

Model ST94

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

2012 Data Sheet

The most important thing we build is trust

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Model ST94

The Sea Tel ST94 is our next generation 2.4m (94") TV-at-Sea™ system. The reflector, radome design, RF components and the pedestal are based on our well proven 9497B system. It is the preferred system for users who require a large offshore operating area when space prohibits our ST144 system. The ST94 has undergone major tracking, reliability, and stability improvements.

The ST94 has reliable and proven MK2 electronics that are used in our XX09, XX10 and XX11 antenna systems. The MK2 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 PCU for improved 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 The level cage used in the predecessor systems has also been replaced by high accuracy accelerometers.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.

Much like its predecessor, the ST94 is available in C-band and Ku-band configurations or "dual-band" configuration that permits the same antenna to be used for both. The ST94 is designed and built to pass the U.S. Navy's tests for vibration, shock and protection against RFI and EMI emissions.

Key Features

- Industry proven MK2 electronics used on our TxRx systems
- Integrated Brake Control PCB on the MDE PCB assembly.
- Integrated GPS processing on the PCU PCB.
- Integrated Pol Aux Relay on the PCU PCB assembly.
- Digital Control Interface between Motor Driver and PCU for improved communications between the PCU and the Motor Driver.
- LED indicators for reduced mean time to repair (MTTR).
- USB port provided for remote troubleshooting and wireless operation allowing ease of access to antenna control and troubleshooting.
- Accommodates multiple satellite receivers.
- Unmatched stabilization accuracy allows the system to detect and correct the slightest motion affecting the antenna's connection.
- 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 Diameter: 3.65 m; 144 in
- 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
- Reception: Single C-Band (Linear or Circular)/ Single Ku-Band (Linear Only), Dual C-Band Linear, Quad Ku-Band linear, 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 DAC 2202 Controller

- Model: 2202
- Mounting: Rack Mount
- M & C Ports: 1 Serial, 3 TCP/IP, 1 multi-user web browser support
- UDP Upload port for updating software in the Comm Interface
- Reformatted GPS output: (GGA and GLL)
- Heading Input: NMEA 0183, SBS, Synchro or No-Gyro Mode
- Dimensions: 19" X 1.75"



Marine Electronics & Satellite Communications

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