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TECHNICAL SPECIFICATIONS

POLYCOM OPEN TELEPRESENCE EXPERIENCE™

OTX 300

Software version 3.0.5 | Hardware version C



Video & Audio Technology

Solution includes:

- Polycom HDX™ video codecs supporting 1080p at 30fps or 720p at 60fps
- Polycom Digital Ceiling Microphone Arrays
- Polycom StereoSurround™ speaker kits
- High-definition 65-inch LCD displays
- High-definition video cameras
- Polycom Touch Control user interface
- Motorized 21.5-inch high resolution content displays integrated in conference table
- Power and LAN access for laptop at the table

Room Environment (options vary)

Room Size Requirements						
Recommended Room Size	With Complete Experience Kit (Includes OTX Rear Wall and Lights)			Without Complete Experience Kit (Does Not Include OTX Rear Wall and Lights)		
	Width	Depth	Height	Width	Depth	Height
	22 ft 4½ in (6.820 m)	15 ft 6 in (4.724 m)	8 ft 8 in (2.642 m)	22 ft 4½ in (6.820 m)	15 ft 6 in (4.724 m)	8 ft 8 in (2.642 m)
Minimum Room Size	22 ft 4½ in (6.820 m)	15 ft 6 in (4.724 m)	8 ft 0 in (2.438 m)	19 ft 0 in (5.791 m)	13 ft 9 in (4.191 m)	8 ft 0 in (2.438 m)

Options

Complete Experience Kit

If you are planning to use the OTX Complete Experience kit: The Complete Experience kit includes the OTX rear wall, ceiling lights and Signage Solution.

	<u>Width</u>	<u>Depth</u>	<u>Height</u>
Rear Wall	20 ft 5 ¾ in (6.866 m)	3 ft 9 ⅛ in (1.145 m)	5 ft 8½ in (1.742 m)
Lighting	Six lighting elements 12" x 4' [365.76 cm x 121.92 cm] Fluorescent lamp, 4100K		



Seating

- Six seats on-camera
- Ten seats for off-the-call use

Chairs

Chairs are to be supplied by the customer. Polycom recommends the Herman Miller® Eames® Aluminum Group Executive chair (Polycom p/n 2200-61923-001). For more information, see <http://www.hermanmiller.com/Products/Eames-Aluminum-Group-Chairs>. This chair complements the décor of the OTX 300 in both style and size. If you do not purchase these chairs, Polycom highly recommends that you purchase chairs that are the same size, color and shape to maintain the design integrity of the room.

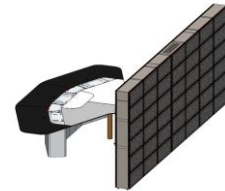


For customers choosing to supply their own chairs, the dimensions must NOT exceed:

- Arm span: 24.5" [62.23 cm]
- Wheel base: 27" [68.58 cm]

Front Wall Finish

The Front Video Wall Finish is recommended when the OTX is offset from the room wall. The rear side finish is comprised of the same white panels as the front video wall to provide a clean finish.



Close Up Option

The OTX 300 includes an optional feature, which when enabled via software during installation, allows the user to either zoom the center camera in for a "close up" view of the center two participants or out for the standard "wide shot" view of the participants. There are specific scenarios where this feature would be deployed:

- A point to point call between an OTX 300 and an HDX or other traditional video conferencing system (single display endpoints)
- Any call via an RMX or MGC bridge (including multipoint)

Optional Second Row (for seating up to 15)

An expanded seating option is available bringing seating capacity to a total of 15 participants.

This expanded solution includes:

- (3) rear tables (excludes power and data on the table legs)
- (3) lighting elements (there will be a total of 9 lighting elements for the suite)
- (2) HDX Media Center Pedestal stands, each with (1) 50- plasma display (for displaying content to back row)



Please contact your Polycom Account Representative for more information about this custom offering.

Video and Audio Specifications

Display Specification	High Definition Video Display Size	Aspect Ratio
(3) 65" LCD displays	1920 x 1080p full HD	16:9
Video	Description	
H.264	Video codec- Baseline, High Profile (HiP), Main line (TIP support)	
H.239	People + Content	
H.261 and H.263++	For compatibility with legacy video conferencing endpoints	
LPR (Lost Packet Recovery)	Video Error Concealment to preserve video quality during packet loss events	
AES Media Encryption	For secure video/audio and content	
Audio	Description	
Siren™ 22	22kHz bandwidth with StereoSurround™	
Siren™ LPR (Lost Packet Recovery)	Siren LPR preserves audio quality during high packet loss	
G722.1 Annex C	14kHz bandwidth with Polycom Siren 14	
G.722, G.722.1	7kHz bandwidth	
G.711	3.4kHz bandwidth	
AAC-LD	20kHz (TIP support)	

Content Sharing



Figure 1.0 – content displayed during a video call

On a call, content is displayed on the tabletop content monitors.



