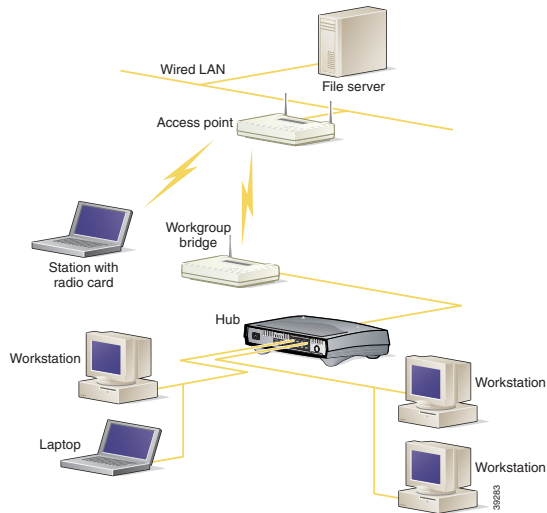


Quick Start Guide

CISCO AIRONET WORKGROUP BRIDGE 340 AND 350 SERIES



1

TAKE OUT WHAT YOU NEED

2

CONNECT AND POWER UP THE BRIDGE

3

DETERMINE CONFIGURATION METHOD

4

CONFIGURE THE BRIDGE

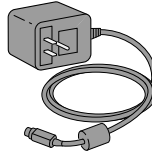


1 Take Out What You Need

Cisco Aironet Workgroup Bridge



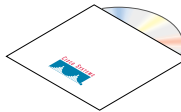
AC-to-DC power adapter



2.2 dBi dipole antenna



Cisco Aironet Series Workgroup Bridge CD
with product documentation



If any item is missing or damaged, contact your Cisco representative or reseller for support.

Before You Begin

Before beginning installation, determine bridge location. Because the unit is a radio device, unit and antenna location are important to ensure optimum radio range and throughput:

- To maximize the range of a building-to-building connection, install the antenna as high as possible.
- Maintain a clear line of sight between wireless bridge antennas. Obstructions may impede performance or limit bridge ability to transmit and receive data.
- Place directional antennas at both ends with maximum path clearance.
- Install the bridge in an area where large steel structures such as shelving units, bookcases, and filing cabinets will not obstruct radio signals to and from the bridge.
- Install the bridge away from microwave ovens.

2 Connect and Power Up the Bridge

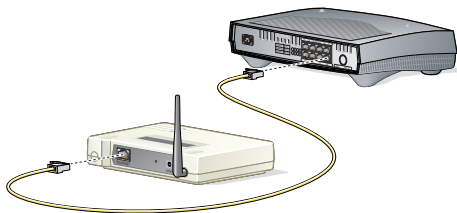
Connecting the Ethernet Cable



Caution Make sure the unit is disconnected from the power source. Do not connect the Ethernet cable when the bridge is powered up.

- 1 Plug the RJ-45 Ethernet connector into the Ethernet port on the back of the bridge.
- 2 Connect the other end of the cable to a hub on the wired LAN, as shown in the figure below, or to the Ethernet connection on the computer that you will use to configure the unit.

Note You must use a crossover cable to connect the bridge directly to the Ethernet port on a computer. See the Cisco Aironet Workgroup Bridge Hardware Installation Guide for a pinout diagram of a crossover cable.

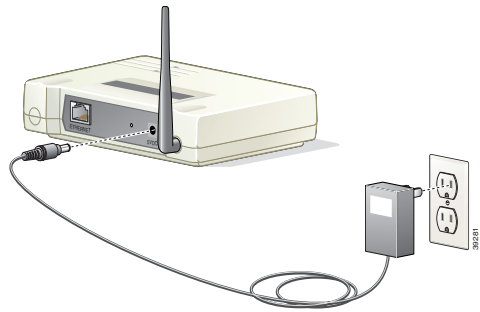


Connecting the Power Adapter

Follow these steps to connect the power adapter to the bridge:

- 1 Plug the power adapter into a suitable power receptacle.
- 2 Plug the power connector into the back of the bridge.

