



ETL Systems

New technologies in RF distribution



New Products



Product Overview



Atlantic Microwave



Case Studies



Product Detail





Why choose ETL

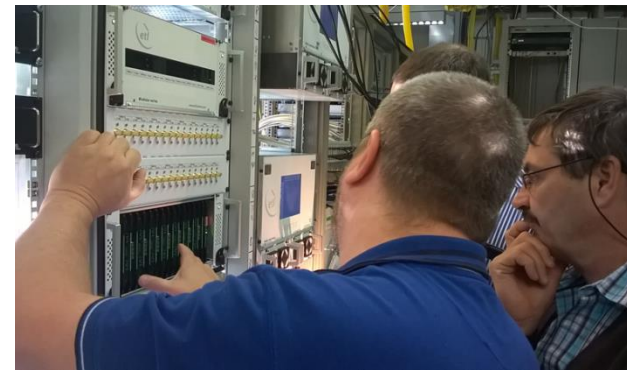


Play Video

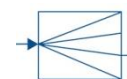
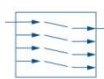
- High performance satellite communications & RF products for over 30 years
- Our customers wanted product flexibility, fast turnaround and enhanced quality control so we invested \$5mm in our integrated production facilities and pick and place lines
- Our equipment works out of the box – that's why 14 of the top 20 satellite operators use our switch matrices and RF products
- Lifetime remote technical support is free of charge, saving you time and money!



100% of our products are tested and soak tested

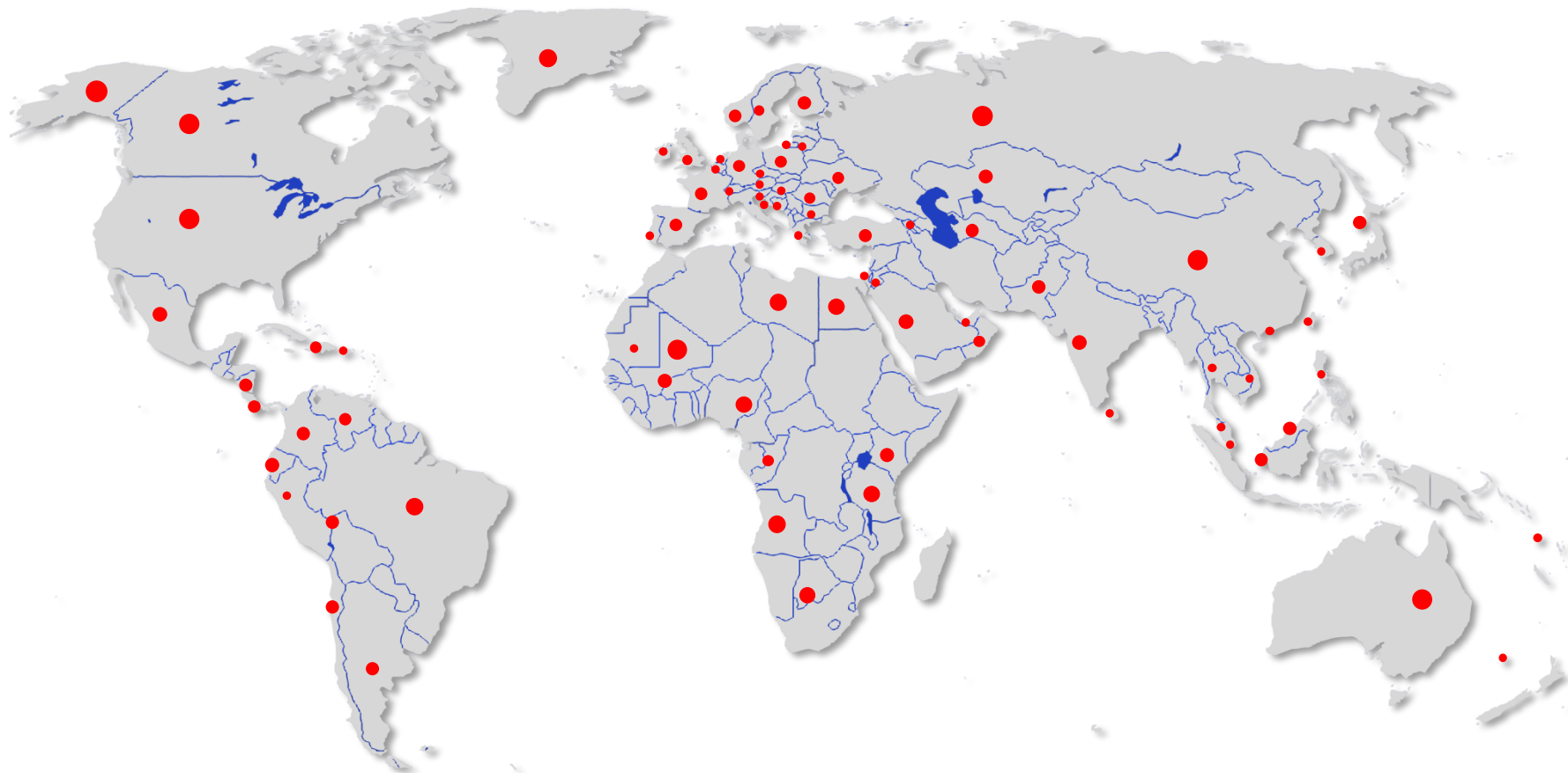


Focus on customisation and customer service

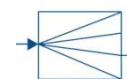
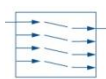
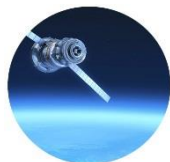




