

- 2.4 m motorized offset antenna A240T
- L-Band RF Transceiver
- Integrated Receiver Controller IRC201

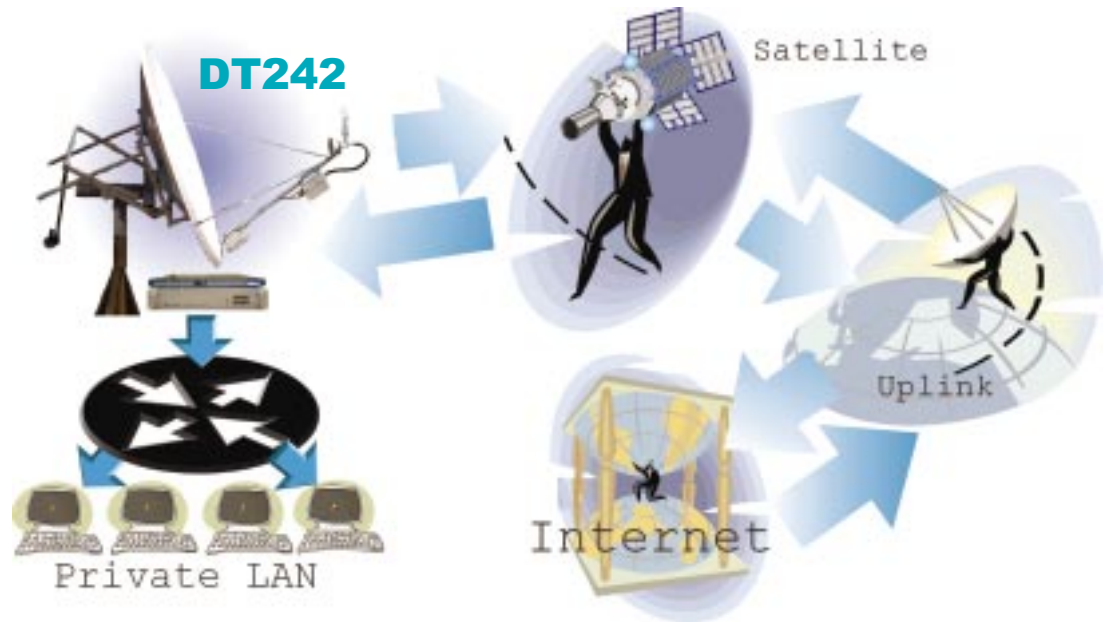
O V E R V I E W

The D242T 2.4 m Tracking Transmit Receive Satellite Terminal is designed to establish Two-Way Internet Broad-band Connection for small and middle ISP's, Corporate customers by usage of Inclined Orbit Satellites thus reducing drastically the satellite capacity costs.

Integrated solution of D242T allows to drop the initial investments into the Tx/Rx terminal giving new opportunities to Inclined Orbit Satellites and extending their life-time for employment of up-to-date digital technologies.

H I G H L I G H T S

- Lowest capacity costs employing the Inclined Orbit satellites
- Single Axis Tracking for low cost and high reliability
- Full C- and Ku-band Transceiver Range
- Compliant to DVB-S and DVB-IP standards
- 1 to 45 Msps Input Symbol rate
- 6-8 Mbps Sustained Data Output capacity
- 10/100 Base/T Ethernet Output interface
- SCPC Return Channel upto 3850 kbps
- Optional Reed Solomon and Turbo coding for modulator



F E A T U R E S

2.4 m OFFSET ANTENNA

- Intelsat/Eutelsat/Asiasat certified optics
- Four-pieces precision offset thermoset-molded reflector
- Galvanized feed support arm and alignment struts
- Factory pre-assembled mount
- Galvanized steel hardware for maximum corrosion resistance
- C/Ku-Band linear or circular feed assemblies
- Adjustable declination axis
- Optional reflector/feed electrical anti-icing
- Heavy duty 2" tube ball screw 24" stroke actuator
- Position data in 0.02 degree increments

RF TRANSCEIVER

- Available in Standard and Extended Frequency Range
- Designed for reliability, high performance and low cost
- Multi-transponder operation with a single ODU
- Tested over the -40°C to +60°C operating temperature
- Exceeds the IESS308/309 phase noise requirements
- Temperature compensation minimizes gain variations

MODULATOR

- TX/ IF Frequency 950 to 1525 MHz
- Integral Power Supplies and Reference for BUC and LNB
- Data Rate 9.6 kbps to 3850 kbps in 1 bps Steps
- Viterbi Error Correction, Concatenated Reed Solomon Option
- Turbo FEC Codec Option for 1x10⁻⁷ BER at 4 dB Eb/No
- Optional Single or Dual Demodulator
- Universal Input Power Supply, DC Power Option

RECEIVER / ANTENNA CONTROLLER

- Flexible DVB-IP to LAN routing capability
- UDP/TCP/IP, IGMP protocol support
- Embedded architecture and OS for high operational stability
- High capacity EEPROM eliminating low reliability HDD or flash disk
- Telnet remote management of satellite and network parameters
- Single (declination) axis tracking for modest-sized antennas
- Step Track, Memory Track and Search modes
- Solid-State Drive Circuitry with over-current protection

