

# Connecting a Network Management Console

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Console interfacing can be established by connecting to the CONSOLE serial port on the back panel of the Catalyst 3000. Use this connection to set up:

- In-band management, which is the management of the Catalyst 3000 “through” the network using NMS applications such as:
  - Simple Network Management Protocol (SNMP)
  - Telnet sessions)
- Out-of-band management, which is management “outside” of the network (using a direct console connection)

NMS application (in-band management) is discussed in Chapter 9, “Monitoring Port Activity with Application Software.” For more detailed information, see the guide that accompanies the NMS software.

This chapter explains how to connect and create a console session for configuration, monitoring, and downloading the Catalyst 3000.

The following topics are discussed in this chapter:

- Connecting the Console
- Encountering Communication Problems
- General Guidelines
  - Password Menu and Navigating Within the Menus
- Main Menu Screen
- Download Menu From the Main Menu
- Reset Menu

## Connecting the Console

The following steps explain connecting a console to the Catalyst 3000:

- Step 1** Connect the Catalyst 3000 to a PC or other DTE (Data Terminal Equipment) device using a straight, 25-pin to 9-pin EIA (RS)-232 cable and a null modem adapter. See Appendix A for a description of the cables and adapters.
- Step 2** Connect the EIA-232 cable to the DB-9 connector (CONSOLE) on the back panel of the Catalyst 3000. The male DB-9 connector on the Catalyst 3000 is configured as a DTE device.

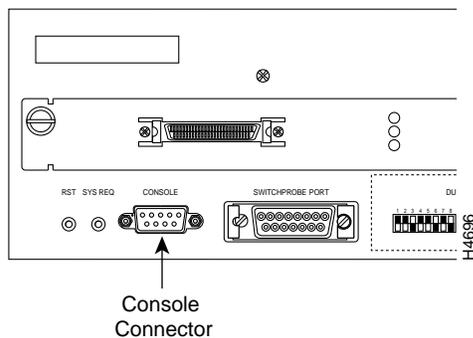
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**Note** EIA/TIA-232 and EIA/TIA-449 were known as recommended standards RS-232 and RS-449 before their acceptance as standards by the Electronic Industries Association (EIA) and Telecommunications Industry Association (TIA).

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See Figure 6-1 for a view of the cable connection to the back panel of the Catalyst 3000. The console cable connector is marked CONSOLE.

**Figure 6-1 Catalyst 3000 Console Connector**



- Step 3** Use the following table, Table 6-1, to set the console configuration parameters.

**Table 6-1 Console Configuration Default Settings**

Baud rate	2400, 4800, 9600, 19.2K, 38.4K, 57.6K (default: 9600)
Parity	None
Data bits	8
Stop bits	1
Handshaking	None
Terminal emulation	VT100
Duplex	Full
Soft flow control (XON/XOFF)	Off (input and output)
Hard flow control (RTS/CTS)	Off
Autobaud upon break	On
Line wrap	On
Screen scroll	On
CR translation	CR
Backspace (BS) translation	Destructive
Break length (milliseconds)	350
Enquiry (ENQ)	Off
EGA/VGA true underline	Off
Terminal width	890
ANSI 7 or 8 bit commands	7
Microsoft Windows, terminal emulation	Disable the "Use Function, Arrow, and Ctrl Keys for Windows" option, located in the Terminal Preference menu

**Step 4** At power on (cold boot), the Catalyst 3000 performs a series of self-test diagnostics that verify that hardware components are functioning. An example of the self-test diagnostic screen is shown later in this chapter.

### Encountering Communication Problems

The three main types of communications problems you may encounter are, no communication, garbled communication, or dropped characters. This section explains how to resolve these problems.

- No communication
  - Check the cables and physical connections.  
You may need a null modem cable or adapter.
  - Check the handshaking configuration on both the terminal configuration and the Catalyst 3000.  
If you use handshaking, you must use either a 7-wire or a 9-wire cable.



**Caution** Hardware handshaking must be turned on at both the terminal and the Catalyst 3000 and you must have a 7-wire or a 9-wire cable to the terminal. If hardware handshaking is off and you are using a 3-wire cable, a catastrophic failure of the Catalyst 3000 could occur.

- Reset the unit only if this unit is being installed for the first time.

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**Note** Do not press the Reset button on the Catalyst 3000 if it is connected to other Catalyst 3000 units in a Stack configuration. Pressing the Reset button when a Catalyst 3000 is part of a Stack causes it to leave the Stack and may cause Stack configuration information to change.

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- Contact Cisco Support if the problem continues.

- Garbled communication
  - Make sure the baud rate on the Catalyst 3000 and the terminal match by using the Autobaud feature.
  - Check the terminal configuration. The configuration should be set to the following:
    - 1 Start Bit
    - 8 Data Bits
    - 0 Parity
    - 1 Stop Bit
  - Reset the Catalyst 3000 only if the unit is not part of a production network.

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**Note** Do not press the Reset button on the Catalyst 3000 if it is connected to other Catalyst 3000 units in a Stack configuration. Pressing the Reset button when a Catalyst 3000 is part of a Stack causes it to leave the Stack and may cause Stack configuration information to change.

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- Contact Cisco Support if the problem continues.
- Dropped characters
  - Reduce the baud rate in the console set-up; try setting it to 9600.
  - Enable the software or hardware handshaking feature.



**Caution** Hardware handshaking must be turned on at both the terminal and the Catalyst 3000 and you must have a 7-wire or 9-wire cable to the terminal. If hardware handshaking is off and you are using a 3-wire cable, a catastrophic failure of the Catalyst 3000 could occur.

