

Cisco SPA509G 12-Line IP Phone with Programmable Keys



Highlights

- Full-featured 12-line business-class IP phone supporting Power over Ethernet (PoE)
- Monochrome backlit display for ease of use, aesthetics, and on-screen applications
- Connects directly to an Internet telephone service provider or to an IP private branch exchange (PBX)
- Cisco HD Voice for unsurpassed voice clarity and enhanced speaker quality
- Easy installation and highly secure remote provisioning, as well as menu-based and web-based configuration
- Supports up to two Cisco® SPA500S Expansion Module, adding up to 64 additional buttons*
- Supports both Session Initiation Protocol (SIP) and Smart Phone Control Protocol (SPCP) with the Cisco Unified Communications 500 Series for Small Business

Comprehensive Interoperability and SIP-Based Feature Set

Part of the Cisco Small Business Pro Series, the SIP-based Cisco SPA509G 12-line IP Phone with Programmable Keys (Figure 1) has been tested to ensure comprehensive interoperability with equipment from voice over IP (VoIP) infrastructure leaders, enabling service providers to quickly roll out competitive, feature-rich services to their customers.

With hundreds of features and configurable service parameters, the Cisco SPA509G addresses the requirements of traditional business users while building on the advantages of IP telephony. Features such as easy station moves and shared line appearances (across local and geographically dispersed locations) are just some of the many advantages of the SPA509G.

The Cisco SPA509G 12-line IP Phone with Programmable Keys also supports productivity-enhancing features such as VoiceView Express and Cisco XML applications when used with the Cisco Unified Communications 500 Series in SPCP mode.

Carrier-Grade Security, Provisioning, and Management

The Cisco SPA509G uses standard encryption protocols to perform highly secure remote provisioning and unobtrusive in-service software upgrades. Remote provisioning tools include detailed performance measurement and troubleshooting features, enabling network providers to deliver high-quality support to their subscribers. Remote provisioning also saves service providers the time and expense of managing, preloading, and reconfiguring customer premises equipment.

Figure 1. Cisco SPA509G 12-line IP Phone with Programmable Keys

Telephony Features

- 12 voice lines
- Twelve Independent SIP Registrations^{*}
- Line status: active line indication, with name and number
- Menu-driven user interface
- Shared line appearance^{**}
- Speakerphone
- Call hold
- Music on hold^{**}
- Call waiting
- Caller ID name and number
- Outbound caller ID blocking
- Call transfer: attended and blind
- Three-way call conferencing with local mixing
- Multiparty conferencing via external conference bridge
- Automatic redial of last calling and last called numbers
- On-hook dialing
- Call pickup: selective and group^{**}
- Call park and unpark^{**}
- Call swap
- Call back on busy
- Call blocking: anonymous and selective
- Call forwarding: unconditional, no answer, on busy
- Hot line and warm line automatic calling
- Call logs (60 entries each): made, answered, and missed calls
- Redial from call logs
- Personal directory with auto-dial (100 entries)
- Do not disturb (callers hear line busy tone)
- Digits dialed with number auto-completion

- Anonymous caller blocking
- Uniform Resource Identifier (URI) (IP) dialing support (vanity numbers)
- On-hook default audio configuration (speakerphone and headset)
- Multiple ring tones with selectable ring tone per line
- Called number with directory name matching
- Ability to call number using name: directory matching or via caller ID
- Subsequent incoming calls show calling name and number
- Date and time with support for intelligent daylight savings
- Call start time stored in call logs
- Call timer
- Name and identity (text) displayed at startup
- Distinctive ringing based on calling and called number
- 10 user-downloadable ring tones
- Speed dialing, eight entries
- Configurable dial/numbering plan support
- Intercom**
- Group paging**
- Network Address Translation (NAT) Traversal, Simple Traversal of UDP Through NATs (STUN) support
- DNS SRV and multiple A records for proxy lookup and proxy redundancy
- Syslog, debug, report generation, and event logging
- Highly secure call encrypted voice communications support
- Built-in web server for administration and configuration with multiple security levels
- Automated remote provisioning, multiple methods; up to 256-bit encryption (HTTP, HTTPS, Trivial File Transfer Protocol [TFTP])
- Option to require administrator password to reset unit to factory defaults

