

## Engage™ Class - Advanced 1.2m VSAT FlyAway Motorized Terminal

- Intelligent Antenna Controller
- A-SAT-II™ Bandwidth efficient triple access modem technology
- Second generation GaN SSPB
- Intelligent Antenna Controller

### Overview

The New Engage™ Class Advantech Wireless High Performance, 1.2m Flyaway VSAT Terminal Solution includes the most advanced SATCOM technology available today.

The terminal is based on a high efficiency, ruggedized tri band ready 1.2 Meter Motorized 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 a unique triple access mode satellite modem based on the new Adaptive Satellite Access Technology (A-SAT-II™).

The A-SAT-II™ technology allows the same modem to operate 3 different access wave forms, and achieve the most efficient bandwidth utilization possible:

- MF-TDMA for low data rate, high bandwidth efficient traffic
- Burst Mode-FDMA for medium data rate, with high QoS and low jitter traffic
- 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 8W to 100W
- 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
- A-SAT-II™ capability modem with triple access mode
- DVB-S/S2 and DVB-RCS compliant
- Multi Band Frequency X, Ku or Ka-Band operation
- Compact ruggedized packaging, IP65 compliant
- World leading Second Generation GaN based Solid State Power Amplifier
- Excellent Reliability
- Minimal Maintenance

### Optional

- Router
- Location finding tool set ( Compass, GPS, Clinometer)
- Hand held spectrum analyser
- UPS with Battery set
- IP Phone
- Ruggedized laptop



## Product Features & Specifications

### Technical Specifications

#### MODEM Specifications

Network Architecture	Star
Air Interface	Receive (Satellite to Remote): <ul style="list-style-type: none"> <li>DVB-S, DVB-S2 CCM, VCM, ACM (QPSK, 8PSK, 16APSK, 32APSK)</li> <li>Encapsulation: IP over MPEG with section packing</li> <li>Coding: RS/Convolutional (DVB-S) or LDPC on the receive (all DVB-S2 MODCODs supported)</li> <li>Can receive entire DVB-S2 155 Mbps carrier with a maximum Ethernet throughput of 40 Mbps</li> <li>Receive Rates: 1 Msymb/s — 45 Msymb/s</li> </ul>
	Transmit (Remote to Satellite, DVB-RCS waveform): <ul style="list-style-type: none"> <li>DVB-RCS QPSK, 8PSK</li> <li>Encapsulation: IP over ATM, IP over MPEG with section packing</li> <li>Coding: QPSK Turbo Code rates 1/2, 2/3, 3/4, 4/5, 6/7; 8PSK 1/2, 2/3, 3/4, 4/5, 6/7</li> <li>Transmit Rates:                 <ul style="list-style-type: none"> <li>Can transmit up to 12 Mbps (RCS)</li> <li>Transmit Burst Rates: 64 Kbps – 12 Mbps in 16 Kbps increments</li> </ul> </li> </ul>
	Transmit (Remote to Satellite, DVB-S2 waveform): <ul style="list-style-type: none"> <li>DVB-S2 CCM/ACM (QPSK, 8PSK)</li> <li>Encapsulation: IP over MPEG with section packing</li> <li>Coding: LDPC on the receive (all DVB-S2 MODCODs supported)</li> <li>Transmit Rates: 128 Kbps to 25 Mbps</li> </ul>
	Modulations
Data Rates	Download: 155 Mbps (DVB-S2) Upload: 12 Mbps (DVB-RCS) Upload: 25 Mbps (DVB-S2)
Network Interface	Ethernet 10/100 BaseT, RJ45 connectors
GPS Interface	RS-232 NMEA GPS input port (ideal for auto-deployable terminals)
TCP/HTTP Acceleration:	Included
Data Compression:	Included
Security	Optional IPSec (3DES or AES 256)
Network Management	SNMP-based and GUI-based management
Weight & Dimensions	6.5 kg, D31.5 cm x W43.5 cm x H4.5 cm (1RU high) (S6520)
Certifications	CE, RoHs
Frequency Combinations	Ku, Ka and X
Access Technology	A-SAT™: MF-TDMA, BM-FDMA, SCPC

#### RF Performance

	10W to 100W X-Band	8W to 125 Ku Band	10W to 40W Ka Band
	TX	TX	TX
Frequency (GHz)	7.900 – 8.400	13.75-14.5	30.0 – 31.0
EIRP	45 dBW to 55 dBW	50 dBW to 63 dBW	58 dBW to 64 dBW

Specifications are subject to change without notice

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Ref.: PB-1.2m-FlyAway-VSAT-15281

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### Antenna Electrical Specifications

	2 Port X-Band Circular Polarization		2 Port Cross Pol Ku Band Linear 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 countour	-21.3 dB	-21.3 dB	-30 dB	-30 dB	-21.3 dB	-24.8 dB
Sidelobe Compliances		Meets ITU 580		Meets ITU 580		Meets ITU 580
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 – 5 ruggedized cases
Temperature	
Operational	-30 to 60°C (-22°F to 140°F)
Survival	-40 to 70°C (-40°F to 158°F)
Winds	
Operational	20m/s (72Km/h)
Rain	
Operational	4 in/h (10 cm/h)
Survival	6 in/h (15 cm/h)
Relative Humidity	Operational humidity up to 95%
Solar Radiation	360 btu/h/ft <sup>2</sup> (1000 Kcal/h/m <sup>2</sup> )
Radial Ice (survival)	1 in (25.4 mm)

### Portable Cases

Sealing Class	IP65 (IEC 60529)
Temperature	-40°C to +60°C
Features	
	Corrosion proof and Resistant to solvents and acids
	Rounded edges and corners
	With wheels, fit in a built-in axle, for ease of handling with heavy payloads
	Lock system with padlock holder

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