

Performing a Basic Configuration of the Cisco 7010

This chapter describes the procedures for configuring your router, and contains the following sections:

- Starting the System and Observing Initial Conditions
- Software Configuration Register Settings at Startup
- Booting the Cisco 7010 for the First Time
- Using the Enable Secret and the Enable Password
- Configuring the Cisco 7010

To configure the Cisco 7010 from a console, you need to connect a terminal to the router's console port. Configuration requires access to the console port on the Route Processor (RP) or the 7000 Series Route Switch Processor (RSP7000) in your router.

This chapter guides you through a basic router configuration, which is sufficient for you to access your network. Complex configuration information is beyond the scope of this text, and can be found in the configuration publications listed in the section “If You Need More Configuration Information.”

If You Need More Configuration Information

The Cisco Internetwork Operating System (Cisco IOS) software running the router contains extensive features and functionality. The effective use of many of many of these features is easier if you have more information at hand. To obtain general information about documentation, call Customer Service at 800 553-6387 or 408 526-7208. Customer Service hours are 5:00 a.m. to 6:00 p.m. Pacific time, Monday through Friday (excluding company holidays). You can also send e-mail to cs-rep@cisco.com. You can also refer to the *Cisco Information Packet* that shipped with your router.

If You Need More Configuration Information

For additional information on configuring the Cisco 7010 router, the following documentation resources are available to you:

- UniverCD

This user guide and all Cisco Systems publications are available on UniverCD, which is Cisco's online library of product information. UniverCD is updated and shipped monthly, so it might be more up to date than printed documentation. To order UniverCD, contact a Cisco Sales or Customer Service representative.
- For systems with Cisco IOS Release 10.0 (1) or later, refer to the following publications:
 - *Router Products Configuration Guide*
 - *Router Products Command Reference*
 - *Troubleshooting Internetworking Systems*
- For systems with Cisco IOS Release 11.1(1) or later, refer to the following modular configuration and modular command reference publications, as appropriate for your configuration:
 - *Configuration Fundamentals Configuration Guide* (Module I)
 - *Configuration Fundamentals Command Reference* (Module I)
 - *Wide-Area Networking Configuration Guide* (Module III)
 - *Wide-Area Networking Command Reference* (Module III)
 - *Standard Network Protocols Configuration Guide* (Module IV)
 - *Standard Network Protocols Command Reference* (Module IV)
 - *Network Protocols Configuration Guide* (Module V)
 - *Network Protocols Command Reference* (Module V)
 - *Bridging and IBM Networking Configuration Guide* (Module VI)
 - *Bridging and IBM Networking Command Reference* (Module VI)
 - *Configuration Builder Getting Started Guide*
 - *Troubleshooting Internetworking Systems*

Starting the System and Observing Initial Conditions

When all interfaces are connected, perform a final check of all connections, then power up the system as follows:

- Step 1** Check the external power connection; the power-supply switch should be OFF.
- Step 2** At the power source end of the power cable, make sure the AC or DC connections are securely attached, and that the power source is within the range labeled on the back of the router.
- Step 3** Check the console terminal and make sure it is turned on.
- Step 4** When you have checked all of the connection points, turn ON the system.

The AC power LED on the AC-input power supply (or the input power LED on the DC-input supply) and the power LED on the front of the chassis will be on.

- Step 5** Listen for the system fans, which generate about 60 dBA.
- Step 6** Observe the boot process:
 - While the system initializes, the yellow boot error LED on the RP (or RSP7000) is on for about five seconds or less, then goes out when the boot is complete. If this LED stays on longer than ten seconds, or if it remains on after system initialization, a boot error has occurred. If necessary, refer to the *Cisco 7010 Hardware Installation and Maintenance* publication for troubleshooting recommendations.
 - The interface LEDs come ON and OFF in an irregular sequence. Some may come on and remain on, go out, and come on again for a short time. Some will stay on during the entire boot process if an interface is already configured and brought up (such as the EIP receive LED, which comes on steadily as it detects traffic on the line).
 - Wait until the system boot is complete before attempting to verify the status of interface processor LED indications.

