

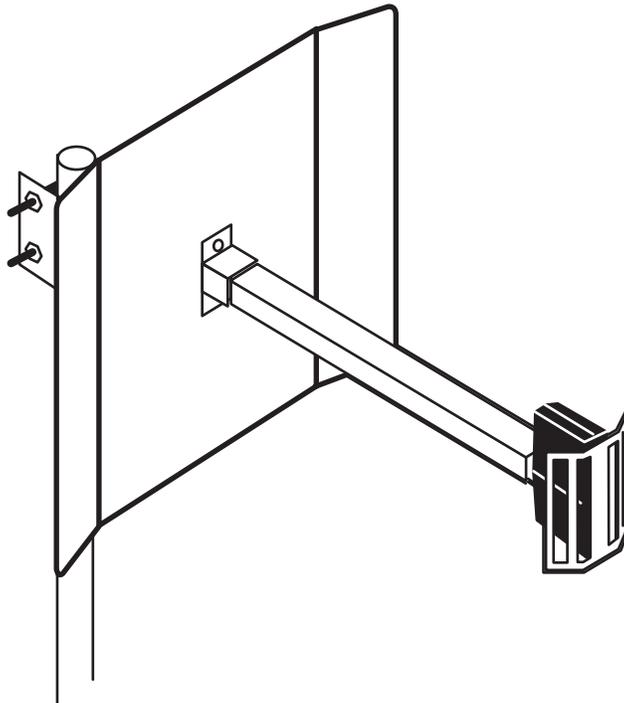


BLACK BOX[®]
NETWORK SERVICES



JUNE 2000
LW0030

12-dBi Directional Antenna



**CUSTOMER
SUPPORT
INFORMATION**

Order **toll-free** in the U.S.: Call **877-877-BBOX** (outside U.S. call **724-746-5500**)
FREE technical support 24 hours a day, 7 days a week: Call **724-746-5500** or fax **724-746-0746**
Mailing address: **Black Box Corporation**, 1000 Park Drive, Lawrence, PA 15055-1018
Web site: www.blackbox.com • E-mail: info@blackbox.com

TRADEMARKS USED IN THIS MANUAL

Any trademarks mentioned in this manual are acknowledged to be the property of the trademark owners.

1. Specifications

Antenna:

Reflector—Cast magnesium

Gain—12 dBi

Frequency—2150 to 2700 MHz

Impedance—50 ohms

VSWR—1.4:1 @ 2450 MHz

Polarization—Vertical or horizontal

Connector—N-type

Beamwidth—22°

Rejection—20 dB minimum

Front/Back Ratio—20 dB minimum

General:

Size—12"H x 12"W x 15"D (30.5 x 30.5 x 38.1 cm)

Weight—1.7 lb. (0.8 kg)

Mounting—1- to 2-inch (2.5- to 5.1-cm) O.D. mast

Cable:

Type—LMR 400

Impedance—50 ohms

Attenuation—6.8 dBi/100 ft. @ 2500 MHz or 2.5 GHz

Length—2 ft. (0.6 m) with 20-ft. (6.1-m) extension

Connector—N-type, copper SMA

2. Introduction

2.1 Description

The 12-dBi Directional Antenna is used with the Black Box Pro Series Wireless Ethernet adapters. Use it with the LW0055A, LW0056A, LW0057A, LW0058A, or LW0059A for outdoor applications where higher gain and medium distances between sites are required. It has a beamwidth of 22°.

The antenna is suitable for mounting on a mast with a tripod base, or fasten it with guy wires. 20 ft. (6.1 m) of low-loss cable and mounting hardware is included. Use it to attach the antenna to a mast of 1 to 2 inches (2.5 to 5.1 cm).

2.2 What the Package Includes

Check to make sure you've received the following items. If anything is missing or damaged, please contact Black Box at 724-746-5500.

