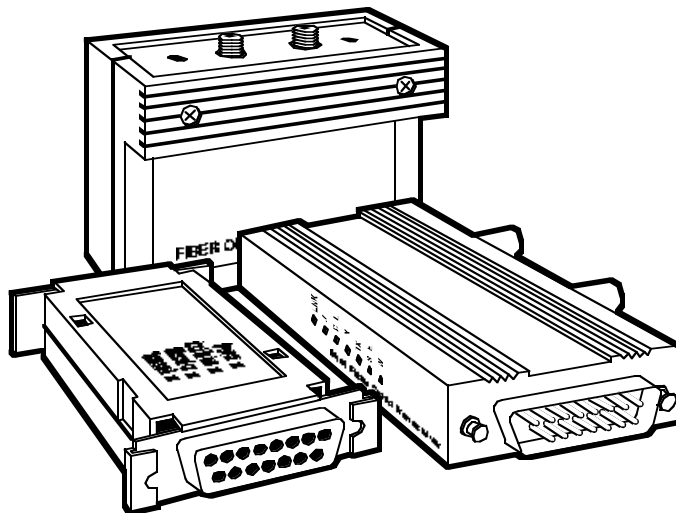


BLACK BOX[®]

NETWORK SERVICES

FIBER OPTIC TRANSCEIVERS



Compact fiber connections that are simple to install and maintain.

The Fiber Optic Transceiver (shown above, top, with its AUI Monitor, bottom left) connects devices to a fiber optic segment via AUI cable. To the right is the 2-Port Fiber Transceiver.

Key Features

- ▶ Connect compatible devices to a fiber optic Ethernet segment.
- ▶ Comply with the IEEE FOIRL and Ethernet 10BASE-FL standards.
- ▶ Compact and lightweight for easy placement.
- ▶ Diagnostic LEDs simplify monitoring and troubleshooting.
- ▶ Most models attach directly to device ports, saving on AUI cabling.

Overview

For their size, flexibility, and convenience, our Fiber Optic Transceivers are the transceivers of choice to connect any device to your 10-Mbps fiber optic segments.

The basic Fiber Optic Transceiver plugs directly into a network interface card's DB15 AUI port without using AUI cable. It sticks out only 3.2 inches (8.1 cm) from the device it's connected to. By itself, it's smaller than a box of diskettes. It comes with a 1-m fiber cable, so you're ready to connect as soon as you open the box.

If you need to see what's going on with your connection, add the AUI Monitor. It comes free with the Fiber Optic Transceiver. LEDs

on the AUI Monitor show Power, Collision, Receive, and Transmit.

The Fiber Transceivers (2- and 4-Port) are already equipped with a useful set of LEDs that you can quickly scan to verify link status, SQE status, reception, transmission, and collisions, so you don't need an AUI monitor. With multiple AUI ports, you can attach more than one network station to the same fiber connection.

For a basic fiber connection that takes up the least possible space, choose the Mini Fiber Transceiver. It's tiny, but it has all the diagnostic LEDs built in.

The Mini FOIRL LD Transceivers are economical choices for an older FOIRL network when you

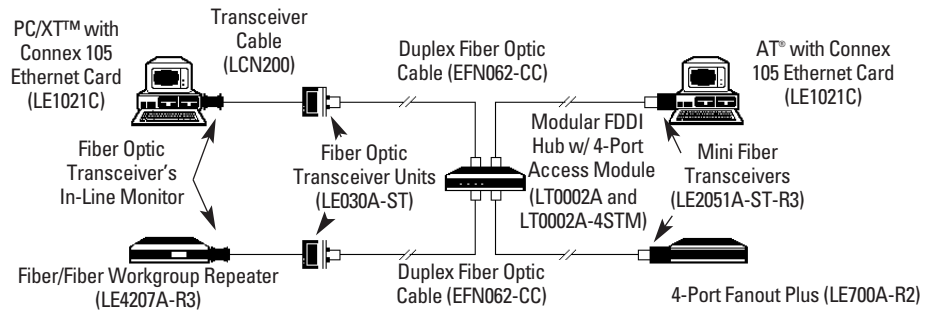
don't need 10BASE-FL compatibility.

For single-mode fiber networks, choose the Micro Single-Mode Fiber Transceiver.

All models are available with ST[®] connectors for the fiber interface and DB15 male connectors for the AUI interface. Most of the models can also be ordered with SMA connectors for older fiber networks.

