "

Calling Card Validation (CCV) - Process of verifying that a calling card is valid and then processing a call to bill that account.

Calling Party Pays (CPP) - Environment in which the person who initiates the call pays the premium for mobile service, even if they are a landline subscriber. A billing method in which a wireless phone caller pays only for making calls and not for receiving them.

Carrier Access Code (CAC) - The sequence that an end user dials in order to access the carrier's switch service. The codes are composed of 7 digits in the form of 101xxxx, where xxxx is the CAC.

Cellular Service - A cellular radio system is an automated, analog system of one or more multi-channel base stations designed to provide radio telecommunications services to mobile stations.

Central Office (CO) - The facility of a telecommunications common carrier where subscribers' lines are joined to switching equipment for connecting to other subscribers, locally and long distance.

Centrex - A type of phone service offered by local exchange carriers that allow individual phones connected to the central office to dial each other by extensions, transfer calls, etc.

Circuit Switch - A switching system that establishes a dedicated physical connection between end points, in a network, for the duration of the communication session.

Code Division Multiple Access (CDMA) – A method for transmitting information over the air in a digital format. A coding scheme, used as a modulation technique, in which multiple channels are independently coded for transmission over a single wideband channel.

Common Language Location Identifier (CLLI Code) - Equivalent identifier for carrier equipment.

Communications Assistance for Law Enforcement Act (CALEA) - A federal statute that defines specific technical assistance that telecommunications carriers must provide law enforcement when conducting electronic surveillance.

Competitive Local Exchange Carrier (CLEC) - These are local carriers that launched following the Telecommunications Act of 1996, a statute intended to promote competition with the incumbent RBOCs.

Compression - Reducing the size of the data, image, voice or video file sent over a telephone line, lessening the bandwidth needed to transmit the file.

Consolidated Dialed Number Recording System (CDNRS) - The structured database used by the FBI to manage telephone calling records.

Customer Premise Equipment (CPE) - Equipment that resides on the customer's premise, such as a PBX.

Dialed Number Recorder (DNR) - A device that decodes and prints (and, in some cases, electronically records) outgoing pulses or DTMF signals

Digital Service Level Zero (equal to one analog POTS line) (DS0) - A single digital 64 Kbps, pulse code modulated, transmission channel which represent the starting point for a digital multiplexing hierarchy.

Digital Signal Level One (DS1) - A 1.544 Mbps digital signal comprised of 24 multiplexed 64 Kbps DS-0 digital channels

Digital Signal Level Three (DS3) - A 44.6 Mbps digital signal comprised of 28 multiplexed DS-1 signals that is carried over a T-3 facility.

Digital Signal Processor (DSP) - A digital microprocessor that calculates digitized signals that were originally analog (e.g., voice) and then sends the results on. DSPs are used in telecommunications for echo cancellation, call progress monitoring, voice processing and compression.

Digital Subscriber Line (DSL) - Technology that is employed between a customer location and the carrier's network that enables more bandwidth to be provided by using as much of the existing network infrastructure as possible.

Directory Number (DN) - A unique compliment of digits associated with the name of a subscriber in a telephone directory (i.e., your phone number).

Dispatch Application Processor (DAP) - A Motorola component common to iDEN network (e.g. Nextel) that supports "Direct Connect" communications. One DAP is required for each metropolitan market area.

DMS - Nortel series of switches

Dual Tone Multi-Frequency (DTMF) - A term used to describe the tones generated by push button or touch-tone dialing.

Echo Cancellation - A technique that allows for the isolation and filtering of unwanted signals caused by echoes from the main transmitted signal.

Electronic Serial Number (ESN) - The unique identifier of a cellular phone that is automatically transmitted to the mobile switching center (MSC) every time a cellular phone registers or places a call. This number is stored in the phone's number assignment module (NAM).

Electronic Surveillance (ELSUR) - As used in this reference, court-authorized, surreptitious surveillance of telecommunications activities (i.e. pen register, trap and trace, and call content).

Electronic Switching System (ESS) - One type of AT&T/Lucent's stored, program-controlled central office switches, including the 4ESS and 5ESS switches.

