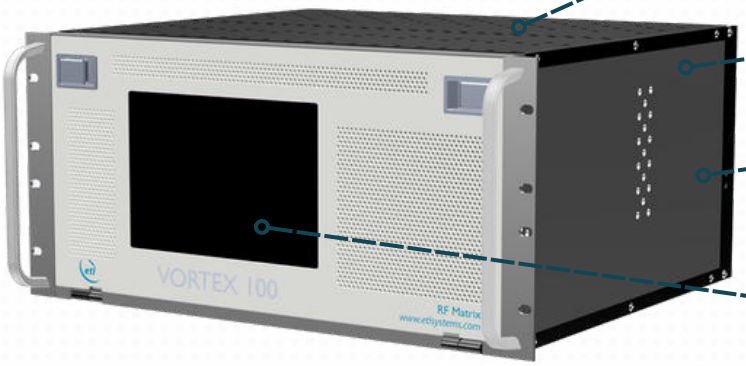
64 x 64 Vortex Extended L-band Distributive Switch Matrix / Router

New compact design & enhanced RF performance

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

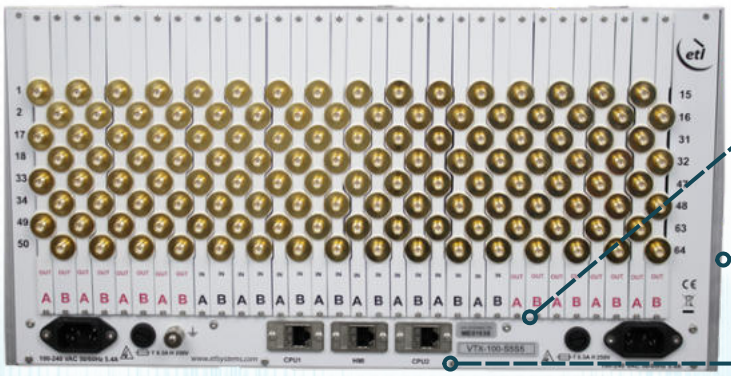
Local control & monitoring
via front panel capacitive touchscreen



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



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

Future proof secure protocols
with SNMPv3 & HTTPS

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

RF 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		< 150ms from receipt of a command to implementation of path change			
Input RF Power		+ 20 dBm		Absolute maximum	
RF Connectors & Impedances		50Ω SMA	50Ω BNC	75Ω BNC	75Ω F-type
		All ports DC blocked			
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 (Min. between any 2 ports)	Input-Input	75 dB			
	Output-Output	75 dB			
	Input-Output	60 dB			
Noise Figure	Typical	12 dB		With one input routed to one output.	
	Maximum	14 dB			
1dB GCP (dBm)		Typ. 0 dBm		1dB Gain Compression point, output power	
OIP3 3rd order intercept point.	850-2450MHz	Typ. 14 dBm, min 9 dBm			
	850-2150MHz	Typ. 16 dBm, min 12 dBm			
OIP2 2nd order intercept point.	Typical	26 dBm Min			
	Minimum	24 dBm Min			
Group Delay		≤ 1 ns, variation across operational bandwidth			

System Control			
Local Control		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		Ethernet (RJ45)	
Power			
PSU Power		85-264Vac 50-60Hz	Fused 2A
AC Consumption		350W	Max. consumption at steady state
LNB Power		None	
PSU		Dual redundant & alarmed	Diode OR. Hot swap
Hot-swap PSU		Yes	
CPU		Dual redundant	Hot swap
Input cards		Hot swap	
Output cards		Hot swap	
MTTR		20 mins, 15 mins to retrieve spare part and 5 mins to replace	
MTBF (Hours)	Chassis	>250,000	Chassis excludes HMI & RF cards
	Switch card	>250,000	
	Divider card	>300,000	
	Matrix card	>100,000	
Environmental			
Operating temperature		0 to 45˚C	
Gain Stability versus Temperature		0.05dB/°C	
Storage temperature		-20˚C to +75˚C	
Location		Indoor use only	
Humidity		20 to 90% non-condensing	
Altitude (operational)		10,000 feet AMSL (Above Mean Sea Level)	
Altitude (storage)		30,000 feet AMSL (Above Mean Sea Level)	
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.

ETL Systems Ltd, Coldwell Radio Station,
Madley, Hereford, England HR2 9NE
info@etlsystems.com
+44 (0)1981 259020