



Videoconferencing Room Guide

Introduction

This guide will serve as a tool to plan the design and implementation of a videoconference room. The information in this guide should be considered for recommendation purposes only.

Classroom Considerations

Room size determines how many participants can be seated in the room and how many of the participants can be covered in a camera shot. A room 20 feet by 25 feet provides ample seating for a standard classroom (Figure 1). A room 18 feet by 18 feet provides adequate seating for a conference room (Figure 2). Each seat requires approximately 2 feet of table space.

As a rough guide, a camera will be able to include two participants positioned three feet from the camera; four participants positioned six feet from the camera; five to six participants positioned nine to 10 feet from the camera; and so on. Chair width and table shapes may affect this coverage.

Care should be taken not to place the participants too far from the video monitors because the picture will become harder to see. As a general rule, participants should be no further than 11 feet from a 25" - 27" display screen; 13 feet from a 32" - 34" display screen; and 14 feet from a 35" screen.

Color

Background surfaces behind the participants should be non-reflective. A non-reflective light-colored background provides good contrast. Some color in the background, a plant or a simply designed room identification signage, can make the view more comfortable.

Proper window treatments eliminate sunlight and help control room lighting. Vertical blinds or curtains are recommended. The material should be a plain textured light blue or light gray color. Curtains should be loosely gathered as a sharp vertical line may cause auto-focus cameras to focus on the curtain rather than the subject.

Tabletop colors should follow the same rule of thumb as background walls. Avoid brilliant white or reflective surfaces that reflect light into the camera. Dark surfaces could be used, but they can cause eyestrain due to the high contrast between white papers and the dark surfaces.

Noise and Acoustics

It is extremely important to consider the acoustic properties of a potential video room. Ambient noise could affect the videoconference environment.

- Avoid rooms next to a mechanical or furnace rooms
- Avoid rooms that have an air exchange system in the ceiling in the classroom
- Avoid rooms that use a window air conditioner. In some older buildings this is not possible. If this is the case, try to limit the usage of the air conditioning system when the room is being used for a videoconference

- Large windows or areas of glass reflect sound waves and enhance room echo. These areas should be covered with blinds or curtains to improve the acoustic reverberation in the room
- For ceilings, high absorption acoustic tiles are recommended, particularly if the room's walls or windows cannot be covered with higher absorption materials. Acoustic tiles can be recognized by their fissured or perforated finish. Check with the manufacturer for details

The general rule of thumb is, if a normal class or meeting can take place without excessive echo or ambient noise, then the room should be able to accommodate a videoconference event.

Lighting

Important notes on lighting include:

- The camera should point away from windows and bright lights. Bright backgrounds cause the camera's iris to close down, causing the participants to appear dark
 - If windows are in the background, they should be blacked out
 - If there are any bright lights in the background, the lights should be eliminated or the light rays should be blocked from the camera
- Spotlights pointed at walls tend to wash out the wall's color and create a background that is too bright
- Fluorescent lights provide the most common form of lighting and give a reasonably diffused light. They are the preferred method of video classroom lighting. The fluorescent tubes should be cool white with a color temperature of 4,000 degrees Kelvin. Philips Color 84 fluorescent tubes are recommended
- Ceiling lights should be positioned above and approximately 3 feet in front of the subjects (with a 2 foot suspended ceiling grid, lights should be 1 to 2 panels in front of the participants so that the participant face is within the coverage area of the light beam)
- Light fixtures should be positioned across the width of the room. They should not be vertical to the position of the monitors./