ETL facilities in UK, US & Dubai: global sales

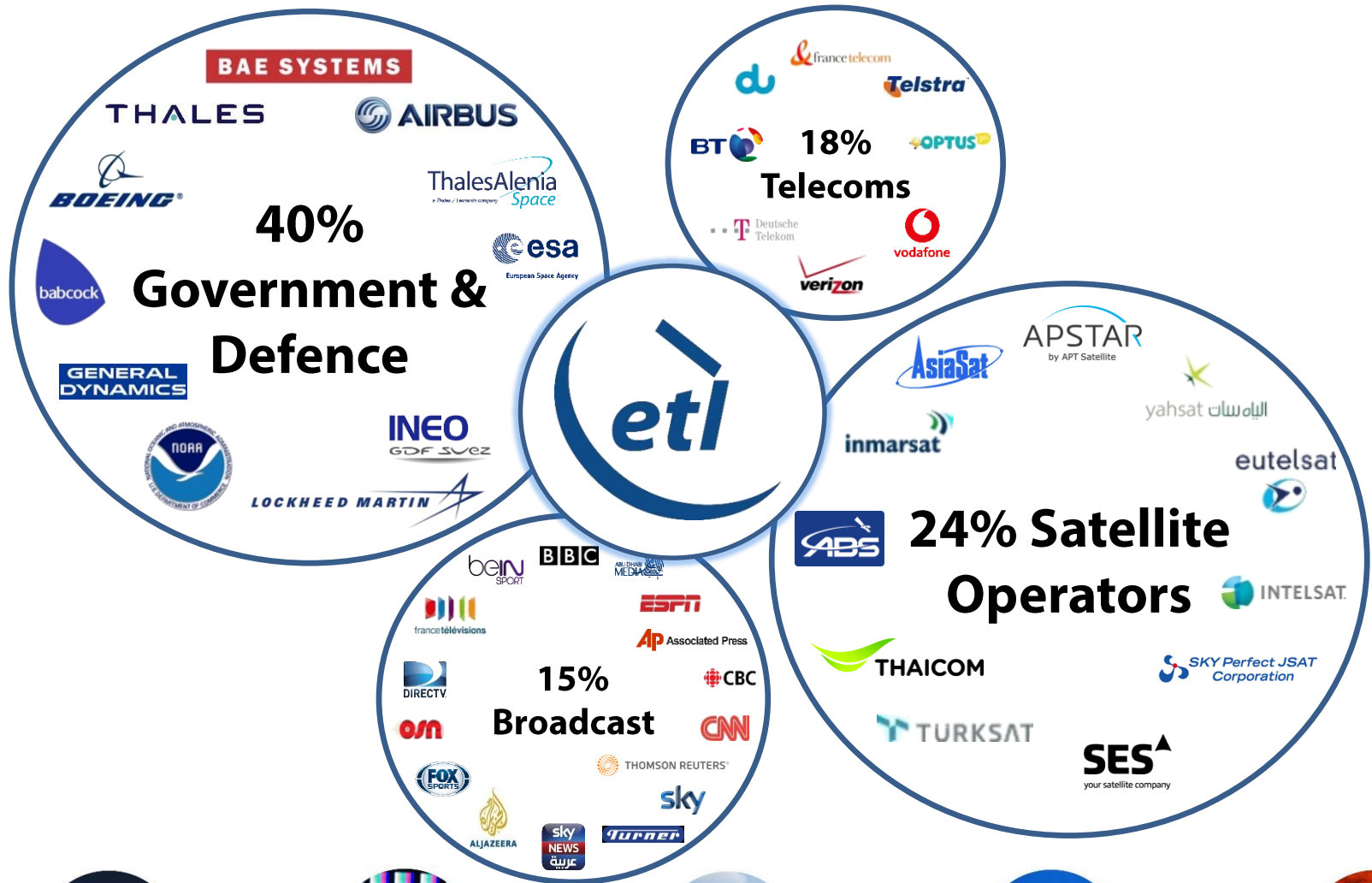


We ship to 112 countries, and have a team of experts handling your equipment through customs and shipping



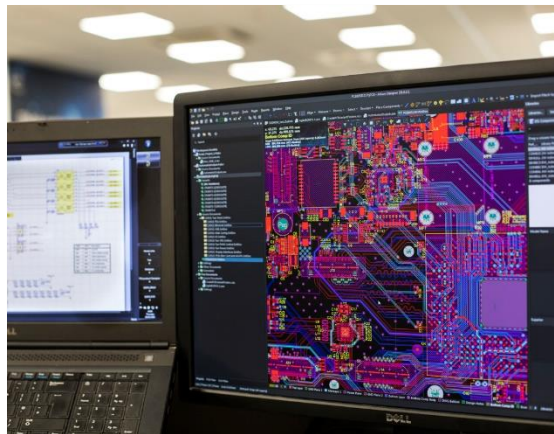


75% of the main NATO governments use ETL hardware to protect their citizens





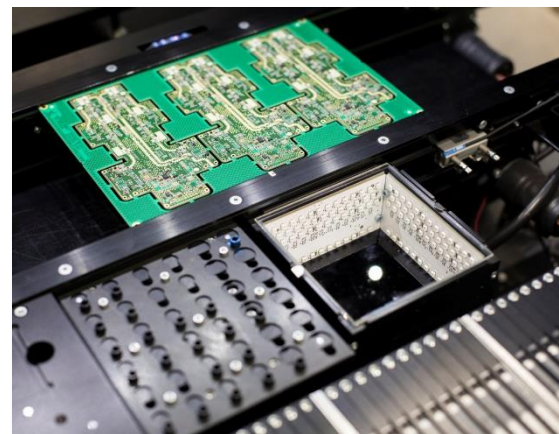
Capabilities



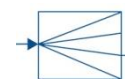
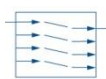
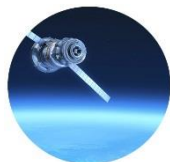
- In-house RF, PCB, mechanical and software design engineers
- Custom build design with modest NRE costs



