ETL Systems
Excelling in RF Engineering

Model Number:
NGM-50-xxxx

32 x 32 L-band Distributive Enigma Switch Matrix / Router with 10 dB gain, low noise & high linearity

Typical applications:
- RF content acquisition for TVRO & IPTV headends
- Signal monitoring of satellite traffic
- Remote controlled unmanned satcom sites

850 - 2450 MHz operating frequency range

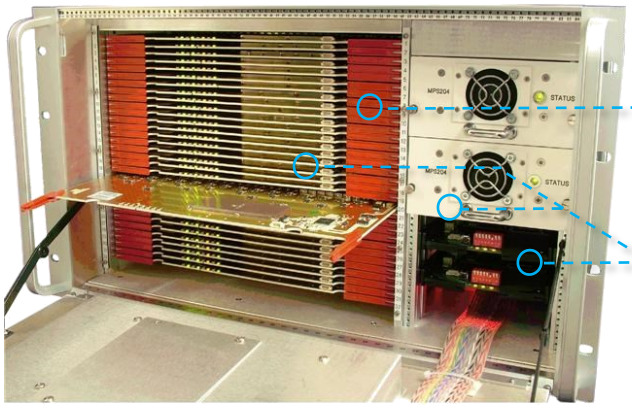
Compact up to 32 inputs x 32 outputs housed in a 6U high chassis

Low Noise

High Linearity & 10 dB Gain ensures overall RF gain signal performance is optimised

Local control & monitoring via front panel VGA touchscreen

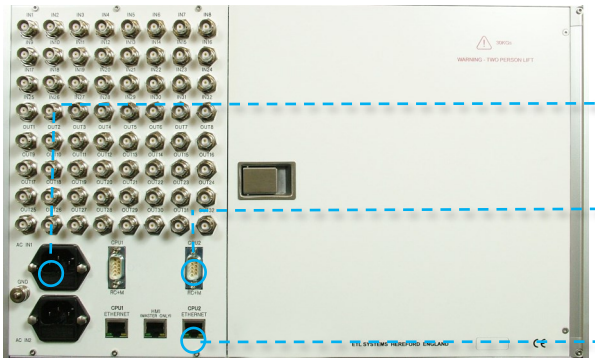
Self diagnostics with continuous monitoring of amplifiers, CPU's & PSU's



Expansion in single increments or with additional matrix modules for larger systems

64 x 64 Enigma system with splitters & combiners

Minimal impact from failure with hot-swap single input & output RF cards, dual power supplies, dual CPU's, fans & VGA interface



Resilience from dual redundant power supplies & CPU modules

Dry contact alarm port & serial communications for amplifier & power supply status

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

V 1.1 E&OE

ETL Systems
Excelling in RF Engineering

Model Number: NGM-50-xxxx

Technical specifications and operating parameters

RF Parameters					
Capacity		32 inputs x 32 outputs, fully populated			
Routing		Distributive (fan-out), non-blocking		Any input can be connected to any number of outputs	
Frequency Range		850-2450 MHz (Extended L-band)			
Impedances & RF connector		50Ω SMA	50Ω BNC	75Ω BNC	75Ω F-type
Gain	Minimum	0±1 dB			
	Maximum	10±1 dB			
Flatness	Full band	±1.5 dB	±1.5 dB	±1.75 dB	±1.75 dB
	850-2150MHz	±1.0 dB	±1.0 dB	±1.5 dB	±1.5 dB
	Any 36MHz	±0.25 dB	±0.25 dB	±0.5 dB	±0.5 dB
Input Return Loss	Typical	20 dB	20 dB	14 dB	12 dB
	Minimum	14 dB	14 dB	10 dB	8 dB
Output Return Loss	Typical	20 dB	20 dB	14 dB	12 dB
	Minimum	14 dB	14 dB	10 dB	8 dB
Isolation Minimum between any 2 ports	I/P - I/P	75 dB			
	O/P - O/P	75 dB			
	I/P - O/P	55 dB			
Noise Figure		14 dB Typical, 1 input routed to 1 output			
Gain Steps		1dB			
1dB GCP	Minimum Gain	0 dBm		1dB Gain Compression point, output power, typical	
	Maximum Gain	+10 dBm			
OIP3	Minimum Gain	+15 dBm		3rd order intercept point, output power	
	Maximum Gain	+21 dBm			
Group Delay		<1 ns across operational bandwidth			
Switching Time		<50 ms from receipt of a command to implementation of path change			
Input RF Power		+ 20 dBm Absolute maximum			

System Control	
Local Control & Monitoring	Touchscreen & VGA Display
Remote Control & Monitoring	Via RS232 or RS422/485 serial port and RJ45 Ethernet on rear panel
Alarms	Dry contact (D-type) & Ethernet (RJ45)
SNMP Traps	For alarms & monitoring
Comms / Power Failure	Retains settings
Remote Control Software	Available

Power			
AC input		85-264Vac 50-60Hz	Fused 2A
AC Consumption		100W	Max. consumption at steady state
LNB Power		None	
PSU		Dual redundant & alarmed	Diode OR
Hot-swap PSU		Yes	
CPU		Dual redundant	Hot swappable
MTBF	Chassis	271,444 hours	Chassis excludes HMI & RF cards
	Switch card	270,297 hours	
	Divider card	317,227 hours	

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

Physical	
Dimensions	6U high x 450mm deep x 19" wide
Weight	35 kg
Colour	White 00-E-55 semi-gloss

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.

ESATCOM INC
Esatcom Inc
www.esatcom.com
Tel: 718.276.0800
Email: sales@esatcom.com