Note The bridge does not have an on/off switch, so power is applied to the unit when you plug it in.



The bridge begins the power-on self-test (POST) when you apply power. The indicator lights show the unit's progress during startup. The indicators simultaneously flash red, then amber, and then green. Startup takes approximately 30 seconds.

3 Determine Configuration Method

Installing the IP Setup Utility

The IP Setup Utility (IPSU) allows you to find the bridge's IP address when it has been assigned by a DHCP server. You may also use IPSU to set the bridge IP address and SSID, depending on which configuration method you choose.

The IPSU cannot query the bridge's IP address when the computer running IPSU is on a different subnet than the bridge. If your bridge receives an IP address from a DHCP server, you must install and run IPSU on a computer on the same subnet as the bridge. However, because IPSU uses IP multicast, it can set the bridge IP address and SSID when the computer running IPSU is on a different subnet than the bridge.

Note IPSU may not function correctly if the computer on which you install IPSU uses Windows 95 or Windows 95A, and the Microsoft Office Suite has not been installed on the computer. Install IPSU on another computer if one is available.

- 1 Put the Cisco Aironet Workgroup Bridge CD in the CD-ROM drive of the computer you are using to configure the bridge.
- 2 Use Windows Explorer to view the contents of the CD. Double-click the IPSU folder, and then double-click the file called *setup.exe*. Follow the steps provided by the installation wizard.

Configuration Summary

- Choose the configuration method best suited for your network configuration and do the initial configuration.
- Configure the bridge.
- Unplug the power adapter and disconnect the bridge from the PC or hub.
- Place the bridge near the device or hub it will serve. Connect the bridge to the hub with an Ethernet cable.

Options for Initial Configuration

You can use one of three methods to configure the bridge:

- Use a computer connected to your wired LAN or wireless network to communicate with the bridge through a Cisco Aironet access point. The computer you use for configuration must be on the same subnet as the bridge.
- Use a computer on your wired LAN to communicate with the bridge through a hub on your wired LAN. The computer you use for configuration must be on the same subnet as the bridge.
- Use a non-networked computer to communicate directly with the bridge through a crossover cable.

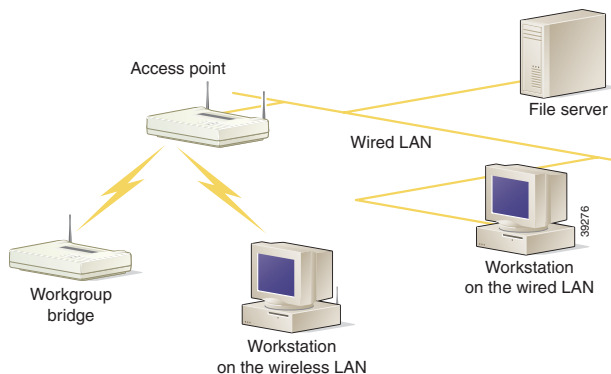
3 Determine Configuration Method (continued)

Remote Configuration through an Access Point

Note The workgroup bridge communicates only with Cisco Aironet Access Points.

1 Adjust the following settings on the access point to allow it to communicate with the bridge:

- On the access point's Express Setup management page, set the access point's SSID to **tsunami**, which matches the bridge's default SSID.
- On the access point's AP Radio Data Encryption management page, set the encryption mode to **off**.



To configure the bridge using a computer connected to your network with an access point and DHCP server, continue with Steps 2 through 4.

If you do not have a DHCP server, set your PC to an address of **192.168.200.5**. Then open the browser or Telnet to **192.168.200.1**. Skip to the “Configure the Bridge” section.

2 Place the bridge in the vicinity of an access point and plug in the power adapter.

The bridge communicates with the access point when you apply power to the bridge. If your network uses a DHCP server, and if the bridge's Ethernet port is connected to a device, the bridge receives an IP address on your network. When the bridge's IP address is changed from the default setting, it can no longer be set using the IPSU.

