

Proposal to Upgrade Video Switching and Distribution in 101

The Challenge:

The existing video switching and distribution system in 101 is a mess. For reasons unknown the installed system is based on DVI/HDMI switching and distribution. This presents numerous challenges, not the least of which being the maximum distance for a DVI signal (based on official DVI specs) is 15'. We have runs in excess of 40' in that room. Due to problems with signal loss and improper EDID information, the only resolution we can get working reliably is 1024x768, which would be fine except the native resolution of the displays is 1280x720. This means that every graphic and video is stretched horizontally and image quality suffers dramatically.

Moreover, we cannot easily connect DVD players into the system because the current switching equipment won't pass newer HDCP copy protection data. This means to simply pay a video, a user must turn on the computer and try to figure out how to play it from there.

Finally, it is very difficult for anyone to bring in a laptop to the room and plug into the system due to the problems with EDID and the resolution.

The Solution:

When dealing with video displays or projection technology, it's always easier to integrate computers into a video system, rather than the other way around. For this reason, I recommend purchasing a proper A/V Presentation switcher/scaler. A switcher/scaler can input multiple types of inputs (from composite video to DVI computer signals) and it will scale any input to a common output size that we pre-set (in this case 1280x720, the native resolution of our displays).

Additionally, we will remove the ill-conceived DVI/HDMI wiring and distribution and replace it with a more stable long-distance transmission format; HD component analog video. With the addition of a simple 1x4 video distribution amplifier, we can cleanly and effectively send full HD signals to each of the displays with no signal degradation.

The Cost:

A new Extron Presentation Switcher and Video DA plus associated cabling will cost approximately \$2,500 plus tax and shipping.

Additional Benefits:

Moving to 1280x720 output display size has the additional benefit of making it easy to transfer graphics from the main auditorium to 101 (or from Kid City). We will be standardizing on that as our graphic resolution campus-wide, which eliminates the graphic weirdness that happens with different output formats.

Timeline:

I propose we move forward with this sometime after Easter of 2011.