



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.

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Electrical Specifications

| | | | |
|---|----------------|-------------------------|----------------|
| Operating Frequency Band* | | | |
| Ku-Band Receive | | 10.95-12.75 GHz | |
| Ku-Band Transmit | | 14.0-14.5 GHz | |
| Gain*, at circular waveguide flange of feed. | | | |
| Rx Frequency | Rx Gain | Tx Frequency | Tx 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 | | <1.3:1 | |

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

Mechanical Specifications

| | |
|---|---------------------------|
| Feed Type | Prime Focus, Offset |
| Reflector Material | Precision-Formed Aluminum |
| Reflector Segments | 1 |
| Mount Type | EI over AZ, Pedestal |
| Antenna Pointing Range, Continuous | |
| Elevation | 66° |
| 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/ft ² (1135 Watts/m ²) | |
| 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 |
| Azimuth | 0.05° to 1°/second |
| Polarization | 1.8°/second |

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

