

SDH ACCESS *Optical Subscriber Multiplexer*

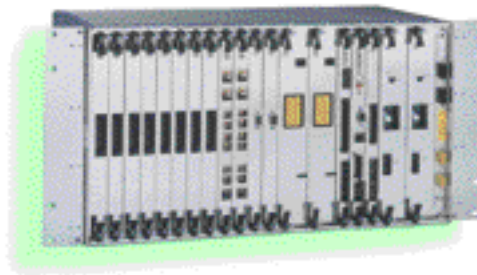
FSX2000

Flexibility and Survivability for SDH-Based Access Network Services

FSX2000 is an optical subscriber multiplexer that supports both analog and digital services on a single system and brings the advantages of SDH transmission into the access network. Operators can deploy the FSX2000 now, enabling the existing copper infrastructure to be reused. The TMN-conformant network management system (FLEXR® *Plus*) enables the FSX2000 to be remotely managed from a central location.

The FSX2000 is a digital loop carrier (DLC) system that contains the central office terminal (COT) and remote terminal (RT). This system offers flexible network configurations and provides a satellite terminal (ST) hubbing option.

The FSX2000's unique bus architecture is based on a universal shelf arrangement for increased flexibility and a reduced plug-in unit inventory. The Common Management (CME) and Expansion (EXP) shelves use the same mechanical assembly, allowing cards to be placed in any physical slot. The FSX2000's 64k cross-connect capability and 2,000-line V5.2 capacity allow for effective use of the feeder line, and the open interfaces of the FSX2000 enables it to be integrated into any vendor's exchange that supports the V5.2 interface.



Flexible Networking

- **Point-to-point/point-to-multipoint modes:**
In point-to-point and point-to-multipoint applications, the FSX2000 supports both integrated digital loop carrier (IDLC) and universal digital loop carrier (UDLC) modes of operation.
- **Hubbing mode:**
The FSX2000's active double-star capacity enables the connection of multiple satellites to a single hubbing node.
- **SDH integration:**
The FSX2000 offers SDH networking in two ways. The first option is for fully integrated SDH access networks, where the FSX2000 acts as a standalone SDH access node. The second option integrates the FSX2000 with Fujitsu's FLX series of SDH transport equipment, or with existing SDH transport equipment from another vendor.

Main Features

- V5.2 open interface
- Full range of analog and digital services
- Wide capacity range (30 to 2,000 channels)
- Supports IDLC and hubbing modes
- Integrated SDH networking
- E0 grooming and concentration
- End-to-end network management

FSX2000

Optical Subscriber Multiplexer

Features and Specifications

System Parameters

Total capacity: 1,920 lines with V5.2 concentration
 64k cross-connect capacity: 1,024 x 3,072
 Maximum hubbing connections: 30
 Hardware redundancy for critical components

Operating Modes

Integrated digital loop carrier (IDLC)
 Universal digital loop carrier (UDLC)

Subscriber Interfaces

POTS • Direct Dial In (DDI)PBX • Payphone (coin:12 kHz metering) • Earth (ground)/loop signaling PBX • 2W E&M interface • 4W E&M interface • 64 kbps G.703 • Nx64 kbps (V.21, V.35, V.11/V.36, G.703)* • Leased line data by rate adaption* • ISDNbasic rate access (ISDN-BRA)* • ISDNprimary rate access (ISDN-PRA) • E1 (2.048 Mbps) G.703 electrical* • HDSL interface*

* A DIUplus (Data Interface Port plus) interfaces this service.

PCM Coding

ITU-T G.711 A-law

VF Characteristics

ITU-T G.712, G.713, G.714

PCM Multiplexing

ITU-T G.732, G.735

Trunk/Network Interfaces

Optical interfaces: E3 (16 x E1), STM-1/STM-4
 Electrical interface: 21 x E1, 4 x E1

Tributary Interfaces:

Electrical interfaces: 64k, E1

Network Management Interfaces

Local terminal interface: V.24
 NMS interface for remote gateway access: X.25/LCN

Testing

Subscriber line test (metallic line test, loop resistance test)
 PCM E1/E0 test (trunk andtributary access)

Orderwire

Selective call with DTMF, daisy-chaining transmission link

Supervision

Alarm monitoring, status monitoring, remote provisioning, physical inventory, remote control, housekeeping

Power Requirements

Input voltage range: -48 V DC (-42 to -60 V DC)
 8 hour battery backup (outdoor/indoor cabinet)

Mechanical Construction

Shelf dimensions: 400 (H) x 600 (W) x 300 (D) mm

Operating Environment

Temperature range: -20°C to +65°C (standard), -40°C to +65°C (extended),
 -40°C to +40°C (cabinet operation)
 Relative humidity: 0 to 95% at 35°C

Cabinet Dimensions - Indoor

480 channels: 1,800 (H) x 1,200 (W) x 500 (D) mm
 1,400 channels: 1,800 (H) x 2,400 (W) x 500 (D) mm
 1,920 channels: 1,800 (H) x 3,600 (W) x 500 (D) mm

Cabinet Dimensions - Outdoor (front access type)

480 channels: 1,800 (H) x 1,500 (W) x 600 (D) mm

Specifications subject to change without notice.

FSX2000 Fujitsu Optical Subscriber Multiplexer

