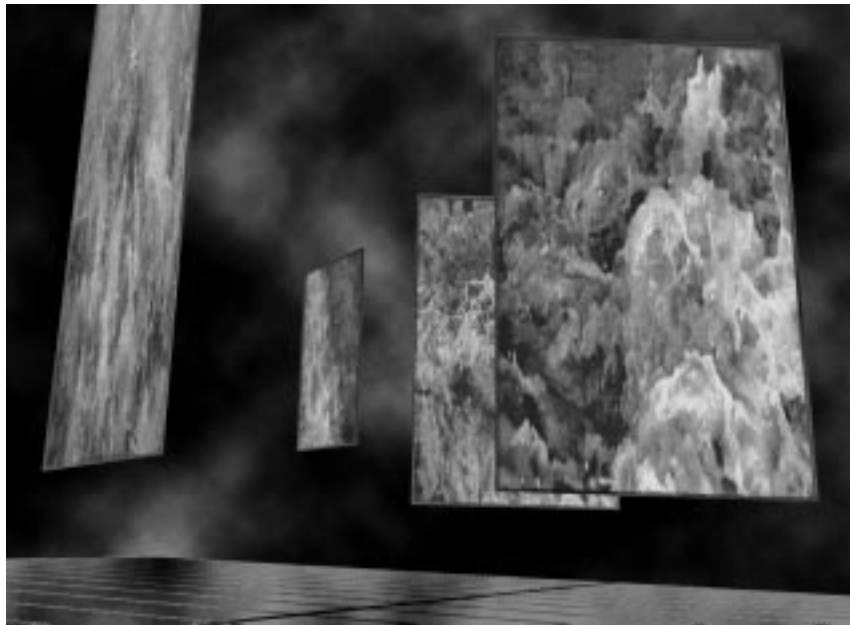


# BOREALIS 1993

## A PROJECTED VIDEO ENVIRONMENT BY STEINA

*Steina's means are simple. She takes stunningly beautiful yet turbulent clips of nature in her native Iceland, enlarges them, then turns them on end, literally and figuratively, so that they may be experienced as living abstractions on a scale equal to that of the human body. The effect is to tear them from their entrenchment in the cliché so they may be perceived free from the drag of representational history. Nature, having somehow survived the twentieth century onslaught of archaic industrial insults, speaks in the only way it can, through stormy electronic images by an artist with roots both in urban culture and in a remote land still precariously preserved in ice.*

— LANE BARDEN, WRITER AND ART CRITIC



### DESCRIPTION

BOREALIS is a projected video environment with two video and four audio channels of presentation. The projectors, laid on their sides, provide an upright ratio for large projection screens, hung vertically in the exhibit space. Half-transparent mirrors, are placed in the projection pathway splitting and directing the image onto two additional screens, now four in total. The screens are made of translucent material that shows images with equal intensity on both surfaces, front and rear. The result is eight vertically viewed large images, placed in an irregular pattern, which harmonizes with the exhibition space. The program comes in the form of a ten-minute repeating loop. Each of the two video laser disc players provides one video and two audio sources to the two projectors and four speakers. At the end of each cycle, a laser disk synchronizer aligns the two video players for a repeat performance.

### THE SPACE

The minimum active space required is 10 meters by 7.5 meters by 3.5 meters high, or 35 feet by 25 feet by 12 feet high. The major consideration in terms of space is the total avoidance of ambient light. The space should be painted a non-reflective black and no light source should exist, other than the one that emanates from monitors themselves. The entrance must be well insulated from light and sound. Most ideal is a double trap door with sound insulating material. (See floor plan and entrance diagrams.)

NOTE: all the tech equipment, except the two projectors and mirrors and the screens, should be located outside the exhibition space, in a small adjacent tech area.

