

1.2 Meter Motorized Flyaway Engage™ Class High Performance Satcom Terminal Solution



- X, Ku or Ka-Band Terminal
- Intelligent Antenna Controller
- Bandwidth efficient digital modem access technology
- Second Generation GaN based SSPB
- XTAR Certified

Overview

The Engage Class High Performance, 1.2m Flyaway Satcom Terminal Solution from Advantech Wireless Technologies is based on a high efficiency, ruggedized tri-band ready 1.2 Meter Motorized Flyaway Antenna, which can cover X-Band, Ku-Band or Ka-Band, by replacing the feed only. The antenna is fully motorized and has integrated satellite finding controller.

The terminal has been built in either:

- A multi waveform-access mode satellite modem. efficient bandwidth utilization or,
- Mil 165A Grade Technology Modem

The digital multi waveform-access technology allows the terminal to operate different access wave forms, and achieve efficient bandwidth utilization:

- STAR Mode MF-TDMA for low data rate, high bandwidth efficient traffic
- MESH mode MF-TDMA with multichannel demod built-in
- HUBLESS TDMA
- SCPC for high data rate traffic, with dedicated bandwidth and maximum QoS

The RF section includes the award winning Second Generation GaN based technology SSPA/SSPBs.

- X-Band from 10W to 100 W
- Ku-Band from 16W to 125W
- Ka-Band from 10W to 40W

The entire terminal is fully compliant with:

- MIL-STD-188-164a
- MIL-STD-810F
- NATO STANAG 4484
- IP65



Features

- Flexible and Mobile Solution
- Fully integrated system for easy deployment and use
- High Performance Motorization Package
- Integrated Control System for 1 Button Auto Acquire
- Quick one-person installation
- Modem with multi access mode
- DVB-S/S2X compliant
- Multi Band Frequency X, Ku or Ka-Band operation
- Compact ruggedized packaging, IP65 compliant
- State-of-the-art Second Generation GaN based Solid State Power Amplifier
- Excellent Reliability
- Minimal Maintenance

Options

- Modem Agnostic
- Router
- Location finding tool set (Compass, GPS, Clinometer)
- Hand held spectrum analyser
- UPS with Battery set
- IP Phone
- Ruggedized C4I hardware platform
- Anti GPS Jamming

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Product Features & Specifications

Technical Specifications

Modem Specifications

Network Architecture	Point- to- Point , Star, Mesh
Security	Optional AES 256 and Transec

RF Performance

	10W to 100W X-Band	16W to 125 Ku Band	10W to 40W Ka Band
Frequency (GHz)	7.900 – 8.400	13.75-14.5	30.0 – 31.0
EIRP	45 dBW to 55 dBW	50 dBW to 59 dBW	58dBW to 64 dBW

Antenna Electrical Specifications

	2 Port X-Band Circular Polarization		2 Port Cross Pol Ku Band Linear Mode Matched Feed Polarization		2 Port Cross Pol Ka Band Circular Polarization	
	RX	TX	RX	TX	RX	TX
Frequency (GHz)	7.250 – 7.750	7.900 – 8.400	10.70-12.75	13.75-14.5	20.2 – 21.2	30.0 – 31.0
Gain (Midband, dBi)	35.0	36.0	41.7	43.2	46.1	49.3
Noise Temperature (°K)						
10 deg El	79		45		155	
20 deg El	61		31		106	
Axial Ratio	1.5dB	1.5dB			1.5dB	1.0dB
Cross Pol						
On Axis	-21.3 dB	-21.3 dB	-30 dB	-30 dB	-21.3 dB	-24.8 dB
In 1 dB contour	-21.3 dB	-21.3 dB	-30 dB	-30 dB	-21.3 dB	-24.8 dB
Sidelobe Compliances		Meets DSCS		Meets ITU Eutelsat		Meets DSCS
VSWR	1:30:1	1:30:1	1.50:1	1.30:1	1:35:1	1:30:1
Isolation						
Tx/Rx	-110 dB	0 dBm input	-110 dB	0 dBm input	-85 dB	0 dBm input
Rx/Tx	0 dBm input	-110 dB	0 dBm input	-35 dB	0 dBm input	-30 dB

Antenna Mechanical / Environmental Specifications

Reflector	1.2 meters (47.2 in) Glass Fiber Reinforced Polyester
Antenna Travel	
Azimuth	+/- 90°
Elevation	10° - 90°
Weight	255 Kg (562.2 lb) – 5 ruggedized cases (with extra cases for feeds)
Temperature :	Operational : -30 to 60°C (-22°F to 140°F) Survival : -40 to 70°C (-40°F to 158°F)
Winds	
Operational	20mph (72Km/h) with ballast or anchors
Rain	
	Operational : 4 in/h (10 cm/h) Survival: 6 in/h (15 cm/h)
Relative Humidity	Operational humidity up to 100% condensing
Solar Radiation	360 btu/h/ft ² (1000 Kcal/h/m ²)
Radial Ice (survival)	1 in (25.4 mm)

Portable Cases

Sealing Class	IP65 (IEC 60529)
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Weight & Dimensions

Case 1 - Antenna Reflector 36.2cm x 77 cm x 77 cm (14.25in x 30.25in x 30.25in)	30Kg (66.1lb)
Case 2 - Tripod, azimuth base, elevation base, dish support-40.7cm x 66.85cm x 95.25cm (18.7in x 27.5 in x 37.5 in)	51Kg (145.4lb)
Case 3 - Boom with Feeder & Polarizer, Filter TX/RX , Ku-band BUC and LNB 47.5 cm x 69.85cm x 95.25cm (18.7in x 27.5 in x 37.5in)	43Kg (94.8lb)
Case 4 - Accessories 25.4cm x 48.9cm x 102.2 cm (10in x 19.25in x 40.25 in)	56Kg (123.4 lb)
Case 5 - Portable Racks	75Kg (165.3lb)

Ref: PB-1.2m-FlyAway-Terminal-20007

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