G.SHDSL Carrier Grade Customer Premise Equipment
Model 3086-TC

Patton's Multi-Service ForeFront™ system and the Model 3086-TC offers users unparalleled flexibility and performance for providing multiple services over Legacy and IP networks.

nx64 Speeds to 2.3 Mbps
User-selectable data rates for Sync-Serial, WAN, or Ethernet/IP ports.

Optimized End-to-end Management
The combination of Patton's ForeFront System and 3086-TC provides unrivaled backhaul control and management of your network.

Choice of V.35, X.21, or T1/E1
Get the right interface with the right connector and avoid messy adapter or crossover cables.

Built-in Ethernet/IP Router Standard
With Patton's FlexIP architecture, split the bandwidth and use both interfaces at the same time.

Get ATM, IP, or PPP
Versatile interface options allow for simple deployment into any network environment.

LEDs and Full V.52/V.54 Diagnostics
Easy-to-access toggle switches let you test the link with built-in test modes. LEDs provide clear status at-a-glance.

WWW/SNMP Manageable
Built-in VT-100 console port makes setup a snap, and you can use the embedded HTTP/SNMP agent to manage the Model 3086 from anywhere in the world.

- Utilizing Multi-service ForeFront's Edge Router, any DSL connection can be a packet connection with Ethernet Bridging or IP routing.

- Legacy TDM services are maintained and not disrupted. Mix packet and TDM ports on a line card. Or do both packet and TDM on the *same* DSL link!

- Frame Relay Interworking using FRF5 and FRF8

- All services available in the 3086-TC are managed on a single platform

Patton's Model 3086-TC G.SHDSL ForeFront CPE combines high speed, symmetric DSL technology, G.SHDSL, with a potent TDM, IP, PPP, FR (optional) and ATM core, facilitating simultaneous connection of legacy serial, T1/E1, or Frame Relay devices as well as routed or bridged IP services to high speed ATM or TDM networks.

Patton 3086-TC is optimized to work in combination with Patton ForeFront Multi-Service Chassis enabling symmetrical 2.3 Mbps speeds at nx64 (n=1..36) over a single pair of wires. The 3086-TC boasts a dual subscriber interface with a standard 10/100 Ethernet and a choice of Synchronous-Serial V.35, X.21 or T1/E1 ports. Together, these interfaces can be concurrently configured for FR-to-ATM conversion using FRF.5 and FRF.8, IP routing or Ethernet bridging, or just TDM pass through—all in one compact and convenient packag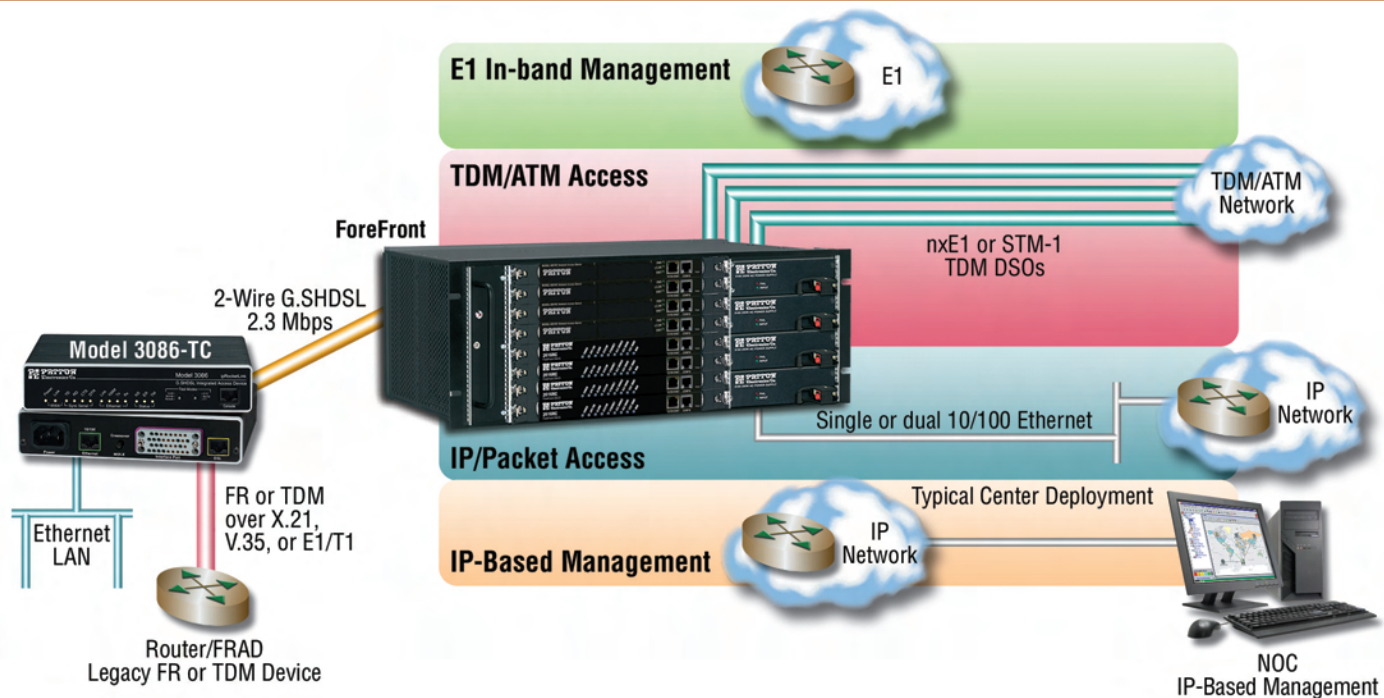e. The Model 3086-TC optional FR model, 3086FR-TC takes FR traffic from the serial interface and converts it into ATM according to FRF.5 or FRF.8 Interworking agreements, while the IP router moves data to and from any of the three interfaces (Ethernet, serial or E1/T1, and G.SHDSL) simultaneously.

