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HELPFUL TIPS FOR

SETTING UP A VIDEO MEETING SPACE

INTRODUCTION

What are the best practices for designing and managing video conferencing room solutions? That's the broad question this guide intends to answer.

We will also address specific questions that IT and facilities teams often ask. For example: How can we conserve table space in small rooms? What can we do to prevent cables from cluttering the meeting room and being unplugged? In rooms with windows, how do we prevent backlighting and glare from affecting video quality? What kind of video equipment should we use for brainstorming in open spaces? And so on.

This guide provides recommendations for setting up meeting rooms and installing video conferencing equipment. Detailed room diagrams offer examples of how to place and connect devices in rooms of various sizes.

The guide is organized into the following sections:

ROOM DIAGRAMS

Numerous examples of meeting spaces with visual suggestions for placing and connecting video conferencing devices. **VIEW ROOM DIAGRAMS ›**

THE MEETING SPACE ENVIRONMENT

Tips for optimizing the lighting, background, furniture, and acoustics. **VIEW RECOMMENDATIONS ›**

INSTALLATION BEST PRACTICES

Recommendations for selecting and installing video conferencing equipment, including displays, cameras, compute devices, touch controllers, mics, speakers, and cables. **VIEW RECOMMENDATIONS ›**

ROOM DIAGRAMS

It's easy to deploy Zoom Rooms throughout the workplace. Just match a small, medium, or large configuration to each of your rooms, then add accessories to suit your space.

SMALL

PHONE BOOTH

Small Room + Tap Wall Mount

MEDIUM

MEDIUM ROOM

Medium Room + Tap Table Mount

LARGE

BOARDROOM

Large Room + Tap Riser Mount

THE MEETING SPACE ENVIRONMENT

Tips for optimizing the meeting space environment, including lighting, room color, background, furniture, acoustics, and other elements that affect video and audio quality.

LIGHTING

An evenly lit meeting space helps the camera capture the most accurate color, contrast, and video definition.

- Avoid pointing the camera toward exterior windows or other strong lighting sources, like directional spotlights; lighting elements that are behind meeting participants tend to darken the subject and produce silhouettes
- Bright sunlight from a nearby window can also create sharp contrasts, even when the camera isn't pointed toward the window
- Where needed, consider installing blinds, curtains, or shades to control lighting
- Generally speaking, typical fluorescent office fixtures work well for meeting room lighting

COLOR

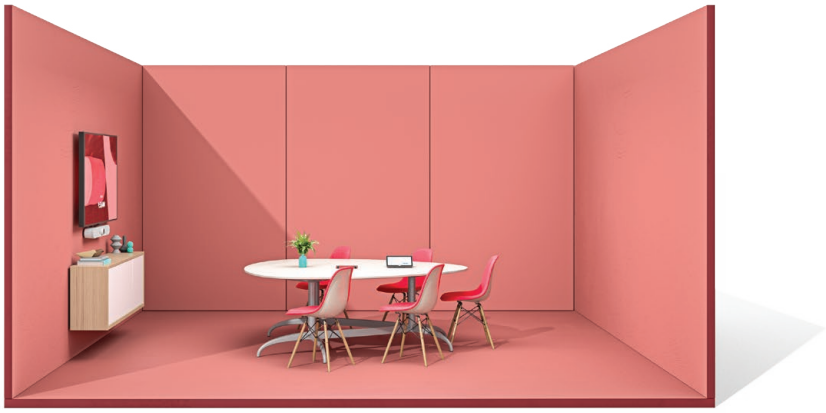
Neutral wall colors such as gray or beige usually provide the least distracting background, helping keep the focus on the attendees.

- Avoid bright colors such as pure red, blue, and green, which can cause the camera to skew flesh tones and other hues
- Avoid bold patterns in the background; cameras generally do not capture patterns well which leads to visual distractions
- If energizing the room with color is important for branding, display, or other purposes, use it sparingly and preferably on the wall behind the camera

BACKGROUND

A simple, clean background is usually best. Visual clutter, like bold patterns, can be a problem for the conference camera and distracting for meeting attendees.

