

Comet 1604FM
Comet 1608FM

Comet 1600FM Series

EFF G.SHDSL.bis Router



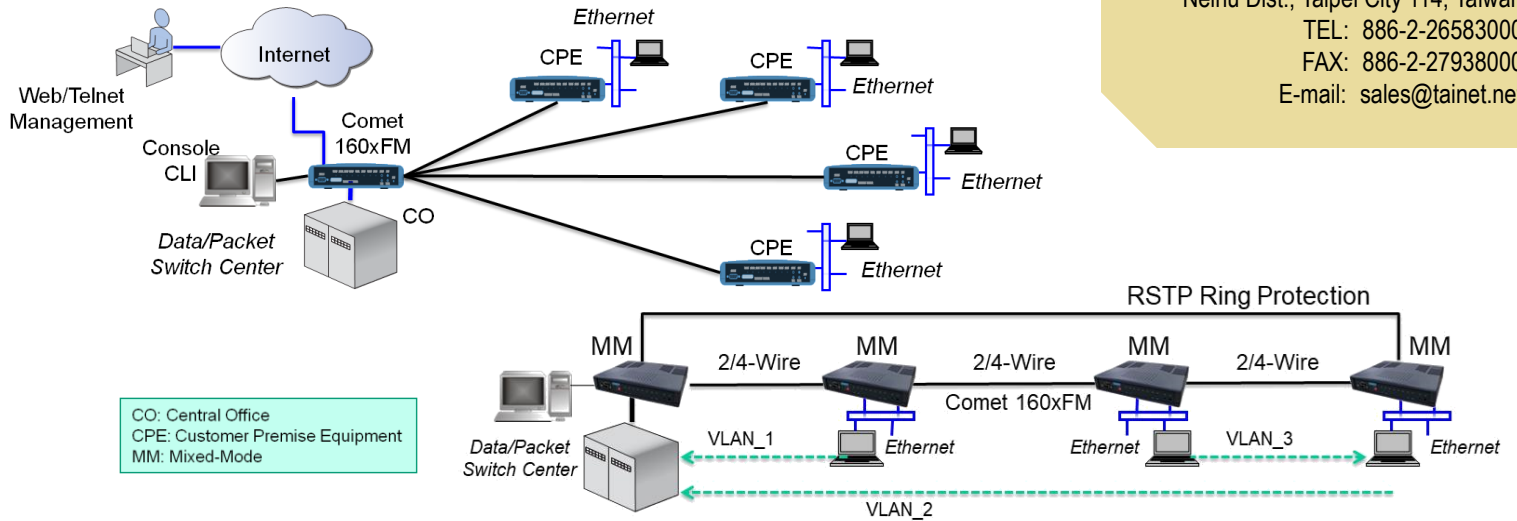
- EFM Ethernet extender over multiple copper wires
- Compliant with ITU-T G.991.2 standard, TC-PAM 4/8/16/32/64/128 line coding.
- 2 or 4 pairs G.SHDSL.bis with 5.7Mbps per pair
- Supports extension rate up to 60Mbps over 4 pairs of copper
- CO, CPE and Mixed Mode (MM) configurable for P2P, P2MP, Party Line linear link or Ring topology.
- Front panel LED indicators for ease of status monitoring
- Easy installation by DIP-Switches, Console, Telnet (SSH), WEB GUI(HTTPS), SNMP (v1/v2c/v3) or TR-069
- Remote software upgrade for field-deployed units via TFTP or HTTP/HTTPS
- Ethernet Routing or Switching with VLAN prioritization and QoS
- IEEE 802.1w RSTP and ITU-T G.8032 ERPS for Ethernet loop and ring protection
- Router function supports NAT/NAPT, DNS relay, DHCP client/server/ relay, RIPv1/RIPv2, Static route and OSPF, BGP.
- Support security-link feature and DSL line protection for data transmission
- Console/Serial COM switchable, comply with RFC 2217, may connect via TCP client/server or UTP mode.

TAINET's Comet 160xFM EFM series is the so called Ethernet Access Devices (EAD), Ethernet Media Data Converter (MDC) or Ethernet DSL modem, which takes advantage of the latest G.SHDSL.bis standard. This mini-terminal enables the transport of traffic from Ethernet interface with speed of 30/ 60 Mbps over EFM bonded 4/8 wires G.SHDSL.bis link.