- FAT, commissioning and system training
- Ad-hoc on-site support

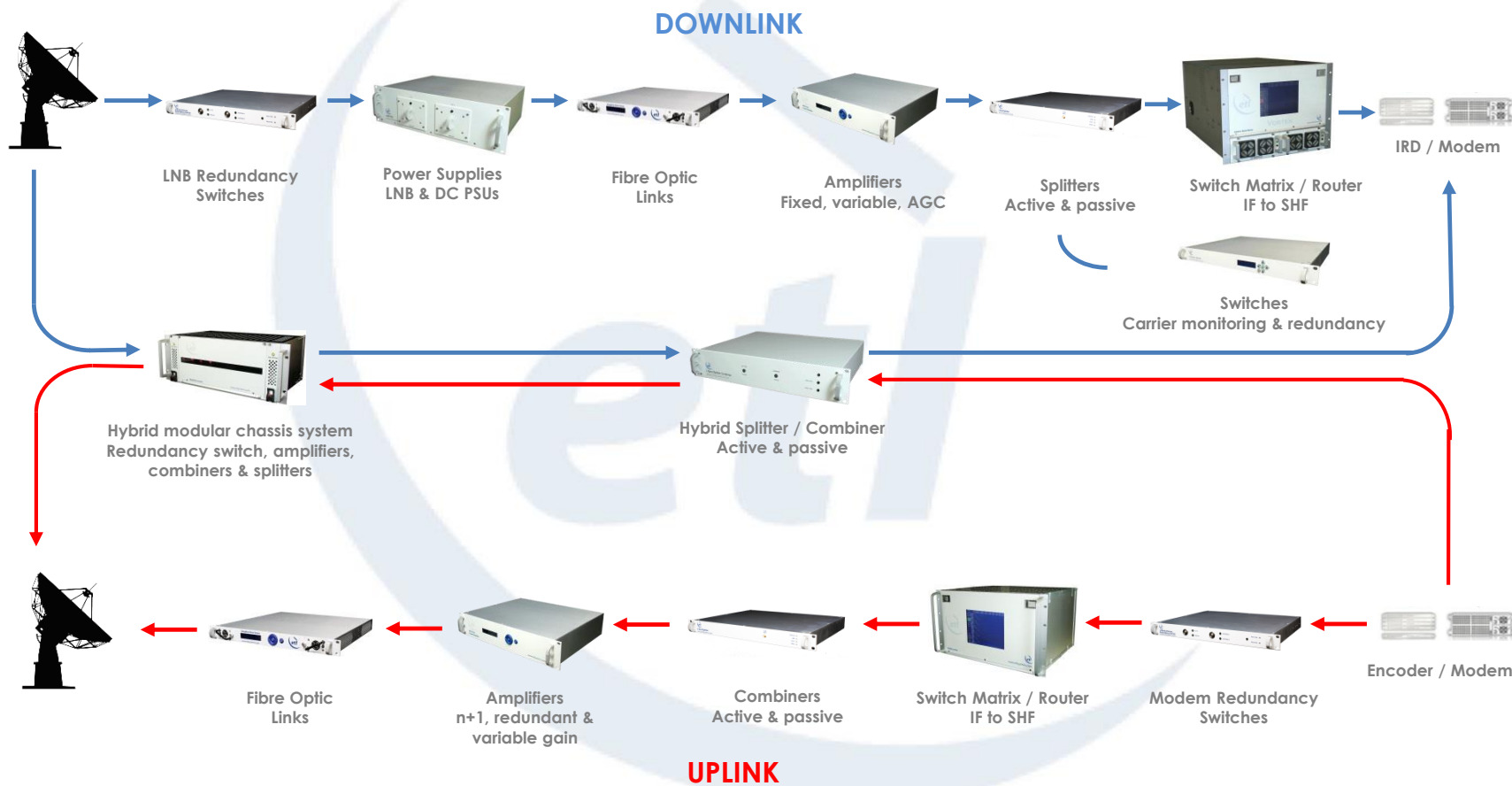


- Fully integrated Production with two pick and place (SMT) lines
- 100% Testing at sub-assembly and finished product levels



