4800/4802 Series

Fiber Optic
DVI Extension System

BROADATA COMMUNICATIONS, INC.

SAFETY INSTRUCTIONS AND COMPLIANCE DECLARATIONS

PLEASE OBSERVE THE FOLLOWING SAFETY PRECAUTIONS AS OUR PRODUCTS CONTAIN

CLASS I LASER PRODUCTS

WARNING

Do not disconnect the fiber optic connector while the unit is powered up. Exposure to laser radiation is possible when the laser fiber optic connector is disconnected while the unit is powered up.

Although the fiber optic connectors in this product emit only Class 1 energy that is below the levels considered to be hazardous, one should never stare directly into a fiber optic connector or an unconnected fiber end unless one can be certain that no exposure to laser energy could occur.

CAUTION

This manual is intended for use by trained service personnel. The use of controls, making adjustments, or performing operations other than those specified may result in hazardous radiation exposure.

The following label or equivalent is located on the surface of laser products. This label indicates that the product is classified as a CLASS 1 LASER PRODUCT.

SURGE PROTECTION DEVICE RECOMMENDED

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

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1.0 PRODUCT DESCRIPTION

The 4800/4802 Series is a high performance, yet affordable, Fiber Optic DVI Extension System that is designed to carry one (1) DVI channel, over long distances through four (4) multimode fibers (for 4800 Series) or through two (2) multimode fibers (for 4802 Series).

No user adjustments are required in the 4800/4802 system due to the use of advanced digital fiber optic transmission technology. This allows for a quick and easy setup, offering trouble-free operation for many years to come. The 4800/4802 system transmits R, G, B, clock signals separately through four individual fibers and can support video resolution up to WUXGA (1920 x 1200) at 60Hz.

The EDID (Extended Display Identification Data) in a display can be read and restored by just plugging in the transmitter once into the display. This self EDID programming feature makes the installation of the 4800/4802 more easy and flexible than any other variable resolution display system. For your convenience, the WUXGA EDID is set at the factory as the default.

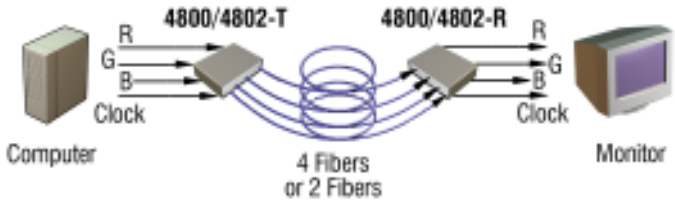

Figure 1-1
4800/4802 Setup

2.0 SETUP

2.1 Hardware Requirements

1. Graphics controller card or main board with a DVI port in your PC, SUN, or Mac system. It should support the maximum graphic resolution feature of the display to be connected.
2. No special memory size, CPU speed and chipsets is required.
3. Proper initial bring-up of the entire platform with its OS and application using a short length cooper cable is recommended prior to bring-up with the optical link.

2.2 Software Requirements

No special needs, if the DVI graphics controller and display peripheral are operational with the platform's OS and application.

2.3 AC/DC Power Adapter Technical Advisory

The transmitter (TX) module of the 4800/4802 is designed with a power protection circuit to prevent power conflict between the external DC power adapter and your graphics card through the DVI pin. An AC/DC power adapter may be required, depending on power supply capability of the graphics card +5V pin.

The receiver (RX) module should be supplied by an AC/DC power adapter.

In general, most notebook PCs require using an AC/DC power adaptor for the TX module.

3.0 INSTALLATION

Important: Please use the installation procedure below. Improper, or no operation may result if the start-up sequence is not correctly followed.

1. Plug the 5V power adapter into the power jack of the transmitter, and connect the adapter to the main electricity. Then ensure that the blue LED light is ON.
2. **For Auto EDID programming:**
   a. **Push the Audio EDID button with a narrow pin.** After the Blue LED blinks twice, it will be turned off.
   b. **Connect the power transmitter to display while turned on, not to the PC.** The blinking LED indicates reading the EDID. The LED will turn OFF after blinking, indicating that the programming is done.
   c. Disconnect the transmitter from the display. The EDID is now stored.

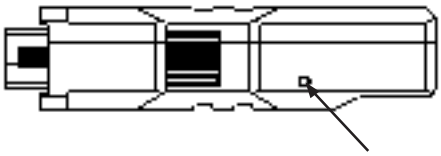

Figure 3-1
Auto EDID button.

Note: If you want to change the display, please do Step 2 again. **The default EDID in factory is programmed in the VESA standard of UXGA 60Hz**.

3. Plug the transmitter module directly into the DVI receptacle of the PC and confirm if the blue LED is ON. Or, connect the 5V power adapter into the power jack of the transmitter.

Note: It is recommended NOT to use any intermediate cable or adapter between units to avoid undesirable performance degradation.

Note: If you use a laptop or Desktop PC with the PCI Express graphics card, we recommend using a 5V power adapter for the transmitter.

4. Connect another 5V power adapter to the receiver. The blue LED should be on.
5. Plug the receiver into the DVI receptacle of the display.

   Note: It is recommended NOT to use any intermediate cable or adapter between the units to avoid undesirable performance degradation.
6. Connect each LC multimode fiber one by one as shown in Figure 3-2.

