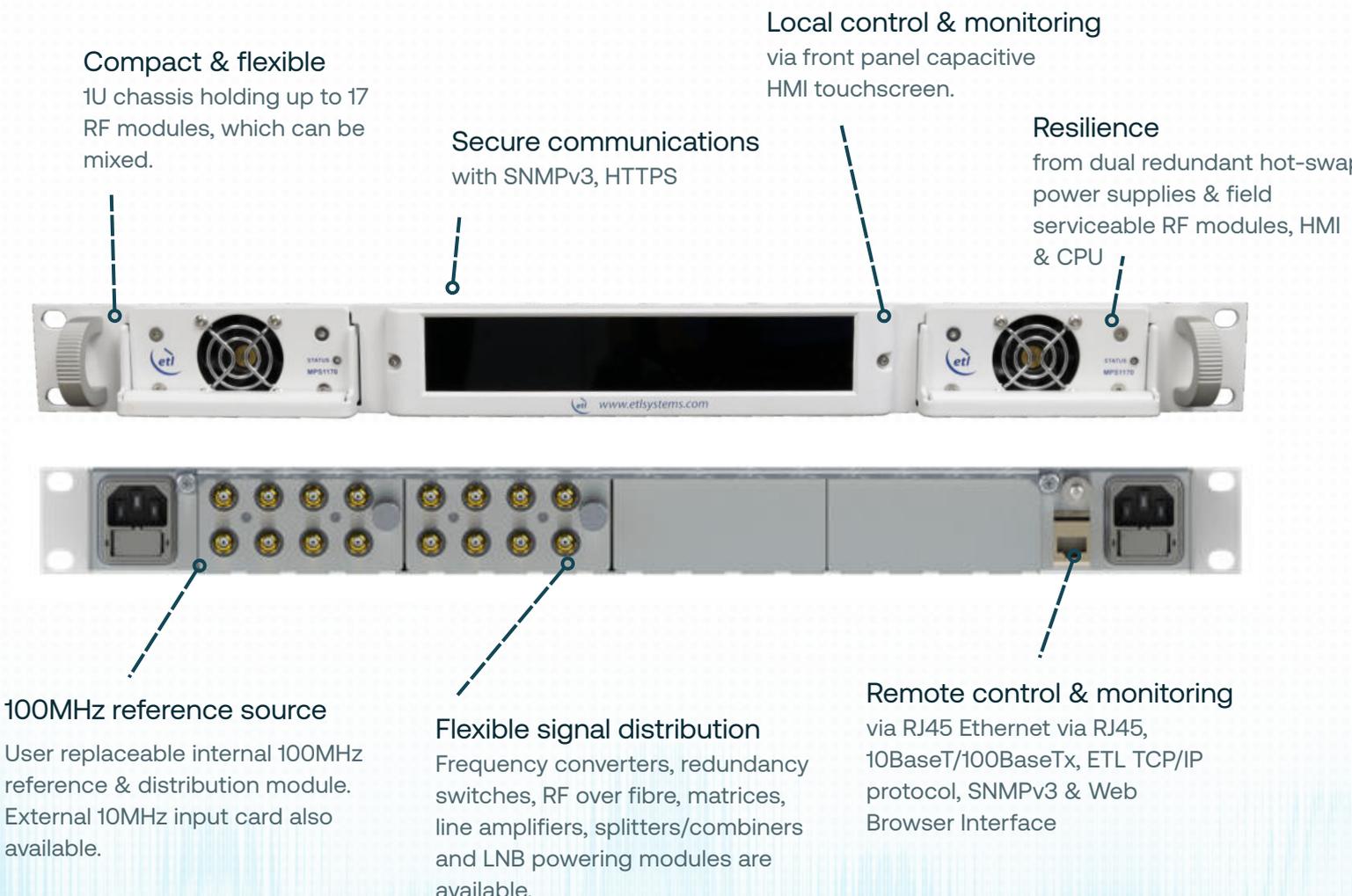# GENUS 1U Modular chassis

With Internal 100 MHz reference source.