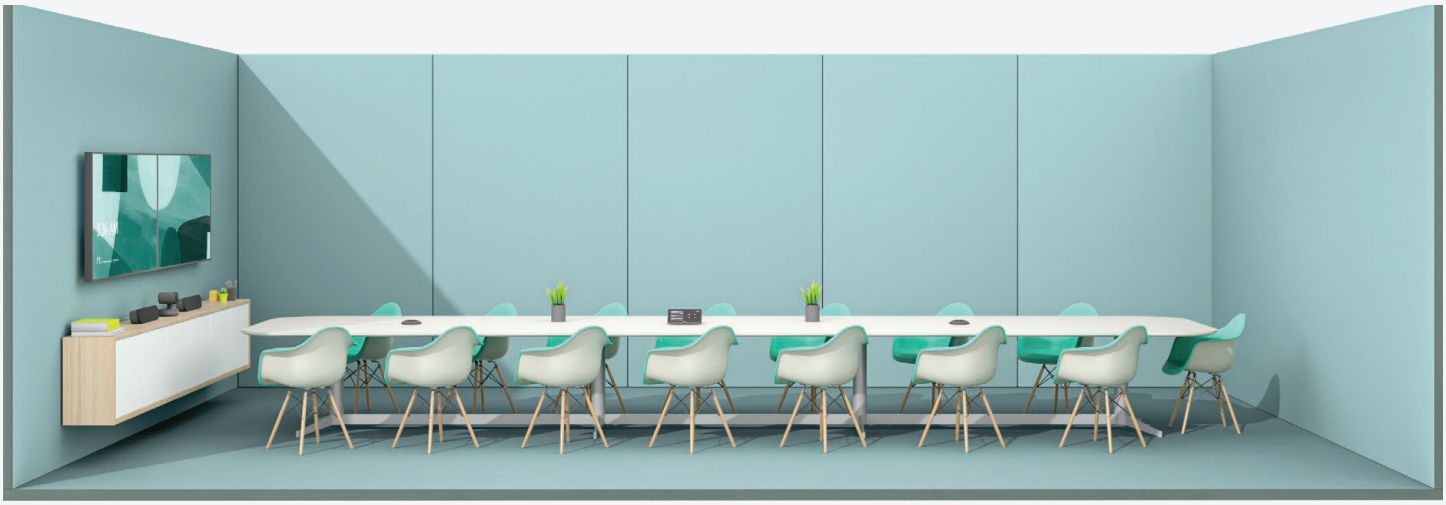
- Remove or avoid unnecessary furniture, items on the table, ornate plants, busy artwork, framed prints with reflective glass, and moving objects like curtains in a draft
- Conceal wiring below tables whenever possible
- For rooms with windows, consider blinds or curtains, a privacy screen, or frosted glass; windows can be a source of distraction if there is movement or activity outside and pose a privacy issue for confidential meetings



FURNITURE

The table size and number of chairs is a determining factor when selecting audio and visual equipment.

- Arrange chairs so the camera can see everyone at the table; this is usually accomplished by positioning the camera and screen at the head of the table and arranging arranging seating within the camera's field of view (FOV)
- If possible, choose a non-rectangular shape for the table – such as a tapered or triangle shape or a semi-circle – with the widest end near the screen and camera so everyone seated at the table can be seen
- Circular tables can be a good choice for smaller rooms if they don't block the camera's line of sight.
- Select small high-top tables and light-weight moveable seating for flexible room configurations



ACOUSTICS

Every physical space has intrinsic acoustic properties, many of which can be managed. Materials used for room construction and furniture have the most impact on room acoustics.

- Avoid building rooms with reflective surfaces such as metal, stone, glass, or similarly hard materials, which can increase sound reflection and compromise audio quality
- Be wary of glass windows, which can allow outside noise to leak in and cause distractions to people in the room and on the other side of the call
- Consider acoustic ceiling tiles or hanging panels, both of which absorb sound and reduce echo and reverb
- Use carpeting rather than tile or hardwood; softer and loftier materials absorb sound best

INSTALLATION BEST PRACTICES

Recommendations for selecting and installing video conferencing equipment, including displays, video, audio, and cables.

