

# First-Time Startup

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

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

## 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, will be displayed on the screen of the system console. The dialog navigates you through the configuration process by prompting you for the information you should have already determined and 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 knows 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 each interface has been configured.

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

- Power up your router
- 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

For many of the prompts in the System Configuration Dialog of the **setup** command facility, default answers appear in square brackets following the question. By pressing the Return key, you allow the defaults to be used. 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 factory defaults are provided. If there is no factory default, 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 may request help by typing a question mark (?) at a given 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 will give 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 rear 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 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 produced is included at the end of this chapter.)

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

```
Cisco Systems, Inc.
1525 O'Brien Drive
Menlo Park, California
```

```
GS Software (GS3-K), Version 9.21
Copyright (c) 1986-1994 by Cisco Systems, Inc.
Compiled Wed 19-Jan-94 06:34 by jyang
```

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.

```
CSC4 (68040) processor with 16384K bytes of memory.
X.25 software, Version 2.0, NET2, BFE and GOSIP compliant.
Bridging software.
1 MCI controller (2 Ethernet, 2 Serial).
1 cBus controller.
Environmental Controller.
2 Ethernet/IEEE 802.3 interfaces.
2 Token Ring/IEEE 802.5 interfaces.
2 Serial network interfaces.
1 FDDI network interface.
64K bytes of multibus memory.
64K bytes of non-volatile configuration memory.
4096K bytes of flash memory on MC+ card (via MCI).
Configuration register is 0x101
```

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**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 and asks if you want to continue.

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The System Configuration Dialog appears next, and prompts for configuration information. The router gives you the opportunity to view the configuration, if any, for each interface. To accept the default settings, which appear in square brackets, press the Return key.

```
- 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
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
```

At this point, you can choose not to continue with the System Configuration Dialog and exit by answering No at the prompt. To begin the initial configuration process, answer Yes. 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.

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

## Configuring Global Parameters

You are prompted for global parameters at the console. Use the values you have determined on your Router Configuration Worksheet. Enter the global parameters at the prompts.

## Configuring Interface Parameters

You are prompted for parameters for each installed interface at the console. Use the values you have determined on your Interface Configuration Worksheet. Enter the interface parameters at the prompts.

## Storing the Configuration in Nonvolatile Memory

When you complete the configuration process for all installed interfaces on your router, the **setup** command facility presents 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 chapter, “Where to Go from Here.”

## Sample Configuration

This section contains a sample first-time startup configuration using sample completed worksheets. Figure 3-1 shows a completed Router Configuration Worksheet and Figure 3-2 shows a completed Interface Configuration Worksheet. These samples include the actual screen output for the **setup** command facility at first-time startup. The screen output includes both the interactive configuration process and the resulting script that was created.

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

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**Note** ISDN is not applicable in the sample configuration. Therefore ISDN BRI does not appear in the sample System Configuration Dialog that follows.

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

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## System Hardware Information:

System Type:  AGS+  MGS  CGS  Cisco 3000  Cisco 7000  Other \_\_\_\_\_  
 (circle one)

System Serial No.: 12345678 Number of Interfaces: \_\_\_\_\_

## Global Parameters

Host Name: <i>sandbox</i>	
Enable Password: <i>shovel</i>	
Virtual Terminal Password: <i>pail</i>	
SNMP:	<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
DECnet:	<input checked="" type="radio"/> Yes <input type="radio"/> No
Area No.: <u>1</u>	
Node No.: <u>1</u>	
Area (Level 2) router: <input checked="" type="radio"/> Yes <input type="radio"/> No	
XNS:	<input checked="" type="radio"/> Yes <input type="radio"/> No
Novell IPX:	<input checked="" type="radio"/> Yes <input type="radio"/> No
Apollo:	<input checked="" type="radio"/> Yes <input type="radio"/> No
Routing No.: <u>123</u>	
AppleTalk:	<input checked="" type="radio"/> Yes <input type="radio"/> No
Multizone: <input checked="" type="radio"/> Yes <input type="radio"/> No	
CLNS:	<input checked="" type="radio"/> Yes <input type="radio"/> No
Router Tag: <u>pubsgroup</u>	
Domain: <u>72.8885</u>	
Area: <u>13</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
ISDN BRI	Switch Type: <u>N/A</u>