End Office - The location where carriers place telecom equipment closest to the customer. Typically, this is where customers are provisioned. Class 5 switches are typically located here.

Enhanced emergency reporting service (E911) - 911 service becomes Enhanced 911 when there is a minimum of two special features added to it - Automatic Number Identification (ANI) and Automatic Location Information (ALI).

Enhanced Specialized Mobile Radio (ESMR) - A FCC wireless licensing category.

European Telecommunications Standards Institute (ETSI) - The European counterpart of ANSI, tasked with paving the way for telecommunications integration in the European community. ETSI's main goal is the unrestricted communication between all the member states by provisioning European standards.

Federal Communications Commission (FCC) - The government body that regulates telecommunications in the United States. The U.S. Government board of five presidential appointees that has the authority to regulate all non-Federal Government interstate telecommunications (including radio and television broadcasting) as well as all international communications which originate or terminate in the United States.

Flat Rate (FR) - Telephone service in which a single payment permits an unlimited number of local calls to be made without further charge for a specified period of time.

Frame Relay - A packet-switched method of data communications provided by telecommunications carriers and Internet service providers. Frame relay can provide guaranteed bandwidth at no additional charge if the lines are open during periods of low traffic.

General Packet Radio Service (GPRS) - A Global System for Mobile Communications (GSM) initiative to deliver high-speed packet data services to mobile terminals. GPRS allows many users to share the same channel and to stay virtually 'on line' all of the time; radio resources are used only when data is actually being transmitted or received.

Global Systems for Mobile Communications (GSM) - The pan-European digital cellular system standard now deployed at 900, 1800 and 1900 MHz. Defines a radio interface based on 8-user time division multiple access (TDMA) with 200-kHz channel spacing and advanced features. Originally designed to offer consistent digital cellular service throughout Europe. Acronym originated from the French term "Groupe Special Mobile."

Home Locator Register (HLR) - A network database that contains information about each subscriber in a region and the features they subscribe to. A phone's mobile directory number (MDN) identifies the subscriber profile in the HLR. The central database of a GSM network.

Hunt Group - A series of telephone lines organized so that if the first line is busy the next line is hunted and so on until a free line is found. The capability for multiple calls to be received by the same destination number by "rolling" subsequent phone calls to an available line which is answered by the destination party.

iDEN Surveillance Gateway (ISG) - The Motorola component used for electronic surveillance in an Integrated Dispatch Enhanced Network (iDEN) (e.g. Nextel) wireless network.

ISDN User Part (ISUP) - The portion of SS7 that handles call control for Integrated Services Digital Network (ISDN) type calls. Provides for transfer of call setup signaling information between signaling points.

In-Band Signaling - A method of controlling information in a telecommunications network by using tones or other signals carried within the same band or channel as the information being carried. For example, in a telephone call, tones can be used to control the transmissions, receipt and disconnection of the call.

Incumbent Local Exchange Carrier (ILEC) - The incumbent local phone company which owns most of the local loops and facilities in a serving area; frequently a Regional Bell Operating Company (RBOC).

Integrated Dispatch Enhanced Network (iDEN) - Wireless network infrastructure developed by Motorola and deployed by Nextel and other carriers

Integrated Services Digital Network (ISDN) - A switched network providing end-to-end digital connectivity for simultaneous transmission of voice and/or data over multiple multiplexed communications channels and employing transmission and out-of-band signaling protocols that conform to internationally-defined standards.

Intelligent Network (IN) - A telecommunications network architecture in which processing capabilities for call control and related functions are distributed among specialized network nodes rather than concentrated in a switching system. The SS7 network forms part of the IN infrastructure.

Inter-Exchange Carrier (IXC) - Long distance companies that sell toll-free 800, international and outgoing telephone service on an interstate basis. A carrier that is allowed to carry traffic from one Local Access Transport Area (LATA) to another, typically long distance inter-state traffic, but can also include intra-state toll traffic.

Inter-Machine Trunk (IMT) - Switch-to-switch trunks that are used to carry calls between carriers. Signaling is not performed in-band on these trunks; instead, they are coordinated via the overlay SS7 network.