3 When the status LED on the bridge is green (to show association of the bridge to the access point), go to the association table. Find the entry *WGB3XX_xxxxxx* (*xxxxxx* is the last six digits of the access point's MAC address).

4 Record the IP address of that entry. Browse to the bridge's management home page and complete the configuration by following the steps in the “Configure the Bridge” section.

3 Determine Configuration Method (continued)

Configuration through a Wired LAN

Note If the bridge is connected to the wired LAN and is communicating with an access point on the same LAN, a network problem known as a bridge loop can occur. Avoid a bridge loop by disconnecting the bridge from the wired LAN immediately after you configure it. For more information on bridge loops, refer to the Cisco Aironet Workgroup Bridge Hardware Installation Guide.

1 Use a straight-through Ethernet cable to connect the bridge to a standard port on a hub on your wired network.

2 Plug in the bridge's power adapter. The bridge receives a DHCP-assigned IP address.

3 Double-click the IPSU icon on your desktop to start the utility.

4 When the utility window opens, make sure **Get IP addr** is selected in the Function box.

5 Enter the bridge's MAC address in the Device MAC ID field. The bridge's MAC address is printed on the label on the bottom of the unit. It should contain six pairs of hexadecimal digits. Your bridge's MAC address might look like the following example: 11223a4D5566.

Note The MAC address field is not case-sensitive.

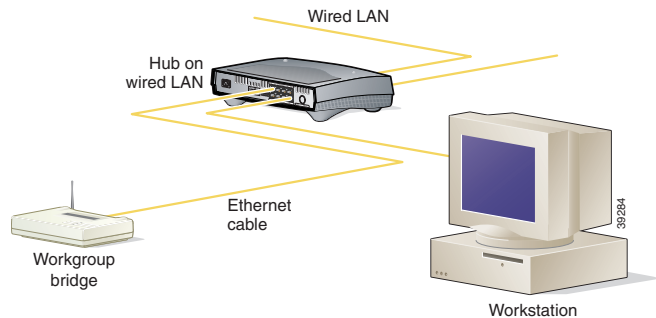
6 Click **Get IP Address**.

7 When the bridge's IP address appears in the IP Address field, write it down.

If IPSU reports that the IP address is 192.168.200.1, the default IP address, then the bridge did not receive a DHCP-assigned IP address. To assign an IP address, go to Step 8. The computer you use to assign an IP address to the bridge must have an IP address of its own. If you do not need to assign an address, skip to Step 13.

8 Make sure **Set Parameters** is selected in the Function box of the IPSU window.

9 Enter the bridge's MAC address in the Device MAC ID field.



3 Determine Configuration Method (continued)

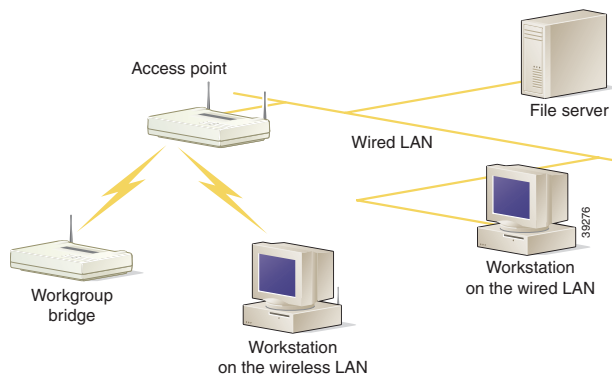
- 10 In the IP Address field, enter the IP address the network administrator gave you to assign to the bridge. The IP address of the PC should be on the same subnet as the IP address you are assigning to the bridge.
 - 11 Enter the SSID you want to assign to the bridge in the SSID field.
- Note** You cannot set the SSID without also setting the IP address. However, you can set the IP address without setting the SSID.
- 12 Click the **Set Parameters** button. You will see a message that the SSID was successfully set.
 - 13 To check the IP address, browse to the bridge's browser-based management pages.
 - 14 Enter the bridge's IP address in the browser's location or address field. (If you are using Netscape, the field is labeled *Netsite* or *Location*; if you are using Microsoft Explorer, the field is labeled *Address*.)
 - 15 Press **Enter**. The bridge's main menu page appears.
 - 16 Disconnect the unit from your wired LAN and connect it to the hub it will serve.

