Overview

Cisco Aironet 350 Series Bridges are wireless LAN transceivers that connect two or more remote networks into a single LAN. The bridge can also be used as a rugged access point, providing network access to wireless client devices.

The bridge uses a browser-based management system, but you can also configure the bridge using a terminal emulator, a Telnet session, or Simple Network Management Protocol (SNMP).

The bridge contains a metal enclosure having adequate fire resistance and low smoke-producing characteristics suitable for operation in a building's environmental air space in accordance with Section 300-22(c) of the NEC. The bridge also supports an extended operating temperature range suitable for use in covered outside environments.

This chapter provides information on the following topics:

- Key features
- Network configuration examples
- Bridge specifications

Key Features

This section describes the key features of the bridge:

- Inline power
- Antenna connectors
- Ethernet and serial ports
- Indicator lights

Inline Power

The bridge receives power through the Ethernet cable, so you don't need to run a separate power cord to the bridge. Plug the Ethernet cable into the Ethernet port on the back of the bridge and plug the other end into one of three possible power sources:

- A Cisco Aironet power injector
- A switch with inline power, such as the Cisco Catalyst 3524-PWR-XL switch
- A power patch panel, such as the Cisco Catalyst Inline Power Patch Panel

Note Cisco Aironet 340 series bridges rely on a separate power supply plugged into the power port on the back of the bridge.

Caution Cisco Aironet power injectors are designed for use with 350 series access points and bridges only. Using the power injector with other Ethernet-ready devices can damage the equipment.

Caution The operational voltage range for Cisco Aironet 350 series access points and bridges is 24 to 60 VDC. Higher voltage can damage the equipment.

Antenna Connectors

The bridge is equipped with dual reverse-polarity TNC connectors that you can use to connect to your own antennas for special applications.

Ethernet and Serial Ports

Ethernet Port

The bridge's Ethernet port accepts an RJ-45 connector, linking the bridge to your Ethernet LAN. The 350 series bridge receives power through the Ethernet cable from a switch with inline power, from a power patch panel, or from the bridge's power injector.

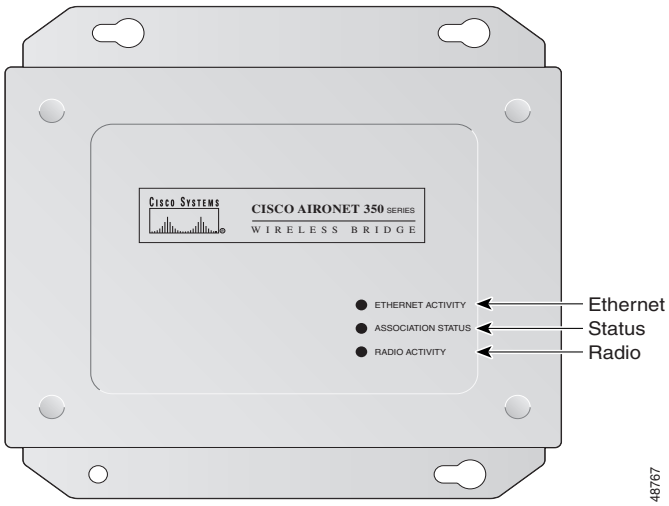
Serial Port

The bridge's serial port provides console access to its management system. Use a nine-pin, straight-through, male-to-female serial cable to connect your computer's COM 1 or COM 2 port to the bridge's serial port. Assign the following port settings to a terminal emulator to open the management system pages: 9600 baud, 8 data bits, No parity, 1 stop bit, and Xon/Xoff flow control.

Indicator Lights

The three indicator lights on top of the bridge report Ethernet activity, association status, and radio activity. The indicators are labeled in Figure 1-1.

Figure 1-1 Indicator Lights on the Bridge



- The Ethernet indicator signals traffic on the wired LAN, or Ethernet infrastructure. This indicator blinks green when a packet is received or transmitted over the Ethernet infrastructure.
- The status indicator signals operational status. Blinking green indicates that the bridge is operating normally but is not associated with any wireless devices. Steady green indicates that the bridge is associated with a wireless client.

  For repeater bridges, blinking 1/2 on, 1/2 off indicates the repeater is not associated with the root bridge; blinking 7/8 on, 1/8 off indicates that the repeater is associated with the root bridge but no client devices are associated with the repeater; steady green indicates that the repeater is associated with the root bridge and client devices are associated with the repeater.
- The radio indicator blinks green to indicate radio traffic activity. The light is normally off, but it blinks green whenever a packet is received or transmitted over the bridge's radio.

