

1521 FL R2.0

Fibre Optical Line Systems for Subscriber Networks

The 1521 FL R2.0 is a 4x2 Mbit/s fibre optical line system, especially designed for use in subscriber networks.

The equipment is targeted for STAR networks and the system includes ISDN terminating functions and data interface X.21.

At the subscriber premises the terminal is housed in a desktop cabinet or in a 19" 1U high metal case. The exchange side terminals are sharing a 13 slot wide (19"/ETSI 600mm) shelf which may also house a management card (CNCC) which controls both the local and remote terminal. A dedicated shelf can house both the 1521FL R2.0 and the 1531FL (16x2 Mbit/s).



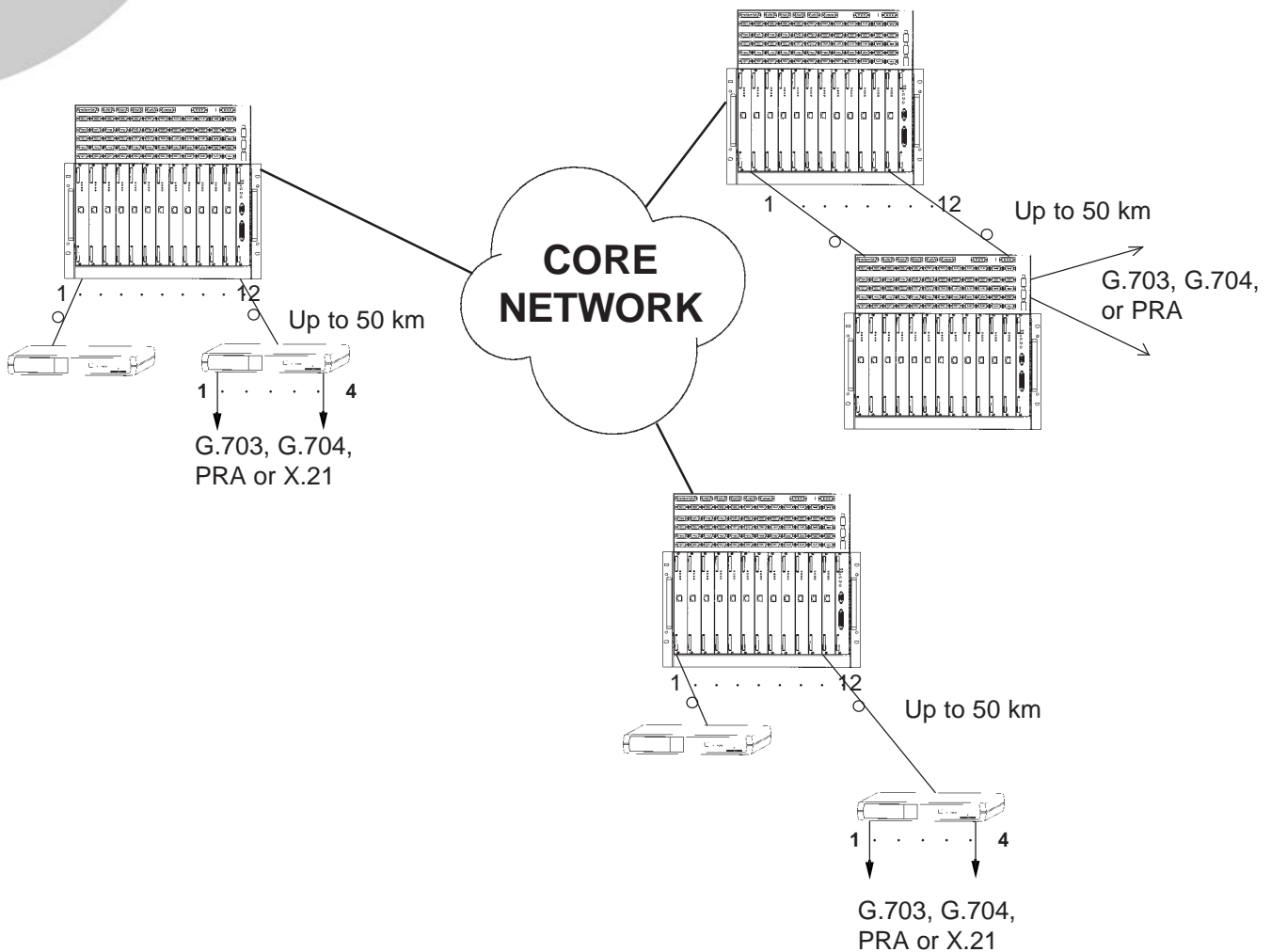
S9 shelf with 1521 FL OFLT



Rear view of desktop

Applications

- ◆ ISDN Primary Rate Access sections (LT and NT) according to ETSI standards.
- ◆ Access sections for leased lines either with transparent transfer or with processing related to ITU-T Rec. G.704 transmission format.
- ◆ Data interface X.21 (N=4, 8, 16, 31 or 32). Physical X.21 interface only on desktop.
- ◆ Individual configuration of each of the 4x2 Mbit/s interfaces.
- ◆ Tail sections to remote multiplexers/concentrators.
- ◆ Two fibre Single Mode (SM) transmission at 1310 nm (1550 nm on request).
- ◆ One fibre bi-directional Single Mode (SM) transmission.