- Contact Cisco Support if the problem continues.

### Diagnostic Screen

The diagnostic self-test displays two different screens (lists of information), depending on whether you perform a cold boot (power on cycle with full diagnostics), or a warm boot (a reset without full diagnostics).

During a cold boot, the following is an example of the list of messages that appear on the console screen in sequence, as the tests are performed. The warm boot contains portions of this list.

```
Cisco Catalyst Boot Firmware P/N 57-1327-02, Copyright 1995
- Initiating bootstrapping sequence.
- Boot image integrity check...Passed.
- Control transferred to boot process.

- Relocating main image to DRAM.....Done.
- Main image integrity check...succeeded.
- Control transferred to main process.

Cisco Catalyst 3000 System Software Version 1.1.1-B7, Copyright 1994,
1995.
System started on Fri. November 17, 1995 13:02:46
4 Megabytes System memory
2 Megabytes Network memory
- Initialization started
- File system initialized
- System temperature is within safe operating levels
- Warmboot initialization started
- Checking file system integrity
- LAN ports detected:
  - 10Base-T : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
  - StkPort : 25
- Initializing Ports: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 25
- Initializing system address table
- No existing diagnostic information, forcing diagnostic mode
- Starting Power Up Diagnostics test
  - UART loopback test on diagnostic port...Passed
  - UART loopback test on console port...Passed
  - RTC memory test...Passed
  - Real Time Clock test...Passed
  - CPU loopback test.....Passed
  - Ethernet Port loopback test.....Passed
  - Ethernet Port fast transmit loopback test.....Passed
  - Ethernet Port fast receive loopback test.....Passed
  - Ethernet Port cross port loopback test.....Passed
```

```
- Ethernet Port broadcast test.....Passed
- Catalyst Stack Port loopback test...Passed
- Catalyst Stack Port cross port loopback test...Passed
- Catalyst Stack Port broadcast test...Passed
- CPU broadcast test...Passed
- Completed Power Up Diagnostics test
- System entering stand-alone mode
- Catalyst initiating bootp requests on one or more VLANs
- System initialization complete
- Enabling port: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 25

Press RETURN key to activate console...
```

Verify that all diagnostics have passed and that the FAULT LED is off. If the FAULT LED is on, read the screen to determine which test has failed. Power cycle the Catalyst 3000 to re-run the diagnostics to see if that will clear the error. If the error does not clear, see Chapter 10, “Troubleshooting,” to help find the cause.

## General Guidelines

To work within the console menus, follow these guidelines:

- To select a menu item, use the arrow (also known as cursor) keys to move the highlight over the selection, then press **RETURN**. If you need to specify additional information for that item—for example, selecting Yes or No or supplying a value—a prompt appears on the screen.
- In most cases, new values are saved when you select Return to Previous Menu.
- The term More means there is more information that can be displayed on one screen. Selecting More and pressing **RETURN** displays the next screen of information.
- The term Port refers to the number of a specific port on a Catalyst 3000.
- The term Index refers to the numerical order of a list.
- The term Box refers to a specific Catalyst 3000 unit within a Stack configuration.
- To return to the Main Menu from any screen within the menus, press **Ctrl-P**. Note that any changes made to the screen you were in are not saved. To return to the Greeting screen, press **Ctrl-B**.
- If using Catalyst VLAN, be sure to set up IP, SNMP, and spanning tree values.

## General Guidelines

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- The console automatically returns to the Greeting screen after five minutes of inactivity. Five minutes is the default value. The time can be changed at the Console Configuration menu as explained later in this chapter. The Console Configuration menu is within the Configuration menu, under the Main Menu.
- For protection against inadvertent or unauthorized access to configuration screens, you may establish a password that users must enter at the Greeting screen (shown below). If a password is not configured, press **RETURN** and the Main Menu Screen is presented. To establish a password, use the Password Menu. The Password menu can be accessed through the Configuration menu, which is accessed through the Main Menu.

For more information on the Greeting screen see Chapter 7, “Console Configuration.”

Greeting Screen:

Cisco Catalyst Manager  
(c) Copyright Cisco, 1995-All rights reserved

MAC Address: FF FF FF FF FF FF

System Contact:

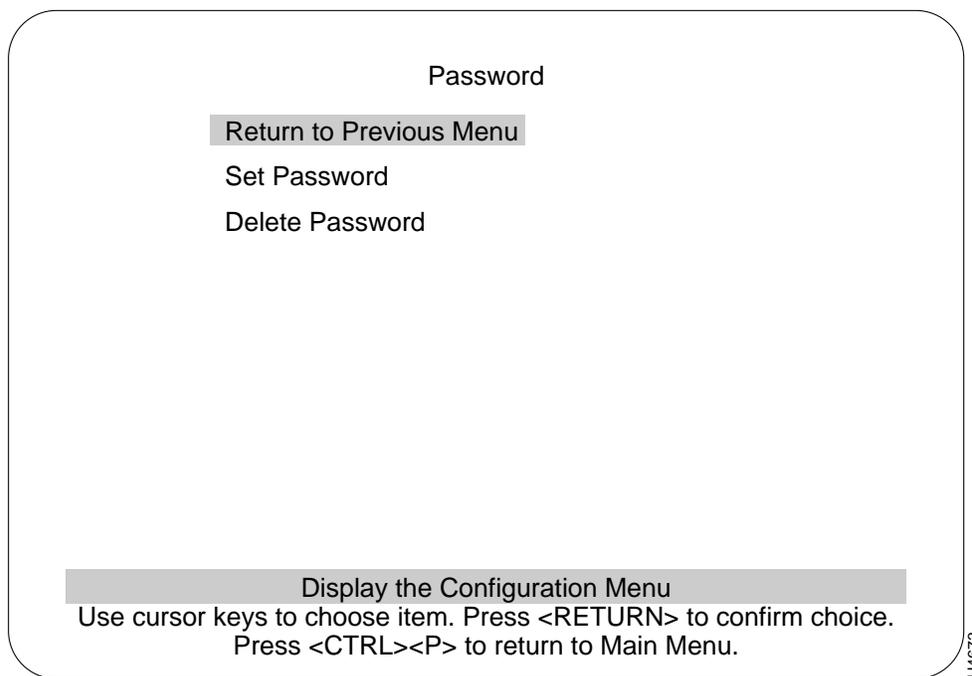
Type Password, then press <RETURN>:

-- No password has been set, press <RETURN> to continue --

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## Password Menu

Use the Password menu to add, change, or delete a password. If you establish a password, users must enter it to access the Console menus. If there is no password, just press **RETURN** at the password prompt.



## Set Password

Establishes or changes the password.

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**Note** The maximum length of the password is 15 characters.

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## General Guidelines

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### Delete Password

Deletes the password.

The system prompts you to enter the present password before it allows you to change or delete the password. If you are establishing a new password, press **RETURN** at the Set Password prompt.

The password is saved across warm boots and power cycles.

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**Note** The Catalyst 3000 must have a different password than the Catalyst Stack. If you have forgotten the password, you can delete it by depressing the **Sys Req** button on the back panel of the Catalyst 3000 for five seconds, releasing it, then selecting Clear Non-Volatile RAM from the menu that appears. You must then re-enter *all* system configuration information, including (if needed) reentering the key for the Enhanced feature set.

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### Navigating Within the Menus

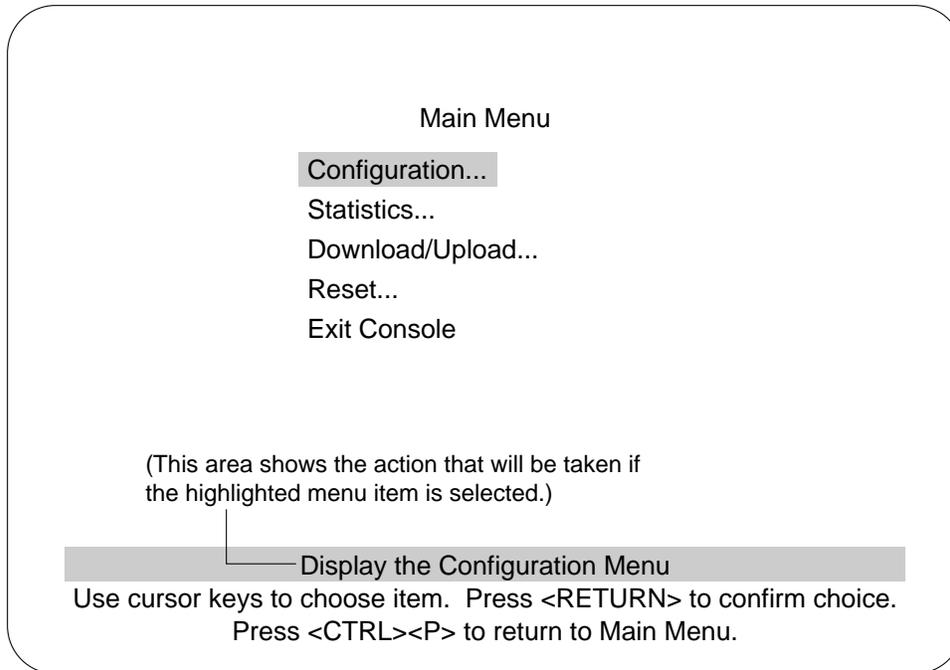
Use the arrow keys (also referred to as cursor keys) to move the highlight over a selection. If the selection is a menu, pressing the **RETURN** key displays a new screen of information; if the selection is a command, such as Reset, pressing the **RETURN** key initiates that function.

A heading with three dots after it means that when that heading is selected more information about that heading is displayed.

Unless specified differently, all the screens or menus are accessed in the same way.

The following lists the headings for the Main menu screen and a description of those headings.

## Main Menu Screen



## Configuration Menu

Displays the Configuration menu, which enables you to view and set the Catalyst 3000 configuration parameters. The Configuration section and its sub-menus are described in Chapter 7, “Console Configuration.”

## Main Menu Screen

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### Statistics Menu

Displays Statistics menu for the Catalyst 3000. Explanations of screens in the Statistics Menu are in Chapter 8, “Monitoring the Network With Out-of-Band Management.”

### Download/Upload Menu

Download Menu From the Main Menu is explained later in this chapter.

### Reset

The Reset Menu is explained in this chapter after the sections describing downloading.

### Exit Console

Highlighting this selection and pressing the **RETURN** key return the console to the Greeting screen (on a Telnet session, this causes the session to close).

Information within the menus and sub-menus are described in subsequent chapters. These chapters include configuring, monitoring, and viewing statistics on the Catalyst 3000 or the Catalyst Stack.

