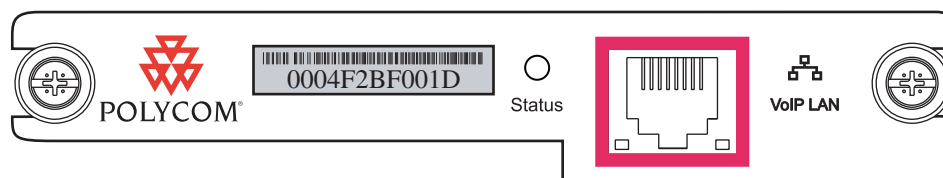




▶ Polycom® SoundStructure® VoIP
Interface Hardware Installation
Guide



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SoundStructure VoIP Interface

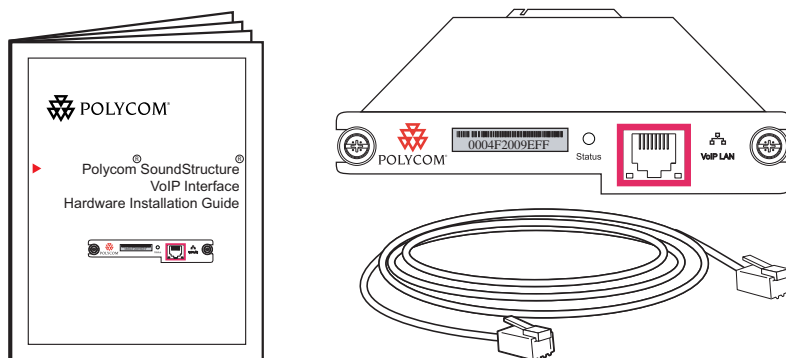
The Polycom SoundStructure™ VoIP Interface is a plug-in card for the SoundStructure C16, C12, C8, and SR12 audio processing devices. The SoundStructure VoIP Interface supports up to 12 lines and 24 call appearances where a call appearance is a connection between the SoundStructure VoIP Interface and a remote caller.

The SoundStructure C16, C12, and C8 products feature acoustic echo cancellation, noise cancellation, equalization, feedback elimination, and automatic microphone mixing on all audio inputs. In addition, there is a full matrix mixer, dynamics processing, delay, and submix processing. The SoundStructure SR12 does not include acoustic echo cancellation processing but does include noise cancellation, automatic microphone mixing, matrix mixing, equalization, feedback elimination, dynamics processing, delay, and submix processing.

This guide shows you how to install the SoundStructure VoIP Interface product into a SoundStructure system. For information on how to terminate connections to the SoundStructure products, see the SoundStructure *Hardware Installation* guide. For information on how to configure a SoundStructure system, including the SoundStructure VoIP Interface, see the *Design Guide for the Polycom SoundStructure C16, C12, C8, and SR12*.

What's Included With the SoundStructure VoIP Interface

The SoundStructure VoIP Interface product includes this manual, the SoundStructure VoIP interface plug-in card, and a 7-foot long Ethernet cable as shown in the following figure.



Tools Required

You will require a Phillip-head screwdriver to remove the blank rear-panel plate from the SoundStructure device.

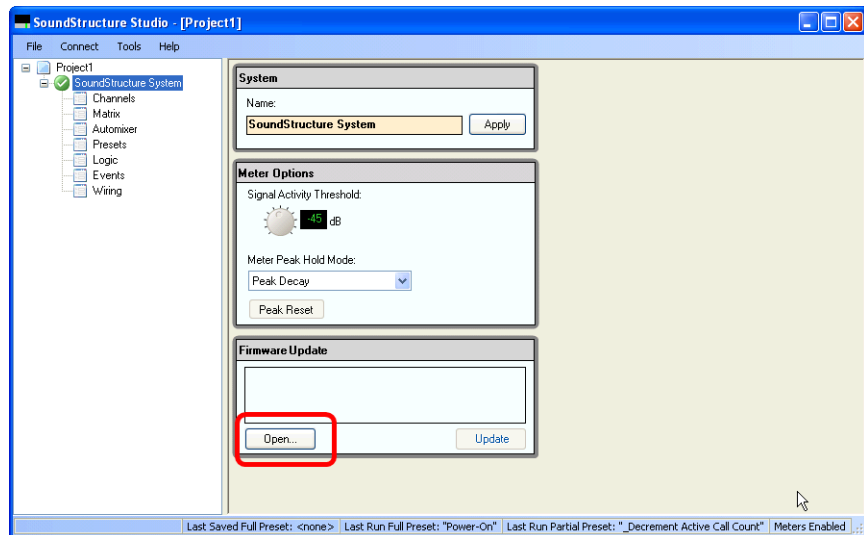
Updating SoundStructure Firmware

You will need SoundStructure firmware version 1.5 or later and SoundStructure VoIP firmware 4.0.1 or later in order to use the SoundStructure VoIP Interface.

