

First-Time Startup

This chapter takes you through first-time startup. Use the information you entered on the Global Configuration Worksheet and the Interface Configuration Worksheet as you interact with the System Configuration Dialog. If you have not completed the worksheets, read the “Preparing for First-Time Startup” chapter before starting up.

This chapter includes sample worksheets filled in to show you how this information is used when the **setup** command facility runs through the System Configuration Dialog.

Note Some configuration parameters discussed in this document (and shown on the configuration worksheets) apply only to routers that have the protocol translation option. If your router does not have protocol translation, the interactive **setup** command facility does not prompt you for these parameters.

Overview of the First-Time Startup Process

The first time you start up the system, the **setup** command facility operates automatically. An interactive dialog called the System Configuration Dialog is displayed on the screen of the system console. The dialog navigates you through the configuration process by prompting you for the information you have recorded on the configuration worksheets. The **setup** command facility also provides default values and help text for the configuration parameters, as described later in this section.

The **setup** command facility detects which interfaces are installed and prompts you for configuration information for each installed interface. When you finish configuring one interface, the **setup** command software prompts you for the next interface and continues until they are all configured.

At first-time startup, you must do the following:

- Power up your router and if necessary, test for problems with system memory and CPU.
- Verify software version and installed hardware and software options.
- Configure global parameters.
- Configure interface parameters.
- Store the configuration in nonvolatile memory.

Default Values Using the Setup Command Facility

Many prompts in the System Configuration Dialog of the **setup** command facility include default answers, shown in square brackets following the question. To accept a default, press the Return key. If the system was previously configured, the defaults that appear are the currently configured values. If you are configuring the system for the first time, the defaults that appear are factory defaults. If no factory default exists, as in the case of passwords, nothing is displayed after the question mark.

Help Text Using the Setup Command Facility

At any time during use of the **setup** command facility, you can request help by typing a question mark (?) at a prompt. If the prompt requires a Yes or No answer, no further help is available. However, if the prompt offers a range of acceptable answers, the help facility gives you some guidance. For example, if you are prompted to select the number of bits in a subnet mask, the help facility might inform you that you can choose a decimal number between 0 and 16.

Powering Up Your System

Before powering up your system, check for correct AC power voltages.



Caution Check the voltage rating label at the back of the unit for correct voltage configuration. The AGS+ is configured at the factory for either 110 VAC or 220 VAC operation, as requested when ordered. MGS, CGS, Cisco 3000, and Cisco 7000 products automatically configure the power supply for the applied input voltage and can be connected to any AC source from 90 to 264 VAC. All U.K. version products are configured at the factory for 240 VAC operation only.

Now you can safely power up your system by flipping the switch on the back of the router.

Verifying Installed Software and Hardware

When you first power up your console and network router, a script similar to the following appears on the screen. The script shown is for a Cisco 3000 with an IGS-BFPX image. The first section of the script displays the banner information, including the software version and the System Configuration Dialog. (A sample of the complete configuration script is included at the end of this chapter.)

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```
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) (ii) of the Rights
in Technical Data and Computer Software clause at
DFARS sec. 252.227-7013.
```

```
Cisco Systems, Inc.
170 W. Tasman Drive
San Jose, California
```

```
Cisco Internetwork Operating System Software
IOS (tm) 3000-BPRX Software, Version 10.2(1.0)
Copyright (c) 1986-1994 by cisco Systems, Inc.
Compiled Tue 20-Sep-94 06:34 by daveu
```

The next portion of the script lists installed hardware and software options, such as bridging and X.25. The system presents the appropriate interfaces for these options during the configuration process.

```
cisco 3000 (68030) processor (revision A) with 8192K/2048K bytes of memory.
Processor board serial number 00743954
X.25 software, Version 2.0, NET2, BFE and GOSIP compliant.
ISDN software, Version 1.0.
Bridging software.
SuperLAT software (copyright 1990 by Meridian Technology Corp).
1 Ethernet/IEEE 802.3 interface.
2 Serial network interfaces.
1 ISDN Basic Rate interface.
128K bytes of non-volatile configuration memory.
4096K bytes of flash memory sized on embedded flash.
Configuration register is 0x10F
```

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.

The System Configuration Dialog appears, and asks whether you want to begin the configuration dialog.

