

15 FT C-BAND MONOPULSE RADAR ANTENNA



Microstar manufactured and tested this 15 Ft. C-band Radar Antenna for Enterprise Electronics Corporation (EEC) for use in missile tracking and weather radar applications. The antenna consists of a spun-aluminum reflector provided by EEC and microstar's monopod eight-horn Cassegrain monopulse feed system. The antenna was assembled and tested at Microstar's antenna range facility.

The antenna met the following specifications:

Frequency	5.4 – 5.9GHz
Polarization	Horizontal
Gain	46 Dbi min
Delta Peak Gain	41 Dbi min
Beamwidth	0.8 degrees
Sidelobes	-18 dB max
Depth of Null	35 dB min
RF Power Handling	1.0 MW peak
Pressurization	30 PSIG
Weight	850 pounds

The feed system uses a lightweight 20 inch diameter subreflector supported by a conical quartz-epoxy radome. The subreflector is fed by an eight-horn assembly made up of a central square monopulse feed plus four auxiliary feeds for reducing the error horn sidelobes. Connected to the central horn is a WR187 comparator to produce sum and delta outputs. The auxiliary horn outputs are coupled into the delta channels to effect sidelobe reduction.