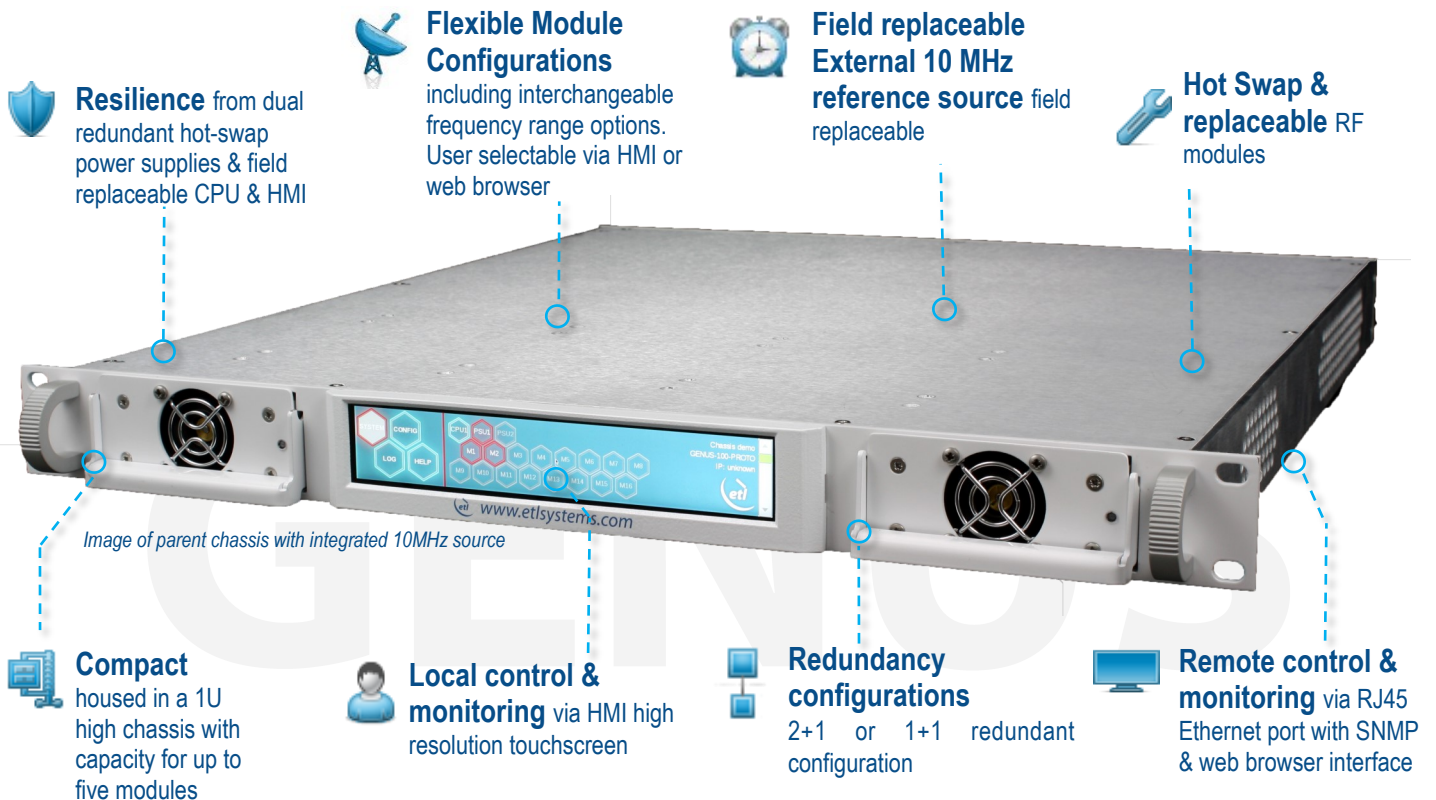# ETL Systems
Excelling in RF Engineering

Genus Series
Dual 10 MHz External Reference Redundancy Switch Card

Typical applications:
- Teleports & Earth Stations
- Satellite Operations
- Government & Defence applications
- Telemetry, Tracking & Command
- High Resilience applications

10 MHz external reference inject switch card, with 2 inputs to accept a main and a backup 10 MHz reference source for Genus 1U chassis. The 10 MHz switch card has full control and monitoring via the parent chassis HMI, or remotely via parent chassis Ethernet. The reference source is switchable between the on-board ovenised 10 MHz oscillator or this external reference switch card. This must be used with the GNS Internal Source.