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2.4 m OFFSET ANTENNA A240T

Electrical

	C-Band	Ku-Band
Operating Frequency:		
Receive	3.4 – 4.2 GHz	10.95 – 12.75 GHz
Transmit	5.850 – 6.725 GHz	13.75 – 14.5 GHz
Midband Gain (+ 0.2 dB):		
Receive	38.0 dBi	47.6 dBi
Transmit	42.0 dBi	49.2 dBi
Offset angle:	17.35°	17.35°
Antenna Noise Temperature:		
20° elevation	46 K	32 K
30° elevation	45 K	28 K
Polarization:	Linear or Circular	Linear
First Sidelobe (typical):	-20 dB	-20 dB
Cross-Pol Isolation:	>30 dB on axis	>30 dB on axis
VSWR:	1.3:1 Max.	1.3:1 Max.
Interface:		
Receive	CPR229F	WR75
Transmit	CPR137/TypeN	WR75

Actuator

Power source Voltage:	36V DC
DC Current Draw:	4A max
Stroke length:	61 cm (24 inches)
Linear motion speed:	2 cm/s
Load rated / static:	500 / 1000 kG

Half De-icing (optional)

Power consumption:	900 W, 220V AC
Automatic Snow Switch/Sensor and Control	

Mechanical

Reflector Size:	2.41 x 2.61 m
Reflector Material:	Glass Fiber Reinforced Polyester SMC
Antenna Optics:	Four piece, Prime Focus, Offset Feed
Mast Pipe Outer Diameter:	168 mm
Elevation Adjustment Range:	0° to 90°
Azimuth Adjustment Range:	360° Continuous
Declination Adj. Range:	360° Continuous
Shipping Specifications:	175 kg, 2.5 m ³

Environmental

Wind Loading Operational:	80 km/h
Wind Loading Survival:	200 km/h
Temperature Operational:	-40° to 60° C
Temperature Survival:	-45° to 70° C
Atmospheric Conditions:	Salt, Pollutants and Contaminants as Encountered in Coastal and Industrial Areas
Solar Radiation:	3,9 kBTU/h/m ²
Shock and Vibration:	As Encountered During Shipping and Handling

RF TRANSCEIVER

BUC	C-Band	Ku-Band
IF Input (N-type)/ LO:	0.95-1.525 / 7.375 GHz	0.95-1.45 / 15.45 GHz
RF Output frequency:	5.85-6.425 GHz	14.0-14.5 GHz
Rated Output Power:	5W	2W
(P1dB across temperature and operating range)	10W 20W 40W 60W	4W 8W 16W 20W
Gain Variation over Temp.:	3 dB p-p max	3 dB p-p max
DC Supply +24 +/-4 VDC:	5W BUC/3.0A max.	2W BUC/1.8A max.
internal		4W BUC/3.0A max.
DC Supply +48 +/-11VDC:	10W BUC/5.0A max.	8W BUC/3.0A max.
external	20W BUC/4.5A max. 40W BUC/7.5A max. 60W BUC/9.5A max.	16W BUC/6.5A max. 20W BUC/7.6A max.
RS485 / FSK Protocol:	9600 baud, 8 data bits, no parity, 1 stop bit	

LNB

RF Input:	3.4 – 4.2 GHz	10.95 – 12.75 GHz
Gain:	65 +/- 1.5 dB	53 +/- 3 dB
Noise figure typ.:	0.25 to 0.3 dB	0.8 dB
LO Stability over temp.:	+/- 500 kHz	+/- 1 MHz
Operating temperature:	-40 to +60 °C	-40 to +60 °C

MODULATOR

L-Band/70 MHz IF Output:	(70 MHz Version Optional)
Frequency Range and Step Size:	950MHz to 1525MHz in 100Hz steps
Output Connector:	Type N, female/BNC, female
Output Level:	-5 to -20 dBm in 0.1 dB steps
Spectral Shape:	IESS 308/ 309 compliant
Output Spurious/Harmonics:	-55 dBc DC to 2500 MHz
FEC Encoding Selectable:	QPSK 1/2, 3/4 or 7/8 rate, Viterbi k=7
Data Rates:	9.6 to 3850 kbps Selectable in 1 bps steps
Scrambling/Descrambling:	V.35, IESS 308, 309, CCITT
Remote Monitor and Control:	RS 485 at rear panel
Data Ports:	EIA530 Interface, RS422 (25 pin)
Power Supply Input:	115-230 VAC, 50/ 60 Hz (EN60950)
ODU Supply Output (via IFL):	24 VDC, 3.5 Amperes max. (2/4/5W BUC)
ODU Supply Optional(via IFL):	48 VDC, 4 Amperes max. (8/10W BUC)

Optionally:

Turbo FEC Codec for 1x10⁻⁷ BER at 4 dB Eb/No
 Intelsat Reed Solomon Codec for concatenated Viterbi/RS error correction.
 Single or Dual Demodulators (EIA530), tuned within 5 MHz of the first demodulator

INTEGRATED RECEIVER CONTROLLER IRC201

Antenna Controller

Tracking Modes:	Search, Step Track (Peak), Memory Track
Maximum Inclination:	+/- 5° (C-band) +/- 3° (Ku-band)
Drive Output:	30 VDC, 4.0 Amps, 120 VA
Sensor Input:	Reed, Hall Effect, Optical
Remote Monitoring & Control	RS-232 Serial Interface

DVB IP Receiver-Router

IFL Input (F-type):	950 – 2150 MHz
Input Level:	-65 to -25 dBm
Symbol Rate:	1 – 45 Msps
Demodulator FEC:	DVB-S (ETSI 300 421), DVB-IP (ETSI 301 192)
PID Filtering:	Up to 16 PIDs simultaneously
Input Data Rate:	1-60 Mbps
Sustained Output Data Rate:	6-8 Mbps
Data routing capability:	64 MAC and IP addresses
Output & M/C Interface:	10/100 BASE-T