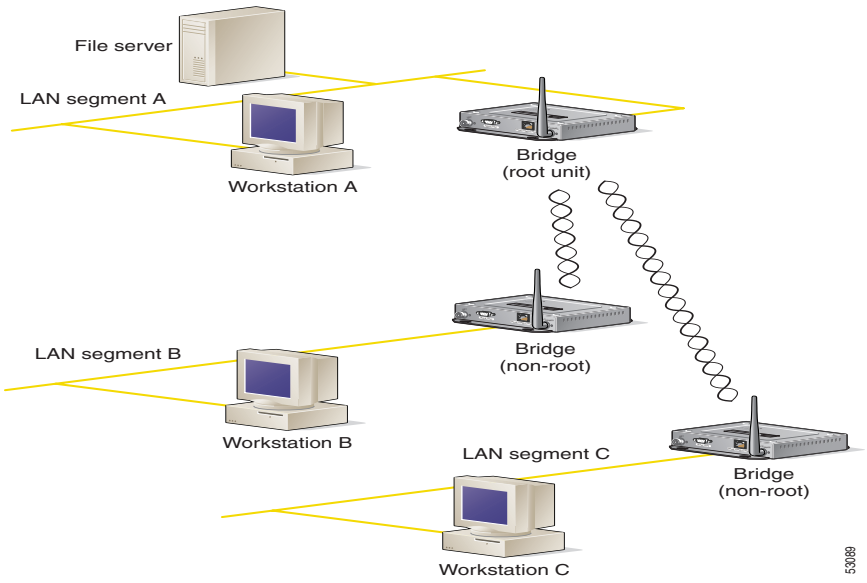
Network Configuration Examples

This section describes the bridge's role in three common wireless network configurations. The bridge's default configuration is as a root unit on a wired LAN. The other examples illustrate the bridge being used as a repeater unit and as an access point.

Root Unit on a Wired LAN

The typical bridge configuration consists of two or more bridges. One bridge is connected directly to the main wired LAN (referred to as a *root unit)* and the other bridge or bridges (referred to as *non-root units*) are attached to remote LAN segments (usually in different buildings). Only one bridge in a wireless LAN can be set to root, all other bridges must be set to non-root. Figure 1-2 shows a bridge acting as a root unit on a wired LAN communicating with other non-root bridges on remote LANs.

Figure 1-2 Bridges Interconnecting Wired LANs

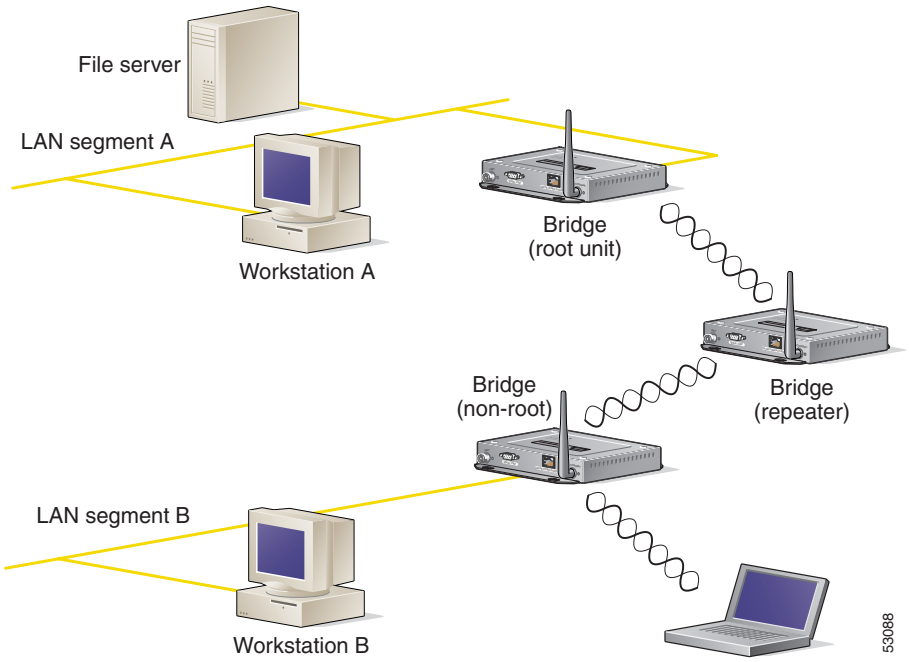


In Figure 1-2, packets sent between the file server and Workstation B or Workstation C go through the non-root bridges over the wireless link. Data packets sent from Workstation A to the file server go through the wired LAN segment and do not go across the wireless link.

