

Cisco ATA 186 Analog Telephone Adaptor

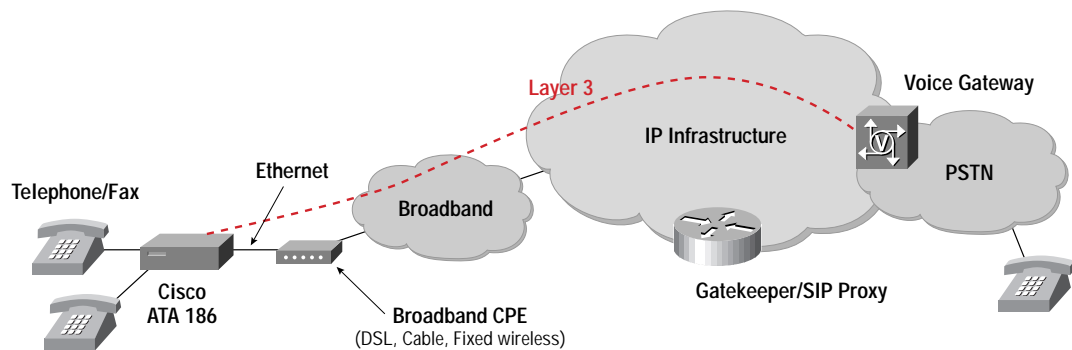
Enabling service providers to bring IP telephony to the residential market



The Cisco ATA 186 Analog Telephone Adaptor is a handset-to-Ethernet adaptor that interfaces regular analog phones with IP-based telephony networks. The Cisco ATA 186 is installed at the subscriber's premises and supports two voice ports, each with its own independent phone number. This adaptor takes advantage of broadband pipes being deployed through digital subscriber line (xDSL), fixed wireless, cable modems, and other Ethernet connections.

The Cisco ATA 186 is the ideal solution for service providers deploying IP telephony services in the residential market while taking advantage of the installed base of handsets. By deploying IP-based telephones as a second-line, service providers can now offer additional revenue-generating services for emerging telephony applications in their residential services portfolio. Service providers can also realize a rapid return on investment (ROI) by utilizing their existing networks and move to converged network architectures (see Figure 1). Thus, saving capital costs along with operational and administrative costs.

Figure 1 Cisco ATA 186—Endpoint for an end-to-end broadband solution





Cisco ATA 186 Features and Benefits

Interfaces legacy telephones to IP-based networks

- Two voice ports support legacy (analog) touch-tone telephones
- RJ-45 connection to 10/100Base-T Ethernet hub/switch

Flexible configuration and provisioning options

- Auto-provisioning with provisioning servers
- Automatic assignment of IP address, network route IP, and subnet mask via Dynamic Host Configuration Protocol (DHCP)
- Web configuration through built-in Web server
- Voice prompt configuration via touch-tone telephone keypad (IVR menu)
- Administration password to protect configuration and access
- Remote upgrades through network

Clear, natural-sounding voice quality

- Advanced pre-processing to optimize full-duplex voice compression
- High performance line-echo cancellation eliminates noise and feedback

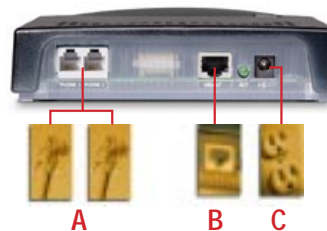
- Voice activity detection (VAD) saves bandwidth by delivering voice, not silence
- Regular telephone call experience with comfort noise generation (CNG) and virtual dial-tone
- Dynamic network monitoring to reduce jitter artifacts

Supports standard protocols for interoperability and deployment flexibility

- H.323
- SIP

Small form-factor design to fit in all environments

System Requirements



- A Regular analog, touch-tone telephones
- B 10Base-T category-3 cable or better (access to an IP network)
- C Power for AC/DC power adaptor

Table 1 Cisco ATA 186 Software Specifications

Category	Specification
Control protocols	H.323 v.2 SIP RFC 2543 bis
Voice Codecs	G.729A (only one port at a time) ¹ G.723.1 (both 5.3 kbps and 6.3 kbps operation) G.711A G.711
Provisioning	DHCP (RFC 2131) Web configuration via built-in Web server Voice prompt configuration via telephone keypad (IVR menu) Basic boot provisioning (TFTP Profiling) Dial plan provisioning
DTMF	DTMF tone detection and generation
Out-of-band DTMF	H.245 out-of-band DTMF (H.323) RFC 2833 AVT tones (SIP)