Hardware Features

- Pixel-based display: 128 x 64 monochrome LCD graphical display with backlight
- Dedicated illuminated buttons for:
 - Audio mute on/off
 - Headset on/off
 - Speakerphone on/off
- 4-way rocking directional knob for menu navigation
- Voicemail message waiting indicator (VMWI) light
- Voicemail message retrieval button
- Dedicated hold button
- Settings button for access to feature, setup, and configuration menus
- Volume control rocking up/down knob controls handset, headset, speaker, ringer
- Standard 12-button dialing pad
- High-quality handset and cradle

- Built-in high-quality microphone and speaker
- Headset jack: 2.5 mm
- LED test function
- Two Ethernet LAN ports with integrated Ethernet switch: 10/100BASE-T RJ-45
- 802.3af-compliant PoE
- Optional 5 VDC universal (100-240V) switching; power supply is ordered separately (Cisco PA100)

Regulatory Compliance

- FCC (Part 15, Class B), CE Mark, A-Tick, C-Tick, Telepermit, UL, CB

Security Features

- Password-protected system, preset to factory default
- Password-protected access to administrator and user-level features
- HTTPS with factory-installed client certificate
- HTTP digest: encrypted authentication via MD5 (RFC 1321)
- Up to 256-bit Advanced Encryption Standard (AES) encryption
- SIP over Transport Layer Security (TLS)
- Secure Real-Time Transport Protocol (SRTP)

Documentation

- Quick-Start Installation and Configuration Guide
- User Guide
- Administration Guide
- Provisioning Guide (for service providers only)

Package Contents

- Cisco SPA509G 12-line IP Phone with Programmable Keys, handset, and stand
- Handset cord
- RJ-45 Ethernet cable
- Quick-Start Guide
- CD

Specifications

Table 1 gives specifications for the SPA509G 12-line IP Phone with Programmable Keys.

Table 1. Specifications for the SPA509G 12-line IP Phone with Programmable Keys

Note: Many features are programmable within a defined range or list of options. Please see the SPA Administration Guide for details. The target configuration profile is uploaded to the SPA509G at the time of provisioning.

Specifications	
Data networking	<ul style="list-style-type: none"> • MAC address (IEEE 802.3) • IPv4 (RFC 791) • Address Resolution Protocol (ARP) • DNS: A record (RFC 1706), SRV record (RFC 2782) • Dynamic Host Configuration Protocol (DHCP) client (RFC 2131) • Internet Control Message Protocol (ICMP) (RFC 792) • TCP (RFC 793) • User Datagram Protocol (UDP) (RFC 768) • Real-Time Transport Protocol (RTP) (RFC 1889, 1890) • Real-Time Control Protocol (RTCP) (RFC 1889) • Differentiated Services (DiffServ) (RFC 2475) • Type of service (ToS) (RFC 791, 1349) • VLAN tagging 802.1p/Q: Layer 2 quality of service (QoS) • Simple Network Time Protocol (SNTP) (RFC 2030) • Cisco Discovery Protocol (CDP) • Link Layer Discovery Protocol (LLDP)
Voice gateway	<ul style="list-style-type: none"> • SIP version 2 (RFC 3261, 3262, 3263, 3264) • SPCP with the Cisco Unified Communications 500 Series • SIP proxy redundancy: dynamic via DNS SRV, A records • Reregistration with primary SIP proxy server • SIP support in NAT networks (including STUN) • SIPFrag (RFC 3420) • Secure (encrypted) calling via SRTP • Codec name assignment • Voice algorithms: <ul style="list-style-type: none"> ◦ G.711 (A-law and μ-law) ◦ G.726 (16/24/32/40 kbps) ◦ G.729 A ◦ G.722 • Dynamic payload support • Adjustable audio frames per packet • Dual-tone multifrequency (DTMF), in-band and out-of-band (RFC 2833) (SIP INFO) • Flexible dial plan support with interdigit timers • IP address/URI dialing support • Call progress tone generation • Jitter buffer: adaptive • Frame loss concealment • Comfort Noise Generation (CNG) • Voice activity detection (VAD) with silence suppression • Attenuation/gain adjustments • VMWIVoicemail waiting indicator, via NOTIFY, SUBSCRIBE • Caller ID support (name and number) • Third-party call control (RFC 3725)

