

Quad E1 Fiber Optic Extension

Highlights

- Operates over single mode and multimode fiber
- 1300nm laser and detector
- 1300nm operating range up to 39 miles (63 km)
- Four E1s per FE2 module
- Up to 20 E1s on five fiber pairs (19-/23-inch shelf)
- Connectorized laser and PIN diode receiver
- Type ST fiber connectors
- Fully redundant configurations
- Manual and automatic switchover to protection system
- Rack, wall, and desk top mountings
- -48 VDC power

Advantages

- Cost effective E1 fiber extensions
- Provides fully protected fiber facilities
- Use in all environments, CO, CEV, pedestal
- Operates over single mode or multimode fiber
- Multiple service applications
- Eliminates expensive copper maintenance
- Low cost solution for capacity increases
- Eliminates span powering repeaters at customer premises
- Permits smooth E1 or E3 transition

The **CXR/Larus FE2™** Local loop or short haul lightwave extension for metallic E1 is a four channel E1 multiplexer/demultiplexer that operates over a single mode or multimode fiber optic cable.

The FE2 is equipped with a 1300nm laser diode transmitter and PIN diode receiver. The 1300nm system is designed to operate up to 39 miles (63 km) of single mode fiber.

An end-to-end system comprises the FE2 circuit pack and mounting shelf at each terminal end and the interconnecting fiber. A fully protected system requires two FE2 circuit packs at

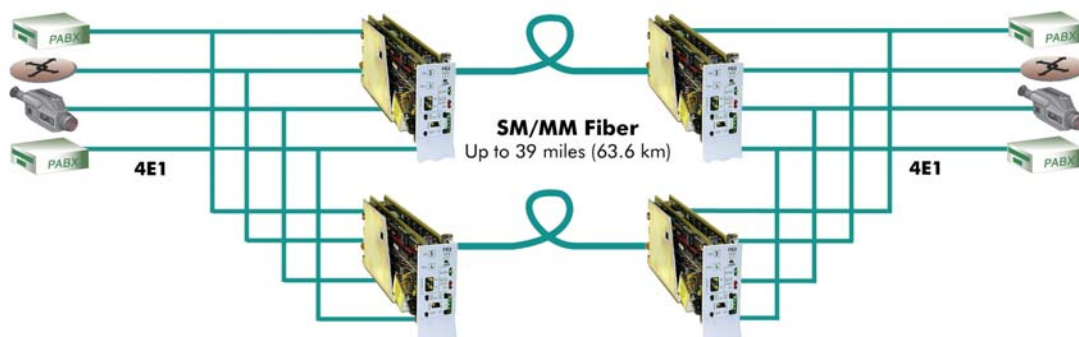


each terminal end. The circuit packs provide four transmit and receive E1 ports for metallic connection to E1 customer equipment. The four E1 metallic inputs are multiplexed and output to a 1300nm fiber optic channel.

The input from the fiber optical channel is demultiplexed and output to the four E1 metallic circuits. A single FE2 circuit pack provides power supply, fiber optic receivers/transmitter circuitry, four E1 interfaces, multiplexer/demultiplexer circuits and alarm interfaces. Front panel LEDs and powered from central office battery, local -48 VDC power, or customer supplied 117 VAC to -48 VDC power converter. An uninterruptible power supply is recommended for the distant terminal.

The FE2 circuit pack may be mounted in a 10 position 19-/23-inch shelf for locating in a central office, controlled environment vault, outdoor pedestal, or customer equipment room. A two position shelf, providing four protected E1s, is available for customer premises applications, in a wall or desk top mounting. All shelves are configured for fully redundant protected services.

Application



CXR/Larus FE2

Specifications

E1 INTERFACE

DATA FORMAT

Framed or unframed

DATA MODE

HDB3 G.703

PORT IMPEDANCE (Input & Output)

110 ohms nominal

INPUT BIT RATE

2.048Mbps, ±200bps

INPUT SIGNAL RANGE

-7.5 dBV to +3 dBV, E1 TPL

OUTPUT PULSE AMPLITUDE

6 V P-P (±3 V; ±0.3 V)

LINE SIGNAL OUTPUT

G.703

FIBER OPTIC INTERFACE

RECEIVER DIODE

- Type: PIN detector
- Fiber connector: Type ST
- Receive Sensitivity: -3 dBm to -36 dBm

TRANSMITTER LASER

- Wavelength: 6 V P-P (±3 V, ±0.3 V)
- Fiber:
 - Single mode 9.0 μcrons
 - Multimode 62.5 μcrons
- Fiber Connector: Type ST
- Output Power (dBm after 1 meter of cable):
 - 1300nm -4.3 to -8.4dBm

POWER

Power Requirement

- Voltage: 48 VDC ±6 VDC positive ground
- Current: 0.14 A, max per circuit packs

ENVIRONMENTAL

- Operating Temperature: -40° to 167°F (-40° to +75°C)
With forced airflow above +122°F (+50°C)
- Storage Temperature: -40° to +185°F (-40° to +85°C)

HUMIDITY

0 to 95%, noncondensing

PHYSICAL

Dimensions

(H x D x W for FE2 and 10 Position Shelf)

(H x D x L - 2 Position Shelf Wall Mount)

- FE2 Circuit Pack: 3.8 in x 10.25 in x 1.45 in
- 10 Position Shelf: 7 in x 12 in x 19 in or 23 in
- 2 Position Shelf Wall Mount: 7.5 in x 5.80 in x 15.30 in

Weight

- FE2 Circuit Pack: 15.0 oz.
- 10 Position Shelf: 18.1 lbs. fully equipped
- 2 Position Wall Mount: 10.8 lbs. fully equipped

Ordering Configurations

FE2

Quad DS1 Fiber Optic Extension

Model	Description
FE2-1	FE2 Circuit Pack e/w 1300nm laser

Accessories	Description
1183-3	14 Module Equipment Shelf, 23-inch Rack
1187-0	10 Module Equipment Shelf, 19-inch/23-inch Rack
1189-0	2 Module Equipment Shelf, Wall Mount