



- Supports up to 32-serial ports
- Modular and scalable architecture
- Hot-swappable interface cards
- Multiple message formats capable
- Redundant power supplies
- Software controlled or stand-alone configuration
- Front panel indicators and monitoring
- TCP/IP and UDP/IP protocols

■ [Modular](#)  
■ [Scalable](#)  
■ [Redundant](#)



SGU Circuit Card Assembly (SGU-CCA)

Sunhillo's Surveillance Gateway Unit (SGU) is a robust, versatile and modular platform designed for surveillance sensor data formatting and protocol conversions. The SGU unit is scalable, providing the capability to provision modules and capabilities as mission requirements dictate. The SGU is the ideal solution for networks requiring high-density system interfacing to multiple serial ports with the ability to scale to future network demands.



## Surveillance Gateway Unit

*[Hot swappable](#) • [Independent Backplane](#) • [redundant power feeds](#)*

The SGU is a FPGA-based signal processing platform that enables synchronous, asynchronous, Bi-sync plus HDLC serial / LAN interconnectivity and can be programmed to perform essentially any data format conversion. Generally, the modules are pre-configured to your specifications at the factory. Common conversions performed by the SGU include message format transformations between surveillance data in CD-2, ASR, various ASTERIX categories (e.g., CAT 01, 02, 33, 34, 48, and others) in addition to sync serial and LAN formats.

The basic building block of the SGU is the Active Receptor assembly. Each Active Receptor assembly serves as the interface to 8-serial ports of data. Standard serial cables connect directly to the rear of each SGU-AR maintaining independent high speed connectivity. The SGU main chassis assembly is a 19" EIA standard rack mount unit with an elevation of 4U and can be provisioned with up to 32-serial ports. Dual power feed inputs are provided from the redundant power supply configuration. The SGU-AR provides IP-based network connectivity via dual ethernet ports located on the front panel.



SGU Active Receptor (SGU-AR)

## Technical Specifications:

System Interface Characteristics				
Serial Port Controls	Ethernet	Protocols	Message Format	Clock Sources
RS-232 (V.28) RS-422 X.21 (V.11) V.35 (V.35 & V.28) EIA-530A (V.10 & V.11) RS-449/V.36 (V.10 & V.11) RS-485	10BASE-T 100BASE-T IEEE-802.3	Synchronous Asynchronous HDLC/SDLC Bi-Sync Mono-Sync TCP/IP UDP/IP	ASTERIX CD-2 / ASR-9/11 Radar Mode 4 / Mode S MAR / TPS75 / ARTS AIRCAT-500 SGF ADS-B Custom	DCE DTE Split Clock  Note: SGU can generate and/or receive clock on each port

Power Requirements	
Primary and Secondary Power Supplies	+12 VDC, 5 Amp from redundant 100-240VAC Power Supplies
SGU-AR power consumption	+12 VDC, 400mA (13W per SGU-AR)

Specifications	SGU Chassis	SGU-AR	Power Distribution Panel	Power Supply
Height	7in./178mm	7in./178mm	1.75in./45mm	3.50in./89mm
Width	19in./483mm	4.25in./108mm	19in./483mm	19.00in./483mm
Depth	13in./330mm	13in./330mm	1.5in./38mm	4.25in./112mm

Description	Specifications	Standard Achieved
Low Temperature Operating	32°F (0°C), uncontrolled humidity	MIL-STD-810F – Method 502.4
High Temperature Operating	100°F (38°C), uncontrolled humidity	MIL-STD-810F – Method 501.4
Low Temperature Storage	Constant: -58°F (-50°C)	MIL-STD-810F – Method 502.4
High Temperature Storage	Cyclic: 115°F to 133°F (42°C to 56°C)	MIL-STD-810F – Method 501.4
Humidity Operating	55°F to 85°F, 85% Humidity (12°C to 30°C, 85% Humidity)	MIL-STD-810F – Method 507.4
Humidity Non-Operating	86°F to 133°F, 95% Humidity (30°C to 56°C, 95% Humidity)	MIL-STD-810F – Method 507.4
Altitude Operating	Low Pressure (Altitude) Operating/Air Carriage -200 to +10,000 feet	MIL-STD-810F – Method 500.4
Altitude Non-Operating	Low Pressure (Altitude) Storage/Air Transport +50,000 feet	MIL-STD-810F – Method 500.4
EMC Compliance	Federal Communications Commission (FCC)	Part 15, Class A
Safety Compliance	Underwriters Laboratories	(UL) 60950-1
Environmental Compliance	RoHS (Restriction of Hazardous Substance )	EU Directive 2002/95/EC

## System Architecture:

### Surveillance Gateway Unit