Step 7 Observe the initialization process. When the system boot is complete (a few seconds), the RP (or RSP7000) begins to initialize the interface processors. During this initialization, the LEDs on each interface processor behave differently (most flash on and off). The enabled LED on each interface processor comes on when initialization has been completed, and the console screen displays a script and system banner similar to the following:

```
GS Software (GS7), Version 10.3(8)
Copyright (c) 1986-1995 by Cisco Systems, Inc.
Compiled Wed 10-May-95 11:06
```

Step 8 Configure the interfaces.

When you start up the router for the first time, the system automatically enters the **setup** command facility, which determines which interfaces are installed, and prompts you for configuration information for each interface. On the console terminal, after the system displays the system banner and hardware configuration, you will see the following System Configuration Dialog prompt:

```
--- System Configuration Dialog ---
At any point you may enter a questions mark '?' for help.
Refer to the 'Getting Started' Guide for additional help.
Default settings are in square brackets '[']. continue with
configuration dialog? [yes]:
```

You have the option of proceeding with the **setup** command facility to configure the interfaces, or exit from setup and use configuration commands to configure global (system-wide) and interface-specific parameters. You do not have to configure the interfaces immediately; however, you cannot enable the interfaces or connect them to any networks until you have configured them.

Many of the interface processor LEDs will not go on until you have configured the interfaces. To verify correct operation of each interface, complete the first-time startup procedures and configuration, then refer to the LED descriptions in the appendix “Reading LED Indicators” in the *Cisco 7010 Hardware Installation and Maintenance* publication to check the status of the interfaces.

If the system does not complete each of these steps, proceed to the chapter “Troubleshooting the Installation,” in the *Cisco 7010 Hardware Installation and Maintenance* publication, for troubleshooting recommendations and procedures.

Software Configuration Register Settings at Startup

Use the following information *only* if you have an RP running Cisco IOS Release 10.0 or later, or an RSP7000 processor in your Cisco 7010; otherwise, the RP uses a hardware configuration register, and you should refer to the section “Setting the Boot Jumper on the RP,” in the chapter “Installing the Cisco 7010,” for the appropriate settings.

Bits 0 through 3 of the software configuration register form the *boot field*. The boot field specifies a number in binary and functions as follows:

- When the boot field is set to either 0 or 1 (0-0-0-0 or 0-0-0-1), the system ignores any boot instructions in the system configuration file.
- When the boot field is set to 1 (the factory default), the system boots the first image in the onboard bootflash single in-line memory module (SIMM).
- When the boot field is set to 0, you must boot the operating system manually by giving a **b** (or **boot**) command to the system bootstrap program or *rom monitor*.

You can enter the **boot** command only, or include additional boot instructions with the command such as the name of a file stored in Flash memory or a file that you specify for booting from a network server. If you use the **boot** command without specifying a file or any other boot instructions, the system boots from the default Flash image (the first image in onboard Flash memory). Otherwise, you can instruct the system to boot from a specific Flash image (using the **boot system flash filename** command), or boot from a network server by sending broadcast TFTP requests (using the **boot system filename** command), or send a direct TFTP request to a specific server (using the **boot system filename address** command).

The **boot** command can also be used to boot images stored in the Personal Computer Memory Card International Association (PCMCIA) Flash memory cards located in slot 0 or slot 1 on the RSP2. If you set the boot field to any bit pattern other than 0 or 1, the system uses the resulting number to form a filename for netbooting.

To form this filename, the system starts with *cisco* and links the octal equivalent of the boot field value and the processor type in the following format:

cisco<bootfieldvalue>-<processorname>; for example, *cisco2-RSP* or *cisco2-RP*.

The system uses the filename to invoke the system image by netbooting. However, if the configuration file contains any boot instructions, the system uses those boot instructions instead of the filename it computed from the configuration register settings. You must set the boot field for the boot functions you require.

For more detailed information on the software configuration register features and Flash memory card functionality, refer to the *Cisco 7010 Hardware Installation and Maintenance* publication. For information on the **boot** command and function, refer to the section “Booting the Cisco 7010 for the First Time.”

