requtech

PICO240a

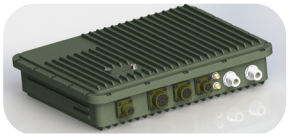
240 cm auto-point fly-away antenna system

General Description

This 2.4 m integrated portable fly-away terminal is made of state-of-the-art composite reflector and extremely strong and stiff feed arm. The system is compliant with international standards and has interchangeable multi-band feed systems for fast switching of frequency bands: C, X, Ku and Ka.

KEY FEATURES

- 2.4 m segmented carbon fiber reflector
- Fully integrated auto-point fly-away terminal
- RAPU Sensor Kit Module
- Android Mercury App for quick satellite acquisition
- High performance interchangeable feeds for C, X, Ku and Ka bands
- Highly robust construction and toolless deployment
- Zero Backlash Sealed Azimuth and Elevation Motors
- Eutelsat and ITU-R S.465 compliant
- Delivered in robust packing cases



RAPU

The Requtech Assisted Pointing Unit (RAPU) houses the Antenna Control Unit (ACU), and all sensors required for assisted pointing, system monitoring and control. The RAPU runs Requtech's proprietary Mercury software suite; its GUI can be accessed either by Android app over WiFi/Bluetooth or Web interface via ethernet.

The RAPU can optionally be provided with an embedded modem and/or beacon receiver for a complete turnkey terminal solution. The ACU supports OpenAMIP communications and is OpenBMIP ready. This means that the ACU is able to communicate with most modems on the market. Please contact Requtech if your configuration requires other non-OpenAMIP modems.

The RAPU is also provided with Requtech's auto-point motorised systems with an integrated but separate Motor Control Unit (RMCU) and supports automated handovers between antenna pairs for use with non-geostationary (non-GEO) satellite constellations

Positioner

The elevation over azimuth positioner is designed for robustness and reliable use in all weather conditions in all environments.

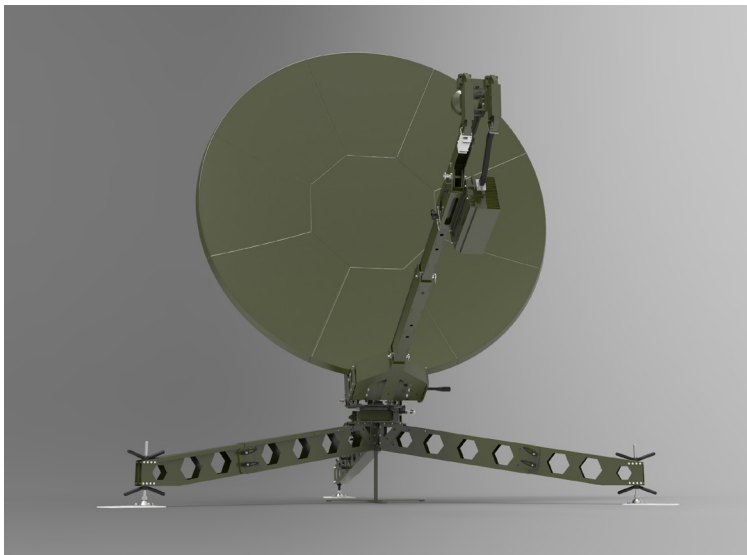
Mechanical

Deployment of a Pico terminal is easily and quickly done with minimum training due to the toolless design and low-weight, robust components.

The reflector is made of carbon fiber, and feed arm and legs out of flight grade aluminum for optimum robustness and ease of handling in all weather conditions.

Multi-band Antenna System

The offset prime focus antenna system is comprised of a light weight composite reflector, manufactured with high tolerances to allow for C to Ka band operation with high gain, accurate beam pointing and antenna patterns. The system can be delivered with feed systems for X, Ku and Ka band operation. Other variations of feed solutions are available and can be tailored to the system.



