



WATTS ANTENNA COMPANY



Sole Source Provider of EFGS Antennas!

MODEL 105 END-FIRE GLIDE SLOPE (EFGS) ANTENNA CATEGORY I/II INSTRUMENT LANDING SYSTEM



THE EF-9 INTERFACE UNIT PROVIDES
POWER DISTRIBUTION AND
MONITORING FOR THE ANTENNA
SYSTEM

(Designed to be Easily Adapted to any
Transmitter & Monitor Electronics)



(Rear Antenna Shown)

A PROVEN FRANGIBLE SUPPORT
STRUCTURE

Have you been told that you cannot get ILS service at your airport because the site is too difficult? Throw that old report away! We don't believe it and let us tell you why!

End-Fire antennas can offer numerous benefits over conventional image systems:

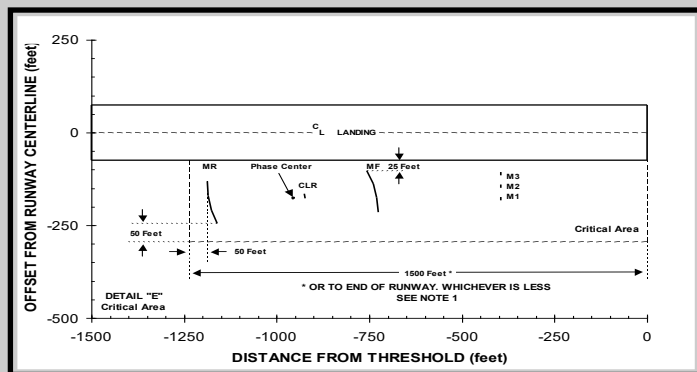
*Significant Cost Savings by Avoiding Expensive
Ground Plane Conditioning.*

*Provide ILS Service where Previously not Possible
or Cost Effective due to Terrain.*

*Proven Frangible Low-Profile Design Permitting
"Next to Runway" Installation.*

*Save the Wetlands or Avoid High Wetland Reloca-
tion Costs.*

*Waterside Installations Since the Signal is not
Degraded by Tidal Variations.*



Precision Glide Path Guidance is Achieved with
Narrow Lateral Radiation Patterns that Reduce Multi-path Signals from Buildings or Mountainous Terrain.

What About Improvements to Airport Efficiency?

The End-Fire Critical Area Size is Substantially Smaller & can mean more operations per hour!

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MODEL 105 END-FIRE GLIDE SLOPE ANTENNA

Frequency Range:	329 to 335 MHz
Excitation:	
CSB	4.0 W (typical)
SBO	200 to 500 mW
CLR	400 mW to 2.5 W
Input Impedance:	50 ohms
VSWR:	
Main Antenna	1.25:1
Clearance Antenna	2.0:1
Pressurization:	Dry air, constant, 3 to 9 PSI nominal, stable pressure preferred
System Air Volume:	7.70 cu. ft. (218.0 litres) (approximate) with specified dielectric coaxial cables
Dehydrator Run Time:	8.7 minutes to pressurize (Andrew MT300 only) 1.5 hours in a 24-hour period (Andrew MT300 only)
Dehydrator Idle Time:	2.4 hours between cycles (Andrew MT300 only) 22.5 hours in a 24-hour period (Andrew MT300 only)
Radiation pattern:	
Main antenna	-2 dB beamwidth > 13 degrees azimuth -10 dB beamwidth < 30 degrees azimuth Front to back ratio > 12 dB
Clearance antenna	Maximum lateral radiation nominally -19 degrees and 11 degrees relative to the runway centerline with a null in the region of main antenna maximum radiation. Front to back ratio > 12 dB
Glide Angle:	2.5 to 4.0 degrees relative to horizontal (adjustable)
Path Width:	0.70 degree, (nominal)
Power Requirement:	22-30 VDC, (nominal 28 VDC) @ 0.98 amp maximum
Duty Cycle:	Continuous, unattended
Outdoor Equipment:	
Temperature	-50 to +70 degrees C
Relative humidity	5 to 100 percent
Altitude	0 to 10,000 feet
Wind	0 to 100 mph
Ice loading	1 inch radial clear ice
Indoor Equipment:	
Temperature	-10 to +50 degrees C
Relative humidity	5 to 90 percent
Altitude	0 to 10,000 feet