## EQUIPMENT

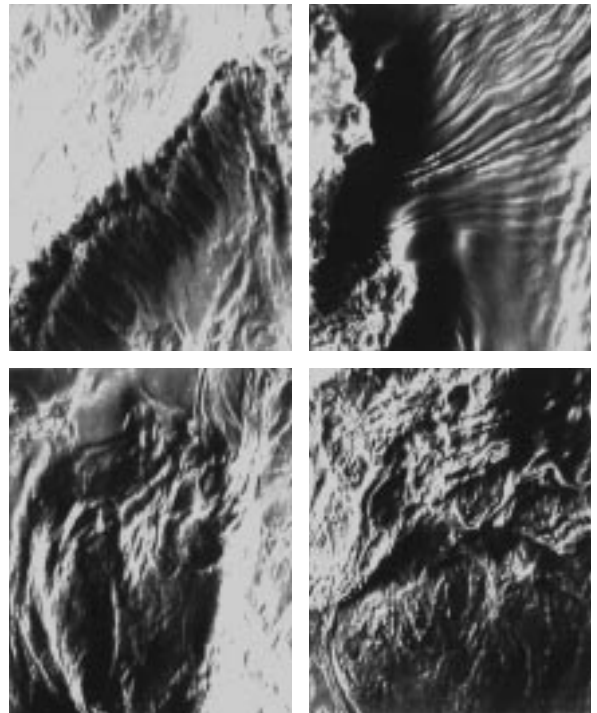
The Vasulkas can provide all the equipment listed below, or share resources with the exhibitor. This will be reflected in both shipping and equipment budgets.

- 2 video projectors
- 2 projector stands with mirror assembly attachment
- 2 Pioneer Video Laser Disk Players, LD-V Series
- 2 program video laser disks NTSC, color
- 2 beam splitters in frame assemblies
- 1 two-channel synchronizer
- 4 translucent screens in frame or with hanging harnesses
- 2 stereo audio amplifiers (4 audio channels)
- 4 speakers
- 4 speakers stands or wall mounts
- 1 four-level equipment stand (rack)
- 2 video cables (long)
- 2 pairs of stereo cables (short)
- 4 speaker cables (long)
- 7 power outlets

NOTE: The laser disk synchronizer used by the Vasulkas is custom built and interfaces only with Pioneer Industrial Laser Disk Players (2200 to 8000 Series). It is not interchangeable with laser disk players from other manufacturers, such as Sony and Phillips, which require a commercially available synchronizing.

## SCREENS

The primary characteristic of the translucent screens is to show the image in equal intensity front or rear. They are either hung from the ceiling or placed on the floor in self-standing frame assemblies, arranged in a semi-random pattern, avoiding explicit symmetry or parallel positioning. As there is no singular point of view, the environment must be constructed for the audience to feel encouraged to enter the room, walk around, cast their shadows on the screens or sit down.



## MIRRORS AND PROJECTORS

The mirrors are in fact 50% beam splitters dividing the direct and the deflected light/image from a single projector in equal amounts to the two screens. They are a custom-made assemblies that attach to the projector stands. The positioning of the mirrors is critical and requires some knowledge of optics. The mirrors can deflect the secondary beam anywhere from 30 to 120 degrees, but a positioning close to 90 degrees is most efficient.

There are two classes of video projectors available: single lens, or three lens projectors. It is possible to use four projectors instead of two, avoiding the complications of the split-mirror alignment altogether.

NOTE: The three lens projectors require professional alignment and a larger-size beam-splitter assembly. The throw distance and the size of screens varies also, but the projectors must be able to deliver sufficient amount of light/image.

## PROJECTOR STANDS

The construction of the projector stand depends on the type, shape, and weight of the projector. It is essential that the single or center lens of the projector is on the level with the center of the screen (see drawing). The stand must be constructed to hold the projector on its side, presenting the image vertically. The beam splitter (mirror) assembly must be securely mounted on the platform (squared to the base of the projector) at exactly 90 degrees to the platform. Place the projectors according to the drawing and measure the throw distance (single lens projectors often have a zoom feature) versus the size of the screen as mentioned above.

## SOUND AND IMAGE ADJUSTMENT

Treble should be normal and bass at maximum. Contrast should be high and brightness below middle. The basic rule here is to set up the proper deep color black as a reference to the maximum contrast and brightness. With that, the other components (hue, color saturation) can be assigned. The persons installing the environment must use their esthetic judgment as to the proper monitor settings for maximum visual impact.

## DAILY OPERATIONS

**TO START:** Power up disk players and synchronizer. Then, turn the projectors on (verify pilot light). Wait a short while to verify that the installation is starting synchronously. If not, turn power off and on again for the Players and synchronizer, NOT THE PROJECTOR. If problem persists notify Steina by phone, fax, or e-mail.