2.2.1 PACKED IN FEED BOX

- (1) Feed assembly
- (1) Sub-reflector
- (1) #6 x ½" stainless screw
- (2) Stainless ¼ x 20 x 1" carriage bolts
- (2) Stainless ¼ x 20" hex nuts
- (2) Stainless ¼" lock washers

2.2.2 PACKED IN REFLECTOR BOX

- (1) Reflector
- (1) Mast clamp
- (1) Mounting "L" shaped bracket
- (1) Stainless U-bolt ¼ x 20 x 2"
- (2) Stainless ¼ x 20" hex nuts
- (2) Stainless ¼" lock washers
- (1) Stainless flat plate washer

3. Assembly

1. Place the sub-reflector on the front of the feed and secure with the #6 x 1/2" stainless screw (see **Figure 3-1**).

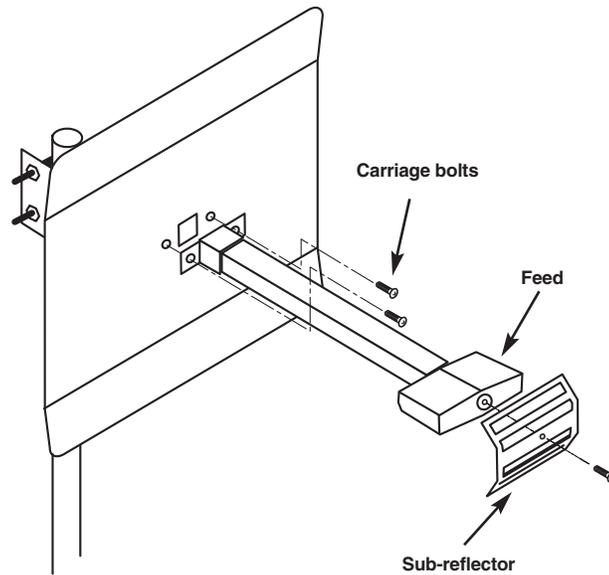


Figure 3-1. Attaching the Sub-Reflector.

2. Determine the polarity of the antenna. See **Figures 3-2** and **3-3**.

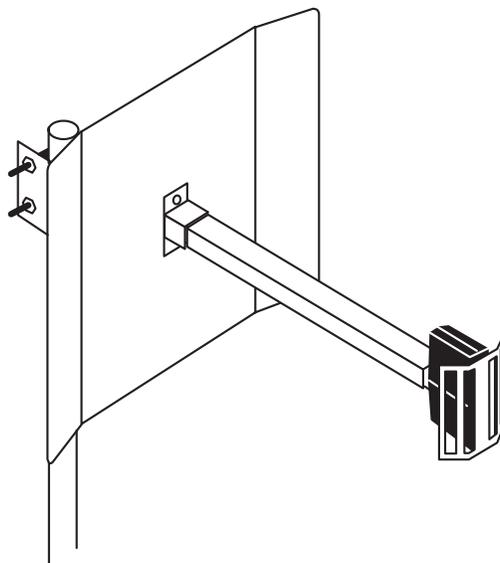


Figure 3-2. Vertical Polarity.

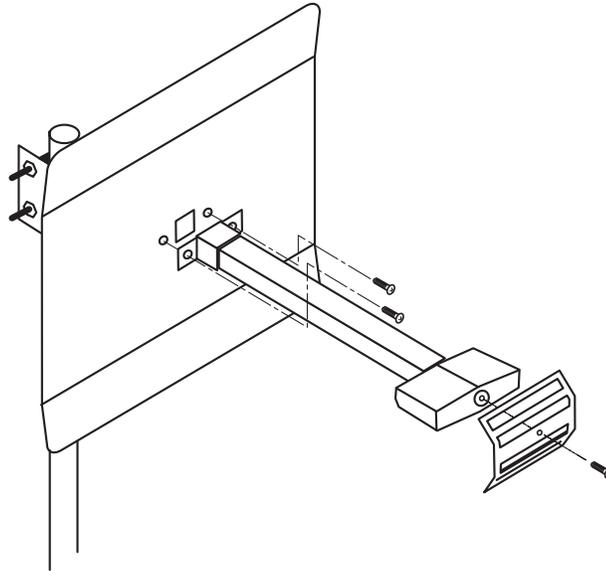


Figure 3-3. Horizontal Polarity.

