

INSTRUCTION MANUAL

Log Periodic Antenna

ALFM-80120

88 MHz to 108 MHz

(Extendible to 80 to 120 MHz)



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1.0 Introduction

This manual includes product specifications, safety precautions, product maintenance and warranty information.

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2.0 Product Specifications

Model:	ALFM-80120
Frequency Range:	88 MHz to 108 MHz (extendible to 80 MHz to 120 MHz)
Polarization:	Linear
Nominal Impedance:	50 Ω
Power Handling:	2500 watts (CW) max.
Connector:	7 – 16 DIN Female
Antenna Factor:	6 to 8 [dB(m-1)] (@ 1 mtr distance)
Isotropic Gain:	1.5 to 5 dBi (@ 1 mtr distance)
VSWR:	<1.3 (80 to 88 MHz) <1.25 (88 to 108 MHz) <1.45 (108 MHz to 120 MHz)
Mounting:	¼" x 20 threaded Center pivoting joint for Horizontal and Vertical polarization
Dimensions:	
H x W x D (inches / cm):	7.5 x 81.9 x 82.7 / 19 x 208 x 210 (Fully assembled)
Weight:	13.5 lbs / 6.1 kg

3.0 Important Safety Precautions

Do not exceed Max RF input level stated in the specifications. Excessive RF input might damage the RF feeder cable or connector. When in operation, the RF voltages on the center pin of the RF input connector are transferred to the feeder tubes and elements and it can be hazardous. Do not come into contact with the feeder tubes or elements when the RF input connector is connected to a live RF source. To avoid injury to personnel and accidental damage to power amplifier or antenna, disable the RF output of power amplifier before connecting or disconnecting the input connection to the antenna.

4.0 Warranty

Com-Power warrants to its Customers that the products it manufactures will be free from defects in materials and workmanship for a **period of 3 years**. This warranty shall not apply to:

- Transport damages during shipment from your plant.
- Damages due to poor packaging.
- Products operated outside their specifications.
- Products Improperly maintained or modified.
- Consumable items such as fuses, power cords, cables, etc.
- Normal wear
- Calibration
- Products shipped outside the United States without the prior knowledge of Com-Power.

In addition, Com-Power shall not be obliged to provide service under this warranty to repair damage resulting from attempts to install, repair, service or modify the instrument by personnel other than Com-Power service representatives.

Under no circumstances does Com-Power recognize or assume liability for any loss, damage or expense arising, either directly or indirectly, from the use or handling of this product, or any inability to use this product separately or in combination with any other equipment.

When requesting warranty services, it is recommended that the original packaging material be used for shipping. Damage due to improper packaging will void warranty.

In the case of repair or complaint, a label should be attached to the housing of the instrument which describes briefly the faults observed. Please include the name, telephone number and email address of the contact person. Please contact Com-Power at sales@com-power.com or 949-459-9600 to obtain an RMA number prior to shipping the unit back.

5.0 Maintenance

This product contain no user serviceable parts. If the unit does not operate or needs calibration, please contact Com-Power Corporation. Any modifications or repairs performed on the unit by someone other than an authorized factory trained technician will void warranty.

The exterior surface may be cleaned with mild detergent and then be wiped with a dry, clean, lint-free cloth.

6.0 Assembly Instructions

Com-Power ALFM-80120 Log periodic antenna is disassembled for ease of shipping and handling.

Items Included in the shipment:

- i) Feeder tubes.
- ii) Ten pairs of log elements.

Care must be taken in assembling the elements in the correct order and direction to maintain the performance of the antenna as per specification.

Two important aspects for assembly are,

- a) The sequence of elements (based on length of each element)
- b) The direction of protrusion/extension of each element on each feeder tube.

The basic diagram below shows the Right hand side view of the antenna looking in from the Tip/Nose of the antenna.

The yellow circle indicates the direction in which the element should protrude out. The screw indicates the element is protruding in the opposite direction.

For eg: Consider you are standing facing the nose/tip of the antenna. Element 1 from the upper feeder tube will be extending out to your right and the element from the bottom feeder tube will be extending out to your left.

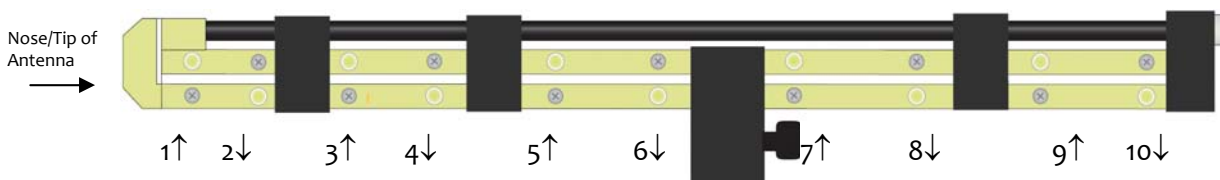


Figure 1: Assembly diagram of antenna

For ease of identification, the storage bags for each pair of elements are marked with numbers one through ten corresponding to the position of the element on the feeder tubes. The channel groove on the underside of the bottom feeder tube is marked respectively for easy pairing with elements.

