

January 28, 2004

Ms. Marlene Dortch Secretary Federal Communications Commission 445 12<sup>th</sup> Street, S.W. Washington, D.C. 20554

Attention: Office of Engineering and Technology RE: Request for Special Temporary Authority

Dear Ms. Dortch,

Intelsat LLC herein requests a grant of Special Temporary Authority from February 15, 2004 through March 15, 2004 to conduct certain tests, demonstrations and experiments described below using a 1.0 meter Ku-band antenna in conjunction with Intelsat's Washington, D.C. E010104 earth station and the Intelsat satellite at 325.5 degrees E.L. The tests need to begin on that date in order to take advantage of available satellite time and to accommodate the requirements of the scientists and engineers needed to perform the testing.

In brief summation, the test earth station, a VSAT, will be used to validate the performance of a system which leverages the cable modem networking standard called DOCSIS (Data Over Cable Service Interface Specification). Coupled with advanced satellite waveforms, this technology will lower the cost of consumer terminals, reduce satellite bandwidth requirements, enable easy self-provision for customers, and provide mature customer service, billing and network control software to network providers.

The 1.0 meter antenna will be located on the same site as E010104. It will operate using the same 14.0-14.5 GHz transmit band and 10.95-11.2 GHz and 11.45-12.2 GHz receive bands licensed for E010104. The radio frequency analyses associated with that license shows that there will be no harmful radiofrequency interference into any other lawfully operating earth station. In the extremely unlikely event that interference should occur, Intelsat LLC will cease operations immediately. Intelsat LLC agrees to accept any interference in the downlink frequency band. Technical information related to this antenna is attached hereto.

A grant of Special Temporary Authority, as requested herein, will further the development of satellite communications technology in furtherance of the public interest. If there are any questions regarding this request, please contact Robert Mansbach at 202-944-7891.

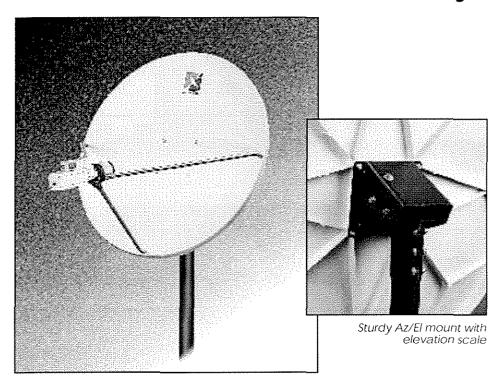
Respectfully submitted, Intelsat LLC

By: <u>/s/ Robert A. Mansbach</u>
Robert A. Mansbach

Attachment



## 1.0m Receive-Transmit Offset Antenna System



### FEATURES

- One-piece precision offset thermosetmolded reflector.
- Single bolt fine elevation adjustment.
- Galvanized .75 in. O.D. feed support legs.
- Factory pre-assembled mount.

- Cadmium-plated hardware for maximum corrosion resistance.
- Designed for lightweight outdoor units (ODUs). (5 lb. or 2.3 kg max. weight)
- Includes Rx-Tx OMT/Filter assembly.

## DESCRIPTION

The Channel Master\* Type 100 Tx 1.0m Offset Rx-Tx Antenna is a rugged commercial grade product suitable for the most demanding applications. The reflector is thermoset-molded for strength and surface accuracy. Molded into the rear of the reflector is a network of support ribs which not only strengthens the antenna, but also helps to sustain the critical parabolic shape necessary for transmit performance. Reflectors are available with hydrophobic coating for use in areas where snow buildup is a problem.

The Az/El mount is constructed from heavy-gauge steel to provide a rigid support to the reflector. The Az/El mount secures the antenna to any 2.88-3.00 in. O.D. mast and prevents slippage in high winds. A specially formulated powder paint process offers excellent protection from weather-related corrosion.

## SPECIFICATIONS IYPE 100 Tx

# 1.0m Receive-Transmit Offset Antenna System

#### RE PERFORMANCE

Effective Aperture	T.,	1.0m (40 in.)
Operating Frequency	Tx Rx	13.75 - 14.50 GHz 10.70 - 12.75 GHz
Polarization	ľΧ	Linear, Orthogonal
Gain (±.2 dBi)	Tx	41.5 dBi @ 14.25 GHz
Can (z abi)	Rx	40.2 dBi @ 11.95 GHz
3 dB Beamwidth	Tx	1.5° @ 14.3 GHz
o as soan, wat	Rx	1.9° @ 12.0 GHz
Sidelobe Envelope (Tx,Co-Pol dBi)		
2.5° < ⊖ < 20°		29-25 Log Θ
20° < ⊖ < 26.3°		-3.5
26.3° < ⊖ < 48°		32-25 Log Θ
48° < ⊖ < 180°		-10 (Typical)
Antenna Cross-Polarization		> 30 dB (on axis)
Antenna Noise Temperature	10° El	47°K
	20° El	33°K
	30° EI	26°K
VSWR		1.3:1 Max.
Isolation, Port to Port	Tx	70 dB min
	Rx	35 dB min
Feed Interface	Tx	WR-75
	Rx	WR-75

### MECHANICAL PERFORMANCE

Reflector Material Glass Fiber Reinforced Polyester One-Piece Offset Feed Prime Focus Antenna Optics

Elevation over Azimuth Mount Type

10°-70° Continuous Fine Adjustment Elevation Adjustment Range

Azimuth Adjustment Range 360° Continuous

2.88 in. - 3.00 in. (73 - 76 mm) Diameter Mast Pipe Interface

Wind Loading Operational 45 mi/h (72 km/h) Survival 125 mi/h (200 km/h)

Temperature -50°C to 80°C

Humidity 0 to 100% (Condensing)

Atmosphere Salt, Pollutants and Contaminants as

Encountered in Coastal and

Industrial Areas

Solar Radiation 360 BTU/h/ft2

As Encountered During Shock and Vibration

Shipping and Handling

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