ETL Systems

Excelling in RF Engineering

Model Number:
VCN-11-XXXX

128x128 Vulcan L-band Switch Matrix / Router

Typical applications:

- Live news & Sport traffic for larger teleports.
- High capacity signal monitoring of satellite traffic.
- RF content acquisition for TVRO & IPTV head ends.
- Remote controlled unmanned satcom sites.

Software updates
Multiple user levels via web browser access & HMI enhancements

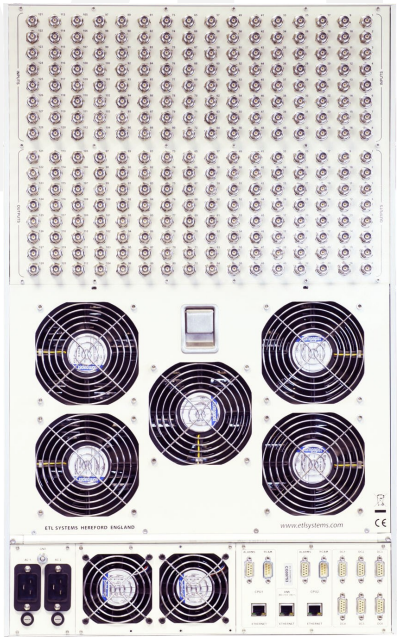
850 - 2150 MHz
operating frequency range

RF Monitoring
of input signals

Automatic re-routing
in the event of card failure with redundant paths

Local control & monitoring via front panel touch screen & XGA Display

Ultra compact
128x128 routing in a 16U high chassis



Variable gain to balance input signals

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

Resilience from dual redundant hot-swap power supplies & CPU modules & hot-swap RF cards

Dry contact alarm port & serial communications
for amplifier & power supply status

V 1.0 E&OE

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Technical specifications and operating parameters

RF Parameters					
Capacity		128 inputs x 128 outputs		Expandable to 1024 x 1024	
Routing		Distributive, non-blocking		Any input can be connected to any number of outputs	
Frequency Range		850-2150 MHz (L-band)		Extended frequency range available	
Input Levels		-70 dBm to -5 dBm		All parameters apply	
RF Connectors		50Ω SMA	50Ω BNC	75Ω BNC	75Ω F-type
Gain mean across band		0±2.5 dB	0±2.5 dB	0±2.5 dB	0±2.5 dB
Gain Flatness	850-2150MHz	±2.75 dB	±2.75 dB	±2.75 dB	±3.0 dB
	Any 36MHz	±0.5 dB	±0.6 dB	±0.75 dB	±0.8 dB
Gain Tracking		±3 dB	±3 dB	±3 dB	±3 dB
Maximum Gain G_{max}		+10±1.5 dB	+10±1.5 dB	+10±1.5 dB	+10±1.5 dB
Minimum Gain G_{min}		-10±1.5 dB	-10±1.5 dB	-10±1.5 dB	-10±1.5 dB
Gain Steps		1.0 ±1.0 dB Monotonous & control on inputs			
Input Return Loss	Typical	18 dB	16 dB	14 dB	12 dB
	Minimum	12 dB	12 dB	10 dB	8 dB
Output Return Loss	Typical	18 dB	16 dB	14 dB	12 dB
	Minimum	12 dB	12 dB	10 dB	8 dB
1dB Compression		≥ 0 dBm output power measured at mid-band			
OIP3		≥ 10 dBm	3rd order intercept point, output power. Equal signals @ -15 dBm		
OIP2		≥ +20 dBm	2nd order intercept point, output power.		
Isolation	I/P-I/P	≥ 65 dB	Minimum between any 2 output ports		
	I/P-O/P	≥ 55 dB	Typically ≥ 60 dB		
	O/P-O/P	≥ 70 dB	Minimum between any 2 output ports		
Group Delay		≤ 2.0 ns	Peak variation across the operational bandwidth		
Noise Figure		28 dB typical at unity gain setting			
Switching Time		≤ 100 ms	From when command received by interface until the connection is made		

Environmental	
Operating temperature	0 to 45˚C
Location	Indoor use only
Storage temperature	-20˚C to +75˚C
Humidity	85% non-condensing

Physical		
Dimensions	16U high x 620mm deep x 19" wide	It is recommended that a rack of at least 800x1000mm depth should be used
Weight	82 kg	
Colour	White 00-E-55 semi-gloss	

System Control		
Remote Control	Via RJ45 10/100 Base T. TCP/IP, SNMP Ethernet port or RS232/485 Serial Port Web browser interface included. PC software available.	
Local Control	Via front panel touch screen & XGA Display	
Display	Front panel XGA Display	
RF Monitoring	-50 to +5 dBm at unity gain	Input Power, High & Low Limits
Alarms	Dry contact alarm port on rear panel for PSU failure	
Comms/Power Failure	Retains Settings	

Power		
PSU Power	85-264V AC (47/63Hz) Fused, 20A via IEC C20 inlets	
AC Consumption	1kW	Max. consumption at steady state
LNB Power	None	
PSU	Dual redundant, Diode OR	Either PSU rated to power matrix
Hot-swap PSU	Yes	
DC Output Source	6 off +5 Vdc at 4A	Fused with self resetting fuses
Input RF Power	+13 dBm Absolute Maximum	

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.

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