



Model Number: 26128

RF Engineering
and Custom Build

Modular System

Flexible and resilient L-band signal management



Front View of Model 26128

ETL's Modular System offers **total flexibility** in managing L-band signals. It is particularly well suited to equalising signals – offering adjustable gain and slope – but also splitting/combining and redundancy switching.

The system comprises a chassis which accommodates up to 16 RF modules. These are constructed from ETL's **high performance technology building blocks** and can be inserted while the shelf is in service giving excellent levels of flexibility and resilience.

Applications include:

- Compensating for cable and other system losses with fixed gain or variable gain amplifiers and slope compensation - also offering dual redundant amplifiers for mission critical applications.
- Signal distribution – 4-way and 8-way high performance equalised active splitters and combiners are available (fixed / variable gain and with optional output amplifiers giving massive level-management capability).
- Redundancy switching – 1:1 LNB or other redundancy is offered via RF detector driven switch modules.
- Line amplifiers – single or dual redundant, variable gain.

RF Modules / functionality can be mixed within a chassis and **all modules can be hot swapped giving upgradeability, flexibility, and resilience.**

Gain, slope, and other variables such as RF detector thresholds are generally set remotely via a PC using customer NMS systems or ETL's proprietary software. The shelf has ethernet and serial remote control ports.





Resilience

Resilience is designed-in

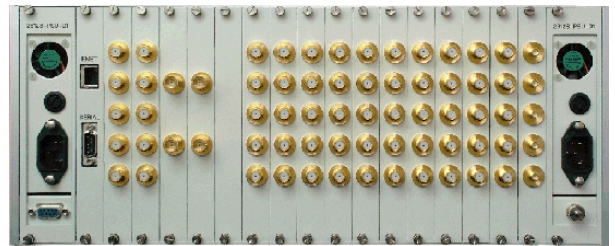
The Modular System has been designed with resilience in mind. The impact of component failure is minimised and all active components can be hot swapped. Problems are rapidly identified and can be easily sorted out



Minimal impact from RF module failure The impact of RF module failure is minimised. Modules can be hot-swapped, and hot expansion can take place in single increments as shown above.

Minimal impact from PSU / CPU failure

Dual redundant PSUs and the CPU can be hot-swapped

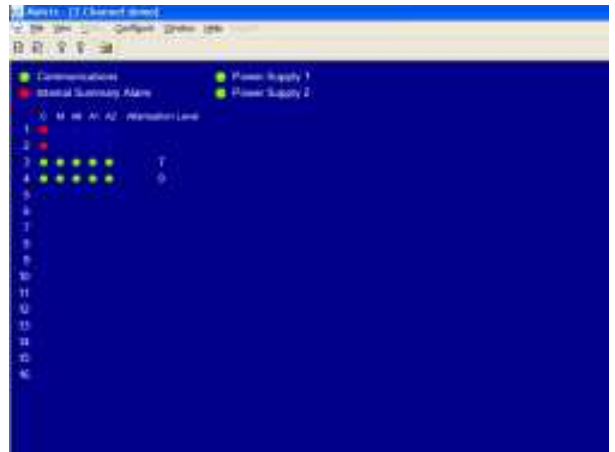


Redundancy in RF modules RF modules can have redundant components (e.g. amplifiers) incorporated with auto-switchover further enhancing resilience



Rapid diagnosis of problems

The system continuously monitors the condition of components. Any faults are immediately reported through front panel LED's and remotely. Alarms can report the specific faults down to component level



Remote control software maintains Modular System functionality



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Flexibility

Some examples of the flexibility of the Modular System are demonstrated by the examples shown below:

Splitters/Combiners with variable slope & gain

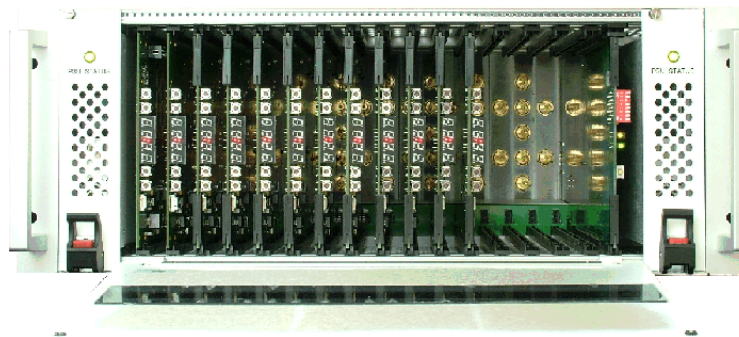
Modular System with 4 or 8-way splitters with variable slope compensation and variable gain

Up to 16 4-way active splitters (and/or 8 8-way splitters/combiners). Each splitter (26128-DIV series) incorporates variable gain amplifiers with gain range of 0-28dB and variable slope compensation with positive slope of 0dB to 6dB over 850 to 2150MHz.

Line Amplifiers with variable slope & gain

Modular System with single amplifier modules with variable slope compensation and variable gain

Up to 16 single channel variable gain amplifiers. Each amplifier module (26128-AMP series) incorporates variable gain amplifiers with gain range of 0-28dB. Each module also allows variable slope compensation with positive slope of 0dB to 9dB over 850 to 2150MHz.



Redundant Amplifiers

Modular System with dual redundant amplifier modules with variable gain

Up to 16 single channel variable gain amplifiers. Each amplifier module (26128-AMP series) incorporates variable gain amplifiers with gain range of 0 to 28dB. Each module also features redundant amplifiers with automatic (and manual) switchover from the main to standby path in the event of amplifier failure.

Redundancy Switch

Modular System with 2:2 crossover redundancy switch

Up to 16 2:2 crossover redundancy switches. RF detection with a settable threshold (defined range) is used to trigger automatic switchover (manual also available). Main and standby feeds are routed to online or offline outputs.



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Technical specifications and operating parameters

RF Parameters

See individual module data sheets for RF Parameters

RF Modules

4-way splitters & combiners with variable gain (0-24dB), variable slope compensation (0-6dB), LNB powering on splitters

8-way splitters & combiners with variable gain (0-24dB), variable slope compensation (0-6dB), LNB powering on splitters

LNB power (0/3/18V, 500mA & 22KHz tone on/off)

Single amplifiers with variable gain (0-28dB) & variable slope compensation (0-9dB)

Dual redundant variable gain amplifiers with amplifier current monitoring

2:2 crossover redundancy switch with RF detection

RF Module Options

Independent gain control on splitter outputs / combiner inputs

Fixed gain splitters/combiners

RF level monitoring

Monitor ports

Multiple channel amplifiers

Environmental

Operating temperature	0 to 45°C
Location	Indoor use only
Storage temperature	-20°C to +75°C
Humidity	20% - 90% non-condensing

Power

Power Requirement	85-264Vac, 100W 50/60Hz
PSU	Dual redundant
Hot-swap PSU	Yes

System Control & Software

Local Control	Card LED display & buttons
Remote Connection	Via RS232/RS485, RJ45 Ethernet and web browser interface
SNMP Traps	For alarms & monitoring
Comms/Power Failure	Retains settings
Remote Control Software	Available
Web Browser Interface	Available for monitoring only

Physical

Connectors	BNC, SMA, F-type
Impedance	50Ω or 75Ω
Dimensions	4U high x 450mm deep x 19" wide
Weight	20 kg
Colour	White 00-E-55 semi-gloss

Key Features

RF Module Cards	Single, hot-swap
CPU	Single, hot-swap
PSU	Dual redundant, hot-swap
Self Diagnostics	Continuous Monitoring

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