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Cisco SPA112 2 Port Phone Adapter

Affordable and Feature-Rich Voice over IP (VoIP)

Highlights

Eliminate compromise on voice quality or features for phone and fax capabilities associated with Internet voice over IP (VoIP) service. Cisco® VoIP solutions provide the quality, peace of mind, and investment protection at an affordable price.

Product Overview

The Cisco SPA112 2 Port Adapter enables high-quality VoIP service with a comprehensive feature set through a broadband Internet connection. Easy to install and use, it works over an IP network to connect analog phones and fax machines to a VoIP service provider and provides support for additional LAN connections.

The Cisco SPA112 includes two standard telephone ports to connect existing analog phones or fax machines to a VoIP service provider. Each phone line can be configured independently. With the Cisco SPA112, users can protect and extend their investment in their existing analog telephones, conference speakerphones, and fax machines as well as control their migration to IP voice with an extremely affordable, reliable solution.

Compact in design and compatible with international voice and data standards, the Cisco SPA112 can be used with residential, home-office, and small business VoIP service offerings, including full-featured hosted or open source IP PBX environments. This easy-to-use solution delivers advanced features to better connect employees and serve customers, all on a highly secure Cisco network.

The Cisco SPA112 2 Port Adapter (Figures 1 and 2):

- Enables high-quality VoIP service with a comprehensive feature set through a broadband Internet connection
- Provides high-quality, clear-sounding voice, using advanced voice quality-of-service (QoS) capabilities and the industry-leading voice Session Initiation Protocol (SIP) stack
- Supports reliable faxing with simultaneous voice and data use
- Includes two standard telephone ports, each with an independent phone number, for use with fax machines or analog phone devices
- Is compatible with all industry voice and data standards and common telephone features such as caller ID, call waiting, and voicemail
- Includes a simple-to-use web-based configuration utility for easy deployment

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Figure 1. Cisco SPA112 2 Port Adapter

Figure 2. Ports on Cisco SPA112 ATA 2 Port Adapter

Features and Benefits

The Cisco SPA112 provides an easy-to-use VoIP solution that offers:

- **Toll-quality voice and carrier-class feature support:** The Cisco SPA112 delivers clear, high-quality voice communication under a variety of network conditions. Excellent voice quality in challenging, changeable IP network environments is made possible through the advanced implementation of standard voice coding algorithms. The Cisco SPA112 is interoperable with common telephony equipment such as fax, voicemail, private branch exchanges (PBXs) and key telephone systems (KTSs), and interactive voice response systems.
- **Large-scale deployment and management:** The Cisco SPA112 enables service providers to provide customized services to their subscribers. It can be remotely provisioned and supports dynamic, in-service software upgrades. A highly secure profile upload saves providers the time and expense of managing and preconfiguring or reconfiguring customer premises equipment (CPE) for deployment.
- **Outstanding security:** The Cisco SPA112 supports highly secure, encryption-based methods for communication, provisioning, and servicing.
- **Compact size:** Designed for small spaces, the Cisco SPA112 can be installed as a desktop unit or mounted on a wall.
- **Comprehensive feature set:** The standards-based Cisco SPA112 is compatible with Internet VoIP provider features such as caller ID, call waiting, voicemail, call forwarding, distinctive ring, and much more to provide a complete, affordable, and highly reliable solution for high-quality VoIP.
- **Easy installation and changes:** The web-based configuration utility enables quick deployment and easy changes.

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- **Investment protection:** Businesses that are growing rapidly can use the solution with other Cisco Unified Communications solutions, providing industry-leading investment protection.
- **Peace of mind:** Cisco solutions deliver the solid reliability you expect from Cisco. All solution components have been rigorously tested to help ensure easy setup, interoperability, and performance.

Table 1 lists the specifications for the Cisco SPA112 2 Port Adapter.

Table 1. Product Specifications

Specifications*	Description
*Note: Many specifications are programmable within a defined range or list of options. Please see the Cisco SPA100 Series Administration Guide for details. The configuration profile is uploaded to the Cisco SPA112 at the time of provisioning.	
Data networking	MAC address (IEEE 802.3) IPv4 (RFC 791) upgradeable to IPv6 (RFC 1883) Address Resolution Protocol (ARP) Domain Name System (DNS) A record (RFC 1706) and SRV record (RFC 2782) Dynamic Host Configuration Protocol (DHCP) client (RFC 2131) Point-to-Point Protocol over Ethernet (PPoE) client (RFC 2516) Internet Control Message Protocol (ICMP) (RFC 792) TCP (RFC 793) User Datagram Protocol (UDP) (RFC 768) Real Time Protocol (RTP) (RFC 1889) (RFC 1890) Real Time Control Protocol (RTCP) (RFC 1889) VLAN tagging (IEEE 802.1p) Simple Network Time Protocol (SNTP) (RFC 2030) SIP channels support for both UDP and TCP transport
Voice gateway	SIPv2 (RFC 3261, 3262, 3263, and 3264) SIP proxy redundancy: Dynamic through use of DNS SRV A records Reregistration with primary SIP proxy server SIP support in network address translation (NAT) networks (including Serial Tunnel [STUN]) Highly secure (encrypted) calling using Secure RTP (SRTP) Codec name assignment G.711 (A-law and µ-law) G.726 (32 kbps) G.729 A Dynamic payload Adjustable audio frames per packet Dual-tone multifrequency (DTMF): In-band and out-of-band (RFC 2833) (SIP information)
Voice features	Independent configurable dial plans with interdigit timers and IP dialing (1 per port) Call progress tone generation Jitter buffer: Adaptive Frame loss concealment Full-duplex audio Echo cancellation (G.165 and G.168) Voice activity detection (VAD) Silence suppression Comfort noise generation (CNG) Attenuation and gain adjustments Flash hook timer Message waiting indicator (MWI) tones Visual messaging waiting indicator (VMWI) using frequency shift keying (FSK) Polarity control Hook flash event signaling Caller ID generation (name and number): Bellcore, DTMF, and European Telecommunications Standards Institute (ETSI) Streaming audio server: Up to 10 sessions Music on hold Call waiting, call waiting and caller ID

