LifeSize™

HDTV Buyers Guide for Video Communications Applications

The type of High Definition Television (HDTV) that you should purchase will depend on your requirements for the conference room where you plan to use video communications.

There are a few different considerations that you will need to be aware of when selecting from a wide-range of HDTV offerings. An overview of each area is covered:

- Resolution – 720p or 1080i
- Monitor Size
- Type of Display – LCD, Plasma, Rear-Projection, etc.

In working with an experienced reseller and AV integrator, it will be important to address the following questions specific to your application:

- How large is the conference room? What is the configuration?
- Is this a multi-purpose room?
- How many people will typically be in the room for a videoconference?
- How will the monitors be displayed?
- Will there need to be one or more monitors to display video, multipoint and multimedia?
- What is the lighting source in the room?

Answering these questions will help to determine the size and choice of HDTV displays.

LifeSize Room™ supports up to two display monitors. Having two monitors will give you the flexibility to show full screen video and/or graphical data on both monitors. The LifeSize video interface gives the user flexibility on how video and graphics are displayed in a single or dual-monitor setup.

LifeSize provides a list of recommended HDTV displays and information on our Web site at:
www.lifesize.com/support/HDDisplayGuide

RESOLUTION

The LifeSize Room system has a resolution of 720p. Your new HDTV should be able to support 720p. Many commercially available monitors may support 1080i, but are also capable of displaying the 720p signal in order to maintain the quality HD resolution. Please note that to get the best possible picture quality, it is best to use a HDTV display device that has 720p as its "Native Resolution."

- What is 720p? 720p means seven hundred and twenty lines of resolution presented progressively; the TV displays the complete image on every field.

- What is 1080i? 1080i means one thousand and eighty lines of resolution presented in an interlaced format; 540 lines of field A followed by 540 lines of field B.

SIZE

The size of your monitor will depend upon your room size and how many participants are viewing the monitor.

HD is broadcast in a 16:9 aspect ratio. When a LifeSize high definition video communications system is in a conference with non-HD VC devices, LifeSize will display the conference with Pillars (see below). Using this method will maintain an even aspect ratio.

Screen Size	Suggested Viewing Distance
30"	6.25 feet
35"	7.3 feet
40"	8.3 feet
45"	9.4 feet
50"	10.4 feet
60"	12.5 feet
65"	13.5 feet

16:9 Aspect Ratio

4:3 Pillar Mode

TYPES OF DISPLAYS

LCD (Liquid Crystal Display) Flat-panel

LCD is good choice of monitor for many types of video applications. LCDs are very thin and can easily be hung on a wall or placed on a table. The LifeSize camera stand will securely fasten the camera to the monitor. The latest LCDs are available in many different sizes. It is not uncommon to see a 45", 50" or even 60" LCD screen. The life span of an LCD monitor is rated very high at over 50,000 hours or more of usage. Even then, it can have the lamp replaced (but not by the user). If the room has participants sitting close tothe screen and off to the side, LCD is a very good choice. LCD displays are also fairly bright and not reflective, thus they work well in brightly lit rooms. They are also much less susceptible to "burn-in" than Plasma displays are, although it is still possible to burn-in an LCD display.

- What is "Burn-In"? This term means if a fixed image is left on the screen for a very long time (such as a network logo) it can become permanently etched into the screen.

One slight disadvantage of an LCD is that it often has a lower contrast ratio to the other types of monitors. This could lead to slight picture degradations in a high motion video. Not typically a problem for a video conference.

Rear Projection DLP

DLP projection is a very good solution for your HDTV needs. Found in many sizes that can fit into any room environment. DLP projection TVs have become increasingly thinner. A typical 50" DLP projection HDTV will typically only be 18" inches thick, making it a good choice to fit into a tight spot.

DLPs have excellent color reproduction qualities and generally have excellent contrast ratios. They are also completely immune to burn-in. The picture will be somewhat less bright if you are very far off to the side. If your participants need to sit within 3 feet of the monitor, DLP may not be the right solution. The image may not look as clear as other choices if participants are extremely close to the screen. DLP projectors use a lamp that typically must be replaced every 5,000 hours at a cost of about $300, but the lamp can usually be easily replaced by the user. They are generally less expensive per diagonal screen inch than either Plasma or LCD.

There are a few vendors who make LCD-based rear projection TVs, but for reasons of contrast ratio and burn-in, DLP is better suited for use in a rear projection TV.

Plasma

Plasmas monitors get their name from the gas that is inside each picture element or pixel. The plasma HDTV has the widest viewing angle of any of the types of monitors. This means the participants can be sitting very close to the screen and off to either side and can easily see the video displayed. In all instances, the picture is very clear and is perfect for video communications.

Even with the great picture quality and display, there are a few pitfalls to plasma.The first being burn-in. While Lifesize products will have a sleep mode to minimize this, if you use the display for other applications

it should be considered. The second is that these screens are extremely heavy and difficult to wall mount due to the weight. The final pitfall is that plasma screens do lose their brightness over time. The "half-life" of a plasma is typically 30,000 hours, which means that it will drop to half its brightness in approximately 50,000 hours. Plasma TVs should be turned off when not in use.

Plasma screens are available in many different sizes. Note that 42" Plasmas will not display a full 1280x720 image – they are 1024x768. The costs are generally higher than other forms of displays.

CRT

CRT Televisions (the type that have been used for 50+ years) are made in full HDTV resolution and in widescreen configurations. They come in direct-view ("tube") type and in rear-projection types, although CRT-based rear projection TVs are becoming less common. Both offer truly excellent HDTV picture quality, with good brightness, color rendering and black level. While they are also the least expensive by far, they are generally large and heavy. Direct-view sets also have smaller screen sizes, the largest being 40". CRT-based rear projection sets can be up to 65" in screen size. CRTs are also somewhat susceptible to burn-in, but less than Plasma.

CONNECTING TO DISPLAYS

LifeSize Room can connect to displays using VGA or component connections.

LIFESIZE RECOMMENDATION

The quality of monitors is such that there is no absolute right choice. A rear projection DLP HDTV seems to give the most options for size, cost and picture quality. Plasma screens provide excellent picture quality at generally a higher premium with some considerations that should not be overlooked.

Because there is a very dynamic market for HDTVs and a wide range of vendors, it is important to review your purchasing options and work closely with your reseller or AV integrator.

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