Directive Systems & Engineering

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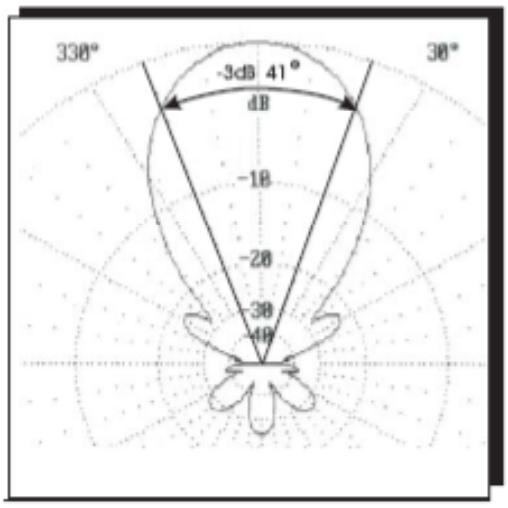
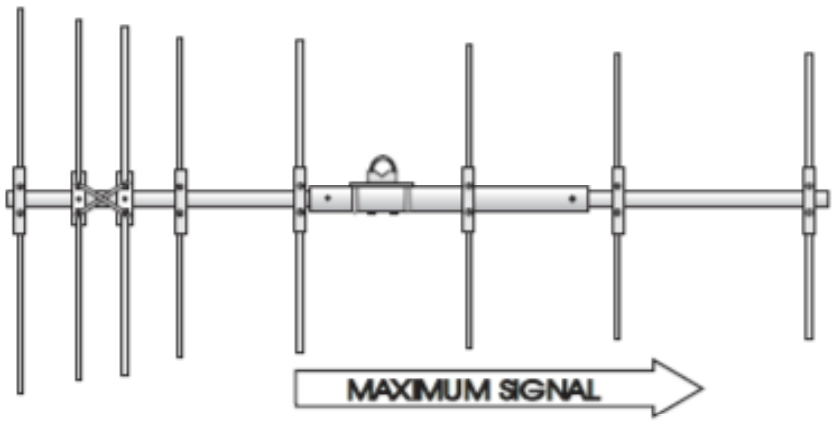
FM Broadcast Band Yagi, Model DSE88-8FM

SPECIFICATIONS

Frequency Range:	88-92 MHz (88-108 useable)
Number of elements:	8
Boom Length:	17.25 feet
Boom diameter:	1 3/8 inches
Mast diameter:	1 1/2 inch max.
Forward Gain:	13.1 dBi (11.0 dBd)
Impedance:	75 ohms balanced feed
Beamwidth:	41 degrees
Front to Back Ratio:	20+ dB
Weight:	13.5 lbs (assembled)
	17 lbs (shipping)





The DSE88-8FM eight element high performance FM yagi has been designed to complement the capabilities of modern FM stereo tuners and minimize any reception problems due to heavy overcrowding of stations, the norm in most areas of the country. A good antenna, like a good tuner, can make a tremendous difference in your FM reception.

The DSE88-8FM has been computer optimized for the best possible pattern and gain characteristics from 88 to 92 MHz to help alleviate interference from stations broadcasting on the same frequency or channel from different directions.

The use of a rotator is a must with this antenna and will illuminate the amazing flexibility that the DSE88-8FM will add to your reception capabilities. A high gain rating provides about thirteen times (11 dBd) the improvement over simple dipole antennas. Improved signal to noise ratio for stereo signals will result. In short, the DSE88-8FM has been designed to meet every severe FM reception problem likely to be encountered by the discriminating listener.

The DSE88-8FM is constructed of high strength 6061-T6 aircraft grade aluminum tubing. All elements are thick walled high strength construction with stainless steel hardware throughout for long life. Compare the construction with other FM broadcast antennas on the market and you will be convinced of our commitment to value, performance and quality.

ASSEMBLY INSTRUCTIONS

1) Observe the parts list and diagrams (Figure 1 thru 4.) below, and verify that all parts required for assembly are included. The hardware is packaged in a separate plastic bag. all elements and mounting blocks are supplied ready for assembly.

