Data-Connect
3405 Olandwood Court
Olney, Maryland 20832 U.S.A.
Tel. 1-301-924-7400 x25

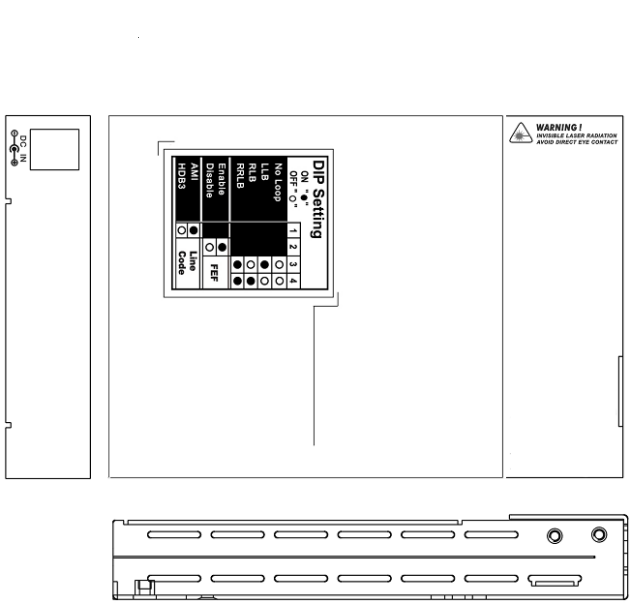
DATA CONNECT ENTERPRISE FIBER-CONNECT FAMILY INSTALLATION INSTRUCTIONS DCE FIBER-X

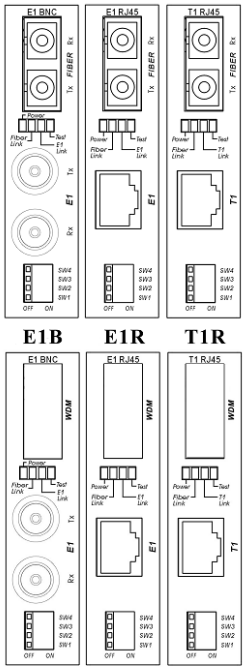
Description

DCE FIBER-X Family are standalone fiber extenders available in a number of different models that also act as line cards for placement in the DCE FRM1 Fiber Extender Chassis. The DCE FIBER-E is a fiber media transport for G.703 E1 transmission. The BNC model provides unbalanced 75 Ohm coaxial connections while the RJ-45 model provides balanced 120 Ohm connections over twisted pair wiring. The DCE FIBER-T is a fiber media transport for G.703 T1 transmission and features an RJ-45 connector for connection to 100 Ohm twisted pair wiring.

All extenders are available with either multi-mode or single-mode optical transceivers and with connectors for SC, ST, or FC. In single mode, WDM (Wave Division Multiplexing with SC connector) is also available in 20 or 40KM reach which provides the ability to transmit and receive data using only a single optical fiber.

When the DCE FIBER-E or T card is placed in the DCE FRM1 rack with SNMP management, the card status, type, version, fiber link status, E1 or T1 link status and alarms can all be displayed. Configuration is also available to enable or disable the port, reset the port, do far end fault setting, and initiate local or far end loopback tests.

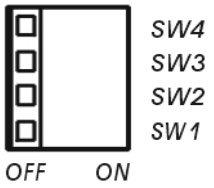




Front Panel DIP Switch Setting

For use in standalone application

(not used when inserted into DCE FRM1)



Switch #1 Line Code Setting	ON – AMI		OFF – E1 – HDB3 – T1 – B8ZS	
Switch #2 FEF Function Setting	ON – ON		OFF - OFF	
Switch #3 & #4 Loopback function Setting	#3 ON	#3 ON	#3 OFF	#3 OFF
	#4 ON	#4 OFF	#4 ON	#4 OFF
	RRLB	LLB	RLB	All Off

Data-Connect
3405 Olandwood Court
Olney, Maryland 20832 U.S.A.
Tel. 1-301-924-7400 x25

Specifications

Standard

E1:ITU-T G.703, G.704, G.706, G.732, G.823

T1:ITU-T G.703, G.704, AT&T TR-62411, ANSI T1.403

Twisted-Pair Copper Cable

Twisted-pair connection required two active pairs. The two active pairs in a E1/T1 network are pins 1 & 2 and Pins 4 & 5. Use only dedicated wire pairs for the active pins.

Category 3 or better twisted-pair copper wire is required. Either shielded twisted-pair (STP) or unshielded twisted- pair (UTP) can be used. The thicker the gauge, the longer the transmission distance.

