

Polycom® VoIP Phones

Frequently Asked Questions

General Questions on Polycom VoIP

Why Polycom IP phones?

Polycom is the leading independent supplier of standards-based Voice over IP (VoIP) endpoints. Polycom VoIP phones are fully interoperable with leading IP PBX and Softswitch platforms¹, so that our customers can have a variety of end-to-end, fully integrated VoIP solutions to choose from. Polycom offers a wide range of VoIP endpoints to meet the unique business communication requirements of our customers. The Polycom VoIP product portfolio includes the SoundPoint® IP family of desktop phones, an Attendant Console Solution based on the SoundPoint IP 601 / 650 and the Expansion Module, and the SoundStation® IP 4000 conference phone. Our phones are engineered to deliver a superb communications experience. They offer outstanding sound quality, advanced functionality, ease of use, security, tools for efficient provisioning and upgrades, and protection of your investment over time. Polycom IP telephones are your future-proof choice for business communications.

What is a Technology / Interoperability Partner?

Polycom Technology and Interoperability Partners deliver industry-leading IP telephony servers that provide both traditional phone functionality and advanced features, like unified messaging, presence, and collaboration tools. Polycom's strategy is to ensure that our phones are fully interoperable with Partner IP PBX (customer premise equipment similar to a legacy PBX or Key System) or Softswitch (hosted IP telephony services similar to the traditional home phone service or Centrex) platforms, so that our joint customers can enjoy the benefits of an integrated end-to-end VoIP solution.

Can Polycom IP phones be used on a non-Partner platform?

In order to ensure interoperability and full business telephony functionality, Polycom IP telephones are certified and approved for deployment only with IP PBX or Softswitch solutions by Polycom Technology and Interoperability Partners. Polycom does not recommend using the phones in conjunction with call server platforms that have not been certified by Polycom.

Will Polycom VoIP phones work with existing PBX or Key Systems?

While many PBX and Key System vendors now provide optional VoIP gateways that are standards-based, interoperability testing must still be conducted between these systems and Polycom IP phones to ensure proper operation and feature support. Polycom cannot guarantee interoperability with a system that is not provided by one of our Partners.

Where can the telephones be purchased?

The SoundPoint IP and SoundStation IP phones are available through Polycom Certified VoIP Resellers, including Service Providers that offer Polycom IP phones in conjunction with a variety of hosted VoIP services. These Channel Partners and Service Providers have met the stringent requirements pertinent to becoming Polycom-certified, which involves training, testing, and making a commitment to support their customers.

¹ Please visit <http://www.polycom.com/techpartners.htm> for a full list of supported IP PBX and Softswitch solutions.



TOGETHER, GREAT THINGS HAPPEN.

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Polycom HD Voice

What is Polycom HD Voice?

Polycom HD Voice is a revolutionary technology that brings life-like richness and clarity to voice communications. With over twice the clarity of ordinary phone calls, it feels like switching from AM radio to CD-quality audio. The difference is so astounding, you will never want to go back to regular phone calls.

The clarity of Polycom HD Voice makes remote collaboration easier and more productive than ever. It's like being in the same room with the other participants on the call. You can hear every word without having the remote party repeat themselves, which saves time, cuts down on misunderstandings, and increases user satisfaction.

Polycom HD Voice includes:

- Wideband technology for over twice the clarity and richness of the sound
- Polycom's patented Acoustic Clarity Technology 2, which delivers next generation sound processing, including industry-leading full duplex, echo cancellation, and noise reduction
- Best-in-class system design that maximizes the overall sound quality

To learn more about Polycom HD Voice, please visit: www.polycom.com/hdvoice

Does Polycom HD Voice require additional network capacity compared to good-quality narrowband codecs?

No. Polycom HD Voice is based on a proven high-quality standard wideband codec, G.722, which requires similar network capacity (up to 64kbps) as such widely-used narrowband codec as G.711, for example. This allows you to leverage your existing VoIP-optimized network as you implement HD Voice in your organization.

Will it be an HD Voice call if I call from my HD Voice phone to PSTN?

No. The call will progress in narrowband in this case, as narrowband would be the "least common denominator" between your HD Voice handset and the limited bandwidth capabilities of the PSTN.

The SoundPoint IP and SoundStation IP Telephones

What telephone models are available?

Polycom offers a family of SoundPoint IP desktop phones, the SoundPoint IP Attendant Console Solution, and the SoundStation IP 4000 conference phone.