The following procedure gives you a quick way to update the SoundStructure system firmware. For complete update information, see *Design Guide for the Polycom SoundStructure C16, C12, C8, and SR12*.

To update the SoundStructure system firmware:

1. Download the latest version of SoundStructure Studio and firmware from http://support.polycom.com/PolycomService/support/us/support/voice/soundstructure/c_series.html
2. Using SoundStructure Studio, connect to the SoundStructure system by selecting Connect and then Search for Devices and Connect to the desired system
3. On the main project page, click the **Open** button from the Firmware Update area. Select the firmware that you downloaded in step 1, and click **Update**



The firmware for all SoundStructure devices in the system will be updated and the system will reboot upon completion.

Installing the SoundStructure VoIP Interface

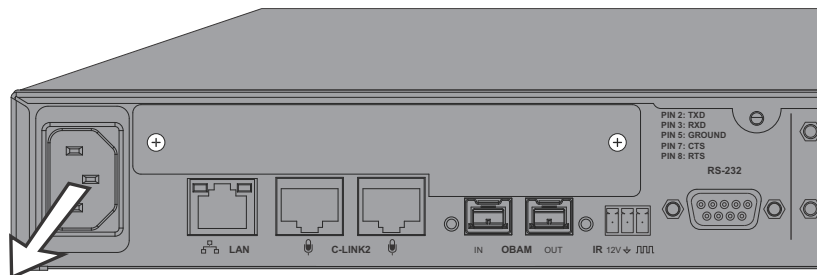
A plug-in card can be inserted into each SoundStructure device in a multi-device SoundStructure system. When using more than one plug-in card in an installation, start with the plug-in slot on the top SoundStructure device first and continue sequentially down through the collection of SoundStructure devices as additional plug-in cards are added. This will ensure a consistent physical channel numbering of the telephony physical channels. See the discussion of physical and virtual channels in the *Design Guide for the Polycom SoundStructure C16, C12, C8, and SR12*.



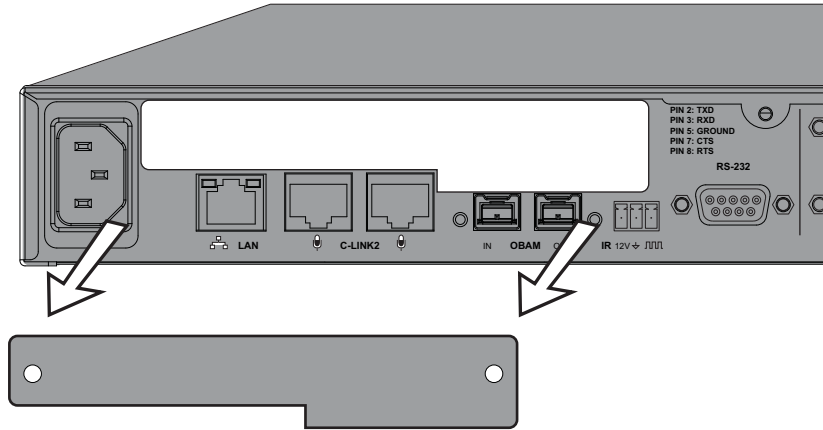
Do not insert or remove a plug-in card while the SoundStructure device is powered on.

To install a plug-in card:

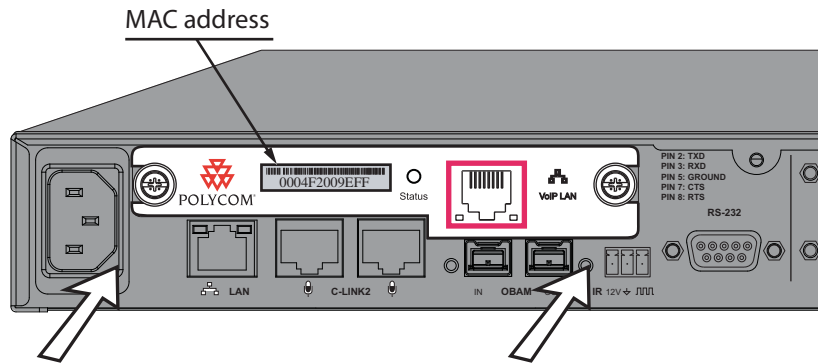
1. If you want to keep your current configuration, save your current project to disk before powering down your SoundStructure system.
2. If the SoundStructure system is plugged in, unplug the AC power cord from all SoundStructure devices in your system.



