

VIDEO CONFERENCE

ROOM TIPS

Installation Environment

Description

The goal in selecting a room for videoconferencing is to provide a convenient, comfortable environment for an appropriate number of participants to be easily seen and heard. Location, space, décor, lighting, and acoustics all impact the satisfaction of conference participants with videoconferencing. This section details some specific room recommendations that improve both the picture quality and audio quality of a videoconference.

- Size of Room/Camera Field of View
- Room Lighting
- Room Acoustics
- Room Décor
- Furniture
- Wall Colors
- Decorations
- Additional Equipment in Room
- Custom Room Solutions

Size of Room/Camera Field of View: The size of the room determines how many participants can be seated in the room and how many of the participants can be covered in a camera shot. A typical room size to accommodate 8 to 10 participants would be 16' x 20'.

The camera's field of view increases with the distance between the camera and your meeting participants - the more participants that you plan to have in your videoconference, the farther you need to place the camera from the participants. For group videoconferences, arrange the room according to this simple rule: For every participant that you plan to have in the camera's field of view, add at least .6 meters (2 feet) in length and width to the distance between the camera and the participants. For example, if you plan to have four participants facing the camera, locate the video system at least 2.4 meters (8 feet) from the participants. Avoid doors in the camera coverage, as this will disturb the remote end of a meeting if someone enters the room during a conference.

Room Lighting: the lighting in a videoconference room plays an important role on the far-end view of the participants in the meetings. The more light available, the more objects within the camera view are in sharp focus. Important notes on lighting are: 1) the camera should point away from the windows; 2) provide cool white light such as fluorescent or halogen lighting; 3) the light in front of the participants should be greater than the light above or behind them to avoid shadows.

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The best light source for videoconferencing is indirect fluorescent lighting, such as louvered ceiling lights set at a 45 degree angle. This type of lighting works by using the upper walls and ceiling as diffuse reflectors for the light and minimizes shadows on participants' faces. The light should be even and of one consistent color temperature. Cool white fluorescent tubes with a color temperature of 3,500 degrees Kelvin are recommended. There should be approximately 75 foot-candles of light (700 lux) on the faces of the participants in the conference.

If a window is in the background, it should be Blacked Out to prevent sunlight behind the participants. Blackout roller blinds, vertical blinds, or a curtain, with a plain light blue or light gray finish are recommended. Wall spotlights will have the same effect if the walls are white causing a bright background. Bright lights behind the participants will close the camera iris and cause the participants to look too dark to see clearly from the remote end.

What to avoid? Don't mix fluorescent and incandescent lighting sources. Avoid using low-energy fluorescent lights that operate between 30 and 50 kHz. Also avoid using tungsten filament lights as they have a warm color temperature, and will make the skin tones too yellow compared with natural or fluorescent light.

Room Acoustics: In most rooms, the existing acoustics are fine for videoconferencing. Polycom's Power Mic helps by eliminating background noise and maintaining a constant audio level to the remote end. This is a very powerful microphone, so if you have people who like to tap or bang the tabletop, we suggest putting a rubber mat (i.e., a mouse pad) under the mic to prevent it from picking up these sounds.

A room that is protected from external noise sources and absorbs sounds generated within the room will provide the best audio quality for a conference, particularly in large conference rooms. Hard surface walls, floors, and ceilings reflect sound and degrade audio quality. Consider installing a carpet and adding acoustic ceiling tiles. A wool content carpet provides the best anti-static and acoustic properties.

Ceiling tiles should be of a high acoustic type; 1 inch thick compressed, dense-core fiberglass (such as Armstrong "painted nubby" or equivalent). Privacy between rooms can be improved by filling the wall cavity with Acoustic Absorbent Material (i.e., fiberglass), or Acoustic Panels can be fitted in the room which will improve the privacy and the acoustics of the room, particularly over hard plaster walls.

Large areas of glass in a room should be covered with curtains or blinds to prevent echo. Large glass areas resonate at voice frequencies and will not decay sufficiently. Light blue or gray curtains / vertical blinds are recommended; use blackout blinds if the glass area is in the background of the videoconference meeting.

We recommend that you maintain the ambient noise level in your videoconference room at less than 50 dB SPL, A-weighted. To reduce any air noise in the room, low velocity air

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diffusers should be fitted to the room HVAC ducts. Vents should not be located directly above the microphones.

Room Décor: Furniture: A videoconference table is typically designed to allow communications with the participants in both locations. Most rooms have rectangular or circular tables, and these are fine for videoconferencing. If you have a choice, select a table that can show all of your meeting participants facing the camera. For smaller rooms, a trapezoid-shaped table works well. It gives you the effect of a broadcast news desk. For large conference rooms, you can arrange three rectangular tables to form a U-shape.

Any tables within the conference environment should have a light top surface. Light wood tones (Oak or Beech) look better than dark. Light-colored tabletops reflect light up into participants' faces and remove the shadows caused by overhead lights. Glossy tabletops should be avoided.

Wall colors: Wall colors within the field of view of the camera have a significant impact on the far-end perception of the room video quality, and so specific colors are better suited to video rooms than others. Any acoustic panels in the room that are within the camera field of view should be light in color, such as silver-gray, quartz, champagne, or light blue. The best wall color is a neutral non-white color, such as light gray, light blue, or lilac.

Room Décor: Sample recommended paint colors include:

Lilac: Benjamin Moore #1447 flat finish

Gray: Benjamin Moore #1459 flat finish

Blue/Gray: Benjamin Moore #1627 flat finish

Benjamin Moore #1625 flat or satin finish

Light Blue: Sherwin Williams #SW1243 Celtic Blue, Ever Clean finish

Light Blue/Lilac: Duron # 8462W Brushed Blue, flat finish

Room Decorations: The best décor for your videoconferencing room is plain and simple so, try to keep the area in the camera's field of view as uncluttered as possible. This keeps the focus of your videoconferences where it should be – on your participants. Some color in the background such as a plant or light colored wall can make the view more comfortable to the remote site. Avoid placing distracting objects behind the participants. Do not hang reflective objects or mirrors on the walls in the camera field of view. When choosing a backdrop, use a single non-reflective, uniformly textured, and un-patterned color. Avoid very dark backgrounds and wood paneling.

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Note: Plan is to include a room checklist at this point for each of the sections:

Example:

Acoustics

Ceiling tiles - compressed, dense core fiberglass

Acoustic Absorbent material in walls

Windows covered with curtains

Vertical Blinds

Blackout blinds