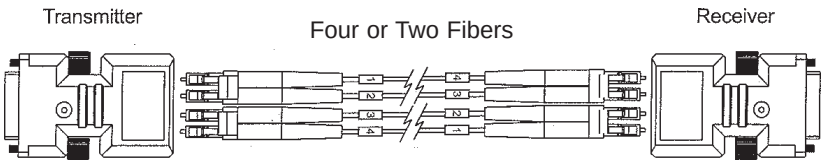

Figure 3-2
Connection of optical fiber.

7. Power on the PC and display.
8. Go to Display Properties in Windows systems and click the Settings tab. Then select the right display resolution to match your display. Once you set the right resolution, you can display the initial screen at the same resolution as it was just before you powered it on.

   Note: If you cannot see the initial screen of the OS system and have skipped Step 1 and Step 2, you have to follow Step 1 and Step 2 instructions.
9. See processing to adjust the system screen.

4.0 MAINTENANCE AND TROUBLESHOOTING

4.1 Maintenance

No special maintenance is required for the optical DVI cables and power supplies. Ensure that the cables and power modules are stored or used in a benign environment free from liquid or dirt contamination.

4.2 Troubleshooting

The display displays only black screen.

a. Ensure that all plugs and jacks used by external power supplies (both BCI and others) are firmly connected. Ensure that the blue LED is lit.

b. Ensure the EDID Self-programming is performed according to the installation guide, Step 2.

c. Ensure that the DVI ports are firmly plugged into the PC and displayed.

d. Ensure that the transmitter and receiver modules plug correctly to the PC and display, respectively.

e. Check if the PC and display are powered on and properly booted.

f. Reset the system by un-plugging and re-plugging the transmitter DVI port or receiver DVI port, or by un-plugging and re-plugging the power cord plugs of the transmitter and receiver modules.

g. Re-boot up the system while connecting the optical DVI extension module.

Screen is distorted or displays noises.

a. Check if the graphic resolution is properly set. Go to the Display Properties of Windows and click the Settings tab.

b. Ensure that the resolution setting is less than WUXGA (1920 x 1200) at 60Hz refresh ratio.

c. Reset the system. Disconnect and reconnect the optical DVI cables or 5V power adapters.

5.0 SPECIFICATIONS

Electrical

Signal Format	DVI
Graphic Resolution	Up to 1920 x 1200, 60 Hz
Distance	500 m
DDC Protocol	Self-EDID programming feature
Data Rate	up to 1.65 Gbps (per link)
Connector	DVI 24-pin plug

Physical

Dimension (H x W x D)	
Standalone (4800 Series) Standalone (4802 Series)	0.59" x 1.54'' x 2.33" 0.59" x 1.54" x 2.33"
Card-cage plug-in card	5.24'' x 0.94'' x 11.6''
Power Level	+5VDC @ 0.32A (4800 Series) +5VDC @ 0.6A (4802 Series)
Operating Temperature	0 to +50°C
Humidity	0 to 95% RH, non-condensing

Optical

Fiber Type	Multimode (4800) Singlemode and Multimode (4802)
Number of Fibers	4 (4800 Series) or 2 (4802 Series)
Fiber Optic Connector	LC (4800 Series) LC (4802 Series)
Recommended Fiber	50/125um Multimode Glass Fiber, 400 MHz Km (min)

6.0 SERVICE PROCEDURE

6.1 Replacement Policy

Standard products found defective on arrival (DOA) will be replaced, based on availability, within 24 to 48 hours anywhere in the U.S. Please call Customer Service at **800-214-0222** for information.

6.2 Return/Repair Service

The BCI 4800/4802 System contains no user serviceable components. If you have a problem with your unit, please contact the Customer Service Department. To facilitate our return/repair processing please contact Broadata Communications, Inc. to obtain a Return Material Authorization (RMA). Please include the following information:

- Product model number
- Serial Number
- Complete description of problem
- Hardware installation description

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Torrance, CA 90505
1-800-214-0222
(310) 530-1416
(310) 530-5958 (Facsimile)
e-mail: CustomerService@Broadatacom.com
Website: www.broadatacom.com

7.0 LIMITED WARRANTY

Broadata Communications, Inc. (BCI) warrants, for a period of one year from date of shipment, each product sold shall be free from defects in material and workmanship. BCI will correct, either by repair, or at BCI's election, by replacement, any said products that in our sole discretion prove to be defective and are returned to the manufacturing location within 30 days after such defect is ascertained. All warranties are limited to defects arising under normal use and do not include malfunctions or failure resulting from misuse, abuse, neglect, alterations, electrical power problems, usage not in accordance with product instructions, improper installation, or damage determined by BCI to have been caused by the Buyer or repair made by a third party. Limited warranties granted on products are to the initial customer end-user and are not transferable. OUR LIABILITY UNDER THIS WARRANTY SHALL IN ANY CASE BE LIMITED TO THE INVOICE VALUE OF THE PRODUCT SOLD AND BCI SHALL NOT BE LIABLE TO ANYONE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES ARISING FROM THE USE OF ITS PRODUCTS OR THE SALE THEREOF. We make NO WARRANTY AS TO THE MERCHANTABILITY OF ANY GOODS, OR THAT THEY ARE FIT FOR ANY PARTICULAR PURPOSE OR END APPLICATION NOR DO WE MAKE ANY WARRANTY, EXPRESSED OR IMPLIED OTHER THAN AS STATED ABOVE.

Notes

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