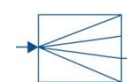
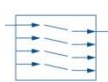
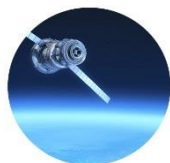
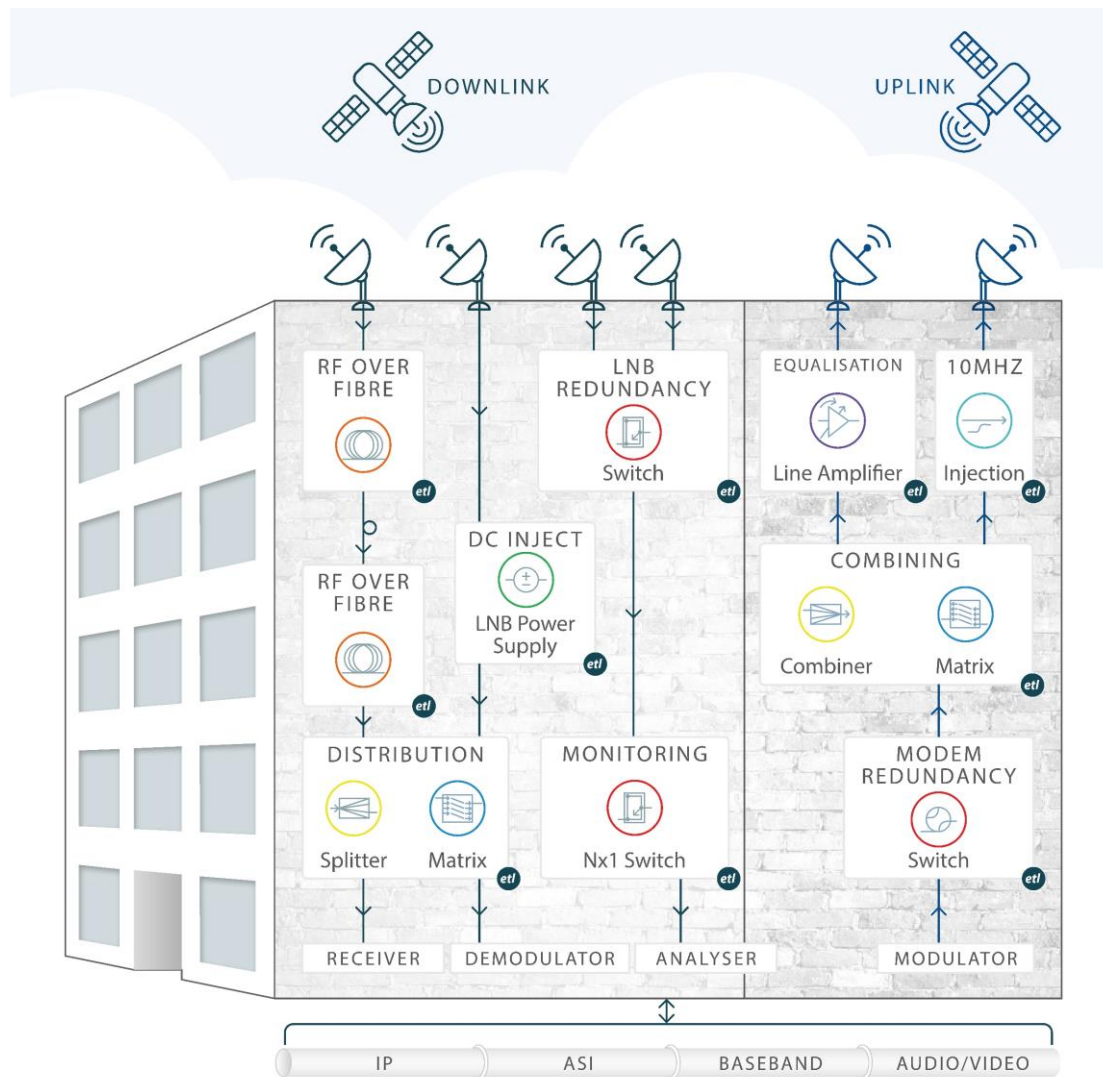


ETL products





ETL products in the ground segment

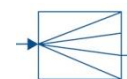
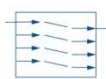
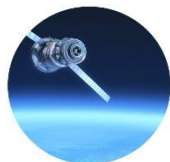




New product catalogue

- Third version of our popular product catalogue with a refreshed look and feel
- Includes our most popular & newest RF distribution products such as the Hawk Matrix, Frequency Converter & Harrier Matrix to name a few
- Introduction to Atlantic Microwave & their range of products
- Available as a printed or digital copy

Available at a tradeshow near you!



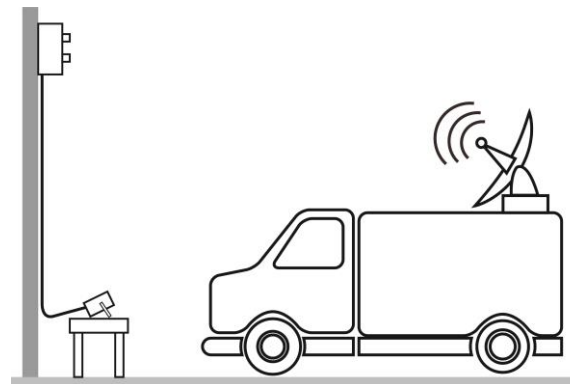


Atlantic Microwave (AtlantecRF)



New Products

- Complimentary product range available though ETL – AML remains autonomous
 - **Test Loop Translators**
 - **Satellite Simulators**
 - **Noise & Signal Generators**
 - **Components** – wide range of passive components, and cable assemblies to 26GHz or 40 GHz.
- Custom build options

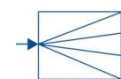
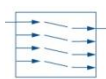
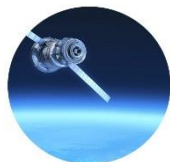


Market leading satellite simulators suitable for drones, UAVs, SNG & multi-path with weatherproof options

Visit the website www.atlantecrf.com or www.etlsystems.com



AtlantecRF TLT, Noise & Signal Generators & RF components





Key New Products



Home



Product Overview



Atlantic Microwave



Case Studies



Product Detail

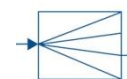
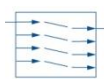
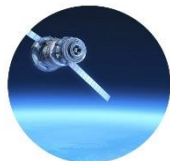




Matrix Switch /Router



- **Hawk Dual 8x8** —extended L-band (850-2450MHz) super compact 1U matrix for VSAT / small terminals with 8x8 distributive AND 8x8 combining matrix modules for uplink and downlink applications. Single 8x16 or 16x8 configurations are also available.
- **Enigma 32x32** - 100 series with enhanced RF performance covering 500-3150 MHz (NGM-101, NGM-102, NGM-103) has reduced noise figure, enhanced flatness, isolation and linearity and a new capacitive touchscreen
- **Harrier 128x128** -850-2450 MHz operating frequency range with a range of configurable I/O modules including fibre inputs, ultra compact 10U matrix, high performance with LNB power modules





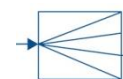
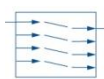
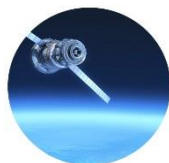
Hawk Dual L-band Matrix



- Dual 8x8, or single 8x16 / 16x8 full fan-out L-band matrix
- Ultra compact 1U form factor with flexible module configurations – distributive and combining 8x8 in one chassis
- Field serviceable & replaceable matrix modules
- Designed for latest LEO constellations, small teleports, HTS & uplink and downlink applications
- Hot swap fans, CPU & dual redundant hot-swap PSUs.

