

## ARC-M4 Block 1

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



### FEATURES

#### DESIGNED FOR RESILIENCY

The ARC-M4 Block 1 is the first tri-band antenna that provides simultaneous X- and MIL Ka-band service which ensures connectivity on WGS even during bad weather and when other band-specific interference occurs. Also designed to work with other commercial Ka-band service providers, this antenna opens up a new, broader set of connectivity options than the US Navy has ever had before. This terminal is designed to meet the MILSTD ruggedization requirements of the US Navy.

#### ELECTRONIC BAND SWITCHING

All frequency band changes are electronic, not mechanical. The ARC-M4 Block 1 is designed and engineered to operate on both X- and Military Ka-Bands simultaneously, without the need to replace the reflector and feed assembly. The system is supplied with X- and 3.5GHz Wideband Ka-Band RF packages.

#### 3.5GHZ WIDE KA-BAND OPTIMIZED

The ARC-M4 Block 1 is optimized to operate in the full Commercial and Military Ka-Band spectrums. The ARC-M4 Block 1 supports the current Commercial Ka-Band GEO/MEO constellations and Military Ka-Band GEO constellations, as well as upcoming GSO/NGSO Ka-Band constellations.

#### MEO/LEO/HEO TRACKING CAPABILITY

The ARC-M4 Block 1 provides assured access to every SATCOM arc of interest, include MEO, LEO and HEO. The ARC-M4 Block 1 can access current and future GSO/NGSO constellations in X and Ka-Band. The ARC-M4 Block 1 increases the overall resiliency of Naval communications by supporting dynamic switching between multiple frequencies and alternative orbits.

#### RESILIENCE FOR THE WARFIGHTER

This system supports single-, dual-, triple- or even up to eight terminal installations. Shipboard blockage zones, sea state conditions or other conditions are dealt with automatically. Up to 8 modems or waveforms can be automatically switched in and out. And these Intellian systems supports the policy-driven shipboard automation system we call Intellian Orchestra™

#### SUPPORT FOR THE WARFIGHTER

Intellian built and is currently delivering the AN/OE-4706 COTS terminal. Like all of our systems for the US Government, it combines MIL-STD rugged designs with innovation, elegant implementation, and COTS sensibilities.

ARC-M4 Block 1

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,<br>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<br>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<br>(@7.5 GHz,10°EL)                      | 19.5 dB/K<br>(@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                 | -28 °C to +50 °C, Power On (IEC-60945)<br>MIL-STD-810H                     |
|             | Survival                    | -40 °C to +70 °C, Powered On and a non-functional state (IEC-60945)        |
| Vibration   | Operational                 | IEC-60945<br>MIL-STD-167-1A                                                |
|             | Survival                    | IEC-60721-3-6 Class 6M3<br>DNV Standard No. 2.4, Class C<br>MIL-STD-167-1A |
| Shock       | Operational                 | IEC-60068-2-27 Method Ea 20 g, 7 ms<br>MIL-DTL-901E                        |
|             | Survival (Transient)        | IEC-60721-3-6 Class 6M3 type II 30 g, 6 ms<br>MIL-DTL-901E                 |
|             | Survival (Bump)             | IEC60721-3-6 Class 6M3 25g/6 ms<br>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 BDE             | 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       |                                                      |

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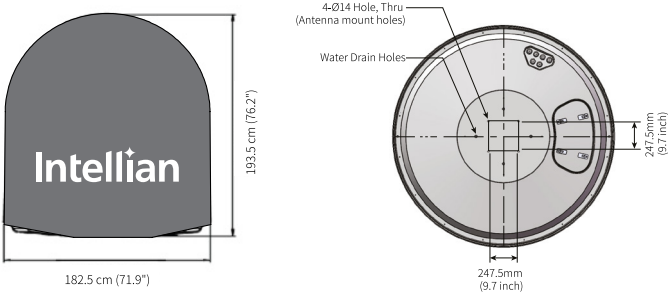
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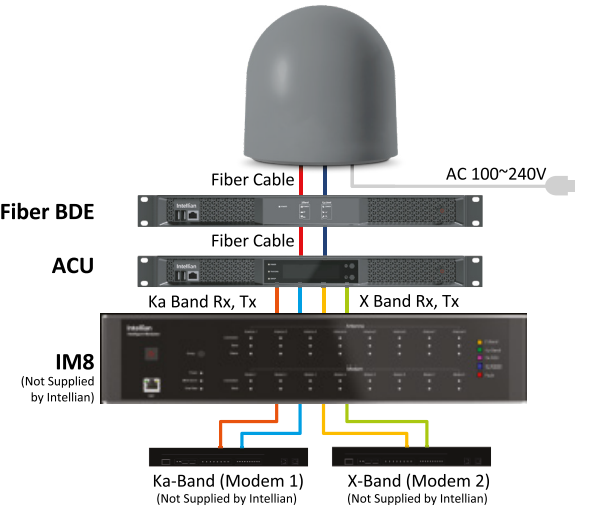
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ABOVE DECK UNIT DIMENSION



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



SYSTEM DIAGRAM (X-KA SOLUTION: COAXIAL CABLE)

