Glossary – Vision Systems

**Aspect Ratio:** Describes width of a picture to the height. The shape of an image, usually represented by two numbers (ex. 16:9) where the first number represents the width, and the second number represents the height. The width size will adjust based on the distance from the projector to the surface, but the height will auto-scale based on the aspect ratio. Generally content comes in 16:9, meaning that for every 16 units wide the image will scale to 9 units high. The NTSC standard is 4:3. The current HDTV standard is 16:9. Modern movies range from 1.66:1 to 2.4:1. The most common are 1.85:1 and 2.35:1.

**Bandwidth**: The number of cycles per second (Hertz) expressed as the difference between the lower and upper limits of a frequency band; also, the width of a band of frequencies. Practically speaking, bandwidth is the amount of data that can pass through a given connection per unit of time.

**Connection Hardware:** The cabling that connects the output to the input.

**Content:** The imagery to be projected.

**Cyclorama:** Plain, curved, stretched cloth or rigid structure used as a background to a setting, often used as a screen for projected vision such as backgrounds.

**dB or decibel:** This is a measure of relative loudness. 0 dB is the threshold of hearing. 60 dB is equivalent to normal conversation. 120 to 140 dB is the threshold of pain such as a jackhammer or gun shot. 10 db of change will double the loudness.

**Digital Visual Interface (DVI):** Standard connection hardware for linking digital video devices. One of the ways that playback can connect to the projector.

**Grayscale:** The reference chart used to calibrate luminance and contrast in video systems. Projection surfaces should also have a very specific gray-scale (15%).

**High-Definition Multimedia Interface (HDMI):** Audio/visual digital transmission connection hardware for uncompressed video. A very common connector for projectors.

**Input:** The media signal entered the vision system. In theatrical projection terms, input refers to the power that goes to an output source and the device that is connected to the output. Most commonly the input is a signal cable to the projector from a digital device such as a computer.

**Keystone / Corner Adjust:** Projection distortion happens because of the proximity and angle of the projector to the projection surface. Images will be skewed or scrunched, and this distortion will need to be corrected with the projector geometry natively built into the hardware. By navigating to the display menu item you can find "keystone" and "corner adjust" you can help to square-up your image.

**Lumens:** The measure of the total quantity of visible light emitted by a source per unit of time. Typical lumens for projectors are 3,200 and greater.

**Media Server:** A computer-based playback device dedicated to rendering and outputting data. Typically much more consistent and much more expensive for venues to access. Recommended for permanent venues with a large budget.

**Projector:** A projector is a piece of hardware that typically connects to a power source and working with a lens and connected to an input, will output an image. Projectors can be purchased with or without a lens. Typically low-grade models will come with a lens that is manufactured into the projector hardware and is not removable. Higher grade projectors will come without a lens.

**Projector Lens:** A lens is a piece of hardware that is used in conjunction with a projector that will focus and display the input.

**Projector Mount:** Hardware used to attach vision system equipment to a light bar or the ceiling of a theatre or venue.

**Projection Surface:** A projection screen is an installation consisting of a surface and a support structure used for displaying a projected image for the view of an audience. A surface can be made of opaque or translucent material. In theatrical projection terms, a projection surface is typically an existing scrim, cyc, or wall.

**Projection Techniques:**

Front Projection - A projection technique where the image is projected from the front of the projection surface.

Rear Projection - The act of projecting onto the back of a surface. This requires a semi-translucent projection surface.

**Output:** The data that is produced from a machine or other system. In theatrical projection terms, the output is hardware – most commonly a projector. Other outputs are televisions, LED walls, computer monitors.

**Resolution:** The sharpness and clarity of an image which is correlated to the number of pixels being shown by an image. High-definition resolution is considered 1920x1080.

**Screen:**What the picture is projected onto. The screen is more important when it comes to front projectors, when the screen must be bought separately.

**Software:** The applications used to program and operate the projections and various functions of the hardware.

**Splitter:** A device used to provide two or more signal outputs from a single source.

**Throw Ratio:** Throw ratio is the number that represents the distance from the lens over the measurement of the projected image's diagonal. Typical throw rations follow the following format .35:1, 1:1.

Short-Throw Projector Lens. A short-throw projector/projector lens will have a number that is less than 1:1.

Long-Throw Projector Lens. A long-throw projector/projector lens will have a number that is greater than 1:1.