The **SoundPoint IP 301** is an entry-level two-line desktop phone that supports essential IP telephony features and functionality. With its intuitive user interface, the SoundPoint IP 301 provides an easy transition from legacy PBX and Key Systems to the world of IP telephony. The SoundPoint IP 301's expanded memory enables the support of HTTPS secure provisioning.

The **SoundPoint IP 330 and 320** are two-line entry-level phones that deliver excellent sound quality and an enterprise-grade feature set. Both phones feature a full-duplex speakerphone with Polycom Acoustic Clarity Technology, integrated PoE support, and an easy-to-read graphical display. The SoundPoint IP 330, with its dual-port 10/100 Ethernet switch for LAN and PC connection, presents a cost-effective solution for cubicle workers and call center operators who use a "hard" phone in conjunction with a "soft" phone client. The SoundPoint IP 320 has a single 10/100 Ethernet port, which makes it an excellent choice for common areas, such as lobbies, hallways, and break rooms. The SoundPoint IP 320 is also a great fit for various wall-mounted deployments.



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The **SoundPoint IP 430** is a two-line desktop IP phone designed to meet the needs of general business users. The phone boasts a full-duplex speakerphone with Polycom Acoustic Clarity Technology that provides excellent voice quality and enables two-way simultaneous conversations that are as natural as being there. The SoundPoint IP 430 delivers a robust feature set, including built-in PoE circuitry, graphical LCD, and support for advanced telephony features and security.

The **SoundPoint IP 501** is a three-line desktop IP phone that delivers exceptional sound quality. This full-featured, enterprise-grade IP phone is an optimal solution for transactional-type workers. The SoundPoint IP 501 boasts a full-duplex speakerphone with Polycom Acoustic Clarity Technology, large graphical grayscale LCD, and expanded memory to support HTTPS secure provisioning.

The **SoundPoint IP 550** four-line IP phone delivers calls of unprecedented richness and clarity in conjunction with a comprehensive range of cutting-edge SIP features. With support of Polycom HD Voice, a backlit, high-resolution, easy-to-read graphical display, and flexible customizations options, the SoundPoint IP 550 is certain to meet the voice communication needs of the most demanding managers and professionals.

The **SoundPoint IP 601** is a six-line IP phone delivering outstanding voice quality, an advanced feature set, and the expandability to support up to three SoundPoint IP Expansion Modules. Ideal for users requiring multiple lines and advanced features, the SoundPoint IP 601 delivers both traditional telephone capabilities and new, converged applications.

The **SoundPoint IP 650** is a high-performance IP phone with Polycom HD Voice. The SoundPoint IP 650 delivers

revolutionary voice quality, an advanced feature set, and the expandability to support SoundPoint IP Expansion Modules.

Designed to appeal to both executive users who require advanced features and applications, and telephone attendants who need multiple line support, the Polycom SoundPoint IP 650 sets a new standard for a high-performance IP phone.

The **SoundPoint IP Expansion Module** augments the user interface of the SoundPoint IP 601 or 650 by adding a high-resolution graphical grayscale LCD and 14 illuminated keys, configurable as a line key or speed dial with busy lamp field (BLF). The Expansion Module is a cord-free, hot-swappable, plug-and-play solution requiring virtually no configuration, as power and signaling are provided by the host phone.

The **SoundPoint IP Attendant Console Solution**. Based on the SoundPoint IP 601 or 650 desktop phone and up to three SoundPoint IP Expansion Modules, the attendant console provides an enhanced user interface and advanced call handling capabilities that help telephone attendants - executive assistants, receptionists, and secretaries - effectively and efficiently manage and monitor a high volume of simultaneous calls.

The **SoundStation IP 4000** is the market-leading SIP conference phone. Featuring Polycom's award-winning Acoustic Clarity Technology, the SoundStation IP 4000 provides outstanding voice quality and enables natural two-way conversations. The SoundStation IP 4000 supports a broad range of IP telephony features, including directories, call forwarding, hold, transfer, three-way local conferencing, and presence. With superior room coverage and microphone pickup for small to medium-sized conference rooms, the SoundStation IP 4000 is expandable for larger rooms with optional extension microphones.



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What features do Polycom IP phones support?