Intermediate Exchange - A tandem switch.

International Mobile Equipment Identifier (IMEI) - The only identifier uniquely associated with a handset in the international Global System for Mobile Communications (GSM) environment. The 15-digit number contains components which identify the Type Approval Code (TAC), Final Assembly Code (FAC), Serial Number (SNR) and a single, spare digit. The IMEI generally appears on a sticker on the handset and is electronically stored within the firmware of the handset.

International Mobile Subscriber Identifier (IMSI) - The primary number used to identify a user on the Global System for Mobile Communications (GSM) network. The IMSI is used in conjunction with the mobile telephone network for call routing. The only identifier uniquely associated with a wireless subscriber in the international GSM environment. The 15-digit number contains components that identify the Mobile Country Code (MCC), Mobile Network Code (MNC) and Mobile Subscriber Identity Number (MSIN).

International Telecommunications Union (ITU) - A civil international organization established to promote standardized telecommunications on a worldwide basis

Internet Protocol (IP) - A network layer (Layer 3) standard for data transmission that performs the addressing function and contains some control information to allow packets to be routed through networks.

Internet Service Provider (ISP) - Connects end-users to the Internet via telephone lines or another medium.

Intra-LATA - Telecommunications services that originate and terminate in the same Local Access and Transport Area (LATA).

IS-136 - Technology standard for Time Division Multiple Access (TDMA). A digital radio format currently being deployed in North America. IS-95 uses TDMA as its transport mechanism in the 1900 MHz range.

IS-95 - Technology standard for Code Division Multiple Access (CDMA). A digital radio format created by Qualcomm, currently being deployed in North America. IS-95 uses CDMA as its transport mechanism in the 1900 MHz range.

J-STD-025 - Industry interim technical standard developed to meet the assistance capability requirements of Section 103 of the Communications Assistance for Law Enforcement Act (CALEA) published in December 1997.

J-STD-025A - Industry interim technical standard developed to meet the assistance capability requirements of Section 103 of the Communications Assistance for Law Enforcement Act (CALEA) published in May 2000. Includes controversial "Punch List" capabilities.

Law Enforcement Agency (LEA) - Usually referred to as the individual officer or agency submitting a Court Order for electronic surveillance.

Law Enforcement OnLine (LEO) - Provides the law enforcement, criminal justice, and public safety communities a national focal point for electronic communication, education, and information sharing. The web-based LEO system, operated by the FBI, supports all levels and specialties within law enforcement, criminal justice, and public safety.

Local Access Transport Area (LATA) - A geographical area within which a divested Regional Bell Operating Company (RBOC) is permitted to offer regional toll and access services.

Local Area Network (LAN) - A geographically localized network located on an individual organization's premise. A LAN enables computer devices to communicate with each other as well as share and have access to peripherals such as printers, fax services, modem services and centralized databases.

Local Exchange - Geographic area determined by the appropriate state regulatory authority in which calls generally are transmitted without toll charges to the calling or called party. Several local exchanges may exist within a Local Access Transport Area (LATA).

Local Exchange Carrier (LEC) - Any person or entity that is engaged in the provision of telephone exchange service or exchange access. Any company authorized by the state public utility commission to sell local telephone service.

Local Exchange Routing Guide (LERG) - A resource common to the telecommunications industry that details area code, exchange and other assignments required for proper call routing. This comprehensive database is currently maintained by Telecorida Technologies.

Local Loop - The telephone line that runs from the local telephone company's end office switch to the end user's premise.

Local Number Portability (LNP) - The Federal Communications Commission (FCC) mandate that enables telephone subscribers to retain their dialable numbers when changing service providers within the same local area.

Major Trading Area (PCS Licenses) (MTA) - The primary category of Federal Communications Commission (FCC) geographical areas for Personal Communications Service (PCS) licenses. The country is divided into 50 MTAs, ranked by population within each area.

MetroPacket Switch (MPS) - Motorola component, within an Integrated Dispatch Enhanced Network (iDEN), which supports "direct connect" communications.

