winyuan
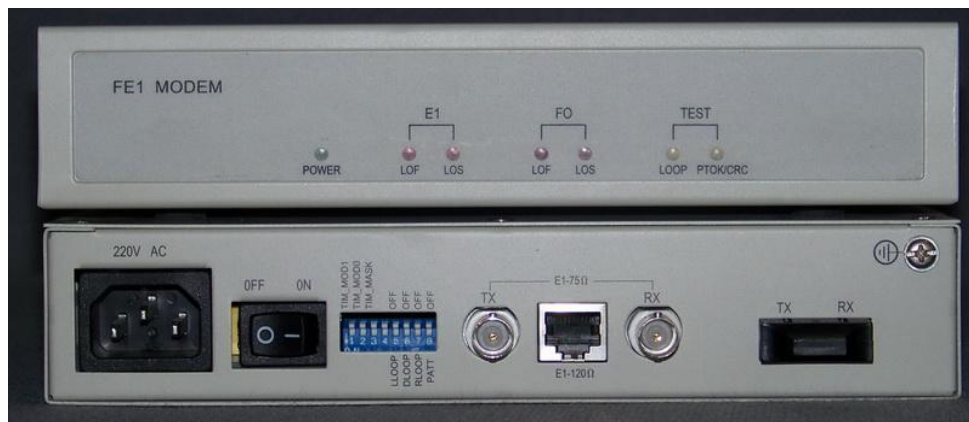
Framed E1 G.703/G.704 fiber modem

Spot-light:

The **FE1 fiber modem** family are standalone and rack mountable fiber 1 x E1 G.704 framed modems / converters available in a number of different models, with AC or DC power supplies built-in.

Description:

FE1 fiber modem is advanced version of <u>unframed E1 G.703 fiber model converter.</u>

As it is widely known, G.703 is typically transported over balanced 120 ohm twisted pair cables terminated in RJ48C jacks. However, some telephone companies use unbalanced (dual 75 ohm coaxial cables) wires, also allowed by G.703. Distance in this cases does not exceeds 100 m, and that is serious drawback. One way is use the <u>GSHDSL modems</u>, what can help extend the distance for several kilometers, but this usually are not stable, copper pairs due to high copper cost got stolen, and this way is not stable against interference.

And most important - **the distance** - **FE1 fiber modem** makes possible reach not only 20 or 40 km, but also 120 km with most power version, what uses DFB lasers for optical electrical E1 signal conversion.

FE1 fiber modem is a fiber media transport for 1 x G.703 E1 framed/fractional 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 most biggest distance from **FE1 fiber modem** - unframed E1 G.703 fiber model converter**,** <u>is n x 64 time slot selection feature, also called as fractional E1.</u>

All media converters are available with either multi-mode or single-mode optical

transceivers and with connectors for SC or FC. In single mode they are available in up to 120 km versions reach, which will provide the ability to transmit and receive data using only a single optical fiber pair. WDM single fiber version allows safe on fiber costs - instead of fiber pair, it is using just 1 fiber, by means of WDM technology.

When the **FE1 fiber modem** is linked to the 4U chassis with **FE1 fiber modem** card, it allows network engineers to get greater functionality through advanced SNMP features, the network administrator can manage any converter module from anywhere on the network, detect any link loss and maintain each loop.

Features:

- Conforms to all relevant ITU series standards(ITU-T G.703 G.704 G.823),
- Transfer 1 E1 over fiber, framed and unframed E1 optional
- Capable to be communicated with V.35 fiber modem
- Both 75 Ohm and 120 Ohm in the same unit
- LED indicate local status and remote status, easy to understand easy to use
- Based on self -copyright IC.
- DIP switch management
- Provide 2 clock types: E1 internal clock, E1 external clock.
- Provide both local loopback and remote loopback.
- Support pseudo-random code test function, providing convenience for the test of optic fiber line status.
- E1 can support rate N*64k (N=1 to 32)
- Provide 2 impedances: 75 Ohm unbalance and 120 Ohm balance.
- Power supply option: AC220V, DC-48V. The positive and negative terminal can be exchanged for DC-48V, easy for installation and maintenance.
- Two kinds of clock mode: internal and external.

Specifications

E1 interface:
Channel capacity: 1 Channels
Interface Rate: n x 64Kbps (n=1~ 32)
Bit Rate: 2.048 Mb/s ±50 ppm
Line Code: HDB3
Line Impedance: 120 Ohm and 75 Ohm
Connector: BNC and RJ-48
Pulse Shape: ITU-T G.703; G.704
Jitter Performance: ITU-T G.823
Clock mode: internal-clock, external-clock

Optical interface:

Line mode type: CMI
Optical wavelength: 850/1310nm for multi-mode fiber, 1310/1550nm for single-mode fiber.
Optical interface: SC/FC (Optional)
Transceiver module: > -8dBm (for 1310nm single mode 40km optical module)
Optical receiver sensitivity: <-36(BER<10) (for 1310nm single mode 40km optical module)
Transmission distance: multi-mode 2 Km, single-mode 20/40 /60/ 80 /120 Km, **WDM** available for different distances

Architecture:
Stand alone: 140mm(D)*42mm(H)*210mm(W)

Power supply:
DC: -48V (-36 to -72V);
AC: 85 to 264 VAC ; 47 ~ 63Hz
Power Interface: DC power terminal/AC socket
Power Consumption: ≤ 3 W

Other Specification
Operation temperature:0℃～50℃
Storage temperature:-20℃～80℃
Humidity: 0～90%(no condensation)

Application: