



Models 7222, 7224 and 7226

USER'S MANUAL



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GENERAL INFORMATION

Introduction

The Pure Digital Fiberlink® 7222, 7224 and 7226 transmitter units provide 4, 8 and 12 optical outputs respectively of RGBHV video with stereo audio. Each output transmits over one single mode or multimode fiber at 1310 nm wavelength. The units are designed to provide point-to-multipoint signal distribution and are compatible with all receiver units within the 7220 Series.

The units' all digital encoding delivers noise-free transmissions that retain all of their initial parameters, regardless of fiber optic cable attenuation. System operation may be easily monitored using integral indicator LEDs on each unit that continuously signify the presence of baseband video and audio signals.

Technical Specifications

Model Part Number Configurations:

Unit Type	Part Number
Four output transmitter	7222-7S-PP*
Eight output transmitter	7224-7S-PP*
Twelve output transmitter	7226-7S-PP*

All units transmit at 1310 nm wavelength over single mode or multimode fiber. ST connectors are provided.

*PP Values (line cord): NA = N. America, AU = Australia, EU = Europe, JP = Japan, UK = United Kingdom

Video:

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
Number of Video Channels 1 RGBHV
RGB Format Supported RGB with separate H and V

Signal Connectors	HD-15F
RGB Processing	24 bits, no compression or scaling
Audio:	
Number of Audio Channels	2, unbalanced
Frequency Response	+0/-0.5 dB, 20 Hz to 20 kHz
Input Impedance	>24 k Ohms
Output Impedance	<1 Ohm
Maximum Audio Level	+10 dBu
THD+N	0.005%; 20 Hz - 20 kHz
SNR (A-Weighted)	95 dB
Channel Phase Differential	+/-0.1°
Crosstalk	Min. 95 dB (1 kHz)
Signal Connectors	3.5mm Stereo jack
Audio to Video Diff. Delay (skew)	<300 uS

Optical:

Operating Wavelength	1310 nm; MM or SM
Optical Fiber	62.5/125 microns MM, 50/125 microns MM or 8-10/125 microns SM
Optical Connector	ST

Class I Laser Product complies with FDA performance standard for laser products, Title 21, Code of Federal Regulations, Sub-Chapter J

Miscellaneous:

Operating Temp. Range	-20 to +50 degrees C
Operating Power	95-250 volts AC, 47-63 Hz, 9 watts

Loss Budget and Maximum Transmission Distance:

Wavelength	Loss Budget (in dB)	Distance* (in km)
1310 MM	0-15	0-0.75
1310 SM	0-15	0-30

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

DANGER! The transmitting element in the Pure Digital Fiberlink 7222, 7224 and 7226 transmitter units contain solid state Laser Diodes located within the optical connectors. These lasers emit invisible infrared electromagnetic radiation which can be harmful to human eyes. The radiation from these optical connectors, if viewed at close range without a fiber optic cable connected to the optical connector, may be of sufficient intensity to cause instantaneous damage to the retina of the eye. Direct viewing of this radiation should be avoided at all times.

INSTALLATION INSTRUCTIONS

Installation Procedure:

The Pure Digital Fiberlink® 7222, 7224 and 7226 units are ready for immediate use. Each model features indicator LEDs 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 RGBHV connector on the transmitter unit.
2. Connect the audio input signals to the transmitter AUDIO jack.
3. Optionally, connect the LOOP THROUGH RGBHV output to a computer monitor or other destination.
4. Optionally, connect the LOOP THROUGH AUDIO output to speakers or other destination.

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5. Connect fiber optic cable(s) between each optical output that will be used and a corresponding Pure Digital Fiberlink 7220 Series receiver unit. BE SURE TO LEAVE PROTECTIVE CAPS ON ANY OUTPUTS THAT WILL NOT BE USED.
 6. Turn unit on, causing the green POWER LED to light.
 7. The VIDEO and AUDIO LEDs will give an indication as described on the following page.
 8. The system should now be operational.