There is an arrow indicator next to each number which depicts direction of the protrusion of the element on the bottom feeder tube (as shown in the figure below).

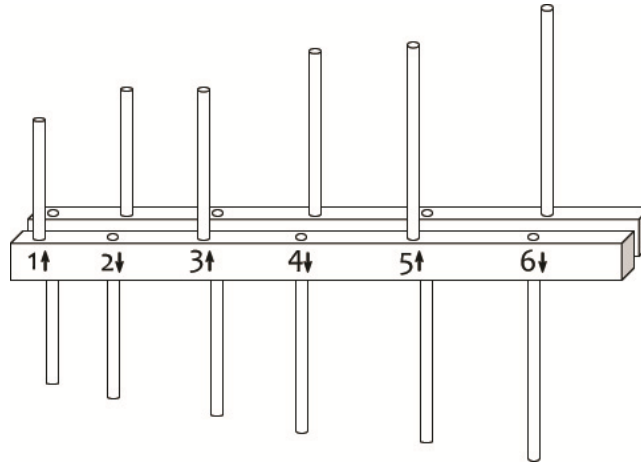


Figure 2: Elements installation diagram

Please note that the direction depicted is for the element attaching to the slots on the bottom feeder tube. The elements attaching the upper feeder tube element will be of the same length but connected in the opposite direction.

7.0 Typical Performance Data

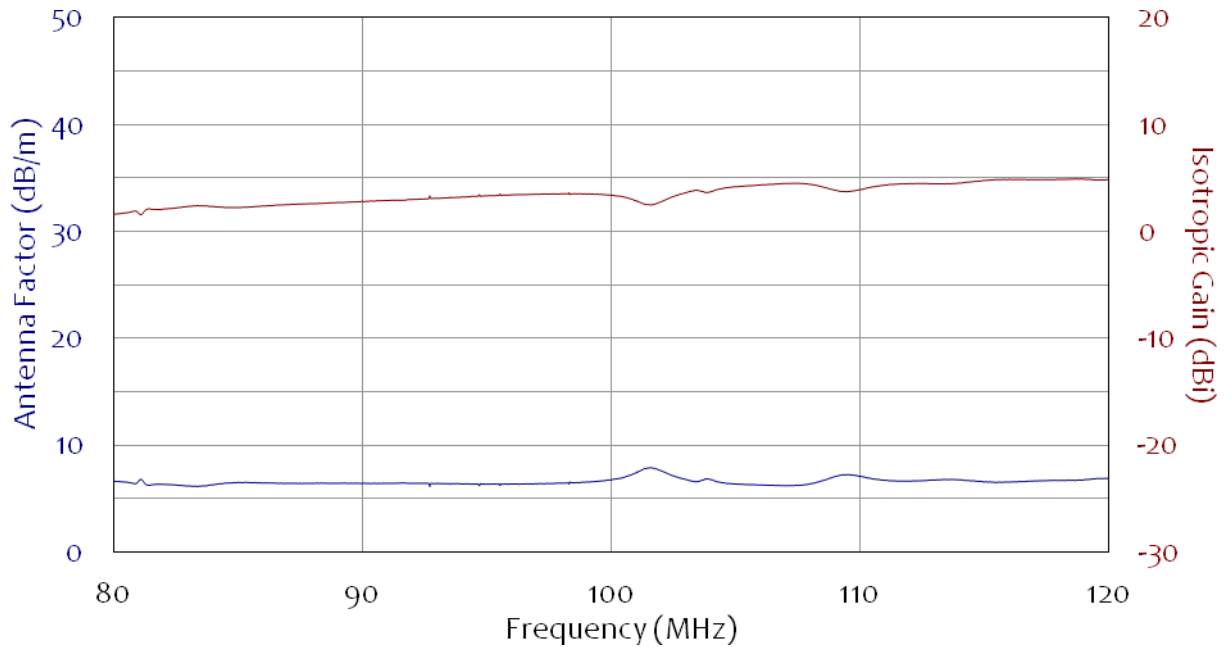


Figure 3: Antenna Factor and Isotropic Gain @ 1 mtr test distance.

