OmniMux™400XL

Systems AS400/3X Multifunctional Super Multiplexer

FEATURES:

- The OmniMux™400XL is a multifunctional 5250 twinax over fiber super-multiplexer-star.
- Supports the following functions:
  - Fiber optic star
  - Fiber optic Super multiplexer
  - Fiber optic demultiplexer
  - Fiber optic demultiplexer star
- Star: Provides 5250 fiber to the desk connection.
- Super multiplexer: Provides up to eight fiber connections, each multiplexing 1-8 host ports.
- Demultiplexer: Converts a multiplexed link into fiber optic host ports.
- Demultiplexer-star: Converts a multiplexed link into a host port and provides fiber to the desk connection.
- Cut Through Repeating technology provides an optimum transmission speed.
- Digital Phase Locked Architecture and frame regeneration provides reliable data acquisition and facilitates long distance connectivity.
- Self test, fault recovery and display help in installation and maintenance.
- Software independent operation facilitates easy installation and management.

DESCRIPTION

General: The OmniMux™400XL is a versatile multifunction AS400/3X 5250 fiber connectivity unit. It inter-operates with all of Omnitron's Omni series products and is ideal for a wide range of 5250 fiber applications. Being software independent, it is easy to install and manage. It performs the following functions:

- Fiber optic star
- Fiber optic Super multiplexer
- Fiber optic demultiplexer
- Fiber optic demultiplexer star

As a fiber optic star, the XL provides per device fiber to the desk connectivity. On the host end (Link), the star may be connected to an RJ11/45 or a fiber source. On the device side it connects to each device via a fiber converter such as the OmniRepeater™ 400FTD.

As a SuperMux™ the XL connects to the host using a DB25 cable and eliminates the twinax distribution "Brick". The DB25 cable connects the eight host ports from the local controller and the XL multiplexes (condenses) these ports into a single data stream which is then forwarded to eight fiber links. Each one of the eight links delivers all multiplexed twinax host ports to a distant destination via fiber. At the distant location each fiber is connected to a second OmniMux™400 which demultiplexes the ports to their original host port designation. Based on the application at the distant end, the far end demultiplexer can be an XL or another OmniMux™ converting the ports back to twinax, twisted pairs or to fiber, for fiber to the desk applications.

As a demultiplexer, the XL demultiplexes the data stream received from the fiber link back into 8 host port data streams on fiber.

As a demultiplexer-star the XL combines the demultiplexing function with a star function. By selecting a specific port, that port alone can be selected from the multiplexed data stream and each of the fibers can serve as an individual device port.

Processing: The OmniMux™400XL utilizes a digital Phase Locked Architecture (PLA). This technology facilitates reliable data acquisition with data rate variations of -2% to +4%. This facilitates consistent connectivity with all IBM and compatible devices and host models. It also facilitates a high degree of noise and crosstalk immunity.

The XL monitors all incoming data streams simultaneously, checking for data activity and errors. Once the valid data frame is recovered, it is processed and checked. True data activity or errors are displayed for each link using LED displays thus helping in monitoring network operation and problem isolation.

When a valid data frame header is recognized, the data frame "Cuts Through" and is retransmitted. It is fully regenerated and restored to its full original amplitude, and any lost start bits are reconstructed and regenerated. Each data bit is reshaped and reclocked at a 50% duty cycle eliminating any clock jitter and ensuring reliable connectivity

Inputs and Outputs: The OmniMux™400XL features the following inputs and outputs:

- Host ports 0-7 for host DB25 connection
- Link 0 for host side RJ11/45 copper connection
- Link 1 for host side ST fiber connection
- Port-Link 0-7 for ST fiber connection to distant multiplexers or to local stars or devices

In SuperMux™ mode, the DB25 host ports 0-7 connect to the host's workstation controller and replace the 8 port twinax "Brick". On the far side, the Port-Links 0-7 connect to far side demultiplexers.