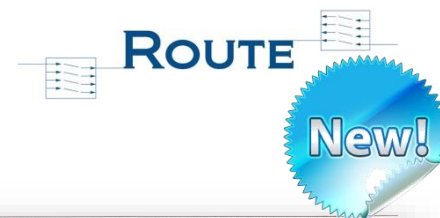
Benefits & basics:

- Space saving compact 1U uplink & downlink matrix
- Configurable RF modules for fan-out and fan-in – dual 8x8, 8x16, 16x8
- Ka-band/ HTS applications: 500-2450 MHz extended operating frequency
- Resilient design: Fully hot-swap
- Intuitive user interface (touch screen / web browser)





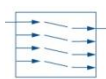
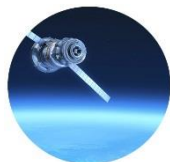
Enigma 100 Series



- **NGM-101** 850-2150 MHz, **NGM-102** 850-2450 MHz, **NGM-103** 500-3150 MHz
- Enhanced RF performance (flatness, noise figure etc)
- Variable gain (+/- 5dB)
- Backwards compatible to expand existing Enigma matrix systems
- **High resilience applications; custom requirements & asymmetric systems ($n \gg m$)**

Benefits & basics:

- L-band, Extended L-band & options
- 1 RF card for each RF input & output adding resilience
- Hot swap of all active components, with dual redundant CPU's & PSU'S
- On board monitoring & diagnostics
- 32x32 matrix (expandable)
- Distributive & combining options





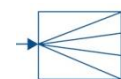
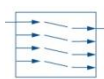
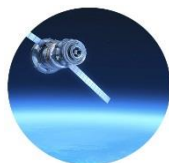
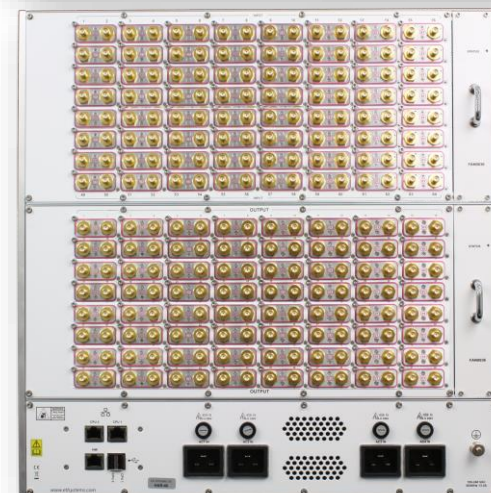
Harrier L-band Matrix



- 128x128 full fan-out L-band matrix
- Ultra compact 10U form factor with 3 stage architecture
- Customisable input and output modules with features to suit specific RF needs for each satellite feed including passive, variable gain, fibre & LNB power input modules
- Integrated 13/18V & 22kHz tone LNB powering on input feeds
- For larger broadcast, government & HTS applications
- Hot swap of all active components

Benefits & basics:

- Optional features include fibre connectors, 0-30 dB variable gain and variable slope
- Power savings as only active signal routes are powered
- Ka-band ready: 850-2450 MHz operating frequency
- RF input level detection
- Resilient design: Fully hot-swap
- Intuitive user interface (touch screen / web browser)

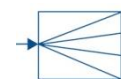
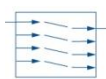
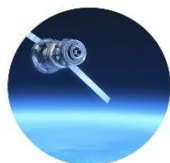




StingRay RF Over Fibre



- **Complete CWDM & DWDM systems** (with converters / MUX / EDFA amps & delay lines) for diversity sites
- **VSAT Fibre System** for rapid deploy terminals
- Fixed gain low noise modules for HTS
- **Optical Ethernet** modules & chassis
- **2x1 Optical switch** GRF module for fibre redundancy
- **160 MHz ultra low phase noise** links for reference sources (SRY-RX-Y-283 & SRY-TX-Y-284)





StingRay- Long Distance 200 series DWDM

(Dense wavelength division multiplexing)

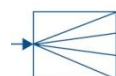
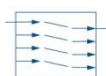
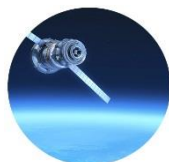
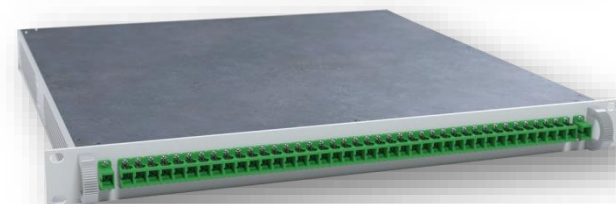
FIBRE

New!

