VI. STEALTH

STEALTH is a multimedia presentation that is both preprogrammed and interactive. It comprises an X-Y scanning table and a third scanning rail, all with video cameras. It includes an array of phototransistor and infrared sensors and a pair of joysticks as input devices, and both audio and visual outputs. As it is now configured, STEALTH is shown pictorially in Figure VI-1 and schematically in Figure VI-2.
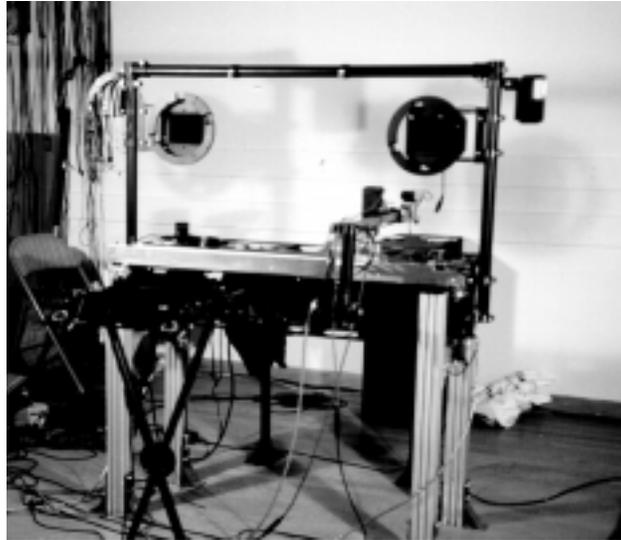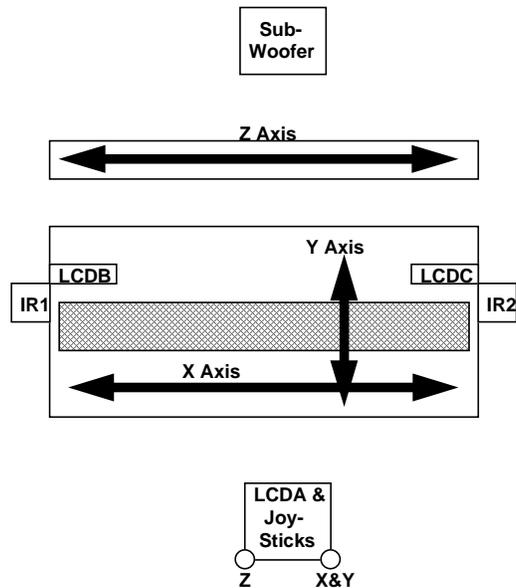

Fig. VI-1. The STEALTH Table

Fig. VI-2. STEALTH Layout

The STEALTH system concept allows for a great deal of flexibility in how the components are arranged and operate. Communication between components is in the MIDI format, allowing interchangeability between quite different functions. A preliminary schematic of the system is shown in Figure VI-3.
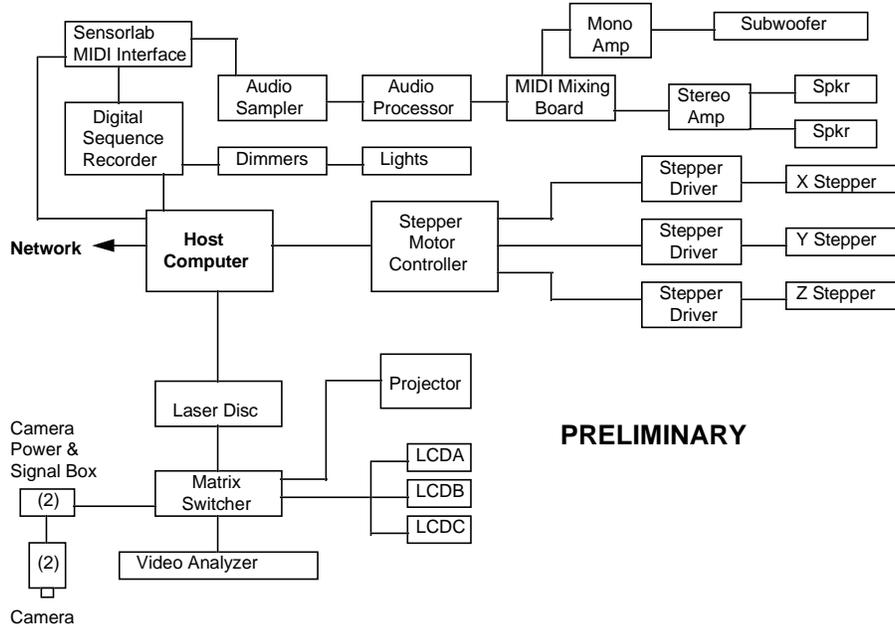

Fig. VI-3. STEALTH System Schematic

Major components are listed in Table VI-1.

