

# CTDI

## CTDI Products: End-to-End Solutions

### 2104a/2108a/2112a VoIP IAD

## Multi-Service Access Gateway Delivering POTS, VoIP, Data & ADSL/2/2+

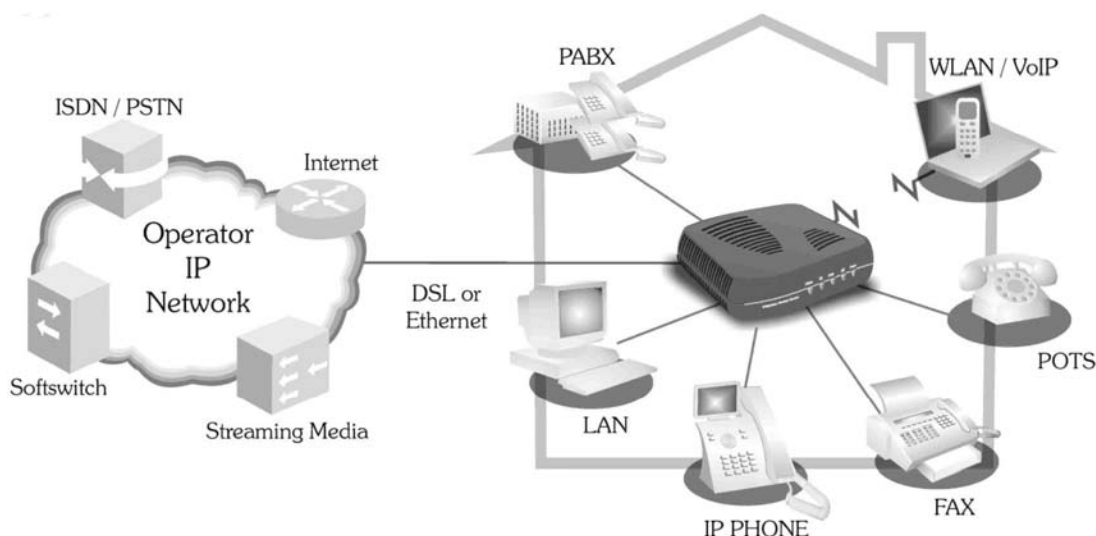
#### Overview

- ADSL /2/2+ or Ethernet WAN
- VoIP SIP or MGCP
- SIP Trunking
- 4 port LAN - 10/100baseT/TX
- Wireless LAN - 802.11b/g (optional)
- Local SIP Proxy + Dial Plan (optional)



#### Key Features

- ADSL/2/2+ modem/router with integrated POTS and VoIP gateway
- Optional WLAN
- DSL or Ethernet WAN
- Provides 'equivalent' voice service over broadband / VoIP
- Best in Class QOS, incl. Voice over WLAN
- Stateful inspection firewall
- Extensive inter-op experience
- Target market segment:
  - SME
  - Enterprise
- Remote management & provisioning
  - TR-069
  - Web
  - Telnet
  - SNMP





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# 2104a/2108a/2112a VoIP IAD Technical Specifications

### VoIP Codecs

- G.711 a-law, u-law, 64 kbps
- G.726/G.721 ADPCM, 32 kbps
- G.729ab CS-ACELP, 8 kbps
- G.168 Echo Cancelling
- Silence detection
- Comfort noise generation
- DTMF detection and relay
- Fax and modem detection
- T.38 fax relay
- Variable length dynamic jitter buffer
- Packet loss compensation PLC
- RFC 4040 - Clear mode (ISDN Only)

### Quality of Service

- ATM: CBR, VBR-rt, VBR-nrt
- UBR, UBR+
- ATM VC traffic shaping
- IP: TOS/DSCP bit prioritization
- VLAN tagging
- Diffserv
- Packet classifier and metering
- Transmit scheduler
- Opt. Algorithmic dropping
- RTCP (RFC3550)
- RTCP-XR (RFC3611)
- PBR/VLAN

### Data

- 8 ATM PVC on DSL WAN
- Bridged and routed encapsulation - RFC 1483
- LLC/SNAP, VCMux, HDLC
- MER (Mac encapsulated routing)
- PPPoA, PPPoE, PAP, CHAP
- IPoA - RFC 2225
- VLAN termination

### Routing

- Up to 16 LAN subnets with DHCP server association
- RIP v1/v2
- NAT, NAPT (PAT)
- IP Multicast forwarding
- IGMP v1/v2 & Proxy
- DHCP server, client, relay
- DNS server, client, relay
- Transparent bridging
- STUN

### Regulatory

- CE marked
- RoHS compliant
- Safety: EN60950
- RFI: Emissions EN55022
- RFI: Immunity EN55024

### Security

- IP filtering
- NAT/NAPT
- Password access
- Configurable access controls
- Stateful inspection firewall
- DOS protection

### Environmental

- Operating temp. 0 - 40 deg C
- Storage temp. -10 - 60 deg C
- Humidity 5 - 95% Rel. Hum.

### Configuration & Management

- HTTP, Telnet, SNMP,
- Local or remote access
- Firmware upgrade HTTP, TFTP
- ICMP Ping, syslog, trace route
- TR-069, TR-098, TR-104, TR-111

### LED Indicators

#### Front

- Power, DSL, LAN, Voice, WLAN

#### Rear

- LINK/DATA for each LAN port.
- Hook status for POTS ports

### Mechanical

- Unit Size: 200 x 172 x 55 mm
- Boxed Size: 290 x 250 x 100mm
- Boxed Weight: 1.4 kg

### Network Interfaces

#### ADSL /2 /2+: 1x RJ11

- up to 24 Mbps downstream
- up to 3.072 Mbps upstream
- G.992.1 (G.dmt)
- G.992.2 (G.lite) / G.992.3 (G.dmt.bis) / ADSL2
- G.992.5 ADSL2+

#### Ethernet: 4x RJ45

- Configurable LAN or WAN
- 10/100baseT/TX
- Auto MDI/MDIX

#### WLAN: 802.11b/g (optional)

### Telephony Interfaces

#### POTS FXS: 8x RJ11

- Configurable line impedance 600 Ohm or complex (TBR21)
- DTMF and loop disconnect dialing
- Line reversal
- REN of 4
- CLASS features

#### Configurable:

- Ring frequency & cadence ring signal = 50Vrms
- On-hook batt. Voltage = 48V
- DC loop current = 25mA

### Voice Protocols

#### SIP: RFC 3261, 2453

- Single port registration
- Trunking
  - Multiple device registration
  - Single device registration
  - No registration
  - POTS trunking
- Tel URI
- Local SIP proxy (optional)
- Local dial plan

#### MGCP: NCS, RFC 2705, 3435

### Power

- AC/DC Adapter
- 110/230 Vac – 12V dc/24W max