



## LCA BaseLine Combiners

Extended L-Band Combiners Active (4-way, 8-way, 16-way, 32-way)

Made in Germany

### GENERAL

The LCA BaseLine series represents high quality and professional active L-Band combiners in a compact 1RU/19" rack-mount chassis, especially designed for applications where excellent, stable and accurate signal quality is necessary. The units are available as Single units (4:1, 8:1, 16:1 & 32:1), Dual units (2 x 4:1, 2 x 8:1, 2 x 16:1) or Quad units (4 x 4:1), while the dual and quad units come with 2 or 4 independent operating combiners, each fully isolated from each other.

The units support extended L-Band frequency range 850...2450MHz ready for KA-Band and HTS applications. Additionally they feature switchable DC-supply (13/18VDC) e.g for powering a BUC, a 10MHz external reference signal port as well as are equipped with 1:1 redundant dual power-supply. Front side status LED's indicating and monitoring the health status of the unit (DC-supply and each power supply). Remote configuration, monitoring and alarming can be done via an RJ45 Ethernet-Interface (WebGUI, SNMP).

The LCA BaseLine active L-Band combiners are a perfect fit for Satellite earth-stations, teleports as well as for broadcast and broadband RF distribution infrastructures and provide superior RF performance at the highest quality level. They are available with 50Ohm SMA(f)/BNC(f) or 75Ohm F(f)/BNC(f) connectors.



### FEATURES & BENEFITS

- Space saving 1RU/19" rack-mount design
- Supports Extended L-Band frequency range 850...2.450MHz ready for KA-Band and HTS applications
- Single combiner variants (4:1, 8:1, 16:1 and 32:1)
- Dual combiner variants (2 x 4:1, 2 x 8:1 and 2 x 16:1) (2 independent combiner in a 1RU/19" chassis, isolated to each other)
- Quad combiner variant (4 x 4)
- (4 independent combiner in a 1RU/19" chassis, isolated to each other)
- Switchable DC-supply 0/13/18VDC (ON/OFF), 500mA
- 10MHz external reference port, rear-side, 50Ohm SMA(f)
- Front side monitoring port -20dB
- Front side status LED's (PSU, combiner-module and Ethernet status)
- Remote control via RJ45 Ethernet-Interface (WebGUI, SNMP), control/select of LNB-supply, LNB current monitoring & status alarming (Unit/PSU's/LNB-supply)
- Excellent quality and superior RF performance
- 1:1 dual redundant power supply

### TECHNICAL SPECIFICATIONS

- **Dimensions:** 1RU/19" rack-mount
- **Power supply:** 85...230V, 50/60Hz / 1:1 redundant
- **Power consumption:** <10W (without LNB-supply)  
<20W (with max. LNB-supply voltage)
- **Combiner variants:** 4:1, 8:1, 16:1 & 32:1  
Dual 4:1, 8:1, 16:1 / Quad 4:1
- **Frequency range:** 850...2450MHz (Extended L-Band)
- **Input/Output connectors:** 50Ohm SMA(f) or BNC(f)  
75Ohm F(f) or BNC(f)
- **Input RF power**  
@ 4:1, 8:1, 16:1: +23dBm max.  
@ 32:1: +26dBm max.
- **Input Return loss:** ≥ 20dB typ., ≥ 16dB min.
- **Output Return loss:** ≥ 21dB typ., ≥ 16dB min.