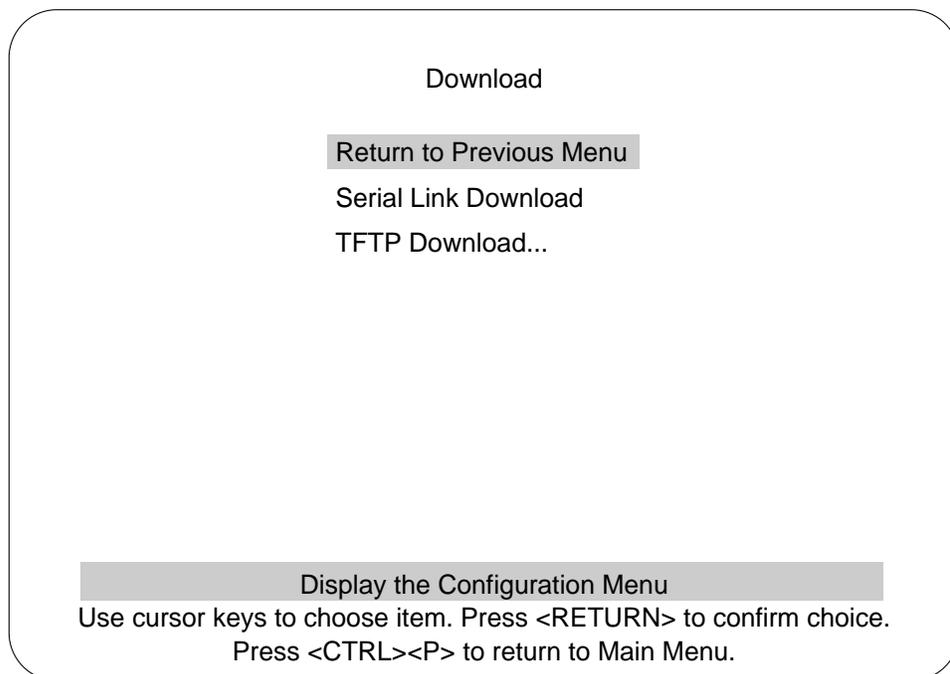
## Downloading

The following sections describe the downloading/uploading features for the Catalyst 3100.

### Download Menu From the Main Menu

The Download menu is accessed from the Main Menu.

Downloading is used to load the Flash Memory within the Catalyst 3000. The Download menu displays two download choices; Serial Link Download and Trivial File Transfer Protocol (TFTP Download). The following sections describe both types.



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## Downloading

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### Serial Link Download

Serial Link download is for downloading via the console. Selecting the Serial Link download displays a prompt requesting to “confirm new code download via serial port (Y or N).” Selecting Yes starts the Serial Link downloading. Follow the prompts as they are displayed.

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**Note** All of the Catalyst 3000 series switches in a Stack must be at the same software version. If changing software versions in a Stack, change all of the units to the same version at the same time. When Catalyst 3000 series switches have different versions and attempt to form a Stack, the console screen displays a warning and the Stack forming is halted.

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**Note** Downloading to an individual Catalyst 3000 while it is part of a Stack may cause conflicts within the Stack. Except for very specific situations, downloading to an individual switch should be done as a stand-alone unit. If the unit is part of a Stack, disconnect the Stack Port cable before downloading.

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### TFTP Download

TFTP is not invoked automatically on the Catalyst 3000 as it is on certain other network devices, such as a diskless workstation. This is because there should normally be a functional software image in Flash memory and, therefore, TFTP is not a standard part of the Catalyst 3000 bootup procedure. TFTP is intended for use during software upgrades and, once a new image is installed, there should be no need for TFTP until the next software upgrade is installed.

In view of this, the TFTP function in the Catalyst 3000 is designed as an explicitly requested operation with operator-settable parameters. Note that changes to these parameters may be altered and are used when starting a download in the display. However they are not recorded until the display is exited normally.

The TFTP Download menu is accessed through the Main Menu. From the Main Menu select the Download Menu and then select the TFTP Download Menu.

The following is the TFTP Download Menu:

TFTP Download

**Return to Previous Menu**

TFTP Server Address            192.216.254.39

Download VLAN                 default

Download Filename             /tftpboot/cat3\_111.gz

Execute Network Download

Execute Stack Network Download

**Display the Configuration Menu**

Use cursor keys to choose item. Press <RETURN> to confirm choice.  
Press <CTRL><P> to return to Main Menu.

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### TFTP Server Address

The address of the host serving as the TFTP server.

### Download VLAN

The VLAN name through which the download is attempted.

## Downloading

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### Download Filename

The file the Catalyst 3000 attempts to download, as it is to be received and interpreted by the TFTP server. (The security mode in use on the TFTP server may affect this.)

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**Note** By using Download VLAN's default server, if it has one, the file may be downloaded from another network location anywhere on the Internet from which the VLAN can get packets routed, even another directly connected VLAN. In the case of another directly connected VLAN, the Catalyst 3000 actually loads, or attempts to load, through the gateway and not ignore its Download VLAN parameter. If the Catalyst 3000 seems unable to reach a TFTP server to which it should have a direct or indirect route, the reason may be an incorrectly set Download VLAN.

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### Execute Network Download

The function Execute Network Download initiates the download. The screen displays which block it last received from the server (Block 0 if no reply has been received), until the last packet arrives. The Catalyst 3000 does not attempt to load any of the image into FLASH memory until it receives the final packet. Therefore, if the download is interrupted or cancelled for any reason before the transmission of the last packet, the previous system image remains intact in FLASH memory.



**Caution** Do not use this function for downloading to a Stack configurations



**Caution** If the process is interrupted during this time, the stored image may be corrupted and the Catalyst 3000 will not be able to boot normally.

