

# D182 1.8 m Tracking RO DVB Satellite Terminal



- 1.8 m motorized offset antenna A180
- Low Phase Noise DRO LNB
- Integrated Receiver Controller IRC201

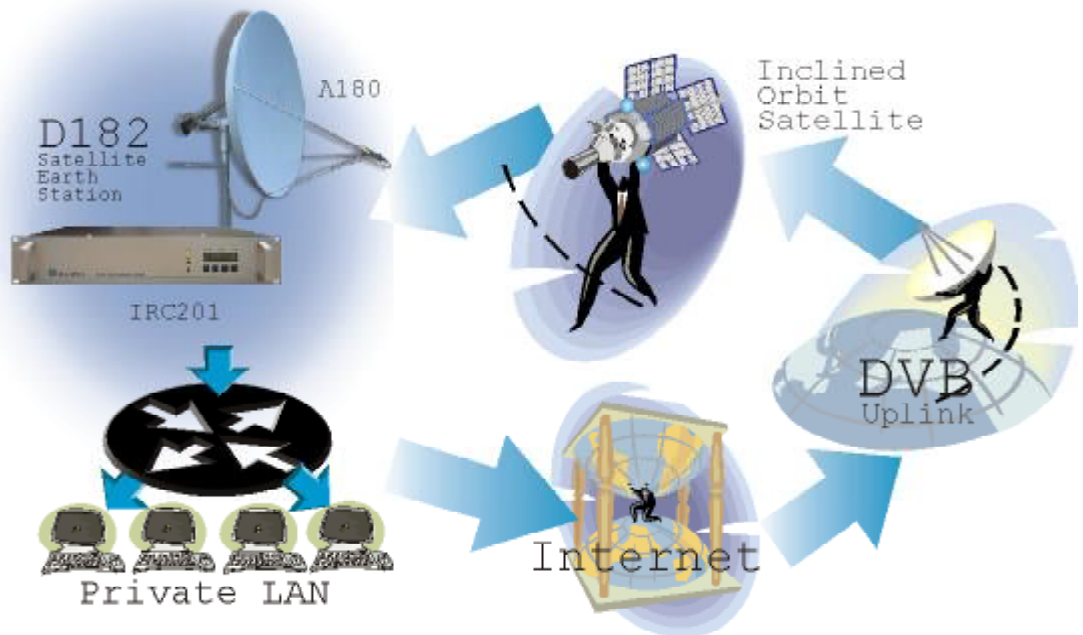
## O V E R V I E W

The D182 1.8 m Tracking Receive-Only Satellite Terminal is designed to establish One-Way Internet Broadband 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 D182 allows to drop the initial investments into the receiving 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
- Usable for C- and Ku-band Inclined Orbit Satellites
- 1 to 30 Mpsps Input Symbol rate
- Compliant to DVB-S and DVB-IP standards
- 16 PIDs simultaneous filtering
- 8-10 Mbps Sustained Data Output capacity
- 64 MAC/IP Addresses Data Routing capability
- 10/100 Base/T Ethernet Output interface



## F E A T U R E S

### 1.8 m OFFSET ANTENNA

- Single piece precision offset thermoset-molded reflector
- Galvanized feed support arm and alignment struts
- Factory pre-assembled mount
- Galvanized and stainless hardware for maximum corrosion resistance
- C/Ku-Band linear and circular feed assemblies
- Adjustable declination axis
- Optional reflector/feed electrical anti-icing
- Optional Non Penetrating Mast Mount
- Heavy duty 2" tube 24" stroke actuator
- Position data in 0.02 degree increments

### LNB

- C- and Ku-band options available
- Extremely Low Phase Noise
- Wide range of LO's for different frequency bands
- Low noise figure over the entire band
- Low gain, RF-Shielding options available

### ANTENNA CONTROLLER

- Single (declination) axis tracking for modest-sized antennas
- Step Track, Memory and Search modes
- High-Resolution Pulse Sensor Interface
- Dual Speed for fast slewing and precise positioning
- Software Controlled Limits
- RS-232 PC Control Interface
- Solid-State Drive Circuitry with over-current protection

### DVB/IP RECEIVER ROUTER

- Flexible DVB-IP to LAN routing capability
- Multicast and unicast routing
- UDP/TCP/IP, IGMP protocol support
- Easy network integration
- Embedded architecture and OS for high operational stability
- High capacity EEPROM eliminating low reliability HDD or flash disk
- Login password protection for network security
- Telnet remote management of satellite and network parameters
- Software upgrade by remote LAN connection

