

Model LPD-12 225-400

General description.

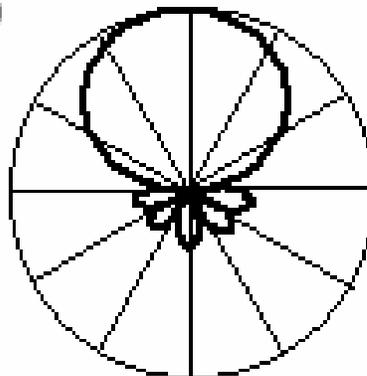
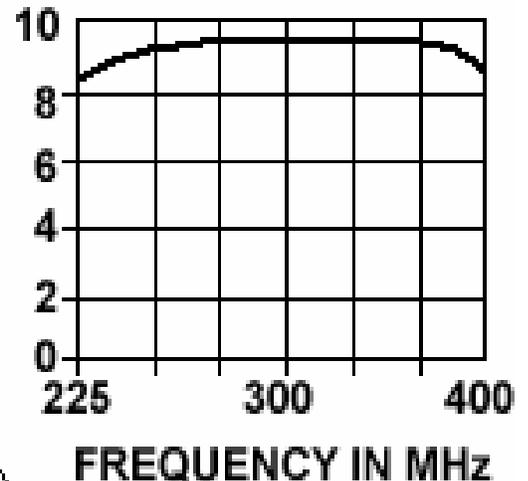
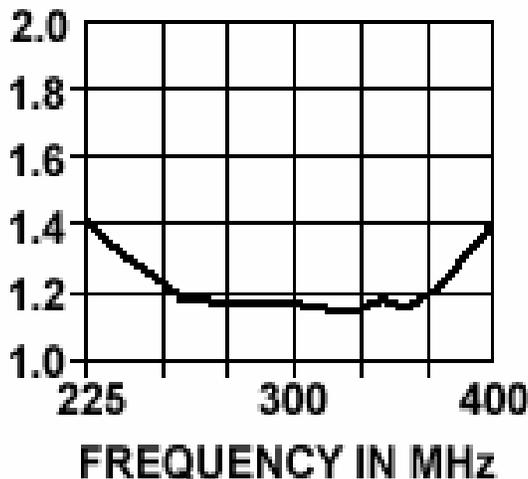
The LPD-12 225-400 is a twelve element log periodic dipole antenna covering the frequency range 225 MHz-400 MHz. The antenna is designed for cantilever rear mounting to masts up to 3" O.D. to provide vertical polarization.

Theory of operation.

The antenna is comprised of twelve dipole elements connected to a parallel pair of 1 1/4" aluminum crossarms that form the antenna transmission line. To accomplish end fire log periodic operation the elements are tapered from the front of the antenna to the back and successive dipole halves are transposed along the antenna transmission line. An internal cable in one of the crossarm sections functions as a balun to convert the balanced 50 ohm input at the front of the antenna to 50 ohm unbalanced coaxial "N" type connector mounted at the rear of the antenna. This internal "balun" effectively chokes off the surface currents normally associated with a balanced feed and eliminates transmission line radiation.

The entire antenna is maintained at d.c. ground potential through the grounding of the crossarms at the rear of the antenna. A ground wire attended to the crossarm mounting or the cable fitting will drain off static build up and provide lightning protection.

ELECTRICAL CHARACTERISTICS (TYPICAL)



