StreamCaster™ 3500

MIMO Radio — Dual Band

Overview

The SC3500 is the world's first MIMO radio ruggedized for military and public safety applications. MIMO is the breakthrough technology that is ushering in the 4G revolution in commercial wireless data communications and enabling WLANs of supporting high definition video. The SC3500 borrows the best of these commercial technologies while extending and improving the capacity, range and reliability of wireless communications for mission critical needs in the military, first responder and industrial markets.

The SC3500 transceiver, a stand-alone IP based packet MIMO radio, will surpass the capabilities of traditional single antenna solutions in many aspects and will deliver capabilities unique to the target end user such as:

- Connectivity in NLOS (non-line-of-sight) multipath rich environments typical of urban canyons
- Connectivity under highly mobile conditions on the ground, water, and in the air
- High data throughput rates
- Mesh network (self-forming, or managed)
- Multiple antenna configurations available; omnidirectional, high-gain directional, or hybrid.
- GPS and Multicast Support

Compared to conventional single antenna solutions, field trials have validated the benefits of MN-MIMO:

- 4.5x coverage increase in dense urban terrain
- 10x less transmit power for same range and throughput
- 2x increase in LOS range
- 2-4x increase in data rate

Missions Benefitting from the SC3500

The SC3500 is ideal for missions that require superior communications of voice/video/data in NLOS multipath rich environments. Examples of such missions include:

- Telerobotic / UGV for EOD / IED, recon, surveillance
- Below-deck wireless networking / ship-boarding
- Air-to-air & air-to-ground (manned, or unmanned)
- Urban ops, requiring video links within a building and with units outside the building
- Autonomous convoy
- Ship-to-shore high data rate transfer / comms
- First Responder urban network / relay

Ease of Use

Each transceiver enables bidirectional networking to simplify logistics. As an Ethernet bridge, the SC3500 can be interfaced with countless third party applications, and a multitude of configurations are accessed via web pages within the radio.

StreamScape™ allows for real-time management of all the radios in the network for TX power, frequency, channel bandwidth, link adaptation and other parameters.

Automatic link adaptation changes the radio operating parameters in real-time to provide performance as close to capacity as possible while not losing the link when abrupt changes in channel conditions occur such as moving around a corner or entering a building.

Contact us at: info@silvustechnologies.com +1-310-479-3333 Visit our website: www.silvustechnologies.com

StreamCaster™ 3500

MIMO Radio — Dual Band

Technical Specifications

General

- **Waveform** — Mobile Networked MIMO (MN-MIMO™)
- **Modulation** — C-OFDM; BPSK, QPSK, 16-QAM, 64-QAM
- **Channel Bandwidth** — 5, 10 & 20 MHz
- **Encryption** — AES 128 or AES 256 (optional)
- **Frequency Stability** — 1 PPM over temp -40° - +85° C
- **Tuning Step Size** — 1 KHz
- **Data Rates** — 85 Mbps UDP & 70 Mbps TCP
- **Error Correction** — 1/2, 2/3, 3/4, 5/6
- **Antenna Processing** — Spatial Multiplexing, Space-Time Coding, Eigen Beam Forming
- **No. of Spatial Streams** — 1-4
- **No. of Antennas** — 4
- **Total Power Output** — 10mW – 1W (variable)

Performance

- **Latency** — 7 ms average
- **Sensitivity** — Varies with MCS index
  Maximum = -102 dBm (5 MHz BW, MCS 0)
- **Cognitive Interference Avoidance** — Contact sales for additional information

Frequency Band Specifics

	S Band	C Band
Frequency Code '245540'	2.400 – 2.500 GHz	4.940 – 5.875 GHz
Frequency Code '245551'	2.400 – 2.500 GHz	5.150 – 5.875 GHz
Frequency Code '243578'	2.417 – 2.457 GHz	5.735 – 5.840 GHz

Ordering Information

There are three mechanical versions of the SC3500: standard, extended temperature and OEM PCB. Note the operating temperature and mechanical differences under "Environmental, and "Mechanical".

Applications are diverse and we have a variety of cables, antennas, mounts, and accessories to meet your needs. Please consult with your salesperson to identify the appropriate accessories for your application.