Metropolitan Service Area (Cellular Licenses) (MSA) - The primary category of Federal Communications Commission (FCC) geographical areas for cellular licenses.

Mobile Country Code (MCC) - A three-digit number, found within an International Mobile Subscriber Identifier (IMSI) that identifies the country in which the Global Systems for Mobile Communications (GSM) carrier is based.

Mobile Network Code (MNC) - A three-digit number, found within an International Mobile Subscriber Identifier (IMSI) that identifies the Global Systems for Mobile Communications (GSM) carrier in a specific country.

Mobile Subscriber Identification Number (MSIN) - A nine-digit number, found within an International Mobile Subscriber Identifier (IMSI) that identifies a particular subscriber of a specific Global Systems for Mobile Communications (GSM) carrier.

Mobile Subscriber ISDN (MSISDN) - The mobile telephone number assigned to a Global Systems for Mobile Communications (GSM) subscriber by the home carrier. In the United States the MSISDN adheres to the North American Number plan.

Mobile Switching Center (MSC) - The central switch of a Global Systems for Mobile Communications (GSM) network. The MSC has three main duties – switch calls, collect call detail records and supervise system operations. In an automatic cellular mobile system, the interface between the radio system and the public switched telephone network.

Multiplexing - A process that concentrates traffic by combining a large number of lower-speed transmission lines into one high-speed line by splitting the total available bandwidth of the high-speed line into narrower bands (frequency division), or by allotting a common channel to several different transmitting devices, one at a time in sequence (time division).

MUX - A multiplexing device. A device that combines multiple inputs into an aggregate signal transported via a single transmission channel.

Narrowband Integrated Services Digital Network (N-ISDN) - Standards-based voice and data network that operate over today's Time Division Multiplexing (TDM)-based switches and provides 144K and 1.544 Mbps.

Network Equipment Building Standards (NEBS) - Defines a set of performance, quality, environment and safety requirements for carrier class telecommunications equipment. NEBS compliance is usually required by telecommunications service providers for equipment installed in their switching offices. Level 3 represents the highest ranking.

North American Numbering Plan (NANP) - A standard format for telephone numbers used throughout the United States (NPA) NXX-line #. A 10-digit number including an area code, an exchange (NXX) and four final digits.

Number Portability (NP) - The ability for end-users to retain their telephone number when they change service providers, location or their service.

Open Systems Interconnection Model (OSI) - An international set of rules for computer networking that creates open standards to allow a computer on any network to share information with any other computer on that network or a connected network.

Operations Support System (OSS) - Methods and procedures that support the daily operation of a carrier's infrastructure, including order processing and equipment assignment.

Operations, Administration, and Maintenance (OAM) - A group of network management functions that provide information and specifics to manage a system or network such as performance information, network fault indications, and data and diagnosis functions.

Optical Carrier One (OC-1) - Bit rate of 51.84 Mbps and capacity of 28 DS-1s.

Optical Carrier Three (OC-3) - Bit rate of 155.52 Mbps and capacity of 84 DS-1s.

Optical Carrier Twelve (OC-12) - Bit rate of 622.08 Mbps and capacity of 336 DS-1s.

Packet Assembler / Disassembler (PAD) - A functional unit that enables data terminal equipment (DTE) not equipped for packet switching to access a packet-switched network.

Packet Switching - The technique by which a stream of data is broken into standardized "packets," each of which contains address, sequence, control, size, and error checking information, in addition to the user data. Packet switches operate on this added information to move the packets to their destination in the proper sequence and again present them in the correct continuous stream.

Pen Register - See generally 18 U.S.C. 3121, et seq. Pursuant to these provisions, a law enforcement agency may be authorized to acquire certain outgoing dialing, routing, addressing, or signaling information.

Personal Communications Services (PCS) - Radio communications operating within the 2 GHz band of the electromagnetic spectrum (from 1850 to 1990 MHz), which encompass mobile and ancillary fixed communication services, including a family of communications devices utilizing very small, lightweight, multifunction portable phones, portable facsimile and other imaging devices, new types of multifunction cordless phones, and advanced devices with two-way data capabilities. .

