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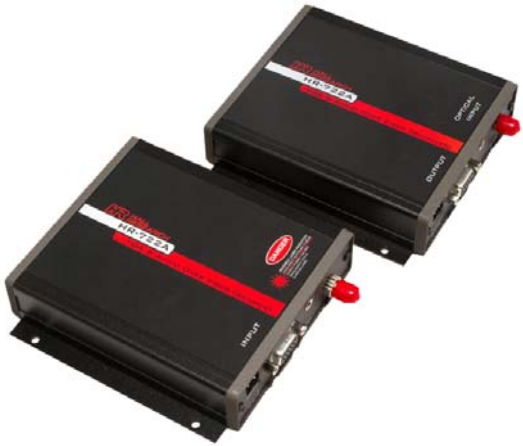
Operation Instructions

Model HR-722A

- 1 Transmitter Unit with Power supply
- 1 Receiver Unit with Power supply



PC Video & Audio Transmission System
Over
Single Fiber Optic Cable

UMA1047 Rev. C

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Description

The HR-722A Fiber Optic Communication System allows direct connection of VGA computers for signal transmission over Fiber Optic cable spanning distances to 2500 ft (0.75 kilometers) on **multi-mode** or 35 kilometers on **single-mode** fiber (approximate based on loss budget). The HR-722A features excellent picture quality with bright and sharp images. Gone are the usual signal degradation and smearing of coax or twisted pair video transmission at extended lengths. Signal integrity is also maintained through fiber optic cables' immunity to electrical interference and cross talk. The lightweight and small diameter fiber reduces installation time, particularly since only 1 fiber is needed. Fiber optic cable also has certain intrinsic benefits for installation success including resistance to electromagnetic interference (EMI), lightning, and the elimination of ground loops through electrical isolation.

The HR-722A Series includes the HR-722A-T Transmitter and HR-722A-R Receiver, both with a 15 pin HD female connector and 3.5 mm Stereo Audio jack. Power supplies are also included in the package for the transmitter and the receiver.

The system is generally used with standard Multimode Fiber (62.5/125 um or 50/125 um) with common ST- connector type. System integration allows all other Hall Research Technologies, Inc. VGA compatible products to be used in conjunction with the Fiber Optic system including Distribution Amplifiers, Switches, and VGA Breakout Cables.

Features

1. Transmits VGA, SVGA, XGA and WXGA (640 x 480 up to 1366 x 768)
2. Supports HDTV resolutions of 480p, 720p and 1080i (RGBHV format only)
3. Uses all digital processing and transmission for crystal clear signals and no color pixel skewing
4. Requires no adjustments, equalization or de-skewing during installation
5. Transmits signals over one single mode or multimode fiber optic core at 1310 nm
6. Virtually no audio/video skew
7. Ideal for digital signage, broadcast or corporate studios, auditoriums, stadiums and theaters, airport or transportation hubs, distance learning, or medical imaging
8. Small, lightweight, low power
9. Use of Existing Fiber Lines
10. Elimination of Ground Loops
11. Secure Transmission for Tactical and Military Installations
12. Immunity to Electromagnetic Interference

How to setup the HR-722A

Notes:

- All units transmit at 1310 nm wavelength over single mode or multimode fiber. ST connectors are provided.
- Loss Budget and Maximum Transmission Distance:

Wavelength	Loss Budget (in dB)	Distance* (in km)
1310 MM	0-15	0.75
1310 SM	0-15	35

** Distance specifications are only approximate and are not guaranteed. Operating loss budget must not be exceeded*

The HR-722 System is ready for immediate use. There are LED indicators on the units for monitoring purposes. The following instructions describe the typical installation procedure and the function of the LED indicators.

1. Connect the video source to the video input HD-15F connector on the transmitter unit.
2. Connect the video output on the receiver unit to the HD-15F connector
3. Connect the fiber optic cable between the two units
4. Connect the audio input signals to the transmitter stereo jack and the audio output to the receiver stereo jack.
5. Apply power to both units. Refer to Figure 1.
6. When power is applied, the green POWER LED will light, indicating the presence of operating power.
7. The system should now be operational.

Status of LED Indicators

TRANSMITTER:

Video: OFF: Indicates no video detected on the input.
BLINKING GREEN: Indicates either H or V sync detected at the input but not both.
STEADY GREEN: Indicates both H and V sync detected on the input.

Audio: OFF: Indicates no audio detected on the transmitter unit.
BLINKING: Indicates audio detected on the transmitter unit.

RECEIVER:

Video: OFF: Indicates no video detected over fiber and, as a result, no video present on the output.
BLINKING GREEN: Indicates either H or V sync detected over the fiber but not both.
STEADY GREEN: Indicates both H and V sync detected over fiber and, as a result, video present on the output.

Audio: OFF: Indicates no audio detected over fiber and, as a result, no active audio detected by the receiver unit.
BLINKING: Indicates audio detected over fiber and, as a result, active audio detected by the receiver unit.

SPECIFICATIONS

Video Specifications:	
Number of Video Channels	1 RGBHV
RGB Processing	24 bits, no compression or scaling
Input Impedance.....	RGB: 75 Ohms; H & V: Hi-Z
Input Level.....	RGB: 714 mV p-p; H & V: 3 to 5 V p-p
H Sync Frequency Range	15 to 60 kHz
V Sync Frequency Range	30 to 85 Hz
RGB Format Supported	RGB with separate H and V
Audio Specifications:	
Number of Audio Channels.....	2, unbalanced
Frequency Response.....	+0/-0.5 dB, 20 Hz - 20 kHz
Bits-per-Sample/Sampling Rate	24 bits; 54 kHz
Maximum Audio Level.....	+10 dBu
SNR (A-Weighted).....	95 dB
Input Impedance.....	>24 k Ohms
Output Impedance	< 1 Ohm
Audio to Video Diff. Delay (skew)	<300 uSec
General Specifications:	
Power Requirements.....	9-24 v DC or AC, 5 watts (Universal power supply is included)
Operating Temperature Range	-20 to +60 degrees C
Optical Connectors.....	ST
Operating Wavelength	1310 nm
Physical Size	5 W x 1.15 H x 5.25 L (inches)
Weight	approx. 10 oz.; 0.284 kg

Federal Communications Commission Statement

This equipment generates; uses and radiates radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. This equipment has been tested and found to comply with the limits for a Class A computing device, pursuant to Part 15 of the FCC rules. Harmful interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures are necessary to correct the interference.

If necessary, you should consult the place of purchase or and experienced radio/television technician for additional suggestions.

Warranty

Hall Research warrants that the supplied equipment is free from defective workmanship and material. Subject to the agreements set forth, will repair or replace, at its option, the defective components for a period of 2 years after purchase. The following conditions apply to the Warranty:

Warranty void if item subject to improper use, negligence, or unauthorized modification

Instructions must be followed in obtaining RMA number as explained below

Any defective part should be returned, insured and freight prepaid, to Hall Research, with the following:

- Return Material Authorization Number (RMA#)
- Description of failure, as detailed as possible
- Shipping address and contact name and phone number

Limited Liability

IN NO EVENT SHALL THE DIRECT VENDOR'S LIABILITY EXCEED THE PRICE PAID FOR THE PRODUCT FROM DIRECT, INDIRECT, SPECIAL INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT OR ITS DOCUMENTATION

HALL RESEARCH

Made in the USA

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