

**Screen size for AV rooms**

Determining the best screen size and placement for a room..

Seating layout and screen or panel size are connected in any room with AV. There's some art in seating design, but the rules of thumb are simple.

We know that the height of a projection screen should be 1/6 the distance to the farthest viewer. Conversely, the farthest seat should be no more than 6 times the height of the screen.

Thus for a room of X depth the screen height should be X/6. When computer monitor images are viewed, a larger screen is desired. Here the room depth can be calculated by 5 times the screen height.

Ideally, the closest seat should be no less than 2 times the height of the screen.

Thus for a 20' deep room the screen height is  $20/6 = 3.3'$  (40") and the closest viewer should be  $3.3' \times 2 = 6.6'$ . Always remember that these are guide values and it is better to have a slightly larger image than one too small. For a computer image, the screen height should be 1/5 of the distance to the last viewer or  $20/5 = 4'$  (48"). This is because the smaller text and icons on the computer are not sized for a projected graphic display.

All seats should be within a 60-degree viewing cone: 30° to either side of a line drawn perpendicular to the center of the screen. Most screens and displays will show a good, bright image much farther off-axis, but the image will start to look distorted and text difficult to read. (A 90° cone is your practical, if not ideal, maximum).

If your room is wider than it is deep, consider installing two or more projectors and screens.

Note that these same rules apply in rooms where you use a flat-panel LCD display.

Once you know your screen size and seating configuration, you can choose your projector's properties and brightness.