Comet 160xFM EFM series supports high-speed dedicated symmetrical data transmission and utilizes DSL bandwidth. Which may work as Point-to-Point Ethernet Extender, Point-to-Multipoint Ethernet Concentrator, Party Line Linear link for Ethernet data drop and insert because of it works in IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) or ITU-T G.8032 Ethernet Ring Protection Switching (ERPS) mode. Furthermore, Comet 160xFM EFM series is fully compatible with TAINET iEAC-16, the intelligent Ethernet access chassis. This combination is designed to work with central office especially for long distance Ethernet Access Service. It covers the ADSL/VDSL's disadvantages of distance limitation by offering multi-pair bonding services.

Comet 160xFM EFM series is an ideal solution for Telecom Carriers, Service Providers and business users. In order to reduce operation/management burden, based on ITU-T recommendation G.991.2 standards, administrators of Comet 160xFM EFM series are entitled to configure the modems through DIP-Switches, Console, Telnet (SSH), WEB (HTTP/HTTPS), TR-069 or SNMP v1/v2c/v3 agent with ease.





Model

- Comet 1604FM, 4-wire, 4 Ethernet ports, P2MP
- Comet 1608FM, 8-wire, 4 Ethernet ports, P2MP

Line Interface: G.SHDSL.bis

- Type: 4 or 8-wire
- Standard: ITU-T G.991.2, ETSI 101 524
- Bonding protocol: IEEE 802.3ah EFM 2Base-TL
- Line rate: $n \times 64\text{Kbps}$, $n = 6 \sim 478$ (4w), $12 \sim 956$ (8w)
- Connector: 1 x RJ-45
- Line coding: TC-PAM 16/32/64/128
- Impedance: 135Ω

DTE Interface: Ethernet

- Ethernet type: 10/100BaseT
- Connector: 4 x RJ-45
- Auto-MDI/MDIX detection, Full/half duplex support
- Auto-negotiation for speed and duplex
- Support Layer 2 function
- IPv4/IPv6 supports

DTE Interface: Serial Port

- Serial type: RS-232C, DCE mode
- Connector: D-Sub 9 pin
- Data Rate: Asynchronous. 300~115200bps
- Pattern: 5~8 data bits, Even/Odd/Non-parity bit, 1 or 2 stop bit.
- Protocol: RFC-2217(Telnet), TCP (Virtual COM), UDP
- Adaption Mode: Console, Client or Server mode

Timing Source Function

- Internal clock
- Received clock from DSL line

Management

- Configuration via DIP switches, Telnet (SSH), WEB GUI (HTTP/HTTPS), SNMP v1/v2c/v3 and TR-069
- Console: DB9 connector (RS232C)
- Supports Performance Monitoring function (PM)
- Firmware upgradeable via Web or TFTP
- Front panel reset to default button
- Support three access levels for administrator, operator, user and operation log
- Support login password complexity of 6 characters, uppercase and lowercase letters, digits, special symbols
- Anti camouflage attack mechanism: lock IP and delay login
- Dying Gasp function indicates the CPE mode lost power.

Ethernet Networking function

- IEEE 802.3x flow control
- IEEE 802.1d transparent bridge function
- IEEE 802.1w RSTP for loop prevention
- IEEE 802.1q VLAN tagging, up to 4094 VLAN and VID
- IEEE 802.1p QoS with priority queues facility
- Bridge filter function based on source MAC addresses
- Scalable per port bandwidth control (Step = 64K, up to 100M)
- 2K MAC learning address
- Ethernet packet length 9K Jumbo frame for LAN and up to 2048 bytes for WAN
- ITU-T G.8032 Ethernet Ring Protection switching (ERPS)
- Support SNTP protocol to get network time
- DHCP Client/ Server/ Relay
- Static Route, RIP1/ RIP2 dynamic routing, OSPF, BGP
- Point to Point over Ethernet (PPPoE) protocol support
- Network and Port Address Translation (NAT & NAPT)
- Virtual IP for different VLAN (LAN supports dual IP)
- VPN provides PPTP & L2TP protocol
- Firewall Anti-DDOS attack & ACL security protection

LED Indicators

- PWR, TST, ALM, CPE, DSL1~4, LAN1~4
- Dual color LED for DSL status monitoring

Power Requirement

- 100~240V AC to 12VDC adapter (Comet 160xFM)
- DC 48V (Comet 160xFM/DC48)
- Power consumption: 8W

Certification

- ISO 9001 Quality Management
- CE Approval, EN 55032, 55024, 61000-3-2, 61000-3-3

Dimension

- 200(W) x 150(D) x 39(H) mm

Operating Environment

- Operation Temperature: $0 \text{ }^\circ\text{C} \sim 50 \text{ }^\circ\text{C}$
- Storage Temperature: $-20 \text{ }^\circ\text{C} \sim 75 \text{ }^\circ\text{C}$
- Humidity: 90%, non-condensing