PURE DIGITAL
FIBERLINK®

RGBHV Video with Stereo Audio
(Supporting WUXGA)

Models 7250 & 7251

USER'S MANUAL

WORLD HEADQUARTERS
55 Cabot Court
Hauppauge, N.Y. 11788 USA
Tel: (631) 273-0404 Fax: (631) 273-1638
www.commspecial.com
Email: info@commspecial.com

Communications Specialties Pte Ltd
100 Beach Road
#22-09 Shaw Tower
Singapore 189702
Tel: +65 6391 8790 Fax: +65 6396 0138
Email: csiasia@commspecial.com

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GENERAL INFORMATION

Introduction

The Pure Digital Fiberlink® 7250 Series is a transmitter/receiver pair that transmits a single channel of RGBHV video (up to WUXGA) and two audio channels over two single mode or multimode fibers. It is available as a free-standing box unit or as a card version for use in the rackmountable 6000A card cage.

The system's 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 Configuration:

Unit Type	Part Number
Transmitter Box	7250-B7S
Transmitter Rack Card	7250-C7S
Receiver Box	7251-B7S
Receiver Rack Card	7251-C7S

All units operate at 1310 nm wavelength using single mode or multimode fibers. ST connectors are provided.

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 75 kHz

V Sync Frequency Range ..... 30 to 85 Hz

Number of Video Channels ..... 1 RGBHV

RGB Format Supported ..... RGB with separate H and V

External 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)

External Signal Connectors ..... 3.5mm Stereo jack

Audio to Video Differential
Delay (skew) ..... <300 uS

Optical:

Operating Wavelength ..... 1310 nm; MM or SM

Optical Fibers ..... 62.5/125 microns MM,
50/125 microns MM or
8-10/125 microns SM

Optical Connector ..... ST

Allowable Diff. Fiber Length .. 20 meters

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°C to +60°C

Operating Power ..... 9-24 Volts AC or DC@10 watts (max.)

Loss Budget and Maximum Transmission Distance:

Wavelength	Loss Budget (in dB)	Distance* (in km)
1310 MM	0-15	0.75
1310 SM	0-15	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 7250 transmitter unit contains a solid state Laser Diode located within the optical connector. This device emits invisible infrared electromagnetic radiation which can be harmful to human eyes. The radiation from this optical connector, 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® 7250 Series transmission system is ready for immediate use. There are indicator LEDs 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 cables between the two Pure Digital Fiberlink units. Each fiber may be connected to either Optical 1 or Optical 2 on the receiver, regardless of which output (1 or 2) each one is connected to on the transmitter. The system will still operate properly if the fibers are cross-connected. However, please note that any difference in length between the two fibers must not exceed 20 meters.

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 Pure Digital Fiberlink units. For box versions using DC power connections, refer to Figure 1.
6. When power is applied, the green POWER LED will light, indicating the presence of operating power. The VIDEO LED will give an indication as described on page 7.

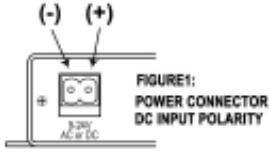

FIGURE1:
POWER CONNECTOR
DC INPUT POLARITY

7. The green AUDIO LED will give an indication as stated on page 7.
8. The system should now be operational.

Note that the rack card version has an additional red LED for indicating the presence of an alarm condition (loss of signal). Refer to the table on the following page for alarm enables.

System Connections:

The input and output connections for the Pure Digital Fiberlink 7250 Series system are as follows:

Audio Connector (Transmitter & Receiver): 3.5mm stereo jack

Video Connector (Transmitter & Receiver): HD-15F connector

Video Pin Out:	Transmitter	Receiver
1	Red	Red
2	Green	Green
3	Blue	Blue
4	N/C	N/C
5	Ground	Ground
6	Ground	Ground
7	Ground	Ground

Video Pin Out:	Transmitter	Receiver
8	Ground	Ground
9	N/C	N/C
10	Ground	Ground
11	N/C	N/C
12	N/C	N/C
13	Hor. Sync. Out	Hor. Sync. Out
14	Vert. Sync Out	Vert. Sync Out
15	N/C	N/C

Alarm Switch Settings (Transmitter; Card Version Only):

Switch Position	Alarm Indication	On	Off
1	Loss of Video	Enabled	Disabled
2	N/A	N/A	N/A

Alarm Switch Settings (Receiver; Card Version Only):

Switch Position	Alarm Indication	On	Off
1	Loss of Signal	Enabled	Disabled
2	Loss of Video	Enabled	Disabled

Note: "Loss of Video" refers to either loss of horizontal or vertical sync. "Loss of Signal" refers to the absence of an optical signal.

Indicator LEDs and Alarm Circuitry:

The stand-alone box versions of the Pure Digital Fiberlink 7250 and 7251 units have three integral indicator LEDs that are used to monitor the state of the units.

The rack card versions of these products have an additional red indicator LED that lights when an alarm condition exists. The rack card unit also provides an output to drive a model 6020 Alarm Sensing

Module which provides an audible tone and activates a set of contacts for external signaling purposes.

The status of the LEDs are as follows:

TRANSMITTER and RECEIVER:

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

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 GREEN: Audio detected on the transmitter unit.

Alarm: ON (RED): Loss of video (rack card only)

RECEIVER:

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

Alarm: ON (RED): Loss of video or optical signal (rack card only).

OPERATING POINTERS AND TROUBLESHOOTING

Optical Fiber:

The 7250 Series operates with most multimode (MM) and single mode (SM) optical fibers. However, 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® 7250 Series transmission system has been manufactured using the latest semiconductor devices and techniques that electronic technology has to offer. It has 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 either the transmitter or receiver 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® 7250 Series transmitter and receiver units 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:

Communications Specialties, Inc.
55 Cabot Court
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www.commspecial.com
Email: info@commspecial.com

In the Asia Pacific Region:

Communications Specialties Pte Ltd
100 Beach Road, #22-09 Shaw Tower
Singapore 189702
Tel: +65 6391 8790 Fax: +65 6396 0138
Email: csiasia@commspecial.com

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