



# Genus 3U Chassis

With Internal 10 MHz reference source.

The Genus is a new generation of equipment for the ground segment to meet today's and future ground segment V/HTS requirements. The 3U Genus chassis accommodates up to 17 RF modules. These can be inserted whilst the shelf is in service giving excellent levels of flexibility and resilience.

**Typical applications:**

- Teleports, ground stations, maritime high resilience applications and unmanned sites.
- High resilience RF distribution where single points of failure can be minimised.
- Redundancy applications for remote satellite teleports.
- Signal distribution – 4-way high performance active splitters and combiners are available.



**Compact & flexible** 3U chassis holding up to 17 RF modules, which can be mixed.

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



**Local control & monitoring** via front panel capacitive HMI touchscreen.



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



**Secure Communications** with SNMPv3, HTTPS



**Splitters & combiners** 4-way high performance active splitter and combiner RF modules. With fixed / variable gain & slope options, optional dual redundant amplifiers & LNB



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





**Technical specifications and operating parameters**

General Specifications	
Capacity	Up to 17 RF modules
Dimensions	3U 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 state
PSU	Dual redundant & alarmed, Diode OR, Hot-swap
RF Modules	Single, field replaceable

Reliability	
MTRR	20 minutes 15 minutes to retrieve spare part and 5 mins to replace. Applies to LRUs only and assumed in house stock.
MTBF	Chassis >250,000
	CPU >250,000
Field serviceable components	RF modules, CPU & HMI
Hot-swap components	Dual redundant power supplies

Control & Monitoring	
Local Control	HMI, capacitive touchscreen
Remote Control & Monitoring	Ethernet via RJ45, 10BaseT/100BaseTx ETL TCP/IP protocol SNMP Built-in Web Server

Environmental	
Operating temperature	0 to 45°C
Location	Indoor use only
Storage temperature	-20°C to +75°C Not Powered
Humidity	20% - 90% non-condensing Relative Humidity
Altitude	Operational 2,000m AMSL (Above Mean Sea Level)
	Storage 8,000m AMSL (Above Mean Sea Level)

**Internal 10MHz reference and distribution module for 3U Genus chassis.** The integrated 10MHz card has full control and monitoring via the parent chassis HMI or RJ45. The 10MHz 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). See separate datasheet for external 10MHz reference source inject card options.

Internal 10MHz —High Stability Ovenised Oscillator		
Frequency Setting	10±0.000001 MHz	
Output Type	Sinewave	
Output Power Range	-10dBm to +10dBm	±2dBm
Output Power Steps	1dB ±0.5	
Harmonic Rejection	2nd	>40dBc
	3rd	>50dBc
	4th	>60dBc
	5th	>60dBc
	At 0dBm power out.	
SSB Phase Noise dBc/Hz	0dBm 10MHz src	
10 Hz	<-124	Typical
100 Hz	<-143	
1000 Hz	<-147	
10 000 Hz	<-149	
100 000 Hz	<-152	
Frequency Stability:		
Over operating temperature	< ±5 x 10 <sup>-9</sup>	
Short-term (per second)	< 5 x 10 <sup>-12</sup>	
Load change(±5%)	< ±5 x 10 <sup>-10</sup>	
Power supply variations(±5%)	< ±2 x 10 <sup>-8</sup>	
Frequency Aging	Per Day Per Year	±5 x 10 <sup>-10</sup> ±5 x 10 <sup>-8</sup>
Alarms	10MHz 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.