Local Configuration Using a Non-Networked Computer

If you use a non-networked computer to configure the bridge, you must use a crossover cable to connect the computer to the bridge, and the computer must have a TCP/IP network protocol and IPSU installed.

To use a non-networked computer to configure the bridge, follow these steps:

- 1 Connect the bridge and a non-networked PC with a crossover cable.
- 2 Power on both devices.
- 3 Double-click the **IP Setup** icon on your computer desktop.
- 4 When the utility window opens, make sure **Set Parameters** is selected in the Function box.



3 Determine Configuration Method (continued)

5 Enter the bridge's MAC address in the Device MAC ID field. The bridge's MAC address is printed on the label on the bottom of the unit. It should contain six pairs of hexadecimal digits. Your bridge's MAC address might look like the following example: 11223a4D5566.

Note The MAC address field is not case-sensitive.

6 In the IP Address field, enter the IP address the network administrator gave you to assign to the bridge. The IP address of the PC should be on the same subnet as the IP address you are assigning to the bridge.

7 Enter the SSID you want to assign to the bridge in the SSID field.

Note You cannot set the SSID without also setting the IP address. However, you can set the IP address without setting the SSID.

8 Click **Set Parameters**.

9 To test the IP address, open an Internet browser.

10 Enter the bridge's IP address in the browser's location or address field. (If you are using Netscape, the field is labeled *Netsite* or *Location*; if you are using Microsoft Explorer, the field is labeled *Address*.)

11 Press **Enter**. The bridge's main menu page appears.

4 Configure the Bridge

After you choose an initial configuration for the bridge, you can choose to access the bridge's management system through your Internet browser or through a Telnet session. Each method is described below.

Using an Internet Browser

Follow these steps to configure the bridge with an Internet browser:

- 1 Open an Internet browser.
- 2 Enter the bridge's IP address in the browser's location field. (If you are using Netscape, the field is labeled *Netsite* or *Location*; if you are using Microsoft Explorer, the field is labeled *Address*.) Press **Enter**.
- 3 When the bridge's management home page appears, click **Allow Config Changes** in the upper-left corner.
- 4 In the Configuration menu, click **Radio**.



Caution If you are configuring the bridge through a wireless connection, changing the SSID in the next step could interrupt connectivity to the device. Be sure to enter an SSID that matches the SSID of an access point near the bridge.

- 5 On the Radio page, look at the SSID in the Service set identifier field. If it is *tsunami*, the default setting, delete it and enter the SSID provided by your network administrator. Click **Save**.

If you already set the SSID using IPSU and the SSID in the Service set identifier field is correct, you do not need to set it again.

Note Steps 6 through 15 help you set the bridge's WEP key. If your wireless network does not use WEP, skip to Step 16.

- 6 In the Item column on the Radio page, click **Privacy configuration**.
- 7 In the Privacy configuration menu, click **Set the keys**.
- 8 Click inside the box labeled *Enter a key number from 1 to 4*.

4 Configure the Bridge (continued)

- 9 Enter the number of the WEP key your network administrator asked you to set and click **Save**.
 - 10 Enter the key provided by your network administrator in the Enter a key of hex digits field. If you are setting a 40-bit key, enter 10 hexadecimal characters (any combination of 0 through 9, a through f, or A through F). If you are setting a 128-bit key, enter 26 hexadecimal characters. Click **Save**.
 - 11 You are prompted to re-enter the key for verification. Enter the key and click **Save**.
 - 12 In the Privacy configuration menu, in the row labeled *Key number for transmit*, click inside the box labeled *a key number from 1 to 4*.
- Note** The WEP key you use to transmit data must be set up exactly the same on your access point and your bridge. For example, if you set WEP Key 3 on your bridge to 0987654321 and select it as the transmit key, you must also set WEP Key 3 on the access point to 0987654321.
- 13 Type the number of the key the bridge will use and click **Save**. Only one WEP key can be used at a time.
 - 14 In the row in the Privacy menu labeled *Authentication mode*, click **open** or **shared key** to set the authentications the bridge will recognize.