**RADIATION PATTERN
H PLANE**

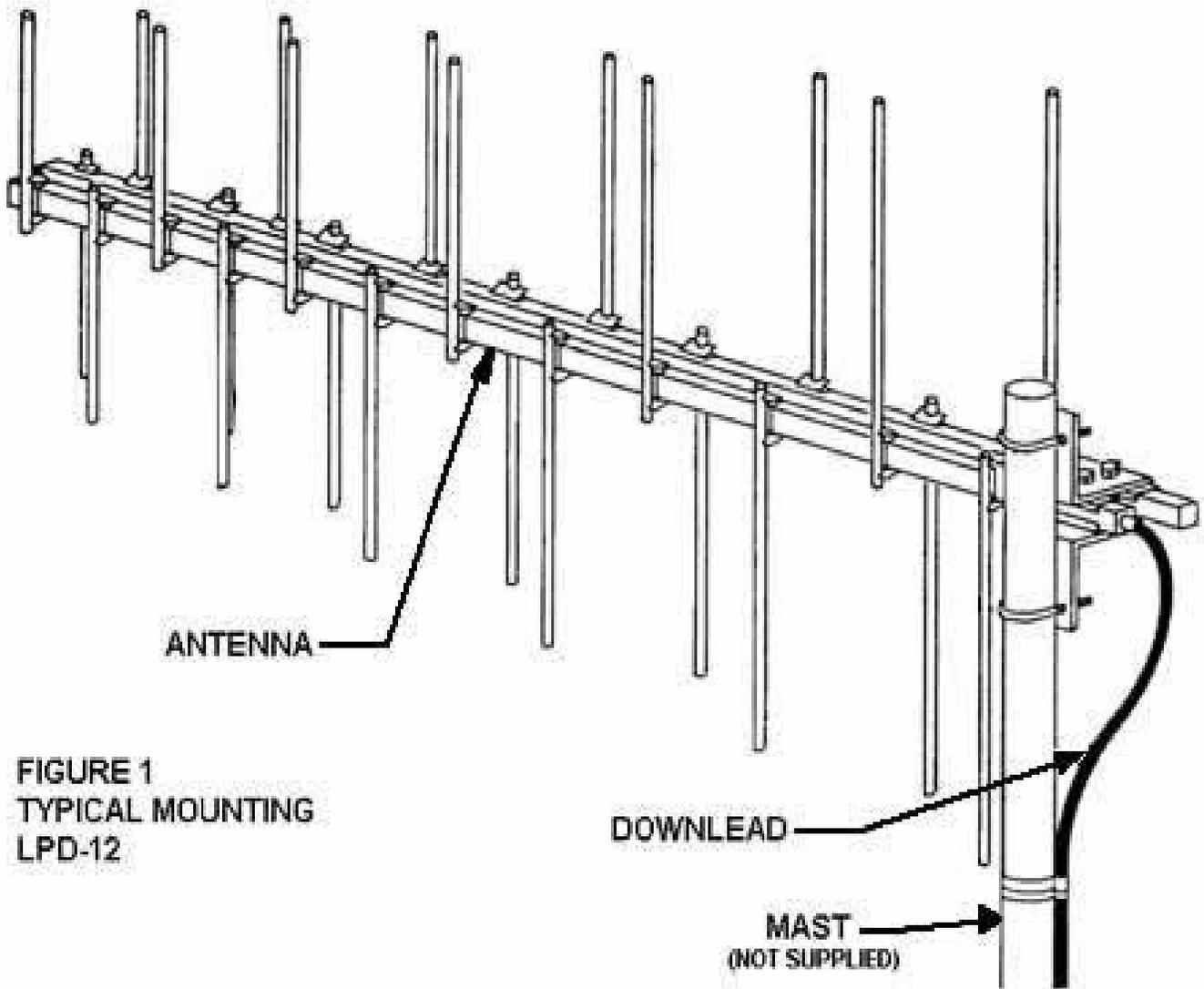


FIGURE 1
TYPICAL MOUNTING
LPD-12

ELECTRICAL

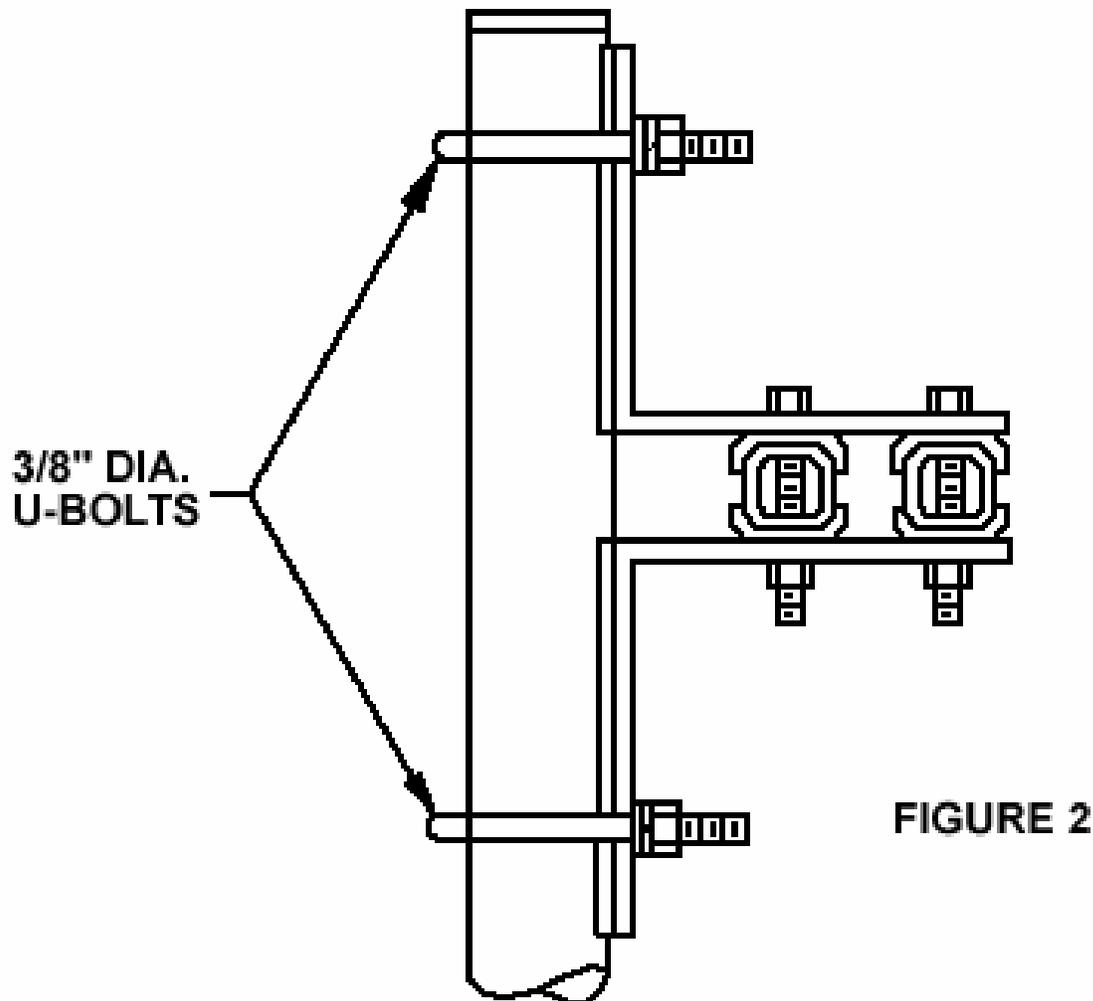
FREQ. RANGE (MHz)	225-400 MHz
GAIN (dBi, Min.)	8.5
POLARIZATION	VERTICAL
HPBW (Nom., deg)	E-PLANE 55 DEG. H-PLANE 75 DEG.
VSWR (MAX.)	1.5:1
TERMINAL: TYPE : IMPEDANCE	"N" 50 OHM
MAX. POWER	500 WATTS

MECHANICAL

LENGTH	79.50 IN. (201.93 CM)
LONGEST ELEMENT	26.75 IN. (67.95 CM)
WEIGHT	14 LBS. (6.35 KG)
MOUNT (MAST DIA.)	Up to 3.00 in. (7.62 cm)
WINDLOADING (85 Knot with 1/2 in. (1.27 cm) Radial Ice	109 lbs. (49.44 kg)

Antenna Mounting

1. Loosely assemble the two 3/8" diameter U-bolts into the mounting clamps.
2. Slide the U-bolts over the end of the support mast, orient the antenna to the desired azimuth and tighten U-bolts securely.



Download.

