GENUS 1U Modular Chassis

With Internal 10 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.

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

Secure communications
with SNMPv3, HTTPS

Local control & monitoring
via front panel capacitive HMI touchscreen.

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

10MHz reference source
User replaceable internal 10MHz 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)
	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)

Internal 10MHz - High Stability Ovenised Oscillator		
Internal 10MHz reference and distribution module for GENUS chassis. The integrated 10MHz card has full control and monitoring via the parent chassis HMI, or remotely via parent chassis Ethernet. The reference source is switchable between this on-board ovenised 10MHz oscillator or the customer supplied external reference, connected to slot 17 EXT input module (if fitted).		
Frequency Setting		10±0.000001 MHz
Output Type		Sinewave
Output Power Range		-10dBm to +10dBm (±2dBm)
Harmonic Rejection (at 0 dBm power out)	2nd	>40 dBc
	3rd	>50 dBc
	4th	>60 dBc
	5th	
SSB Phase Noise dBc/Hz (typ.)		0 dBm 10MHz src
	10 Hz	<-120
	100 Hz	<-140
	1000 Hz	<-145
	10,000 Hz	<-155
	100,000 Hz	
Frequency Stability	Over Operating Temp.	< ±5 x 10-9
	Short-term (per second)	$< 5 \times 10^{-12}$
	Load Change (+5%)	$< \pm 5 \times 10^{-10}$
	Power Supply Variations (+5%)	$< \pm 2 \times 10^{-8}$
Frequency Aging	Per Day	$\pm 5 \times 10^{-10}$
	Per Year	$\pm 5 \times 10^{-8}$
Alarms		10MHz source RF power level. Card operational status. (User settable Auto switchover for reference source (Int/Ext) on RF power alarm trigger.)
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.