



# 4-way L-band active splitter with variable gain & slope, internal amplifier redundancy, RF detection & LNB powering - for 3U Genus chassis

The Genus is a new generation of equipment for the ground segment to meet today's and future ground segment V/HTS requirements. The Genus Habitat 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:

- Distribution of multiple polarities into a teleport
- Signal distribution into standby IRDs
- Expansion of ETL's RF matrix range
- Linking RF Matrices in expanding satellite teleports.
- Can be used for a high density RF distribution chassis where rack space is limited.
- As a replacement for non hot-swap passive systems to improve system design.

## Splitter Modules



**850 - 3150 MHz**  
operating frequency range



**LNB Powering** 13/18V & 22KHz tone



**RF detection** for monitoring input signal levels



**Variable gain & slope** to balance input signals



**1:1 redundant amplifiers** for added resilience

## Chassis



**Compact** chassis which can house up to 17 RF modules



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



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



**Secure Communications** with SNMPv3, HTTPS



**Local control & monitoring** via LEDs on modules





**Splitter Module - Technical specifications and operating parameters**

Function	4-way Active Splitter			
Module Slots Used	1			
Frequency Range	850-3150 MHz (Extended L-band)			
Gain	Minimum	0 ± 2 dB		
	Maximum	28 ± 2 dB		
Gain Flatness	850 to 2450 MHz	± 1.0 dB		
	850 to 3150 MHz	± 2.0 dB		
	Any 36 MHz	± 0.25 dB		
Gain Steps	0.25 ± 0.15 dB Monotonic Gain Control			
Slope Control Range	0 to 10 dB Pivot Point at 3150 MHz			
Slope Control Steps	1 ± 0.25 dB			
RF Connectors & Impedances	50Ω SMA	50Ω BNC	75Ω BNC	75Ω F-type
Input Return Loss	Typical	18 dB	18 dB	16 dB
	Minimum	12 dB	12 dB	10 dB
Output Return Loss	Typical	18 dB	18 dB	16 dB
	Minimum	14 dB	14 dB	12 dB
Reverse Gain	< -60 dB typical			
Noise Figure	Typical	9 dB At maximum gain & 0 dB slope setting		
	Maximum	11 dB At maximum gain & 0 dB slope setting		
1dB GCP	Typical	7 dBm At maximum gain & 0 dB slope setting		
	Minimum	5 dBm At maximum gain & 0 dB slope setting		
OIP3	Typical	19 dBm At maximum gain & 0 dB slope setting		
	Minimum	16 dBm At maximum gain & 0 dB slope setting		
OIP2	Typical	29 dBm At maximum gain & 0 dB slope setting		
	Minimum	26 dBm At maximum gain & 0 dB slope setting		
In band, signal dependent spuri	<-85 dBm max Very low level spuri from CPU clock, switch mode PSU and other control electronics inside the chassis.			
Input RF Detection	0 to -50 dBm			
Amplifier Redundancy	1:1 Auto switch over from main to standby is based on current sensing. Standby amp chain is cold standby redundant.			
MTBF	>150,000 hrs MTBF of each amp module. These are hot swap.			
Maximum Input Level	+20 dBm For no damage. None operational.			
Control Method	Via Chassis Local and remote as provided by selected chassis			
LNB Power	450 mA max per card Maximum allowed power per chassis shall NOT exceed 100 W			
LNB Control	13/18 V DC with 22kHz on/off			
DC Coupling	All RF Output Ports DC blocked			
Temperature	Operating: 0 to 50°C Storage: -20°C to +75°C (equipment not powered)			
Location / Humidity / Altitude	Location: Indoor only Humidity: 20 to 90% non-condensing (relative) Altitude: 10,000ft/3000m AMSL (Above Mean Sea Level)			

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.

Please see separate datasheet for full 3U Genus chassis specifications (Model GNS-103-3U).