The Open setting, which is the default, allows any device regardless of its WEP settings to authenticate and then attempt to communicate with the bridge. Shared Key tells the bridge to send a plain-text, shared-key query to any device attempting to communicate with the bridge. However, this query can leave the device open to a known-text attack from intruders and is therefore not as secure as the Open setting.



Caution If you are configuring the bridge through a wireless connection, you may lose your connection to the bridge if the WEP key is set incorrectly. If you select On as the WEP category in the next step, the WEP key you set must **exactly** match the WEP key used on your wireless LAN, and the access point with which the bridge is communicating must have WEP set to On.

4 Configure the Bridge (continued)

- 15** In the row in the Privacy menu labeled *Encrypt radio packets*, click **on**, **mixed on**, or **mixed off** to select the WEP category for the bridge.
- **Off** is the default setting, which means that the bridge will not communicate with an access point using WEP.
 - **On** means that the bridge will communicate only with access points that use WEP.
 - **Mixed on** means that the bridge will always use WEP when communicating with the access point, but that the access point will communicate with all devices whether they use WEP or not.
 - **Mixed off** means that the bridge will not use WEP when communicating with the access point, but the access point will communicate with all devices whether they use WEP or not.
- 16** In the Configuration menu, click **Identity**.
- 17** In the System name entry field, enter a network label for the bridge and click **Save**. This name will identify the bridge in the association table on any access point.

Using a Telnet Session

Follow these steps to configure the bridge using a Telnet session:

- 1** On your computer's Start menu, select **Programs > Accessories > Telnet**.

If Telnet is not listed in your Accessories menu, select **Start > Run**, type **Telnet** in the entry field, and press **Enter**.

- 2** When the Telnet window appears, click **Connect** and select **Remote System**.

Note In Windows 2000, the Telnet window does not contain pull-down menus. To start the Telnet session in Windows 2000, type **open** followed by the bridge's IP address and skip to Step 4.

- 3** In the Host Name field, type the bridge's IP address provided by the IP Finder utility. Click **Connect**.

4 Configure the Bridge (continued)

- 4 Type **1** to select Configuration. When the configuration menu appears, type **1** again to select Radio. When the radio menu appears, type **1** again to select SSID.



Caution If you are configuring the bridge through a wireless connection, changing the SSID in the next step could interrupt connectivity to the device. Take care to enter an SSID that matches the SSID of an access point near the bridge.

- 5 Look at the current SSID. If it is *tsunami*, the default setting, enter the SSID provided by your network administrator on the data entry line and press **Enter**.

If you already set the SSID using IPSU and the current SSID is correct, you do not need to set it again.

Note Steps 6 through 13 help you set the bridge's WEP key. If your wireless network does not use WEP, skip to Step 15.

- 6 Type **5** to select I80211. When the I80211 menu appears, type **2** to select Privacy.
- 7 In the Privacy menu, type **3** to select Key.
- 8 Enter the WEP key number your network administrator asked you to set and press **Enter**.
- 9 Enter the key provided by your network administrator and press **Enter**. If you are setting a 40-bit key, enter 10 hexadecimal characters (any combination of 0 through 9, a through f, or A through F). If you are setting a 128-bit key, enter 26 hexadecimal characters. You are prompted to re-enter the key for verification. Type the key and press **Enter**.
- 10 Type **4** to select Transmit.
- 11 Enter the number of the key the bridge will use and press **Enter**. Only one WEP key can be used at a time.

Note The WEP key you use to transmit data must be set up exactly the same on your access point and your bridge. For example, if you set WEP Key 3 on your bridge to 0987654321 and select it as the transmit key, you must also set WEP Key 3 on the access point to 0987654321.

