



64 x 64 IF Vortex Matrix

Compact hot-swap switch matrix with 5.0 dB variable gain

ETL's new Vortex IF matrix is designed to offer an extremely compact form factor, and compliments the Enigma and Vulcan ranges of high resilience routers. Vortex uses the same leading edge technology switching cards as the Vulcan matrix, giving excellent RF performance in a compact chassis.

Typical applications:

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



50 - 200 MHz
operating frequency range



Local control & monitoring via front panel VGA touchscreen



Compact up to 64 inputs & 64 outputs housed in a 8U high chassis



Variable gain to balance input signals



Expansion in blocks of 16 or with additional matrix modules for larger systems



Minimal impact from failure with hot-swap input & output RF cards, power supplies, fans & VGA display



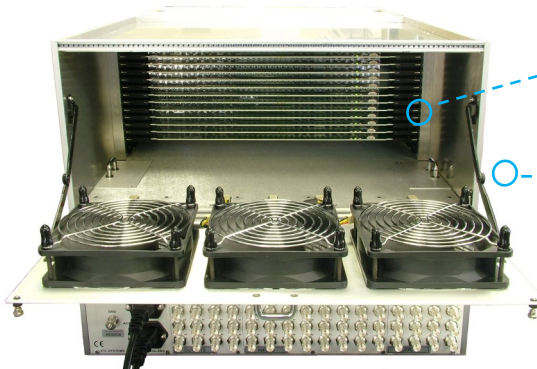
Remote control & monitoring via RJ45 Ethernet port with SNMP & web browser interface



Resilience from dual redundant power supplies



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





Technical specifications and operating parameters

RF Parameters					
Capacity	64 inputs x 64 outputs				
Routing	Distributive, non-blocking	Any input can be connected to any number of outputs			
Frequency Range	50-200 MHz (IF)				
RF Connectors & Impedances	50Ω SMA	50Ω BNC	75Ω BNC	75Ω F-type	
Input Return Loss	Typical	18 dB	16 dB	10 dB	10 dB
	Minimum	12 dB	12 dB	8 dB	8 dB
Output Return Loss	Typical	18 dB	16 dB	10 dB	10 dB
	Minimum	12 dB	12 dB	8 dB	8 dB
Gain	Typical	0±2 dB	0±2 dB	0±2 dB	0±2 dB
	Flatness (full band)	±0.5 dB	±0.5 dB	±0.5 dB	±0.75 dB
	Max Gain G_{max}	+ 5 dB mean across band			
	Min Gain G_{min}	0 dB mean across band			
	Gain steps	0.25 dB Fine monotonic gain control			
Isolation (minimum between any 2 ports)	I/P - O/P	60 dB (70 dB typical)			
	I/P - I/P	75 dB (85 dB typical)			
	O/P - O/P	75 dB (85 dB typical)			
Group Delay	≤ 2 ns Pk-Pk, any 50 MHz segment				
Noise Figure	Typical	22 dB Typical, 1 input routed to 1 output			
	Maximum	25 dB Typical, 1 input routed to 1 output			
1 dB GCP	1 dBm ±2 output power				
OIP3	+12 dBm Typical - 3rd order intercept point, output power				
OIP2	+20 dBm 2nd order intercept point, output power				
Input RF Power	+ 24 dBm Absolute maximum				
Switching Time	≤ 150 ms From when command received by interface until connection is made.				

Environmental	
Operating Temperature	0 to 45°C
Location	Indoor use only
Storage Temperature	-20°C to +75°C
Humidity	20 to 90% non-condensing

Power		
PSU Power	85-264Vac 50-60Hz	Fused 10A via IEC C14
AC Consumption	550W	Max. consumption at steady state
LNB Power	None	
PSU	Dual redundant and alarmed	Diode OR. Hot Swap.
Hot Swap PSU	Yes	
RF Monitoring	None	

System Control	
Local Control	Via Front Panel VGA touchscreen
Remote Control	Via RS232/485 serial port and RJ45 Ethernet & Web browser interface.
Alarms	Dry contact (D-type) & Ethernet (RJ45) for PSU & Amp status

Physical	
Dimensions	8U high x 650mm deep x 19" wide
Weight	60 kg
Colour	White 00-E-55 Semi-gloss

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.