### TECHNICAL SPECIFICATIONS

- **Noise figure**  
@ 4:1 (50Ohm): 10dB typ.  
@ 4:1 (75Ohm): 11dB typ.  
@ 8:1 (50Ohm): 13dB typ.  
@ 8:1 (75Ohm): 14dB typ.  
@ 16:1, 32:1 (50Ohm): 16dB typ.  
@ 16:1, 32:1 (75Ohm): 17dB typ.
- **Isolation:** ≥ 25dB
- **Insertion loss:** 0dB typ., ± 0,25dB max.
- **Frequency response (Flatness)**  
@ 4:1, 8:1, 16:1 (50Ohm): ± 0,50dB (± 0,20dB @ any 36MHz)  
@ 4:1, 8:1, 16:1 (75Ohm): ± 0,75dB (± 0,20dB @ any 36MHz)  
@ 32:1 (50Ohm): ± 0,75dB (± 0,20dB @ any 36MHz)  
@ 32:1 (75Ohm): ± 1,00dB (± 0,20dB @ any 36MHz)
- **Group delay:** 2ns. max (@ full band)  
1ns. max (@ any 36MHz)
- **1dB Compression**  
@ 4:1: +13dBm  
@ 8:1: +17dBm  
@ 16:1 & 32:1: +21dBm
- **OIP3 / OIP2:** +24dBm / +44dBm
- **IMA3 @ -10dBm:** < -60dBc
- **In band spurious:** < -80dBm
- **Switchable DC-supply:** 0/13/18VDC, 500mA, current monitoring protection
- **10MHz reference port:** 50Ohm SMA(f), rear side
- **Monitoring port:** -20dB, 50Ohm SMA(f), front side
- **Status LED's:** PSU/Module/Ethernet status monitoring
- **Remote configuration monitoring & alarming:** RJ45 Ethernet Interface (WebGUI, SNMP)
- **Operating temperature:** 0...50°C
- **Storage temperature:** -20°C...75°C
- **Humidity:** 90% non-condensing
- **RoHS:** Compliant

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## LCA BaseLine Combiners

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### ORDER INFORMATION

#### 50Ohm SMA(f) connectors

- **LCA104-50S:** Active L-Band Combiner, 1 x 4:1, DC-supply, 10MHz ext. reference port, 50Ohm SMA(f), 1RU/19" rack mount
- **LCA108-50S:** Active L-Band Combiner, 1 x 8:1, DC-supply, 10MHz ext. reference port, 50Ohm SMA(f), 1RU/19" rack mount
- **LCA116-50S:** Active L-Band Combiner, 1 x 16:1, DC-supply, 10MHz ext. reference port, 50Ohm SMA(f), 1RU/19" rack mount
- **LCA132-50S:** Active L-Band Combiner, 1 x 32:1, DC-supply, 10MHz ext. reference port, 50Ohm SMA(f), 1RU/19" rack mount
- **LCA204-50S:** Active **Dual** L-Band Combiner, 2 x 4:1, DC-supply, 10MHz ext. refer. port, 50Ohm SMA(f), 1RU/19" rack mount
- **LCA208-50S:** Active **Dual** L-Band Combiner, 2 x 8:1, DC-supply, 10MHz ext. refer. port, 50Ohm SMA(f), 1RU/19" rack mount
- **LCA216-50S:** Active **Dual** L-Band Combiner, 2 x 16:1, DC-supply, 10MHz ext. refer. port, 50Ohm SMA(f), 1RU/19" rack mount
- **LCA404-50S:** Active **Quad** L-Band Combiner, 4 x 4:1, DC-supply, 10MHz ext. refer. port, 50Ohm SMA(f), 1RU/19" rack mount