```
- 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]:
```

At this point, you can choose to exit the System Configuration Dialog by answering No at the prompt. To begin the initial configuration process, answer Yes.

The System Configuration Dialog asks whether you want to view the current interface summary. The following example shows an AGS+ with four interfaces: TokenRing, Ethernet, Serial, and FDDI.

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

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

Interface  IP-Address  OK?  Method  Status  Protocol
TokenRing0  unassigned  YES  not set  down    down
Ethernet0   unassigned  YES  not set  down    down
Serial0     unassigned  YES  not set  down    down
Fddi0      unassigned  YES  not set  down    down
```

The dialog begins to prompt you for global configuration parameters. You can press Ctrl-C to abort the process at any time. Ctrl-C returns you to the privileged EXEC prompt (router#). Refer to the *Router Products Configuration Guide* for information about configuring the router. Refer to the publication *Protocol Translator Configuration Guide and Command Reference* for information about configuring protocol translation.

If a --More-- prompt appears, press the space bar to continue.

Configuring Global and Interface Parameters

The setup command facility System Configuration Dialog prompts you for global parameters at the console. Enter the values you recorded on your Global Configuration Worksheet. To accept the default settings, which appear in square brackets, press the Return key.

After you answer the global configuration prompts, the setup command facility System Configuration Dialog prompts you for interface configuration parameters at the console. Enter the values you recorded on your Interface Configuration Worksheet.

Storing the Configuration in Nonvolatile Memory

When you complete the configuration process for all installed interfaces on your router, the **setup** command facility shows you the configuration command script that was created. It also asks you if you want to use this configuration. If you answer Yes, the configuration is saved to nonvolatile memory. If you answer No, the configuration is not saved and the process begins again. There is no default for this prompt; you must answer either Yes or No.

Once you have answered Yes to this last question, your system is now ready to be used. If you want to modify the configuration you have just established, see the “Where to Go from Here” chapter.

Note If there are any problems with the configuration file pointed to in nonvolatile memory, or if the ignore nonvolatile memory bit is set in the configuration register, the router enters the streamlined **setup** command facility. See “Using the Streamlined Setup Command Facility” in the “Where to Go from Here” chapter.

Sample Configuration

Figure 3-1 and Figure 3-2 show sample completed worksheets for a first-time startup configuration. Following the worksheets is the screen output for the **setup** command facility at first-time startup, showing the user responses from the completed worksheets. The screen output includes both the interactive configuration process and the resulting script that was created. The sample output is from a Cisco 3000 running an IGS-BFPX image with an ISDN BRI.

In the sample System Configuration Dialog, when it appears that no response was made, the user pressed the Return key to accept the default.

Note Though the Cisco 3000 router in the following sample configuration has an ISDN BRI, the system prompts for ISDN parameters only while configuring global parameters. To continue configuring an ISDN BRI, you invoke the **configure** command to enter global configuration mode. Refer to the *Router Products Configuration Guide* for more information about configuring an ISDN BRI.

System Serial No.: 12345678 Number of Interfaces: 4**Global Parameters**

Host Name:	<u>sandbox</u>		
Enable Secret:	<u>trowel</u>		
Enable Password:	<u>shovel</u>		
Virtual Terminal Password:	<u>pail</u>		
SNMP:	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Community String: <u>public</u>
XRemote Font	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Server:	IP Address:	<u>123.123.123.243</u>	
	IP Address:	<u>123.123.123.244</u>	
	IP Address:	<u>123.123.123.245</u>	
	IP Address:	<u>123.123.123.246</u>	
DECnet:	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
	Area No.:	<u>1</u>	
	Node No.:	<u>1</u>	
	Area (Level 2) Routing:	<input checked="" type="radio"/> Yes	<input type="radio"/> No
IP:	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
	Routing Protocol (choose one):		
	IGRP	<input checked="" type="radio"/> Yes	<input type="radio"/> No
		IGRP Autonomous System:	<u>15</u>
	RIP	<input type="radio"/> Yes	<input type="radio"/> No
IPX:	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
XNS:	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
AppleTalk:	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
	Multizone:	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Apollo:	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
	Routing No.:	<u>123</u>	
CLNS:	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
	Router Tag:	<u>pubsgroup</u>	
	Domain:	<u>72.8885</u>	
	Area:	<u>0013</u>	
	Station ID:	<u>use default</u>	
Banyan VINES:	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Bridging:	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
LAT	(Yes / No)	Ethernet0 <u>yes</u>	Serial0 <u>yes</u>
ISDN BRI	Switch Type:	<u>none</u>	

