

2.4-Meter Transportable SNG Antennas

Exhibit B HNS License Sub, LLC Call Sign E990170 Modification of License Application February 2013



2.4-Meter Transportable SNG Antenna

Electrical Performance Meets or Exceeds:

- INTELSAT E-1 and G requirements.
- U. S. FCC regulation 25.209, for mandatory pattern requirements for 2° satellite spacing at Ku-band frequency.
- ITU-R S.580-4 and S.465-5 recommendations for pattern performance for 2° satellite spacing.
- Approved for use in the territory of Russia by the Ministry of Communications of the Russian Federation (Reference: Homologation Certificate No OC/1-AΦ-1).

Prime Focus Offset Feed System

 Zero Aperture Blockage Enables Superior Pattern Characteristics.

Motorized Control

 Motorized Cable Drive System Allows for Reliable, Smooth Running System.

Control Options

 Antenna Controller Combines Encoders and Remote/Local Controls into an Easy to Operate Package. **Compact/Lightweight Design.** This design reduces wind-loading, is easier to install and is less costly to ship. The stow height is at 24" for more overall clearance for the truck.

Antenna. The vehicle mountable 2.4-meter prime focus offset fed antennas from Andrew incorporate performance and optional characteristics particularly suited for television broadcast industry satellite news gathering applications. These high performance antennas are specifically designed for mobile transmit/receive systems requiring versatile frequency reuse capability and are currently being utilized as the integral component of major television broadcasting network systems worldwide.

Feed System. The exclusively designed prime focus, beam-shaping feed configuration, together with the precision spun aluminum reflector assembly, produces extremely high gain, superior efficiency and closely controlled pattern characteristics.

Full Integration and Factory Pre-Testing. Each SNG antenna is fully integrated and pretested before leaving the factory to reduce vehicle installation time and costs.

Control System. A motorized cable drive system replaces jackscrews for a reliable, precise and smooth running system. The SNG controller combines encoders and remote/local controls into a small, easy to operate package.



2.4-Meter **Transportable SNG Antennas**



Electrical Specifications

Operating	Frequency Band*	
Vu Dand Dagaiya		

10.95-12.75 GHz Ku-Band Receive 14.0-14.5 GHz **Ku-Band Transmit**

Gain*, at circular waveguide flange of feed.

Tx Frequency Tx Gain Rx Frequency Rx Gain 11.950 GHz 47.6 14.25 GHz 49.4

Polarization	Linear
Polarization Discrimination*	
(Linear Polarization)	>35 dB on axis
Beamwidth, at Midband	Ku-Band
3 dB Receive (Transmit)	0.72° (0.61°)
15 dB Receive (Transmit)	1.42° (1.33°)

Antenna Noise Temperature* under clear sky conditions, at 68°F (20°C), at the circular waveguide flange of the feed.

Elevation	Kelvin (Ku-Band)
10°	35°K
30°	26°K

Antenna VSWR*, Transmit and Receive

Mechanical Specifications

Feed Type	Prime Focus, Offset
Reflector Material	Precision-Formed Aluminum
Reflector Seaments	1

Mount Type El over AZ, Pedestal

Antenna Pointing Range, Continuous

Elevation Azimuth ±180° **Polarization** ±90°

Wind Loading, Survival

65 mph (105 km/h) in any position of operation

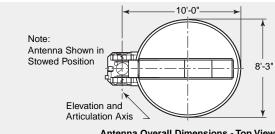
Wind Loading, Operational (motor drives)

45 mph (72 km/h), gusting to 65 mph (105 km/h)		
Temperature, Operational -40° to 125°F (-40° to 52°C)		
Rain	4 in (102 mm) per hour	
Solar Radiation	360 BTU/hr/ft² (1135 Watts/m²)	
Relative Humidity	100%	
Shock and Vibration	As encountered by commercial air, rail and truck shipment	
Atmospheric Conditions	Moderate coastal/industrial areas. Severe conditions require additional protection.	
Positioner Travel Rates** Elevation 0.05° to 1°/second		
LIGVALIUII	0.00 to 1 /366011d	

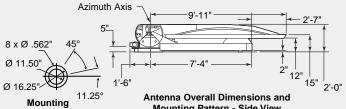
^{**}Final specifications subject to change with verification testing. All designs, specifications and availabilities of products and services presented are subject to change without notice.

0.05° to 1°/second

1.8°/second

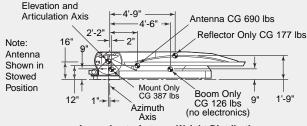


Antenna Overall Dimensions - Top View

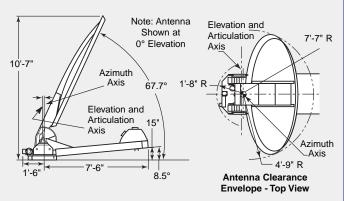


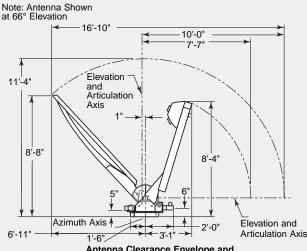
Pattern on Truck

Mounting Pattern - Side View



Approximate Antenna Weight Distribution





Antenna Clearance Envelope and Center of Gravity - Side View

Azimuth **Polarization**

^{*} Actual antenna specifications are amended by the choice of feed/combiner options. Contact Andrew for further feed/combiner option information.