

MACHINE VISION 1978

AN ELECTRO/OPTO/MECHANICAL ENVIRONMENT BY STEINA

STEINA: "When a human being operates the camera, the assumption is that the camera is an extension of the eye. You move the camera the way you move the head and the body. In video, unlike photography or film, the viewfinder is not necessarily an integral part of the camera apparatus. . . .

"In the late seventies, I began a series of environments titled MACHINE VISION and ALLVISION, with a mirrored sphere. Another variation has a motorized moving mirror in front of the camera so that depending on the horizontal or vertical positioning of the mirror, the video monitor displays a continuous pan or tilt either back/forth or up/down. A third variation is a continuous rotation through a turning prism, while still another has a zoom lens in continuing motion, in/out. These automatic motions simulate all possible camera movements freeing the human eye from being the central point of the universe."



DESCRIPTION

One of the first works in the MACHINE VISION project, and central to it, is ALLVISION, a rotating spherical device that mediates the viewer's perception

of total space. (See separate ALLVISION description.) MACHINE VISION includes ALLVISION as well as a collection of smaller instruments operating under specific assignments: pan, tilt, zoom, rotation, double rotation, and bird's-eye view. Here the camera is stationary and various optical attachments in front of the lens are set into motorized motion, providing a summary of the syntactic language of the camera. Each of the instruments contains its own motor assembly, camera, mirror, and power supply mounted on a tripod — with ALLVISION, this makes seven stand-alone mini-installations:

In Rotation, a camera fitted with a motorized prism lens provides a continuous rotation.

In Zoom, a camera fitted with a motorized zoom lens provides a continuous in/out zoom.

In Pan, a moving mirror assembly placed in front of the camera provides a continuous pan, back and forth.

In Tilt, a moving mirror assembly placed in front of the camera provides a continuous tilt, up and down.

In Double Rotation (Slant Mirror), a vertically placed camera points into a rotating slanted mirror, resulting in a rotation on two axis, horizontal and vertical.

In Bird's-Eye, a vertically placed camera is fitted with a motorized prism lens and a small mirrored sphere, providing a continuous rotation.

THE SPACE

Since the only pictorial input into this installation is its immediate surroundings as seen by the cameras, the choice of space assumes a critical role. Odd spaces of intersecting corridors, staircases, corners with horizontal, vertical, or diagonal shapes and shadows are an ideal backdrop for the observer approaching the exhibit. When only a featureless room is offered, Steina includes large vertical photo panels by Woody Vasulka to be mounted on the walls to provide a graphic backdrop.

MACHINE VISION (and ALLVISION) are the only works of Steina's requiring daylight or a fair amount of artificial illumination. They are closed-circuit environments with no additional media on tape or disk. There is no audio present.

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.

1. ALLVISION (see separate description)

2. ROTATION: A camera fitted with a motorized prism lens provides a continuous rotation.

- video camera
- motorized prism lens
- power supply (12 VDC)
- power supply (3 VDC)
- tripod
- video cable to monitor
- power cable

3. ZOOM: A camera fitted with a motorized zoom lens provides a continuous in/out zoom.

- video camera
- motorized zoom lens
- power supply (3 VDC)
- power supply (12 VDC)
- power supply (12 VDC)
- tripod
- video cable to monitor
- power cable

4. PAN: A moving mirror assembly placed in front of the camera provides a continuous pan, back and forth.

- video camera
- motorized mirror assembly
- power supply (12 VDC)
- power supply (12 VDC)
- tripod
- video cable to monitor
- power cable

5. TILT: A moving mirror assembly placed in front of the camera provides a continuous tilt, up and down.

- video camera
- motorized mirror assembly
- power supply (12 VDC)
- power supply (12 VDC)
- tripod
- video cable to monitor
- power cable

6. DOUBLE ROTATION (slant mirror): A vertically placed camera points into a rotating slanted mirror, resulting in a rotation on two axis, horizontal and vertical.

- video camera
- motorized mirror assembly
- power supply (12 VDC)
- power supply (3 VDC)
- tripod
- video cable to monitor
- power cable

7. BIRD'S-EYE: A vertically placed camera is fitted with a motorized prism lens and a small mirrored sphere providing a continuous rotation.

- video camera
- motorized prism lens
- power supply (12 VDC)
- power supply (3 VDC)
- tripod
- video cable to monitor
- power cable

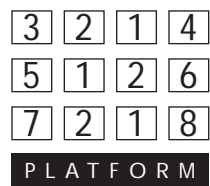
SUMMARY OF EQUIPMENT

- 8 b/w video cameras
- 15 powersupplies
- 2 moving mirror assemblies
- 2 prizm lenses
- 1 bird's-eye lens
- 1 zoom lens
- 1 slant mirror
- 7 tripods

NOTE: These mini installations come pre-assembled. They need only to be mounted on tripods and arranged in space. There are 8 video cables from each installation to the monitors.

MONITOR MATRIX AND PLATFORMS

The placement of the monitors is determined by the size of the monitors and the space itself. A matrix of 12 monitors, 3 x 4 is recommended. The following diagram shows the wiring sequence for 12 monitors.



THE DISPLAY

By selecting more sensitive cameras, the general light level in the environment could be kept low and the balance of light could tip in favor of stronger display image. The monitors should therefore not be exposed to direct light. The space should be flooded in all directions either by artificial or natural light. It is important that the environment reflected in the sphere exhibits great variety of forms and architectural features, contrast in color and brightness. The dynamic additions to the environment are the viewers.

VIDEO ADJUSTMENT

All 75 ohm terminators located on the back of the monitors must be switched to open, except for the last monitor on each chain. 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 the monitors, cameras and motors at each station. Verify that each installation goes into motion and displays video on the monitors. If not, turn power off and on again. If problem persists notify Steina by phone, fax or e-mail.

TO SHUT DOWN: Power down monitors, cameras, and motor assemblies.

MAINTENANCE: The mirrored sphere, moving mirrors, and monitor screens need to be cleaned with a soft cloth at least once a week.

POWER REQUIREMENTS

Video monitors (12)	Sony PVM 1910	120 watts
VDC Power Supplies (15)		5 watts
Turntable	15 VDC	40 watts

NOTE: All power supplies for MACHINE VISION are dual standard, 110 to 220 VAC. Video: PAL/NTSC (cameras/monitors of a matching standard).

LIST OF POWER SUPPLIES

1. Allvision	12 VDC + 12 VDC
2. Rotation I	12 VDC + 3 VDC
3. Zoom	12 VDC + 3 VDC + 12 VDC
4. Pan	12 VDC + 12 VDC
5. Tilt	12 VDC + 12 VDC
6. Slant Mirror	12 VDC + 05 VDC
7. Rotation II	12 VDC + 03 VDC

C R E D I T S

At the entrance these credits should appear:

"MACHINE VISION by Steina, with instrumentation by Josef Krames, Woody Vasulka, and Bruce Hamilton."

S H I P P I N G I N F O R M A T I O N

The seven mini-installations can be shipped in three large crates. Weight and dimensions available upon request.

Shipped to and from:

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