The SoundPoint IP and SoundStation IP phones are engineered to provide a high-quality, rich and secure communications experience by delivering superb sound quality, an intuitive user interface, and a rich feature set, including shared call / bridged line appearance, multiple call- and flexible line appearances, three-way local conferencing, presence, messaging, and custom ring tones. To ensure a high level of security, all Polycom IP phones support digest authentication, HTTPS secure provisioning, "signed" software executables, TLS security, and encrypted configuration files. Features available on SoundPoint IP phones will vary depending on the model and telephony server that the phone is operated with. Please refer to the respective product datasheets and check with your call server platform provider to determine the list of supported features.

What protocols do Polycom VoIP telephones support?

The SoundPoint IP 301, 501, and 601 support both SIP and MGCP. The SoundPoint IP Expansion Module is protocol-agnostic and supports the protocol of the host SoundPoint IP 601 or 650 (SIP). All other desktop models, as well as the SoundStation® IP 4000 conference phone support SIP.

Do the phones come in any other color?

No. The only color available is gray.

Which SoundPoint IP models support the Expansion Module?

The SoundPoint IP 601 and 650 are the two telephone models that support the Expansion Module.

How many Expansion Modules can be attached to the SoundPoint IP 601 or 650?

The SoundPoint IP 601 or 650 will support up to three Expansion Modules.

How are powering and signaling implemented on the SoundPoint IP Expansion Module?

Power and signaling for the SoundPoint IP Expansion Module(s) are provided by the host phone.

How does the SoundPoint IP Expansion Module communicate with the host phone and other attached Expansion Modules?

The Expansion Module is a completely cord-free solution and the communications happen through the host phone's and Expansion Modules' infrared ports.

What does it take to install and configure the SoundPoint IP Expansion Module?

Installation and configuration of the SoundPoint IP Expansion Module are very simple, since both power and signaling are taken from the host SoundPoint IP 601 or 650 phone. Just snap the Expansion Module onto the host phone – and it works. No extra wires or power supplies are required. Up to three Expansion Modules may be attached to and detached from an idle SoundPoint IP 601 or 650 at any time.

Hardware Technical FAQ

What are the powering options for SoundPoint IP and SoundStation IP?

The **SoundPoint IP 301** ships with a standard CAT-5 cable and an external AC adapter that plugs into a jack located on the rear of the phone. For Power over Ethernet (PoE), an IEEE 802.3af and Cisco Inline Power versions of the optional PoE cable are available for purchase. In addition, SKUs with included PoE cable and optional AC adapter can be ordered.

The **SoundPoint IP 330 and 320** ship with a standard CAT-5 cable for deployment in IEEE 802.3af PoE-based environments. An external AC adapter is available as an optional accessory.



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The **SoundPoint IP 501** ships with a custom network cable that contains a jack that applies power to the unused pairs in a CAT-5 network cable from a supplied external AC adapter. For PoE, both IEEE 802.3af and Cisco Inline Power versions of the optional PoE cable are available for purchase. In addition, SKUs with included PoE cable and optional AC adapter can be ordered.

The **SoundPoint IP 430, 550, 601, and 650** come with an external AC adapter that plugs into a jack located on the rear of the phone. All of these models have integrated support for IEEE 802.3af PoE through the included standard CAT-5 cable. The SoundPoint IP 601 also supports Cisco Inline Power through the same standard CAT-5 cable.

The **SoundPoint IP Expansion Module** is powered by the host phone and requires no additional power supply.

The **SoundStation IP 4000** SIP conference phone comes with an external AC adapter. The phone also supports IEEE 802.3af PoE with an optional PoE Interface Module.

What types of headsets are supported?

SoundPoint IP 320 and 330 have a dedicated 2.5-mm headset port compatible with most monaural mobile phone headsets. All other SoundPoint IP models have a dedicated RJ-9 headset port that is compatible with RJ-9 headsets REV E and higher (amplified headsets are recommended). Please refer to your headset vendor for compatibility information.

Why does the handset and headset volume reset on every call?

The handset and headset volumes both reset following each call to comply with FCC requirements and with the recommendations of the Americans with Disabilities Act. This feature can be disabled through a modification to the configuration file.

Is there a hub or switch in the phone?

All Polycom IP phones contain a dual-port 10/100 Mbps Ethernet switch, except the SoundPoint IP 320 and SoundStation IP 4000, which have a single 10/100 Mbps Ethernet port.

Can an additional phone be plugged into the second Ethernet port?