Booting the Cisco 7010 for the First Time

The router is administered using the Cisco command interpreter, called the EXEC. You must boot and log in to the router before you can enter an EXEC command. For security purposes the EXEC has two levels of access to commands, user EXEC mode and privileged EXEC mode. To enter the privileged mode you must enter the enable secret password (which is optional, but must first have been saved in memory) on systems running Cisco Internetwork Operating System (Cisco IOS) Release 10.2(3) or later, or the enable password on systems running Cisco IOS releases prior to Release 10.2(3) or when using the boot ROM software.

At the ROM monitor prompt, view what is in onboard Flash memory using the following:

```
rommon 1 > dir bootflash:
  File size           Checksum           File name
  3277967 bytes (0x32048f)  0x6b331e30       rsp-k-m.103-8
rommon 2 >
```

If you have a 7000 Series Route Switch Processor (RSP7000) or a Route Processor (RP) with a PCMCIA Flash memory card in the Flash memory card slot, view the Flash memory PCMCIA card in slot 0 using the following:

```
rommon 2 > dir slot0:
  File size           Checksum           File name
  3054276 bytes (0x2e9ac4)  0x97788495       rsp-k-m.103-8
rommon 3 >
```

If you have an RSP7000, view the Flash memory PCMCIA card in slot 1 using the following:

```
rommon 2 > dir slot1:
  File size           Checksum           File name
  3054276 bytes (0x2e9ac4)  0x97788495       rsp-k-m.103-8
rommon 3 >
```

Boot from one of these images using the following:

```
rommon 3 > boot slot0:rsp-k-m.103-8 (or slot 1 with the RSP7000)
rommon 3 > boot bootflash:rsp-k-m.103-8
```

If you did not change the configuration register setting, the next reload will go back to the default configuration register setting. The factory default configuration register setting for systems is 0x102, and for RSP spares the default is 0x101.

Using the Enable Secret and the Enable Password

The commands available at the user level are a subset of those available at the privileged level. Because many privileged-level EXEC commands are used to set operating parameters, you should password-protect these commands to prevent unauthorized use.

There are two commands you can use to do this, depending on which release of the Cisco IOS software you have:

- **enable secret** *password* (which is a very secure, encrypted password).
- **enable** *password* (which is a less secure, or nonencrypted, password).

You must enter the correct password to gain access to privileged-level commands. The enable secret password is available in Cisco IOS Release 10.2(3) or later. When you are running from the boot ROM, the enable password might be used depending on your ROM level.

The passwords should be different for maximum security. If you enter the same password for both during the setup script, the system will accept it, but you will receive a warning message indicating that you should enter a different password.

An enable secret password can contain from 1 to 25 uppercase and lowercase alphanumeric characters; an enable password can contain any number of uppercase and lowercase alphanumeric characters. In both cases, a number cannot be the first character. Spaces are also valid password characters; for example, “two words” is a valid password. Leading spaces are ignored; trailing spaces are recognized.

Configuring the Cisco 7010

You can complete a basic configuration of the Cisco 7010 using one of the procedures described in the following sections:

- Performing a Basic Configuration Using AutoInstall
- Performing a Basic Manual Configuration Using the Setup Facility
- Performing a Basic Configuration Using the Configuration Mode

Follow the procedure that best fits the needs of your network configuration.

Note You will need to acquire the correct network addresses from your system administrator or consult your network plan to determine correct addresses before you can complete the router configuration.

Before continuing the configuration process, check the current state of the router by entering the **show version** command. The **show version** command will display the release of Cisco IOS software that is available on the router.

Performing a Basic Configuration Using AutoInstall

The AutoInstall process is designed to configure the router automatically after connection to your wide-area network (WAN). For AutoInstall to work properly, a Transmission Control Protocol/Internet Protocol (TCP/IP) host on your network must be preconfigured to provide the required configuration files. The TCP/IP host may exist anywhere on the network, as long as the following two conditions are maintained:

- 1 The host must be on the remote side of the router's synchronous serial connection to the WAN.
- 2 User Datagram Protocol (UDP) broadcasts to and from the router and the TCP/IP host must be enabled.