Table VI-1. Major STEALTH Components

Component	Manufacturer, Model
Host Computer	Custom built
Stepper Controller	Oregon Microsystems, SRX-4
Stepper Motor Drivers	Centent, CN0142
Laser Disc Player	Pioneer, LD-V8000
MIDI Mixing Board	Yamaha, DMP7
Audio Processor	Alesis, Q2
Audio Sampler	Peavey, SP
Digital Sequence Recorder	Yamaha, QX21
Mono Amplifier	Carver, M400
Stereo Amplifier	Fuhrman, SP-20A
Light Dimmers	Leprecon
MIDI Interface	Sensorlab
MIDI Patch Panel	Custom built
Video Camera Power/Signal Box	Custom built
Power Supplies	TDK, 24-4R5GB and 05-20RGB
Stepper Motors	ASTROSYN , 23LM-C001

Environmental lights are controlled through two six-outlet MIDI light dimmers. The dimmers and controller are shown in Figure VI-4. The X-, Y- and Z-axis stepper motors are operated by the host computer via the stepper controller, shown in Figure VI-5.

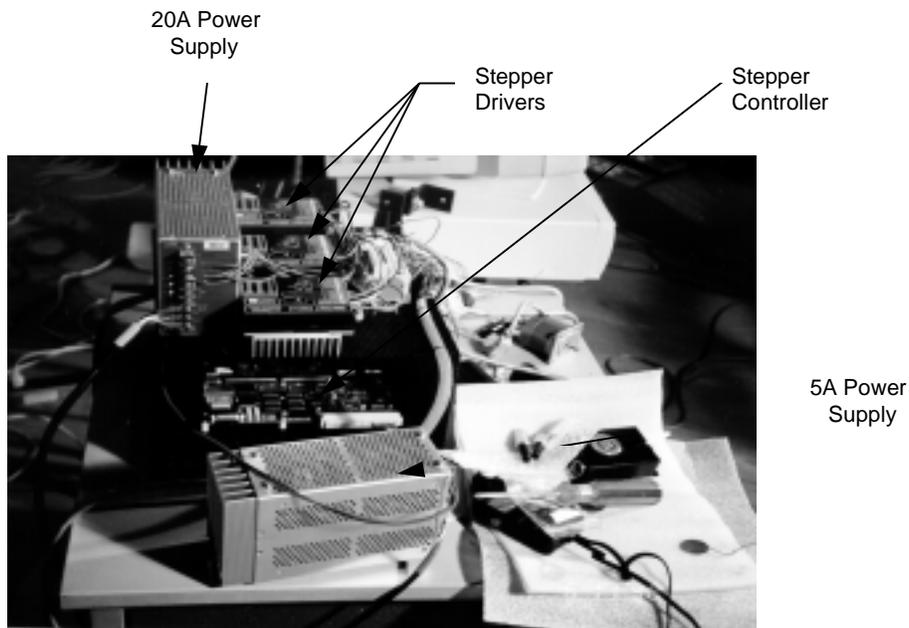Fig. VI-4. MIDI Light Dimmers and Controller

Fig. VI-5. Stepper Motor Drivers and Controller

STEALTH will operate in a pre-programmed mode if there is no sensor input arising from an action on the part of the viewer. However, phototransistor and infrared motion sensors and joysticks are provided to enable viewer interaction. The joysticks are mounted on a separate stand, along with a liquid crystal display screen that provides feedback to the viewer. They are shown in Figure VI-6.

Liquid Crystal
Display (LCD) A

Z Joystick

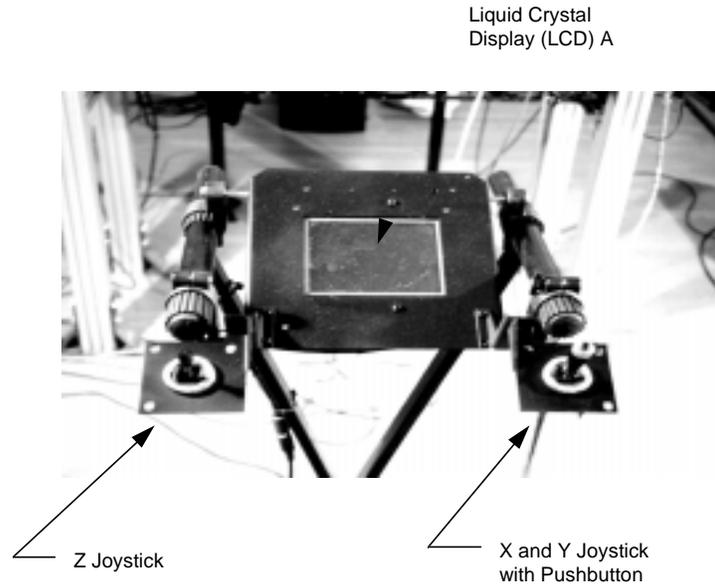X and Y Joystick
with Pushbutton

Fig. VI-6. Joysticks and LCDA

Several phototransistor sensors are mounted on the front of the table, pointed toward a viewer standing at the joysticks. They are indicated in Figure VI-7, along with several other components.