Figure 1.1 – content displayed off a call

Off the call, content may be displayed on both the table content displays and on the main displays as shown.

Display resolution 1920x1080

Laptop connectivity Power and LAN are optionally available at the table (10) Ethernet ports (10) power plugs, (1) VGA input, (1) HDMI inputs with one mini and one regular HDMI-display port adapters.

People + Content 1080p

Input Formats:

- VGA 640 x 480p at 60/72/75Hz
- SVGA 800 x 600p at 60/72/75Hz - VESA
- XGA 1024 x 768p at 60/70/75Hz - VESA
- SXGA 1280 x 1024p at 60Hz - VESA STD
- SXVGA 1280 x 960p at 60Hz - VESA STD
- 900P 1600 x 900p at 60Hz - VESA STD
- WSXGA 1680 x 1050p at 60Hz - VESA STD
- WUXGA 1920 x 1200p at 60Hz - VESA STD
- HD 1920x1080 @ 60/50Hz
- HD 1280X720 @ 60/50Hz

Encoded resolutions and frame rates:

- HD 1080p Encode: 1080p <= 15fps
- HD 720p Encode: 720p <= 30fps
- WSXGA 1680x1050 Encode: 1024x768 <= 30fps
- SXGA 1280X1024 Encode: 1280x1024 <= 30fps
- XGA 1024x768 Encode: 1024x768 <= 30fps

People + Content IP Content sharing sent over corporate IP connection from your computer to the video conference system (no cables necessary)

Directory Support

- Global Directory (LDAP/H.350) Supports directory services via the Polycom Converged Management Application™ (CMA™) 5000
- Local Directory support Configure local directory for sites without CMA directory integration or for situations where entry on the CMA directory is not desirable

User Interface

The Polycom Touch Control is your interface to the Polycom OTX 300. It enables you to place video and audio calls, hang-up calls, adjust the volume, show content, and select options. The Polycom Touch Control is located on the main table within easy reach of the center seats at the table.

Below is a summary of the tasks can perform using the Polycom Touch Control:

Button/Function	Description
Make a call	The user has the ability to dial manually or by using the Favorites menu or calling from the Directory.
Search and directory capability	Select sites from a local or CMA directory and use advanced search capabilities
Polycom Calendaring for Microsoft® Outlook*	This feature allows the user to use the Polycom Touch Control to quickly and easily view a list of scheduled meetings and join those meetings.
Meeting Composer*	Enables the meeting organizer to initiate and control a multipoint call entirely from the Polycom Touch Control*
Hang up	Allows the user to end the call
Audio controls	Allow the user to raise and lower audio levels
Audio mute	Allow the user to stop transmission of audio through the microphone(s)
Content controls	Allow the user to start and stop sharing content
Help desk**	Button set up by the system administrator to place an audio call to a help desk that can assist users should they experience technical difficulties or have a question.

* To complete the telepresence multipoint solution, an RMX 4000 or RMX 2000 MCU with the telepresence software option enabled and the Polycom Multipoint Layout Application (MLA) software are required. For more detailed information, please refer to the Polycom Multipoint Overview document found on the Partner Resource Center web site.

** An analog (POTS) line must be present for access to the your VNOC or other help desk

Multipoint Conferencing

The OTX 300 telepresence solution provides two methods for viewing participants in a multipoint conference.

Room Continuous Presence: In this standard mode, the multipoint view will automatically be generated either to follow the general principles of Polycom Immersive Telepresence multipoint (all participants are “present” during a multipoint conference) or to fit a custom-set view configured by the conference administrator for the particular combination of sites in the conference.

Voice Activated Room Switching (VARS): VARS is different from the standard Room Continuous Presence mode in that the speaker’s site is the only site seen by others. The view of the speaker’s site is sized to be as large as possible on all of the other participants’ displays. The current speaker sees the previous speaker’s site (i.e., the speaker’s layout remains unchanged). Layouts used in VARS are not customizable.