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Figure 3-1 Completed Router Configuration Worksheet

**System Hardware Information:**

**System Type:** AGS+ **System Serial No.:** 12345678 **Host Name:** sandbox **No. of Interfaces:** 4

**Interface Parameters**

Interface Name	<i>TokenRing0</i>	<i>Ethernet0</i>	<i>Serial0</i>	<i>FDDI0</i>
<b>Interface In Use (Yes/No)</b>	<i>yes</i>	<i>yes</i>	<i>yes</i>	<i>yes</i>
<b>Speed (Token Ring only)</b>	<i>16</i>			
<b>IP: (Yes / No)</b>	<i>yes</i>	<i>yes</i>	<i>yes</i>	<i>no</i>
<b>IP unnumbered (Yes / No)</b>			<i>no</i>	
<b>Interface name</b>				
<b>IP address</b>	<i>131.108.92.67</i>	<i>131.108.6.67</i>	<i>131.108.97.67</i>	
<b>Subnet Mask bits</b>	<i>default</i>	<i>default</i>	<i>0</i>	
<b>DECnet (Yes / No)</b>	<i>yes</i>	<i>yes</i>	<i>no</i>	<i>no</i>
<b>Cost</b>	<i>10</i>	<i>10</i>		
<b>XNS (Yes / No)</b>	<i>yes</i>	<i>yes</i>	<i>no</i>	<i>no</i>
<b>Network No.</b>	<i>default</i>	<i>default</i>		
<b>Novell (Yes / No)</b>	<i>yes</i>	<i>yes</i>	<i>no</i>	<i>no</i>
<b>Network No.</b>	<i>default</i>	<i>default</i>		
<b>Apollo (Yes / No)</b>	<i>yes</i>	<i>no</i>	<i>no</i>	<i>no</i>
<b>Network No.</b>	<i>default</i>			
<b>AppleTalk (Yes / No)</b>	<i>yes</i>	<i>yes</i>	<i>yes</i>	<i>yes</i>
<b>Extended (Ethernet/Serial only)</b>		<i>yes</i>	<i>no</i>	
<b>Starting cable range</b>	<i>4172</i>	<i>0</i>		<i>0</i>
<b>Ending cable range</b>	<i>default</i>			<i>0</i>
<b>Network No. (nonextended)</b>			<i>1</i>	
<b>Zone name</b>	<i>twilight</i>		<i>default</i>	
<b>Zone name</b>	<i>ozone</i>			
<b>Zone name</b>				
<b>CLNS (Yes / No)</b>	<i>yes</i>	<i>yes</i>	<i>yes</i>	<i>no</i>
<b>Banyan VINES (Yes / No)</b>	<i>yes</i>	<i>yes</i>	<i>yes</i>	<i>no</i>
<b>Bridging (Yes / No)</b>	<i>yes</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
TokenRing0	unassigned	NO	not set	down	down
Ethernet0	unassigned	NO	not set	down	down
Serial0	unassigned	NO	not set	down	down
Fddi0	unassigned	NO	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**  
 Configure IP? [yes]:  
   Configure IGRP routing? [yes]:  
     Your IGRP autonomous system number [1]: **15**  
 Configure DECnet? [no]: **yes**  
   Your area number [1]:  
   Your node number [1]:  
   Area (level 2) routing? [no]: **yes**  
 Configure XNS? [no]: **yes**  
 Configure Novell? [no]: **yes**  
 Configure Apollo? [no]: **yes**  
   Apollo routing number [12345]: **123**  
 Configure AppleTalk? [no]: **yes**  
   Multizone networks? [no]: **yes**  
 Configure CLNS? [yes]:  
   CLNS router tag [area\_1]: **pubsgroup**  
   CLNS domain [49]: **72.8885**  
   CLNS area [0001]: **0013**  
   CLNS station id [0000.0C01.0D1D]: **72.8885.0000.0C01.0D1D.00**  
 Configure Vines? [no]: **yes**  
 Configure bridging? [no]: **yes**

