



Model Number: VTX-30-xxxx

64 x 64 IF Vortex Matrix

Compact hot-swap switch matrix with 5.0 dB variable gain



Front View of Model VTX-30-xxxx

The Vortex is a highly compact matrix in an 8U shelf and offers a full fan-out / fully distributive switch matrix covering 50 to 200MHz.

Features of Model VTX-30 include variable gain and a colour XGA Touchscreen for local 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 Vortex IF matrix is designed to offer an extremely compact form factor, and compliments the NiGMA 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.

Offering up to 64 x 64 routing in one chassis, this resilient matrix offers a high performance solution to frequent signal routing changes. Vortex can be part populated in blocks of 16 inputs or outputs for smaller matrices and then hot expanded as your routing requirements change.



Rear View of Model VTX-30-xxxx





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RF Engineering and Custom Build

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	50Ω SMA	50Ω BNC	75Ω BNC	75Ω F-type
Unity Gain Setting				
Gain (mean across band)	0±2.0 dB	0±2 dB	0±2.5 dB	0±2.5 dB
Gain Flatness	±1.25 dB	±1.4 dB	±2.0 dB	±2.5 dB
Gain Tracking	±1.5 dB	±1.5 dB	±1.5 dB	±1.7 dB
Full Gain Range				
Max Gain G_{max}	5.0±1.5 dB	5.0±1.5 dB	5.0±2 dB	5.0±2 dB
Min Gain G_{min}	0±1.5 dB	0±1.5 dB	0±2 dB	0±2 dB
Gain Steps	0.25 dB monotonous			
1 dB Compression	≥0 dBm (typically 3.5 dBm)		output power & at unity gain setting	
Noise Figure	20 dB typical, 23 dB max.			
Input Return Loss	18 dB typ 12 dB min	16 dB typ 12 dB min	14 dB typ 10 dB min	12 dB typ 8 dB min
Output Return Loss	20 dB typ 10 dB min	18 dB typ 10 dB min	15 dB typ 10 dB min	12 dB typ 8 dB min
IP3	≥+ 10 dBm			
IP2	≥+ 20 dBm			
Isolation	I/P - O/P	≥ 60 dB	Typically ≥60 dB, worst case ≥ 55dB	
	I/P - I/P	≥ 75 dB	Typically >80 dB	
	O/P - O/P	≥ 75 dB	Typically >80 dB	
Group Delay	≤ 2.0 ns	Pk-pk, any 60MHz segment		
Input Levels	-70 dBm to -5 dBm		All parameters apply	
Switching time	≤ 100 ms TBC	From when command received by interface until connection is made		

Environmental	
Operating temperature	0 to 35°C
Location	Indoor use only
Storage temperature	-20°C to +75°C
Humidity	85% non-condensing

Power		
AC Power	85-264Vac 47-63Hz	Fused 10A via IEC C14 inlets
Rated Load	Maximum demand 550W (each inlet)	Max total load
LNB Power	None	
PSU	Dual redundant	Either PSU is rated to power the matrix

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
Display	Front panel LCD

Physical	
Dimensions	8U high x 620 mm deep
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	

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