DISPLAY

The display, or monitor, is the focal point of every video meeting. Its position in the meeting space is therefore key, both for the people in the room and for remote participants.

Single, Dual Display, or Multiple Displays

- For huddle rooms and small meeting spaces, a single flat-panel display is sufficient
- For larger rooms, consider installing two screens to display remote participants on one and shared content on the other
- Cameras are typically situated just below or above the screen; with dual displays, place the camera at eye level between the two screens

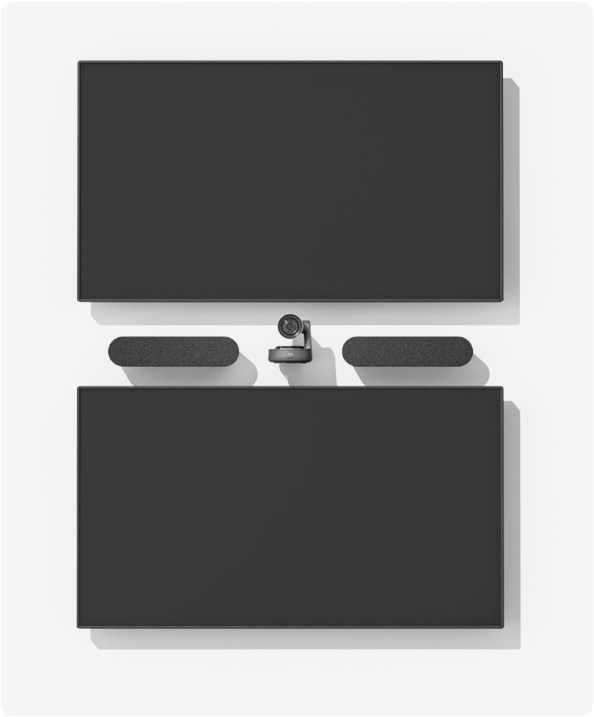
Display Size

- If you're using one display, it should be large enough to show both camera video and content video at resolutions at which text is easily readable
- How to determine the optimal display size:
    - Measure the distance between the wall where the display will mount and the furthest seating position
    - Divide the distance to the furthest position by 4; this is the recommended minimum height of the screen
    - Multiply the screen height by 1.8 to determine the diagonal size, which is the dimension given for display sizes

INSTALLATION BEST PRACTICES

Mounting Options

- Consider camera placement when installing displays – ideally both the display and the camera should be close to eye level or slightly above for seated participants
- Eye level is relative to the seating in the room; for standard seating this is 46-50" (116-127 cm) on average
- Dual displays can be positioned either horizontally or vertically; for horizontal mounting, place the displays so that the center of the table aligns with the gap between the two displays
- An additional advantage of dual displays is it allows a PTZ camera to be placed at eye level between the two screens.
- When mounting a camera above a single display, the bottom of the display should be as close to the surface height of the table as possible



Display Carts

- Mobile display carts can add portability and flexibility, allowing video meetings to be held in more locations
- Use mobile carts to create workshop rooms or "brainstorm spaces," open areas outside of meeting rooms where small groups can gather for ad hoc video collaboration
- Stationary carts are a good option in spaces where it is impractical or impossible to permanently install displays and other equipment
- Secure the gear to the cart with Kensington locks and optional locks for any storage drawers and doors

Video Settings

- Review each display's settings during installation, including display resolution, color saturation, and brightness/contrast
- By default, displays often have settings that attempt to optimize video and audio for television; these settings should be disabled or set to the lowest level where disable is not an option
- If there is a video setting labeled "Game Mode," it will usually provide the best performance with the least processing

