ETL Systems
Excelling in RF Engineering
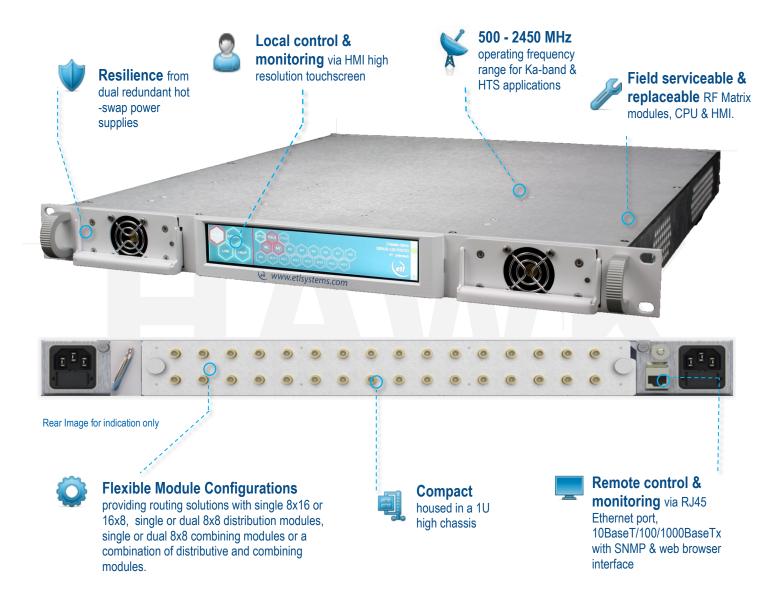
Hawk Series
16 x 8 Extended L-band
Matrix Fan-in for uplink applications.
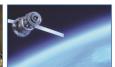
Typical applications:
- Small Ka/HTS gateway terminals
- LEO gateways
- Oil & Gas
- Deployable VSAT terminals

The 1U Hawk Matrix has capacity for two field replaceable matrix cards – which can be combining (fan-in) or distributive (fan-out) – for uplink and downlink applications. The Hawk can be fitted with any combination of cards depending on application, but is ideally suited for smaller gateways with multiple modems and one or two antennas. Single or dual 8x8 fan-out or fan-in, and single 8x16 fan-out configurations are also available - please enquire.

Resilience from dual redundant hot-swap power supplies

Local control & monitoring via HMI high resolution touchscreen

500 - 2450 MHz operating frequency range for Ka-band & HTS applications

Field serviceable & replaceable RF Matrix modules, CPU & HMI.

Rear Image for indication only

Flexible Module Configurations providing routing solutions with single 8x16 or 16x8, single or dual 8x8 distribution modules, single or dual 8x8 combining modules or a combination of distributive and combining modules.

Compact housed in a 1U high chassis

Remote control & monitoring via RJ45 Ethernet port, 10BaseT/100/1000BaseTx with SNMP & web browser interface

V 1.3 E&OE

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RF Parameters		
Routing		HWK-G1S-10- Combining
Frequency Range		500 to 2450 MHz (Extended L-band)
Capacity		16 x Input and 8 x Output.
Switching Time		< 50ms (From receipt of a command to implementation of path change)
Input & Output Ports		50Ω SMA (All ports DC Blocked)
Gain		0±1 dB typical, mean across band
Gain Flatness	<2150 MHz	±1.25 dB
	Full Band	±2.0 dB
Any 36MHz	<2150 MHz	±0.25 dB
	Full Band	±0.5 dB
Input Return Loss		Typical: 18 dB, Minimum: 12 dB
Output Return Loss		Typical: 18 dB, Minimum: 16 dB
Isolation Minimum between any 2 ports	Input-Input	60 dB
	Output-Output	60 dB
	Input-Output	55 dB <2150MHz, 50 dB >2150MHz
Noise Figure		24 dB typical , with one input routed to one output
1dB GCP Gain Compression Point, output power	<850 MHz	+12 dBm
	<2000 MHz	+10 dBm
	>2000 MHz	+6 dBm
OIP3 3rd order intercept point	<1500 MHz	Typical 28 dBm, Minimum 25 dBm
	>1500 MHz	Typical 25 dBm, Minimum 20 dBm
Group Delay		<1.0 ns across operational bandwidth
AC Input / AC Consumption		AC Input: 85-264Vac 50/60Hz AC Consumption: 150W
Input RF Power		+20 dBm Absolute Maximum.
Spec Version		1.0

System Control & Reliability	
Local Control	HMI capacitive touch screen: Field replaceable
Remote Control & Monitoring	Ethernet via RJ45, 10BaseT/100 Base Tx. ETL TCP/IP, SNMP & Web browser interface.
PSU Redundancy	Dual redundant and alarmed Diode OR. Hot swappable
Matrix Card	Field replaceable
CPU	Field replaceable
MTTR	20 minutes (15 minutes to retrieve spare part and 5 mins to replace) Applies to LRUs only and assumed in house stock
MTBF	Chassis, Switch Card & CPU: (TBC)

Physical & Environment	
Dimensions	1U high x 550mm deep x 19" wide
Weight / Colour	<10 kg / RAL9003—White (Semi-matte)
Temperature	Operating: 0 to 45˚C / Storage: -20˚C to +75˚C
Location	Indoor use only
Humidity	20 to 90% non-condensing
Altitude	2,000m AMSL (Operational) 8,000m AMSL (Storage) *Above Mean Sea Level*

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.