This functionality is coordinated by your system administrator at the site where the TCP/IP host is located. You should not attempt to use AutoInstall unless the required files have been provided on the TCP/IP host. See the appropriate software configuration publications for information on how AutoInstall works.

Take the following steps to prepare your router for the AutoInstall process:

- Step 1** Attach the appropriate synchronous serial cable to a synchronous serial interface on the router.
- Step 2** Turn ON power to the router.

The router will load the operating system image from Flash memory. If the remote end of the WAN connection is connected and properly configured, the AutoInstall process will begin. If the AutoInstall process completed successfully, you might want to write the configuration data to the router's nonvolatile random-access memory (NVRAM). Perform the following step to complete this task:

- Step 3** At the # prompt, enter the **copy running-config startup-config** command if you are running Cisco IOS Release 11.0 or later, or the **write memory** command if you are running a Cisco IOS release earlier than 11.0:

```
Hostname# copy running-config startup-config
```

Taking this step will save the configuration settings that the AutoInstall process created in the router. If you fail to do this, your configuration will be lost the next time you reload the router.

Performing a Basic Manual Configuration Using the Setup Facility

If you do not plan to use AutoInstall, do not connect the router's serial (WAN) cable to the channel service unit/data service unit (CSU/DSU). This will prevent the router from attempting to run the AutoInstall process. The router will attempt to run AutoInstall whenever you start it if the serial (WAN) connection is connected on both ends and the router does not have a configuration stored in NVRAM. It can take several minutes for the router to determine that AutoInstall is not set up to a remote TCP/IP host.

Once the router has determined that AutoInstall is not configured, it will default to the setup facility. If the serial (WAN) cable is not connected, the router will boot from Flash memory and go into the setup facility.

Note You can run the setup facility any time you are at the enable prompt (#) by entering the **setup** command.

Configuring the Global Parameters

When you first start the setup program, you must configure the global parameters. The global parameters are used for controlling system-wide settings. Use the following procedure to enter the global parameters:

- Step 1** Connect a console terminal to the console port on the RP and then boot the router to the user EXEC prompt (Router>).
- Step 2** When you have booted from Flash memory, the following information will appear after about 30 seconds. When you see this information displayed, you have successfully booted your router:

```
System Bootstrap, Version 5.3(0.3), SOFTWARE  
Copyright (c) 1986-1994 by cisco Systems  
RPl processor with 16384 Kbytes of main memory  
F3: 8336+3474931+165004 at 0x1000
```

Restricted Rights Legend

Use, duplication, or disclosure by the Government is subject to restrictions as set forth in subparagraph (c) of the Commercial Computer Software - Restricted Rights clause at FAR sec. 52.227-19 and subparagraph (c) (1) (ii) of the Rights in Technical Data and Computer Software clause at DFARS sec. 252.227-7013.

cisco Systems, Inc.
170 West Tasman Drive
San Jose, California 95134-1706

Cisco Internetwork Operating System Software
IOS (tm) GS Software (GS7-K), Version 10.3(8), RELEASE SOFTWARE (fc1)
Copyright (c) 1986-1995 by cisco Systems, Inc.
Compiled Wed 01-Nov-95 13:55 by vatran
Image text-base: 0x00001000, data-base: 0x0061E5B4

RP (68040) processor with 16384K bytes of memory.
G.703/E1 software, Version 1.0.
X.25 software, Version 2.0, NET2, BFE and GOSIP compliant.
Bridging software.
1 EIP controller (2 Ethernet).
2 FSIP controllers (4 Serial).
2 Ethernet/IEEE 802.3 interfaces.
4 Serial network interfaces.
128K bytes of non-volatile configuration memory.
4096K bytes of flash memory sized on embedded flash.
8192K bytes of Flash PCMCIA card at slot 0 (Sector size 128K).

Note The first two sections of the configuration script (the banner and the installed hardware) appear only at initial system startup. On subsequent uses of the **setup** command facility, the script begins with the System Configuration Dialog.

Notice: NVRAM invalid, possibly due to write erase.

