



PURE DIGITAL
FIBERLINK®

**RGBHV Video with Stereo Audio
Receiver Card for Pioneer PDPs
(with optical loop-through)**

Receiver Model 7235

USER'S MANUAL



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GENERAL INFORMATION

Introduction

The Pure Digital Fiberlink® 7235 plug-in receiver card for RGBHV video with stereo audio fits within the video expansion slot located on fourth-generation Pioneer Display Panels* (PDPs), allowing the PDP to directly receive signals over one fiber from any Pure Digital Fiberlink 7220 Series transmitter, repeater or 8000/8100 Series O.D.A. It operates at 1310 nm wavelength and works with either single mode or multimode fiber. An external baseband output allows connection to an additional PDP or distribution amplifier. An active optical loop-through provides the ability to support drop-and-repeat system configurations.

The 7235 plug-in card employs all digital processing, thereby providing a noise-free signal that maintains all of its initial parameters, regardless of fiber optic cable attenuation. It also guarantees consistent video and audio quality across multiple, daisy-chained displays.

* Compatible PDP models (as of Sept. 2005) include:

PDP-504CMX, PDP-43MXE1, PDP-50MXE1, PDP-434CMX, PDP-504CMX-S, PDP-43MXE1-S, PDP-50MX1-S. Other models may be added by Pioneer.

Technical Specifications

Model Part Number Configuration:

Receiver Type	Part Number
1 internal display output; 1 external output and 1 optical loop-through output	7235-P7S

Unit operates at 1310 nm wavelength with single mode or multimode fiber. 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 60 kHz

V Sync Frequency Range 30 to 85 Hz

Video Channels Supported 1 RGBHV

Number of Baseband
RGBHV Video Outputs 1 internal PDP, 1 external
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 Supported 2, unbalanced
Number of Baseband
Stereo Audio Outputs 1 internal PDP; 1 external
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 2 position RCA jack
Audio to Video Differential
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:

Viewable PDP input..... Select “Input 3” from PDP menu

Operating Temp. Range -20 to +40 degrees C

Operating Power Internally powered by PDP

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 7235 receiver card contains a solid state Laser Diode located within the optical loop-through output connector. The laser 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

The following instructions explain how to:

1. Install the Pure Digital Fiberlink® 7235 plug-in card into the expansion slot within a Pioneer PDP
2. Make fiber connections between the 7235 card and a 7220 Series transmitter
3. Operate the system.

Before proceeding, please make sure that the Pioneer PDP is turned off, the power cable is disconnected and that no devices are connected to the PDP.

Also, please take a moment to read the following precautions regarding handling of the card, the PDP and the installation process.

1. Before installing the 7235 card, use a wiping cloth with rubbing alcohol to remove any possible dust on the PCI connector. Using a dry towel may cause a malfunction due to static electricity.
2. During installation, it is likely that you will place the PDP in the prone position (PDP glass on bottom side). To protect the glass from any damage, lay a mat or cloth in the area where you plan to work. Make sure it is free of any debris that might cause scratches. Also, be sure that the working area can support the weight of the entire front case of the PDP.
3. Do not modify a 7235 receiver card. It may cause a malfunction or breakdown.
4. Do not modify or damage the inner side structure of the PDP.
5. When installing a 7235 receiver card, be extremely cautious of static electricity and the damage that it may incur. Do not touch any components on the receiver card!

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6. This product is not manufactured for repeated insertion and extraction. Please be especially careful when inserting or extracting the product from the PDP.

Inserting the Card:

1. Remove and save the screws at both ends of the slot cover, located on the bottom of the Pioneer PDP. Remove the slot cover.
2. Align the board of the 7235 card with the rails on both sides of the PDP slot.
3. Carefully and gently slide the 7235 card into the PDP, making sure to keep the card straight. If the card is inserted at an angle or with too much force, you may damage the card or the PDP.
4. After the card is fully and firmly inserted, use the screws that were removed in step 1 to secure the 7235 card.

Connecting the System:

1. If using the external outputs on the 7235 card, connect the RGBHV and Audio outputs to an additional display and amplified speakers or to other devices.
2. Make sure the RGBHV and Audio inputs are connected to the 7220 Series transmitter unit.
3. Connect fiber optic cable from the optical output of the 7220 Series transmitter to the optical input of the 7235 receiver card.
4. If using the drop-and-repeat function, connect fiber optic cable from the optical output on the 7235 card to the optical input on any 7220 Series receiver. If connecting to another 7235 card or a 7225 or 7227 receiver, repeat this step as many times as necessary. If the optical output on the 7235 card will not be used, be sure to leave the protective cap in place.
5. Apply power to the 7220 Series transmitter, the PDP and all daisy-chained devices.

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6. When power is applied, the green POWER LED on the 7235 card will light, indicating the presence of operating power.
 7. The VIDEO, AUDIO and TX LEDs will give an indication as described on page 9.
 8. Using the PDP's operational control menu, switch the input to #3. The system is operational if you see the video and hear the audio from the 7235 receiver card.

System Connections:

The external output connections for the Pure Digital Fiberlink® 7235 model are as follows:

Audio Connector OUTPUT: 2 position RCA jack

Video Connector OUTPUT: HD-15F connector

<u>Video Pin Out:</u>	<u>RGBHV</u>
1	Red Out
2	Green Out
3	Blue Out
4	N/C
5	Ground
6	Ground
7	Ground
8	Ground
9	N/C
10	Ground
11	N/C
12	N/C
13	Hor. Sync. Out
14	Vert. Sync Out
15	N/C

Indicator LEDs:

The Pure Digital Fiberlink® 7235 receiver has four 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 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 the fiber and, as a result, active video detected by the receiver unit.

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.

Tx: OFF: Indicates no optical loop-through output is present.

ON: Indicates optical loop-through output is present.

OPERATING POINTERS AND TROUBLESHOOTING

Optical Fiber:

The 7235 receiver card operates 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® 7235 receiver card 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 the 7235 receiver card.*

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® 7235 receiver 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
Hauppauge, NY 11788 USA
Tel: (631) 273-0404 Fax: (631) 273-1638
www.commspecial.com Email: info@commspecial.com**

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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.