



Model Number: VTX-10-xxxx

RF Engineering
and Custom Build

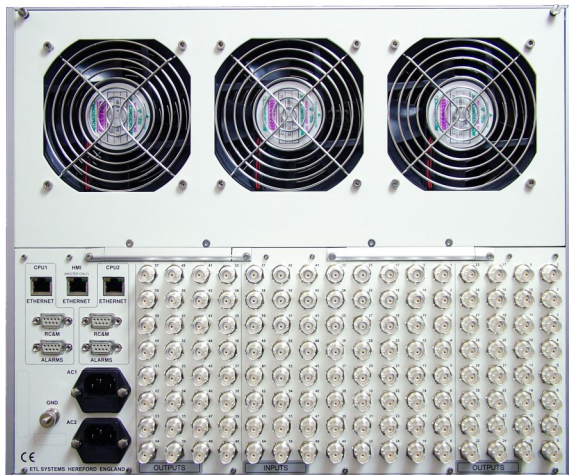
64 x 64 Extended L-band Vortex Matrix

Compact, hot-swap switch matrix / router with 5.0 dB variable gain



ETL's Vortex extended L-band (850-2450MHz) matrix is designed to offer an extremely compact form factor in an 8U shelf.

Offering up to 64 x 64 routing in one chassis, this resilient matrix offers a high performance solution to frequent signal routing changes.



Benefits & features

- 64 x 64 routing in a compact 8U shelf.
- Variable gain.
- Simple 'plug & go' installation.
- Further expansion of RF matrix to 1024 x 1024.
- Reliance in service with hot-swappable active components.
- Continuous monitoring and reporting of all active components.
- All settings are retained after a communications power failure.

Vortex can be part populated in blocks of 16 inputs or outputs for smaller matrices and then hot expanded as your routing requirements change.

Connectors: A comprehensive range of connectors and impedances are available, making the Vortex matrix easy to fit into new or existing systems.

Typical Applications

- RF content acquisition for TVRP & IPTV head ends.
- Broadcast occasional use.
- Remote controlled unmanned satcom sites.





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Technical specifications and operating parameters

RF Parameters					
Capacity	Up to 64 inputs x 64 outputs		Inputs and outputs configurable to fewer than 64 in steps of 16 inputs or 16 outputs		
Routing	Distributive, non-blocking		Any input can be connected to any number of outputs		
Frequency Range	850-2450 MHz (Extended L-band)				
RF Connectors	50Ω SMA	50Ω BNC	75Ω BNC	75Ω F-type	
Minimum Gain (mean across operational bandwidth)	0±2.0 dB	0±2.0 dB	0±2.5 dB	0±2.5 dB	
Maximum Gain (mean across operational bandwidth)	5±1.5 dB	5±1.5 dB	5±2 dB	5±2 dB	
Gain Steps	0.25 dB monotonous				
Gain Flatness*	850-2150 MHz	±1.25 dB	±1.4 dB	±2.0 dB	±2.5 dB
	850-2450 MHz	±2.0 dB	±2.0 dB	±2.5 dB	±3.0 dB
	Any 60 MHz band 2150 MHz	±0.4 dB	±0.5 dB	±1.0 dB	±1.0 dB
	Any 60 MHz band 2450 MHz	±0.9 dB	±0.9 dB	±1.5 dB	±1.5 dB
Gain Tracking*	±2dB	±2dB	±2.5dB	±2.5dB	
1 dB Compression	0 dBm		1dB Gain Compression point		
OIP3	≥ +10 dBm				
OIP2	≥ +20 dBm				
Noise Figure	25 dB typical				
Input Return Loss	Min 2150MHz	14 dB	14 dB	10 dB	8 dB
	Min 2450MHz	12 dB	10 dB	8 dB	6 dB
Output Return Loss	Min 2150MHz	15 dB	15 dB	10 dB	8 dB
	Min 2450MHz	12 dB	12 dB	8 dB	6 dB
Isolation (Test Condition: Same gain settings across all channels)	I/P - O/P	850-2150 MHz		850-2450 MHz	
		60 dB		55 dB	
	I/P - I/P	75 dB		75 dB	
	O/P - O/P	75 dB		75 dB	
Group Delay	≤ 2.0 ns	Variation across the operational bandwidth			
Input Levels	-70 dBm to -5 dBm		All parameters apply		
Switching time	≤ 150 ms	From when command received by interface until connection is made			

PRELIMINARY SPECIFICATIONS

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

Power		
AC Consumption	550W	Steady state with both PSUs connected
PSU Power	85-264Vac 50/60Hz	Fused 2A
PSU	Dual redundant & hot swap PSU's	Diode OR
Hot-Swap PSU	Yes	

System Control	
Local Control	Integral touch screen control panel
Remote Control	Via RS232/485 serial port or RJ45 Ethernet port. 10/100 Base T. TCP/IP and SNMP. Web browser option available
RF Monitoring	None See Model VTX-20
Display	Front panel XGA screen

Physical	
Dimensions	8U high x 620 mm deep x 19" wide
Weight	60 kg (max)
Colour	White 00-E-55 semi-gloss

Key Features	
Housed in a compact 8U high chassis	
Variable Gain	
Local & remote control	
Dual redundant power supplies	

*Gain tracking refers to maximum gain difference between any 2 paths at a given gain setting & a spot frequency within the operational bandwidth.



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