



ARC-M4 Block 1

P/N: VB1-1010 // WGS: AN/USC-75

SIMULTANEOUS X/KA-BAND WIDEBAND VSAT SYSTEM with 3-axis and 1.3m Reflector Diameter



FEATURES

DESIGNED FOR RESILIENCY

Agile Resilient Communications (ARC) delivering Multi-role, Multi-mission, Multi-band, and Multi-orbit solutions to the Warfighter. Simply stated, the ARC-M4 Block 1 delivers resiliency through options: options across service providers, options across frequency bands, and options across satellite orbit – all in a single terminal. ARC-M4 Block represents a “Swiss army knife” of capabilities that can be relied upon should a network service, frequency band, or satellite orbit be compromised; additionally, Block 1 enables obscuration tactics that can be employed to re-route data across various communication paths.

ELECTRONIC FREQUENCY BAND SWITCHING

ARC-M4 Block 1 enables full electronic switching across commercial Ka-band, military Ka-band, and X-band services. The changes occur electronically and eliminate the need for manual manipulation of terminal hardware. Block 1 supports simultaneous operation in both X and Ka-band when interoperating with Wideband Global SATCOM (WGS) services. This capability greatly enhances resiliency and throughput.

PURPOSE BUILT FOR THE WARFIGHTER

MIL-STD-188-164C Compliant RF, No Caveats
MIL-STD-810H
MIL-STD-901D Grade B
MIL-STD-461G
MIL-STD-363D

LEO/MEO/GEO/ HEO TRACKING CAPABILITY

The mechanical design and center feed design enables tracking capabilities across all satellite orbital patterns.

TYPE APPROVALS

ARC-M4 Block 1 is currently approved for use on WGS, Inmarsat I5 (Cat IV) and mPOWER. Intellian is also currently pursuing additional type approvals across LEO, MEO, GEO, and HEO orbits.

OPEN AND MODULAR FOR LARGE-SCALE OPERATIONS

This system supports single-, dual-, triple- or even up to eight terminal installations. Additionally, the Shipboard blockage zones, sea state conditions or other conditions are dealt with automatically through Intellian Intelligent Mediator IM8-T2. Leveraging open standards, such as OpenAMIP and OpenBMIP, the IM8-T2 can accommodate up to 8 modems and up to 8 antennas with the ability to bridge connections and data routes.

The terminal can be flexibly installed utilizing coaxial cable or fiber optic cable (between the below deck and above deck equipment).

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TECHNICAL SPECIFICATIONS

ABOVE DECK UNIT

Radome Height x Diameter	193.5 cm / 76.2" x 182.5 cm / 71.9"	
Reflector Diameter	129.3 cm / 50.9"	
Weight	352.8 kg / 777.8 lbs	
Azimuth Range	Unlimited	
Elevation Range	-15° to 110°	
Cross-level Range	± 30°	
Stabilization Accuracy	0.2° peak miss-pointing @max ship motion condition	
	X	Ka
Tx Frequency	7.9 ~ 8.4 GHz	27.5 ~ 30.0 GHz, 30.0 ~ 31.0 GHz
Tx Gain	37.6 dBi @ 8.15 GHz	47.8 dBi @ 30.0 GHz
Rx Frequency	7.25 ~ 7.75 GHz	17.7 ~ 20.2 GHz 20.2 ~ 21.2 GHz
Rx Gain	37.3 dBi @ 7.5 GHz	45.5 dBi @ 20.2 GHz
G/T	14.7 dB/K (@7.5 GHz, 10°EL)	20.5 dB/K (@20.2 GHz, 10°EL)
RF Power	100W	100W
Polarization	Circular (RHCP & LHCP)	Circular (RHCP & LHCP)
Antenna Cable	50 ohm Coaxial Cable / Fiber Optic Cable	