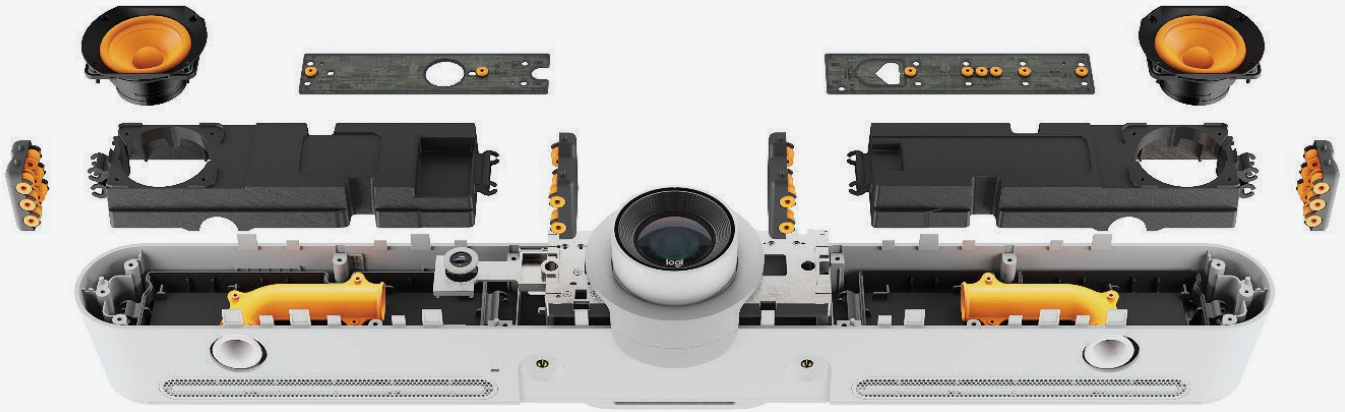
Interactive Displays

- For enhanced collaboration, you may want to use touch-enabled video screens (or interactive displays)
- Choose interactive displays for brainstorming and whiteboard use; digitizing notes, illustrations, and other work; and saving collaborative sessions
- Multiple cloud-based video meeting platforms now support interactive displays for real-time annotations, content sharing, and meeting controllers

CAMERA

The core of any video conferencing solution is the camera, which should be positioned at a height, distance, and viewing angle that allows remote participants to see everyone in the room.

- The conference cameras you select should provide an excellent experience for remote meeting participants
- Enterprise-grade conference cams typically include 4k HD resolution, wide field of view, and pan/tilt/zoom (PTZ) capabilities, all of which should be standard features



Angle & Height

- If possible, position the camera at eye level, which provides the most natural orientation for face-to-face collaboration
- The video performance may be diminished if the camera is positioned too high or too low relative to meeting participants
- When it's not possible to place the camera at eye level – for example, when it's mounted above or below a single display – select a camera with motorized pan and tilt to help adjust the viewing angle

INSTALLATION BEST PRACTICES

Room Coverage

- Room coverage refers to the area within a room that a camera and microphone can effectively record; "total room coverage" is the ability for the camera and mic to capture the entire room
- Ensure total room coverage by selecting a camera with an appropriate field of vision (FOV) for the space and seating within each room
- Selecting tables that are semi-circular or wider at the end closer to the camera will help ensure more people are included within the camera's view

Cameras for Small to Medium Rooms

- More organizations today are opting for all-in-one video bars for small to mid-sized rooms
- Save space with a compact, all-in-one conference camera with built-in speakers (like Rally Bar and Rally Bar Mini)
- Be sure to consider field of view – a wide angle lens ensures everyone can be seen within the tight confines of a smaller room
- Simplify installation – a video bar includes fewer components and cables, making installation faster and cleaner

SMALL ROOM SOLUTIONS WITH RALLY BAR MINI

MEDIUM ROOM SOLUTIONS WITH RALLY BAR

Cameras for Large Rooms

- In large rooms, features like auto-focus and pan/tilt/zoom are paramount
- The conference camera needs the ability to focus on the active speaker and to keep that person in view if he or she stands and writes on a whiteboard, for example
- Combining PTZ with artificial intelligence allows a camera to automatically move the lens and adjust the zoom as people move about

LARGE ROOM SOLUTIONS WITH RALLY PLUS

MICS & SPEAKERS

Audio is as important to a successful video conference as the camera. Mics and speakers should be selected to match the room size.