If this happens, it is necessary to download to the Catalyst 3000 via its console port since the system boot image does not contain software capable of operating the Catalyst 3000 network hardware or understanding IP and TFTP protocols. During this fairly short vulnerable period of time, the diagnostic LED on the Catalyst 3000 blinks to indicate the clearing (slow blink) and reloading (faster blink) of FLASH memory. The screen also displays messages indicating these events.

Once the last packet has arrived, the Catalyst 3000 immediately begins clearing FLASH memory and then loading it with the new image.

The Catalyst 3000 continues to use its previously loaded software until its next reset by whatever means, then the newly stored image becomes functional.

### Execute Stack Network Download

Use this function for a Stack configuration. This function initiates downloading for the Stack. The procedure is similar to the above single stand-alone Catalyst 3000 download; however, the Stack download procedure downloads to the entire Stack of switches in one operation. (Downloading is done one switch at a time, until all of the switches are completed.)

When the Stack download procedure is used, only the same code or the same level of code can be downloaded for all of the switches in the Stack.

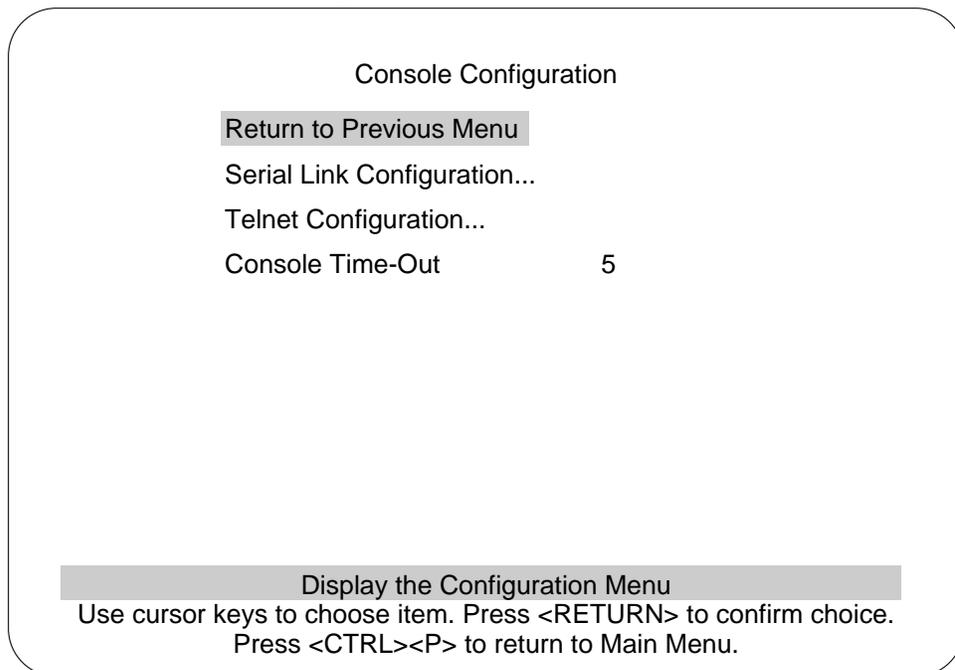
## Console or Telnet Sessions

This section describes how to establish a console or Telnet session.

### Console Configuration

The explanation for the selections in the Console Configuration menu follows the view of the Console Configuration screen.

Console Configuration screen:



### Serial Link Configuration

An example of that screen and an explanation of its contents follows.

## Telnet Configuration

An example of that screen and an explanation of its contents follows.

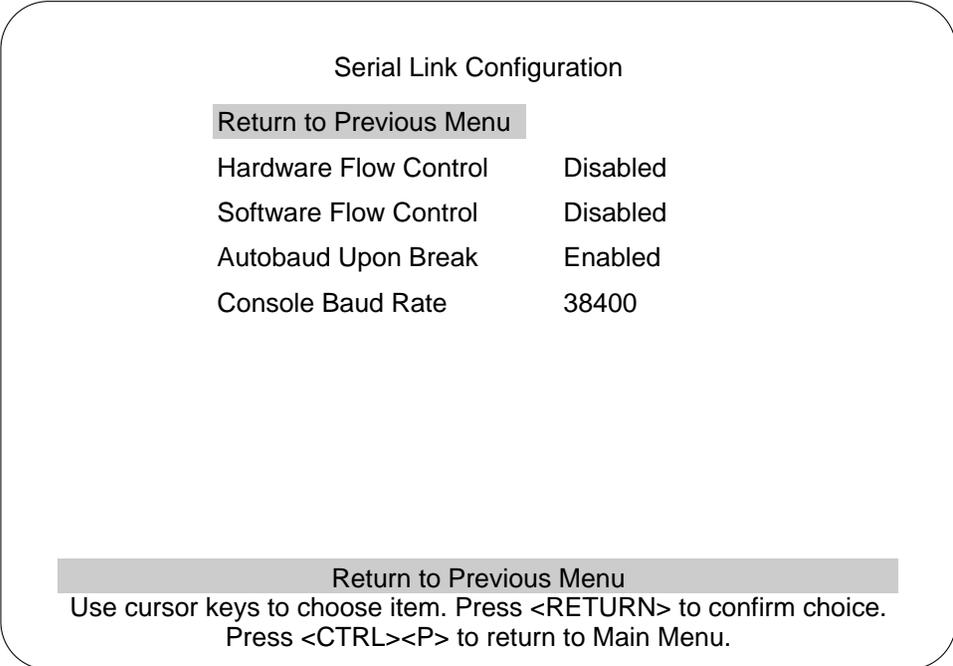
## Console Timeout (in minutes)

A value that can be set to determine when the console session will timeout and return to the Greeting menu. If the value is set to zero, the console will never time out.

