The Product Description of SmartAX

MT882 ADSL2+ Router

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Table of Contents

Product Description

1. Preface

The SmartAX MT882 ADSL2+ Router of Huawei (referred to as the MT882 hereinafter) complies with the new ADSL standards to provide asymmetrical transmission rates of up to 24 Mbps downstream and 1.2 Mbps upstream.

The MT882 provide an Ethernet interface and a USB interface for user access. It can be suitably applied in family entertainment or SOHO over Internet.

2. Highlights

Figure 1-1 MT882 appearance

- Highspeed access and stable performance
- Good interoperability with DSLAM devices
- Plug-and-play
- Elegant outlook and flexible mount modes

3. Features and Benefits

I. High Speed

- Max. downstream rate of 24 Mbps and upstream rate of 1.2 Mbps
- Max. transmission distance of 6.5 kilometers

II. Strong Maintainability

- Provides abundant line test and fault diagnose functions
- Provides five LEDs to indicate statuses of the device
- Web-based management interface for easy operation

III. Strong Adaptability

- Good interoperability with DSLAM devices of different vendors
- Strong anti-noise and spectrum-compatibility
- Provides up to eight PVCs
- Supports internal PPPoE dialer

IV. Ease of Use

- Plug-and-play
- Compact and elegant design with various mounting modes (horizontal, vertical and wall mount)

V. High Security

- Password protection on management interface
- PAP/CHAP authentication schemes
- DHCP server, NAT, IP Filter, firewall and protocol block

VI. Good Manageability

- Web-based configuration, management and firmware upgrading
- Remote management over Telnet session
- Supports SNMP V1/V2

VII. Low Power Consumption

- Supports L3 sleep mode
- Supports L2 low-power mode

4. Technical Specifications

I. Data Transmission Rate

- ITU-T G.992.5 (ADSL2+): downstream rate of 24 Mbps, and upstream rate of 1.2 Mbps
- ITU-T G.992.5 Annex L: Max. transmission distance of 6.5 kilometers

II. Physical Specifications

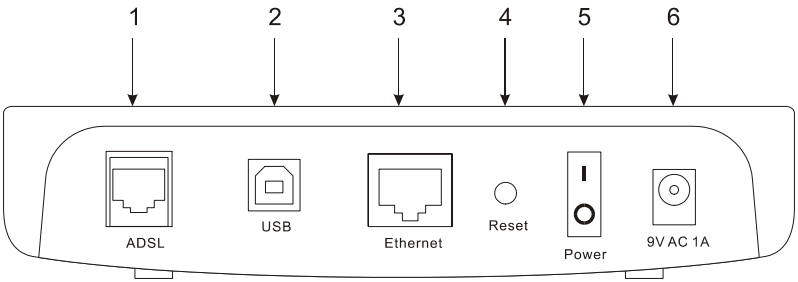
- Power output: 9V AC 1A
- Max. power consumption: <9W
- Operating temperature: 0°C~40°C (32°F~104°F)
- Relative humidity: 5%~95% (non-condensing)
- Dimensions: 135mm x 110mm x 28mm

- Weight: 180g

III. Interface Specifications

- One RJ-11 interface, which connects to the ADSL line.
- One 10/100 Base-T RJ-45 port and one USB port for connection with the PC or the LAN.
- One 9V AC power input

The interfaces are shown in the figure below.



1.Connect the ADSL cable
2.Connect the USB cable and your PC
3.Connect your PC
4.Reset Button
5.Power Switch
6.Connect the Power Adapter

Figure 1-2 Interfaces on the MT882 rear side

IV. LED Types

The figure below shows the LEDs of the MT882.

Figure 1-3 MT882 LEDs

LEDs	Indication
Power	A green LED that lights up when the MT882 is powered on
ADSL: LINK	A green LED that blinks quickly when the ADSL link is being activated. After the ADSL link has been activated, the LED lights up steadily.
ADSL: ACT	Blinking when there is traffic over the ADSL link.
LAN	Steady green and orange light indicates a normal Ethernet link connection. Blinking green light indicates that the data rate is 10 Mbps; while blinking orange light indicates that the data rate is 100 Mbps
USB	A green LED that lights steadily to indicate normal USB connection, and blinks to indicate there is traffic on the port.

5. Complied Standards and Recommendations

I. Standards

- ITU G.994.1 (G.hs)
- ITU G.992.5
- ITU G.992.5 Annex L
- IEEE802.3, IEEEE802.3u 10/100 Base-T Fast Ethernet
- USB 1.1

II. WAN Protocols

- Multiprotocol Encapsulation over ATM Adaptation Layer 5 (RFC 1483), supports LLC encapsulation or VCMUX encapsulation

- Classical IP and ARP over ATM (RFC 1577), supports LLC encapsulation or VCMUX encapsulation
- PPP over ATM (RFC 2364), supports LLC encapsulation or VCMUX encapsulation
- PPP over Ethernet (RFC 2616), supports LLC encapsulation or VCMUX encapsulation
- IP V4, TCP/UDP, ARP, RARP, ICMP, DNS, DHCP and NAT
- RFC 1334 (PAP) and RFC 1994 (CHAP)
- IEEE802.1d Spanning-tree Bridge
- RIP v1 (RFC 1058) and RIP v2 (RFC 1389)

III. Configuration and Management

- HTTP Server: supports Web interface configuration
- Telnet: supports establish of Telnet session on LAN port
- TFTP: supports upgrading of program
- SNMP V1 and V2

6. Detailed Description

I. High Speed

The MT882 is in full compliance with ADSL2+: ITU G.992.5. The spectral range of the MT882 is 2.2MHz, and its maximum number of sub-carriers is 512. The maximum downstream rate is 24 Mbps, and the maximum upstream rate is 1.2 Mbps, enabling a broader range of applications.

