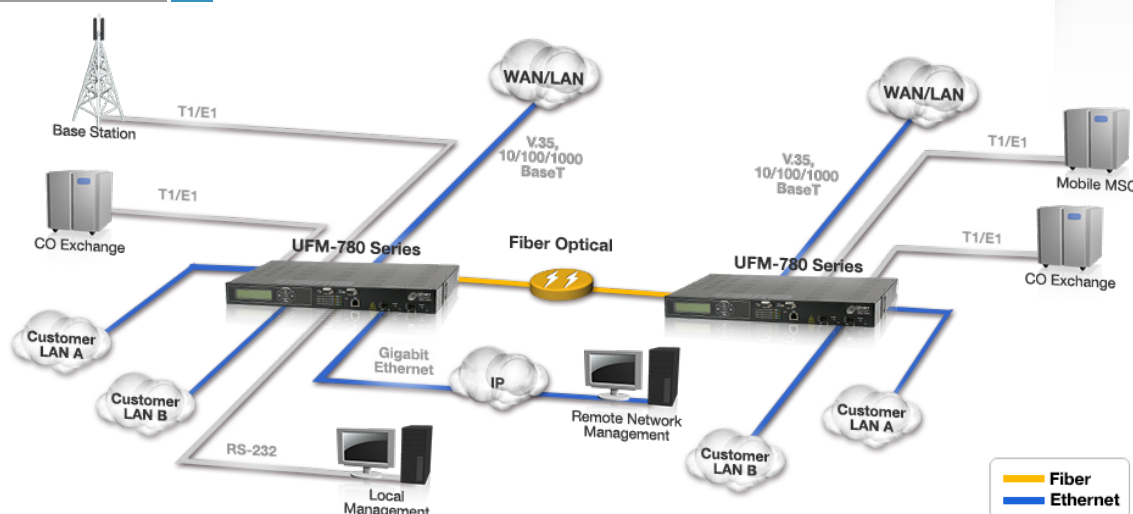# UFM-780

Gigabit Optical Multiplexer

Description

UFM-780, Gigabit optical multiplexer product series, provides a flexible and cost effective solution to transport T1/E1, Nx64kbps and Gigabit Ethernet Services over Gigabit optical fiber link. With modular system design, UFM-780 can accomodate different plugin cards for E1, T1, V.35 Nx64kbps and Gigabit Ethernet to fit user's current and future service requirement. UFM-780 can aggregate up to 16 E1+ 8 Gigabit Ethernet channels and share the total 1.25Gbps transportation bandwidth. It optimizes the bandwidth utilization over the optical fiber. The Gigabit optical uplink has 1+1 redundancy mechanism to increase system reliability.

Features

◆ **Tributary Capacity Options:**

4 tributary slots for T1/E1, V.35, and Gigabit Ethernet Up to 16x T1/E1,
4x V.35 (Nx64kbps), 8x Combo Ethernet
(10/100/1000Base-T or 1000Base-X)
or a combination of those.

◆ **Ethernet Interface**
- Two Combo Ethernet per card with VLAN features.
- Variety SFP modules for GbE optical interface.
- Ports are fully isolated.
- Sophisticated QoS and limiting schemes.

◆ **High Reliability**
- Transmission and power 1+1 redundancy

◆ **High Flexibility:** Hot swappable design

◆ **High Maintainability**

LCM & keypad local operation. Craft Interface, Telnet and GUI/SNMP network management functions

◆ **Standard Compatibility:**

Comply with ITU-T G.703, G.823, G.824, IEEE802.3u 10 Base-T & 802.3u 100Base-Tx Ethernet Interface, CE, RoHs

◆ **Low bit error rate(BER<10^{-10})**

◆ **Performance monitoring(PM) and history PM data storage**

◆ **Optical Trunk Interface**
- Line Rate: 1.25 Gbps
- Connector: SFP Module, LC/PC type
- Optical Link 1+1 redundancy protection mechanism
- Automatic Laser Shutdown(ALS) protection

◆ **E1 Signal Interface**
- Bit Rate: 2.048Mbps±50ppm
- Line Code: HDB3/AMI
- Pulse Shape: Conform to ITU-T G.703
- Impedance: 120Ω balanced or 75Ω unbalanced
- Jitter: Conform to ITU-T G.823
- Connector: RJ-48C/DB-25 for 120Ω balanced
  BNC for 75Ω unbalanced.

◆ **T1 Interface**
- Bit Rate: 1.544Mbps±50ppm
- Line Code: B8ZS/AMI
- Impedance: 100Ω balanced
- Jitter: Conform to ITU-T G.824
- Connector: RJ-48C/ DB-25

Application

Specifications

Ethernet Interface

◆ Two combo Ethernet interfaces per module, Two RJ-45 1000Base-T, two 1000Base-X SFP slot.

◆ Support auto-MDIX function

◆ Frame size:
  • UFM-780J/T: up to 9000 bytes

◆ Bridge functions:
  • Support MAC address filtering and Embedded 2K entries of address table per port

◆ Support IEEE 802.1Q VLAN, QinQ, 802.1P QoS, DSCP, 4 priority queues per port, Rate limiting

◆ End to End Fully isolated Ethernet channel without dependent on MAC learning.

◆ Large burst packet buffer

V.35 Interface

◆ Bit Rate: N x 64 Kpbs, N=1 to 32, 64, 128

Power Supply

◆ DC: -36 ~ -72V

◆ AC: 90~260V, 47~63Hz

Installation

◆ Rack mount on a standard 19"/23" rack compliant with ETS 300119

MTBF

◆ 50,000 hours minimum

Subrack / Models

◆ 19"rack mountable pizza box in nearly 1U height

◆ UFM-780J: 436mm x 320mm x 44.5mm (WxDxH)

◆ UFM-780T: 436mm x 320mm x 44.5mm (WxDxH)

Environment

◆ Operating Temperature: 0 to 65°C

◆ Relative Humidity: 5 to 90%, non-condensing

EMI/EMC

◆ FCC ClassA part 15B

◆ EN55082-1, EN55022

◆ CE, RoHs

Available Tributary Units

Tributary	Tributary Interface	Connector Type
QE1B	4xE1	BNC
V35M	V.35	M34 Female
ET1URJ(S)[1]	4xE1/T1	RJ-48C
ET1UDB(S)[1]	4xE1/T1	DB25
ET1WS	4xE1/T1	Wire Wrapping
GETH	2x10/100/1000BaseT 2x1000BaseX	RJ-45 LC/PC
QE1DG	2x10/100/1000BaseT 4xE1	RJ-45 RJ-48C
QE1QG[2]	4x10/100/1000BaseT 4xE1 V.35	RJ-45 BNC M34 Female

[1] S-model is optional：ET1URJS and ET1UDBS can comply with IEC 61000-4-5:2005 ED.2.0

[2] Option Unit for UFM-780T only