3. Remove the blank plate and screws from the expansion slot as shown next.



4. Insert the plug-in card into the slotted rails and push until it is tight into the slot.



5. Tighten the thumbscrews on the rear panel of the plug-in card.
6. Repeat steps 3 through 5 for any additional plug-in cards. When you have finished installing the plug-in cards, plug in the AC power cable on all SoundStructure devices in the system.

When the system boots up, the SoundStructure VoIP Interface will be discovered automatically by the SoundStructure device.

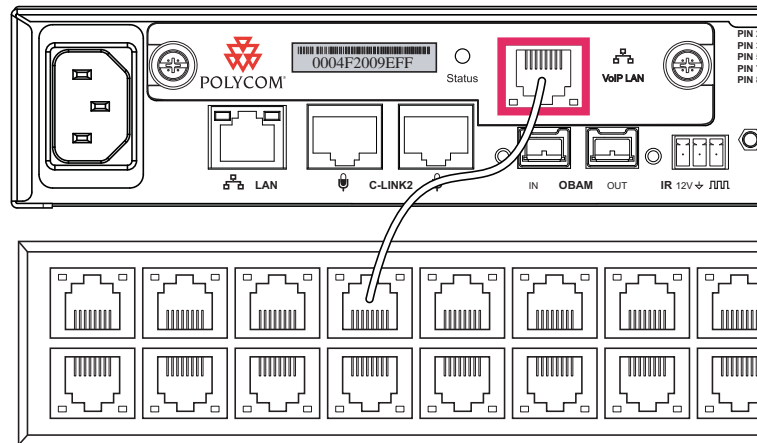
Note that the MAC address of the VoIP interface is printed on the rear-panel label of the SoundStructure VoIP Interface. The MAC address information may be required for integrating the SoundStructure VoIP Interface with your call management platform. See the *Design Guide for the Polycom SoundStructure C16, C12, C8, and SR12* for details on how to integrate the SoundStructure VoIP Interface into a typical call management platform.

Connecting the System to the Local Area Network

There is a network interface on the SoundStructure VoIP Interface for connection to the VoIP local area network and a network interface on the SoundStructure device for connection to the A/V management and control local area network. This section describes how these network interfaces are used.

Using the VoIP Local Area Network

The SoundStructure VoIP interface has a 10/100 / 1000 Mbps Ethernet interface that should be connected directly to the VoIP network as shown in the following figure. The SoundStructure VoIP Interface Ethernet interface is compatible with PoE switches but does not draw any usable power from a PoE switch.



By default the SoundStructure VoIP interface gets its IP address from a DHCP server on the VoIP network and its VoIP settings from a provisioning server.

Once the SoundStructure VoIP Interface is connected online, you can find the IP address for the interface on the Wiring page of the SoundStructure Studio project.

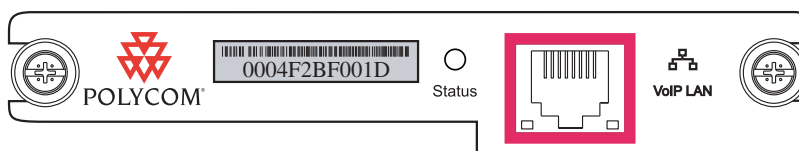
Using the SoundStructure Local Area Network

The SoundStructure device also has a 10/100 Mbps Ethernet interface that is used to control and configure the SoundStructure device. If you want to control and configure a SoundStructure system over the local area network, connect the SoundStructure device's Ethernet interface to the local area network that is used for A/V control and configuration.

Understanding the VoIP Interface Status

The Status LED indicates the state of the SoundStructure VoIP Interface as shown in the following figure and described below:

- When the SoundStructure VoIP Interface boots up, the status LED will cycle with a pattern of 1 second on and 1 seconds off.
- Once the SoundStructure VoIP Interface has finished booting, the system is ready to be configured and controlled, and the LED will be solid green.



Status LED is Off	Status LED is On	Description
○ Solid		VoIP Interface is not powered or device firmware is < 1.5.0
○ 1 second	followed by ● 1 second	VoIP Interface is booting
	● Solid	VoIP Interface is ready to be configured or controlled

Once the SoundStructure VoIP Interface has finished booting, the interface will, by default, play a welcome WAV file. If the VoIP input channel is routed to outputs in the room through the SoundStructure system matrix, then the welcome WAV file will be heard on those output channels.

