



ETL Systems
New technologies
in RF distribution

Model Number:
VTXC-101-XXXX

64 x 64 Vortex L-band Combining Switch Matrix / Router

Low noise & enhanced RF performance

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.

ETL's Vortex Extended L-band matrix has been redesigned to now offer an extremely compact form factor, and enhanced RF performance. Vortex uses leading edge technology switching cards, giving excellent RF performance in a compact chassis. The VTXC-101 benefits from a low noise figure.



850 - 2150 MHz
operating frequency range



Improved RF Performance including especially low noise figure.



Compact up to 64 inputs & 64 outputs housed in a 5U high chassis



Local control & monitoring via front panel capacitive touchscreen



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



Resilience from dual redundant power supplies & CPU modules



Minimal impact from failure with hot-swap RF cards, power supplies, CPU & fans



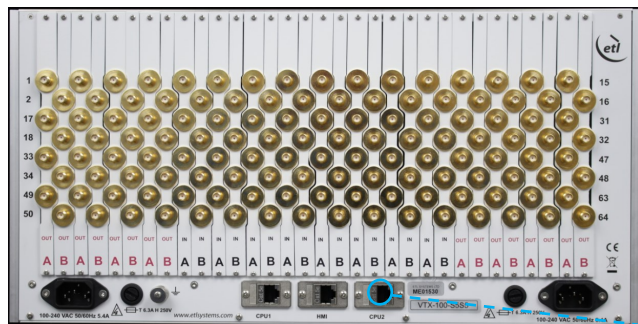
Secure Communications with SNMPv3, HTTPS



Remote control & monitoring via RJ45 Ethernet port with SNMPv3 & web browser interface



Self diagnostics with continuous monitoring of amplifiers, CPU's & PSU's



Note: Rear image shows distributive model





Technical specifications and operating parameters

General Parameters		
Capacity	64 inputs x 64 outputs. (Can be configured in steps of 16 from 16x16 to 64x64 in symmetric and asymmetric configurations).	
Routing	Combining, non-blocking	Many inputs can be routed to each output
Frequency Range	850-2150 MHz	
Switching Time	<50ms	From receipt of a command to implementation of path change
Input RF Power	+20dBm	Absolute maximum

RF Parameters					
RF Connectors & Impedances	50Ω SMA	50Ω BNC	75Ω BNC	75Ω F-type	
Gain (Typical, mean across band)	0±1 dB	0±1 dB	0±1 dB	0±1 dB	
Gain Flatness	Full band	±1.5 dB	±1.5 dB	±2.0 dB	±2.0 dB
	Any 36MHz	±0.30 dB	±0.30 dB	±0.50 dB	±0.50 dB
Input Return Loss	Typical	20 dB	20 dB	14 dB	14 dB
	Minimum	12 dB	12 dB	8 dB	8 dB
Output Return Loss	Typical	20 dB	20 dB	14 dB	14 dB
	Minimum	14 dB	12 dB	8 dB	8 dB
Isolation (Minimum between any two ports)	I/P - I/P	75 dB			
	O/P - O/P	75 dB			
	I/P - O/P	60 dB			
Noise Figure (Typical, with one input routed to one output)	Typical	12 dB			
	Maximum	16 dB			
1 dB GCP Output power.	Typ. -3 dBm				
OIP3 3rd order intercept point, output power	Typical	12 dBm			
	Minimum	10 dBm			
OIP2 2nd order intercept point, output power	Typical	24 dBm			
	Minimum	20 dBm			
Group Delay	≤ 1 ns Variation across the operational bandwidth.				

Environmental		
Operating Temperature	0 to 45°C	
Gain Stability versus Temperature	0.05dB/°C	
Location	Indoor use only	
Storage Temperature	-20°C to +75°C	
Humidity	20 to 90% non-condensing	
Altitude	operational	10,000 ft AMSL (above mean sea level)
	storage	30,000 ft AMSL (above mean sea level)

Power		
PSU Power	85-264Vac 50-60Hz	Fused 2A
AC Consumption	350W	Max. consumption at steady state

Reliability		
PSU	Dual redundant & alarmed Hot-swap	
CPU	Dual redundant Hot-swap	
Input Cards	Hot-swap	
Output Cards	Hot-swap	
Matrix Cards	Hot-swap	
MTTR	20 minutes 15 minutes to retrieve spare part & 5 minutes to replace	
MTBF (Hours)	Chassis	>250,000 chassis excludes HMI & RF cards
	Switch Card	>250,000
	Divider Card	>300,000
	Matrix Card	>100,000

System Control & Monitoring	
Local Control & Monitoring	Via Front Panel HMI capacitive touchscreen
Remote Control & Monitoring	Ethernet via RJ45, 10BaseT/100BaseTx ETL TCP/IP protocol SNMPv3 HTTPS Built-in Web Server
Alarms	Via Ethernet (RJ45)

Physical	
Dimensions	5U high x 550mm deep x 19" wide
Weight	40 kg
Colour	RAL9003 - White (semi-matte)

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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