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Figure 3-1 Completed Global Configuration Worksheet

System Hardware Information:

System Type: Cisco 3000 System Serial No.: 12345678 Host Name: sandbox No. of Interfaces: 4

Interface Parameters

Interface Name	<i>BR10</i>	<i>Ethernet0</i>	<i>Serial0</i>	<i>Serial1</i>
Interface In Use (Yes/No)	<i>no</i>	<i>yes</i>	<i>yes</i>	<i>yes</i>
Speed (Token Ring Only)	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
IP: (Yes / No)	<i>N/A</i>	<i>yes</i>	<i>yes</i>	<i>yes</i>
IP Unnumbered (Yes / No)		<i>N/A</i>	<i>no</i>	<i>yes</i>
Interface Name		<i>N/A</i>	<i>N/A</i>	<i>Ethernet0</i>
IP Address		<i>131.108.6.67</i>	<i>131.108.97.67</i>	
Subnet Mask Bits		<i>0</i>	<i>0</i>	
DECnet (Yes / No)	<i>N/A</i>	<i>yes</i>	<i>no</i>	<i>no</i>
Cost		<i>10</i>		
IPX (Yes / No)	<i>N/A</i>	<i>yes</i>	<i>no</i>	<i>no</i>
Network No.		<i>10</i>		
XNS (Yes / No)	<i>N/A</i>	<i>yes</i>	<i>no</i>	<i>no</i>
Network No.		<i>default</i>		
AppleTalk (Yes / No)	<i>N/A</i>	<i>yes</i>	<i>yes</i>	<i>yes</i>
Extended (Ethernet/Serial Only)		<i>yes</i>	<i>no</i>	<i>yes</i>
Starting Cable Range		<i>0</i>		<i>0</i>
Ending Cable Range				
Network No. (Nonextended)			<i>1</i>	<i>2</i>
Zone Name			<i>twilight</i>	<i>dawn</i>
Zone Name				
Zone Name				
Apollo (Yes / No)	<i>N/A</i>	<i>no</i>	<i>no</i>	<i>no</i>
Network No.				
CLNS (Yes / No)	<i>N/A</i>	<i>yes</i>	<i>yes</i>	<i>no</i>
Banyan VINES (Yes / No)	<i>N/A</i>	<i>yes</i>	<i>yes</i>	<i>no</i>
Bridging (Yes / No)	<i>N/A</i>	<i>yes</i>	<i>yes</i>	<i>no</i>
LAT (Yes / No)	<i>N/A</i>	<i>yes</i>	<i>yes</i>	<i>no</i>

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Figure 3-2 Completed Interface Configuration Worksheet

--- 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]:

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

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

Interface	IP-Address	OK?	Method	Status	Protocol
BRI0	unassigned	YES	not set	down	down
Ethernet0	unassigned	YES	not set	down	down
Serial0	unassigned	YES	not set	down	down
Serial1	unassigned	YES	not set	down	down

Configuring global parameters:

```

Enter host name [Router]: sandbox
Enter enable password: shovel
Enter virtual terminal password: pail
Configure SNMP Network Management? [no]: yes
  Community string [public]:
Configure XRemote font servers? [no]: yes
  Enter a font server IP address or press RETURN to exit: 123.123.123.246
Configure DECnet? [no]: yes
  Your area number [1]:
  Your node number [1]:
  Area (level 2) routing? [no]: yes
Configure IP? [yes]:
  Configure IGRP routing? [yes]:
    Your IGRP autonomous system number [1]: 15
Configure IPX? [no]: yes
Configure XNS? [no]: yes
Configure AppleTalk? [no]: yes
  Multizone networks? [no]: yes
Configure Apollo? [no]: yes
  Apollo routing number [12345]: 123
Configure CLNS? [yes]:
  CLNS router tag [area_1]: pubsgroup
  CLNS domain [49]: 72.8885
  CLNS area [0001]: 0013
  CLNS station id [0000.0C01.0D1D]: 0000.0C01.0D1D
Configure Vines? [no]: yes
Configure bridging? [no]: yes
Configure LAT? [no]: yes
Enter ISDN BRI Switch Type [none]:

