Cisco SX80 Codec

The Cisco SX80 Codec (SX80 Codec) provides a powerful and flexible platform for creating the ultimate video collaboration experience. The SX80 Codec was built with the integrator in mind, enabling flexibility and creativity for customized video collaboration rooms that delight the customer. The SX80 acts as the audio and video engine to incorporate high-definition video collaboration applications into large meeting rooms, boardrooms and purpose-built or vertical application rooms.

The SX80 delivers up to a 1080p60 end-to-end High Definition (HD) video and offers industry-first support for H.265, which lays the foundation for future bandwidth efficiencies made possible by the new standard. The codec offers a rich input and output set, flexible media engine and support for three screens enable a variety of use cases, adaptable to your specific needs. The SX80 can register on the premises or to Cisco Webex in the cloud.[1]

The SX80 Codec also supports several sophisticated camera features to enable intelligent viewing capabilities within a video conference:

- Cisco SpeakerTrack 60 dual camera system – features a unique direct, fast-switching approach for active speaker tracking with two pan-tilt-zoom cameras
- Cisco Webex Quad Camera – sophisticated system with four embedded digital cameras that enable best overview and speaker tracking capabilities for deep and large meeting rooms; with Quad Camera, the SX80 can also deliver metrics like people count
- Cisco PresenterTrack[2] – an industry-first feature, supports automatic detection and tracking of the presenter at the front of a video conferencing room, dynamically following the presenter from seated to stand-up position within a defined trigger area so they can move about more freely (requires additional Cisco Precision 60 Camera)

Figure 1. Cisco SX80 Codec



© 2018 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

Cisco offers three SX80 Integrator Packages to reduce the need for external equipment and the overall cost of enabling video in larger meeting rooms:

- SX80 Codec and Precision 60 Camera for larger room scenarios with the best image quality in the market
- SX80 Codec and the SpeakerTrack 60 dual camera system
- SX80 Codec and Quad Camera

With its powerful media engine, the SX80 Codec lets you build the video collaboration room of your dreams.

Figure 2. Cisco SX80 Integrator Package with Touch 10 and Quad Camera



Product Features

Table 1 summarizes the key features for the SX80 Codec.

Table 1. Feature Summary

Feature Summary	
Design features	• One of the most powerful and feature-rich codecs available with the ultimate in video and audio quality • The next generation HD video collaboration codec • 1 Rack Unit (1RU) high, rack-mountable, with rack-mounting solution included • Professional-grade connectors • Unmatched quality and flexibility • Standards-compliant 1080p solution - compatible with standards-based video without losing features
Application features	• Supports Cisco Intelligent Proximity for content sharing to mobile devices and wireless sharing from Macs and PCs[3] • Supports Switched Conferencing (SVC) for enhanced layouts and enabling video on both screens of dual screen endpoints[3] • Easily control room peripherals such as lights, room dividers, curtains, directly from the Cisco Touch 10 control unit through customizable API[2] (requires external third-party control system processor) • Participate in white boarding sessions from Cisco Webex Teams app; receive on-screen notification of shared white board content (supported on cloud-registered devices) • 1080p30 HD embedded Cisco TelePresence MultiSite with individual transcoding • Collaborate with four simultaneous video inputs • HD collaboration with 1080p60 video and 1080p30 content • Simplified meeting-join experience with One Button to Push (OBTP) for scheduled devices in Cisco Webex meetings, whether registered on-prem or to the cloud • Limitless integration possibilities • Ideal for team-based collaboration, boardrooms, meeting rooms, and industry applications
Performance features	• Optimal definition up to 1080p60 • H.323/SIP up to 10 Mbps point-to-point • Up to 10 Mbps total MultiSite bandwidth • Ability to connect up to four HD sources and 8 microphones directly to the codec • Full duplex audio with high-quality stereo sound • Full Application Programming Interface (APIs) • Ability to take advantage of Cisco TelePresence Total Solution Management, transcoded HD MultiSite, recording and streaming, and firewall traversal • Cisco TelePresence ClearPath packet loss protection technology for optimal experience • Cisco Unified Communications Manager native support (requires Cisco Unified Communications Manager version 8.6 or higher)

© 2018 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

Product Capabilities

Table 2 lists the product capability specifications for the SX80 codec.