--- System Configuration Dialog ---

At any point you may enter a question mark '?' for help.
Refer to the 'Getting Started' Guide for additional help.
Use ctrl-c to abort configuration dialog at any prompt.
Default settings are in square brackets '['].
Would you like to enter the initial configuration dialog? [yes]:

Step 3 Enter **yes** or press **Return** when asked if you want to enter the configuration dialog and if you want to see the current interface summary. Press **Return** to accept the default (yes):

Would you like to enter the initial configuration dialog? [yes]:

First, would you like to see the current interface summary? [yes]:

In the following example, the summary shows a router at first-time startup. That is, nothing has been configured, and the summary reflects that fact.

Any interface listed with OK? value "NO" does not have a valid configuration.

Interface	IP-Address	OK?	Method	Status	Protocol
Ethernet0/0	unassigned	NO	not set	down	down
Serial3/0	unassigned	NO	not set	down	down

Step 4 Choose which protocols to support on your interfaces. For Internet Protocol (IP)-only installations, you can accept the default values for most of the questions.

A typical minimal configuration using IP, IPX, and AppleTalk follows, and continues through Step 10:

Configuring global parameters:

Enter host name [Router]: **Router**

Step 5 Enter the enable secret password and the enable password:

The enable secret is a one-way cryptographic secret used instead of the enable password when it exists.

```
Enter enable secret: barney
```

The enable password is used when there is no enable secret and when using older software and some boot images.

```
Enter enable password: betty
```

Step 6 The Simple Network Management Protocol (SNMP) is the most widely supported open standard for network management. It provides a means to access and set configuration and run-time parameters of routers and communication servers. SNMP defines a set of functions that can be used to monitor and control network elements.

Enter **yes** or **no** to accept or refuse SNMP management:

```
Configure SNMP Network Management? [yes]:  
Community string [public]:
```

Step 7 For the following query, do not enable CLNS:

```
Configure CLNS? [no]: no
```

Step 8 For the following queries, enable routing on AppleTalk and IPX:

```
Configure AppleTalk? [no]: yes  
Multizone networks? [no]: yes
```

```
Configure IPX? [no]: yes
```

Step 9 For the following queries, do not enable Vines, XNS, DECnet, or bridging:

```
Configure Vines? [no]: no  
Configure XNS? [no]: no  
Configure DECnet? [no]: no  
Configure bridging? [no]: no
```

Step 10 In most cases you will use IP routing. If you are using IP routing, you must also select an interior routing protocol. You can specify only one of two interior routing protocols to operate on your system using setup: Interior Gateway Routing Protocol (IGRP) or Routing Information Protocol (RIP).

Enter **yes** (the default) or press **Return** to configure IP, and then select an interior routing protocol for IP:

```
Configure IP? [yes]:  
Configure IGRP routing? [yes]:  
Your IGRP autonomous system number [1]: 15
```

Note The following sample display includes a continuous listing of all configuration parameters selected in Steps 4 through 10. These parameters are shown in the order in which they appear on your console terminal.

Only IP, IPX, and AppleTalk are the selected protocols for this example.

```
Configuring global parameters:  
  
Enter host name [Router]:  
  
The enable secret is a one-way cryptographic secret used  
instead of the enable password when it exists.  
  
Enter enable secret: barney  
  
The enable password is used when there is no enable secret  
and when using older software and some boot images.  
  
Enter enable password: betty  
Enter virtual terminal password: fred  
Configure SNMP Network Management? [yes]:  
Configure AppleTalk? [no]: y  
Configure CLNS? [no]:  
Configure IPX? [no]:  
Configure Vines? [no]:  
Configure XNS? [no]:  
Configure DECnet? [no]:  
Configure CLNS? [no]:
```

```
Configure bridging? [no]:
Configure IP? [yes]:
Configure IGRP routing? [yes]:
  Your IGRP autonomous system number [15]:
Configure Apollo? [no]:
```

Step 11 Save your settings to NVRAM. (Refer to the section “Saving the Settings to NVRAM and Reviewing Your Configuration.”)

Configuring Interfaces

Following are steps to configure interfaces to allow communication over a LAN or WAN. To configure the interface parameters, you will need your interface network addresses and subnet mask information. Consult with your network administrator for these.

