

Comet 1604FM  
Comet 1608FM

# Comet 1600FM Series

## EFM/ATM G.SHDSL.bis Router



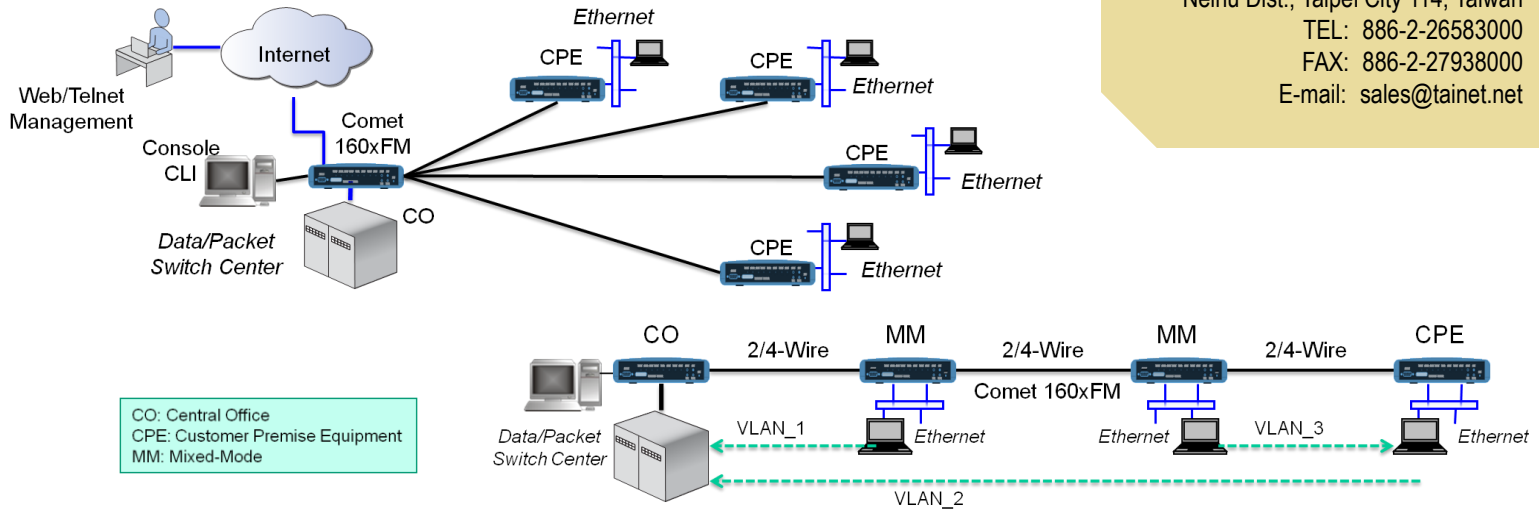
- EFM & ATM Ethernet extender over multiple copper wires
- Compliant with ITU-T G.991.2 standard, TC-PAM 4/8/16/32/64/128 line coding and IEEE 802.3ah EFM 2Base-TL bonding.
- 2 or 4 pairs G.SHDSL.bis with 5.7Mbps per pair
- Supports extension rate up to 60Mbps over 4 pairs of copper
- CO, CPE and Mixed Mode (MM) configurable
- Automatic line rate selection uses Line Probe function
- 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
- ATM AAL5 (RFC 1483) supports
- Remote software upgrade for field-deployed units via TFTP or HTTP/HTTPS
- Ethernet Routing or Switching with VLAN prioritization and QoS
- Router function supports NAT/PAT, DNS relay, DHCP client/ server/ relay, RIP1/RIP2 and Static route.
- Support security-link feature and DSL line protection for data transmission

TAINET's Comet 160xFM EFM/ATM 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/ATM series supports high-speed dedicated symmetrical data transmission and utilizes DSL bandwidth. The automatic line rate adjusting can be up to 15Mbps over 2-wire copper line symmetrically. Comet 1604FM/1608FM series typically works as an Ethernet extender, with up to 8 wires that could enhance the line rate and provide aggregated bandwidth up to 60Mbps. Furthermore, Comet 160xFM EFM/ATM series is fully compatible with TAINET iEAC-16, the intelligent Ethernet access chassis. This combination is designed to work as a 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/ATM 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, Comet 160xFM EFM/ATM series can control and monitors its remote units via the Embedded Operation Channel (EOC). Administrators of Comet 160xFM EFM/ATM 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:  $135 \Omega$

### 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

### Timing Source Function

- Internal clock
- Received clock from DSL line

### Ethernet Networking function

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

### Management

- Configuration via DIP switches, Telnet (SSH), WEB GUI (HTTP/HTTPS) , SNMP v1/v2c/v3 and TR-069\*\*
- Console: DB9 connector (RS232C)
- Local and Remote status for diagnostic
- Supports Performance Monitoring function (PM)
- Firmware upgradeable via Web or TFTP
- Front panel test button for easy loop healthy testing
- 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.

### LED Indicators

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

### Power Requirement

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

### Certification

- ISO 9001 Quality Management
- China CCC Quality Certification
- CE Approval, EN 55022, 55024, 61000-3
- CE LVD Safety, IEC-60950-1, EN 60950-1
- ITU-T K.21 Compliant

### 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

Note:

\*\* Features and specifications are subject to change without prior notice