The GENUS chassis has a modular design which can house any combination of compatible modules within the unit. Supplying operators with a flexible and scalable solution, that reduces spare parts and rack space requirements.
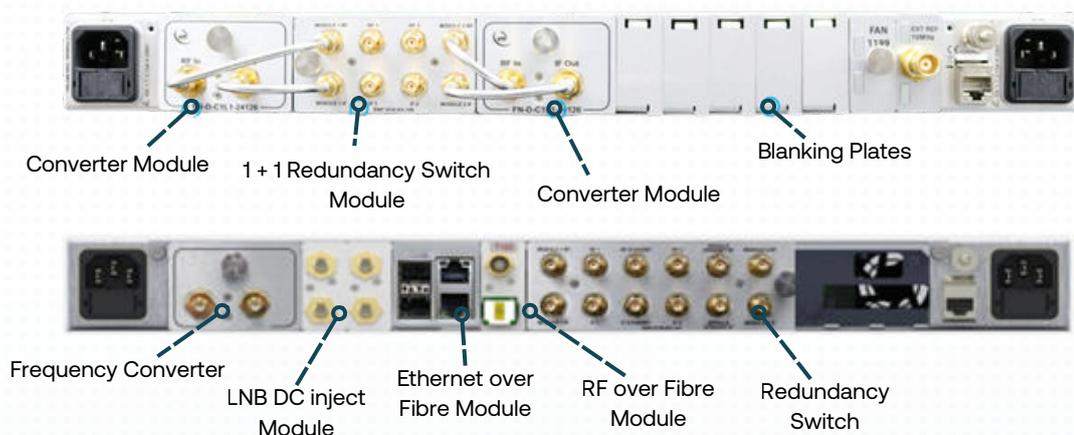
The 1U chassis houses up to 17 RF modules including Amplifiers, BUC/LNB Power Supplies, Frequency Converters, Matrices, RF over Fibre, Redundancy Switches and Test Loop Translators, which can be mixed. Providing a compact 1U system that is smaller in comparison with traditional 19" solutions, which could require 2U, 3U, 4U or more to achieve the same functionality. GENUS provides a cost-efficient solution with field-replaceable components.

The RF modules are field-serviceable and can be inserted whilst the shelf is in service, giving excellent levels of flexibility and resilience. With additional reliability from dual redundant hot-swap power supplies & field serviceable HMI, CPU and optional user replaceable internal 10MHz reference source with external 10MHz input options.

Local control & monitoring
via front panel capacitive HMI touchscreen.

Compact & flexible
1U chassis holding up to 17 RF modules, which can be mixed.

Secure communications
with SNMPv3, HTTPS

Resilience
from dual redundant hot-swap power supplies & field serviceable RF modules, HMI & CPU

100MHz reference source
User replaceable internal 100MHz reference & distribution module. External 10MHz input card also available.

Flexible signal distribution
Frequency converters, redundancy switches, RF over fibre, matrices, line amplifiers, splitters/combiners and LNB powering modules are available.

Remote control & monitoring
via RJ45 Ethernet via RJ45, 10BaseT/100BaseTx, ETL TCP/IP protocol, SNMPv3 & Web Browser Interface

General Specifications	
Capacity	Up to 17 modules **Note:** actual number dependent on module type fitted
Dimensions	1U high x 550mm deep x 19" wide
Weight	<10 kg
Colour	RAL9003 White (Semi-Matte)
AC Power	85-264V AC (50/60Hz)
AC Consumption	275W Max. consumption at steady rate
PSU	Dual redundant & alarmed, Diode OR, Hot-swap
RF Modules	Various, hot-swap or field-replaceable dependent upon module type
Control & Monitoring	
Local Control	HMI, capacitive touchscreen
Remote Control & Monitoring	Ethernet via RJ45, 10BaseT/100BaseTx ETL TCP/IP protocol SNMPv3 & HTTPS Built-in Web Server
Environmental	
Operating Temperature	0 to 45°C
Storage Temperature	-20°C to +75°C Not Powered
Location/Humidity	Indoor use only — 20 to 90% non-condensing
Altitude — Operational	10,000 ft AMSL (Above Mean Sea Level)
Altitude — Storage	30,000 ft AMSL (Above Mean Sea Level)

A sample of available RF modules						
Amplifier	BUC/LNB Power Supply	Frequency Converter	Matrices	Redundancy Switch	RF Over Fibre	Test Loop Translator (TLT)

Converter Module

1 + 1 Redundancy Switch Module

Converter Module

Blanking Plates

Frequency Converter

LNB DC inject Module

Ethernet over Fibre Module

RF over Fibre Module

Redundancy Switch

Internal 100MHz reference and distribution module for 1U Genus chassis. The integrated 100MHz card has full control and monitoring via the parent chassis HMI or RJ45. The 100MHz reference source is switchable between this on-board ovenised 100MHz oscillator or the customer supplied external reference, connected to slot 17 EXT input module (if fitted). Internal 100 MHz or 10 MHz derived from the external reference can be supplied outside the chassis via a separate card at Slot 16. See separate datasheet for external reference source inject card options.

Internal 100MHz —High Stability Ovenised Oscillator		
Frequency Setting	100±0.003 ppm	
Output Type	Sinewave	
Output Power (typical)	100 MHz +2 dBm 10 MHz +5 dBm	
Harmonic Rejection	2nd >45dBc 3rd >60dBc 4th >60dBc 5th >60dBc	
SSB Phase Noise dBc/Hz (typical)	10 Hz <-95 100 Hz <-120 1000 Hz <-130 10 000 Hz <-140 100 000 Hz <-150 1 000 000 Hz <-155	
Frequency Stability	Over operating temperature: < ±5 x 10^{-8} Load change(±5%): < ±5 x 10^{-9} Power supply variations(±5%): < ±2 x 10^{-9}	
Frequency Aging (per year)	±3 x 10^{-7}	
Alarms	100MHz source RF power level. Card operational status.	User settable auto switchover for reference source (Int/Ext)
Hot-Swap	Field replaceable by user	

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.