

Model : PB-81 Instruction Sheet

The **PB-81 Parabeam UHF parabolic screen reflector antenna** is of modular design for use singly or in dual arrays and offers very high gain with extremely low windloading. It is supplied with the necessary installation hardware. Output terminal is a 75-ohm threaded "F" type fitting.

Mechanical Specifications

MODEL	REFLECTOR		DIMENSIONS(IN.)			THRUST**		WEIGHT	
	SIZE(FT)	QTY	WIDTH	HEIGHT	DEPTH*	NO ICE	1/4" ICE	NET	SHIPPING
PB-81	8.0	1	99.5	96.5	18.0	389	805	100	155

*Depth for reflector only

**Thrust in pounds transferred to supporting structure at 30 PSF

Overview

PB-81 screen reflectors are shipped in two sections and must be assembled prior to mounting the feed assembly. The entire antenna assembly is then raised into position, oriented and secured to the mast or tower leg as shown in Figure 1 and overview drawing on page 4.

Materials and tools required

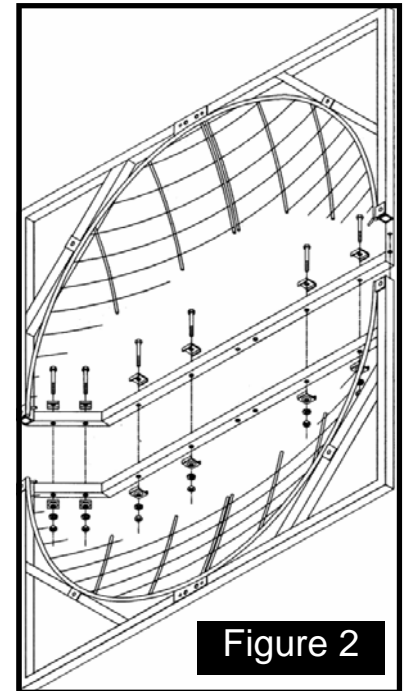
1. An appropriate 75-ohm downlead equipped with a 75-ohm female "F" type connector and a weatherboot.
2. Weatherproofing compound.
3. A ratchet wrench with 7/16 and 9/16 inch sockets.
4. A 7/16 open-end wrench

Screen Assembly

Open hardware package #1. This should consist of a minimum of:

- ◆ 8 - Bolts, 1/4 - 20 x 3 1/2" Hex Head
- ◆ 8 - Nuts, 1/4 - 20 Hex
- ◆ 8 - Lockwashers, 1/4" Split
- ◆ 16 - Reinforcing Channels

Use this hardware to assemble antenna halves as shown in Figure 2. Refer to detail at right.