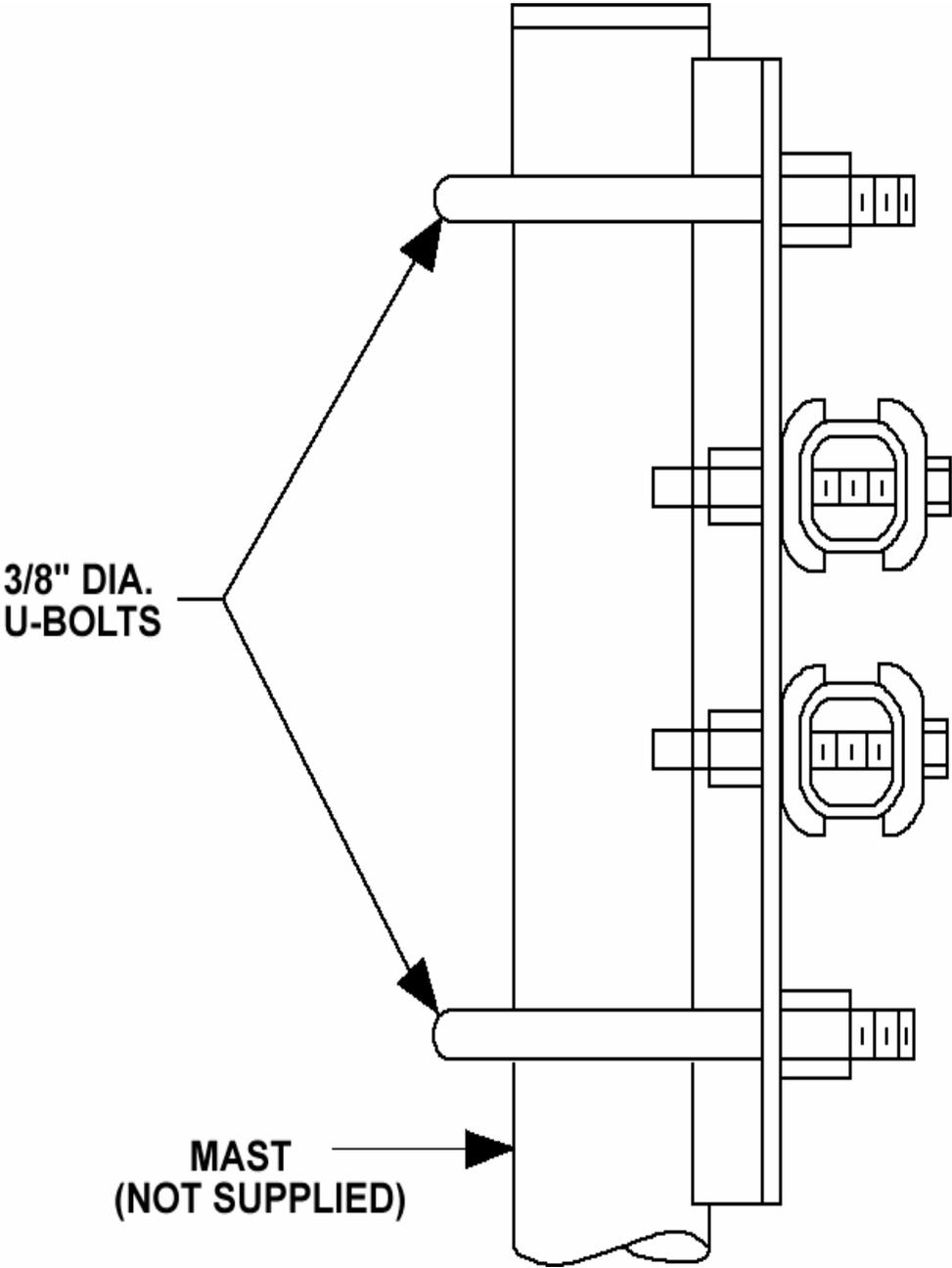
1. RG-213/U cable is recommended for the download.
2. Assemble a UG-21B/U connector to the cable.
3. Thread the connector onto the antenna connector.
4. Loop the cable up and around to the support mast. Cable may either be routed down the outside of the mast or through the mast.