Table 2. Product Specifications

Specification	Description
Software compatibility	• Software Version TC 7.1 or later • Cisco Collaboration Endpoint Software 8.0 or later
Language support	• English, Arabic, Catalan, Czech, Danish, Dutch, Finnish, French, German, Hebrew, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese-Brazilian, Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese, and Turkish; depends on software version
Bandwidth	• H.323/SIP up to 6 Mbps point-to-point • Up to 10 Mbps total MultiSite bandwidth
Minimum bandwidth for resolution/frame rate (H.264)	• 720p30 from 768 kbps • 720p60 from 1152 kbps • 1080p30 from 1472 kbps • 1080p60 from 2560 kbps
Firewall traversal	• Cisco TelePresence Expressway technology • H.460.18 and H.460.19 firewall traversal
Video standards	• H.261, H.263, H.263+, H.264 and H.265 (SIP only for H.265)
Video features	• Advanced screen layouts • Custom video layouts • Local auto layout
Video inputs (five inputs)	**Three HDMI Inputs; supported formats:** • 1920 x 1080@60 and 59.94 Hz (1080p60) • 1920 x 1080@50 Hz (1080p50) • 1920 x 1080@30 and 29.97 Hz (1080p30) • 1920 x 1080@25 Hz (1080p25) • 1920 x 1080@24, and 23.97 Hz (1080p24) • 1280 x 720@60, and 59.94 Hz (720p60) • 1280 x 720@50 Hz (720p50) • 720 x 480@60, and 59.94 Hz (480p60) • 640 x 480@60 Hz (480p60) • 1280 x 1024@60, and 75 Hz (SXGA) • 1024 x 768@60, 70, 75, and 85 Hz (XGA) • 800 x 600@56, 60, 72, 75, and 85 Hz (SVGA) • 1680 x 1050@60 Hz (WSXGA+) • 1440 X 900@60 Hz (WXGA+) • 1280 x 768@60 Hz (WXGA) • 1920 x 1200@60 Hz (WUXGA)[3] • 1920 x 1200@50 Hz (WUXGA)[3] **One DVI-I Input; supported formats:** Analog (VGA or YPbPr): • 1920 x 1080@60 Hz (1080p) • 1280 x 720@60 Hz (720p) • 1280 x 1024@60 and 75 Hz (SXGA) • 1280 x 960@60 Hz • 1024 x 768@60, 70, 75, and 85 Hz (XGA) • 1680 x 1050@60 Hz (WSXGA+) • 1440 x 900@60 Hz (WXGA+) • 1280 x 800@60 Hz (WXGA) • 1280 x 768@60 Hz (WXGA)

© 2018 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

Specification	Description
	Digital (DVI-D): ● 1920 x 1080@60, 59.94 Hz (1080p60) ● 1920 x 1080@50 Hz (1080p50) ● 1920 x 1080@30, 29.97 Hz (1080p30) ● 1920 x 1080@25 Hz (1080p25) ● 1920 x 1080@24, 23.97 Hz (1080p24) ● 1280 x 720@60, 59.94 Hz (720p60) ● 1280 x 720@50 Hz (720p50) ● 720 x 480@60, 59.94 Hz (480p60) ● 640 x 480@60 Hz (480p60) ● 1280 x 1024@60, 75 Hz (SXGA) ● 1024 x 768@60, 70, 75, 85 Hz (XGA) ● 800 x 600@56, 60, 72, 75, 85 Hz (SVGA) ● 1680 x 1050@60 Hz (WSXGA+) ● 1440 X 900@60 Hz (WXGA+) ● 1280 x 768@60 Hz (WXGA) ● 1920 x 1200@60 Hz (WUXGA)3 ● 1920 x 1200@50 Hz (WUXGA)[3] **One Composite/S-Video Input (BNC Connectors)** ● PAL/NTSC Extended Display Identification Data (EDID)
Video outputs (three outputs	**Two HDMI Outputs and one DVI-I Output; supported formats:** ● 1920 x 1080@60 Hz (1080p60) ● 1920 x 1080@50 Hz (1080p50) ● 1280 x 720@60 Hz (720p60) ● 1280 x 720@50 Hz (720p50) ● 1920 x 1200@60 Hz (WUXGA)[3] ● 1920 x 1200@50 Hz (WUXGA)[3] VESA Monitor Power Management Extended Display Identification Data (EDID)
Live video resolutions (encode and decode)	● 176 x 144@30 frames per second (fps) (QCIF) ● 352 x 288@30 fps (CIF) ● 512 x 288@30 fps (w288p) ● 576 x 448@30 fps (448p) ● 768 x 448@30 fps (w448p) ● 704 x 576@30 fps (4CIF) ● 1024 x 576@30 fps (w576p) ● 1280 x 720@30 fps (720p30) ● 1920 x 1080@30 fps (1080p30) ● 1920 x 1200@15fps (WUXGA)[3] ● 640 x 480@30 fps (VGA) ● 800 x 600@30 fps (SVGA) ● 1024 x 768@30 fps (XGA) ● 1280 x 1024@30 fps (SXGA) ● 1280 x 768@30 fps (WXGA) ● 1440 x 900@30 fps (WXGA+) ● 1680 x 1050@30 fps (WSXGA+) ● 1920 x 1200@15fps (WUXGA) ● 512 x 288@60 fps (w288p60) ● 768 x 448@60 fps (w448p60) ● 1024 x 576@60 fps (w576p60) ● 1280 x 720@60 fps (720p60) ● 1920 x 1080@60 fps (1080p60)
Audio standards	● G.711, G.722, G.722.1, G.728, G.729AB, 64 kbps and 128 kbps MPEG4 AAC-LD mono and stereo, OPUS