Videoconference Configuration

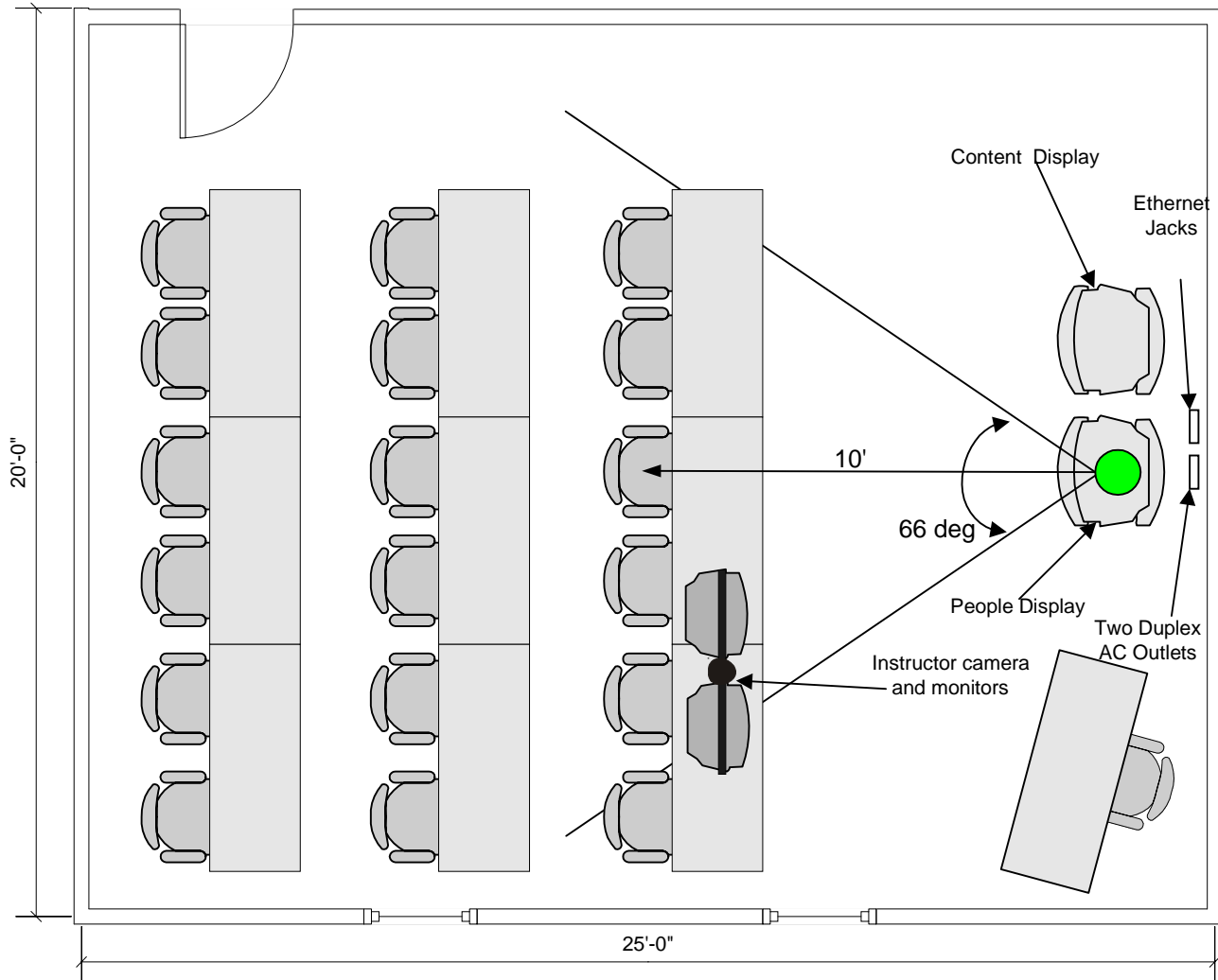
Monitors should be positioned to provide the participants with a clear view of the screen and easy access to peripheral equipment. Covers for cables running over the floor from the keypad and document camera should be provided.

Large TV screens or projection screen can be used to provide good visibility to a larger number of participants.

Room Layout Drawings

The drawings below are examples of room layouts; they include various conference table shapes and room sizes. The lighting examples are a guide only. Using the guides outlined in this document, work with a contractor or supplier to determine specific needs and supplies.

**Figure 1:
Typical Classroom**



**Figure 2:
Typical Conference
Room**