- Up to 45 km links or 300 km with optical amplifiers
- **Full solution available** – including fibre converters; MUX/DEMUX; optical amplifiers (EDFA); dispersion compensation fibre and delay lines when used for Ka-band diversity sites.
- 40 wavelengths on a single fibre cable c.1500 nm reduces operator costs
- Ethernet and 10 MHz converters available
- **Optical 2x1 switch** for diversity site switching

Benefits & basics:

- Up to 300km transmission distance
- L-band (850-2450 MHz), broadband (50-2450MHz) and 10 MHz modules
- Up to 16 single RX or TX modules in a 2U hot-swap chassis for high capacity applications; with separate MUX/DEMUX chassis
- Broadband modules available
- Monitor ports on modules
- Automatic link optimisation





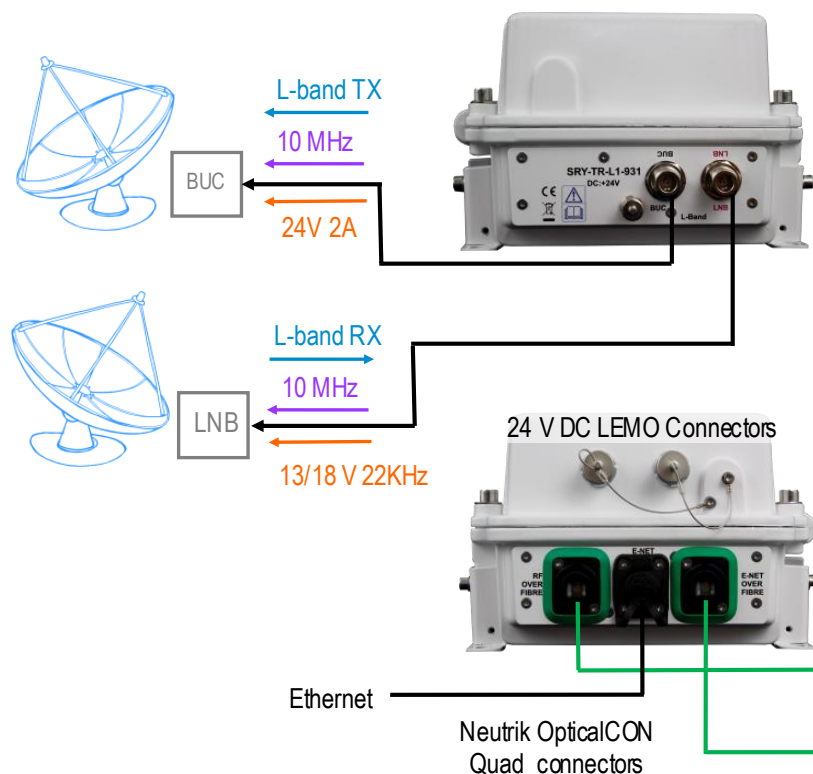
StingRay VSAT Fibre

FIBRE

Fibre connectivity between a VSAT antenna to a remote control room.



Outdoor IP65 unit
Model SRY-TR-L1-931
10MHz signal is multiplexed



L-band RX

L-band TX & 10MHz

Modem

Indoor unit, 1U 19" rack mount
Model SRY-TR-L1-932
10MHz signal is demultiplexed

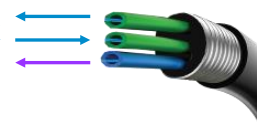


RX TX

Neutrik OpticalCON
Quad connectors

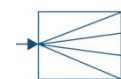
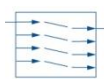
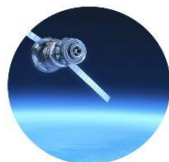
Ethernet

3 Fibres in 1 cable:
L-band Uplink
L-band Downlink
10MHz

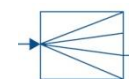
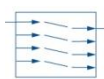


RF over Fibre (up to 10km)

OPTIONAL Ethernet over Fibre



- 2-18GHz KU-band 2+1 **redundant Alto amplifier module**
- 40 dB variable gain IF amplifier module (ALT-S-F3-077)
- 2-18GHz Ku-band amplifier module with 19dB 1dB GCP & 5dB NF
- S-band 850-3150 MHz slope equaliser **smart Alto amplifier module (Alt-S-S6-201)**

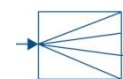
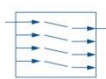
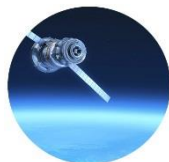
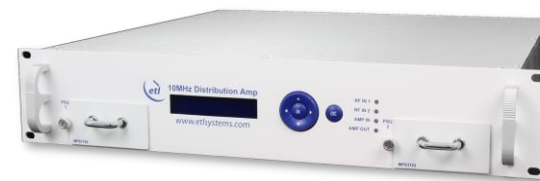




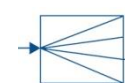
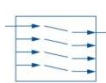
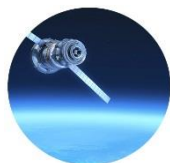
Splitters /combiners



- **High resilience 8 and 16 way L-band active splitter/ combiner- with 1+1 redundant variable gain amps.** 0-30dB gain (standard modules) and slope control available. Hot swap amplifiers and PSU's. (D0116S1ULA-22522)
- **Dual input, 32 way 10MHz splitter (DA) – variable gain** with dual redundant amplifiers, auto input selection and individually controllable output levels. Hot swap amplifiers and PSU's (22517)
- **Dual input, 16 way splitter (DA) for 10 MHz, IRIG-B timecodes** or pulse formats (**1PPS**) with dual redundant amplifiers, auto input selection and individually controllable output levels. Hot swap amplifiers and PSU's (22512)



- **GRIFFIN** modulator / LNB redundancy switch with L-band switch, RF switch and ASI switch options (dual 2x1)
- **Optical switch** 2x1 module for Griffin for fibre redundancy
- **DC-40GHz SHF switches** – 24x1, 16x1, 8x1 & 4x1
- **16 channel 2:2 transfer switch** unit, DC-3GHz