2) Observe Figure 1 & 2, and identify each element. Elements are marked with black marker for proper position on the boom. Assemble the boom as shown in FIG #1. Insert tubing to the alignment marks provided. Use 2" machine screws and worm clamps to attach boom sections. the rear, locate el #1 1" from the end of the boom. The first 4 elements locations on the boom are pre-marked, using Figure 1 as a guide, mark all the other element locations. Start assembling the elements by placing each end of element #1 with the hole in it into an element coupler tube. Place a 1 ½" U bolt through the element saddle and then through the element coupler tube and element. If the holes don't align properly, rotate the element one half turn. Slide this assembly over the boom and place it in the correct location as indicated in Figure 1. Continue with elements 4 through 8.

3) Assemble the two driven elements as shown in figure 3 and place them on the boom as well. These two elements are connected together with the two 3/8" wide x 10 3/4" long PHASING STRAPS as shown in figure 4. Note that your lead in wire will connect to element #3 (toward the front).

4) Attach the boom to mast plate at the balance point of the antenna. (See FIG 2.) Attach a 75 ohm coaxial lead in cable to the #8-32 machine screw terminals on element #3 (See Fig. 4). Prepare the cable as shown, and tape the cable to the supporting mast to avoid movement in windy weather. Place the antenna on your support mast and tighten U-bolts to lock antenna in position. The antenna elements should be parallel to the horizon for proper horizontal polarization. Maximum pickup will be as shown in Fig #1, in the direction away from the coax cable attachment point.

At this time, check all elements for tightness and position. Seal the end of the coax cable with RTV. Locate the antenna away from metal objects, otherwise some de-tuning and loss of performance will result.

If you are using a rotator, be sure that you align the front of your DSE88-8FM to coincide with the indication on your rotator controller. Maximum signal is shown in Figure 1.

PARTS LIST

Description	Quantity
1 3/8" x 41 1/2" Boom w/boom joiners pre-installed	4
1 3/8" x 41 1/2" Rear Boom w/insulators pre-mounted	1
Phasing strap	2
Element #1 (Reflector) 1/2" OD x 33"	2
Element #2 (Dipole 1) 1/2" OD x 28 15/16"	2
Element #3 (Dipole 2) 1/2" OD x 29 1/8"	2
Element #4 (Director 1) 1/2" OD x 30 1/8"	2
Element #5 (Director 2) 1/2" OD x 29 13/32"	2
Element #6 (Director 3) 1/2" OD x 28 23/32"	2
Element #7 (Director 4) 1/2" OD x 28 9/32"	2
Element Joiner	5

*All element lengths +/- 1/8"

Hardware Bag #1	Quantity
8-32 x 1 1/2" Machine screw	4
8-32 Hex nut	8
#8 Split lock washer	4
#8 Internal tooth lock washer	4
#8 Solder lug	2
1/4" Lock Nut	12
Hardware Bag #2	
1/4-20 x 1 1/2" U-bolt	6
Element block (aluminum)	6
Hardware Bag #3	
Boom to mast bracket 3" x 5"	1
1/4-20 x 1 1/2" U-bolt	2
5/16 x 2" U-bolt	2
5/16 Hex nut	4
5/16 Lock washer	4
1/4" Lock Nut	4
1 3/8" hose clamps	4

