



HQS series

Variable gain amplifier with 1:8 or 1:16 L-Band Splitter

Made
in
Germany

GENERAL

The HQS series represents professional variable gain L-Band amplifier units with integrated 1:8 or 1:16 splitters. The variable gain line-amplifier modules supports gain-control ranges of max. 0...25dB or 0...30dB. The 19"/1RU rack-mount chassis „HQS108C“ (1:8 splitter chassis) and „HQS116C“ (1:16 splitter chassis) each with one amplifier slot allow insertion of the the corresponding amplifier module „HQA2535M“ or „HQA3040M“. The „HQA2535M“ amplifier allows variable gain-control of max. -10...15dB @ standard gain mode and max. 0...25dB @ high gain mode while the „HQA3040M“ amplifier provides variable gain-control of max. -10...20dB @ standard gain mode and max. 0...30dB @ high gain mode so to achieve best signal performance within the network.

The HQS series features variable gain-control (MGC/AGC), slope equalization, RF power monitoring, switchable LNB-supply, a 10MHz external reference signal input and 1:1 redundant dual power-supply (hot-swappable). An integrated RF power detector measures the RF output power with 70dB dynamic range. The units have a front side LC-Display/keypads for user-friendly local configuration while front side status LED´s indicating amplifier and power-supply status. Remote configuration & monitoring can be done via its rear side Ethernet-Interface (WebGUI, SNMP).

This high quality HQS splitters together with the inserted line amplifier module provide various advantageous functionalities, superior RF performance and excellent signal quality. The units of the HQS series are an ideal fit for any RF distribution infrastructure where accurate RF power, highest signal stability and availability is necessary and a perfect fit for Teleports, Satellite Earth-Stations, Broadcast facilities and CATV/IPTV headend platforms.



FEATURES & BENEFITS

- Space saving 1RU/19" rack-mount design
- High quality 1:8 (HQS108C) or 1:16 (HQS116C) L-Band splitter and amplifier-module in one unit
- Two high dynamic amplifier modules available (HQA2535M & HQA3040M)
- Variable gain-control selectable as MGC (Manual Gain Control) or AGC (Automatic Gain Control)
- Supports slope-equalization 0...9dB, 1dB steps
- Equipped with front side monitoring port (-20dB)
- RF power monitoring (input/output) for each amplifier individually
- Threshold alarm function and switchable output limiter
- Switchable LNB-supply (13/15/18V, 22kHz, 400mA) with LNB current monitoring and alarm shut-off
- 10MHz external reference signal input, rear side 50Ohm SMA(f)
- Hot swappable amplifier modules
- Local access & configuration via front side LC-Display/keypads
- Front side status LED´s indicating amplifier & power-supply status
- Remote configuration & monitoring via Ethernet-Interface (WebGUI/SNMPv2c)
- 1:1 redundant dual power supply (hot swappable)

ORDER INFORMATION

1:8 Splitter chassis version

- **HQS108C-50S:** HQS Splitter/Amplifier Chassis, 1:8 L-Band Splitter, 1 amplifier slot, 50Ohm SMA(f), 1RU/19" rack-mount
- **HQS108C-50B:** HQS Splitter/Amplifier Chassis, 1:8 L-Band Splitter, 1 amplifier slot, 50Ohm BNC(f), 1RU/19" rack-mount
- **HQS108C-75F:** HQS Splitter/Amplifier Chassis, 1:8 L-Band Splitter, 1 amplifier slot, 75Ohm F(f), 1RU/19" rack-mount
- **HQS108C-75B:** HQS Splitter/Amplifier Chassis, 1:8 L-Band Splitter, 1 amplifier slot, 75Ohm BNC(f), 1RU/19" rack-mount

1:16 Splitter chassis version

- **HQS116C-50S:** HQS Splitter/Amplifier Chassis, 1:16 L-Band Splitter, 1 amplifier slot, 50Ohm SMA(f), 1RU/19" rack-mount
- **HQS116C-50B:** HQS Splitter/Amplifier Chassis, 1:16 L-Band Splitter, 1 amplifier slot, 50Ohm BNC(f), 1RU/19" rack-mount
- **HQS116C-75F:** HQS Splitter/Amplifier Chassis, 1:16 L-Band Splitter, 1 amplifier slot, 75Ohm F(f), 1RU/19" rack-mount
- **HQS116C-75B:** HQS Splitter/Amplifier Chassis, 1:16 L-Band Splitter, 1 amplifier slot, 75Ohm BNC(f), 1RU/19" rack-mount