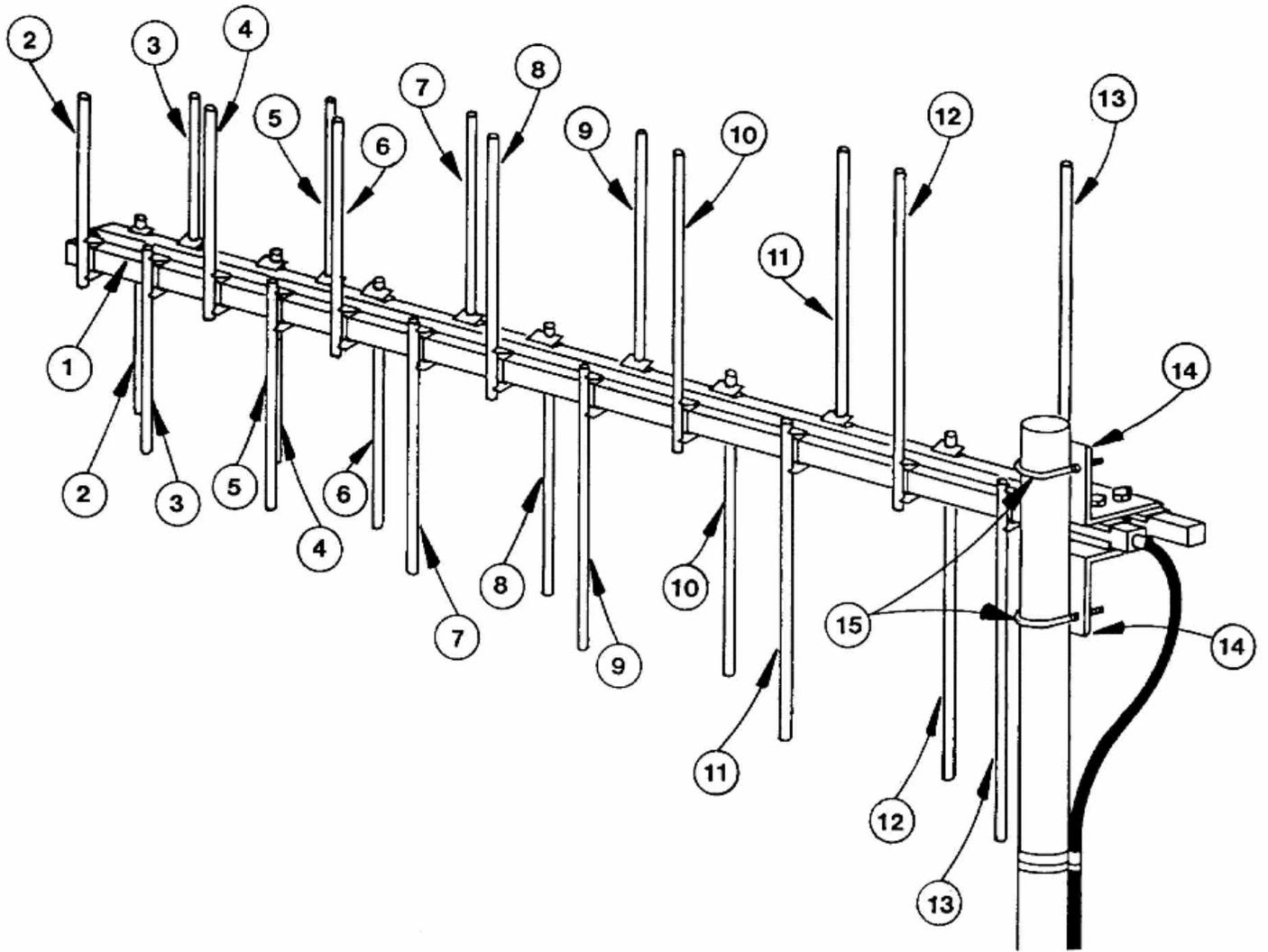
SAFETY PRECAUTIONS

To protect your antenna and receiver from lightning, you should ground your equipment.

1. To ground the antenna attach a ground wire under the head of the 3/8-16 x 3 1/4 in. long hex head screw at the mounting bracket (see Figure 2). Run the ground wire down the mast to a ground rod driven at least 4 feet into the ground.
2. Keep the antenna and cable a safe distance from any power lines.

Horizontal Mounting Bracket Detail





LPD-12 REPLACEMENT PARTS

ITEM	DESCRIPTION	QTY/UNIT	PART NUMBER
1	Crossarm Assembly	1	28829-501
2	Element 6.85 in.	2	21910-040
3	Element 7.30 in.	2	21910-041
4	Element 7.80 in.	2	21910-042
5	Element 8.35 in.	2	21910-043
6	Element 8.95 in.	2	21910-044
7	Element 9.60 in.	2	21910-045
8	Element 10.30 in.	2	21910-046
9	Element 11.05 in.	2	21910-047
10	Element 11.85 in.	2	21910-048
11	Element 12.80 in.	2	21910-049
12	Element 13.75 in.	2	21910-050
13	Element 14.85 in.	2	21910-051
14	Mounting Bracket, Vertical	2	28859-501
15	U-Bolt	2	20041-001
16	Mounting Bracket, Horizontal	1	28860-501

*Spare hardware for these items is included for the installers convenience.