Configuring interface parameters:

Configuring interface TokenRing0:  
 Is this interface in use? [yes]:  
   Tokenring ring speed (4 or 16)? [16]:  
 Configure IP on this interface? [no]: **yes**  
   IP address for this interface: **131.108.92.67**  
   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 XNS on this interface? [no]: **yes**  
   XNS network number [1]:  
 Configure Novell on this interface? [no]: **yes**  
   Novell network number [1]:  
 Configure Apollo on this interface? [no]: **yes**  
   Apollo network number [1]:  
 Configure AppleTalk on this interface? [no]: **yes**  
   AppleTalk starting cable range [0]: **4172**  
   AppleTalk ending cable range [4172]:

```
    AppleTalk zone name [myzone]: twilight
    AppleTalk zone name: ozone
    AppleTalk zone name:
    Configure CLNS on this interface? [yes]:
    Configure Vines on this interface? [yes]:
    Configure bridging on this interface? [yes]:
!
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 XNS on this interface? [yes]:
    XNS network number [2]:
Configure Novell on this interface? [yes]:
    Novell network number [2]:
Configure Apollo on this interface? [no]:
Configure AppleTalk on this interface? [yes]:
    Extended AppleTalk network? [no]: yes
    AppleTalk starting cable range [4172]: 0
Configure CLNS on this interface? [yes]:
Configure Vines on this interface? [yes]:
Configure bridging on this interface? [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 XNS on this interface? [yes]: no
Configure Novell on this interface? [yes]: no
Configure Apollo on this interface? [no]:
Configure AppleTalk on this interface? [yes]:
    Extended AppleTalk network? [no]:
    AppleTalk network number [1]:
    AppleTalk zone name [twilight]:
Configure CLNS on this interface? [yes]:
Configure Vines on this interface? [yes]:
Configure bridging on this interface? [yes]:
!
Configuring interface Fddi0:
Is this interface in use? [yes]:
Configure IP on this interface? [yes]: no
Configure DECnet on this interface? [no]:
Configure XNS on this interface? [yes]: no
Configure Novell on this interface? [yes]: no
Configure Apollo on this interface? [no]:
Configure AppleTalk on this interface? [yes]:
    AppleTalk starting cable range [0]:
Configure CLNS on this interface? [yes]: no
Configure Vines on this interface? [yes]: no
Configure bridging on this interface? [yes]: no
```

The following configuration command script was created:

```
hostname sandbox
enable password shovel
line vty 0 4
password pail
```



```
snmp-server community
!
ip routing
decnet routing 1.1
decnet node-type area
xns routing
novell routing
apollo routing
appletalk 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 TokenRing0
ip address 131.108.92.67 255.255.255.0
xns network 1
novell network 1
appletalk cable-range 4172-4172
appletalk zone twilight
clns router iso-igrp pubsgroup
vines metric
bridge-group 1
no mop enabled
!
interface Ethernet0
ip address 131.108.6.67 255.255.255.0
xns network 2
novell network 2
appletalk cable-range 0-0
appletalk discovery
clns router iso-igrp pubsgroup
vines metric
bridge-group 1
no mop enabled
!
interface Serial0
no shutdown
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
!
interface Fddi0
no ip address
appletalk cable-range 0-0 0.0
appletalk discovery
no mop 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 to use. If you want to modify the configuration you have just established during first-time startup, use the **setup** command facility described in Chapter 4, “Where to Go from Here.” To perform advanced configurations, use the **configure** command, as described in the *Router Products Configuration Guide* and the *Router Products Command Reference* publication.