© 2018 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

Specification	Description
Audio features	• CD-quality 20 kHz mono and stereo • Eight separate acoustic echo cancellers • Eight-port audio mixer • Eight assignable equalizers • Automatic Gain Control (AGC) • Automatic noise reduction • Active lip synchronization
Audio inputs (fifteen inputs)	• Eight microphones, 48V phantom powered, Euroblock connector, each with separate echo cancellers and noise reduction; all microphones can be set for balanced line level • Four balanced line level inputs, Euroblock connector • Three HDMI, digital: stereo PC/DVD input
Audio outputs (eight outputs)	• Six balanced line level outputs, Euroblock connector • Two HDMI outputs
Dual stream	• H.239 (H.323) dual stream • BFCP (SIP) dual stream • Support for resolutions up to 1080p30, and independent of main stream resolution
Multipoint support	• Five way embedded SIP/H.323 multipoint (reference MultiSite) • Cisco ad-hoc conferencing (requires CUCM, Cisco TelePresence Server and Conductor) • Cisco Conferencing Active Control • Switched Conferencing (SVC)[3]
MultiSite features (embedded multipoint)	• Five way 720p30, three way and four way 1080p30 MultiSite • Full individual audio and video transcoding • Individual layouts in MultiSite continuous presence • H.323/SIP/VoIP in the same conference • Support for Presentation (H.239/BFCP) from any participant at resolutions up to 1080p15 • Best Impression (Automatic continuous presence layouts) • H.264, encryption, and dual stream from any site • Additional telephone call (no license required) • IP downspeeding • Dial in and dial out • Conference rates up to 10 Mbps
Protocols	• H.323 • SIP • Dual call stack support (SIP and H.323) • ISDN (requires Cisco ISDN Link)
Embedded encryption	• H.323/SIP point-to-point • Standards-based: H.235 v3 and Advanced Encryption Standard (AES) • Automatic key generation and exchange • Supported in dual stream
IP network features	• DNS lookup for service configuration • Differentiated Services (QoS) • IP adaptive bandwidth management (including flow control) • Auto gatekeeper discovery • Dynamic playout and lip-sync buffering • H.245 DTMF tones in H.323 • Date and Time support via NTP • Packet Loss based downspeeding • URI Dialing • TCP/IP • DHCP • 802.1x Network authentication • 802.1Q Virtual LAN • 802.1p (QoS and Class of Service [CoS]) • ClearPath • RFC 4733 DTMF tones in SIP

© 2018 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

Specification	Description

Call control	• Cisco Unified Communications Manager (CUCM)
	  ◦ Native registration with CUCM
	  ◦ Requires CUCM Version 8.6(2) or later with device pack for SX80
	  ◦ Basic CUCM provisioning
	  ◦ Firmware upgrade from CUCM
	  ◦ Cisco Discovery Protocol and DHCP option 150 support
	  ◦ Basic telephony features such as hold, resume, transfer, and corporate directory lookup
	• Cisco Video Communication Server (VCS)
	  ◦ Native registration with VCS
	• Cisco Webex
	• Third-party H.323 Gatekeepers and standards-based SIP proxies

