FPCB1-M4T-MLA

FPCB1-M4R-MLA

User Manual

Table of Contents

1. Overview

1.1 Introduction

The FPCB1-M4T-MLA/FPCB1-M4R-MLA series is designed using advanced ASIC and creative technologies. This series employs multiplexing and de-multiplexing techniques to transmit and receive DVI high-definition computer video transparently over four multi-mode optical fibers in all digital signaling with no compression. Because this series utilizes all-digital, non-compression technology, it is able to transmit signals without distortion; whereas the analog technology is inherently noisy, with low quality, instable over time and susceptible to electromagnetic and environmental interference. The long distance transmission capability breaks through the limit that high-definition video signal can only transmit over short distance by electric cable, therefore, this greatly extends the transmission distance and the application scope of high definition video signal. As a result, this enables the high-definition video transmit and share in wide area. DVI interface, built-in super-automatic equalization and clock re-timing function, makes picture clear and stable, without any fine jitter. This series supports the transmitter to read EDID display mode memory function. Display Mode memory function makes it possible that the host computer can automatically and correctly configure DVI high definition display mode in connection with the transmitter in the event that the display is absent of connection or at fault. As a result of using a unique digital optical encoding technology, unauthorized users can not access, resulting an improvement of the performance of communication security. Plug-and-Play design ensures ease of installation and no electrical or optical adjustment is required. LED indicators are provided for showing operating status.

The FPCB1-M4T-MLA/FPCB1-M4R-MLA series is fully assembled using SMT components for stability and reliability.

1.2 Technical Specification

DVI	
Number of Channels	Transmitter:1 channel of input Receiver: 1 channel of output
Standard	DVI 1.0
Connector Type	DVI-I
Video display resolution(Including the largest display mode for all resolutions)	DVI:UXGA 1600×1200@60HZ WUXGA 1920×1200@60HZ HDTV:1080P@60HZ
Sampling Resolution	8/10/12bit

Video Pixel Clock	225MHz
Single link Video Bandwidth	5.4Gbps
Video equalization and retiming	Built-in
Signal Level	800-1200mV$_{PP}$ typical
Video differential impedance	100Ω
DDC Standard	DDC2/EDID 1.0/2.0
DDC	5V TTL Level
DDC treatment	the transmitter to read EDID display mode memory

OPTICAL	
Number of Fibers	4
Wavelength	1310nm
Fiber Type	62.5/125μm(MM)
Connector Type	LC/PC
Distance	0 ~ 600m

GENERAL	
Operating Temperature	-40 ~ 70˚C / -40 ~ +158ºF
Relative Humidity	0 ~ 95% non-condensing
Mean Time Between Failure (MTBF)	> 100,000hrs
Power Supply Adaptors	Input: 100~240VAC, 30W,50/60Hz Output: +12VDC, 1A
Enclosure Color	Silver
Dimensions (L×W×H)	94mm×68mm×30mm/3.70”×2.68”×1.18”

1.3 Warranty

- Repair
  - Please contact your local distributors when product is defective. Please apply RA in advance and prepay shipping cost when returning the defective product to us. We will pay the cost for sending it back to you.
  - Please attach a statement clearly describing the problem.
- We will repair defective product under warranty free of charge to our customer.
- 5 years warranty for product only.
- Any unauthorized modification of hardware and software voids the warranty.
- Warranty does not cover mishandling and/or abuse of the product.

Products comply with the following Safety Label for International Fiber Communication Equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful Interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at this own expense.

Warning
This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

1.4 Instruction of Disassembly

Instruction of Disassembly of KBC Product
(For EU Directive 2002/95/EEC—WEEE)

Tools Required:

1) 5 mm flat tip screwdriver
2) Φ3 cross tip screwdriver
3) Φ5 cross tip screwdriver
4) Size small snip nose pliers
5) 15 mm spanner

Steps for Disassembly:

1) Remove tightening screws of box cover (1 or 4-8 screws in general);
2) Remove lock nut for BNC with spanner;
3) Remove cover plate;
4) Remove tightening screws for printed circuit board (PCB);
5) In case the assembly has more than one PCB then continue removing the remain tightening screws until none left;
6) Use snip nose pliers to loose the nut of flange and then remove optic cable connector (jump wire);
7) Snip off power conducting cable and remove power switch /jack/etc.;
8) Take out all PCBs;
9) Disassembly of product completed.

