



**ETL Systems**

New technologies  
in RF distribution

Model Number:

VTRC-101-1616

# Up to 16x16 Extended L-band Combining Victor series Switch Matrix / Router

### Typical applications:

- TVRO, smaller teleports and satellite ground stations.
- Oil and gas applications.
- RF distribution in cruise liners or luxury yachts.
- SNG and outside broadcast trucks.

VTRC-101 is an Extended L Band 16x16 Combining Matrix in a compact 1U chassis.



**850 - 2450 MHz**  
operating frequency range. Ka-band ready



**Local control & monitoring** via front panel capacitive HMI touchscreen.



**Variable gain** to balance input signals



**Secure Communications** with SNMPv3, HTTPS



**Remote control & monitoring** via RJ45 Ethernet via RJ45, 10BaseT/100BaseTx, ETL TCP/IP protocol, SNMPv3 & Web Browser Interface



**Compact** housed in a 1U high chassis



**Resilience** from dual redundant hot-swap power supplies & field serviceable HMI & CPU

Note that the Images are for indication purposes only. Actual unit may differ.





**Technical specifications and operating parameters**

RF Parameters					
Capacity	Up to 16 inputs x 16 outputs				
Routing	Combining, non-blocking	Many inputs can be routed to each output.			
Frequency Range	850—2450 MHz				
Switching Time	< 50ms (From receipt of a command to implementation of path change)				
RF Connectors	50Ω SMA	50Ω BNC	75Ω BNC	75Ω F-type	
Flatness	Full band	±1.75 dB	±1.75 dB	±2.0 dB	±2.0 dB
	850-2150MHz	±1.25 dB	±1.25 dB	±1.5 dB	±1.5 dB
	Any 36MHz	±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	14 dB	10 dB	8 dB
Output Return Loss	Typical	20 dB	20 dB	14 dB	14 dB
	Minimum	14 dB	14 dB	10 dB	8 dB
Gain	Gain	0 ± 2 dB		Typical, mean across band	
	Gain Control	0 to +5 dB		Settable at each output	
	Gain steps	0.25 dB			
1dB GCP	Full Band	+5 dBm		Output power, At Unity Gain	
	850-2150MHz	+8 dBm		Output power, At Unity Gain	
OIP3	Full Band	20 dBm		Typical, At Unity Gain	
	850-2150 MHz	25 dBm		Typical, At Unity Gain	
OIP2	Typical	36 dBm		At Unity Gain	
	Min	34 dBm		At Unity Gain	
Isolation	I/P - O/P	60 dB		Minimum between any 2 ports	
	I/P - I/P	75 dB		Minimum between any 2 ports	
	O/P - O/P	75 dB		Minimum between any 2 ports	
Group Delay	< 1 ns				
Noise Figure	Typical	20 dB (Typical with one input routed to one output), Unity Gain			
	Max	22 dB (Typical with one input routed to one output), Unity Gain			
Input RF Power	+ 20 dBm		Absolute maximum		
Spurious	Carrier Related	-65 dBc		Excluding harmonics. Max Carrier level -10dBm.	
	Carrier Un-related	-85 dBm		Within operating frequencies	

Environmental	
Operating temperature	0 to 45°C
Location	Indoor use only
Storage temperature	-20°C to +75°C
Humidity	20 to 90% non-condensing
Altitude	10,000 feet AMSL (Operational) 30,000 feet AMSL (Storage)
Gain stability vs Temperature	0.05dB/°C

Power		
PSU Power	85-264Vac 50-60Hz	Fused 2A
AC Consumption	20W	Max. consumption at steady state
PSU	Dual redundant	Diode OR.
MTBF	Chassis	> 250,000
	Matrix Card	> 100,000

System Control	
Local Control & Monitoring	HMI
Remote Control & Monitoring	Ethernet via RJ45, 10BaseT/100BaseTx ETL TCP/IP, SNMPv3, HTTPS, Built in Web Server
Alarms	Via Ethernet (RJ45) or HMI
PSU Redundancy	Dual Redundant & Alarmed

Physical	
Dimensions	1U high x 650mm deep x 19" wide
Weight	10 kg
Colour	RAL 9003 semi-matte (white)

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.

Note 3: Typical parameters are guide figures and measured data may deviate from the quoted figures. ETL endeavours to exceed the quoted typical parameters where practically possible.