System Connections:

The input and output connections for the Pure Digital Fiberlink® 7222, 7224 and 7226 models are as follows:

Audio Connector INPUT and LOOP-THRU: 3.5mm stereo jack

Video Connector INPUT and LOOP-THRU: HD-15F connector

Video Pin Out:	Input	Loop-Through
1	Red In	Red Out
2	Green In	Green Out
3	Blue In	Blue Out
4	N/C	N/C
5	Ground	Ground
6	Ground	Ground
7	Ground	Ground
8	Ground	Ground
9	N/C	N/C
10	Ground	Ground
11	N/C	N/C
12	N/C	N/C
13	Hor. Sync. In	Hor. Sync Out
14	Vert. Sync In	Vert. Sync Out
15	N/C	N/C

Indicator LEDs:

The Pure Digital Fiberlink® 7222, 7224 and 7226 transmitters each have three integral indicator LEDs that are used to monitor the state of the unit.

The status of the LEDs are as follows:

Power: ON: (GREEN) Indicates that correct power has been applied.

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.

OPERATING POINTERS AND TROUBLESHOOTING

Optical Fiber:

The 7222, 7224 and 7226 transmitters operate with most multimode (MM) and single mode (SM) optical fibers. All models within the 7220 Series use the same 1310 nm wavelength and optics for transmitting over multimode or single mode fiber, but be aware that the type of fiber you use will affect the system's loss budget and the maximum transmission distance that it can support.

Troubleshooting:

Multimode fiber optic cable contains an optical fiber with a light carrying "core" that is only .0025 inches (62.5 microns) in diameter. Single mode fiber optic cable has an even smaller "core," only .00032 to .0004 inches (8-10 microns). This is smaller than a human hair!

Therefore, any minute particles of dirt or dust can easily block the fiber from accepting or radiating light. To prevent this from happening, always use the provided dust caps whenever optical connectors are exposed to air. It is also a good idea to gently clean the tip of an optical connector with a lint-free cloth moistened with alcohol whenever dust is suspected.

The status of the VIDEO and AUDIO indicator LEDs should provide the first clue as to the origin of an operational failure. If these are off, it usually means that the fiber is broken or has too much attenuation. Next, be certain that the input and output signal connections are correct.

If, after reviewing the above possibilities, the system is still not operating, please contact the Customer Service Department for further assistance.

MAINTENANCE AND REPAIRS

The Pure Digital Fiberlink® 7222, 7224 and 7226 transmitters have been manufactured using the latest semiconductor devices and techniques that electronic technology has to offer. They have been designed for long, reliable and trouble-free service and are not normally field repairable. Should difficulty be encountered, Communications Specialties maintains a complete service facility to render accurate, timely and reliable service of all products.

The only maintenance that can be provided by the user is to ascertain that the optical connectors are free of dust or dirt that could interfere with light transmission and that electrical connections are secure and accurate. **DANGER!** *Always turn off the transmitter's power before removing the optical fiber from the unit!*

All other questions or comments should be directed to our Customer Service Department. It should be noted that many "problems" can easily be solved by a simple phone call.

LIMITED WARRANTY

Communications Specialties, Inc. (CSI) warrants that for a period of three years after purchase by the Buyer, the Pure Digital Fiberlink® 7222, 7224 and 7226 transmitters will be free from defects in material and workmanship under normal use and service. A Return Material Authorization (RMA) number must be obtained from CSI before any equipment is returned by the Buyer. CSI's obligation under this warranty will be limited, at its option, to either the repair or replacement of defective units, including free materials and labor. In no event shall CSI be responsible for any incidental or consequential damages or loss of profits or goodwill. CSI shall not be obligated to replace or repair equipment that has been damaged by fire, war, acts of God, or similar causes, or equipment that has been serviced by unauthorized personnel, altered, improperly installed or abused.

RMA numbers and repairs can be obtained from:

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Please have your serial number (located on the top label of the unit) available with contacting us.