

...designed for perfect signals

1:1 redundant L-Band / ext. L-Band Amplifier (variable gain 0 to 40dB)

The HQR145C represents a 1:1 redundant RF line amplifier in a compact 1RU/19" rack mount operating at L-Band (950 – 2150MHz) or extended L-Band (850 – 2700MHz) frequency. It comes with variable gain control ranging from 0 to 40dB along with slope equalization and various additional functionalities. Additionally it has two independent and 1:1 redundant operating amplifiers together with an internal RF switch.

The HQR145C's two high dynamic 1:1 redundant operating amplifier modules (hot-standby) each provide variable gain control 0 to 40dB so to achieve best performance within the network. The redundancy switching between the two amplifier modules is done nearly interruption free with a switchover time of <5ms.

The unit features variable gain control (MGC/AGC), slope-equalization, RF power monitoring, threshold alarming, 2 front-panel monitoring ports and 1:1 redundant dual power supply (hot-swappable). Additional features such as switchable LNB-supply and a 10 MHz reference signal port are optionally available.

The HQR145C has a front-side LC-Display/keypads for local configuration. Front-side status LED's indicating amplifier and power supply status. Remote control and configuration can be done via its rear-side Ethernet-Interface (WebGUI, SNMP).

This 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" rack mount design
- ▶ 1:1 redundant hot standby operating amplifier modules
- ▶ Less than 5ms switchover between amplifiers 1 & 2
- ▶ Variable gain adjust 0 to 40dB, 1dB steps (MGC/AGC)
- ▶ Slope equalization 0 to 7dB, 1dB steps
- ▶ RF power monitoring for both amplifier-modules (Input & Output)
- ▶ Threshold alarm function and switchable output limiter
- ▶ 2 front panel monitoring ports -20dB (Input & Output)

- ▶ 10MHz external reference port
- ▶ Switchable LNB-supply (13/15/18V, 22kHz tone) with current monitoring (400mA) with alarm shut-off
- ▶ 1:1 redundant dual power supply (hot-swappable)
- ▶ MTTF Counter and Warning Function for Power Supplies
- ▶ Front panel status LED's (amplifier & power supply status)
- ▶ Local configuration via front panel LC-Display/keypads
- ▶ Remote configuration via Ethernet-Interface (WebGUI, SNMP), RS232/485*



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 HQA45MI), 850 – 2700MHz (Ext. L-Band HQA45MI2700M)
Input/output Connectors:	50Ohm SMA(f)
Input Return Loss:	18dB typ. (no slope) (L-Band Module HQA45MI) 15dB typ. (no slope) (Extended L-Band Module HQA45MI2700M)
Output Return Loss:	14dB min. 16dB typ.
Frequency Response:	±0,5dB typ., ±1,0dB max. ±0,1dB max. in 40 MHz Window (L-Band HQA45MI) ±1,0dB typ., ±1,5dB max. ±0,15dB max. in 40 MHz Window (Ext. L-Band HQA45MI2700M)
Variable Gain Control:	0 to 40dB (accuracy ±0,25dB), 1dB steps, Mode MGC and AGC
Slope Equalization:	0 to 7dB, 1dB steps
Max. RF Input Power:	+13dBm (no damage)
Max. RF Output Power:	+24dBm
Noise Figure:	<6dB @ full gain
Spurious Free Dynamic Range:	< -76dBm
IMA3/OIP3:	> -40dBc typ. @ +17dBm / OIP3 +38dBm min.
1dB Compression Point:	+23dBm @ 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
LNB-Supply/10MHz Reference:	Switchable 13/15/18VDC, 22kHz tone, ON/OFF, 400mA and 10MHz External, 50Ohm SMA(f)*
Local Access/Configuration:	Front panel OLED Display/keypads, status LED's at each amplifier module
Remote Access/Configuration:	100Mbit Ethernet-Interface (WebGUI, SNMPv2c), RS232
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
HQR145C-50S	9000938	1:1 redundant L-Band Amplifier, 50Ohm SMA(f), 1RU/19" rack mount
HQR145C-50N	9001022	1:1 redundant L-Band Amplifier, 50Ohm N(f), 1RU/19" rack mount
HQA45MI	9001052	Amplifier Module, L-Band 950 – 2150MHz
HQA45MI2700M	9001100	Amplifier Module, Extended L-Band 850 – 2700MHz

OPTIONS

Module Type	Type No.:	Short Description
HQR145C-LNB-10-Option	9001017	LNB-supply 13/15/18VDC, 22kHz, 10MHz external input port rear panel, 50Ohm SMA(f)
HQR145C-Option-75F	on request	RF-Input & Output F-Connector 75Ohm F(f)**

*Option / **upon request only