TECHNICAL DETAILS

Application	Ku band Pico240
Feed	Ku-band Horn, OMT and filters for optional BUC and LNB
TX Frequency	13.75 - 14.5 GHz
RX Frequency	10.7 - 12.75 GHz
EIRP	65.8 dBW (50W BUC) 68.0 dBW (80W BUC)
Polarity	Linear, mechanical skew adjustment
Flange for connections	WR75
Return-loss Tx/Rx	20 dB
Isolation Tx-Rx	80 dB
Tx gain @midband	49.8 dBi
Rx gain @midband	48.2 dBi
Tx XPD	35 dB
Rx XPD	32 dB
G/T @ 20° Elevation	26.7 dBi/K (LNB NT 50 K)

Application	Ka band Pico240
Feed	2 port or 4 port, Feed systems for optional BUC and LNB
TX Frequency	27.5 – 30.0 GHz or 29 - 31GHz
RX Frequency	17.7 – 20.2 GHz or 19.2 - 21.2 GHz
EIRP	68.6 dBW (20W BUC) 70.4 dBW (30W BUC)
Polarity	Circular RHCP / LHCP, mechanical pol. change
Flange for connections	WR28 (Tx) WR42 (Rx)
Return-loss Tx/Rx	20 dB
Isolation Tx-Rx	100 dB
Tx gain @midband	56.1 dBi
Rx gain @midband	52.4 dBi
Axial Ratio	0.8 dB
G/T @ 20° Elevation	30.2 dBi/K (LNB NT 50 K)

Application	X band Pico240
Transceivers	X-band Horn, OMT and filters for optional BUC and LNB
TX Frequency	7.9 - 8.4 GHz
RX Frequency	7.25 - 7.75 GHz
EIRP	63.6 dBW (80 W BUC) 64.5 dBW (100W BUC)
Polarity	Circular RHCP / LHCP, mechanical pol. change
Flange for connections	WR112
Return-loss Tx/Rx	20 dB
Isolation Tx-Rx	110 dB
Tx gain @midband	45.0 dBi
Rx gain @midband	44.1 dBi
Axial Ratio	0.8 dB
G/T @ 20° Elevation	24.3 dB/K (LNB NT 50 K)

Application	C band Pico240
Transceivers	C-band Horn, OMT and filters for optional BUC and LNB
TX Frequency	5.85-6.425 GHz
RX Frequency	3.625-4.2 GHz
EIRP	
Polarity	Circular RHCP / LHCP, mechanical pol. change
Flange for connections	54.8 dBW (20W BUC) 60.8 dBW (80W BUC)
Return-loss Tx/Rx	20 dB
Isolation Tx-Rx	110 dB
Tx gain @midband	42.1 dBi
Rx gain @midband	38.1 dBi
Axial Ratio	2 dB
G/T @ 20° Elevation	18 dB/K (LNB NT 50 K)

Mechanical details

Az/El Drive	Motorised Zero Backlash Sealed Unit
Pol Skew Adjust (Lin pol)	±90°
Reflector	Requtech Segmented 2.4m Carbon Fiber
Elevation Travel	0° to 90°
Azimuth Travel	±200°
Motors	10 to 32Vdc
Assembly Time	2-men <20 mins
Time to Acquisition after assembly	Typically 5 minutes
Weight	265kg in X band configuration
Packed in 10 cases	Approximate Total Weight: 600kg. Case dimensions dependent on RF configuration

Environmental details

Wind - Operational	40kph (25mph) no ballast/anchors
Wind - Operational	80kph (50mph) with ballast/anchors
Wind - Survival	130kph (80mph) with ballast/anchors
Temperature (Operational)	-30°C to 60°C
Temperature (Storage)	-40°C to 70°C
Shock and Vibration	Designed to meet MIL-STD-810G
Corrosion	Suitable for all regions including Marine and Industrial
Humidity	100% with condensation
Rain	>100mm/hr

Requtech develops state-of-the-art fully integrated systems and microwave components for radar and communications. Our goal is to deliver reliable and robust systems and work with our customers to find the most suitable solutions for each application.

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