Plain Old Telephone Service (POTS) - The traditional telephone service for the transmission of speech across the telephone network.

Point of Presence (POP) - A long distance company's switch that is connected to the local telephone company's central office. The POP is the point at which telephone and data calls are handed off between local telephone companies and long distance telephone companies.

Port - An interface location that provides a point of access for peripheral equipment, such as central office lines.

Primary Inter-LATA Carrier Code (PIC) - This code is associated with the customer profile of every phone subscriber, and is used to route to the customer's pre-selected long distance carrier.

Primary Rate Interface (PRI) - This is a narrowband Integrated Services Digital Network (ISDN) interface standard for high-speed ISDN service. Within the US, this provides 23 channels of data and/or voice traffic.

Private Branch Exchange (PBX) - Equipment used to switch telephone calls within a business or closed environment and also for that environment to outside lines.

Public Switched Telephone Network (PSTN) - The current narrowband-based telephone network that was designed for voice traffic. The landline telephone system.

Pulse Code Modulation (PCM) - An analog to digital conversion technique. It is used to convert voice for transmission over digital facilities. It is also used to convert voice analog data to digital data for transmission in a multiplexed voice and data stream over T1 or other digital circuit.

Push-to-Talk (PTT) - Simplex, or "Walkie-Talkie" type communications.

Regional Bell Operating Company (RBOC) - Regional companies formed after the divestiture of AT&T in 1984. At the time of the divestiture, there were seven companies. In today's competitive environment, they are typically referred to as Incumbent Local Exchange Carriers (ILECs)

Rural Service Area (RSA) - The FCC's secondary (smaller) geographic subdivision of cellular radio licenses.

Second Generation (2G) - In mobile telephony, the use of digital encoding and technologies that include Global System for Mobile Communications (GSM), time division multiple access (TDMA), and code division multiple access (CDMA). Such networks are in use worldwide and support high bit rate voice and limited data communications. Most 2G protocols offer data, fax, and short message service (SMS), as well as different levels of encryption.

Second Generation Plus (2.5G) - Mobile telephony protocols that extend 2G systems to provide additional features.

Service Profile Identifiers (SPID) - An ISDN telephone number. ISDN devices use SPID numbers when accessing the telephone company's switch to identify the device it would like to be connected to. In the United States, SPID numbers can look like ordinary public-service telephone numbers with an extension, such as 972-555-1212 4455. There is one SPID for each B channel.

Short Messaging Service (SMS) - The transmission and receipt of short text messages. This term most often refers to such messaging between handsets in a digital wireless network.

Signaling Connection Control Part (SCCP) - Provides additional routing and management functions for transfer of messages other than call setup between signaling points.

Signaling System 7 (SS7) - Delivers out-of-band signaling that provides fast call setup by means of high-speed, circuit-switched connections and transactions capabilities that deal with remote database interactions. SS7 makes such enhanced telephony features as caller ID, call forwarding, and call waiting widely available and plays an integral role in the deployment of ISDN. The SS7 protocol consists of four basic sub-protocols: Message Transfer Part (MTP), Signaling Connection Control Part (SCCP), Integrated Services Digital Network User Part (ISUP), and Transaction Capabilities Application Part (TCAP).

Subscriber Identity Module (SIM) - The "smartcard" which contains a user's service information. The SIM card has four main functions in the Global Systems for Mobile Communications (GSM) network. 1) authentication; 2) storage of data; 3) assist in encryption process; and 4) subscriber protection via PIN/PUK.

Super Data-Node Module / Fault Tolerant (SDM/FT) - The component in a Nortel wireless network which facilitates provisioning for electronic surveillance. One is required for each switch.

Synchronous Optical Network (SONET) - An interface standard for synchronous 2.46-Gb/s optical-fiber transmission, applicable to the Physical Layer of the Open Systems Interconnection Model (OSI) Reference Model.

T1 - Standard telephone carrier system handling 24 circuits. A digital transmission link capable of handling 1.544 Mega bits per second.

