PROJECT WORKPLACE

Best Practices For Creating Effective Video-Enabled Rooms
This document discusses best practices for creating effective video-enabled rooms for conferences.

Topics covered include:
Lighting / Whiteboard Placement / Room Acoustics
Standard Microphones / Ceiling Microphones
Presenter and Whiteboard Microphones
Tips

Generally a good light color temperature is 4000 kelvin, but consider increasing this number if you depend mostly on daylight as your light source. A color-rendering index (CRI) of 80 or better is important. Avoid mixing technologies such as fluorescents and LED because their color profiles differ.

Tips

Neutral gray colors on walls and tables improve color appearance. Avoid completely white walls or tables. For walls and tables, a color with reflection value (LRV) of 50 percent is recommended.

Light Essentials

Be aware that video is sensitive to high contrast levels in the room. Most luminaries are made to avoid glare, thus focusing the effect on the work area rather than people’s faces.

A common problem is insufficient light on people’s faces. A glare-free luminary producing directive light at an angle of 45 degrees is optimal for video, but may be challenging to achieve. Following are some tips for improving the lighting situation within a room:

- Avoid illuminating the surrounding walls too much. Too much illumination makes faces appear darker.
- Try to keep the contrast less than 1:1.5. For example, 500 lux on faces implicates a maximum of 750 lux on the table and surroundings.
- Make sure you can reduce sunlight to a comfortable level.
- The recommended light intensity is 400 to 500 lux on faces.
Whiteboard Placement

Whiteboard Essentials

- If the room allows for it, place the whiteboard on the wall opposite the endpoint.
- If the whiteboard is on a side wall, place it so it is visible in the overview and use an additional camera to focus on the whiteboard.
- Point the additional camera directly at and centered on the whiteboard.
- Place the additional camera at least 5 ft (1.5m) above the floor.

It is best to have the whiteboard visible in the camera overview. An additional camera allows for greater flexibility, such as focusing on the whiteboard.
Video systems usually work fairly well with most types of acoustics, but the experience can be a lot better with a little well-aimed treatment.

For the optimal experience, use a reverberation time (RT60) of 0.3 to 0.4 seconds, and ensure that sound absorption is distributed evenly on the walls to avoid flutter echo from parallel walls. Follow these guidelines:

- Put acoustic absorption on walls.
  - A good amount to use is approximately 0.5 times the ceiling area. (Textile curtains also count as absorption.)
  - Place absorption on at least two walls, preferably adjacent walls. Avoid placing it on opposite walls.

- Use an acoustic ceiling consisting of tiles with an absorption class A or NRC of 0.9 or greater.

Acoustic Essentials
Standard Microphones

- Use Cisco Telepresence omnidirectional microphones along the center of the table.
- One microphone generally covers four people.
- The microphone closest to the system should be placed approximately 5 to 20 in. (13 to 50 cm) from the table end.

Directional Microphones

- Use Cisco Telepresence directional microphones. Make sure the microphone faces the participants.
- Use one microphone for each two to three people.

General

- Spacing between microphones should be about 45 to 60 in. (115 to 150 cm), and a maximum of 45 in. (115 cm) from participants.
- In acoustically dampened rooms, microphones can be used at the full effective range. In less-dampened rooms, the spacing should be decreased.
In some situations you might want to keep the table free of microphones. Cisco provides the ceiling microphone, Audio Science, which can be used in these scenarios.

Following are some guidelines on positioning the microphone correctly:

- It can be used with tables seating 8 to 14 people.
- Align the Audio Science microphone with the table edge closest to the system. Mount it between 6 ft 8 in. and 8 ft 4 in. (between 2 and 2.54m) above the floor.
- The microphone must face away from the endpoint.
- For longer tables, mount the Audio Science microphones with a spacing of 8 to 14 ft (2.43 to 4.2m).
- In acoustically dampened rooms, microphones can be used at the full effective range. In less-dampened rooms, the spacing should be decreased.
In scenarios with an active presenter who could be moving around, an additional ceiling microphone can be used to capture the speaker’s voice. Using a separate whiteboard microphone will give the best user experience.

- To capture the voice of the presenter, it is recommended to use an Audio Science microphone.
- The microphone must face where the presenter will be.
- It should be mounted well above the floor, between 6 ft 8 in. and 8 ft 4 in. (between 2 and 2.54m). Distance to the endpoint should be 4 to 6 ft (1.2 to 1.8m).

- Use a directional microphone suspended from the ceiling.
- It should be mounted about 7 ft (2.1m) above the floor and between 30 to 40 in. (between 0.75 and 1m) from the wall.
For more information about rooms and setup, please visit:

www.cisco.com/web/telepresence/projectworkplace.html