Notice：When a product reaches the end of it's life—return to KBC

2 Installation

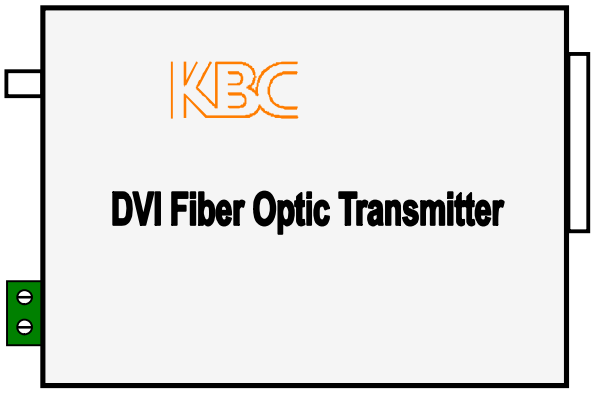
2.1 Package Contents

- One FPCB1-M4T-MLA Transmitter
- One FPCB1-M4R-MLA Receiver
- Two power supply adaptors
- Two User Manuals

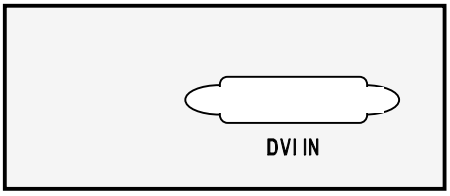
Please contact dealer or distributor if part is missing or damaged.

2.2 Transmitter Enclosure

Transmitter Top View



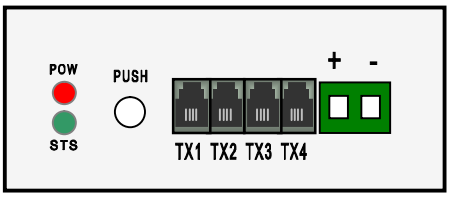
Transmitter Right View



Connectors:

DVI IN: DVI, input

Transmitter Left View



Connectors:

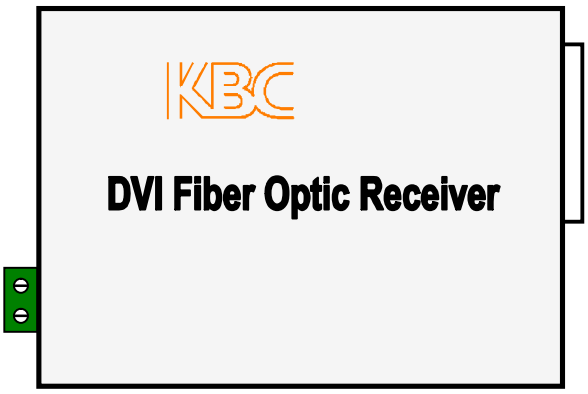
＋:　　＋12VDC
－:　　Power Supply Ground
TX1:　Channel 1 Fiber Optic
TX2:　Channel 2 Fiber Optic
TX3:　Channel 3 Fiber Optic
TX4:　Channel 4 Fiber Optic
PUSH:　A button to read EDID data

LEDs Definition:

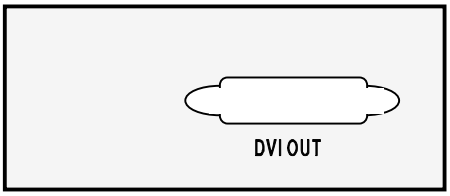
POW:　Power Supply.　　On if power input is in OK.
STS:　the state of the function to read EDID display mode memory (refer to 2.4)

2.3 Receiver Enclosure

Receiver Top View



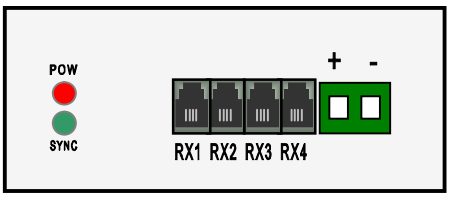
Receiver Right View



Connectors:

DVI OUT:　DVI, output

Receiver Left View



Connectors:

＋: ＋12VDC
－: Power Supply Ground
RX1: Channel 1 Fiber Optic
RX2: Channel 2 Fiber Optic
RX3: Channel 3 Fiber Optic
RX4: Channel 4 Fiber Optic

LEDs Definition:

POW:	Power Supply.	On if power input is in OK.
SYNC:	Channel 4 Fiber link.	Off if the fiber link is in OK.