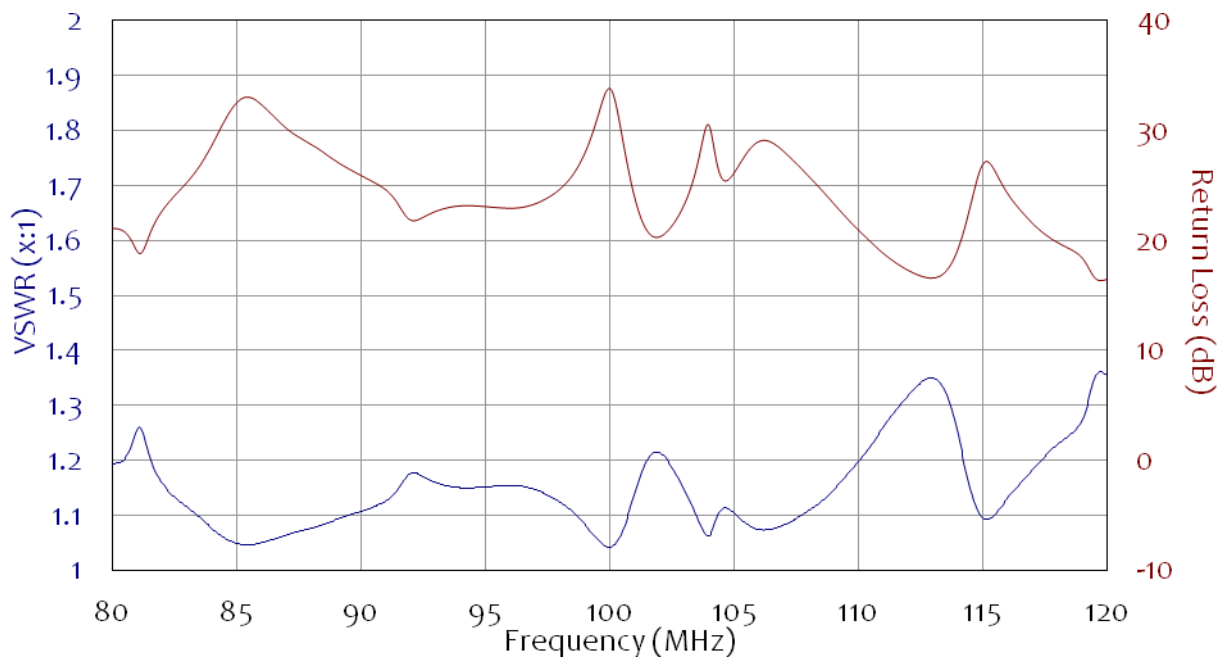


Figure 4 VSWR and Return Loss.

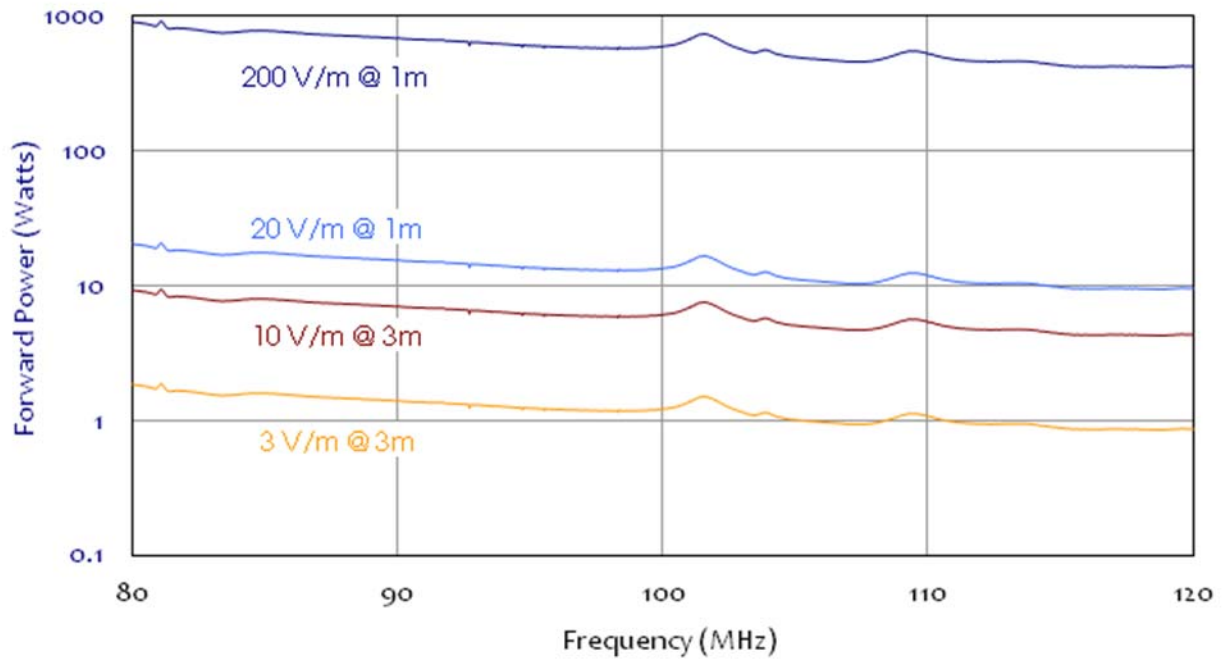


Figure 5: Typical forward power levels.

Field strengths have been calculated for free-space conditions. Individual shielded rooms, amplifiers, and test-system conditions will influence performance. Field strength also varies with frequency and position of antenna and EUT in non-anechoic testing environments.