**TO SHUT DOWN:** Turn the power on the projectors off locally (the fan will keep going until the units have sufficiently cooled down). After the fans stop, turn off power distributors for the projectors, disk players, and synchronizer.

**ATTENTION:** the projectors may only be turned off by the power switch on the units and never by pulling the cable out, as the unit needs to be cooled down (about one minute) by the internal fan.

**MAINTENANCE:** The projection lenses and the mirrors need to be cleaned with a soft cloth at least once a week.

## POWER REQUIREMENTS

(depending on equipment used)

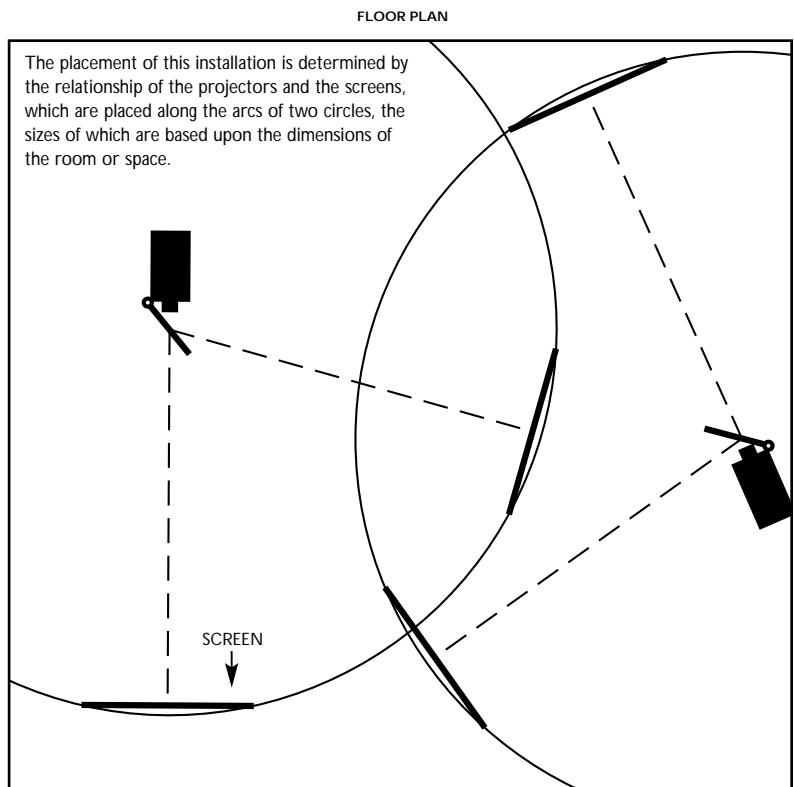
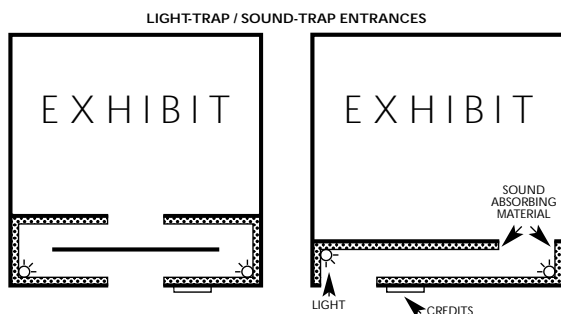
Video projectors:	Sharp XG-2000U	230 watts
	Sharp XV- P10U	175 watts
Stereo amplifiers:		150 watts
Video disk players:	Pioneer 2200	70 watts
	Pioneer 8000	100 watts
Synchronizer:	Jericho Data Systems	40 watts
Outside USA, use a Power Transformer 220 to 110, 1000w.		