#### 50Ohm BNC(f) connectors

- **LCA104-50B:** Active L-Band Combiner, 1 x 4:1, DC-supply, 10MHz ext. reference port, 50Ohm BNC(f), 1RU/19" rack mount
- **LCA108-50B:** Active L-Band Combiner, 1 x 8:1, DC-supply, 10MHz ext. reference port, 50Ohm BNC(f), 1RU/19" rack mount
- **LCA116-50B:** Active L-Band Combiner, 1 x 16:1, DC-supply, 10MHz ext. reference port, 50Ohm BNC(f), 1RU/19" rack mount
- **LCA132-50B:** Active L-Band Combiner, 1 x 32:1, DC-supply, 10MHz ext. reference port, 50Ohm BNC(f), 1RU/19" rack mount
- **LCA204-50B:** Active **Dual** L-Band Combiner, 2 x 4:1, DC-supply, 10MHz ext. refer. port, 50Ohm BNC(f), 1RU/19" rack mount
- **LCA208-50B:** Active **Dual** L-Band Combiner, 2 x 8:1, DC-supply, 10MHz ext. refer. port, 50Ohm BNC(f), 1RU/19" rack mount
- **LCA216-50B:** Active **Dual** L-Band Combiner, 2 x 16:1, DC-supply, 10MHz ext. refer. port, 50Ohm BNC(f), 1RU/19" rack mount
- **LCA404-50B:** Active **Quad** L-Band Combiner, 4 x 4:1, DC-supply, 10MHz ext. refer. port, 50Ohm BNC(f), 1RU/19" rack mount

#### In-/Output: 75Ohm F(f) connectors

- **LCA104-75F:** Active L-Band Combiner, 1 x 4:1, DC-supply, 10MHz ext. reference port, 75Ohm F(f), 1RU/19" rack mount
- **LCA108-75F:** Active L-Band Combiner, 1 x 8:1, DC-supply, 10MHz ext. reference port, 75Ohm F(f), 1RU/19" rack mount
- **LCA116-75F:** Active L-Band Combiner, 1 x 16:1, DC-supply, 10MHz ext. reference port, 75Ohm F(f), 1RU/19" rack mount
- **LCA132-75F:** Active L-Band Combiner, 1 x 32:1, DC-supply, 10MHz ext. reference port, 75Ohm F(f), 1RU/19" rack mount
- **LCA204-75F:** Active **Dual** L-Band Combiner, 2 x 4:1, DC-supply, 10MHz ext. reference port, 75Ohm F(f), 1RU/19" rack mount
- **LCA208-75F:** Active **Dual** L-Band Combiner, 2 x 8:1, DC-supply, 10MHz ext. reference port, 75Ohm F(f), 1RU/19" rack mount
- **LCA216-75F:** Active **Dual** L-Band Combiner, 2 x 16:1, DC-supply, 10MHz ext. reference port, 75Ohm F(f), 1RU/19" rack mount
- **LCA404-75F:** Active **Quad** L-Band Combiner, 4 x 4:1, DC-supply, 10MHz ext. reference port, 75Ohm F(f), 1RU/19" rack mount

#### 75Ohm BNC(f) connectors

- **LCA104-75B:** Active L-Band Combiner, 1 x 4:1, DC-supply, 10MHz ext. reference port, 75Ohm BNC(f), 1RU/19" rack mount
- **LCA108-75B:** Active L-Band Combiner, 1 x 8:1, DC-supply, 10MHz ext. reference port, 75Ohm BNC(f), 1RU/19" rack mount
- **LCA116-75B:** Active L-Band Combiner, 1 x 16:1, DC-supply, 10MHz ext. reference port, 75Ohm BNC(f), 1RU/19" rack mount
- **LCA132-75B:** Active L-Band Combiner, 1 x 32:1, DC-supply, 10MHz ext. reference port, 75Ohm BNC(f), 1RU/19" rack mount
- **LCA204-75B:** Active **Dual** L-Band Combiner, 2 x 4:1, DC-supply, 10MHz ext. reference port, 75Ohm BNC(f), 1RU/19" rack mount
- **LCA208-75B:** Active **Dual** L-Band Combiner, 2 x 8:1, DC-supply, 10MHz ext. reference port, 75Ohm BNC(f), 1RU/19" rack mount
- **LCA216-75B:** Active **Dual** L-Band Combiner, 2 x 16:1, DC-supply, 10MHz ext. refer. port, 75Ohm BNC(f), 1RU/19" rack mount
- **LCA404-75B:** Active **Quad** L-Band Combiner, 4 x 4:1, DC-supply, 10MHz ext. refer. port, 75Ohm BNC(f), 1RU/19" rack mount