

Sea Tel 240 TV

3-Axis marine stabilized antenna system compatible with C-Band and Ku-Band satellites

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Product Sheet



The Sea Tel 240 TV is Cobham SATCOM's latest top-of-the-line, 2.4 (94") TV-at-Sea™ system. The reflector, radome design, and RF components are based on our well proven Sea Tel ST94 system, while the stabilization platform has been updated to integrate our IMA Platform. It is the preferred system for users who need the largest possible offshore operating area and compatibility with all known and planned satellites. The Sea Tel 240 TV has undergone major tracking, reliability, stability and industry leading improvements and is the antenna of choice for large vessels operating in deep oceans.

Proven technology, even simpler

The Sea Tel 240 TV has reliable and proven IMA electronics have a host of improvements for improved productivity. These include: LED indicators for troubleshooting, USB port for Bluetooth adaptor and digital control interface between the motor driver and

integrated ICU for improved tracking and system communications. The level cage used in the predecessor systems has also been replaced by high accuracy accelerometers. This allows for continuous calculation of position, orientation and velocity vector of a moving object without the need for external references.

The micro-electromechanical (MEM) sensors used in Sea Tel's antennas are based on the same technology currently being used in missile and aerospace technology around the world.

Designed to last

Much like its predecessor, the Sea Tel 240 is available in "Dual Band" (C-band and Ku-band) configuration that permits the same antenna to be used for both. The Sea Tel 240 is designed and built to pass the U.S. Navy's tests for vibration, shock and protection against RFI and EMI emissions. Sea Tel 240 3-Axis marine stabilized antenna system compatible with C-Band and Ku-Band satellites

Key Features

- Industry proven IMA electronics
- Integrated Brake Control PCB
- Integrated GPS processing
- Integrated Polarization control Aux Relay
- Reduced mean time to repair (MTTR)
- Ethernet, Serial (D-Sub & USB) ports provide ease of access to antenna either locally or remotely
- Ethernet over Coax communications
- Accommodates multiple satellite receivers
- Unmatched stabilization accuracy
- Television Integrated Control Unit (TICU) assembly
- HD ready



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SPECIFICATIONS

| | |
|-----------------------|---|
| Antenna Gain C-band | 39.5 dB at 4.2 GHz |
| Antenna Gain Ku-band | 47.5 dB at 12.5 GHz |
| Minimum EIRP C-band | 30-31 dBW |
| Minimum EIRP Ku-band | 35-36 dBW |
| Dish Diameter | 2.4 m; 94 in |
| Radome Dimensions | 3.66m/144in D x 4.17m/164in H |
| Antenna Stabilization | 3-axis servo |
| Built-In GPS | Automatic Satellite Acquisition |
| Ship's Motion | +/- 15° Roll or +/-20° Roll and +/- 15° Pitch |
| Full Elevation Range | -15° to +115° |
| Radome Baseframe | Galvanized steel |
| Azimuth Range | Unlimited |
| Ingress protection | IP56 |
| Number of panels | 18 |

SYSTEM SIZE (ADE)

| | |
|------------------|--|
| Diameter | 4.3m (168 inch) |
| Height | 4.2m (165.7 inch) |
| Installed height | 4.2m (165.7 inch) including base frame if mounted with standard Legs, 375.92cm (148 inch) if flush-mounted |
| Hatch Size | 45.72cm x 86.36cm (18" high x 34" wide) |
| Side Door | 45.72cm x 91.44cm (18" wide x 36" high) |

SYSTEM WEIGHT (ADE)

| | |
|-----------------------------|--|
| Install weight (typically) | 1300 Lbs (590 kgs) (with 144" radome) |
| Shipment Weight (typically) | System Crate 1830lbs (830kgs) Radome Crate 1900lbs (862kgs) |

RADOME ASSEMBLY

| | |
|----------|-------------------------|
| Type | Frequency Tuned |
| Material | Composite foam/laminate |

POWER REQUIREMENTS (ADE)

| | |
|-------------------------|--|
| Single phase | 85-264 VAC, 47-63 Hz |
| Pedestal | 450 W ((brake release, pedestal drive and BUC drive) |
| RF equipment | 2150 W max |
| Total power consumption | 2600 W |

ADE ENVIRONMENTAL CONDITIONS

| | |
|-------------------|---|
| Temperature Range | (Operating) -25° to +55° Celsius (-13° to +131° F) |
| Humidity | 100% Condensing |
| Wind Speed | 56 m/sec (125 mph) |
| Solar Radiation | 1,120 W per square meter, 55° Celsius |
| Icing | 4.5 pounds per square foot. Degraded RF performance under icing conditions. |
| Rain | Up to 101.6mm (4 inches) per hour. Degraded RF performance may occur when the radome surface is wet |

RECEPTION

Dual C-Band Linear/Quad Ku-Band linear (can be configured to receive 2 C-Band and 2 Ku-Band signals simultaneously or 4 Ku-Band signals simultaneously)

Ku-band: The entire frequency range for Ku-band satellite television is 10.7 to 12.75 GHz. Proper polarization is also an issue as both linear polarizations (horizontal & vertical) and circular polarizations (left & right) are used, and one configuration is not compatible with the other.

C-band: The C-band frequency range is 3.7 to 4.2 GHz worldwide. Sea Tel TV-at-Sea™ systems are delivered with C-band LNB noise temperatures of 17 degrees K or better. The IF frequency in all cases is 950-1450 MHz.

Designed to meet Navy MIL-STD-167-1 vibration standard and MIL-STD-461 EMI & RFI standards (including 200V/M).

Typical Data for the Lite Media Exchange Point (LMXP)

| | |
|-------------------|---|
| Mounting | Standard 19 inc rack mount |
| Dimensions | 43.18 cm x 25.4 cm x 4.44 cm (17" x 10" x 1.75") |
| Power | 110/220VAC, 47-63 Hz, Single Phase |
| Weight | 2.45 kg (5.4 lbs) |
| Ethernet | 3 Ethernet Ports (2 Rear / 1 Front) |
| Connectors | 1 F-type connector |
| Status indication | 6 Tri-colored MXP status LED's |
| Display | 2 Line Display |
| USB | USB Device (Mini B) |
| Ports | 1 RS-232 pass through port 1 NMEA RS-232 serial port 1 (RJ45) RS-232 Console Port Aux IN1 & Aux IN2 • SW1, SW2 (I/O) 1 Gigabit SFP Ethernet |



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