Polycom recommends that in order to maintain voice quality, the second Ethernet port be used only to connect the PC. You should not “daisy chain” phones together.

Networking FAQ

How do the phones place calls to the PSTN?

The IP phone call's data packets are routed to a gateway, which then transports that call over to the Public Switched Telephone Network (PSTN). This task is completely transparent to the user.

Do the SoundPoint IP work over broadband connections like cable and DSL?

To ensure that voice quality is maintained, proper network design rules relating to items such as latency, firewalls, bandwidth, and QoS should be applied at all times. As long as proper network design guidelines are followed, Polycom IP phones will deliver exceptional performance on networks with broadband connections such as cable or DSL.

What Quality of Service measures do the phones support?

All SoundPoint IP and SoundStation IP phones support Layer 3 Type of Service (TOS), DCSP, 802.1 p/Q VLAN and Priority tagging.



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Software/Firmware Technical FAQ

What Codecs are supported?

All SoundPoint IP and SoundStation IP phones support G.711µ/A law and G.729a (Annex B). Polycom HD Voice phones – the SoundPoint IP 550 and 650 – also support the G.722 wideband codec.

Do the phones support custom ring tones?

Yes. Custom ring tones or wave file ring tones are supported on all Polycom IP phones.

Is there a web browser built into the phone?

Starting with the SIP 2.1.x version of Polycom software, an XHTML micro-browser is enabled on all Polycom IP phones, including the SoundStation IP 4000 conference phone, except for the SoundPoint IP 301.

Can the phones support LDAP directories?

Currently there is no direct support for directories like LDAP. This capability will likely be supported in the future.

Configuration and Upgrade FAQ

How are the phones configured?

Polycom phones support zero-touch provisioning. Phones can be fully configured by modifying the configuration files that are loaded to the phone from a boot server, thus eliminating the need to physically configure individual phones.

How does an administrator manage large quantities of phones?

The format and content of the configuration files are such that these files can be customized using administrator tools and used to provision phones upon boot up from an FTP, TFTP, HTTP, or HTTPS boot

server. An administrator for a large group of phones can modify the configurations and push the new info to the phones by remotely rebooting the phones. Remote reboot capabilities need to be supported by your IP PBX or IP Softswitch platform. Please contact your call server vendor for details.

Does Polycom provide tools to configure the phones?

Polycom provides as part of its firmware releases XML-structured configuration files that can be managed with Partner-supplied administrative tools or manually edited.

Do the phones have a web server?

SIP models of Polycom IP phones support configuration through a Web interface.

How is the time set on the phones?

Polycom IP phones use Simple Network Time Protocol (SNTP) servers to provide accurate time. These servers can be located on the local network or available from various sites on the Internet.

What is the Password to access the Set-up?

The User ID and Password will vary depending on what version of software you are running. Please refer to the Administrator Documentation for the specific type and version of software you have.

How are the phones upgraded?

One can upgrade phone software by placing new files onto the boot server and rebooting the phones. The phones attempt to download all the configuration files on every reboot and download a small chunk of the .ld files to compare versions. If the version is the same the file is not downloaded, if it is different, the file will be downloaded.



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How do users get firmware updates?

Certified Polycom VoIP Resellers, including Service Providers, can access most recent SIP software on the Polycom Resource Center at <http://extranet.polycom.com>. Earlier software releases are publicly available at: http://www.polycom.com/resource_center/1,1454,pw-12612,00.html

Does the boot server need to be available at all times?

An FTP, TFTP, HTTP, or HTTPS boot server must be available anytime a configuration file change or firmware upgrade needs to be performed. The phone will boot from a flash image if the boot server is not available or if there are no new files located on the boot server that need to be loaded to the phone. Polycom recommends that the boot server be available at all times as the phone does upload log files to the boot server that can be useful if troubleshooting is required.

What happens to the phones if there is a power failure during the upgrade process?

The SoundPoint IP and SoundStation IP phones follow a fail-safe upgrade process where the phone does not delete the previous file image until a new one is successfully saved. A power failure or server outage during an upgrade will not damage the phone.

What documentation is available?

Please visit the IP Telephony Documentation section at http://www.polycom.com/resource_center/0,1454,pw-26-482,FF.html for a complete list of available documents, including data sheets, family brochures, and quick start guides. Please also check with your reseller for any custom documents developed by Technology and Interoperability Partners.

