130 DEGREE CURVED SCREEN ADD-ON

SCREEN DETAILS

The curved screen provides an immersive 130˚ field of view. The curved screen is a seamless fabric material that is stretched across a 4" truss structure. The truss measures 15'W x 15'D x 9'H. The viewable screen surface is 7.8'H x 15.8' W. The truss is assembled and as an accessory, a black fabric cover can be fitted over the truss to block out ambient light that can effect hit detection tracking if controlled lighting is not possible.

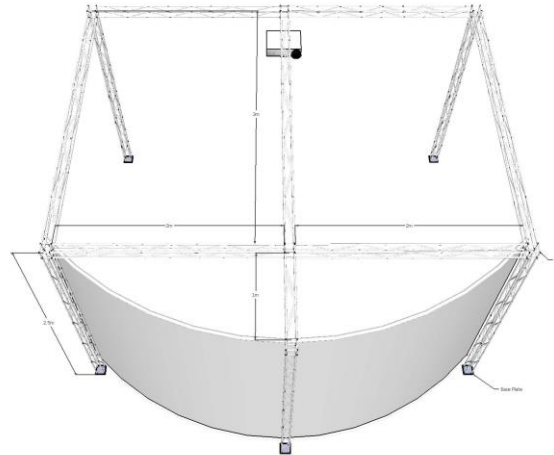The 130˚Curved Screen is compatible with all Laser Shot courseware.
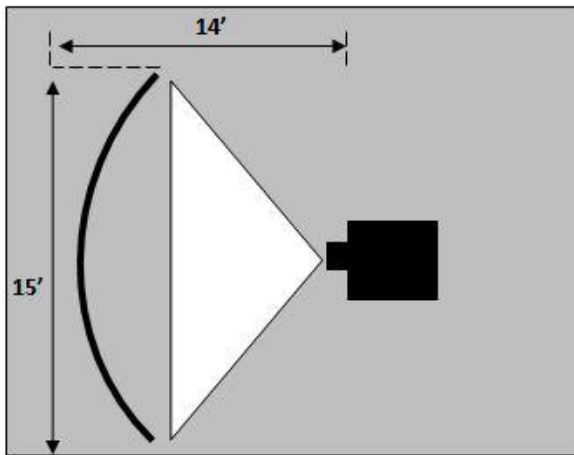

Figure 1: Curved Screen w/ Truss

Figure 4: Curved Screen Dimensions

Figure 3: Curved Screen Assembly

Figure 2: Curved Screen in Use

PROJECTION SYSTEM

Laser Shot will provide one (1) Commercial-Off-The-Shelf (COTS) Professional Grade LCD Projector with short throw capabilities per single screen. Visual display systems (projected images) will provide trainees with a rich visual scene enabling them to distinguish features and activities on virtual targets and or subjects. It has been chosen for its unique combination of image quality – high brightness and contrast, and natural colors – compact system size possibilities, and most importantly, unmatched reliability.

Figure 5: Projector

Table 1: Projector Specifications

Native Resolution	WUXGA (1920x1200)
Brightness	4000 Lumens
Contrast Ratio	2000:1
Dimensions	13.26"W x 5.27" H x 16.33" D
Throw Ratio	0.56:1
Weight	13.88 lbs
Lamp Life	Up to 2,000 hrs
Power	100V-240AC, 50/60Hz
Lens Shift	Vertical: 0%-+75%, Manual Horizontal: +/- 10%, M

Image blending software will be provided to warp and blend the edges of the display to fit the curve shape of the screen.
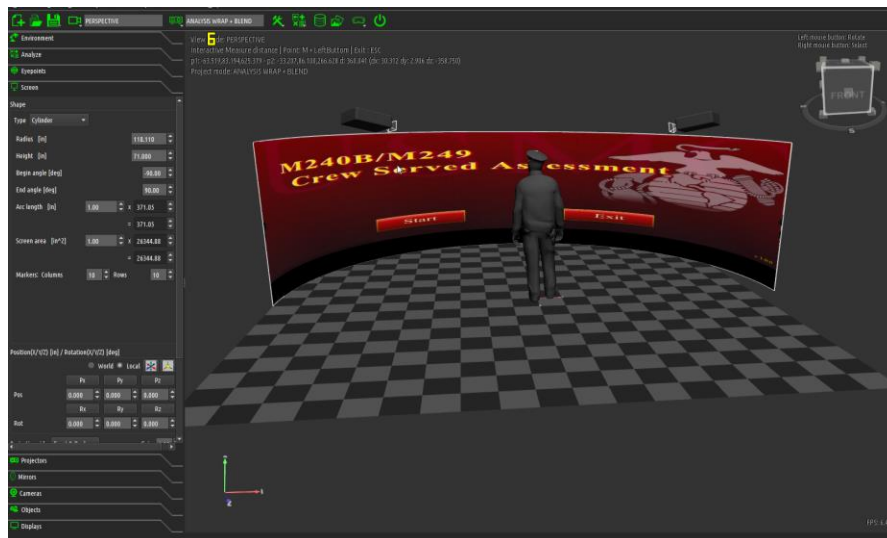

Figure 6: Visual Representation of Trainee Movement

LASER HIT DETECTION SYSTEM

Laser Shot uses a patented laser hit detection process that comprises high frame rate imaging cameras to detect lasers emitted from simulated training weapons. The X,Y coordinate of the shot impact is then recorded and transmitted back to the courseware which generates a graphical representation of the impact location, and or proper reaction from the virtual target.

Weapons Interface is the communication software for the laser detection cameras, simulated weapons, and courseware to interact with each other. Calibration of screen surface area and laser detection cameras will be conducted though the Weapon Interface software prior to beginning training. Basic and advanced features allow the end user to configure, calibrate, and operate the system with minimal set up time. Calibration has been simplified with an auto calibration feature that makes the interface much more user friendly. Weapon Interface is an intuitive and easy to operate software with simple button options that navigate a user through the process. Additional artificial intelligence assists the user if a major set up error has occurred

Figure 7: Laser Hit Detection Camera

AUDIO

Laser Shot will include one Commercial-Off-The-Shelf (COTS) audio output per screen. The system will provide high fidelity sound capable of simulating all virtual characteristics throughout the training area and scenario. Hardware components will be wall mounted with actual specifications to vary based upon room and screen placement.

SPEAKERS

PROJECTOR

HIT DETECTION CAMERA

KEYBOARD/MOUSE

Figure 8: Connection Diagram