

ADSL2/2+ VoIP IAD APS1100G

Introduction



Mototech VoIP IAD is a highly integrated ADSL2+ Wi-Fi voice gateway router. It not only enables realization of low-cost ADSL bridge, router and gateway products but also provides new opportunities for the service provider to derive additional value from the already deployed copper infrastructure.

The capabilities of Mototech IAD allow for some highly advanced applications beyond just typical DSL, WLAN access points or VoIP.

Benefiting from the fact the IAD also connects to a PSTN line by nature of the DSL connection, some of these applications can provide a competitive advantage over equivalent cable modem services. Also, given the inclusion of a powerful MIPS-based RISC processor and a WLAN connection, these services can be managed from virtually anywhere in the home through an easy to use web-GUI management interface.

Feature

- Complete solution for integrated ADSL2+ / 802.11b/g WLAN gateway with VoIP
- Cost effective extension DSL modem design to full-featured ADSL2+/WLAN/VoIP gateway
- Lifeline relay for power failure telephony operation
- T.38 fax support
- One push button for ease of secured wireless setup
- An option of USB host to support USB printer server
- An option of Ethernet connection to the WAN
- TR-068 and TR-069 supported
- User can browse the internet while talking on the phone simultaneously

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Normal Specification

ADSL Compliance

- ANSI T1.413 Issue 2
- ReADSL2
- ADSL (G.992.1 and G.992.2)
- ADSL2 (G.992.3 and G.992.4)
- ADSL2+ (G.992.5)

ATM Support

- Up to 16 PVCs
- OAM F4/F5 loop back
- Adaptation Layers AAL5, AAL2 and AAL0 are supported

PPP Support

- PPP over ATM PVC (RFC 2364 & RFC1577)
- PPP over Ethernet (RFC2516)
- PAP (Password Authentication Protocol), CHAP (Challenge Handshake Authentication Protocol) and MS-CHAP (Microsoft Challenge Handshake Authentication Protocol)

Bridge Mode

- RFC 1483 Bridge
- Bridge Filtering

Router Mode

- RFC 1483 Route
- DNS relay
- IPoA (RFC1577)
- DHCP (RFC1541) Server, Relay and Client
- Network Address Translation (NAT)/ Network Address Port Translation (NAPT)
- IGMP v1 and v2
- RIP 1 & 2 supported
- ToS supported

Quality of Service (QoS)

- Constant Bit Rate (CBR)
- Unspecified Bit Rate (UBR)
- Real-Time Variable Bit Rate (VBR-rt)
- Non-Real-Time Variable Bit Rate (VBR-nrt)

Management

- TR-069 or SNMP v1/v2c management
- Remote/ local configuration & management through web GUI interface
- Firmware upgrade through web management and TR-069 management

Voice over IP Specification

Voice over IP Protocols

- SIP (RFC 3261/RFC3264)
- Basic Call
- Call hold/Call waiting/Call transfer/3-way call/Call forward
- Redial
- PSTN lifeline

Voice Codecs

- G.711a/u
- G.726
- G.729A
- Silence suppression: VAD/CNG
- G.723.1
- iLBC
- BroadVoice

Fax/Modem

- T.38 fax relay
- G.711 pass-through

Voice over IP Specification

- Call Progress Tone generation / detection
- DTMF detection/generation
- DTMF transparent mode/RFC2833 relay
- DTMF INFO

Echo Cancellation

- G.168 Echo Cancellation

Caller ID Generation

- FSK (Bellcore/ETSI/NTT) Type I, Type II generation
- DTMF caller ID generation

Wireless Specification

- Standards: IEEE 802.11b/g for wireless LAN
- Frequency Band: 2.400 ~ 2.483 GHz
- Spreading: DSSS (Direct Sequence Spread Spectrum)
- Security: 64 / 128-bit WEP encryption, 802.1x, WPA and WPA2
- Operating Range
 - Open space: 100m ~ 300m
 - Indoor: 35m ~ 100m
- Supported Bit Rate: 54M, 48M, 36M, 24M, 18M, 12M, 11M, 9M, 6M, 5.5M, 2M and 1Mbps
- Modulation: OFDM and DSSS
- Output Power: 11g at 14dBm (typical), 11b at 18dBm (typical)
- Receive Sensitivity: 11g < -65dBm, 11b < -80dBm

General

Media Interfaces

- One (1) RJ-11 DSL interface
- Two (2) RJ-11 analog telephone adaptor interfaces
- One (1) FXO port
- Four (4) RJ-45 10/100Mbps auto-crossover Ethernet ports
- One (1) option of RJ-45 10/100Mbps auto-crossover Ethernet WAN port
- One (1) factory default reset button
- One (1) ON/OFF switch button
- One (1) option of USB 2.0 host connector
- One (1) option of USB 2.0 slave

LED Indicators

- Power LED
- LAN LED
- WLAN LED
- Internet LED
- USB LED (Optional)
- VoIP Active LED x 2
- ADSL LED

Networking Protocols

- RFC2684 VC-MUX, LLC/SNAP encapsulations for bridged or routed packet
- RFC2364 PPP over AAL5
- 802.1q/1p VLAN over RFC2684 Bridge encapsulation
- IpoA, PPPoA, PPPoE, Multiple PPPoE sessions on single PVC, PPPoE pass-through, PPPoE filtering of non-PPPoE packets between WAN and LAN
- Transparent bridging between all LAN and WAN interfaces
- DNS relay
- DHCP server/client/Relay
- IGMP Proxy, IGMP Snooping
- RIP v1/v2: Enable RIP over multiple WAN interfaces
- LAN port to VC Mapping: Supports traffic mapping between a group of LAN ports to a PVC

Firewall/Filtering

- Stateful Inspection Firewall
- TCP/IP/Port/interface filtering rules Support both incoming and outgoing filtering
- Denial of Service (DOS) Protect following DOS attacks from WAN/LAN: ARP Attack, Ping Attack, SYN flooding, IP smurfing, ping of Death, fraggle, UDP ECHO (port 7), Unreachable, teardrop, land
- MAC Layer Filtering based on protocol type, source/destination MAC address and direction
- Day-time Parental Control

NAT/NAPT

- Support Port Triggering and Port forwarding
- Support DMZ host
- ALG support Microsoft H.323/NetMeeting, FTP, TFTP, RTSP, ICMP, IPSec/VPN and IPSec/L2TP, PPTP, Microsoft DirectX games ALG (e.g., Age of Empire), SIP Proxy.

Security

- Three level login including local admin, local user and remote technical support access
- Service access control based on source IP addresses or on incoming interface (WAN/LAN)

VPN

- IPSec / PPTP / L2TP pass through

Logging

- User selectable Logging levels
- Local display and/or send to remote syslog server or save to file

Packet Level QoS

- IP/Bridge/802.1p QoS Supported both routed and bridged mode PVCs for packet level QoS classification rules, priority queuing using ATM TX queues, IP TOS/Precedence, 802.1p marking, DiffServ DSCP marking and src/dest MAC addresses classification.
- Manage utilization of the CPU resources to allow better quality of the VoIP calls under heavy data traffic conditions.

Other

- USB 2.0 host for printer server support IPP protocol
- Universal Plug and Play (UPnP) Internet Gateway Device (IGDv1.0)
- Date/time update from SNTP Internet Time Server

Environmental Specification

- Operating Temperature: 0°C ~ 40°C
- Non-Operating Temperature: -25°C ~ 70°C
- Operating Humidity: 80% non-condensing
- Non-Operating Humidity: 95% non-condensing
- Power Input: Device input power at 12VDC/2A