IPv6 network support	• Single call stack support for both H323 and SIP • Dual-stack IPv4 and IPv6 for DHCP, Secure Shell (SSH), HTTP, Secure HTTP (HTTPS), DNS, and Differentiated Services (DiffServ) • Support for both static and autoconfiguration (stateless address auto configuration)
Security features	• Management through HTTPS and SSH • IP administration password • Menu administration password • Disable IP services • Network settings protection
Certificate management	• Certificate Authority Proxy Function (CAPF) support for additional security • Manufacturer-Installed Certificates (MIC) • Locally Significant Certificates (LSC) • X.509 Digital Certificates (DER encoded binary); both DER and Base-64 formats are acceptable for the client and server certificates; certificates with a key size of 1024, 2048, and 4096 are supported
Network interfaces	• One LAN/Ethernet (RJ-45) 10/100/1000 Mbit • Two LAN/Ethernet (RJ-45) interfaces to be used for Cisco peripherals
Other interfaces	• Two USB hosts for future usage • GPIO
System management	• Support for Cisco TelePresence Management Suite (TMS) • Management via embedded Telnet, SSH, XML, and SOAP • Full Application Programming Interface (APIs) • Remote software upload via web server, SCP, HTTP, and HTTPS • One RS-232 for local control and diagnostics • Support for Cisco Touch 10
Directory services	• Support for local directories (My Contacts) • Corporate directory (through CUCM and Cisco TMS) • Server directory supporting LDAP and H.350 (requires Cisco TelePresence Management Suite) • Call History with received, placed and missed calls with date and time
Power	• Auto-sensing power supply • 100-120/200-240 VAC, 50/60 Hz • 170 watt maximum for codec and main camera
Operating temperature and humidity	• 0 to 40° (32 to 104° F) ambient temperature • 10 to 90% Relative Humidity (RH)
Storage and transport temperature	• -20° C to 60° C (-4° F to 140° F) at RH 10-90% (non-condensing)
Dimensions	• Length: 17.4 in. (44.2 cm) • Height: 1.7 in (4.4 cm) • Depth: 12.2 in. (30.98 cm) • Weight: 8.05 lbs. (3.65 kg)
Regulatory Compliance	• Directive 2006/95/EC (Low Voltage Directive) - Standard EN 60950-1 • Directive 2004/108/EC (EMC Directive) - Standard EN 55022, Class A - Standard EN 55024 - Standard EN 61000-3-2/-3-3 • Approved according to UL 60950-1 and CAN/CSA-C22.2 No. 60950-1

© 2018 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

Specification	Description
	• Complies with FCC CFR 47 15B, Class A

[1] Requires Collaboration Endpoint Software 8.2 or later
[2] Requires Collaboration Endpoint Software 8.1 later
[3] Requires Collaboration Endpoint Software 8.0 or later

Ordering Information

To place an order, please contact your local Cisco representative and refer to Table 3.

Table 3. Ordering Information

Product Name	Part Number	Compliance Model Number
Cisco SX80 Codec (comes with SX80 codec, rack ears, power cable)	CTS-SX80-K9	TTC6-12
Ordering Options for the Cisco SX80		
SX80 MultiSite Software Option	LIC-SX80-MS	
Integrator packages*		
Cisco SX80 Codec, Precision 60 Camera, and Touch 10	CTS-SX80-IP60-K9	TTC6-12 (Codec) TTC8-07 (Camera)
Cisco SX80 Codec, SpeakerTrack60 Microphone Array, and Touch 10	CTS-SX80-IPST60-K9	TTC6-12 (Codec) TTC8-09 (Camera)
Cisco SX80 Codec, Quad Camera, and Touch 10	CTS-SX80-IPQC-K9	TTC6-12 (Codec) TTC8-10 (Camera)

Table 4. Cisco SX80 Codec Deliverables

Product Name	Delivered with
Cisco SX80 Codec (comes with SX80 codec, rack ears, power cable**)**	SX80 Codec, rack ears, and power cable
Integrator packages*	
Cisco SX80 Codec, Precision 60 Camera, and Touch 10	SX80 Codec, rack ears, power cables, presentation cable Precision 60 Camera 20x, power supply Touch 10, gray Ethernet cable, and power injector
Cisco SX80 Codec, SpeakerTrack60 Microphone Array, and Touch 10	SX80 Codec, rack ears, power cables, presentation cable Touch 10, gray Ethernet cable, and power injector SpeakerTrack 60 unit; refer to separate data sheet for details
Cisco SX80 Codec, Quad Camera, and Touch 10	SX80 Codec, rack ears, power cables, presentation cable Quad Camera, power supply Touch 10, gray Ethernet cable, and power injector

* Microphones ordered separately

Cisco Service and Support

Cisco and our partners provide a broad portfolio of smart, personalized services and support that can help you realize the full business value of your Cisco video collaboration investment by increasing business agility and network availability. This portfolio of services accelerates business innovation by harnessing the network as a powerful business platform. For more information about these services, please visit: https://www.cisco.com/go/telepresenceservices.

© 2018 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

Cisco Capital

Flexible payment solutions to help you achieve your objectives.

Cisco Capital makes it easier to get the right technology to achieve your objectives, enable business transformation and help you stay competitive. We can help you reduce the total cost of ownership, conserve capital, and accelerate growth. In more than 100 countries, our flexible payment solutions can help you acquire hardware, software, services and complementary third-party equipment in easy, predictable payments. Learn more.

Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at **https://www.cisco.com/go/offices**.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: https://www.cisco.com/go/trademarks. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

Printed in USA C78-731242-12 09/18

© 2018 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.