T1

Gauge:24 ~ 22 AWG

Attenuation : 2.6dB/100meters @1.0 MHz

Differential Characteristic Impedance : 100 ohm +/- 10%

E1

Gauge:24 ~ 22 AWG

Attenuation : 2.6dB/100meters @1.0 MHz

Differential Characteristic Impedance : 120 or 75 ohm +/- 10%

RJ-45 Pin Assignment

1	RRing
2	RTip
4	TRing
5	TTip

Fiber Optic Connectors

Two connectors are provided for fiber optic cable connection.

One is for transmission and the other is for reception of optical data. (WDM transceiver has only on SC connector for bi-directional transmissions on a single fiber)

Environment

Temperature : 0℃ - 70℃

Humidity 10-90% non condensing

Dimension

122.6mm x 85.6mm x 20mm

(H x W x D)

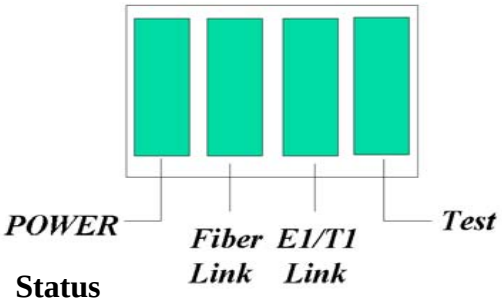
Power

+9V /1A maximum

DC Cable Type :

Cable with white pattern around is positive

Cable in black is negative



LED Indicators

LED	Function	State	Status
Power	Power indicator	On	Extender has power
		Off	Extender has no power
		Blinking	No SNMP is installed in DCE FRM1
Fiber Link	Fiber link	On	The fiber link is up
		Off	No signal or fiber link is down
		Blinking	Remote side fiber Sync loss
		*This only happens when FEF is enabled	
Test	Mode display	On	Any loopback test is on
		Off	Normal status
E1/T1 link	Mode display	On	E1/T1 signal is ok
		Off	E1/T1 signal loss

V.: 1.2

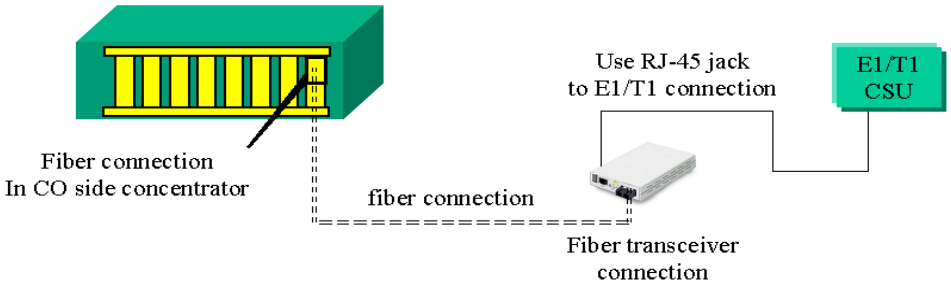
Data-Connect
3405 Olandwood Court
Olney, Maryland 20832 U.S.A.
Tel. 1-301-924-7400 x25

Installation

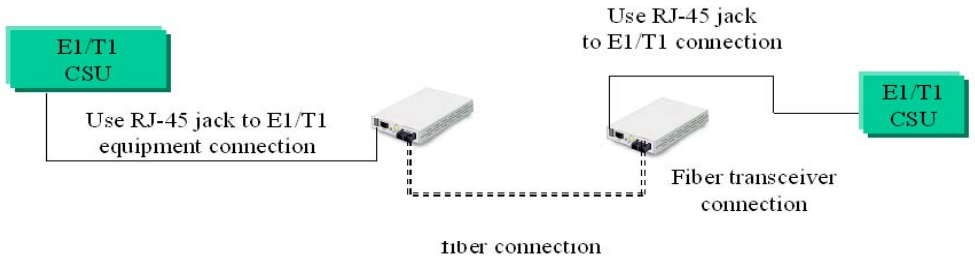
Connect the fiber interface cable to the DCE FIBER-X and other fiber extender equipment. Using a twisted-pair cable, connect the RJ-45 connector at one end of the c able to the fiber extender, connect the RJ-45 connector of E1/T1 CSU equipment at the other end of cable. Follow the connection examples below. Install the fiber converter with the AC/DC power adapter provided.

Connections

The following example illustrates the connection scheme when connecting from a fiber port of one concentrator to the fiber port of another DCE FIBER-X fiber extender.