## Serial Link Configuration Menu

Use the Serial Link Configuration Menu to configure the Catalyst 3000 to communicate with the console via modem. The default baud is 9600.

### Serial Link Configuration Menu



Serial Link Configuration

<b>Return to Previous Menu</b>	
Hardware Flow Control	Disabled
Software Flow Control	Disabled
Autobaud Upon Break	Enabled
Console Baud Rate	38400

**Return to Previous Menu**  
Use cursor keys to choose item. Press <RETURN> to confirm choice.  
Press <CTRL><P> to return to Main Menu.

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## Console or Telnet Sessions

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### Hardware Flow Control

Enables or disables RTS/CTS handshaking.

Default: Disabled

### Software Flow Control

Enables the XON and XOFF characters, which are 11 and 13 hex, respectively.

Default: Disabled

### Autobaud Upon Break

Enables the Autobaud feature. When a BREAK key is sent or received the baud rate is reset when you press the RETURN key rapidly for five seconds. It is recommended that this feature is not disabled.

Default: Enabled

### Console Baud Rate

Default: 9600

## Creating a Console Session Using a Modem

Use the Serial Link Configuration Menu to configure the Catalyst 3000 in order to communicate with a console via a modem.

Use the following steps to set up a modem:

- Step 1**    *Wait for a Connection* should be set to 45 sec.
- Step 2**    *Pause Between Calls* should be set to 6 sec.
- Step 3**    Have *Autobaud detect* On.
- Step 4**    Set *Drop DTR* (Data Terminal Ready) *between calls* to Yes.
- Step 5**    Set *Send CR between calls* to Yes.
- Step 6**    Set *Send init if CD high* to Yes

Start the console by pressing RETURN. If a Telnet session is active, press RETURN at the console to terminate the Telnet session and press RETURN again to start the console session.

## Stopping the Console Session

Pressing **Ctrl-P** returns the console session to the Main Menu and pressing **Ctrl-B** returns to the Greeting Menu.

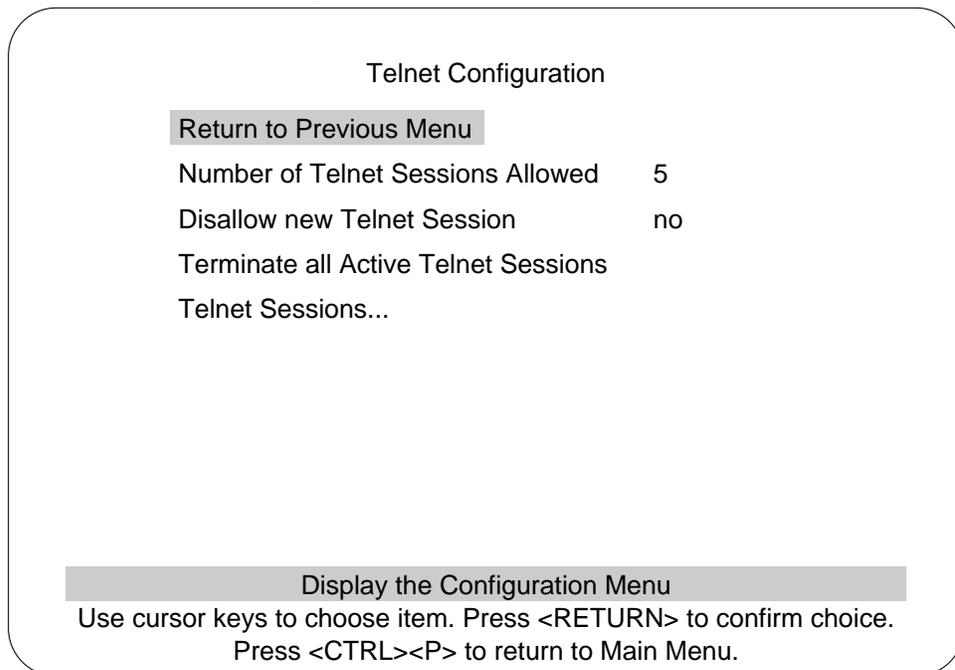
## UNIX Users

A Telnet session can be terminated abnormally in a UNIX environment, especially by being killed by another process. If the user environment seems to have locked after termination of the Telnet session, try typing `<CTRL><J>stty sane<CTRL><J>`. Because the Telnet Server is doing the echoing for the user, the user's terminal capabilities are modified for the duration of the Telnet Session due to the Telnet option negotiation. If the user's Telnet process or task is abruptly terminated, the user's terminal may be left in a no-echo, raw mode.

### Telnet Configuration

The following menu and functions describe Telnet configurations.

Telnet configuration screen



#### Return to Previous Menu

Returns to Console Configuration menu.

#### Number of Telnet Sessions Allowed

Limits the number of Telnet sessions. Numbers allowed are from 1 to 5. Highlight this selection and press **RETURN** and enter the number.

**Disallow New Telnet Session**

Choice of Yes or No to allow or disallow a new Telnet session. Press RETURN at this selection and use arrow keys to highlight Yes or No and press RETURN.

**Terminate All Active Telnet Sessions**

If this selection is highlighted and RETURN is pressed any Telnet sessions will be terminated.

**Telnet Sessions...**

Shows status of Remote and Local Telnet sessions.

