LSC Series

Modular 8-way L-Band Splitter/Combiner System with 1:1 Amplifier

The LSC series represents a flexible and high quality modular L-Band splitter/combiner system excellently suited for versatile RF distribution applications where accurate RF power, high stability and availability is necessary. The system combines the LSC102 (dual splitter/combiner chassis) and the LSC408 (octal splitter/combiner chassis) together with the corresponding 1:8 splitter module (LSM2150-8) and the 8:1 combiner (LCM2150-8) module, each coming with built in 1:1 redundant adjustable amplifier.

The LSC102 chassis has 2 slots for population of max. two 8-way L-Band splitter and/or combiner modules while the LSC408 has 8 slots for insertion of max. eight 8-way splitter and/or combiner modules.

The system allows mixed configurations of the splitter/combiner modules making it flexible for your individual RF distribution application.

The chassis of the LSC series are each equipped with 1:1 redundant dual power supply (hot-swappable) a hot-swappable LPC/CPU controller board while a lockable front-door allows easy integration, replacement or maintenance of the corresponding splitter and combiner modules. Furthermore, the LSC102 and LSC408 chassis have cascade ports making it easy to expand the system with your growth.

Rear-panel monitoring ports (0dB) are additionally available with the chassis e.g. for direct connection to a Spectrum-Analyzer allowing to integrate this system into your monitoring infrastructure.

Each splitter and combiner module comes with integrated 1:1 redundant variable gain control amplifiers allowing a gain control within range of -10dB to +10 dB (0,5 dB steps) not only for compensating possible level loss but also for assuring excellent and stable signal performance at any time, while the health status of each amplifier is always monitored. Additionally, to that each splitter & combiner module supports RF power-monitoring, threshold monitoring and alarming. Another advantageous feature of the combiner module is that ports can be individually switched off/terminated.

Monitoring and configuration of the LSC systems is done with an external LC-Display-Box (LSC102) or via a touchscreen display (LSC408).

Remote monitoring and configuration can be done via Ethernet-Interface (WebGUI, SNMP). Each active component (unit, splitter/combiner, amplifier, power supplies…) of the LSC system is constantly monitored both locally but also remotely for fast and easy fault detection and troubleshooting.

The LSC series with its flexibility, beneficial features and outstanding RF performance certainly is a perfect fit for any RF distribution infrastructure and perfectly suited for applications in Satellite Earth-Stations, Teleports as well as Broadcast infrastructures.

LSC Series

Modular 8-way L-Band Splitter/Combiner System with 1:1 Amplifier

FEATURES & BENEFITS

LSC102/LSC408 Splitter/Combiner Chassis

- LSC102 1RU/19" modular rack mount chassis with 2 L-Band splitter/combiner slots
- LSC408 4RU/19" modular rack mount chassis with 8 L-Band splitter/combiner slots
- Easy splitter/combiner insertion, replacement and maintenance
- Internal passive backplane for secure and stable operation (no point of failure)
- Each chassis supports mixed splitter/combiner module population
- Integrated cascading ports for easy expansion
- Monitoring port for each splitter/combiner module
- Local configuration & monitoring via front-panel LC-Display-Box (LSC102) or touchscreen display (LSC408)
- Remote configuration & monitoring via Ethernet-Interface (WebGUI, SNMP)
- Health status monitoring of each active component (unit, splitter/combiner, amplifier, power supplies)
- 1:1 redundant dual power supply, hot-swappable
- LPC/CPU controller board, hot-swappable

LSM2150, 1:8 Splitter module

- High quality 1:8 L-Band splitter module
- Integrated 1:1 redundant adjustable amplifier with automatic redundancy switching
- Hot-swappable splitter module
- Variable gain-control -10dB to +10dB, 0,5dB steps
- Amplifier current monitoring
- RF power monitoring 60dB dynamic range
- Adjustable threshold with monitoring & alarming
- Monitoring port (0dB) of LSC102/LSC408 chassis
- Permanent status monitoring and alarming locally and remotely via LSC102/LSC408 chassis
- Status LED´s for amplifier health status indication
- Superior quality, stability and RF performance

LCM2150, 8:1 Combiner module

- High quality 8:1 L-Band combiner module
- Integrated 1:1 redundant adjustable amplifier with automatic redundancy switching
- Hot-swappable combiner module
- Variable gain-control -10dB to +10dB, 0,5dB steps
- Amplifier current monitoring
- RF power monitoring 60dB dynamic range all inputs and common output
- Adjustable threshold with monitoring & alarming
- Monitoring port (0dB) of LSC102/LSC408 chassis
- Every combiner input can be switched off/terminated individually
- Permanent status monitoring and alarming locally and remotely via LSC102/LSC408 chassis
- Status LED´s for amplifier health status indication
- Superior quality, stability and RF performance