The following example illustrates the connection scheme when point to point application is used.



This fiber extender incorporates a Far End Fault feature which allows the stations on *both e*nds of a pair of fibers to be informed when there is a problem with *one* of the fibers. Without Far End Fault, it is impossible for a fiber interface to detect a problem that affects only its *Transmit* fiber.
When Far End Fault is supported and enabled, a loss of receive signal (link) will cause the transmitter to generate a Far End Fault pattern in order to inform the device at the far end of the fiber pair that a fault has occurred. When the local receiver again detects a signal, the local transmitter automatically returns to normal operation.

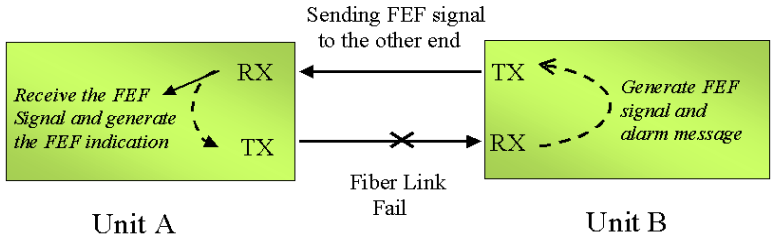


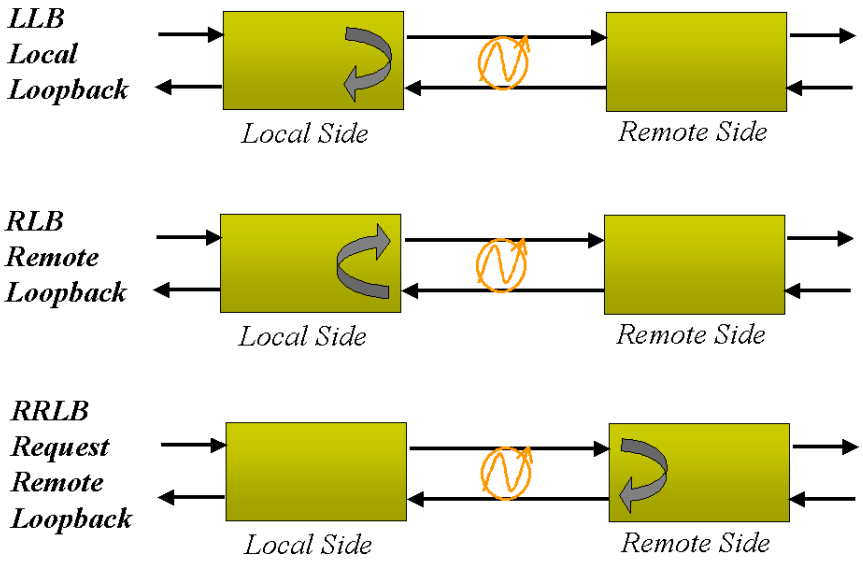
Figure : Far End Fault

Data-Connect
3405 Olandwood Court
Olney, Maryland 20832 U.S.A.
Tel. 1-301-924-7400 x25

Loop-back Testing(LBT)Note :
(While this feature is operating the fiber side transmission will be halted)

This media converter incorporates Loop-back Testing features that may be used with BERT test equipment. Loopback is enabled by the DIP switch#3&4 on the front panel.

The DCE FIBER-X series is compatible with DCE FRM1 rack series on this feature. You may test the whole application with DCE FIBER-X & DCE FRM1 rack.



TRADEMARKS
ST® is a registered trademark of AT&T.

WARNING:

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 provid e reasonable protection against harmful interference when the equipment is operated in a co mmercial environment. This equipment generates, uses, and can radiate radio frequency energy and if n ot installed and use d in ac cordance with the instruction manual may cause ha rmful interference in which case the user will be required to correct the interference at his own expense. NOTICE: (1) The changes or modifications not expressively approved by the party responsible for compliance could void the user's authority to operate the equipment. (2) Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.

CISPR PUB.22 Class A COMPLIANCE:
This device complies with EMC directive of the Europea n Community and meets or exc eeds the following technical standard. EN 55022 - Limits and M ethods of M easurement of Radio I nterference Characteristics of Information Technology Equipment. This device complies with CISPR Class A.

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.

CE NOTICE
Marking by the symbol CE indicates compliance of this equipment to the E MC directive of the Eur opean Community. Such marking is indicative that this equipment meets or exceeds the following technical standards: EN 55022:1994/A1:1995/A2:1997 Class A and EN61000-3-2:1995, EN61000-3-3:1995 and EN50082-1:1997