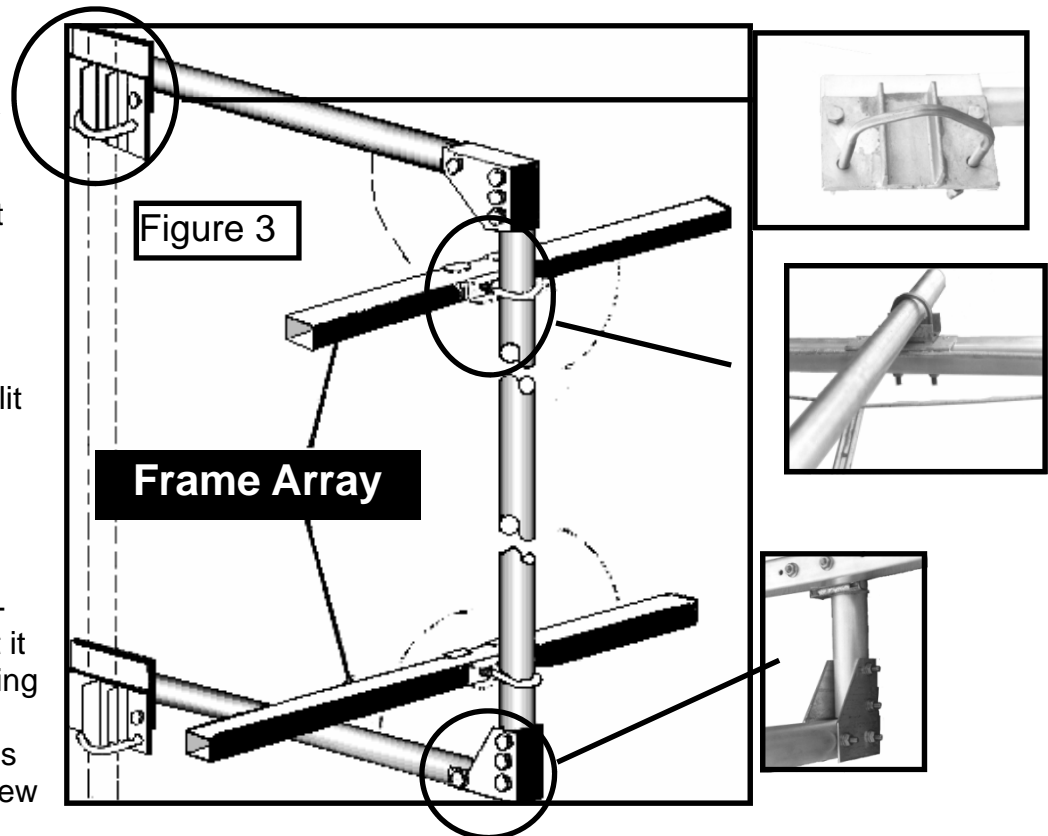


Outrigger Assembly

Locate the outrigger frame and hardware package #2. This should consist of a minimum of:

- * 4 - Bolts, 1/2" - 13 x 1-1/2" Hex Head
- * 4 - Nut, 1/2"-13 GR. 2 HEX
- * 4 - Lockwashers, 1/2" split
- * 4 - Nuts, 3/8 - 16 Hex
- * 4 - Lockwashers, 3/8" Split
- * 4 - Washers, 3/8" Flat
- * 2 - U-bolts, 3/8 Inch
- * 2 - U-bolts, 5/16 Inch
- * 4 - Nuts, 5/16 Hex
- * 4 - Lockwashers, 5/16" Split
- * 4 - Reinforcing Channel
- * 2 - Mast Clamps

Swing the frame open, assemble it using 3/8 - 16 x 1-1/2 hex head bolts and mount it to the PB-81 screen frame using the supplied U-bolts, mast clamps and reinforcing clips as shown in Figure 3 and overview drawing on page 4.



Feed Assembly

Locate driver and hardware package #3. This should consist of a minimum of:

- * 2 - Bolt, 1/4 - 20 x 3 1/2" Hex Head
- * 2 - Nut, 1/4 - 20 Hex
- * 2 - Lockwasher, 1/4" Split
- * 2 - Washer, 1/4 Flat
- * 1 - U-Bolt, 5/16 x 2" I.D.
- * 2 - Nut, 5/16 Hex
- * 2 - Lockwasher, 5/16" Split
- * 2 - Reinforcing Channel
- * 1 - Mast Clamp