With its support on ADSL2+, the MT882 provides a maximum access distance of 6.5 Km.

II. Strong Maintainability

The MT882 provides abundant line test/diagnose functions, supporting single end loop test and dual end loop test. By cooperating with the DSLAM device on the CO end, the MT882 is able to collect and report, in and after the initialization process, key parameters including line noise, line attenuation, SNR margin and maximum available rate. The line test and fault diagnose functions of the MT882 provide strong support to the service providers in respect of maintenance operation and fault-finding.

The five LEDs on the MT882 help to monitor the connection status or even to locate the faults. The Web-based configuration interface helps you to master the management and configuration methods easily.

The MT882 supports OAM end-to-end loopback test to detect the connectivity of ATM links.

III. Strong Adaptability

The MT882 adopts seamless rate adaptation, prohibition of sub-channels, fast bit-switching and dynamic rate allocation to achieve outstanding ability in rate auto-adaptation. The MT882 has excellent anti-noise ability to ensure reliable services.

IV. Ease of Use

The MT882 has very strong adaptability to different network conditions. The factory-configuration of PVC complies with most of the bridged application scenarios.

The MT882 also features elegant outlook and flexible mounting modes. Its well-designed housing and base structure allows the

MT882 to be mounted horizontally, vertically or to the wall, making it more applicable for household use.

V. High Security

The MT882 employs multiple security technologies, including:

- Firewall

The firewall protects local network and executes deny of service to prevent the following attacks:

- IP Spoofing
- Tear Drop
- Smurf and Fraggle
- Land Attack
- Ping of Death
- IP Filter

The MT882 IP filter function allows you to create rules for controlling data input and output between the LAN and the Internet, and inside the LAN, in order to implement security protection and internal management of LAN. By configuring the IP filter function, you are able to keep away the known threats in advance

The MT882 provides powerful IP filter function on the transmission direction, source IP address and port number, destination IP address and port number, protocol type (ICMP or TCP), packet size and slice. In terms of protocol type filtering, specific packets of the protocol, like ICMP ECHO/REPLY and TCP SYN, can be filtered.

The MT882 also supports monitor on potential attacks by configuring a blacklist. It allows multiple administrator mailboxes so that the log targets can be informed in time when there is an attack

- Protocol Block

The protocol block function of the MT882 prevents the ADSL terminals from forwarding data of a specific protocol. This function is used to discard data packets of an undesired protocol in a network. By configuring the protocol block function, you are able to control the type of packets to be transferred over the LAN, in order to avoid security risks and reduce unnecessary burden of the network.

The MT882 is able to block these types of protocols: PPPoE, IP Multicast, RARP, 802.1Q, IPX, AppleTalk, NetBEUI, BPDU and IPv6 Multicast.

VI. Good Manageability

The MT882 supports these management methods:

- Web-based management interface
- Remote management over Telnet session
- Centralized management based on SNMP V1/V2

VII. Low Power Consumption

The MT882 supports L3 sleep mode. In normal operation, the MT882 works at full capacity. But when the subscriber is not on the line, the MT882 and corresponding subscriber module in the central office will both enter the sleep mode.

The MT882 supports L2 low-power mode. When the traffic is small, the MT882 is able to reduce the transmitting capacity to save the power, and thus reduce crosstalk on the line.

The two modes above provided by the MT882 can effectively save the power consumption meanwhile reduce the heat radiation of the device in the central office.

7. Acronyms and Abbreviations

ADSL	Asymmetric Digital Subscriber Line
ATM	Asynchronous Transfer Mode
BPDU	Bridge Protocol Data Unit
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name Server
DSLAM	Digital Subscriber Line Access Multiplex
IP	Internet Protocols
ICMP	Internet Control Message Protocol
IPoA	Internet Protocols Over ATM
LAN	Local Area Network
NetBEUI	NetBIOS Extended User Interface
PPP	Point to Point Protocol
PPPoA	PPP over ATM
PPPoE	PPP over Ethernet
PVC	Permanent Virtual Connection
RARP	Reverse Address Resolution Protocol
RIP	Routing Information Protocol
SNMP	Simple Network Management Protocol
TCP	Transfer Control Protocol
TFTP	Trivial File Transfer Protocol
UDP	User Datagram Protocol

USB	Universal Serial Bus
VCI	Virtual Channel Identifier
VPI	Virtual Path Identifier