

...designed for perfect signals

N+1 redundant L-Band Line Amplifier, 1+1 to 4+1 (variable gain 0 to +34dB)

The HQR435C is a compact, flexible and modular N+1 redundant L-Band line amplifier system built into a 1RU/19" rack mount chassis. The variable gain adjustment ranges from 0 to 34dB (1dB steps) while it also supports slope equalization so to achieve best performance within the RF distribution chain.

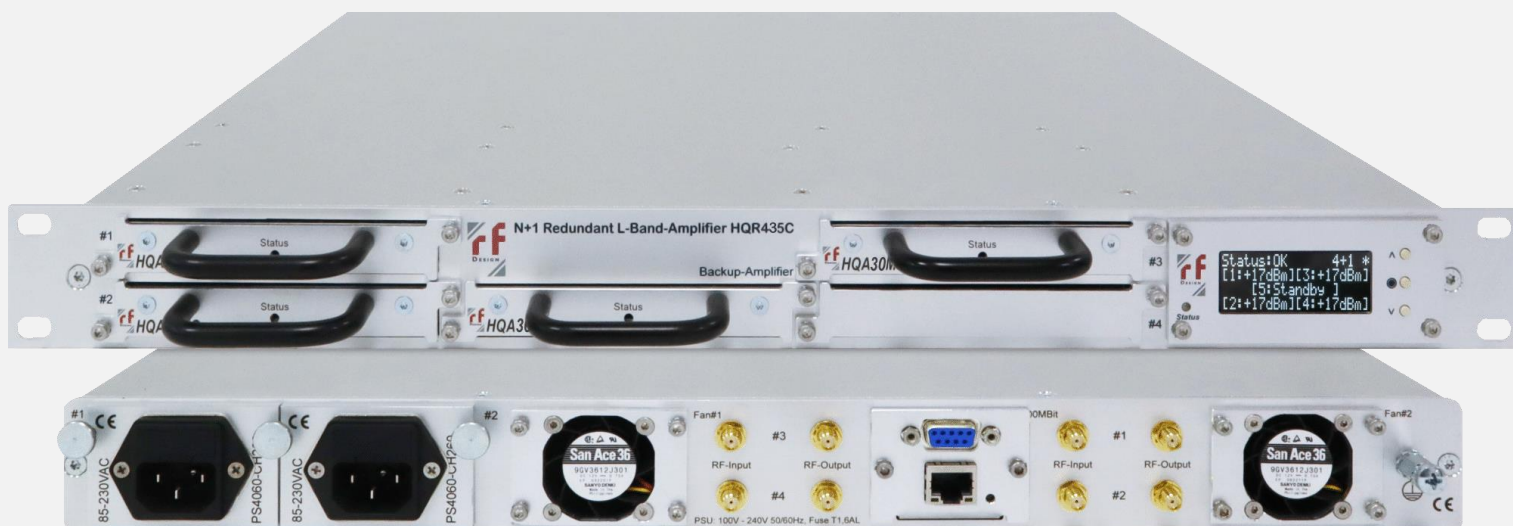
The HQR435C chassis holds up to five high dynamic HQA30MG amplifier modules (950 – 2150MHz or 850 – 2700MHz) thus allowing an amplifier redundancy operation from 1+1 to max. 4+1 (field expandable, hot-swappable). The redundancy switching between any of the active and the hot-standby amplifier modules is done by a high performance RF switch with a very short switchover time assuring a stable signal transmission at any time.

The unit also features RF power monitoring, threshold alarming and comes with 1:1 redundant dual power supply (hot-swappable).

The front panel OLED display and keypads allows easy local monitoring and configuration. Remote configuration and monitoring is possible via its rear side Ethernet-Interface (WebGUI, SNMP).

All active components of the unit such as amplifier modules, power supplies, ventilators, CPU and the OLED display are permanently monitored and hot-swappable for ease of expansion and/or replacement.