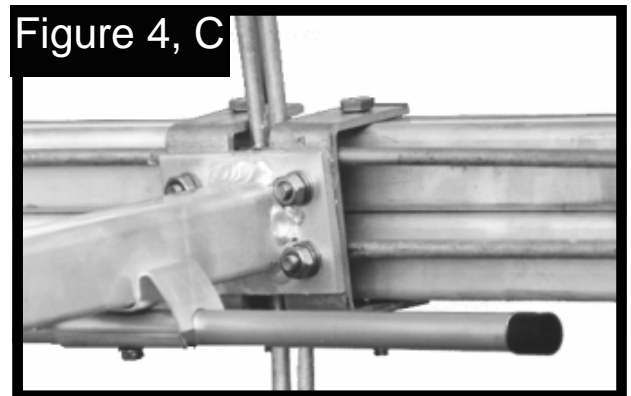
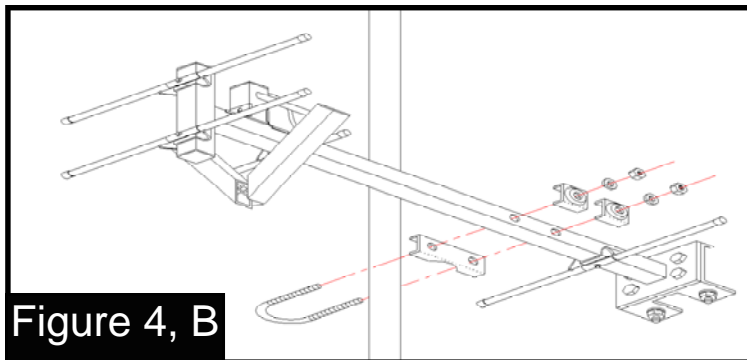
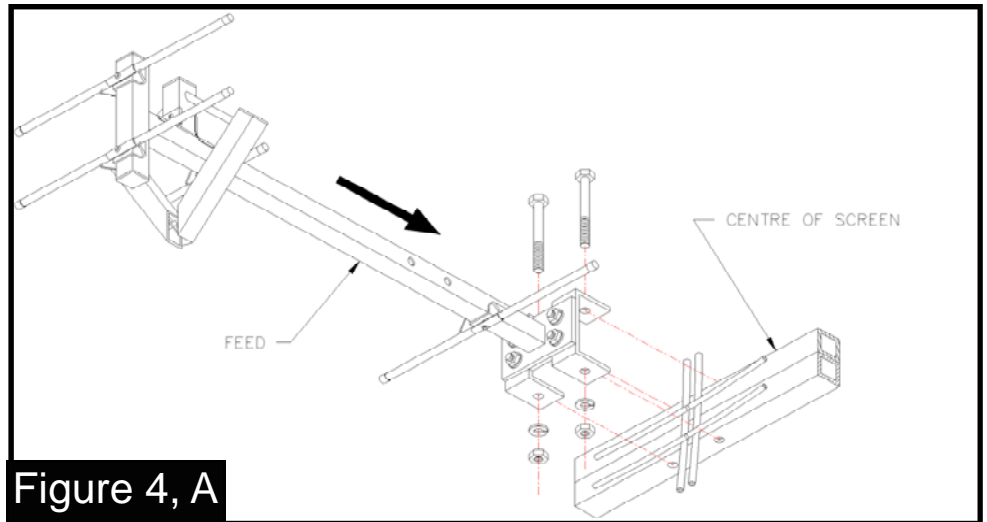


Figure 4

Attach the feed to the center of the screen using the 1/4 - 20 x 3 1/2" bolts, flat washers, lockwashers and nuts as shown in Figure 4 and Detail B. Proceed by attaching the feed tube to upright vertical member of the outrigger frame using the 5/16" U-Bolt, lockwashers, nuts, reinforcing channel and mast clamp as shown in Figure 1 and overview drawing on page 4. Note that the output connector must be installed in the "up" position and that the feed must be aligned straight out from the screen, perpendicular to the frame. Connect the down-lead fitting to the antenna output terminal. Hand tighten, then wrench tighten the fitting not more than 1/6 of a turn. Apply a liberal coating of weatherproofing compound to the connection and slide on the weatherboot.