T-3 - 28 T-1 lines.

Tandem Network - An arrangement of voice switches that enables calls to be routed through two or more switching centers in tandem fashion, such that each end office switch does not need to be directly connected to each other.

Tandem Switch - A voice switch that is designed primarily with trunk interfaces rather than subscriber interfaces.

Telephony-Grade - 99.9994% uptime or the higher reliability standard circuit switches require (translating into 3 minutes of downtime a year), as supposed to the "carrier-class" reliability standard of 99.999% (called "five-nines").

Third Generation (3G) - Technologies for wireless systems that provide high-speed wireless access to wideband multimedia services wherever spectrum and licenses are made available. 3G technology allows for both voice and data transmission at higher rates of speed.

Time Division Multiple Access (TDMA) - A method for transmitting information over the air in a digital format. TDMA divides a radio channel into time slots and allocates customer information to these slots, thus allowing more than one user to access the radio channel at the same time

Time Division Multiplexing (TDM) - A multiplexing scheme in which numerous signals are combined for transmission on a single communications line or channel. Each signal is broken up into many segments, each having a very short duration and specific time slots within the channel. The slots are assigned whether or not any signals are available for transmission.

Title III - The provision of the Omnibus Crime Control and Safe Streets Act of 1968 (Pub. L. No. 90-351, 82 Stat. 212) that, among other things, authorizes electronic surveillance.

Transcoder Rate Adapter Unit (Nextel / iDEN) (TRAU) - The Motorola device in an Integrated Dispatch Enhanced Network (iDEN) that "decodes" the proprietary communications protocol.

Transmission Control Protocol / Internet Protocol (TCP/IP) - A network protocol that controls host-to-host transmissions over packet-switched communication networks.

Trap and Trace Device - See generally 18 U.S.C. 3121, et seq. Pursuant to these provisions, a law enforcement agency can be authorized to acquire certain dialing, routing, addressing, or signaling information.

Trunk - The line of communication between switching systems. Groups of cables or fiber optic circuits used to carry telecommunications signals from one location to another.

User Datagram Protocol (UDP) - In the Internet Protocol suite, a standard, low-overhead, connectionless, host-to-host protocol that is used over packet-switched computer communications networks, and allows an application program on one computer to send a datagram to an application program on another computer.

Vector-Sum-Excited Linear Prediction (VSELP) - The Motorola proprietary encoding protocol used in iDEN networks (i.e. Nextel).

Virtual Private Network (VPN) - A network environment in which special security features (i.e. encryption schemes) are utilized to ensure access by authorized persons alone.

Visitor Location Register (VLR) - A switch database that temporarily holds information about a subscriber seeking connection to the network. The VLR stores information required to allow a customer access and support service on the host network.

Voice over ATM (VoATM) - The process of transmitting voice traffic across an Asynchronous Transfer Mode (ATM)-based packet network.

Voice over DSL (VoDSL) - The process of transmitting voice traffic across a Digital Subscriber Line (DSL)-based packet network. Using a greater range of frequencies over the existing copper line makes this increase in bandwidth possible.

Voice over IP (VoIP) - The process of transmitting voice traffic across an Internet Protocol (IP)-based packet network.

Voice over Packet (VoP) - The process of transmitting voice traffic across any kind of packet network.

Wide Area Network (WAN) - A physical or logical network that provides data communications to a larger number of independent users than are usually served by a local area network (LAN) and is usually spread over a larger geographic area than that of a LAN.

X.25 - Packet service used by telecommunications carriers.

Data Collection System (DCS) 3000

User Guide

Addendum 1

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DCS 3000 Updates

The Data Collection System (DCS) 3000 suite of applications was developed to assist Law Enforcement Agencies (LEAs) with the collection and processing of data in court-ordered electronic surveillance operations.

The DCS 3000 User Guide was developed to provide system users with step-by-step instructions for using the DCS 3000 application suite. This addendum addresses three features:

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Note:

For FBI Use Only:

These applications will not function outside of the FBI environment. Distribution of this addendum is limited to within the FBI. applications are not default DCS 3000 applications

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