ETL Systems
Excelling in RF Engineering

Model Number:
DIV-G3-L1-403-XXXX

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 - 2150 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

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Splitter Module - Technical specifications and operating parameters					
Function		4-way Active Splitter			
Module Slots Used		1			
Frequency Range		850-2150 MHz (L-band)			
Gain	Minimum	0 ± 2 dB			
	Maximum	28 ± 2 dB			
Gain Flatness	850 to 2150 MHz	± 1.0 dB			
	Any 36 MHz	± 0.25 dB			
Gain Steps		0.25 ± 0.15 dB Monotonic Gain Control			
Slope Control Range		0 to 8 dB Pivot Point at 2150 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	11 dB	10 dB
	Minimum	12 dB	12 dB	8 dB	8 dB
Output Return Loss	Typical	18 dB	18 dB	14 dB	14 dB
	Minimum	14 dB	14 dB	12 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 spurii		<-85 dBm max Very low level spurii from CPU clock, switch mode PSU and other control electronics inside the chassis.			
Input RF Detection		0 to –40 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).

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