Amplifier module versions

- **HQA2535M:** HQA active line amplifier module, max. -10...15dB & max.. 0...25dB variable gain-control
- **HQA3040M:** HQA active line amplifier module, max. -10...20dB & max. 0...30dB variable gain-control



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TECHNICAL SPECIFICATIONS

CHASSIS SPECIFICATIONS (1:8 or 1:16 splitter chassis)

	HQS108C-50/-75 (1:8 splitter chassis)	HQS116C-50/-75 (1:16 splitter chassis)
➤ Chassis type:	1:8 splitter	1:16 splitter
➤ Splitter configuration:	1RU/19" rack-mount	1RU/19" rack-mount
➤ Dimensions:	85...230V, 50/60Hz (1:1 redundant (hot-swap.)	85...230V, 50/60Hz (1:1 redundant (hot-swap.)
➤ Power supply:	<10W	<15W
➤ Power consumption:	1 amplifier module HQA2535M or HQA3040M	1 amplifier module HQA2535M or HQA3040M
➤ Amplifier module slots:	50Ohm SMA(f)/BNC(f) or 75Ohm F(f)/BNC(f)	50Ohm SMA(f)/BNC(f) or 75Ohm F(f)/BNC(f)
➤ Impedance/connectors:	-20dB (front-side)	-20dB (front-side)
➤ Monitoring port:	External, 50Ohm SMA(f)	External, 50Ohm SMA(f)
➤ 10MHz reference:	13/15/18V, 22kHz, 400mA	13/15/18V, 22kHz, 400mA
➤ Switchable LNB-supply:	LC-Display/keypads	LC-Display/keypads
➤ Local configuration:	100Mbit RJ45 Ethernet-Interface (WebGUI, SNMPv2c)	100Mbit RJ45 Ethernet-Interface (WebGUI, SNMPv2c)
➤ Remote configuration:	Amplifier module & power supply	Amplifier modules & power supply
➤ Status LED's:	0...45°C	0...45°C
➤ Operating temperature:	-10°C...70°C	-10°C...70°C
➤ Storage temperature:	90% non condensing	90% non condensing
➤ Humidity:	Compliant	Compliant
➤ RoHS:		

RF SPECIFICATIONS (Splitter with integrated amplifier module)

	HQA2535M	HQA3040M
➤ With Amplifier module:	1:8 or 1:16	1:8 or 1:16
➤ Splitter configuration:	950...2150MHz (L-Band)	950...2150MHz (L-Band)
➤ Frequency range:	-10...15dB @ standard gain mode 0...25dB @ high gain mode	-10...20dB @ standard gain mode 0...30dB @ high gain mode
➤ Gain-control range(s) @ 1:8 splitter:	-14...11dB @ standard gain mode -04...21dB @high gain mode	-14...16dB @ standard gain mode -04...26dB @high gain mode
➤ @ 1:16 splitter:		
➤ Gain steps	1dB steps (AGC/MGC)	1dB steps (AGC/MGC)
➤ Slope equalization:	0...9dB (1dB steps)	0...9dB (1dB steps)
➤ RF power monitoring:	70dB dynamic range	70dB dynamic range
➤ Output limiter:	adustable -30dBm...+10dBm	adustable -30dBm...+10dBm
➤ Input/Output return loss:	≥ 20dB typ., ≥ 16dB min.	≥ 20dB typ., ≥ 16dB min.
➤ Frequency response:	±0.5dB typ., ±1dB max.	±0.5dB typ., ±1dB max.
➤ Max. RF output power:	+17dBm typ., +23dBm max.	+17dBm typ., +23dBm max.
➤ Noise figure:		
➤ @ 1:8 splitter	≤6dB @ 15dB gain / ≤5dB @ 25dB gain	≤6dB @ 20dB gain / ≤5dB @ 30dB gain
➤ @ 1:16 splitter	≤6dB @ 11dB gain / ≤5dB @ 21dB gain	≤6dB @ 16dB gain / ≤5dB @ 26dB gain
➤ IMA3 @ +10dBm:	< -46dBc	< -46dBc
➤ 1dB Compression point:	+23dBm @ 1:8 / +19dBm @ 1:16	+23dBm @ 1:8 / +19dBm @ 1:16
➤ Isolation:	≥ 25dB	≥ 25dB