Repeater Unit That Extends Wireless Range

The bridge can be configured as a repeater to extend the range of your infrastructure or to overcome an obstacle that blocks radio communication. The repeater forwards traffic between wireless users and the wired LAN by sending packets to another repeater or to a root bridge or root access point connected to the wired LAN. Figure 1-3 shows a bridge acting as a repeater (Non-root Bridge w/Clients) to bridge a LAN segment to the main root LAN.

Figure 1-3 Bridge as Repeater



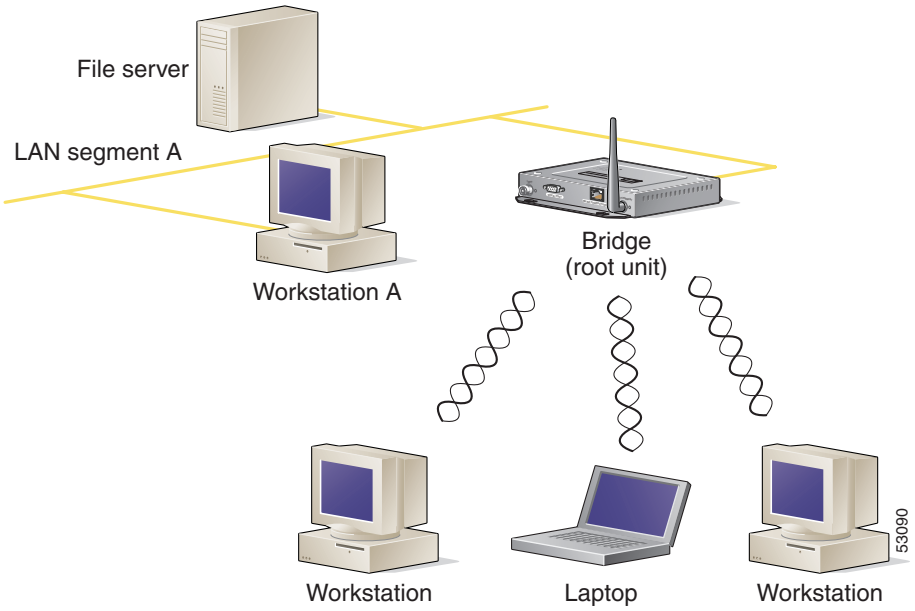
A similar repeater function can be configured using repeater access points to extend the range of wireless clients from the main root LAN. When you configure a bridge as a repeater access point, the Spanning-Tree Protocol is deactivated.

If you use a bridge as a repeater, the data throughput is cut in half.

Bridge Operating as a Root Access Point

The bridge can be configured as a rugged root access point and connected to a wired LAN. In this configuration, the bridge allows associated wireless devices to access resources on the wired LAN as they would with an access point. Figure 1-4 shows a bridge operating as an access point.

Figure 1-4 Bridge Operating as a Root Access Point



Bridge Specifications

Table 1-1 lists specifications for the bridge.

Table 1-1 Bridge Specifications

Category	Specification
Physical	
Size	6.25 in. (15.9 cm) W x 6.42 in. (16.3 cm) D x 1.31 in. (3.3 cm) H
Status indicators	Three indicators on the top panel: Ethernet traffic, status, and radio traffic
Connectors	On the back panel: An RJ-45 jack for 10/100 Ethernet connections; a 9-pin serial connector; and two reverse-TNC antenna connectors
Voltage range	(24 –10%) VDC to (60 –0%) VDC, nominal 48 VDC
Operating temperature range	–4 to 131°F (–20 to 55°C) 32 to 104°F (0 to 40°C) for power injectors
Weight	1.43 lbs (0.64 kg)
Radio	
Power output	100, 50, 30, 20, 5, or 1 mW (depending on the regulatory domain in which the bridge is installed)
Frequency	2.400 to 2.497 GHz (Depending on the regulatory domain in which the bridge is installed)
Range (with 2.2 dBi antenna)	Indoor: 150 ft at 11 Mbps 350 ft at 1 Mbps Outdoor: 800 ft at 11 Mbps 2000 ft at 1 Mbps
Modulation	Direct Sequence Spread Spectrum
Data rates	1, 2, 5.5, and 11 Mbps
Antenna	Two reverse-TNC connectors (antennas are sold separately).
Compliance	Operates license-free under FCC Part 15 and complies as a Class B computing device. Complies with DOC regulations. Complies with the following: ETS 300.328, FTZ 2100, MPT 1349, FCC Part 15.107 and 15.109 Class B, ICES-003 Class B (Canada), CISPR 22 Class B, AS/NZS 3548 Class B, VCCI Class B, EN 50082-1, UL1950, CSA 22.2 No. 950, EN 60950, IEC 60950, VCCI, and others (see Appendix B). 350 series bridge complies with UL 2043 for products installed in air handling spaces, such as above suspended ceilings.