

# X5822 High Speed Modem

## Broadband access for homes and enterprises



The X5822 is a ADSL2+ high speed modem with built in four port 10/100 Ethernet switch. Designed to interoperate with DSLAM equipment from major vendors. The router/bridge provides four 10/100 Base-TX Ethernet interfaces at the LAN side. With embedded firewall X5822 delivers secure broadband Internet access for home and enterprises with high-speed.

### Features

- Complies with various ADSL standards and provides up to 24 Mbps downstream rate per ADSL2+ (G.992.5)
- Built-in four-port 10/100Base-T Ethernet switch for PC or LAN connection, which supports automatic speed sensing as well as MDI/MDI-X crossover detection and correction
- RFC 2684 /1483 LLC/SNAP and VC-Mux encapsulation for bridged and routed protocols, which supports bridging, IPoA, PPPoA and PPPoE
- Interchangeable between bridge and router modes
- ATM PVC to LAN-group mapping as well as IP QoS support per connection can perfectly meet the requirements for multiple services and triple-play applications
- Allows LAN users to simultaneously access Internet through Network Address Translation (NAT, IP sharing) with protection from SPI firewall
- DHCP client, server or relay is supported for easy IP address management
- Configuration and management by Web-browser locally through Ethernet interface or remotely through ADSL link
- Supports SNMP for remote management from central office side
- Firmware upgradeable through HTTP or TFTP
- Supports TR-069 (optional)



## Specifications, hardware

### LAN Interfaces

- Four 10/100 Base-T Ethernet ports in RJ-45 connector, comply with IEEE 802.3/802.3u
- Supports auto negotiation, MDI/MDI-X detection and correction

### DSL (ADSL Line) Interface

- Two-wire loop with 100 Ohms line impedance in RJ-11 (for POTS) or RJ-45 (for ISDN) connector

- Complies with ITU-T G.992.1, G.992.2 and ANSI T1.413 issue 2
- Complies with ITU-T G.992.3 (ADSL2) and G.992.5 (ADSL2+)

### Environment

- Operation Temperature: 0°C ~ 50°C
- Operation Humidity: 5% ~ 95%
- Storage Temperature: -20°C ~ +85°C
- Storage Humidity: 5% ~ 95%

### Power

- AC Adapter: Input 100 ~ 240 VAC, 50/60Hz ; Output 12VDC 700mA
- Power Consumption: std. 5Watts / max. 5.5 Watts

### Physical Dimensions

- 130 mm x 140 mm x 30 mm (W x D x H)

## Specifikation, software

### ATM

- ATM cell over ADSL, AAL5
- Supports OAM F4/F5 and loopback cells
- Supports UBR, CBR and VBR traffic classes
- Supports VPI range 0-255, VCI range 1-65535 and up to 8 PVCs under bridge mode
- Auto VPI/VCI searching per DSL forum TR-068
- Payload Encapsulation:
  - RFC 2684 / 1483, multi-protocol over ATM
  - RFC 2225 / 1577, Classical IP and ARP over ATM
  - RFC 2364, PPP over ATM

### ADSL standard

- Supports ANSI T1.413 Issue 2
- Supports ITU G.992.1 Annex A (G.dmt)
- Supports ITU G.992.2 Annex A (G.lite)
- Supports ITU G.994.1 (G.hs)
- Maximum Rate: 8 Mbps for downstream and 1 Mbps for upstream

### ADSL2 standard

- Supports ITU G.992.3 Annex A (G.dmt.bis)
- Supports ITU G.992.3 Annex L (Reach Extended ADSL2)
- Maximum Rate: 12 Mbps for downstream and 1.5 Mbps for upstream

### ADSL2+ standard

- Supports ITU G.992.5 Annex A
- Maximum Rate: 24 Mbps for downstream and 3 Mbps for upstream

### Networking Protocols

- Supports ATM Forum UNI 3.1 / 4.0 Permanent Virtual Circuits (PVCs)
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- Supports UBR Without PCR/UBR With PCB/CBR/nrt\_VBR/rt\_VBR
- Supports RFC2684 LLC Encapsulation and VC Multiplexing over AAL5
- Supports RFC2364 Point-to-Point Protocol (PPP) over AAL5

- Supports RFC2225 Classical IP and ARP over ATM
- Supports RFC2516 PPP over Ethernet: support Relay (Transparent Forwarding) and Client functions
- Supports PPPoA or PPPoE Ip extension
- PPPoA/PPPoE support AUTO, PAP, CHAP authentication
- Supports multiple PPPoE sessions on one PVC
- Supports RFC1661 Point-to-Point Protocol
- Supports AM F4/F5 End-to-End/Segment Loopback Cells
- Supports both ATM QoS, 8 tx queues in soft-SAR and supports packet level priority queuing in ATM driver.

### Bridging feature

- Supports self-learning bridge (IEEE 802.1D Transparent Bridging)
- Supports 4096 learning MAC addresses

### Routing feature

- Supports NAT
- Supports ALGs (Application Level Gateways): such as NetMeeting, MSN Messenger,
- FTP, QuickTime, mIRC, Real Player, CuSeeMe, VPN pass-through IPsec VPN etc.
- Supports DMZ
- Supports Port forwarding
- Supports Port Triggering
- Supports UPnP IGD (Internet Gateway Device) with NAT traversal capability
- Supports static routing, RFC1058 RIPv1, RFC1723 RIPv2
- Supports DNS Relay/Dynamic DNS
- Supports DHCP Server/Relay/Client
- Supports IGMP Proxy
- Supports IGMPv1/v2 snooping in bridge mode
- Supports IP/Bridge/802.1p QoS
- Supports LAN port to VC mapping

### Security feature

- Firewall supports IP packets filtering based on IP address/Port number/Protocol type

- Supports Three level login including local admin, local user and remote technical support access
- Supports DOS (Denial of service) which detect & protect a number of attacks (such as SYN/FIN/RST Flood, Smurf, WinNuke, Echo Scan, Xmas Tree Scan etc.)

### Diagnostics

- Responds and initiates ATM OAM F4/F5 end to end, segment to segment loopback tests
- ADSL BER Test based on idle cell bit error detection
- RDI response to receiving AIS
- PPPoE server discovery
- Ping DNS server and Default Gateway
- Statistics display for ADSL PHY, ATM, LAN (USB, Ethernet) and WAN interfaces
- Diagnostics for multiple PVCs and PPPoE session

### Management

- User-friendly embedded web configuration interface with password protection
- Remote management access control
- Firmware upgrades through HTTP or TFTP
- SNMPv1/v2 agent with rfc2662 ADSL line MIB, rfc2515 ATM MIB, MIB-II
- Supports diagnostic function (ADSL BER test /PPPOE server discovery etc.)
- Interface via serial port, telnet, or ssh
- Menu-driven CLI via serial port or telnet
- PSI configuration file upload and download
- Date/time update from SNTP Internet Time Server
- Supports TR-069 (optional) (DeviceInfo, ManagementServer, Time, IPPingDiagnostic, etc)

**Note:** Not every listed feature will be included in the shipping product.

We reserve the right to make changes of technical specifications, housing or design without prior notice.



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