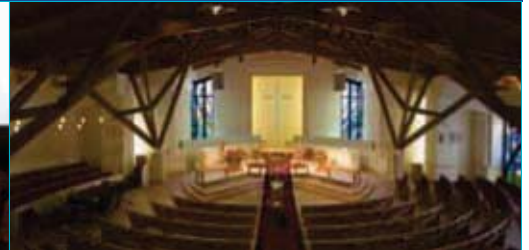




HOW TO DESIGN

an Operator Controlled Camera System



STEP 1 Camera locations

Select the locations where cameras will be placed to get adequate room coverage and proper viewing angles. Determine how many PTZ Cameras are needed. Main items to consider include:

Measure the distance from the cameras to the main subject or presenter. This is helpful in determining what kind of optical zoom lens is needed for each camera position.

The viewing angle calculations can be obtained by downloading the PTZ Image Size Calculator from vaddio.com, under the Tech Center tab.

Decide if more than one camera is needed to cover the main subject, and determine how and when you need to switch between the shots of the main subject or presenter.

If side cameras are needed in your design, these should be positioned between 30-45 degrees from the center of the room and allow the camera operator to take shots of the presenter walking towards or away from the camera. A single camera can only show one side profile of the presenter.

Determine if there are locations, other than the front of the room, that need to be covered by the primary cameras — such as choir loft, audience, remote rooms, etc. Another camera, or cameras may be required to cover these locations.

STEP 2 Camera types

Select the type of cameras based on the environment they will be used in. Main items to consider include:

If the cameras will be used in an IMAG (Image Magnification) projector application, then high definition (HD) cameras are better suited in order to achieve a detailed image on a large screen.

What is the best quality that the viewer is going to want or need? For example, if streaming video is the best quality, then standard definition video will probably suffice. However, if there will also be a need for a high resolution archive copy of the same streamed content, then HD cameras will be a better choice.

Do you need a single imager or a three-chip camera? With a single imager (CCD or CMOS) some detail is limited. In a three-chip camera colors are brilliant, lifelike and accurate. The difference in quality is more noticeable in lower light situations.

How much light is available in the room? If the room is dark and shadowy, a camera with a minimum illumination specification of 4 lux or less may be required. Avoid fluorescent lighting with cameras using shutter iris. Nevertheless, testing and measuring under the proposed lighting is the best way to decide what camera is the ideal choice.

Will you be following the presenter with a joystick or using camera presets? If you are planning on doing a lot of tight follow shots you need to make sure that the PTZ camera uses servo

or micro-stepper motors. If you plan on using presets, PTZ cameras direct drive motors will be more than sufficient.

Does the situation require a separate camera operator using a camera mounted on a tripod to be able to follow the presenter? If so, place robotic cameras at other positions than the location(s) where a camera operator is needed.

STEP 3 Additional sources

Decide what additional sources will be switched through the camera control system. Main items to consider include:

- Computer sources
- Video playback, such as a DVD, VCR, etc.
- Stationary cameras, such as a POV or document camera
- Other video feeds

STEP 4 Operator considerations

Camera Pan, Tilt, and Zoom Control. Main items to consider include:

Will you be using a multi-person control room? One person to operate the switcher and another person operating the PTZ camera controller?

If one person will be operating the equipment, then a camera controller with an integrated video switcher such as the ProductionVIEW HD is a good option.

If there are multiple people in the control room, a stand-alone camera controller such as Vaddio's Precision Camera Controller is a good choice.

Operator Controlled System Example