To implement telepresence multipoint conferencing with Polycom telepresence solutions, the following components are required:

Device	Function	Model(s) Supported
Endpoints/rooms	Provide experience, ease of use, etc...	RPX™, OTX, ATX™, HDX, Traditional videoconferencing endpoint
Multipoint server	Provide multisite call capability, gateway to other solutions such as ISDN/H.320, Microsoft OCS, etc.	RMX™ 2000 and RMX™ 4000 with the telepresence option enabled and supported by Polycom’s Multipoint Layout Application
Global Directory Access	Directory	Converged Management Application™ (CMA™), HDX Directory
Others	Call control, firewall traversal, etc.	Varies depending on network infrastructure

For more detailed information about telepresence multipoint conferencing, please refer to the Polycom Telepresence Multipoint Overview posted on the Partner Resource Center web site.

Environmental Specifications

Power & Cooling

	Total Power (Watts)	BTUs/Hour	Cooling in Tons
Standby (Components off except rack components and cameras)	300	1025	.09
In Use (Max call rate with Content and doc sharing)	2000	6824	.57
Maximum (system will not exceed)	2500	8530	.71
Optional Lighting (part of the Complete Experience Kit)	810	2764	.23

Environmental Conditions

Conference room operating temperature	41-86° F, 5-30° C
Relative humidity	20% to 80% (non-condensing)
Sound Pressure Level	43 dBA or lower
Recommended NC rating	30 or lower

Total Installed Weight

OTX 300	Units	Weight	Area	Avg. Static Load lb/ft ² - kg/m ²
Video Wall (Includes Equipment Rack, Displays, and Camera Bracket)	lbs	1216 lbs	26 sq ft	47 lb/ft
	kg	551.6 kg	2.42 sq m	229 kg/m
Multipurpose Conference Table	lbs	656 lbs	81 sq ft	8 lb/ft
	kg	297.6 kg	7.52 sq m	40 kg/m
Rear Wall	lbs	843 lbs	17 sq ft	50 lb/ft
	kg	382.4 kg	1.54 sq m	248 kg/m

Network Technology

Network Interoperability

Microsoft® Office Communications Server 2007 integration	Manages all real-time (synchronous) communications including: instant messaging, VoIP, audio and video conferencing.
Microsoft™ Lync support	A single platform that can enhance, extend, and even replace traditional and IP PBX systems.
Telepresence Interoperability Protocol (TIP)	Cisco Proprietary protocol used to communicate in native mode to Cisco CTS systems
Dual Stack H.323/SIP	Supports the Polycom Open Collaboration Network (POCN) for integration with UC partners including Siemens, BroadSoft and Avaya

High Profile Bandwidth requirements

Support for the following data rates with QoS enabled, bidirectional, with a 50% burst increase within 100ms window. Bandwidth estimates are based on network traffic in one direction and do not include overhead and management traffic

For this table 1 Mbps equals 1,024 Kbps which equals 1,024,000 bits per second.

Frame Rate	Minimum	Recommended	Maximum
1080p30 High Profile	4.5 Mbps per suite	9 Mbps per suite	18 Mbps per suite
720p60 High Profile	4.5 Mbps per suite	9 Mbps per suite	18 Mbps per suite

H.264 Bandwidth Requirements (not High Profile)

Frame Rate	Minimum	Recommended
1080p30	9 Mbps per suite	18 Mbps per suite
720p60	6 Mbps per suite	12 Mbps per suite

Note: Bandwidth estimates are based on network traffic in one direction and do not include overhead and management traffic.

Performance

- Packet loss < 0.1%
- End to end latency <150 ms
- Packet jitter < 40 ms

LAN Connection Requirements

The customer has a choice of LAN wiring option which will depend on whether they want a switch in the OTX 300 room, or prefer home runs back to a managed switch.

Supported LAN wiring options include:

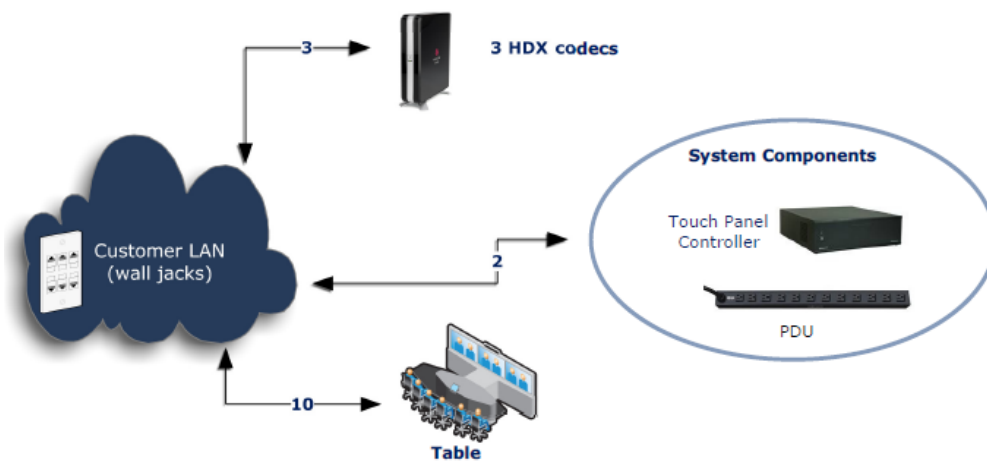
- Home runs for OTX 300, table and system components (Figure 2.0)
- Home runs for the OTX 300, system components and LAN switch which will distribute network to the table (Figure 2.1)

The user interface, the Polycom Touch Control, requires an IP address from the network. The Polycom Touch Control connects to the primary codec in the LAN side of the codec switch.

For voice add-on, you will need to supply an **analog line**. Voice add-on is necessary to enable access to a VNOC or other help desk.

If you do not put a managed switch in the telepresence suite, the OTX solution needs the following number of 100/1000BASE-T network connections, on RJ-45 connectors as well as static IP addresses.

Default OTX 300 network wiring configuration

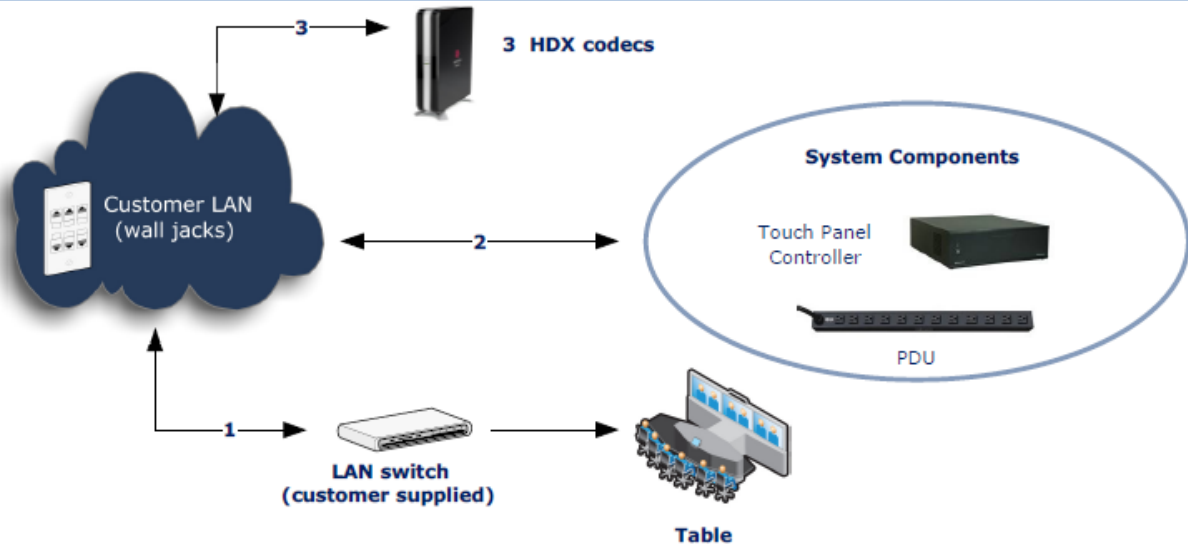


Required LAN Connections

HDXs	System Components (Touch Panel Controller & PDU)	Table	Total
3	2	10	15

Figure 1.0 – default network configuration

Alternate OTX 300 network wiring configuration



Required LAN Connections

LAN connections for HDX's	LAN connections for system components	LAN connection switch	Total LAN connections
3	2	1	6

Figure 2.0 – alternate network configuration

Recommendations for customer-supplied switch

- Rack mountable, 1U height
- Input power: 100-240 VAC, auto-ranging, 50-60 Hz
- Acoustic noise-recommend maximum of 43 dBa, ISO 7779. It is the responsibility of the customer to investigate and select the appropriate managed switch for their particular application.

Regulatory Compliance

- CE Marking
- FCC Part 15 Class A
- UL
- cUL
- CE
- VDE
- RoHS
- WEEE
- CSA
- C-Tick

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