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Specifications*	Description
	Caller ID with name and number Caller ID blocking Selective and anonymous call rejection Call forwarding: No answer, busy, and all Do not disturb Call transfer, call return, and call back on busy Three-way conference calling with local mixing Per-call authentication and associated routing Call blocking with toll restriction Distinctive ringing: Calling and called number Off-hook warning tone Advanced inbound and outbound call routing Hotline and warmline calling Long silence (configurable time setting) silence threshold Disconnect tone (for example, reorder tone) Configurable ring frequency Ring validation time setting Tip and ring voltage adjustment setting Ring indication delay setting
Fax capability	Fax tone detection pass-through Fax pass-through using G.711 Real-time fax over IP using T.38 fax relay (T.38 support is dependent on fax machine and network and transport resilience)
Security	Password-protected system reset to factory default Password-protected administrator and user access authority Provisioning, configuration, and authentication HTTPS with factory-installed client certificate HTTP digest: Encrypted authentication using MD5 (RFC 1321) Up to 256-bit Advanced Encryption Standard (AES) encryption SIP Transport Layer Security (TLS)
Provisioning, administration, and maintenance	Web browser administration and configuration using integral web server Telephone keypad configuration with interactive voice prompts Automated provisioning and upgrade using HTTPS, HTTP, and Trivial File Transfer Protocol (TFTP) TR-069 Asynchronous notification of upgrade availability using Notify Nonintrusive, in-service upgrades Report generation and event logging Statistics in Bye message Debug server records and syslog: Per-line configurable web browser Ping and traceroute diagnostics Configuration management: Backup and restore Support for Bonjour
Physical interfaces	1 WAN 100BASE-T RJ-45 Ethernet Port (IEEE 802.3) 2 RJ-11 FXS phone ports for analog circuit telephone device (tip and ring) Reset button
Subscriber line interface circuit (SLIC)	Ring voltage: 40–90 Vpk configurable Ring frequency: 20–25 Hz Ring waveform: trapezoidal Maximum ringer load: 5 ringer equivalence numbers (RENs) On-hook voltage (tip and ring): –46 to –56V Off-hook current: 18–25 mA Terminating impedance: 600 ohm resistive or 270 ohm + 750 ohm 150 nF complex impedance Frequency response: 300–3400 Hz Return loss (600 ohm, 300–3400 Hz): up to 20 dB Insertion loss (1 Vrms at 1 kHz): 3–4 dB

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Specifications*	Description
	Total harmonic distortion (THD) (350 mV peak at 300 Hz): up to 3% Idle channel noise: 72 dB (typical) Longitudinal balance: 55 dB (typical) Off-hook threshold (line seizure): Rdc < 1000 ohm On-hook threshold (line release): Rdc >10000 ohm Rdc DC supervisory range: Rdc > 450 ohm
Regulatory compliance	FCC (Part 15 Class B), CE, ICES-003, A-Tick certification, Restriction of Hazardous Substances (RoHS), and UL
Power supply	DC input voltage: 5V DC at 2.0A maximum Power consumption: 5W Switching type (100–240V) automatic Power adapter: 100–240V and 50–60 Hz (26–34 VA) AC input, with 1.8m cord
Indicator lights and LEDs	Phone 1, phone 2, Internet, and power
Documentation	Quick Start Guide Administration Guide (available online) Provisioning Guide (available online)
Environmental	
Dimensions (W x H x D)	3.98 x 3.98 x 1.10 in. (101 x 101 x 28 mm)
Unit weight	5.40 oz (153 g)
Operating temperature	32 to 113ºF (0 to 45ºC)
Storage temperature	–77 to 158ºF (–25 to 70ºC)
Operating humidity	10 to 90% noncondensing
Storage humidity	10 to 90% noncondensing
Package Contents	Cisco SPA112 2 Port Phone Adapter 5V/2A power adapter 6-ft (1.83m) Ethernet cable Quick Start Guide CD with documentation, including license and warranty
Product Warranty	1-year limited hardware warranty with return-to-factory replacement and 90-day limited software warranty

Cisco Small Business Support Service for the Cisco SPA112 2 Port Adapter

The Cisco Small Business Support Service provides “peace of mind” coverage at an affordable price and helps you get the most value from your Cisco Small Business solution. This device-level, subscription-based service includes software upgrades and updates, extended access to the Cisco Small Business Support Center, and next-business-day hardware replacement as necessary. It also provides community-based support to enable small businesses to share knowledge and collaborate using online forums and wikis to help boost business efficiency, identify and reduce risks, and serve customers better.

For More Information

For more information about Cisco Small Business solutions, visit www.cisco.com/go/smallbusiness. For more information about the Cisco SPA 100 Series, visit www.cisco.com/go/gateways or contact your local Cisco account

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