



Vulcan

L-Band Matrix Router

128 x128 signal routing taken to new levels



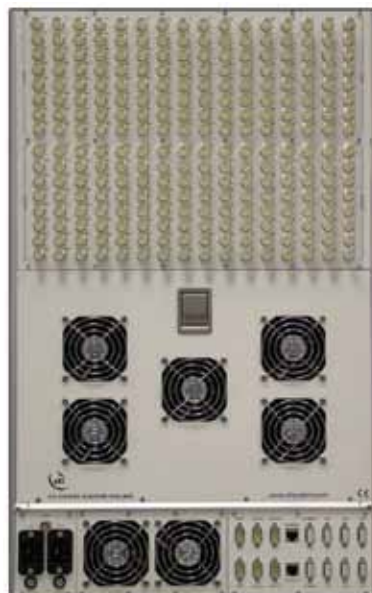
Key Features

- 128 x 128 matrix system in a 16U high shelf
- Dual redundant, hot-swap PSU's & CPU's
- Single, hot-swap matrix cards
- Self diagnostics – continuous monitoring

The **Vulcan** is a highly compact matrix in a 16U shelf and offers a full fan-out / fully distributive system covering 850 to 2150MHz.

Features include auto re-routing and a color XGA Touchscreen for fast control and monitoring.

All active RF and CPU cards are designed to be hot-swapped from the front and rear without removing RF cables or connectors.



ETL's new **Vulcan** L-band matrix is designed to offer an extremely compact form factor, and compliments the NiGMA range of high resilience routers. Derived from the TiTan IF matrix, Vulcan's revolutionary architecture focuses on compactness.

Offering up to 128 x 128 routing in one chassis, this resilient matrix offers a high performance solution to frequent signal routing changes.



Specifications & Operating Parameters: Vulcan L-Band Matrix Router

RF Parameters				
Capacity	128 inputs x 128 outputs		Expandable to 512 x 512	
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
Unity Gain Setting				
Gain	0±2.5 dB		0±2.75 dB	0±3.0 dB
Gain Flatness	850-2150MHz	±3.0 dB	±3.2 dB	±3.5 dB
	Any 36MHz	±0.5 dB	±0.6 dB	±0.65 dB
Gain Tracking	±2.0 dB		±2.5 dB	±2.85 dB
Full Gain Range				
Maximum Gain G_{max}	+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
Gain Flatness	850-2150MHz	±2.0 dB	±2.2 dB	±2.5 dB
	Any 36MHz	±0.7 dB	±0.8 dB	±0.8 dB
Gain Alignment	±1.0 dB		±1.0 dB	±1.25 dB
Gain Steps	1.0 dB Monotonous & control on inputs			
Input Return Loss	Typ	18 dB	16 dB	14 dB
	Min	14 dB	12 dB	10 dB
Output Return Loss	Typ	18 dB	16 dB	14 dB
	Min	12 dB	12 dB	10 dB
1dB Compression	≥ 0 dBm output power & unity gain setting			
IP3	≥ +10 dBm			
IP2	≥ +20 dBm			
Isolation	I/P-I/P	≥ 60 dB		
	I/P-O/P	≥ 60 dB typical		worst case ≥ 55 dB
	O/P-O/P	≥ 60 dB		
Group Delay	≤ 2.0 ns		Pk-pk, any 60MHz segment	
Noise Figure	25 dB typical Unity Gain Setting			
Switching Time	≤ 100 ms TBC From when command received by interface until the connection is made			

* Designed to run at or near minimum attenuation for nominal unity gain

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
Weight	82 kg (TBC)
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
Local Control	Via front panel touch screen & XGA Display
Display	Front panel XGA Display
RF Monitoring	-50 to +5 dBm at unity gain
Alarms	Dry contact alarm port on rear panel for PSU failure
Comms/Power Failure	Retains Settings
Remote Control Software	Available. Web Browser option available

Power	
AC Power	85-264V AC (47/63Hz) Fused, 20A via IEC C20 inlets
Rated Load	Maximum demand 1.6kW (each inlet)
LNB Power	None
PSU	Dual redundant
Hot-swap PSU	Yes
DC Source	6 off +5 Vdc at 4A