Specifications	
Provisioning, administration, and maintenance	<ul style="list-style-type: none"> • Integrated web server provides web-based administration and configuration • Telephone keypad configuration via display menu/navigation • Automated provisioning and upgrade via HTTPS, HTTP, TFTP • Asynchronous notification of upgrade availability via NOTIFY • Nonintrusive in-service upgrades • Report generation and event logging • Statistics transmitted in BYE message • Syslog and debug server records: configurable per line
Power supply	<ul style="list-style-type: none"> • Power supply is optional and is purchased separately <ul style="list-style-type: none"> ◦ Models: Cisco PA100-NA, PA100-EU, PA100-UK, PA100-AU • DC output voltage: +5 VDC at 2.0A maximum • Switching power adapter: 100-240V 50-60 Hz AC input
Physical interfaces	<ul style="list-style-type: none"> • Two 10/100BASE-T RJ-45 Ethernet ports (IEEE 802.3) • Handset: RJ-9 connector • Built-in speakerphone and microphone • Headset 2.5mm jack
Indicator lights/LEDs	<ul style="list-style-type: none"> • Speakerphone on/off button with LED • Headset on/off button with LED • Mute button with LED • Message waiting LED
Body dimensions (W x H x D)	8.42 x 8.35. x 1.73 in. (214 x 212 x 44 mm)
Unit weight	2.00 lb (0.9 kg)
Operating temperature	32° ~ 104°F (0° ~ 40°C)
Storage temperature	-4° ~ 158°F (-20° ~ 70°C)
Operating humidity	5% to 95% noncondensing
Storage humidity	5% to 95% noncondensing

Table 2 compares the SPA509G with other Cisco SPA 500 Series IP Phones.

Table 2. Cisco SPA500 Series IP Phone Comparison

Model	Voice Lines	Ethernet Ports	High-Resolution Graphical Display	PoE Support
SPA501G	8	2	No	Yes
SPA502G	1	2	Yes	Yes
SPA504G	4	2	Yes	Yes
SPA508G	8	2	Yes	Yes
SPA509G	12	2	Yes	Yes
SPA525G/SPA525G2	5	2	Color	Yes

Tables 3 and 4 give part numbers for the Cisco SPA509G and optional support and accessories.

Table 3. Ordering Information

Part Number	Description
SPA509G	Cisco SPA509G 12-line IP Phone with Programmable Keys
CON-SBS-SVC1	3-year Cisco Small Business Support Service

Table 4. Optional Accessories

Part Number	Description
MB100	Wall-mount brackets for SPA500, CP 500, and SPA 900 Series
PA100-NA	Power supply for SPA500, CP 500, and SPA 900 Series-5V/2A (North America style plug)
PA100-UK	Power supply for SPA500, CP 500, and SPA 900 Series-5V/2A (UK style plug)

Part Number	Description
PA100-EU	Power supply for SPA500, CP 500, and SPA 900 Series-5V/2A (EU style plug)
PA100-AU	Power supply for SPA500, CP 500, and SPA 900 Series-5V/2A (AU style plug). Power supply for SPA500 and SPA900 - 5V/2A (NA)
WBP54G	802.11b/g wireless bridge

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