TECHNICAL SPECIFICATIONS

LSC102/LSC408 Splitter/Combiner Chassis

Dimensions:	1RU/19” rack mount (LSC102) / 4RU/19” rack mount (LSC408)
Splitter/Combiner Slots:	Max. 2 (for 8-way Splitter and/or 8-way combiner), front-side Max. 8 (for 8-way Splitter and/or 8-way combiner), front-side behind front-panel
Power Supply:	85 – 230, 50/60Hz, 1:1 redundant (hot-swappable, rear-side) MTBF: 2002.2K hrs min. Telcordia SR-332 (Bellcore) 207.1K hrs min. MIL-HDBK-217F (25℃)
Power Consumption:	<60W (LSC102) / <100W (LSC408)
Frequency Range:	950 – 2150MHz (L-Band)
Input / Output Connectors:	Each slot 50Ohm BNC(f) or 50Ohm SMA(f) rear-side
Cascading Ports:	Each slot 50Ohm BNC(f) or 50Ohm SMA(f) rear-side
Monitoring Ports 0dB:	Each slot, 2 x (LSC102), 8 x (LSC408) Each slot 50Ohm BNC(f) or 50Ohm SMA(f) rear-side
Local Configuration:	LC-Display-Box (LSC102), 7" Touchscreen LC-Display (LSC408)
Remote Configuration:	Ethernet-Interface (WebGUI, SNMPv2c)
Operating Temperature:	0°C to 45°C
Storage Temperature:	-10°C to 65°C
Humidity:	90%, non-condensing
RoHS:	Compliant

upon request only

LSM2150, 1:8 Splitter Module	
Frequency Range:	950 – 2150MHz (L-Band)
I/O Configuration:	1:8
Input/Output Connectors:	50Ohm slide in connector for internal connection to backplane inputs
Input Loop Through:	Loop through to an extra measurement port, accuracy ±1,5dB max.
Input RF Power:	-70dBm to +10dBm max.
Input Return Loss:	15dB
Output Return Loss:	18dB
Noise Figure:	<9dB (@ all gain settings)
Isolation:	20dB typ.
Frequency Response:	±1.0dB typ. ±1.5dB max.
P1dB:	+5dBm @ all gain settings
IMA3 @ 0dBm Output Level:	< -36dBc, @ all gain settings
SFDR:	< -70dBm
RF Power Monitoring:	60dB, dynamic range -50 to +10dBm, accuracy ±2dB max. (@ input & output)
Input Level Control:	Threshold monitoring/alarming
Integrated 1:1 Amplifier:	1:1 redundant amplifier with current monitoring (150mA, ±50mA)
Amplifier Gain Control:	±10dB, 0.5dB steps
Amplifier Switchover Time:	2ms max.
1:1 Amplifier 1/2 Deviation:	±0.25dB
Status LED´s:	On Board LED status monitoring: Active Amplifier “Green”, standby Amplifier “Blinking Green”, Fail Amplifier “Red”

LCM2150, 8:1 Combiner Module	
Frequency Range:	950 – 2150MHz (L-Band)
I/O Configuration:	8:1, rf-input ports are switchable (on/off)
Input/Output Connectors:	50Ohm slide in connector for internal connection to backplane
Input RF Power:	-70dBm to +10dBm max.
Input Return Loss:	14dB
Output Return Loss:	15dB
Input Control:	Every input can be switched off / terminated individually
Measurement Port:	All inputs & outputs can be switched to an extra measurement port, acc. ±1.5dB
Noise Figure:	<15dB (@ all gain settings)
Isolation:	25dB typ.
Frequency Response:	±1.0dB typ. ±1.5dB max.
P1dB:	+5dBm @ all gain settings
IMA3 @ 0dBm Output Level:	< -43dBc, @ 0dBm output level
SFDR:	< -70dBm
RF Power Monitoring:	60dB, dynamic range -50 to +10dBm, accuracy ±2dB max. (@ input & output)
Input Level Control:	Threshold monitoring/alarming, trip off
Integrated 1:1 Amplifier:	1:1 redundant amplifier with current monitoring (150mA, ±50mA)
Amplifier Gain Control:	±10dB, 0.5dB steps
Amplifier Switchover Time:	2ms max.
1:1 Amplifier 1/2 Deviation:	±0.25dB
Status LED´s:	On Board LED status monitoring: Active Amplifier “Green”, standby Amplifier “Blinking Green”, Fail Amplifier “Red”

ORDER INFORMATION

LSC102/408 Splitter/Combiner Chassis Variants

Type	Type No.:	Short Description
LSC102-50B	9000983	Modular L-Band Splitter/Combiner chassis, 50Ohm BNC(f), 2 slots, 1RU/19” rack mount
LSC102-50S	on request	Modular L-Band Splitter/Combiner chassis, 50Ohm SMA(f), 2 slots, 1RU/19” rack mount*
LSC102-MB	9001010	Management Box with 10,4” Touch Display and RS232 cable for LSC102
LSC408-50B	9000916	Modular L-Band Splitter/Combiner chassis, 50Ohm BNC(f), 8 slots, 4RU/19” rack mount
LSC408-50S	9001014	Modular L-Band Splitter/Combiner chassis, 50Ohm SMA(f), 8 slots, 4RU/19” rack mount*

upon request only

LSM2150-8, 1:8 Splitter Module

Type	Type No.:	Short Description
LSM2150-8	9000920	1:8 L-Band Splitter module, 50Ohm with 1:1 redundant amplifier

LCM2150-8, 8:1 Combiner Module

Type	Type No.:	Short Description
LCM2150-8	9000919	8:1 L-Band Combiner module, 50Ohm with 1:1 redundant amplifier