Telnet Sessions screen

Telnet Sessions						
		--- Remote ---		--- Local ---		
Index	Box	IP	Port	IP	Port	Status
1	1	192.216.254.19	16	192.216.254.41	8	Open

**Return**      Close Session

**Return to Previous Menu**

Use cursor keys to choose item. Press <RETURN> to confirm choice.  
Press <CTRL><P> to return to Main Menu.

H4670

## Console or Telnet Sessions

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### Index

Numerical order of entries.

### Box

The number ID of the Catalyst 3000 in a Stack.

### Remote

Lists the IP address and the port number of the Remote Telnet session.

### Local

Lists the IP address and the port number of the Local Telnet session.

## Starting the Telnet Session

The observe the following when starting a Telnet session to the Catalyst 3000.

- In the IP Information menu, the IP State must be set to “BootP When Needed” or “BootP Always” for the IP Stack and Telnet to work.
- The Telnet must be pre-configured to have a VT100/VT220 compatible setup.
- Only one type of session is supported at any time, either the console or Telnet session. Starting a Telnet session before ending the console session causes the screen to display a “Console is currently in use” message.
- There may be conflicts between Telnet sessions. If one Telnet session is disrupted by a user at the console, the Telnet session’s configuration may not have been completed. In some menus, changes take effect immediately, as in adding filters, and in other menus, such as STP, the changes are not saved until the menu is exited.

## Stopping the Telnet Session

The Telnet session can be terminated by pressing **Ctrl-B** or any other means available through the user's Telnet application.

## Involuntary Termination of the Telnet Session

The following can terminate a Telnet session:

- A Telnet session can be terminated involuntarily by the console. If a user starts a console session when a Telnet session is active, the Telnet session can be terminated without warning. When the Telnet session ends, the Telnet session screen displays the message: "Your session has been terminated due to system maintenance work."
- If any changes are made in the spanning tree configuration.
- The Telnet session also ends if a user makes changes in any of the following IP parameters:
  - IP address
  - Default gateway
  - Subnet mask
  - IP state
- The Telnet session also times out if there has been no activity for 5 minutes.

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**Note** If you are in a Telnet session and change the IP parameters either in the IP Information Session menu or Catalyst VLAN IP Configuration menu, and save the changes using the Exit option from the menu, you will lose the connection to your Telnet session, even if the IP parameters you change are in another VLAN.

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# NVRAM TFTP Upload and Download

TFTP Upload/Download allows you to copy the whole image of NVRAM to a file on a UNIX server and to retrieve the NVRAM image from the server to the switch. The purpose for this is to store a current copy of the NVRAM as a backup or to be able to store the contents of NVRAM in a temporary place while changes are made on the switch. You will need to go to three menus, as describe in the following sections, before you can begin the actual upload and download procedures.

Do not download NVRAM images from different software versions (for instance, NVRAM from version 1.3 is not compatible with version 2.0) and from different platform configurations (for instance, NVRAM from a Catalyst 3000 is not compatible with NVRAM from a Catalyst 3000).

## Upload Procedures

*Before* uploading the whole NVRAM image to a UNIX server, make sure the upload file names have been created on the UNIX server and that the following default values are entered correctly in the Config Files TFTP Upload menu:

- The name of the config file on the switch. The default is all. All is the complete NVRAM image of the switch.
- The name of the NVRAM image file on the server. The default is image. It is a TFTP requirement that this file exist on the server and be world writable. The name that is entered here is just the prefix part of the actual file.

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**Note** A file must be created for every box in the Stack. The naming convention for the files must be <arbitrary filename>.<box number>. The prefix name of the file is arbitrary, but the suffix number must correlate with the switch box number in a Stack. For example, mystack.0 is box 0, mystack.1 is box 1, mystack.2 is box 2, up to mystack.7 as box 7.

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Use the following single switch or Stack console menu examples (Figure 6-2 and Figure 6-3) to TFTP upload the file.

**Figure 6-2 Config Files TFTP Upload Menu in a Single Switch Configuration**

Main Menu

Return to Previous Menu

Config Filename (all for complete NVRAM image) all

Filename on the server ( your filename prefix) Anyname

Execute Config File Network Upload

**Figure 6-3 Config Files TFTP Upload Menu for a Stack Configuration**

Config files TFTP Upload Menu

Return to Previous Menu

Config Filename (all for complete NVRAM image) all

Filename on the server ( your filename prefix) Anyname

Execute Config File Switch Network Upload

Execute Config File Stack Network Upload

In a Stack configuration, there are options to upload the NVRAM image from an individual switch as well as from all the switches in the Stack. The heading Execute Config File Switch Network Upload in the Config Files TFTP Upload menu uploads individual boxes and the heading Execute Config File Stack Network Upload uploads for the entire Stack.

### Download Procedures

You do not need the filename suffix (.xx box number) to download the software to the switch. This is automatically done from the switch from which you want to download the software.

The switch or Stack should be reset after a successful download of the the NVRAM image.

As with uploading you should enter the following information into the Config Files TFTP Download menu (see Figure 6-4):

- The name of the config file on the switch. The default is all. All is the complete NVRAM image of the switch.
- The prefix name of the NVRAM image file on the server. The default is image.



**Caution** Do not download NVRAM images from different software versions (for instance, NVRAM from version 1.3 is not compatible with version 2.0) and from different platform configurations (for instance, NVRAM from a Catalyst 3000 is not compatible with NVRAM from a Catalyst 3000).

Use the following menu (Figure 6-4) to TFTP download the NVRAM file for a single switch.

