HALL RESEARCH

USER'S MANUAL

Model HR-101-S

Compact XLR Microphone Amplifier
With Stereo Line Level Mixer, Phantom Power,
Analog and Digital Outputs

Model HR-101

Mic and Line-Level Fiber Optic Audio Extender Kit

UMA1203 Rev n/c

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TRADEMARKS USED IN THIS MANUAL

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FCC RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been designed to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are intended to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

1.0 General

The HR-101 a professional quality Fiber-Optic audio extender kit comprised of two units: a sender (HR-101-S) and a receiver (HR-101-R).

The Sender can be used as a stand-alone XLR microphone pre-amplifier with stereo line level mixer, phantom power, and both analog and digital (SPDIF) outputs. The Sender also provides a single ST fiber-optic connector that can extend the audio to a compatible receiver upto 3,280 ft (1,000 meters) away.

2.0 Features

- Professional grade low-noise microphone preamplifier
- Adjustable gain for Mic input
- Switchable Phantom power for Mic input
- Stereo line-level audio input (mixes with microphone signal)
- Local stereo analog and SPDIF digital audio outputs
- Front panel VU meter to indicate volume level
- Extends Audio on just one multimode fiber optic cable to 3,280 ft
- Compact, Rugged, Reliable, and Economical
- Made in USA

3.0 HR-101-S Description

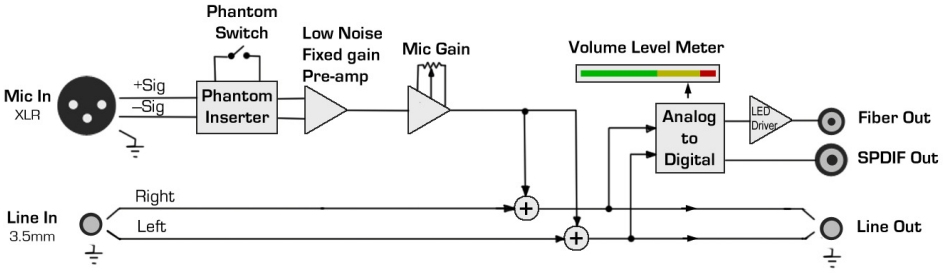
The HR-101-S is a compact and professional grade microphone amplifier with stereo line-level mix that can be used as a stand-alone device, or paired with the HR-101-R to extend audio over long distances on fiber optic cables. The HR-101-S provides a balanced mic input on an XLR connector as well as a stereo line level input on 3.5mm mini-stereo jack.

The unit has an adjustable-gain low noise mic preamp with a gain range of +34 to +54 db (or x50 to x500) and provides indication of volume level on digital VU meter on its front panel (to prevent saturation and clipping due to too much gain). The unit accommodates a wide range of microphone types. Phantom power can be inserted by means of a front panel switch

The stereo line input is on a standard 3.5mm (1/8 inch) connector which gets mixed with the amplified microphone signal.

In a typical application a presenter can hookup the audio from their PC to the line input and plug the mic to the XLR. The unit will mix the speakers voice with the PC audio.

The HR-101-S has both stereo analog (on 3.5mm) and SPDIF digital (on RCA) outputs as well as a fiber-optic ST connector for driving long cables to 3,280 ft. to compatible receiver.



HR-101-S Functional Block Diagram

HR-101-S Front and Rear views

The HR-101 can extend an audio over a single multi-mode fiber optic cable spanning distances of over 1000m (3280ft). For lengths of upto 500

meters OM2 or OM3 cables are recommended, and for distances of over 500 meters OM3 cable is recommended.

Hall Research can provide pre-terminated fiber optic cables at various lengths up to 1,000 meters at competitive prices as shown below.

OM2 Cables: CST-OM2-length (length = 100, 300, or 500 meters)
OM3 Cables: CST-OM3-length (length = 700, 900, or 1,000 meters)

4.0 HR-101-R Description

The Model HR-101-R Receiver has an ST fiber optic input connector to receive audio from the sender. It provides a stereo line level output on 3.5mm mini-stereo jack and a SPDIF digital audio output on a RCA connector.

5.0 Troubleshooting

Make sure that all of the connections to the units are solid, and check the state of the PWR LED's on the front. Do not open or try to repair the unit yourself. There is no customer repairable item in the device and you will void your warranty.

Contact HR Support at 714-641-6607 or via email or web. If you need to ship your unit for repair, make sure to get a Return Material Authorization (RMA) number first.

When returning a unit for repair, make sure to include a detailed description of the setup and failure.

6.0 Specifications

Audio Inputs	1x 3.5mm analog line level stereo, 1x XLR microphone
Audio Outputs	1x 3.5mm stereo analog , 1x RCA SPDIF Digital
Mic In Impedance	6.8 KΩ
Mic Phantom Power	15vDC (note that most mics rated for 48v accept range of 12~48 vDC, with some 9~52 vDC)
Mic Amplifier Noise	1.3nV/√Hz RFI at 1KHz
Mic CMR	100 dB min
Audio Bandwidth	3 Hz to 30 KHz
Optical Wavelength	840 nm GaAIAs LED
Optical Cable	Simplex (only 1 fiber) Multi-Mode. OM2 or OM3
Temperature	Operating: 32 to 122°F (0 to 50°C); Storage: –40 to +185°F (–40 to +85°C)
Enclosure	Aluminum and Steel
MTBF	90,000 hours (calculated estimate)
Power	5V DC, 2.6A (actual consumption less than 0.25A)
Size	Sender: 1.64’’H x 4.18’’W x 5.08’’D (4.2x10.6x12.9 cm) Receiver: 1.26’’H x 2.75’’W x 3.77’’D (3.2x7.0x9.6 cm)
Weight	Sender: 0.65 pounds (0.295 kg) Receiver: 0.34 pounds (0.153 kg)

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