Griffin RF & ASI Redundancy Switch

SWITCH

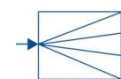
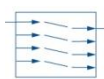
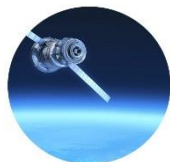
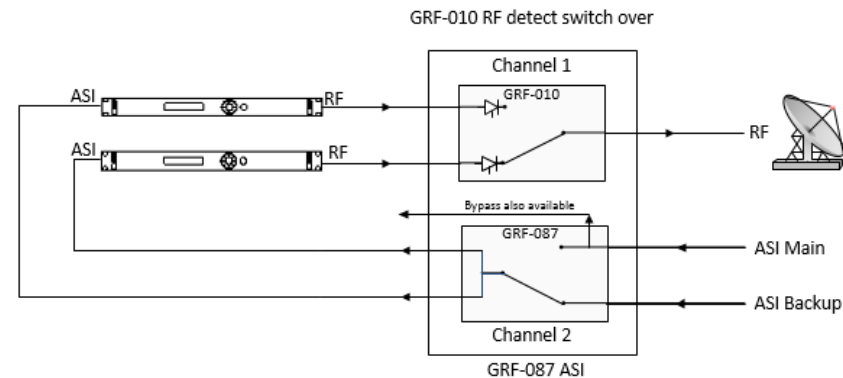


- 850-2150 MHz, DC – 2500 MHz, & ASI 2x1 redundancy module options
- 2x1 optical switch module
- 1U chassis with 1 or 2 switch modules
- For 1+1 redundancy applications - satellite modulator, LNB, downconverter and modem
- For fibre diversity site switching



Benefits & basics:

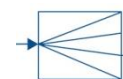
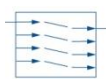
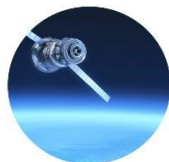
- Modules switched independently (individual mode) or together (simultaneous mode)
- Switching may be triggered by front panel, RF level detection, alarm contacts or NMS
- Manual, automatic or remote operational modes
- Hot-swap switch modules
- Dual redundant PSU's
- Remote control & monitoring via RJ45 Ethernet port with SNMP & web browser interface & RS232/485 serial port
- Local control & monitoring via front panel





Piranha LNB & BUC power inserter

- **Smart Piranha DC inserter** 1U chassis with up to 16 channels with selectable DC / 10 MHz inject
- **Intelligent load monitoring** (Vbus & LNB) – allows optimal selection of power supply capacity, and monitoring of LNB / BUC health
- LNB DC inserters with 0/13/18V and 22kHz
- BUC DC inserters with 24 or 48V DC selectable
- **PRN-16** provides DC powering with variable voltage & dual 10MHz input – designed for simultaneous LNB and BUC powering
- Hot swap of PSU's and bias tees





Falcon Frequency Converter

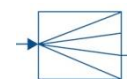
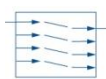
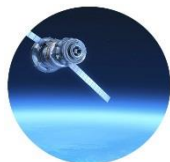


- **Ku-L and Ka-L** block down converters
- Selectable input ranges (10.7-11.7 GHz / 11.7-12.75 GHz & 29.25-30.2 GHz / 30.0-31.0 GHz)
- Variable gain (conversion gain 35 dB)
- Up to 4 modules in a compact 1U chassis
- Redundancy options
- Field serviceable and user replaceable RF modules, hot-swap power supplies & CPU



Benefits & basics:

- Small form factor, perfect for applications where rack space is limited
- Hot-swap CPU, PSU, RF modules
- Flexible module configurations for block up and block down applications





New components products...

Pin Diode Absorptive Switch



- SPDT switches & SP4T switches
- 0.5 - 18 GHz

Waveguides



- Precision made waveguide components
- Frequency ranges up to 40 GHz, & WR-650 to WR-28.
- Including flex, twist, bends, couplers, pressure windows, straights & adapters

Scorpion Chassis Modules

- NEW L-band 10dB & 20dB directional coupler modules
- Extended L-band Fibre modules for HTS applications
- IF band 4-way 50-1000 MHz and 20-200 MHz 8-way



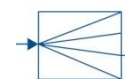
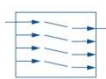
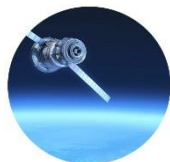
Block Up Converters



- L-band – KU-band
- High powered, high stability
- Fixed phase locked looped (PLL) oscillators

Outdoor Variable Gain Amplifier

- Compact IP65 ODU
- L-band frequency range
- Available with 10MHz, DC pass or DC block
- Settable gain 0 to 30 dB in 1 dB steps
- Flexible mounting options
- Built in regulator





New components products...

GPS & GNSS

- GPS Splitters
- GPS Amplifiers
- GPS lightning arrestors



GPS over Fibre

- Distributes GPS timing signals from a single antenna
- Compact & weatherproof ODU
- Extended L-band frequency range
- Low loss



Custom Filters

- Cavity bandpass filters
- 100 MHz to 40 GHz



Outdoor IP Rated VSAT Fibre

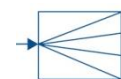
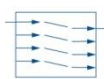
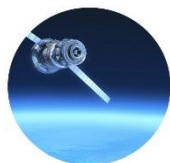
- IP65 rated weatherproof outdoor housing
- Pole / antenna mount
- 850-2450 MHz
- 10MHz reference signal
- LNB & BUC powering



Custom GPS Splitter



- 333 ohm Load fitted between ports
- Chosen to provide enough current draw to not alarm all receivers if a receiver were to fail.