Integrated software selectable DCE/DTE support eliminates inconvenient cross-over cables. The 10/100 Ethernet port enables access to any IP network via TDM, ATM, PPP, or Frame Relay. The 3086-TC includes convenient management options including DIP switch, Telnet, and WWW/SNMP. It provides bridging and routing functionality, along with advanced IP features such as DHCP and Firewall (IDS, Filtering, NAT). The 3086-TC in combinations with Patton's Multi-Service Chassis, ForeFront, allows for complete end-to-end system management.

Visit www.patton.com for more information.

PATTON®

E1 In-band Management — E1

TDM/ATM Access

ForeFront

TDM/ATM Network

nxE1 or STM-1
TDM DSOs

2-Wire G.SHDSL
2.3 Mbps

Model 3086-TC

IP/Packet Access

Single or dual 10/100 Ethernet

IP Network

Ethernet LAN

FR or TDM over X.21, V.35, or E1/T1

Typical Center Deployment

IP-Based Management — IP Network

Router/FRAD
Legacy FR or TDM Device

NOC
IP-Based Management

Specifications*

DSL
G.991.2 ITU G.SHDSL Annex A and Annex B, G.994.1 G.hs Handshaking. nx64 data rates over 2-wire full-duplex to 2.3 Mbps, symmetrical, TC-PAM encoding. Distance of 32,000 ft (9.8 km) at 192 kbps to 18,000 ft (5.6 km) at 2.304 Mbps.

DSL Connection
Shielded RJ-11F isolation per IEC 950, two-wire, 135 Ohm

Ethernet Connection
10/100Base-T, auto-sensing, full/half-duplex operation, built-in MDI-X

Serial Interface
V.35—M/34F, X.21—DB15F (DTE/DCE selectable), T1—RJ48C, E1—RJ48C and Dual BNC, 64 kbps – 2.304 Mbps (interface dependent)

FR (optional) to ATM Support
FRF.5 (Frame Relay Network Interworking), FRF.8 (Frame Relay Service Interworking). LMI with ITU Q.933, ANSI T1.617, and Cisco LMI implementation.

Management
EIA-561 (RJ-45) RS-232, VT-100 CLI, TELNET, Embedded WEB/HTTP, SNMP, Logging or SMTP on events: POST, POST errors, line/DSL, PPP/DHCP, IP MPOA AAL5 and Bridged encapsulation RFC 2684 and RFC 1577 IPoATM. LLC/VC Mux support.

ATM Support
UNI 3.0, 3.1, and 4.0 ATM QoS with UBR/CBR/nrt-VBR/rt-VBR and per- VC queuing and shaping. Peak cell rate shaping on a per-VCC basis up to 32 active VCCs I.610 OAM network management including AIS/RDI, loop-back and performance monitoring.

Protocol
Enhanced ILMI 4.0 for auto-configuration of ATM PVCs, IP (RFC 741), TCP (RFC 793), UDP (RFC 768), ICMP (RFC 950), ARP (RFC 826). IP Router with RIP (RFC 1058), RIPv2 (RFC 2453), OSPF (RFC 2328) Integrated relay agent (RFC 2132/RFC 1542) with 8 address pools. DNS Relay. IGMP v1 and v2. IP-in-IP (RFC-2003) encapsulation, Ethernet Bridging. NAT/NAPT with integrated application support, MultiNat with 1:1 mapping, Many:1, Many:Many mapping, NAT Port/IP redirection and mapping.

Security
DoS Detection/protection. Intrusion detection, Logging of session, blocking and intrusion events and Real-Time alerts, Password protected system management with a username/password for console and virtual terminal, Packet filtering firewall for controlled access to and from LAN/WAN. Support for 255 rules in 32 filter sets. 16 individual connection profiles. Access list determining up to 5 hosts/networks which are allowed to access management system SNMP/HTTP/TELNET

Indicators
13 LEDs: Power, DSL Link; Sync Serial: TD, RD, CTS, DTR; LAN: TX, RX, 100M Link; Status: NS, ER, TM.

Power Supply
Internal universal 100–240 VAC.

Compliance
FCC Part 15A, FCC Part 68, CE Mark, EMC Directive 89/336/EEC, Low-Voltage Directive 73/23/EEC, EN60950, EN55022 (CISPR 22)

Environment
Temperature: 32–122°F (0–50°C); Humidity: 5–90%, non-condensing

Dimensions
7.3W x 6.6D x 1.62H in. (185W x 168D x 41H mm)

Ordering Info

3086/RIC/UI-TCX: ForeFront G.SHDSL CPE with V.35 +10/100 Ethernet; Internal 120–220 VAC

3086/RIK/UI-TCX: ForeFront G.SHDSL CPE with E1/T1 +10/100 Ethernet; Internal 120–220 VAC

3086FR/RIC/UI-TCX: ForeFront G.SHDSL Frame Relay CPE with V.35 +10/100 Ethernet; Internal 120–220 VAC

3086FR/RIK/UI-TCX: ForeFront G.SHDSL Frame Relay CPE with E1/T1 +10/100 Ethernet; Internal 120–220 VAC

* Specifications subject to change without notice.