3. Position the dipole feed assembly for the proper polarity.
4. Attach the “L” bracket on the back of the antenna (see **Figure 3-4**). Secure the feed on the front with two carriage bolts. Secure the feed on the back with the lock washers and nuts (see **Figure 3-5**).

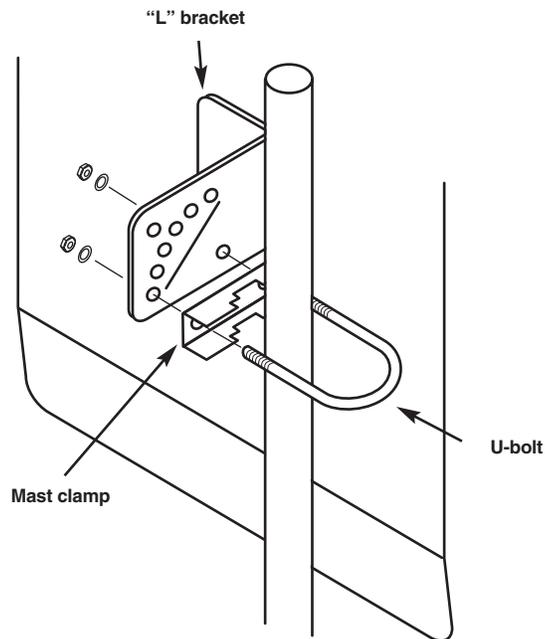


Figure 3-4. Attaching the “L” Bracket.

12-DBI DIRECTIONAL ANTENNA

- Place the mast clamp on the U-bolt (see **Figure 3-4**). Fasten the U-bolt on the “L” bracket with two lock washers and nuts (see **Figure 3-5**).

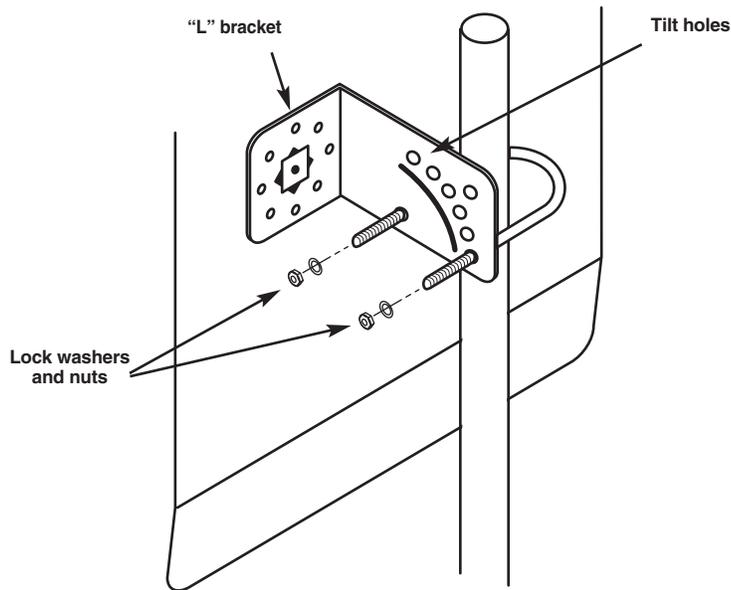


Figure 3-5. Fastening the U-Bolt on the “L” Bracket.

NOTE

Fixed tilt holes provide antenna elevation of up to 60 degrees in 10-degree increments. See Figure 3-5.

- Use the flat plate washer on the adjustable tilt slot to secure the antenna to the required elevation (see **Figure 3-6**).

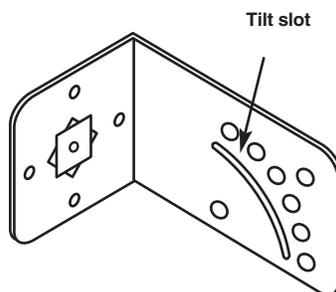


Figure 3-6. Tilt Slot.



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