Environmental

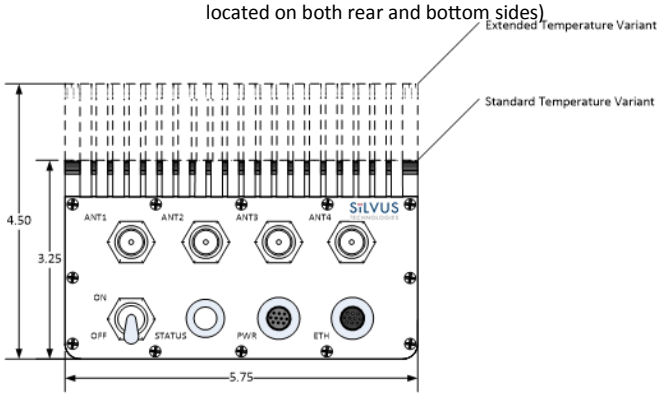
	Standard	Extended Temperature
Ambient Temp.	-40° - +55° C	-40° - +65° C
IP Rating (Ingress Protection)	IP-67 (Dust / Immersion in water up to 1m) * *Must have all connectors mated and use IP67 or better cables/antennas	

Mechanical – Chassis

In addition to the physical system package described here, Silvus offers the core board-stack for integration into an OEM product

	Standard	Extended Temperature
Dimensions	3.25" x 5.75" x 4" H x L x W	4.5" x 5.75" x 4" H x L x W
Weight	3.7 Pounds	4.0 Pounds

- **Color Options**
  a. FED-STD-595B-34094 (green 383)
  b. Black anodized
  c. CARC (Chemical Agent Resistant Coating)
- **Mounting** — 4-hole mounting patterns (non penetrating located on both rear and bottom sides)



Connectors

- **RF** — TNC (f) (4 each)
- **Data / Control** — Ethernet cable, Mighty-Mouse 801 Heavy-Duty, Double-Start 10 conductor (f)
- **Power** — Mighty-Mouse 801 Heavy-Duty, Double-Start 10 conductor (m), (RS232 / GPS Support)

Controls and Indicators

- **Power** — On / Off Toggle with detent
- **Status Indicator** — Tri-Color LED
- **Web Browser** — Web GUI StreamScape™ Network Utility

Power Requirements

- **Voltage** — 9 – 20 VDC
- **Consumption** — 12 W – 22.5 W (frequency & duty cycle dependent)

Mechanical – OEM Board Stack

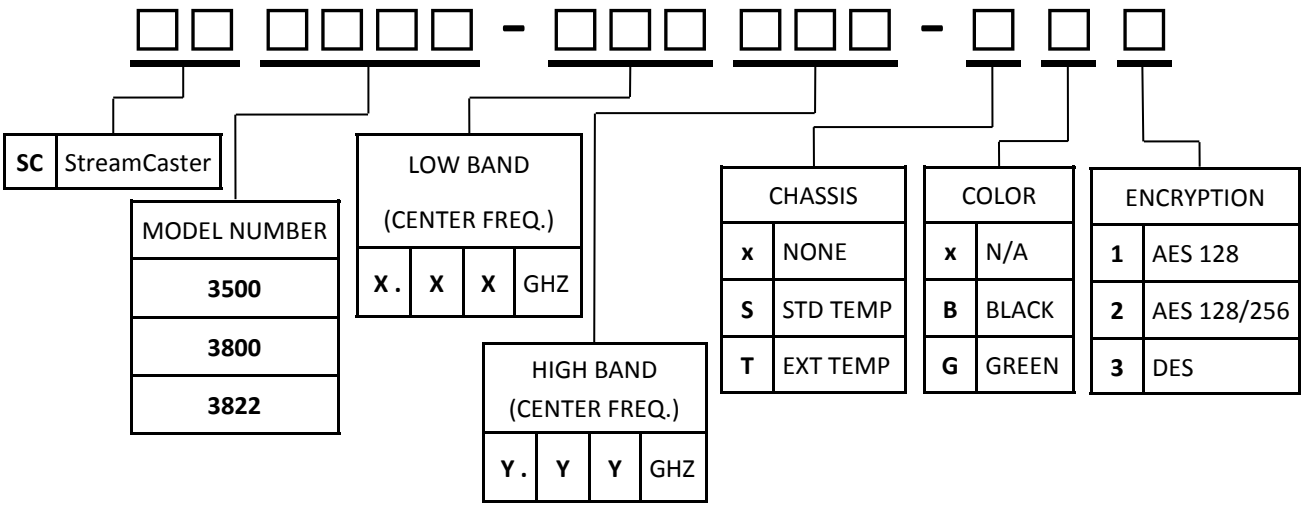
- **Dimensions** — 1.9" x 5.25" x 2.9" H x L x W
- **Weight** — 8 oz
- **RF Connectors** — SMP (m)
- **Data Connector** — Harwin M80 8-pin (m), (RS232 optional)
- **Power Connector** — Harwin M80 8-pin (m)

Contact us at: info@silvustechnologies.com +1-310-479-3333 Visit our website: www.silvustechnologies.com

StreamCaster™ 3500

MIMO Radio — Dual Band

Part Numbering Scheme



Contact us at: info@silvustechnologies.com +1-310-479-3333 Visit our website: www.silvustechnologies.com