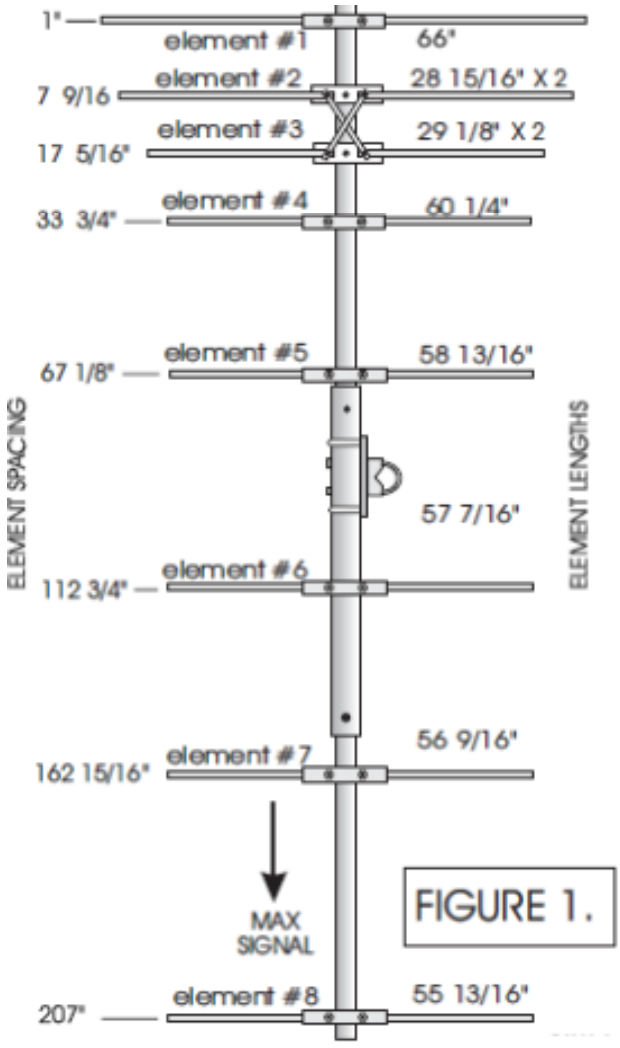


FIGURE 1.

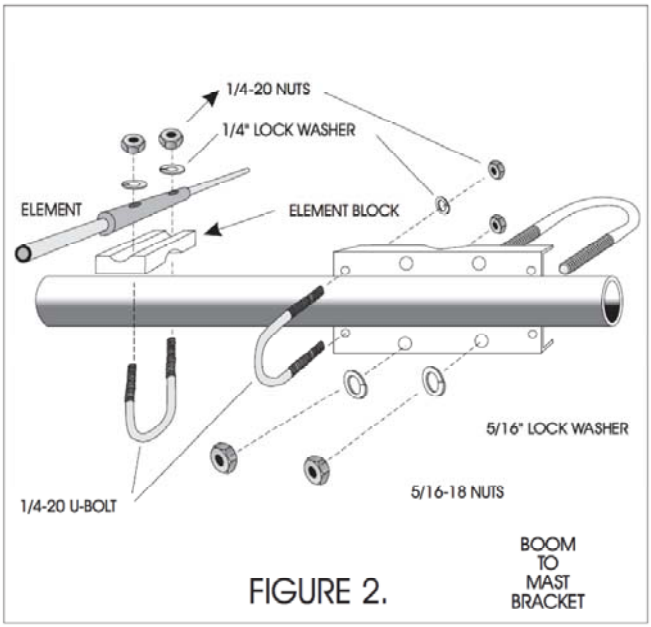


FIGURE 2.

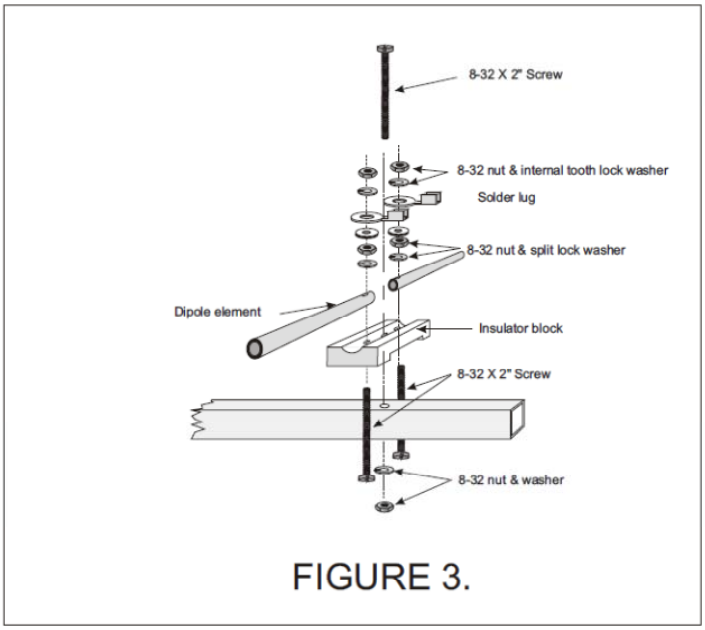


FIGURE 3.