Video
Cameras
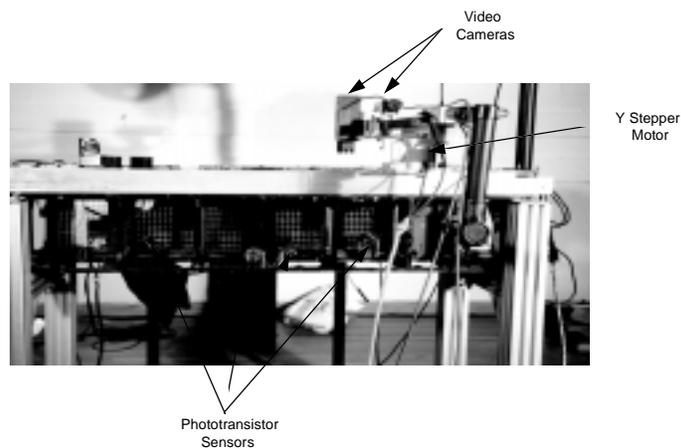
Y Stepper
Motor

Phototransistor
Sensors

Fig. VI-7. Phototransistor Sensor Location

Much of the video processing equipment is located in an equipment rack. The host computer and stepper motor controller/drivers constitute another major

block of equipment, as does the audio processing equipment. Although the equipment rack is shown in Figure VI-8, the individual pieces of equipment remain to be identified and labeled.
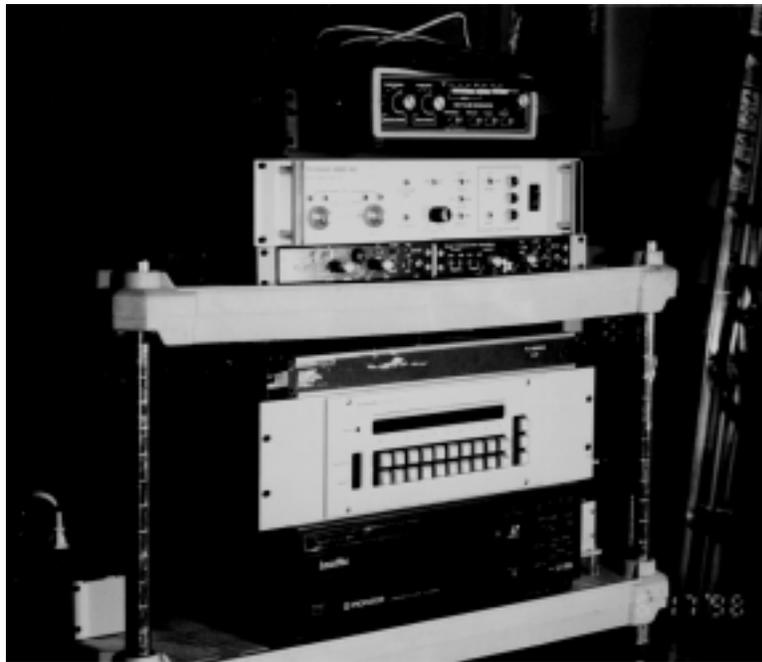

Fig. VI-8. Video Processing Equipment Rack

STEALTH, like most of the other presentations, is evolving. A possible addition is one or two "Islands," each of which includes a low-power laser and beam splitting apparatus. Just how the Islands will be used remains to be determined. One of the Islands is shown in Figure VI-9.
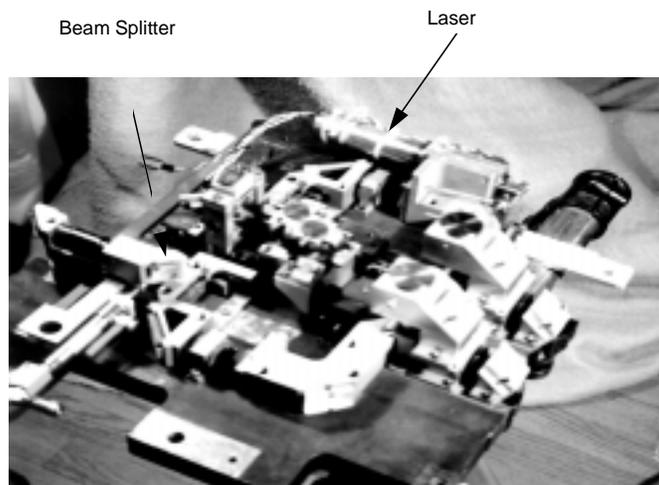

Fig. VI-9. Island