



# G.SHDSL FRF.5/FRF.8 over ATM NTU

## Patton Model 3088FR

The Model 3088FR NTU combines FRF.5 and FRF.8 Frame Relay/ATM conversion with G.SHDSL technology in a compact, high-performance subscriber unit for multi-service, revenue generating, DSL deployment.

### Frame Relay to ATM

Connect FRADS, routers or any Frame Relay devices to high-speed ATM networks using inexpensive DSLAM ports

### Flexible Interfaces

V.35, X.21, or T1/E1 interface options offers flexibility for all interconnection requirements.

### Interoperable with DSLAMs

Take advantage of Patton reliability whether you connect back-to-back or to a third-party DSLAM.

### LEDs & 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 3088FR from anywhere in the world.

The Patton Model 3088FR NTU combines the latest advances in high-speed DSL technology—G.SHDSL—with a potent Frame Relay and ATM core facilitating seamless connection of legacy Frame Relay devices to high-speed ATM networks.

Offering Frame Relay-to-ATM conversion using FRF.5 and FRF.8 internetworking, the 3088FR provides standards-based subscriber interfaces with a choice of synchronous-serial V.35, X.21, or T1/E1 ports. The 3088FR connects seamlessly to any third-party DSLAM, or to another 3088FR for back-to-back operation.

The Patton 3088FR enables interoperable physical access with 2.3 Mbps speeds at nx64 (n=1..36) over a single G.SHDSL G.991.2 pair of wires. The 3088FR—with Annex B support—is based on the ETSI and ITU G.SHDSL G.991.2 standards.

The 3088FR boasts easy installation with console, telnet, and WWW/SNMP management options via its integrated Ethernet port.

For more information, visit us at [www.patton.com](http://www.patton.com).



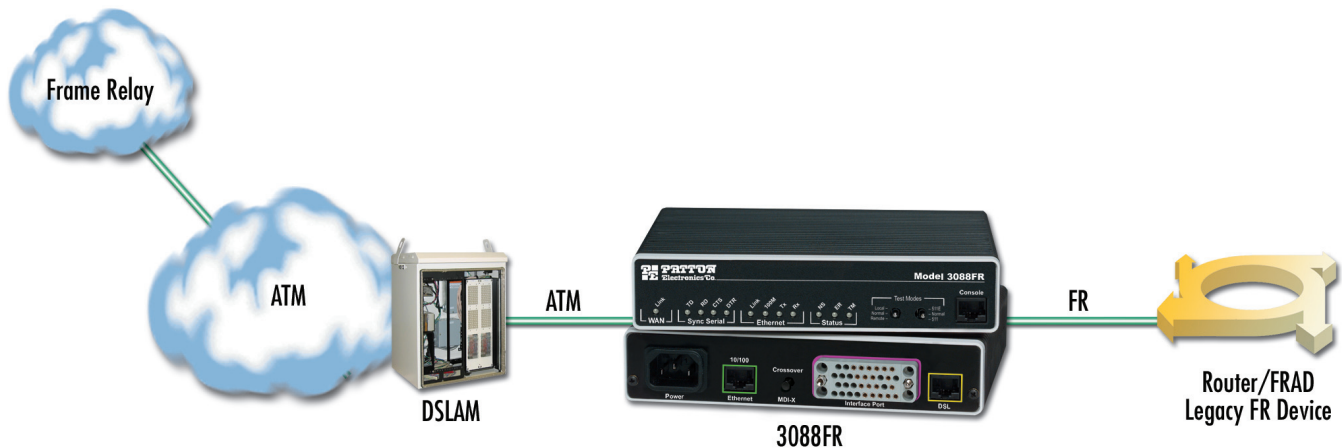
Special Rates Available Call for Details

- Internal universal (90–260) AC power
- 12 LEDs show status at-a-glance
- Configure with console, Web, Telnet, or switches



## Remote Office/Branch Office Voice Extension and Access diagram

The 3088FR converts FR from the serial port to ATM over the DSL link making the DSLAM/DSL CPE network transparent to the Frame Relay service being offered. In the scenario below, the 3088FR located at a branch office takes FR traffic, via its serial port and converts it to ATM cells for network transmission. In this case, the conversion is done using FRF.8 for payload mapping and VPI/VCI to DLCI mapping. The Frame Relay traffic is then switched by the ATM network to a separate ATM or Frame Relay termination point.



## Specifications\*

### DSL

G.991.2 ITU G.SHDSL Annex A and Annex B, G.994.1 G.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 2.312 Mbps.

### DSL Connection

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

### Ethernet Management Connection

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

### Serial Interface

V.35—M/34F, X.21—DB15F (DCE/DTE), T1—RJ48C, E1—RJ48C and Dual BNC.

FR 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.

### 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.

### Frame Relay

FRF.5, FRF.8, ANSI and CCITT LIM1 with user, network and both

### Security

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 90–260 VAC input or 48 VDC input. Optional external power available.

### Compliance

FCC Part 15A, FCC Part 68 (3088FR /T and /K), 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

7.3 x 6.6 x 1.62 in. (185 x 168 x 41 mm).

\* Specifications subject to change without notice.

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