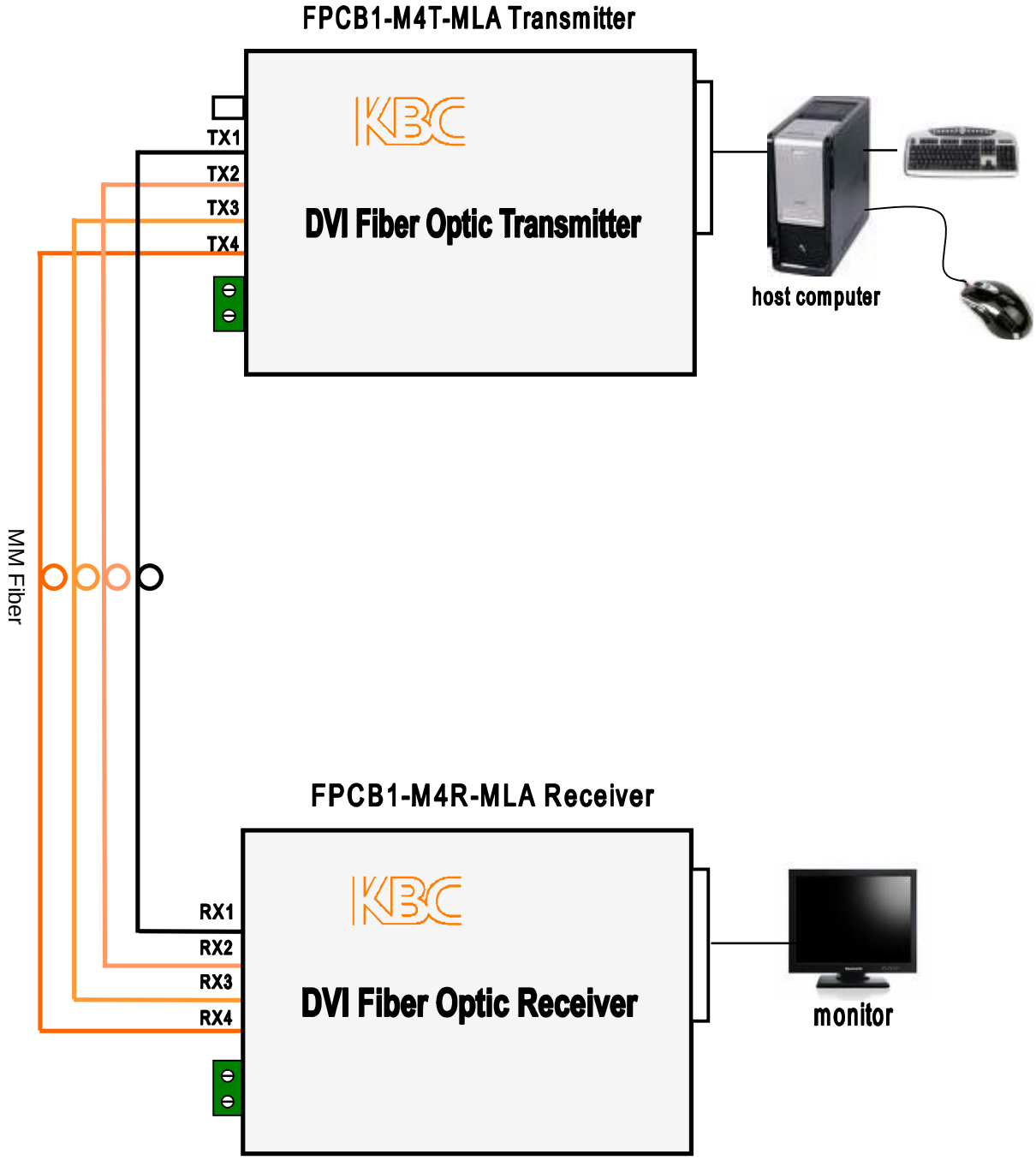
2.4 Operate Instruction

1) Connect transmitter to monitor via DVI cable.
2) Turn on monitor and transmitter.
3) Press the button at transmitter until the STS LED stops flashing (accompanying a beep), this indicates that the transmitter is reading EDID data from monitor .Then release the button.
4) In about 30 seconds, the STS LED flashes again accompanying a beep, this indicates the successful reading of EDID. If the STS LED flashes without beep, this indicates the failure of reading EDID. Try to operate again and check DVI cable if necessary.
5) After reading EDID data, connect transmitter DVI port to PC host DVI port.

2.5 Caution

- Switch off all power supply before installation
- Ensure fiber is properly aligned to the receiving connector
- Do NOT stare at the fiber core

2.6 Install Application



Install Application

3 Dimensions (mm)