ENVIRONMENTAL SPECIFICATIONS

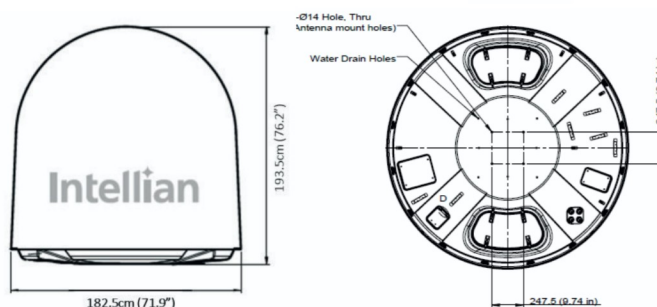
Temperature	Operational	MIL-STD-810H -25 °C to +55 °C, Power On (IEC-60945)
	Survival	-40 °C to +80 °C, Powered On and a non-functional state (IEC-60945)
Vibration	Operational	MIL-STD-167-1A, MIL-STD 810H
	Survival	IEC-60721-3-6 Class 6M3 MIL-STD-167-1A, MIL-STD-810H
Shock	Operational	IEC-60068-2-27 Method Ea 20 g, 7 ms MIL-STD 810H, MIL-DTL-901E
	Survival (Transient)	IEC-60721-3-6 Class 6M3 type II 30 g, 6 ms MIL-STD 810H, MIL-DTL-901E
	Survival (Bump)	IEC60721-3-6 Class 6M3 25g/6 ms MIL-STD 810H, MIL-DTL-901E
EMI / EMC	MIL-STD-461G / MIL-STD-464D	

BELOW DECK TERMINAL

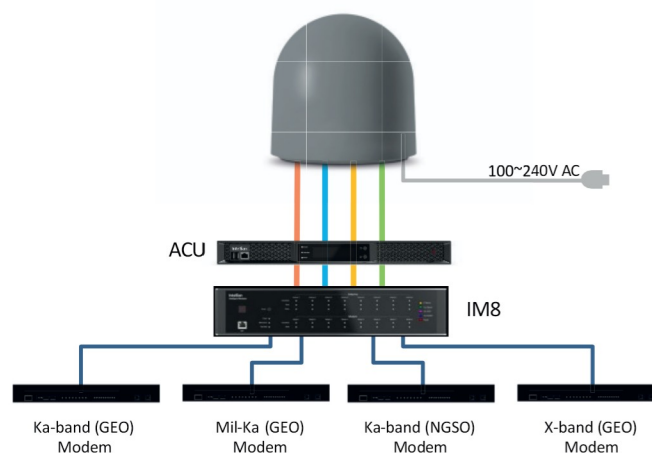
STD. ACU	Dimensions (WxDxH)	43.1 cm x 39.0 cm x 4.4 cm / 16.97" x 15.35" x 1.73"
	Weight	6.0 kg / 13.23 lbs
Fiber ACU	Dimensions (WxDxH)	43.1 cm x 40.0 cm x 4.4 cm / 16.97" x 15.37" x 1.73"
	Weight	5.6 kg / 12.3 lbs

Display	OLED Display
Gyrocompass Interface	NMEA 0183
Modem Interface	Ethernet port / I/O Console
Remote Management	Yes
Management Port	Yes
Intellian LAN Port	Yes
Power Requirement	100 ~240 VAC, 50~60Hz

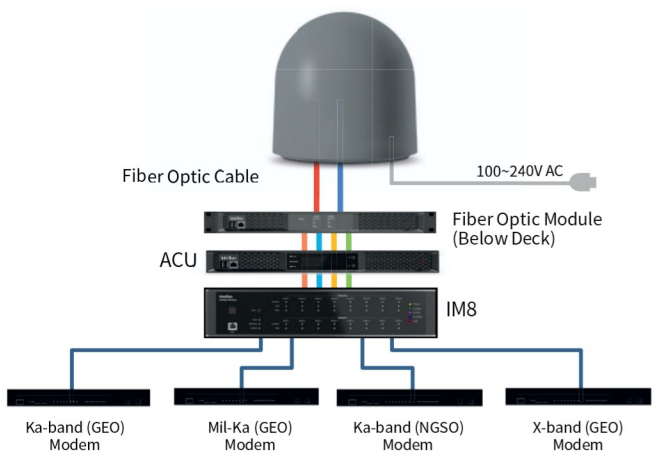
ABOVE DECK UNIT DIMENSION



SYSTEM DIAGRAM (X- KA SOLUTION: COAXIAL CABLE)



SYSTEM DIAGRAM (X-KA SOLUTION: FIBER OPTIC CABLE)



Global HQ

Innovation Center
Intellian Technologies, Inc
T +82 31 379 1000

APAC

Seoul
Intellian Technologies, Inc.
T +82 2 511 2244

Americas

Irvine
Intellian Technologies USA, Inc.
T +1 949 727 4498 Toll Free +1 888-201-9223

EMEA

Rotterdam
Intellian B.V.
T +31 1 0820 8655