This flexible, modular and expandable N+1 line amplifier is perfectly suited for RF distribution infrastructures in Teleports, Satellite Earth Stations, as well as Broadcast- and Broadband facilities wherever accurate RF power, highest stability and availability is necessary.



FEATURES & BENEFITS

- ▶ Space saving and compact 1RU/19" rackmount design
- ▶ Supports L-Band (950 – 2150MHz) and extended L-Band 850 – 2700MHz
- ▶ Allows amplifier redundancy configuration from 1+1 to max. 4+1 (field expandable, hot-swappable)
- ▶ Modular concept for ease of replacement and maintenance
- ▶ Variable gain adjust 0 to 34dB, 1dB steps (MGC/AGC)
- ▶ Slope equalization 0 to 7dB, 1dB steps
- ▶ RF power monitoring for all amplifier modules (Input & Output)

- ▶ Threshold alarm function and switchable output limiter
- ▶ 1:1 redundant dual power supply (hot-swappable)
- ▶ MTTF Counter and warning function for power supplies
- ▶ Temperature controlled fan speed operation
- ▶ Local configuration and monitoring via front panel OLED display & keypads
- ▶ Remote configuration and monitoring via Ethernet-Interface, (WebGUI/SNMP)



TECHNICAL SPECIFICATIONS

Dimensions:	1RU/19" rack mount
Power Supply:	85 – 230V, 50/60Hz, 1:1 redundant (hot-swappable)
Power Consumption:	<10W
Frequency Range:	950 – 2150MHz (L-Band Module HQA30MG) 850 – 2700MHz (Extended L-Band Module HQA30MG2700)
Input/output connectors:	50Ohm SMA(f)
Input Return Loss:	18dB min. (no slope) (L-Band Module HQA30MG) 18dB min. (no slope) (Extended L-Band Module HQA30MG2700)
Output Return Loss:	18dB min. 20dB typ.
Frequency Response:	±0,5dB typ., ±1,0dB max. (L-Band Module HQA30MG) ±0,1dB max. in 40 MHz Window (L-Band Module HQA30MG) ±1,0dB typ., ±1,5dB max. (Extended L-Band Module HQA30MG2700) ±0,15dB max. in 40 MHz Window (Extended L-Band Module HQA30MG2700)
Variable Gain Control:	0 to 34dB (accuracy ±0,25dB), 1dB steps
Gain Mode:	MGC/AGC
Slope equalization:	0 to 7dB, 1dB steps
Max. RF Input Power:	+13dBm (no damage)
Max. RF Output Power:	+21dBm
Noise Figure:	≤10dB @ full gain
Spurious Free Dynamic Range:	< -76dBm
IMA3/OIP3:	> -40dBc typ. @ +14dBm / OIP3 +36dBm min.
1dB Compression Point:	+20dBm @ full gain
Group Delay:	0,03ns/MHz typ., 1ns/peak to peak max.
Amplifier Monitoring:	Current Draw and RF Power
Amplifier Switchover Time:	<100msec (depends on amplifier qty)
Threshold Alarm:	Adjustable -40dBm to +10dBm
Output Limiter:	Adjustable -30dBm to +17dBm
Local Access/Configuration:	Front panel OLED Display/keypads
Remote Access/Configuration:	100Mbit Ethernet-Interface (WebGUI, SNMPv2c), RS232
Status LED's:	At each amplifier module
MTBF/MTTR:	>400kHrs at 25°C / 24 hours
Operating Temperature:	0°C to 45°C
Storage Temperature:	-10°C to 70°C
Humidity:	90%, non-condensing
RoHS:	Compliant

ORDER INFORMATION

Type	Type No.:	Short Description
HQR435C-50S	9001255	N+1 redundant L-Band Amplifier Chassis, 1+1 to max. 4+1 redundant operation, 50Ohm SMA(f)
HQA30MG	9001261	Amplifier Module, L-Band 950 – 2150MHz, 30dB Gain
HQA30MG2700	9001264	Amplifier Module, Extended L-Band 850 – 2700MHz, 30dB Gain