```

Configuring interface parameters:

```

Configuring interface BRI0:
  Is this interface in use? [no]:
Configuring interface Ethernet0:
  Is this interface in use? [yes]:
  Configure IP on this interface? [yes]:
    IP address for this interface: 131.108.6.67
    Number of bits in subnet field [0]:
    Class B network is 131.108.0.0, 0 subnet bits; mask is 255.255.0.0
  Configure DECnet on this interface? [yes]:
    DECnet cost [10]:
  Configure IPX on this interface? [yes]:
    IPX network number [2]:
  Configure XNS on this interface? [yes]:

```

```
XNS network number [2]:
Configure AppleTalk on this interface? [yes]:
  Extended AppleTalk network? [no]: yes
  AppleTalk starting cable range [4172]: 0
Configure Apollo on this interface? [no]:
Configure CLNS on this interface? [yes]:
Configure Vines on this interface? [yes]:
Configure bridging on this interface? [yes]:
Configure LAT on this interface? [no]: yes
!
Configuring interface Serial0:
Is this interface in use? [yes]:
Configure IP on this interface? [yes]:
Configure IP unnumbered on this interface? [no]:
  IP address for this interface: 131.108.97.67
  Number of bits in subnet field [0]:
  Class B network is 131.108.0.0, 0 subnet bits; mask is 255.255.0.0
Configure DECnet on this interface? [yes]: no
Configure IPX on this interface? [yes]: no
Configure XNS on this interface? [yes]: no
Configure AppleTalk on this interface? [yes]:
  Extended AppleTalk network? [no]:
  AppleTalk network number [1]:
  AppleTalk zone name [twilight]:
Configure Apollo on this interface? [no]:
Configure CLNS on this interface? [yes]:
Configure Vines on this interface? [yes]:
Configure bridging on this interface? [yes]:
Configure LAT on this interface? [no]: yes
!
Configuring interface Serial1:
Is this interface in use? [yes]:
Configure IP on this interface? [yes]:
Configure IP unnumbered on this interface? [no]: yes
Interface name Ethernet0
Configure DECnet on this interface? [no]:
Configure IPX on this interface? [yes]: no
Configure XNS on this interface? [yes]: no
Configure AppleTalk on this interface? [yes]:
  Extended AppleTalk network? [no]: yes
  AppleTalk starting cable range [4172]: 0
  AppleTalk network number [1]:
  AppleTalk zone name [dawn]:
Configure Apollo on this interface? [no]:
Configure CLNS on this interface? [yes]:
Configure Vines on this interface? [yes]: no
Configure bridging on this interface? [yes]: no
Configure LAT on this interface? [no]:
```

The following configuration command script was created:

```
hostname sandbox
enable password shovel
line vty 0 4
password pail
snmp-server community
xremote tftp host 123.123.123.246
!
ip routing
decnet routing 1.1
decnet node-type area
ipx routing
xns routing
appletalk routing
apollo routing
```



```

clns routing
router iso-igrp pubsgroup
net 78.8885.0013.0000.0C01.0D1D.00
vines routing
bridge 1 protocol dec
no mop enabled
!
interface BRI0
no ip address
!
interface Ethernet0
ip address 131.108.6.67 255.255.255.0
ipx network 2
xns network 2
appletalk cable-range 0-0 0.0
appletalk discovery
clns router iso-igrp pubsgroup
vines metric
bridge-group 1
no mop enabled
lat enabled
!
interface Serial0
ip address 131.108.97.67
appletalk address 1.75
appletalk zone twilight
clns router iso-igrp pubsgroup
vines metric
bridge-group 1
no mop enabled
no lat enabled
!
interface Serial1
no ip address
ip unnumbered
interface name Ethernet0
appletalk address 1.75
appletalk cable-range 0-0 0.0
appletalk zone dawn
no mop enabled
no lat enabled
!
router igrp 15
network 131.108.0.0
!
end

```

Use this configuration? [yes/no]: **yes**

[OK]

Use the enabled mode 'configure' command to modify this configuration.

Press RETURN to get started!

First-time startup is complete. Your router is now ready for use. If you want to change the configuration you have just established during first-time startup, use the **setup** command facility described in the next chapter, "Where to Go from Here." To perform advanced configurations, use the **configure** command, as described in the publications *Router Products Configuration Guide* and *Router Products Command Reference*. To configure protocol translation, refer to the *Protocol Translator Configuration Guide and Command Reference* publication.