Switch-selectable SQE and (except with the Mini FOIRL Transceivers) 10BASE-FL or FOIRL compatibility make these Transceivers fit any standard 10-Mbps application.

Fiber Optic Transceivers make your fiber connections simple and easy to monitor.



Specifications

Fiber Transceivers (2- and 4-Port)

Connectors — Both: (2) ST or SMA;
LE023A: (2) DB15 AUI M;
LE024A: (4) DB15 AUI M

Indicators — LEDs: Power, TX, RX, CD, SQE, Link

Fiber Optic Transceivers (with AUI Monitor)

Compliance — IEEE 802.3, Ethernet V2.0, FOIRL or 10BASE-FL, (switch-selectable)

Collision Frequency — 10 MHz

SQE — Switch-selectable

Connectors — Transceiver Unit:
(1) DB15 AUI M, (2) ST or SMA female;
AUI Monitor: (1) DB15 AUI F,
(1) DB15 AUI M

Indicators — Transceiver Unit: Link, SQE; AUI Monitor: Receive, Transmit, Collision, Power

Power — From DTE interface:
300 mA @ 12 VDC

Size — Transceiver Unit:
3.6H x 7.9W x 8.4D cm;
AUI Monitor:
4.1H x 6.4W x 2D cm

Weight — Transceiver: 0.2 kg

Mini FOIRL LD Transceivers

Connectors — (1) DB15 AUI M,
(2) ST or SMA

Indicators — LEDs: TX, RX, CD, Status

Mini Multimode Fiber Optic Transceiver

Compliance — UL, CSA, TUV, FCC, VDE, CE

Indicators — (1) Power, (1) Link,
(1) Transmit, (1) Receive,
(1) Collision, (1) Full Duplex

10BASE-FL Interface —

Connector: (2) ST;
RX input sensitivity: -32.5 dBm;
Output Power:
-16.5 dBm (50/125 μm),
-12 dBm (62.5/125 μm),
-9 dBm (100/140 μm);
Cable: 50/125, 62.5/125, and
100/140 μm multimode duplex

AUI Port —
Connector: DB15M, lockposts;
Impedance: 100 ohms nominal;
Signal Level Output:
500 mV/1000 mV;
Signal Level Input:
175 mV minimum

MTBF — 463,000 hours

Environmental —
Operating Temperature:
0 to 50 C;
Storage Temperature:
0 to 65 C;
Humidity:
10 to 95%, non-condensing

Power —
AUI input: 11 VDC/16 VDC
Current from AUI: 500mA (max.)

Size — 4.3H x 5.7W cm;
AUI width: 1.3 cm;
Connector width: 1.8 cm

Weight — 0.2 kg

Mini Fiber Transceiver

Connectors — (1) DB15 AUI M,
(2) ST

Indicators — LEDs: PWR, TX, COL,
JAB, SQE, LNK, RX

Micro Single-Mode Fiber Transceiver

Connectors — (2) ST type
connectors, (1) DB15 male with
locking posts

Indicators — LEDs: JAB, Link, COL,
RX, TX, Power

Technically Speaking

The Signal Quality Error (SQE) function—the “heartbeat” test—is part of the IEEE 802.3 standard for Ethernet networks, whose access method depends on collision detection. It is a precisely timed signal sent back and forth between DTE devices and equipment like the Fiber Optic Transceivers. The signal verifies that a transceiver’s collision-detection circuitry is working properly. But since SQE isn’t universally supported, when do you turn it on?

The SQE option should be set to OFF when you install transceivers in any network environment that doesn’t support SQE. (This will often be true for DECnet™.) SQE should also be turned off when your Transceiver is attached to retransmitting devices like repeaters, or to any device that specifically doesn’t support it, because the test signal will cause collision “false alarms,” decreasing network performance. For any other IEEE 802.3 device, turn SQE on.

Ordering Information

ITEM	CODE
Multimode	
Fiber Transceivers (2- and 4-Port)	
2-Port	
ST	LE023A-ST
SMA	LE023A
4-Port	
ST	LE024A-ST
Fiber Optic Transceivers (with AUI Monitor)	
ST	LE030A-ST
SMA	LE030A-SMA
Mini FOIRL LD Transceivers	
ST	LE2127A-R3
Mini Fiber Transceiver	LE2051A-ST-R3
Single-Mode	
Micro Single-Mode Fiber Transceiver	LE1342A-R2
You may also need:	
Duplex Fiberoptic Cable	EFN062-CC
Transceiver Cable	LCN200