Flexible Module Configurations including interchangeable frequency range options. User selectable via HMI or web browser

Field replaceable External 10 MHz reference source field replaceable

Hot Swap & replaceable RF modules

Resilience from dual redundant hot-swap power supplies & field replaceable CPU & HMI

Image of parent chassis with integrated 10MHz source

Compact housed in a 1U high chassis with capacity for up to five modules

Local control & monitoring via HMI high resolution touchscreen

Redundancy configurations 2+1 or 1+1 redundant configuration

Remote control & monitoring via RJ45 Ethernet port with SNMP & web browser interface

Chassis - Specification	
Dimensions / Weight / Colour	1U high x 550mm deep x 19" wide / <10 kg / RAL9003—White (Semi-matte)
Capacity	Total of 17 module slots. Note that 1 slot may be used for fan (if required) and 1 slot may be used for 10 MHz EXT inject module (if required). Note actual modules may require >1 slot. Refer to required module spec table.
Temperature	Operating: 0˚C to +45˚C / Storage: -20˚C to +75˚C
Location / Humidity / Altitude	Indoor use only / 20 to 90% non-condensing / 10,000 feet AMSL (Operational) 30,000 feet AMSL (Storage) *Above Mean Sea Level*
Control & Monitoring	Local: HMI touch screen Remote: Ethernet via RJ45, 10BaseT/100 BaseTx. TCP/IP, SNMP V3 & HTTPS & Web browser interface HMI and CPU field replaceable. Each module independently monitored and reported.
MTTR	20 minutes (15 minutes to retrieve spare part and 5 mins to replace) Applies to LRUs only and assumed in house stock
AC Input / Consumption	85-264Vac 50/60Hz / 150W
PSU Redundancy	Dual redundant and alarmed Diode OR. Hot swappable
Input & Output ports	Dependant upon module fitted

10MHz External Source Card
Field-replaceable, compact form factor module card to be housed in 1U chassis. Each module uses 1 slot in the chassis.

General Specifications	
Model Numbers	SWF-G1S-Y-113A-S5
Frequency Range	10 MHz
Size	1 slot wide
Capacity	Dual 10 MHz port (2 inputs for main and backup 10 MHz)
Local Control & Monitoring	Local via parent chassis HMI. See 1U Genus Chassis Datasheet
Remote Control & Monitoring	Via Ethernet 10/100Base T. TCP/IP, SNMPv3, HTTPS, Web browser. / See 1U Genus Chassis Datasheet
Switching Method	Manual via front panel HMI, automatic (based on input RF level detection) and remote via RJ45 web browser interface. ETL TCP/IP protocol or SNMPv2/3
Max RF Input	P1dB +10 dBm output at max gain +15dBm Absolute (damage level)
Gain	Controllable via the 10 MHz distribution card, Max +10dB ± 2 Min –15dB ± 2
Return Loss	14 dB typical
Connectors	SMA 50 Ohm
DC Consumption	<2W nominal

Environmental Conditions	
Storage Temperature	-20°C to +75°C
Location	Indoor use only with-in parent Genus chassis

Physical Dimensions & Parameters	
Weight	<0.3Kg. Card and external link module
Dimensions	TBC

For internal 10MHz reference source specifications, refer to the product datasheet.

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy.
Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.
Note 3: All specs are for 50 Ohm connectors unless detailed otherwise.

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