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## 1.8 m OFFSET ANTENNA A180

### Electrical

	C-Band	Ku-Band
Operating Frequency	3.625 – 4.2 GHz	10.95 – 12.75 GHz
Midband Gain (+ 0.2 dB)	35.5 dBi	45.0 dBi
3 dB Beamwidth	2.9°	0.9°
Offset angle	25.8°	25.8°
Antenna Noise Temperature		
20° elevation	49 K	38 K
30° elevation	47 K	35 K
Polarization	Linear or Circular	Single or Dual 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.
Feed Interface	CPR 229 F	WR 75

### Actuator

Power source Voltage	36V DC
DC Current Draw	5A max
Stroke length	61 cm (24 inches)
Linear motion speed	2 cm/s
Load rated / static	500 / 1000 kG

### De-icing (optional)

Power consumption	650 W, 220V AC
Automatic Snow Switch/Sensor and Control	

### Mechanical

Reflector Size	1.80 x 1.95 m
Reflector Material	Glass Fiber Reinforced Polyester SMC
Antenna Optics	Prime Focus, Offset Feed
Mast Pipe Outer Diameter	89 mm
Elevation Adjustment Range	5° to 90°
Azimuth Adjustment Range	360° Continuous
Shipping Specifications	75 kg, 1 m <sup>3</sup>

### 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 <sup>2</sup>
Shock and Vibration	As Encountered During Shipping and Handling

## LNB

	C-Band	Ku-Band
LNB type	DRO digital	DRO digital
RF Input / LO frequency	3.4 – 4.2 / 5.15 GHz	10.95 – 12.1 / 10.0 GHz
		11.7 – 12.75 / 10.6 GHz
IF Output frequency	950 – 1750 MHz	950 – 2100 MHz
		1150 – 2150 MHz
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
LO Phase Noise typ	-73 dBc @ 1 kHz	-75 dBc @ 1 kHz
	-95 dBc @ 5 kHz	-85 dBc @ 5 kHz
	-95 dBc @ 10 kHz	-95 dBc @ 10 kHz
	-110 dBc @ 100 kHz	-110 dBc @ 100 kHz
1 dB gain compression point	+10 dBm	+5 dBm
RF Input interface	WR-229G waveguide	WR-75 waveguide
Output interface	75 ohm, F female	75 ohm, F female
Operating temperature	-40 to +60 °C	-30 to +60 °C

## INTEGRATED RECEIVER CONTROLLER IRC201

### Antenna Controller

Tracking Modes	Search, Step Track (Peak), Memory Track
Maximum Inclination	+/- 5° standard
Drive Output	30 VDC, 5.0 Amps, 150 VA
Sensor Input	Reed, Hall Effect, Optical
Local Monitoring	Front Panel LCD for tracking mode, AGC voltage, Actuator position, Error Messages
Local Control	4-key Keypad
Remote Monitoring & Control	RS-232 Serial Interface

### DVB IP Receiver-Router

IFL Input Frequency	950 – 2150 MHz
Input Level	-65 to -25 dBm
Connector Type	F type Female
Symbol Rate	1 – 30 Msps
LNB Power Supply	13/18 V, max 400 mA, Short Circuit Protection
Demodulator FEC	DVB-S (ETSI 300 421) compliant
MPEG processing	MPE mode, DVB-IP (ETSI 301 192) compliant
PID Filtering	Up to 16 PIDs simultaneously
Router CPU	32 bit RISC ARM7
Router Memory	512 KB flash EPROM, 8 MB RAM
Operating System	Embedded (PSOS)
Buffer Memory	2 MB
Input Data Rate	45 Mbps
Sustained Output Data Rate	8-10 Mbps
Data routing capability	64 MAC and IP addresses
Output & M/C Interface	10/100 BASE-T
Monitoring capabilities	
Front Panel LEDs	Unit Power / Receiver Lock
	LAN interface speed 10BT / 100BT
	Network activity
	Real time data transfer rate
	Antenna signal strength
Windows API	

### Environmental

Prime Power	230 Vac, 50-60 Hz, 1.0 A
Operating Temp. / Humidity	0 to 50 °C, 90% noncondensing
Storage Temp. / Humidity	-20 to 70 °C, 99% noncondensing

### Physical

Chassis size	48.26 x 37.60 x 8.90 cm
Weight	4.5 kg
Shipping Weight	5.4 kg