Table 1 Cisco ATA 186 Software Specifications (Continued)

Category	Specification
Transmission protocols	TCP/UDP/IP
Line echo cancellation	One line echo canceller (LECs) for each port 8 ms echo length Non-linear echo suppression (ERL greater than 28 dB for $f = 300$ to 3400 Hz) Convergence time = 250 ms ERLE = 10 to 20 dB Double-talk detection
Voice features	VAD (silence suppression) CNG (comfort noise generation) Dynamic jitter buffer (adaptive and configurable)
Fax	G.711 fax pass-through (manual or automatic switching) ² Fax answer tone detection

1. When using G.729A in simultaneous dual port operation, second port is limited to G.711

2. Silence suppression, echo cancellation, and call-waiting disabled

Table 2 Cisco ATA 186 Physical Specifications

Category	Specification
Dimensions	6.5 x 6 x 1.5 in. (16.5 x 15.25 x 3.8 cm) (H x W x D)
Weight	15 oz (425 gm)
Power	
Power consumption	0.25 to 7.5 W (idle, maximum)
DC input voltage	+5.0 VDC at 1.5 A maximum
Power adaptor	Universal AC/DC ~ 26.6 x 19.7 x 10.2 in. (~ 65 x 50 x 26 cm) ~ 3 oz (85 gm) for the AC-input external power adaptor ~ 4 ft (1.2 m) DC cord ~ 6 ft (1.8 m) cord UL/CUL, CE agency approvals Class II transformer
Physical interfaces	
Ethernet	RJ-45 8-wire connector, IEEE 802.3 10Base-T standard
Analog Telephone	Two RJ-11 FXS voice ports
Power	5 VDC power connector
Ringer equivalence number (REN)	5 REN per RJ-11 FXS port
Indicators	Function button with integrated status indicator Activity LED indicating network activity
Operating temperature	32 to 122 F (0 to 50 C)
Storage temperature	-22 to 149 F (-30 to 65 C)
Relative humidity	10 to 90% non-condensing, operating and non-operating/storage



Table 3 Cisco ATA 186 Ringing Characteristics

Category	Specification
Ring load (per RJ-11 FXS port)	Maximum distance
5 REN	200 ft (61 m)
4 REN	1000 ft (305 m)
3 REN	1700 ft (518 m)
2 REN	2500 ft (762 m)
1 REN	3200 ft (975 m)
On-hook/off-hook characteristics	
On-hook voltage (tip/ring)	-50 V
Off-hook current	27 mA
RJ-11 FXS port terminating impedance option	600 ohms resistive or 270 ohm + 750 ohm // 150 nF complex impedance
SLIC (Tip/ring interfaces for each RJ-11 FXS port)	
Ring voltage	40 to 42 V _{RMS} (balanced ringing only)
Ring frequency	25 Hz
Ring waveform	Trapezoidal with 1.2 to 1.6 crest factor

Table 4 Cisco ATA 186 Regulatory and Standard Compliance

Category	Specification
Agency approvals	UL/C-UL FCC (Declaration of Conformity) European Union, CE mark (Declaration of Conformity) Industry Canada (Declaration of Conformity) ACA (Declaration of Conformity) VCCI (Declaration of Conformity)
Safety standards	UL60950 CAN/CSA-C22.2 No. 60950-00 IEC 60950 (Second Edition with Amendments 1, 2, 3, and 4) EN60950:1922 (with Amendments 1, 2, 3, 4, and 11) AS/NZS 3260:1963 (with Amendments 1, 2, 3, and 4) TS001:1997
Emissions	CFR 47 Part 15 Class B 1997 EN55024, EN50082-1 EN55022/CISPR22 Class B VCCI Class B AS/NZS 3548:1992 Class B ICES-003 (Issue 2, Class B, April 1997)
Immunity	EN50082-1 including the following EN61000-4-2, ESD EN61000-4-3, Radiated Immunity EN61000-4-4, Burst Transients EN61000-4-5, Surge EN61000-4-6, Injected RF EN61000-4-11, Dips and Sags



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