

DST-140 and DST-144

Ultra Compact DSNG Terminal For Flyaway or Small Vehicle Mount

Features

- Sturdy, lightweight, one piece circular reflector in two sizes:
 - 1 meter
 - 1.4 meter
- Broadband Dual Port Transducer with transmit and receive on both ports:
 - Transmit 13.75/14.5 GHz
 - Receive 10.7/12.75 GHz
- Motorized Transducer to adjust polarization
- Carbon fibre support arm retracts to stow antenna flat on vehicle roof
- Quick release Block Downconverter mounted on the Transducer for minimum waveguide loss and optimal receive performance
- 70dB transmit rejection filter at 11GHz
- Dual band 11/12 GHz Low Noise Amplifier/Block Down Converter assembly – optional co-polar Tx/Tx assembly



Overview

The MRC DST Antenna is a lightweight Ku Band antenna available in 1 or 1.4 meter diameter reflectors. The carbon fibre honey comb construction of the reflector make it extremely sturdy and dent resistant. The reflector and support arm both retract to store flat against the roof top mount significantly reducing wind load while traveling.

The MRC DST Antenna uses a single off-set design optimizing side lobe performance providing superior aperture efficiency of 73%. The single offset design further avoids aperture blocking or reflections from the feed which is often inherent in conventional center fed parabolic designs.

Cross polarization performance meets the Eutelsat required –35dB specification within the required 1dB beam-width across the 13.75/14.5 GHz transmit band.

Antenna Control Unit

The MRC DST Antenna Control Unit uses a precision 3 axis control for elevation, azimuth, and rotating transducer for adjusting polarization. Waveguide rotating joints provide full 360 degrees for azimuth and polarization adjustment, and 90 degrees for elevation. Waveguide losses are particularly low due to the minimal waveguide components used in the design.

The control unit is designed for simplicity of operation and reliability. If the vehicle is parked on a angle, a gravity sensor provides true vertical calibration when aligning the antenna.

An optional Auto Satellite Controller is available providing Ground Positioning System (GPS), compass input, and satellite tracking software. The Auto Satellite Controller automatically deploys the antenna and steers to the orbiting satellite.

In case of a power failure, the antenna can be manually steered.

SPECIFICATIONS

GENERAL

Operating frequency:
 Transmit: 13.75 to 14.5GHz
 Receive: 10.7 to 12.75GHz
 Aperture efficiency: 73%
 Mount Type: 3 axis motorized with gravity sensing
 Control Resolution: <0.1 sec arc.
 Display Resolution: 0.1 degrees
 Controller: 2 RU 19" rack mount
 Power requirement: 110/220 Vac

ANTENNAS

Model	<u>1 Meter</u>	<u>1.4 Meter</u>
Construction	Single piece	Choice single or
Type	Single off-set, carbon fiber honey comb	Single off-set, carbon fiber honey comb
Gain	42.0dBi (nominal at 14 GHz)	45.0dBi (nominal at 14 GHz)
G/T	18.3dB/K	21.3dB/K
Side lobes	25-25log0dBi, in azimuth	25-25log0dBi, in azimuth
Cross Polarization:	<-35dB isolation with antenna pointing accuracy	<-35dB isolation with antenna pointing accuracy
Tx Reject Filter:	>-70dB	>-70dB
Transducer:	2 port linear V/H (1dB beam width)	2 port linear V/H (1dB beam width)
Polarization:	Motorized, with remote control	Motorized, with remote control
Weight:	101.5 lbs (46kg)	128 lbs (58kg)
Reflector Weight;	13.25 lbs (6kg)	26.5 lbs (12kg)



DST Antenna in Raised Position



DST Antenna Fully Retracted

