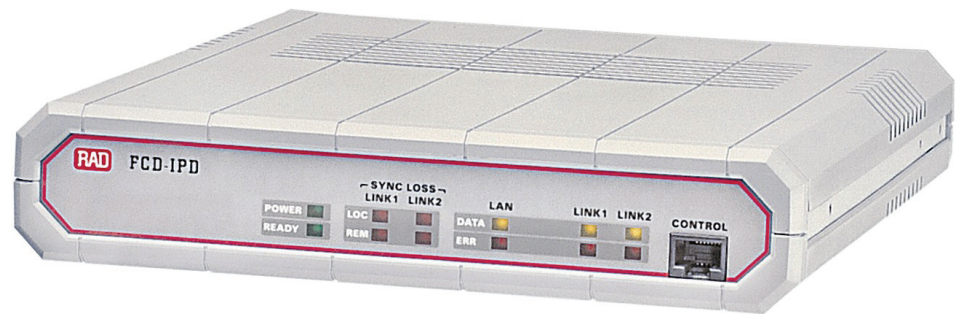


FCD-IPD

Dual E1 Router



Manages up to
100 ADMs over
one shared E1 link

- Dual E1 router adapted to ADM management over SDH
- Shared E1 bandwidth over SDH or other E1 rings
- Up to 100 hops
- Spanning tree protocol for Layer-2 ring applications
- IP routing, using Frame Relay and PPP

FCD-IPD is a dual E1 main link router for sharing E1 bandwidth over SDH or other E1 rings.

The unit is specially adapted for management applications in SDH environments. In these applications, FCD-IPD can manage up to 100 add-drop multiplexers (ADMs) from different manufacturers over one shared E1 link with full 2-Mbps bandwidth for high-speed management.

In the ring (see *Figure 1*) or daisy chain (see *Figure 2*) topologies customer LANs are shared between multiple sites.

Alternative routing is provided upon failure of the physical ring.

In Layer 2 applications, spanning tree protocols enable formation of a protected Layer-2 ring.

A specially developed proprietary routing protocol allows up to 100 hops.

WAN services provided:

- Dual E1 main links, with or without LTU, operating at up to 2.048 Mbps
- Frame Relay with auto-learn of DLCI and maintenance protocol.

FCD-IPD supports IP routing.



data communications

The Access Company

FCD-IPD

Dual E1 Router

Internet access capabilities are enhanced through:

PAP/CHAP Authentication – provides IP service access

Solid Firewall – protects an office LAN from undesired entry from the Internet

NAT – allows the sharing of several legal IP addresses between the various LAN users

Single IP Address Translation – allows a small or medium office LAN to connect to the Internet using a single dynamically or statically allocated IP address

DHCP Server – allows the sharing of IP address pools between DHCP clients on the LAN.

The unit can be easily configured through a quick setup menu using a terminal attached to the control port or by Telnet access over the LAN/WAN.

The SNMP agent provides management by RADview or any other standard SNMP management station.

Undesired access to FCD-IPD via Telnet or SNMP can be blocked or password protected.

The dual-level management authentication allows user access to router configuration parameters, while restricting user access to network configuration parameters.

Software download is available via the control port using XMODEM and via LAN/WAN using TFTP.

Parameter file download and upload is available via LAN or WAN using TFTP.

Specifications

E1 LINK INTERFACE

Framing

256N (no MF, CCS)
256N (no MF, CCS) with CRC-4
256S (TS16 MF, CAS)
256S (TS16 MF CAS) with CRC-4

Bit Rate

2.048 Mbps

Line Code

AMI

Zero Suppression

HDB3

Impedance

120W, balanced
75W, unbalanced

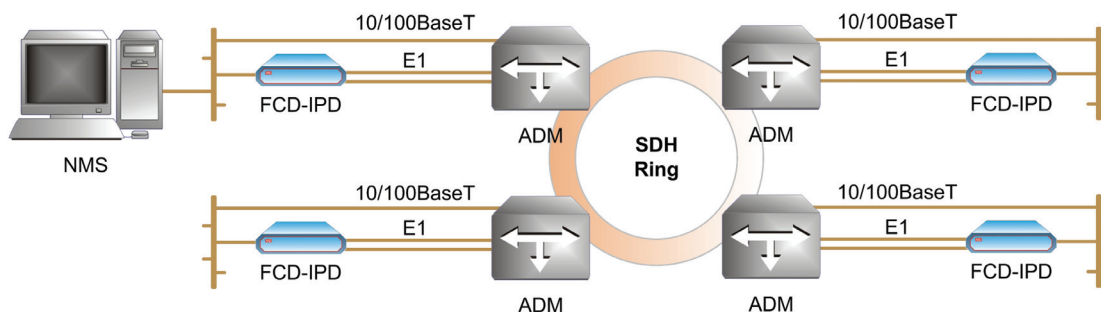


Figure 1. SDH Ring Management

Signal Level

Receive:

