



ETL Systems

New technologies
in RF distribution

Model Number:

VTR-102-1616

Up to 16x16 Distributive L-band Victor series Switch Matrix / Router

VTR-102 is an Extended L Band 16x16 Distributive Matrix in a compact 1U chassis featuring LNB powering and RF Detection

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.



Local control & monitoring
via front panel capacitive HMI touchscreen.



Variable gain to balance input signals



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



RF signal monitoring of each input



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



Compact housed in a 1U high chassis



Secure Communications
with SNMPv3, HTTPS



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

LNB Powering
13/18V & 22kHz tone available





Technical specifications and operating parameters

RF Parameters					
Capacity	Up to 16 inputs x 16 outputs				
Routing	Distributive, non-blocking	Any input can be connected to any number of outputs			
Frequency Range	850—2450 MHz				
Switching Time	< 50 ms (From receipt of a command to implementation of path change)				
LNB Power Option	Settable 13/18V 22KHz tone	350mA			
RF Detect	-5 to -50 dBm (At each input. For indication only.)				
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
	850-2150 MHz	±1.25 dB	±1.25 dB	±1.5 dB	±1.5 dB
	Any 36 MHz	±0.3 dB	±0.3 dB	±0.5 dB	±0.5 dB
Input Return Loss	Typical	18 dB	18 dB	14 dB	14 dB
	Minimum	12 dB	12 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 input	
	Gain steps	0.25 dB			
1dB GCP	850-2150MHz	Min 4 dB		1dB Gain Compression point, output power, At Unity Gain.	
	2150-450MHz	Min 2 dB			
OIP3	Full Band	Typ.18 dBm , Min 13 dBm		At Unity Gain	
	850-2150 MHz	Typ.19 dBm, Min 16 dBm		At Unity Gain	
OIP2	Typical	26 dBm		At Unity Gain	
	Min	24 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	Full Band	Typical 14 dB, max 17 dB		Unity Gain, with one input routed to one output.	
	850-2150MHz	Typical 13 dB, max 16 dB		Unity Gain, with one input routed to one output.	
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	0.05 dB/°C

Power		
PSU Power	85-264Vac 50-60Hz	Fused 2A
AC Consumption	50W	Max. consumption at steady state, no load
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.

