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FIBEROPTICAL CONVERTER

OPERATION MANUAL



DECISION

Computer International Co., Ltd.

CHAPTER 1

INTRODUCTION

The fiber optical converter allows the RS232 or RS422 input signals to be converted to fiber optical signals that for long distance, high speed, and high quality communication. There are 3 LED indicators correspond to RxD, CTS, and power signals. A 9V, 500mA-power adapter is provided in the package. To order the fiber optical converter, please select one of RS232 or RS422 version, and select one of DTE or DCE version for signal connection.

The features of fiber optical converter are:

- Provides RS232 or RS422 signals.
- Provides DTE or DCE mode signals.
- One pair (two converters) is needed for two connected devices.
- Communication distance up to 1500m.
- Communication speeds up to 5Mbps.
- Operation temperature from 0C to 55C.
- ST type fiber optical connector.
- Suitable for three different optical fibers size: 50/125um, 62.5/125um, 100/140um.
- Suitable for multi-mode cable.
- HFBR-2416 fiber optical receiver and HFBR-1414 fiber optical transmitter are used.

The package contains:

- Two (or one) fiber optical converters.
- 9V, 500mA power adapter.
- User manual.
- DB25 male to DB25 female cable.

CHAPTER 2

HARDWARE INSTALLATION

Your fiber optical converter is designed to be inserted in the RS232/RS422 port of your computer, please follow the steps listed below.

1. Turn off all power to your computer and all devices before installing your fiber optical converter.
2. Connect fiber optical converter to RS232/RS422 port.
3. Plugs in power adapter to fiber optical converter and connects it to remote site.
4. Turn on the computer and power adapter.

CHAPTER 3

HARDWARE CONFIGURATION

There are one female connector and four fiber optical connectors in the box, the signal assignments are shown below:

1. Fiber optical connector

RTS	CTS	TxD	RxD
-----	-----	-----	-----

2. RS232 connector for DTE mode

Pin #	DB25 Signal Name	RS232 Name	Signal Direction
1	Chassis Ground (GND)	AA	Common
2	Transmit Data (TxD)	BA	Output
3	Receive Data (RxD)	BB	Input
4	Request to Send (RTS)	CA	Output
5	Clear to Send (CTS)	CB	Input

3. RS232 connector for DCE mode

Pin #	DB25 Signal Name	RS232 Name	Signal Direction
1	Chassis Ground (GND)	AA	Common
2	Receive Data (RxD)	BB	Input
3	Transmit Data (TxD)	BA	Output
4	Clear to Send (CTS)	CB	Input
5	Request to Send (RTS)	CA	Output

4. RS422 connector for DTE mode

Pin #	DB25 Signal Name	Signal Direction
2	Transmit Data (TxD+)	Output
3	Receive Data (RxD+)	Input
4	Request to Send (RTS+)	Output
5	Clear to Send (CTS+)	Input
14	Transmit Data (TXD-)	Output
15	Receive Data (RxD-)	Input
16	Request to Send (RTS-)	Output
17	Clear to Send (CTS-)	Input

5. RS422 connector for DCE mode

Pin #	DB25 Signal Name	Signal Direction
2	Receive Data (RxD+)	Input
3	Transmit Data (TxD+)	Output
4	Clear to Send (CTS+)	Input
5	Request to Send (RTS+)	Output
14	Receive Data (RxD-)	Input
15	Transmit Data (TxD-)	Output
16	Clear to Send (CTS-)	Input
17	Request to Send (RTS-)	Output

To use the fiber optical converter, you must connect it with four fiber optical cables, then connect both DB-25 connectors to PC or devices (we call Device in the follow). Please note that, you must use DCE or DTE mode correctly, otherwise it can not work. Suppose the Device is DTE mode, you must set the converter to

DCE, otherwise if the Device is DCE mode, you must set the converter to DTE.

In the following, we will introduce how to set the hardware configuration in different modes, and also show the signal flow of both fiber optical converters. It is clearly that only connect transmit signal to receive signal and connect request to send signal to clear to send signal.

1. Both DTE modes

TxD 2-----1 RxD
 RxD 1-----2 TxD
 Device ----- RTS 4-----3 CTS ----- Device
 CTS 3-----4 RTS

DCE mode	DTE mode	Fiber Optical Cables	DTE mode	DCE mode
Device side	Converter side	Converter side	Converter side	Device side

2. One DTE mode and one DCE mode

TxD 2-----1 RxD
 RxD 1-----2 TxD
 Device ----- RTS 4-----3 CTS ----- Device
 CTS 3-----4 RTS



DTE mode	DCE mode	Fiber Optical Cables	DTE mode	DCE mode
Device side	Converter side	Converter side	Converter side	Device side

3. Both DCE modes



TxD 2-----1 RxD
 RxD 1-----2 TxD
 Device ----- RTS 4-----3 CTS ----- Device
 CTS 3-----4 RTS

DTE mode	DCE mode	Fiber Optical Cables	DCE mode	DTE mode
Device side	Converter side	Converter side	Converter side	Device side

RS232 BOX

RS-232 (J1,J2,J3,J4)				 —. 			
DCE				1 – 2 SHORT			
DTE				2 – 3 SHORT			
RS – 232 PIN ASSIGNMENT							
1	2	3	4	5	6	7	20
GND	TX	RX	RTS	CTS	DSR	GND	DTR
DTR, DSR			JIO	1 – 2		SHORT	

RS422 BOX

RS-422 (J6)					 —. 				
DC 9V 500mA									
DCE				1 – 2 SHORT					
DTE				2 – 3 SHORT					
RS – 422 PIN ASSIGNMENT									
1	2	3	4	5	7	14	15	16	17
GND	TX+	RX+	RTS+	CTS+	GND	TX-	RX-	RTS-	CTS-

APPENDIX A

WARRANTY INFORMATION

A.1 Copyright

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A.2 Warranty Information

DECISION warrants that for a period of one year from the date of purchase (unless otherwise specified in the warranty card) that the goods supplied will perform according to the specifications defined in the user manual. Furthermore that the FIBER OPTICAL product will be supplied free from defects in materials and workmanship and be fully functional under normal usage.

In the event of the failure of a FIBER OPTICAL product within the specified warranty period, DECISION will, at its option, replace or repair the item at no additional charge. This limited warranty does not cover damage resulting from incorrect use, electrical interference, accident, or modification of the product.

All goods returned for warranty repair must have the serial number intact. Goods without serial numbers attached will not be covered by the warranty.

Transportation costs for goods returned must be paid by the purchaser. Repaired goods will be dispatched at the expense of FIBER OPTICAL.

To ensure that your FIBER OPTICAL product is covered by the warranty provisions, it is necessary that you return the Warranty card.

Under this Limited Warranty, DECISION's obligations will be limited to repair or replacement only, of goods found to be defective as specified above during the warranty period. DECISION is not liable to the purchaser for any damages or losses of any kind, through the use of, or inability to use, the FIBER OPTICAL product.

DECISION reserves the right to determine what constitutes warranty repair or replacement.

Return Authorization: It is necessary that any returned goods are clearly marked with an RA number that has been issued by DECISION. Goods returned without this authorization will not be attended to.

APPENDIX B

DATA SHEET