Product Reference – Atlantic Microwave



Home



Product Overview



Atlantic Microwave



Case Studies



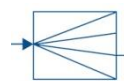
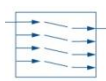
Product Detail





Test Loop Translators

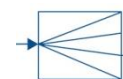
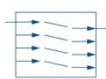
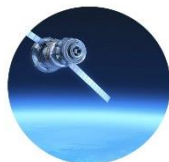
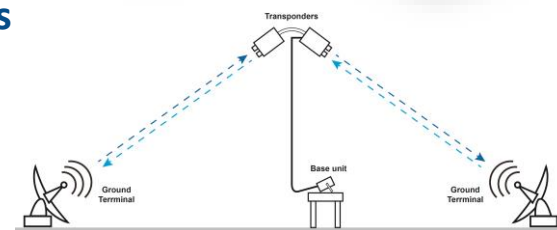
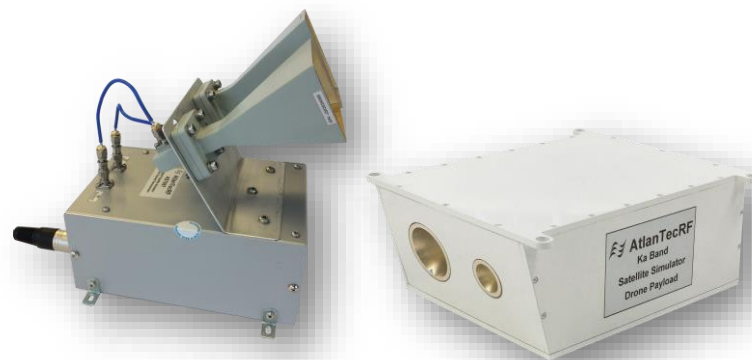
- **Synthesised & Fixed LO Test Loop Translators with remote & local Control**
 - Frequency bands: Q, Ka, Ku, S, C , X, & DBS
 - Simulates satellite link
 - Tx-Rx, Tx-L and L-Rx Conversions
 - High stability
 - Low phase noise
 - Variable Attenuation
- **Bench Instrument Test Loop Translators with manual control**
 - S, C, X, Ku & DBS Bands
 - Portable
 - Simulates Satellite Link





Satellite Simulators

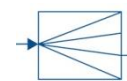
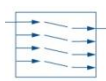
- **Battery powered & portable satellite simulators**
 - Cable-less RF test solution with dual Polarity
 - Ka, Ku & DBS available
- **Drone, UAVs or HAPS Satellite Simulator Payloads**
 - Suitable for high altitude platforms
 - X, Ku and Ka band options
 - Weatherproof & light weight
- **Depot-based or Portable SNG satellite simulator**
 - Tests SNG systems off-satellite
 - Covers all Ku Band SNG frequencies
- **Multi-Path Satellite Simulator – linear & circular polarisations**
 - Tests 2 satellite terminals simultaneously
 - Models for X, Ku, DBS, Ka & Q bands
- **Transportable and weatherproof satellite simulators**
 - Off-satellite system test





Noise & Signal Generators

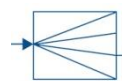
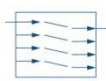
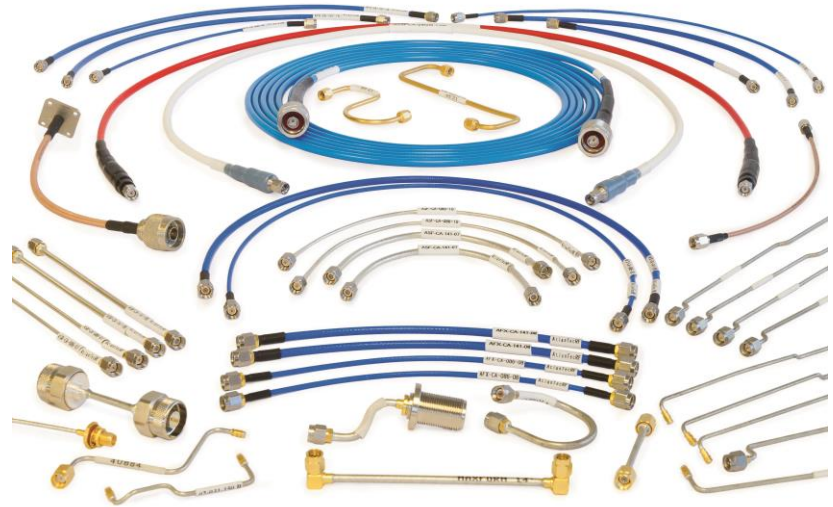
- **Ethernet control signal generators**
 - Satellite Bands – L, S, C, X, Ku, DBS, Ka & Q
 - Frequency steps from 1KHz
 - Local and remote control with GUI
- **Ethernet control broadband noise generators**
 - Remote & local operation
 - 10 Hz – 18 GHz
 - White symmetrical Gaussian noise
- **Manual broadband noise generators**
 - 10 Hz – 18 GHz
 - High output, up to +30dBm
- **Miniature signal generator**
 - 25 – 6000 MHz
 - Full range tuning
 - Frequency & level control





Microwave & RF Components

- Cable assemblies
- Cable adapters & connectors
- Amplifiers & oscillators
- Passive components
 - Attenuators
 - Bias Tees
 - Circulators
 - Couplers
 - DC Blocks
 - Filters
 - Isolators
 - Power Dividers
 - Terminations
- Control components



- Strong engineering and performance bias
- Focus on custom build solutions
- 150 people – 1/3 in design and 1/3 in AIT
- 30 years of worldwide experience
- Fully accredited ISO 9001:2015 QMS
- World-class switch matrices, supported by a very strong range of peripherals
- Winners of the 2007, 2009 & 2013 Queen's Award for Enterprise
- Acquired Atlantic Microwave in 2019