- 0 to -30 dB with LTU
- 0 to -12 dB without LTU

Transmit:

- 3V ($\pm 10\%$), balanced
- 2.37V ($\pm 10\%$), unbalanced

Jitter Performance

As per ITU-T G.823

Connectors

RJ-45, 8-pin, balanced
Two BNC coaxial, unbalanced

Compliance

ITU-T G.703, G.704, G.706, G.732

Diagnostics

Local and remote loopbacks

PROTOCOLS**WAN**

Frame Relay (RFC 1490), PPP and MLPPA

Routing

Static, RIP-1, RIP-2, proprietary RIP, RIP/SAP

LAN INTERFACE**Interface Type**

Single 10/100BaseT (RJ-45)
4-port 10/100BaseT (RJ-45) switch

Number of Ports

1 or 4

Standards

Ethernet IEEE 802.3

GENERAL**Indicators**

POWER (green):

On – the unit is powered up

READY (green):

On – packets can be transferred

LAN DATA (yellow):

On – a packet is received or transmitted on the LAN side

LAN ERROR (red):

On – an error has been detected on LAN interface

LINK1 and LINK2 DATA (yellow):

On – a packet is received or transmitted on the link side

LINK 1 and LINK 2 ERROR (red):

On – an error has been detected on link 1 or link 2 interface

LINK1 & LINK2 LOCAL SYNC LOSS (red):

On – local loss of synchronization on link 1 or link 2

LINK1 & LINK2 REMOTE SYNC LOSS (red):

On – remote loss of synchronization on link 1 or link 2

Power

AC source: 100–230 VAC, 47 to 63 Hz
DC source: 24/48 VDC

Power Consumption

13W max

Physical

Height: 4.4 cm (1.9 in)
Length: 24.0 cm (9.4 in)
Width: 21.6 cm (8.5 in)
Weight: 1.16 kg (2.56 lb)

Environment

Temperature: 0° to 50°C (32° to 122°F)
Humidity: Up to 90%, non-condensing

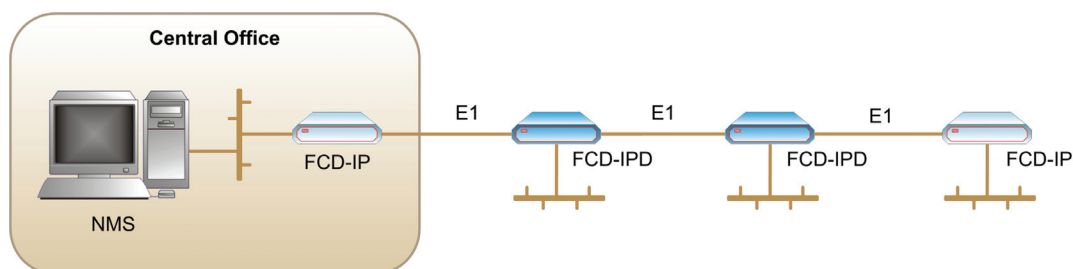


Figure 2. Daisy-Chain Topology for Shared 2-Mbps LAN Connectivity

FCD-IPD

Dual E1 Router

Ordering

FCD-IPD/~-/E1/+

Legend

- ~ Power supply type:
DC -24/-48 VDC

Note: For an AC power supply do not specify power supply type.

- + LAN interface type:
U 10/100BaseT (UTP)
4U 4 × 10/100BaseT (UTP)
built-in switch

SUPPLIED ACCESSORIES

AC power cord (when an AC power supply is ordered)

DC adapter plug (when an DC power supply is ordered)

OPTIONAL ACCESSORIES

RM-17

Hardware kit for mounting one or two FCD-IPD units into a 19-inch rack

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