Configuring and Ethernet Interface

Following is the procedure for configuring an Ethernet interface:

Step 1 In the following example, the system is being configured for an Ethernet LAN using IP. Respond as follows, using your own addresses and mask at the setup prompts:

```
Configuring interface parameters:

Configuring interface Ethernet0/0:
  Is this interface in use? [no]: yes
  Configure IP on this interface? [no]: yes
  IP address for this interface: 1.1.1.10
  Number of bits in subnet field [0]:
  Class A network is 1.0.0.0, 0 subnet bits; mask is 255.0.0.0
```

Step 2 Determine if you want to enable IPX on this interface. If yes, enter the unique IPX network number:

```
Configure IPX on this interface? [no]: yes
  IPX network number [2]:
```

- Step 3** Enter **yes** to use AppleTalk on the interface, enter **yes** to configure for extended AppleTalk networks, and then enter the cable range number. Enter the zone name, and any other additional zones that will be associated with your local zone:

```
Configure AppleTalk on this interface? [no]: yes
Extended AppleTalk network? [no]: yes
AppleTalk starting cable range [0]:
```

- Step 4** Save your settings to NVRAM. (Refer to the section “Saving the Settings to NVRAM and Reviewing Your Configuration.”) If additional Ethernet interfaces are available in your system, you are prompted for their configuration as well.

Configuring a Synchronous Serial Interface

The synchronous serial interfaces are configured to allow connection to WANs through a CSU/DSU. Take the following steps to configure a serial port:

- Step 1** Enter **yes** to configure serial port 0:

```
Configuring interface Serial0/0:
Is this interface in use? [no]: yes
```

- Step 2** Determine which protocols you want to allow on the synchronous serial interface and enter the appropriate responses:

```
Configure IP unnumbered on this interface? [no]:
IP address for this interface: 1.1.1.20
Number of bits in subnet field [0]:
Class A network is 1.0.0.0, 0 subnet bits; mask is 255.0.0.0

Configure IPX on this interface? [no]: yes
IPX network number [2]:

Configure AppleTalk on this interface? [no]: yes
Extended AppleTalk network? [no]:
AppleTalk network number [1]:
```

- Step 3** Save your settings to NVRAM. (Refer to the section “Saving the Settings to NVRAM and Reviewing Your Configuration.”) If additional synchronous serial interfaces are available in your system, you are prompted for their configurations as well.

Note The following sample display includes a continuous listing of all interface configuration parameters selected for Ethernet and synchronous serial interfaces. These parameters are shown in the order in which they appear on your console terminal.

Only one Ethernet and one synchronous serial interface are configured for this example.

Configuring interface parameters:

Configuring interface Ethernet0/0:

```
Is this interface in use? [no]: yes
Configure IP on this interface? [no]: yes
  IP address for this interface: 1.1.1.10
  Number of bits in subnet field [0]:
    Class A network is 1.0.0.0, 0 subnet bits; mask is 255.0.0.0
Configure IPX on this interface? [no]: yes
  IPX network number [2]: 10
Configure AppleTalk on this interface? [no]: yes
  Extended AppleTalk network? [no]: yes
  AppleTalk starting cable range [0]:
```

Configuring interface Serial1/0:

```
Is this interface in use? [no]: yes
Configure IP on this interface? [no]: yes
Configure IP unnumbered on this interface? [no]:
  IP address for this interface: 1.1.1.20
  Number of bits in subnet field [0]:
    Class A network is 1.0.0.0, 0 subnet bits; mask is 255.0.0.0
Configure IPX on this interface? [no]: yes
  IPX network number [2]:
Configure AppleTalk on this interface? [no]: yes
  Extended AppleTalk network? [no]:
  AppleTalk network number [1]:
```

The following configuration command script was created:

```
hostname Router
enable secret 5 $1$u8z3$PMYY8em./8sszhzk78p/Y0
enable password s
line vty 0 4
password s
snmp-server community public
```

Configuring the Cisco 7010

```
ip routing
no vines routing
ipx routing
appletalk routing
no apollo routing
no decnet routing
no xns routing
no clns routing
no bridge 1
! Turn off IPX to prevent network conflicts.
interface Ethernet0/0
no ipx network
interface Ethernet0/1
no ipx network
!
interface Ethernet0/0
ip address 1.1.1.10 255.0.0.0
appletalk cable-range 0-0 0.0
appletalk discovery
no mop enabled
!
interface serial1/0
ip address 1.1.1.20 255.0.0.0
ip route-cache cbus
no keepalive
!
!
router igrp 15
network 1.0.0.0
!
end

Use this configuration? [yes/no]: yes
[OK]
Use the enabled mode 'configure' command to modify this configuration.

Press RETURN to get started!
```

The Cisco 7010 is now minimally configured and ready to use. Use the **setup** command if you want to modify the parameters after the initial configuration. To perform more complex configurations, use the **configure** command.

For information on additional interface configuration and information on more specific system configurations, refer to the section “If You Need More Configuration Information.”

Performing a Basic Configuration Using the Configuration Mode

You can configure the Cisco 7010 manually if you prefer not to use the setup facility or AutoInstall. Take the following steps to configure the router manually:

Step 1 Connect a console terminal to the console port of your RP (or RSP7000).

Step 2 When you are asked if you want to enter the initial dialog, answer **no** to go into the normal operating mode of the router:

```
Would you like to enter the initial dialog? [yes]: no
```

Step 3 After a few seconds you will see the user EXEC prompt (`Router>`). Type **enable** to enter enable mode. Configuration changes can only be made in enable mode:

```
Router> enable
```

The prompt will change to the privileged EXEC prompt:

```
Router#
```

Step 4 Enter the **config terminal** command at the enable prompt to enter configuration mode from the terminal:

```
Router# config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
```

At the `Router(config)#` prompt, enter the **interface** *type slot/port* command to enter the interface configuration mode:

```
Router(config)# interface serial slot/port
Router(config-int)#
```

In either of these configuration modes, you can enter any changes to the router's configuration. Press **Ctrl-Z** to exit either configuration mode.

Step 5 Save your settings to NVRAM. (Refer to the section “Saving the Settings to NVRAM and Reviewing Your Configuration.”)

The Cisco 7010 is now minimally configured and will boot with the configuration you have entered. To see a list of the configuration commands available to you, enter `?` at the prompt or press the **help** key while in configuration mode.

Checking the Settings

You can check the value of the settings you entered by entering the following commands at the # prompt: **show running-config** if you are running Cisco IOS Release 11.0 or later, or **write terminal** if you are running a Cisco IOS Release earlier than 11.0.

```
Router# show running-config
.
```

Saving the Settings to NVRAM and Reviewing Your Configuration

To store the configuration or changes to your startup configuration, enter at the following commands at the hostname# prompt: **copy running-config startup-config** if you are running Cisco IOS Release 11.0 or later, or **write memory** if you are running a Cisco IOS release earlier than Release 11.0.

```
Router# copy running-config startup-config
```

Entering this command will save the configuration settings that you created in the router using configuration mode. If you fail to do this, your configuration will be lost the next time you reload the router.

To display information stored in NVRAM, use the **show startup-config EXEC** command if you are running Cisco IOS Release 11.0 or later, or the **show config EXEC** command if you are running a Cisco IOS release earlier than 11.0.

Implementing Other Configuration Tasks

To make advanced configuration changes after you establish the basic startup configuration for your router, refer to the section “If You Need More Configuration Information” for the appropriate configuration publications; these publications contain additional information on using the **configure** command.

The configuration publications also provide information about the following tasks:

- Understanding and working with the user interface on your router
- Booting and rebooting the router
- Setting the configuration register
- Loading configuration files or system images using remote copy (rcp) or Trivial File Transfer Protocol (TFTP)
- Reloading the operating system

What Do I Do Now?

After you have installed the Cisco 7010 hardware, checked all external connections, turned on the system power, allowed the system to boot up, and minimally configured the system, you might need to perform more complete and complex configurations, which are beyond the scope of this text.

For specific information on system and interface configuration, and, if necessary, troubleshooting, refer to the publications listed in the section “If You Need More Configuration Information.”

