ETL Systems
New technologies
in RF distribution

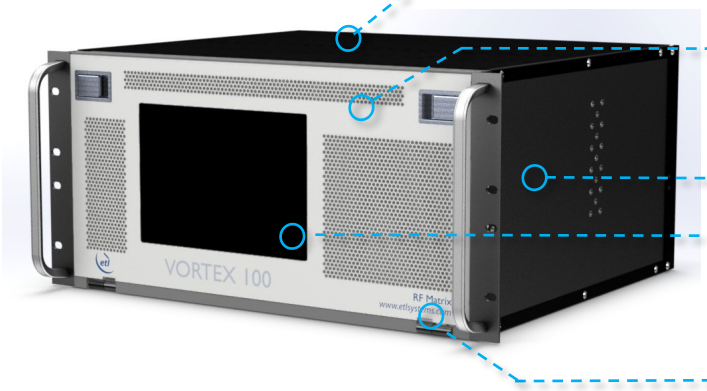
Model Number:
VTX-100-XXXX

64 x 64 Vortex Extended L-band Distributive Switch Matrix / Router New compact design & 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.



850 - 2450 MHz operating frequency range

Improved RF Performance including noise figure, return loss, OIP3 & isolation

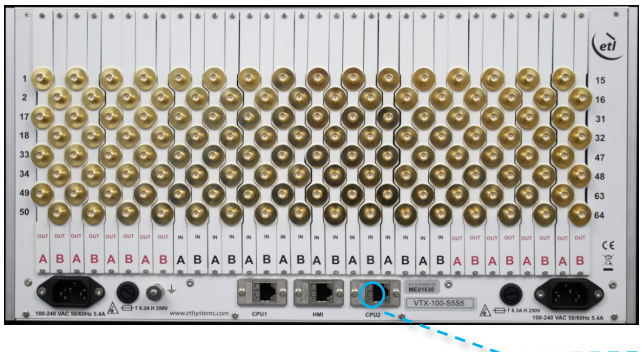
Compact up to 64 inputs & 64 outputs housed in a 5U high chassis

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

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

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

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Technical specifications and operating parameters

General Parameters		
Capacity	64 inputs x 64 outputs	
Routing	Distributive, non-blocking	Any input can be connected to any number of outputs
Frequency Range	850-2450 MHz (Extended L-band)	
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	75 Ω BNC	75Ω F-type
Gain (Typical, mean across band)		0±2 dB	0±2 dB	0±2 dB	0±2 dB
Gain Flatness	850-2450MHz	±2.25 dB	±2.25 dB	±2.5 dB	±2.5 dB
	Any 36MHz in 850-2450MHz	±0.45 dB	±0.45 dB	±0.5 dB	±0.5 dB
	850-2150MHz	±1.25 dB	±1.25 dB	±1.5 dB	±1.5 dB
	Any 36MHz in 850-2150MHz	±0.3 dB	±0.3 dB	±0.5 dB	±0.5 dB
Input Return Loss	Typical	20 dB	20 dB	14 dB	14 dB
	Minimum	14 dB	12 dB	8 dB	8 dB
Output Return Loss	Typical	20 dB	20 dB	16 dB	16 dB
	Minimum	12 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	14 dB			
1 dB GCP 1 dB Gain Compression point, output power		Typ. 0 dBm			
OIP3 3rd order intercept point.	850-2450 MHz	Typ. 14 dBm, min 9 dBm			
	850-2150 MHz	Typ. 16 dBm, min 12 dBm			
OIP2 2nd order intercept point.	Typical	26 dBm			
	Minimum	24 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 Diode OR. 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 550 mm 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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