In demultiplexer mode, Link 0 (copper link) or Link 1 (fiber link) connect to a host side multiplexer. On the far end, Port-Links 0-7 connect to far end stars.

In star mode, Link 0 or Link 1 connect directly to a workstation controller (via a balun or a fiber converter), or to a demultiplexer. Port-Links 0-7 connect to twinax devices via fiber converters such as the OmniRepeater™400FTD.

In demultiplexer-star mode, Link 0 or Link 1 connect to a host side multiplexer. On the far end, the Port-Links 0-7 connect to individual devices via fiber converters.

APPLICATIONS:

The following depicts different 5250 solutions:

A. An OmniMux™400XL in SuperMux™ mode, connecting to the host via a DB25 cable and to far end demultiplexers via fiber.

B. An OmniMux™400XL in demultiplexer star mode, connected via fiber to an XL multiplexer and via fiber to the desk.

C. An OmniMux™400XL in demultiplexer operation, connecting ports to fiber optic stars.

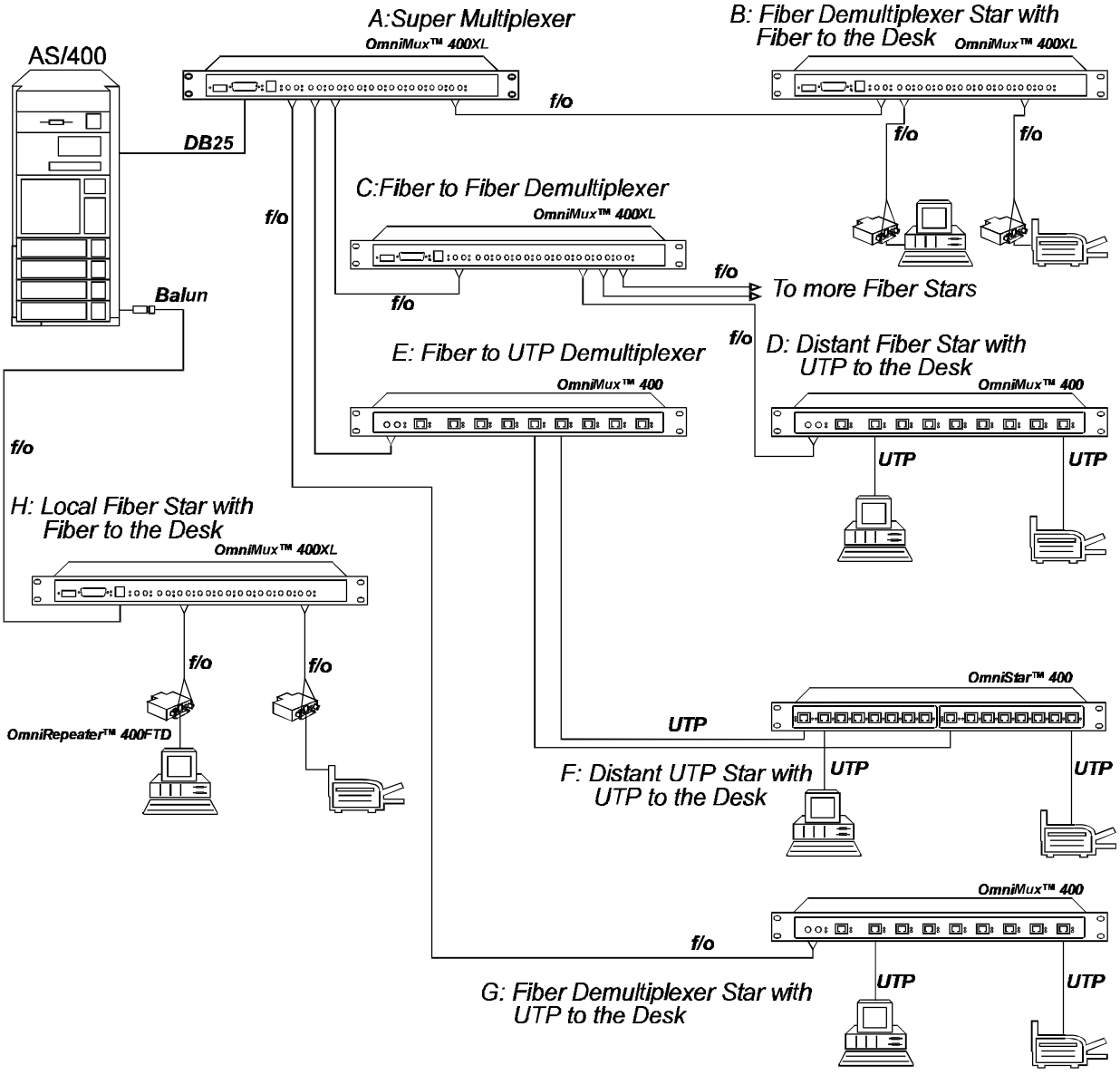
D. An OmniMux™400 in a fiber star mode, connected via fiber to a demultiplexer and via twisted pair wire (UTP) to the desk.

