ETL Systems
New technologies
in RF distribution

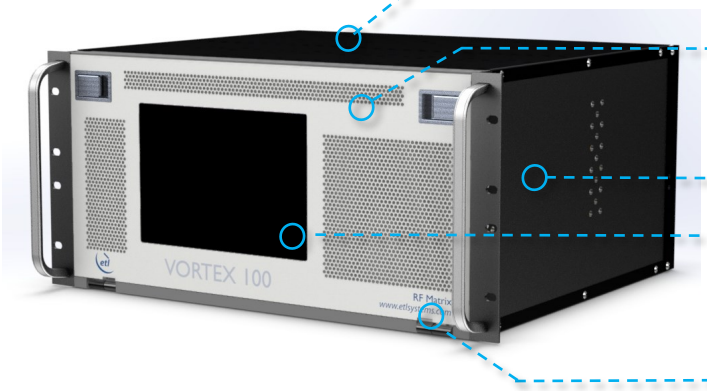
Model Number:
VTXC-101-XXXX

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.

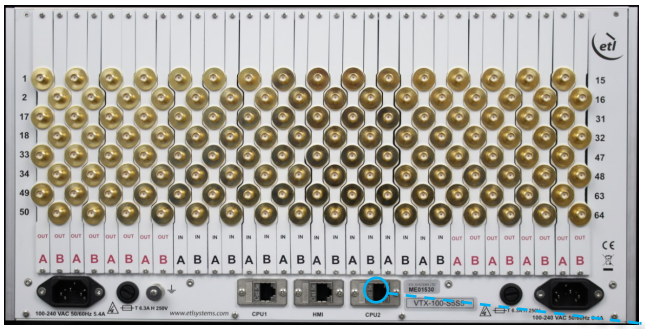
Compact up to 64 inputs & 64 outputs housed in a 5U high chassis

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

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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	±1.25 dB	±1.25 dB	±1.50 dB	±1.50 dB
	Any 36MHz	±0.30 dB	±0.30 dB	±0.50 dB	±0.50 dB
Input Return Loss	Typical	20 dB	20 dB	16 dB	16 dB
	Minimum	12 dB	12 dB	10 dB	10 dB
Output Return Loss	Typical	20 dB	20 dB	16 dB	16 dB
	Minimum	14 dB	12 dB	10 dB	10 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. 0 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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