**Figure 6-4** Config files TFTP Download Menu for a Single Switch

```
Config files TFTP Download

Return to Previous Menu
Config Filename           all
Filename on the server    Image
Execute Config File Network Download
```

## Stack Procedure

You can either upgrade the NVRAM on one switch of your choice or upgrade the software for the entire Stack.

In a Stack configuration, there are options to download the NVRAM image from an individual switch as well as from all of the switches in a Stack. The heading Execute Config File Switch Network Download in the Config Files TFTP Download menu downloads individual boxes and the heading Execute Config File Stack Network Download downloads the entire Stack.

If you choose Execute Config File Stack Network Download to download a Stack of boxes, the files with the suffix names (.xx) that correspond to the same box number will download the image in that file to that box number. For example, mystack.0 will download its image to box 0, mystack.4 will download to box 4 and mystack.7 would download to box 7.

Use the following menu (Figure 6-5) to TFTP download the NVRAM file for a Stack.

**Figure 6-5** Config files TFTP Download Menu for a Stack

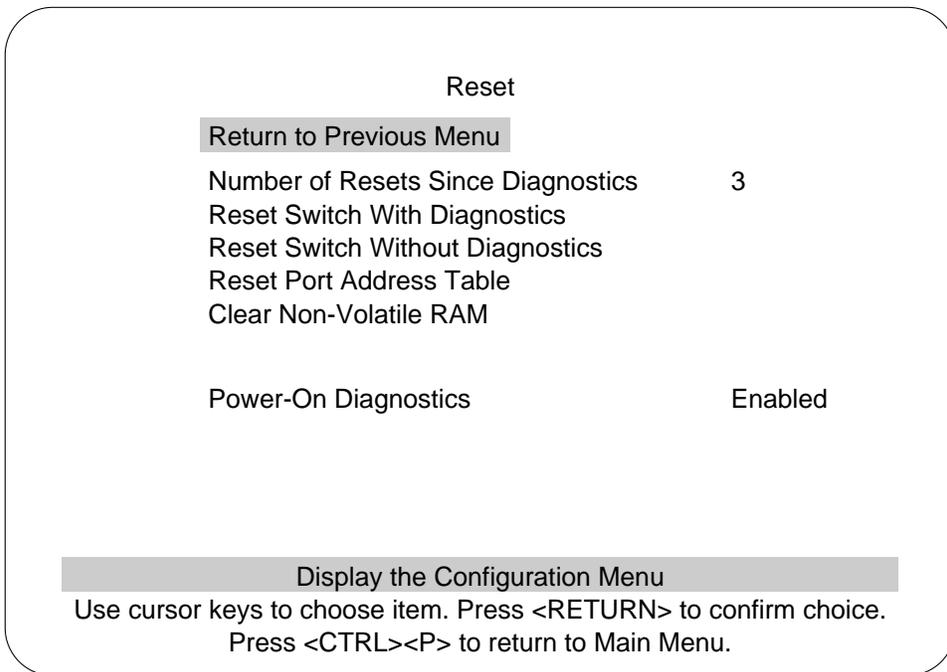
```
Config files TFTP Download

Return to Previous Menu
Config Filename                all
Filename on the server         Image
Execute Config File Switch Network Download
Execute Config File Stack Network Download
```

## Reset Menu

The Reset menu is accessed from the Main Menu.

The Reset screen, as shown below, displays the reset options available with the Catalyst 3000.



### Number of Resets Since Diagnostics

Number of times the switch has been reset since the switch was powered on or ran power-on diagnostics. This is an informational heading. The data cannot be changed.

This number is not reset to 0 when Non-volatile RAM is cleared.

The following four headings within the Reset menu are command functions that can be selected and initiated by moving the highlight over the heading and pressing RETURN.

### Reset Switch With Diagnostics

A reset function is initiated with this selection. It resets the switch hardware; runs diagnostic tests; clears all counters, including address tables; and restarts the Catalyst 3000. When the Catalyst 3000 reboots, administrative parameters from nonvolatile memory are used to initialize the operational parameters. This takes approximately 4 to 5 minutes.

### Reset Switch Without Diagnostics

This command resets the switch hardware; clears all counters, including address tables; and starts the Catalyst 3000. When the Catalyst 3000 reboots, administrative parameters from nonvolatile memory are used to initialize the operational parameters. This takes approximately 40 seconds.

### Reset Port Address Table

Selecting this command clears all address table entries for a specified port (user is queried for which port to reset), sets port traffic counters to zero, and sets Time Since Last Reset for this port to zero.

### Clear Nonvolatile RAM

Deletes all user-configured parameters; baud rate, IP address information, EtherChannel, VLAN, Spanning Tree, and then resets the switch.

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**Note** Clearing NVRAM erases all configuration parameters, including the Enhanced feature key.

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## Reset Menu

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If you must clear NVRAM, use the following guidelines:

- If you are using the EtherChannel feature, be sure to disconnect the affected ports—or disable them on the Port Configuration menu and reset the switch—*before* clearing NVRAM.
- If you are using the Spanning Tree option, be aware that port costs and priorities are lost, which may result in loops. Use the menus to re-establish port costs and priorities, then reset the switch to make the new parameters take effect.
- To re-enable the Enhanced feature set, see Chapter 7, “Console Configuration.” For units shipped with the Enhanced feature set, the key that is used to enable the enhanced features is on the bottom of the unit.

## Power-On Diagnostics

This is a selectable option that determines whether diagnostics are, or are not, initiated during power-on. To change the selection, highlight the heading and press **RETURN**, then select Enabled or Disabled, and press **RETURN**.

Default: Enabled