Small to large business applications

Features

1521 FL R2.0 supports several CRC-4 configurations.

AUX channels in optical signal: Two 704 kbit/s over-sampled data channels (V.11 interface) with adaptation for remote access to a Q2 bus (acc. to ITU-T Rec. G.773). Recommended bitrate max. 64 kbit/s.

Supervision:

Local and remote alarm indications and alarm outputs. Quality and alarm information for local and remote 4x2 Mbit/s terminal is collected and processed in the local terminal for transfer to a Hand Held Terminal (HHT) or to a Common Network Controller Card (CNCC). SW for installation on a PC emulating the HHT is available. The CNCC can be used for local supervision from a PC or as a means to connect to a centralised TMN network. CNCC serves up to twelve 4x2 Mbit/s terminals in a shelf.

Installation:

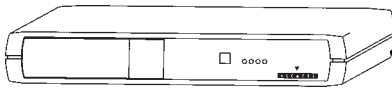
A 1521 FL R2.0 link normally consists of a terminal housed in a shelf at the exchange side, and a desktop terminal at the subscriber side. In alternative applications both terminals can either be housed in shelves or in desktops. The desktop can also be wall mounted.

Upgrade:

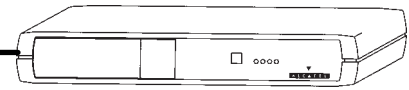
SW download which can upgrade the local and remote unit from the exchange side (LTE).

1+1 protection of 2 Mbit/s paths by duplication of 4x2 Mbit/s terminals.

Up to 50 km



4 x G.703, G.704, PRA
or X.21



4 x G.703, G.704, PRA
or X.21

Point - to - Point application

Technical Data

Electrical Interfaces:

Bitrate: 2048 kbit/s \pm 50 ppm
Line code: HDB3
Impedance: 75 Ω or 120 Ω
Connector:
Shelf: 1.0/2.3 for 75 Ω or
9 pin DSUB for 120 Ω
Desktop: BNC for 75 Ω and
RJ45 for 120 Ω

Jitter performance according to
ITU-T Rec. G.823 and G.921

Optical Interface:

Transmitter:
Laser (SM): 1270-1340 nm
Laser (SM): 1480-1580 nm
Nom. power: -10 dBm (1310 nm)
0 dBm (1550 nm)

Modulation: 16.896 MBaud
(5B8B code)

Receiver : PIN diode with
transimp. amplifier.

Input range: -10 dBm to -39 dBm
(BER < 1·10⁻¹⁰ at point R)

Optical connectors: FC/PC

Multiplexing:

Multiplexing according to ITU-T Rec.
G.742

Optical Line Requirements:

Two SM fibres (ITU-T Rec. G.652):
Max. loss 24 dB.
One SM fibre (ITU-T Rec. G.652):
Max. loss 15 dB.

Basic Operational Modes:

PRA: According to ETS 300 233
(T-interface with G. 704 MF or
BF).G.704: CRC-4 processing by
NT (T-interface with G.704 MF or
BF).

Transparent: Format independent
transfer, G.703.

X.21: N=4, 8, 16, 31 or 32.

Interchange circuits Cand I are
provided. Selectable master/
slave configuration.

Power:

Supply voltage:
Plug-in board: -38 to -72 VDC
Desktop unit: -38 to -72 VDC or
230 VAC with
external mains
adapter.

Power consumption:

Plug-in board: \leq 5.0 W
Desktop unit: \leq 6.0 W/9.3 W*
(* battery charge)

MTBF figures:

Plug-in board: 47 years
Desktop unit: 40 years

Environment:

Climatic and mechanical condi-
tions:

In use: ETS 300 019,
Class 3.2

Transportation: ETS 300 019,
Class 2.3

Storage: ETS 300 019,
Class 1.2

EMC: EN55022 and
EN55024

Over-voltage protection:

Plug-in board: 1 kV, 1.2/50
Desktop unit: ETS 300 046

Mechanical Characteristics:

19"/600mm plug-in board:
233 x 160 x 33 mm

Desktop unit:
320 x 250 x 50 mm