

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

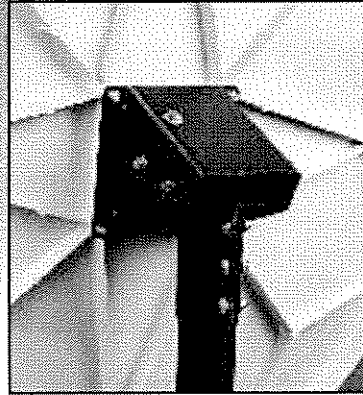
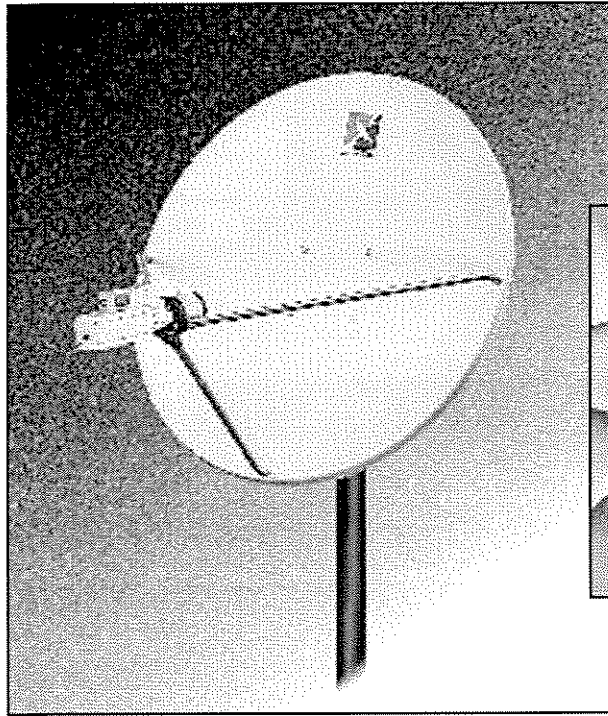
By: /s/ Robert A. Mansbach  
Robert A. Mansbach

Attachment



# TYPE 100 Tx

## 1.0m Receive-Transmit Offset Antenna System



*Sturdy Az/EI mount with elevation scale*

### FEATURES

- One-piece precision offset thermoset-molded 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/EI mount is constructed from heavy-gauge steel to provide a rigid support to the reflector. The Az/EI 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

# TYPE 100 Tx

## 1.0m Receive-Transmit Offset Antenna System

### RF PERFORMANCE

Effective Aperture		1.0m (40 in.)
Operating Frequency	Tx	13.75 - 14.50 GHz
	Rx	10.70 - 12.75 GHz
Polarization		Linear, Orthogonal
Gain ( $\pm 2$ dBi)	Tx	41.5 dBi @ 14.25 GHz
	Rx	40.2 dBi @ 11.95 GHz
3 dB Beamwidth	Tx	1.5° @ 14.3 GHz
	Rx	1.9° @ 12.0 GHz
Sidelobe Envelope (Tx, Co-Pol dBi)	2.5° < $\theta$ < 20°	29-25 Log $\theta$
	20° < $\theta$ < 26.3°	-3.5
	26.3° < $\theta$ < 48°	32-25 Log $\theta$
	48° < $\theta$ < 180°	-10 (Typical)
Antenna Cross-Polarization		> 30 dB (on axis)
Antenna Noise Temperature	10° EI	47°K
	20° EI	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
Antenna Optics		One-Piece Offset Feed Prime Focus
Mount Type		Elevation over Azimuth
Elevation Adjustment Range		10° - 70° Continuous Fine Adjustment
Azimuth Adjustment Range		360° Continuous
Mast Pipe interface		2.88 in. - 3.00 in. (73 - 76 mm) Diameter
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/ft <sup>2</sup>
Shock and Vibration		As Encountered During Shipping and Handling



US Sales Office  
Smithfield, North Carolina USA  
Phone: (919) 989-2205  
Fax: (919) 989-2200  
e-mail: [cmvsatsales@cmnc.com](mailto:cmvsatsales@cmnc.com)

Germany Sales Office  
Pforzheim, Germany  
Tel. +49 (0) 7231-14557-0  
Fax +49 (0) 7231-14557-10  
e-mail:  
[cmi@channel-master-int.com](mailto:cmi@channel-master-int.com)  
Web: <http://www.channelmaster.com>