## SHIPPING INFORMATION

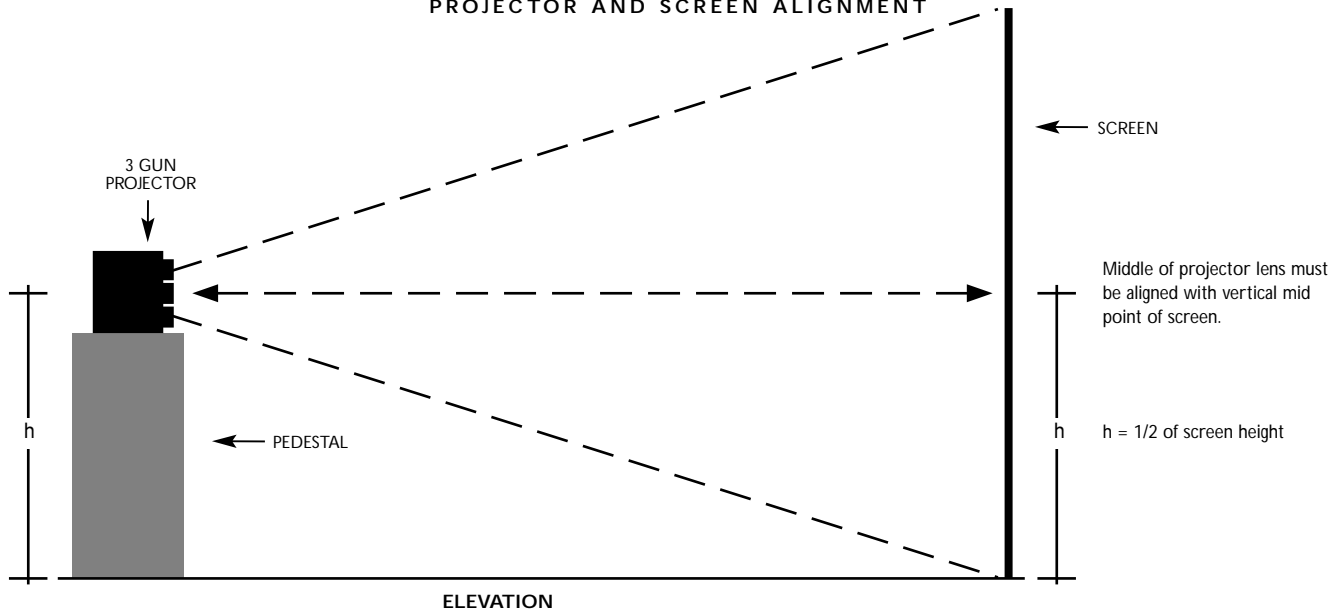
Installation is shipped in 3 crates. Weight and dimensions available upon request.

Shipped to and from:

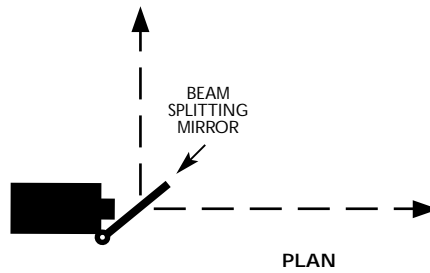
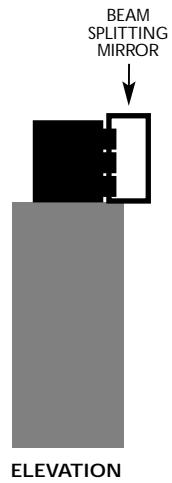
**Steina and Woody Vasulka**  
**Route 6, Box 100**  
**Santa Fe, New Mexico 87501**  
**ph: 505-424-8786**  
**fx: 505-473-0614**  
**email: woodyv@santafe.edu**



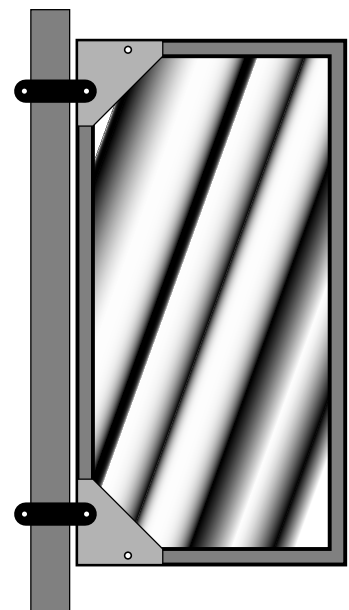
## PROJECTOR AND SCREEN ALIGNMENT



## PROJECTOR WITH BEAM SPLITTER



## BEAM SPLITTING MIRROR FOR THREE-GUN PROJECTOR



## BEAM SPLITTING MIRROR FOR ONE-GUN PROJECTOR