The driven element section as shown in Figure #4, is the most critical area of the FM yagi antenna. Observe the drawing for correct assembly. Note that the longest driven element (29- 1/8") is toward the front of the antenna. Be sure to place the phasing straps so that they will not touch each other. Form the straps with your hand so that a 1" (approx) space is evident where the straps cross each other. The antenna has been designed for a direct 75 ohm feed impedance. The coiled coaxial cable serves as an effective "balun" to maintain proper electrical performance. Do not fail to coil the coax as an improper antenna pattern may result!

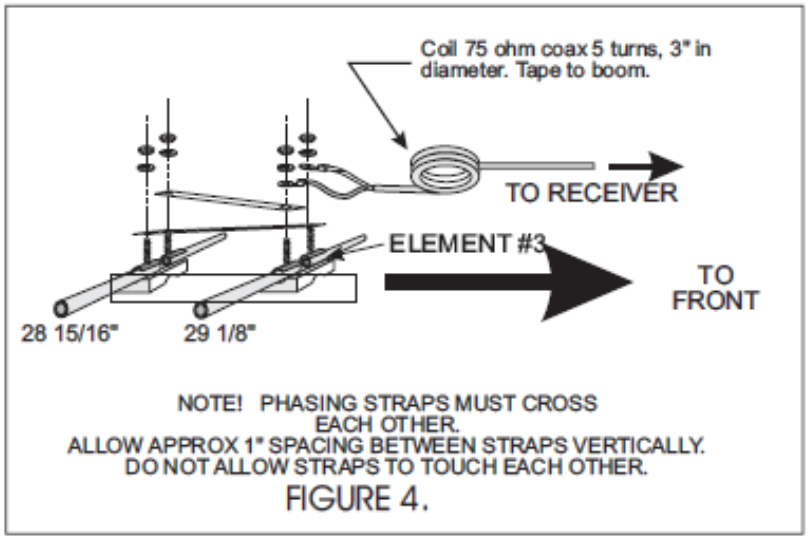


FIGURE 4.

Two antennas may be “stacked” for higher gain. The vertical separation should be between 10 and 13 feet. For stacked antennas, the feed cable must be installed uniformly on both antennas. The “hot” lead must connect to the same side (for instance: right side.) on both antennas.

Directive Systems Warranty Policy

All Directive Systems antennas are built with the finest materials available. We take great pride in building a quality product that will give years of good service and performance. If there is a defect in materials or workmanship within 90 days of purchase, Directive Systems will repair or replace, free of charge, the defective part. **DO NOT RETURN ANYTHING WITHOUT PRIOR AUTHORIZATION FROM DIRECTIVE SYSTEMS**. Please contact us either by phone or email describing the problem and we will work to resolve it. If, after examining a new antenna you received, you are not satisfied, contact us immediately for return authorization and refund. **ANY ANTENNA THAT HAS BEEN MODIFIED WILL BE SUBJECT TO A RESTOCKING CHARGE. IF AN ANTENNA IS SO MODIFIED AS TO MAKE IT UNUSABLE, DIRECTIVE SYSTEMS RESERVES THE RIGHT TO REFUSE TO ACCEPT THE ANTENNA FOR RETURN.**

Export Addendum

To enable the antenna to be shipped via the Postal Service, the boom is constructed of 5 boom segments with 24” joining sleeves. The boom sections are marked with numbers to indicate which boom sections go together. Starting with the rear boom section (labeled 1) which has the driven element insulators already attached, slide the next boom section in until it stops and the two number 1’s are together. Place a hose clamp over the slits and tighten. Continue this process until all 5 sections are completed.