Antenna Mounting

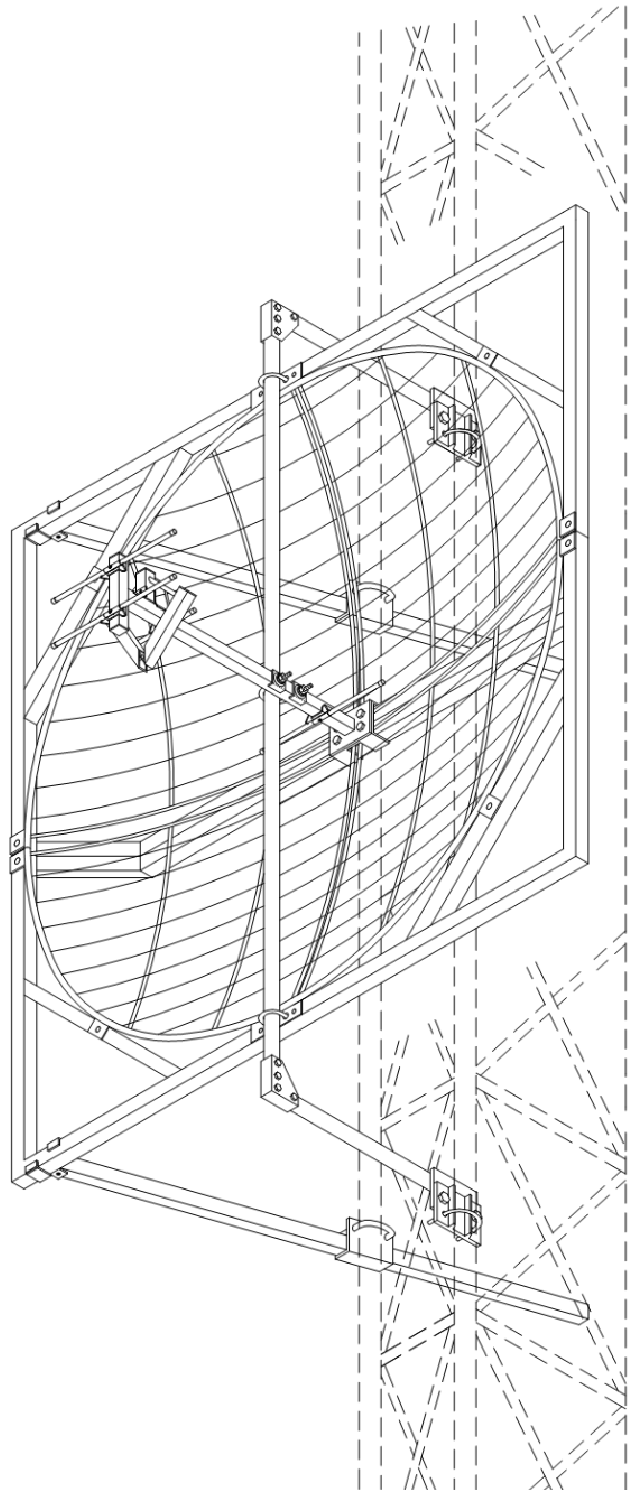
Locate hardware package #4. This should consist of a minimum of:

- * 4 - Bolts, 1/4-20 x 3/4"
- * 4 - Nuts, 1/4-20 x 3/4"
- * 2 - U-Bolts, 3/8-16
- * 4 - Washers, 3/8 Flat
- * 4 - Lockwashers, 3/8 Split
- * 4 - Nuts, 3/8 Hex

1) Carefully lift the antenna assembly into position on the tower or mast, roughly aligned to the direction of the desired broadcasting stations. Temporarily secure the unit as shown at right and tightening them sufficiently to bear the weight of the antenna.

Caution! Take care not to damage the feed assembly or move it out of alignment with the center of the reflector.

Overview Drawing



Antenna Mounting - continued

2) Assemble the twist-lock azimuth braces onto the reflector frame following steps 1,2 & 3 at right by aligning open portion of end bracket with antenna frame, sliding bracket over antenna frame and turning 1/4 turn counterclockwise to lock bracket on frame.

3) Locate azimuth brace mount (Figure 5), The 3/8 U-bolts supplied are adaptable to range of appropriate tower leg sizes. mount to tower leg as in Figure 1 and overview drawing on page 4. Rotate the entire antenna slightly, both left and right, until maximum signal strength is received. This is obtained by sliding the azimuth braces in their attachment hardware (Figure 5). Two (2) 1/4-20 x 3/4" bolts are used to lock the azimuth brace in place, and two (2) 1/4-20 nuts are used as lock nuts to lock the bolts (not shown in picture). When alignment is satisfactory, tighten **all** bolts and U-bolts **securely**.

4) Connect the down-lead fitting to the antenna output terminal. Hand tighten, then wrench tighten the fitting not more than 1/6 of a turn. Apply a liberal coating of weatherproofing compound to the connection and slide the weatherboot on. Utilize the remaining zip ties to secure