4 Configure the Bridge (continued)

- 12** Type **2** to select Auth. Type **open** or **shared_key** to set the authentications the bridge will recognize.

The Open setting, which is the default, allows any access point regardless of its WEP settings to authenticate and then attempt to communicate with the bridge. Shared Key tells the bridge to send a plain-text, shared-key query to any access point attempting to communicate with the bridge. However, this query can leave the bridge open to a known-text attack from intruders and is therefore not as secure as the Open setting.



Caution If you are configuring the bridge through a wireless connection, you may lose your connection to the bridge if the WEP key is set incorrectly. If you select **On** as the WEP category in the next step, the WEP key you set must **exactly** match the WEP key used on your wireless LAN, and the access point with which the bridge is communicating must have WEP set to **On**.

- 13** Type **1** to select Encryption. Type **off**, **on**, **mixed on**, or **mixed off** to select the WEP category for the bridge.

- **Off** is the default setting, which means that the bridge will not communicate with an access point using WEP.
- **On** means that the bridge will communicate only with access points that use WEP.
- **Mixed on** means that the bridge will always use WEP when communicating with the access point but the access point will communicate with all devices whether they use WEP or not.
- **Mixed off** means that the bridge will not use WEP when communicating with the access point but the access point will communicate with all devices whether they use WEP or not.

- 14** Press **Esc** four times to return to the configuration menu.

- 15** When the configuration menu appears, type **3** to select Identity. Type **2** to select Name. Type a network label for the bridge and press **Enter**. This name will identify the bridge in the association table on any access point.

Safety Information for the Cisco Aironet Workgroup Bridge

The FCC with its action in ET Docket 96-8 has adopted a safety standard for human exposure to radio frequency (RF) electromagnetic energy emitted by FCC certified equipment. Cisco Aironet products meet the uncontrolled environmental limits found in OET-65 and ANSI C95.1, 1991. Proper operation of this radio according to the instructions found in this manual and the users guide on the Cisco Aironet Workgroup Bridge product CD will result in user exposure that is substantially below the FCC recommended limits.

- Do not touch or move antenna(s) while the unit is transmitting or receiving.
- Do not hold any component containing the radio such that the antenna is very close or touching any exposed parts of the body, especially the face or eyes, while transmitting.
- Do not operate a portable transmitter near unshielded blasting caps or in an explosive environment unless it is a type especially qualified for such use.
- Do not operate the radio or attempt to transmit data unless the antenna is connected; if not, the radio may be damaged.
- Antenna use:
 - Always orient a di-pole antenna such that it is at least 6 inches (15 cm) away from your body.
 - High-gain, wall-mount or mast-mount antennas are designed to be professionally installed and should be located at a minimum distance of 12 inches (30 cm) or more from your body. Please contact your professional installer, VAR, or antenna manufacturer for proper installation requirements.
 - Warning for laptop users: In order to comply with the FCC RF exposure limits, it is recommended when using a laptop with a PC client adapter, that the adapter's integrated antenna should not be positioned closer than 2 inches (5 cm) from your body or nearby persons for extended periods of time while it is transmitting (or operating). If the antenna is positioned less than 2 inches (5 cm) from the user, it is recommended that the user limit exposure time.

CISCO SYSTEMS



Corporate Headquarters

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
<http://www.cisco.com>
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters

Cisco Systems Europe s.a.r.l.
Parc Evolic, Batiment L1/L2
16 Avenue du Quebec
Villebon, BP 706
91961 Courtaboeuf Cedex
France
<http://www-europe.cisco.com>
Tel: 33 1 69 18 61 00
Fax: 33 1 69 28 83 26

Americas

Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
<http://www.cisco.com>
Tel: 408 526-7660
Fax: 408 527-0883

Asia Headquarters

Nihon Cisco Systems K.K.
Fuji Building, 9th Floor
3-2-3 Marunouchi
Chiyoda-ku, Tokyo 100
Japan
<http://www.cisco.com>
Tel: 81 3 5219 6250
Fax: 81 3 5219 6001

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