- Verify mic pickup range to ensure you're getting total room coverage with your sound system, including additional mics
- For larger spaces, you may opt for modular audio or microphone expansion packs, which extend coverage to ensure people further from the camera are still heard
- Adding mics to a large table also provides meeting attendees with a convenient way to quickly mute the sound
- When adding mics to a large room, don't forget accessories such as mic pod hubs, mic pod mounts, and mic extension cables

COMPUTE

A compute device is required to run a video meeting, but there are different ways for the computer to be integrated into the meeting room.

- Broadly speaking, there are 3 options for running video conferencing applications (software) in a meeting room:
  - **BYOD:** A meeting organizer brings and attaches a laptop to the meeting room's controller, typically through a USB cable
  - **Dedicated computer:** A separate compute device is permanently installed in the meeting room
  - **Video appliance:** A video device (usually a video bar) works as an all-in-one appliance with its own built-in processor, requiring fewer components, cables, and connection points
- There are advantages of each approach, and meeting room designers should consider flexibility, ease of use, and the organization's long-term needs when choosing a compute model

INSTALLATION BEST PRACTICES

- Logitech RoomMate offers the convenience and consistency in a compute device for larger rooms that you get with Rally Bar and Rally Bar Mini in smaller rooms
- For maximum flexibility, Logitech Swytch lets meeting participants quickly flip from the room's compute device to a laptop and attend or present over any cloud video service

LARGE ROOM APPLIANCE-BASED SOLUTIONS WITH ROOMMATE

Placement

- In rooms with a separate compute device, consider placing the device below the table or behind the wall that the display is mounted to
- Position the compute device near the display for proximity to power, Ethernet, and other components to which the computer connects
- Because a strong and stable Internet connection is required for quality video calls, a wired Ethernet connection is preferable to Wi-Fi

TOUCH CONTROLLERS

A screen meeting controller or tablet (like Logitech Tap) provides a simple, convenient way for employees to start, end, and schedule meetings.

- Securely mount the touch controller on the table or on a wall near the door
- To securely attach the touch controller to a table, use a mounting dock and table grommet, running wiring below the table to the floor
- The touch controller may require USB connection to a compute device or video appliance, an optional HDMI cable to enable easy content sharing, and a power source
- If necessary, add an extra long strong USB cable to connect the touch controller

TAP TOUCH CONTROLLER

CABLES & CONNECTIONS

Don't overlook the importance of cable management: a disorganized jumble of cables and cords can negatively impact user experience. Smart cable management is – or should be – a feature of enterprise-grade room solutions.

Table Grommets

- Use table grommets to allow devices and connections above the table to cleanly pass wires through to the bottom side – both to maintain a clean surface and to hide components like a compute device below the table

Strain Relief

- Secure cables mechanically to reduce tension on the cables and their connections to devices
- Strain relief is especially important for devices that may be moved around, such as meeting room controllers that are placed on a table top
- When installing cable runs, remember to leave slack in the line to allow movement of devices where appropriate

Conduits

- Install conduits under the floor, above a suspended ceiling, or behind walls to help run cables from different parts of the room to devices
- Take care to ensure compliance with applicable fire and building codes
- Plenum-rated cable has a special insulation with low-smoke and low-flame characteristics and is typically specified for use in conduits and air-handling spaces
- Conduits have a fixed capacity for how many cables they can accommodate

Raceways

- Where space for a concealed conduit is unavailable, consider above-floor raceways to deliver cables from wall to table while reducing tripping hazards
- Compared to running cables under the carpet, cable channel raceways provide greater flexibility for adding, removing, or modifying cable runs if the setup needs to change

Cable Retention

- Well-designed room solutions and components include cable retention features to reduce problems – and IT tickets – due to loose or disconnected cables
- In situations where power or Ethernet outlets have been installed in the floor, consider using cable ties to secure connectors and power cords to table legs
- Various cable retention brackets, Velcro, and zip tie solutions are available from third-party providers

Cable Extenders

- When required in larger meeting spaces, use cable extenders to connect devices that are far apart from each other

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