Configuring The SoundStructure VoIP Interface

The SoundStructure VoIP interface can be configured through a series of configuration files that are described in the *Polycom UCS Software 4.0.1. Administrator's Guide* or via the Polycom Web Configuration Utility.

Use SoundStructure Studio software to configure the SoundStructure device and the SoundStructure VoIP Interface settings. For setup information, see the SoundStructure VoIP Interface chapter in the *Design Guide for the Polycom SoundStructure C16, C12, C8, and SR12*.

You can find the IP address of the SoundStructure VoIP Interface on the wiring page as shown in the next illustration. You can access the advanced settings of the SoundStructure VoIP Interface through the Web Configuration Utility button or by directly typing the VoIP interface's IP address into your browser. The Web Configuration Utility provides access to advanced setup features of the SoundStructure VoIP Interface.

The default login and password for the Web Configuration Utility are **Polycom** and **456**, respectively.

See the *Design Guide for the Polycom SoundStructure C16, C12, C8, and SR12* for additional information on configuring the SoundStructure VoIP Interface.

The screenshot displays the Polycom Web Configuration Utility interface, divided into several sections:

- Network Settings:**
 - Automatic configuration (DHCP) is selected.
 - Manual configuration is unselected.
 - IP Address: 192.168.1.85
 - Netmask: 255.255.255.0
 - Gateway: 192.168.1.1
 - DNS 1: 192.168.1.1
 - DNS 2: (empty)
 - NTP Server: pool.ntp.org
 - Apply button.
- RS232 Settings:**
 - Baud Rate: 9600 bits per second
 - Flow Control: No flow control
 - Mode: Command mode
 - Apply button.
- Device Log:**
 - View Log button.
- VoIP Settings:**
 - Edit Network Settings...
 - Web Configuration
 - Local Configuration Reset
 - Factory Reset
- Device Information:**
 - General:**
 - Device status: ok
 - Device type: c16
 - Bus ID: 1
 - Ethernet MAC: 00:04:f2:bf:01:3e
 - Plug-in card: voip
 - Uptime: 93d 23h 49m 2s
 - Version:**
 - Firmware Version: 1.5.0
 - Bootloader Version: 1.4.0
 - Hardware Revision: A
 - Hardware ECD: 2
 - HDX Devices:**
 - HDX Table Mics: 0
 - HDX Ceiling Mics: 1
 - HDX Codecs: 1
 - Temperature:**
 - Temperature 1: 38.5°C
 - Temperature 2: 64.5°C
 - Temperature 3: 33.3°C
 - Power Supply:**
 - Phantom power 1-4: 47.3V
 - Phantom power 5-8: 47.3V
 - Phantom power 9-12: 47.7V
 - Phantom power 13-16: 47.9V
 - +15V: 14.7V
 - 15V: -14.9V
 - ConferenceLink: 48.1V
 - VoIP Interface:**
 - VoIP Status: ok
 - IP Address: 10.240.3.141 (highlighted in red)
 - UC Software Version: Mink 4.0.1.10941 10-Nov-11 10:00 file
 - BootROM Version: 5.0.1.8803 10-Nov-11 10:57
 - Bootblock Version: 3.0.3.0012 (33215-001) 07-Oct-11 08:39
 - Board Information: 3111-33215-001 Rev=2 Region=0, MAC=00:04:F2:BF:00:1D

Troubleshooting the SoundStructure VoIP Interface

If you are having trouble connecting to the SoundStructure VoIP Interface, the following table provides some common problems and their solutions.

Problem	Solution
Status LED is not lit on the SoundStructure VoIP Interface	Ensure power is connected to the SoundStructure system. Ensure the SoundStructure VoIP Interface is securely plugged into the rear panel slot. Ensure SoundStructure device is running firmware 1.5.0 or later.
SoundStructure Studio does not show the IP address of the SoundStructure VoIP Interface	Ensure SoundStructure Studio is connected to the online system. Ensure that there is a valid ethernet connection to the SoundStructure VoIP Interface. Ensure your VoIP LAN is setup for DHCP or that you configured the network settings through SoundStructure Studio.
The Status LED never goes to solid green.	Review the SoundStructure VoIP Interface logs from the Web Configuration Utility. Select the Diagnostics menu and select View and Download logs. Check for any error messages associated with connecting to the Provisioning server.

Regulatory Notice And Warranty

See the *SoundStructure Hardware Installation* guide for Regulatory and Warranty information.

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