E. An OmniMux™400 in a demultiplexer mode, connected via fiber to an XL multiplexer and via UTP to a dual OmniStar™400 UTP star repeater.

F. An OmniStar™400 in a star mode connected via UTP to a demultiplexer and via UTP to the desk.

G. An OmniMux™400 in demultiplexer-star mode connected via fiber to an XL multiplexer and via UTP to the desk.

H. An OmniMux™400XL in a star mode, connected via UTP to the host and via fiber to the desk.



SPECIFICATIONS:

- Protocol: IBM 5250 for systems AS400/3X
- Devices Supported:
  All twinax IBM / compatible devices
- Interface:
  One (1) UTP
  One (1) fiber optic (pair) plus
  Eight (8) fiber optic (pairs)
  Eight (8) twinax in a DB25
- Mating Connectors Supported:
  - fiber optic: ST
  - twinax: IBM 7362229 or equivalent
  - UTP: RJ11 pins 3-4 active or
    RJ45 pins 4-5 active
- Cable Types:
  - fiber optic: MM -- 50/125,62.5/125,100/140 um or
    SM -- 9/125 um
  - twinax: IBM 7362229 or equivalent
  - UTP: Level 3 (EIA/TIA 568):
    24 AWG solid copper
    100 +/- 15 ohms @ 1 Mhz
    7.8 dB per 1000 ft. @ 1.0 Mhz
    (shorter distance @ lower grade)
  - DB25 P/N 9100-DB25-XX
- Data Rate: 1 Mbps +4%, -2%
- Supported Distances:
  - UTP: 3,000 ft.
  - DB25: 100 ft.
  - fiber optic: 15,000 ft.
- Indicators:
  - Power: Yellow LED (1)
  - Activity Green LED (11)
  - Parity Error: Red LED (11)
- Physical Dimensions:
  - Stackable: W:17.5"xD:11.0"xH:1.75"
  - Rackmounted: W:19.0"xD:11.0"xH:1.75"
- Weight: 7 lb.
- Power: 90 to 240 VAC, 50 to 60 Hz, 250 mA
- Temperature:
  - Operating: 0 to 40 degrees C
  - Storage: -40 to 75 degrees C
- Humidity: Up to 90% (non condensing)

ORDERING INFORMATION:

2800-UF	OmniMux™400XL, Eight links, MM fiber
2802-UF	OmniMux™400XL, Four links. MM fiber
2820-UF	OmniMux™400XL, Eight links, SM fiber
2822-UF	OmniMux™400XL, Four links. SM fiber
2880-RM	Rack Mounting Kit
9100-DB25-1	DB25-DB25, Octal-twinax Cable, 30 ft. (Consult factory regarding other lengths)

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