

WARNING:

This equipment has been tested and found to comply with the limits of a Class A digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the user guide, may interfere with radio communications.

Operation of this equipment in a residential area is likely to cause interference in which case the user will be required to correct the interference at his own expense.

Instructions for FCC compliance

This equipment complies with the requirements of FCC(Federal Communication Commission)Class B equipment provided that the following conditions are met.

1. Video signal cables:

Double shielded coaxial cables(so called FCC shielded cable) must be used. The outer shield must be connected to the ground. If normal coaxial cables are used. they must be enclosed in metal pipes or similar material to reduce the interference they may cause

2. Power cord:

A Shielded power cord must be used. The outer shield must be grounded.

3. Video Inputs:

The amplitude of the input signal must not exceed the level specified in this user's guide.

Important Safety Precautions

Warning following these instructions could prevent possible injury or death.

If any of the events listed below occur, switch projector OFF, pull power plug out of power source, and contact service technician.

- If there is an abnormal smell or smoke
- If suddenly there is no picture, no sound, or an abnormal sound

● If water or any other liquid enters the projector

To prevent possible electric shock or fire, handle power cord and power plug with care:

- Do not touch the power cord with wet hands.
- TO DISCONNECT THE UNIT FROM THE POWER SOURCE, GRASP THE POWER PLUG, AND PULL. DO NOT PULL THE POWER CORD ITSELF.
- Do not damage the power cord by pulling, bending, heating, or placing heavy objects on it.

To prevent possible electric shock or fire, Keep liquids away from projector:

- Do not use the projector near water(such as a shower, sink, etc).
- Do not put an open container with liquid on or near the projector (such as a vase, open beverage container, etc.)

Do not insert a foreign object into any part of the projector:

- To prevent electric shock or fire, do not insert a metal or flammable object through the ventilation holes, etc.
- If foreign matter enters the projector, switch it OFF and pull the power plug out of the power source.
- Prevent small children from inserting objects into the projector.

Only use recommended power supply:

- Do not use any power source that has a voltage other than what this user guide specifies.

CAUTION:**To prevent possible eye damage :**

- Do not look directly at the laser light from the aperture at the Front of the Remote Control Unit.
- DO NOT point the laser light at any person's eyes.

Also, do not look directly into projector lens when lamp is lit:

- Prevent all people, especially small children, from looking into the projector lens when the lamp is lit.

Do not subject projector to physical shock or place projector on unstable surface:

- Do not place the projector in a location where it is likely to be struck or bumped into.
- Avoid placing the projector on a shelf, cabinet, etc. that cannot adequately support its weight, or that is on an inclined floor.
- When the projector is placed on a table with casters, set the caster stoppers to prevent movement.

Caution Following these instructions could prevent personal injury or damage to the projector.**To prevent damage from heat build-up:**

- Clean the air filter after every 100 hours of operation.
- Do not place the projector in direct sunlight or near a source of heat like a furnace, electric heater, etc.
- Do not block ventilation holes (by placing the projector on its side, or on a carpet, bedspread etc.)
- Place the projector at least 10 cm from any wall (allowing space for the ventilation holes).

Do not Place projector in a moist or dusty place:

- Do not place the projector in an area containing steam (from humidifier, etc.),dust, or soot (from a stove, etc).

If projector will not be used for a long time, pull out power plug and close lens cover.**Have inside of projector cleaned at least every two (2) years:**

- Contact service technician for information about where to have the inside cleaned. Never attempt to open the cabinet to clean the inside of the projector yourself.
- To clean the lens and cabinet, follow the instructions on page.20

Do not place heavy objects on the projector.

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Getting Started

Congratulation on purchasing a JEAN JR097A LCD projector!

Save the original box and all packing material for future shipping needs.

Package Contents

- JEAN JR097A LCD Projector
- Remote Control Unit/Mouse & Laser Pointer
- 2 AA batteries
- AC power cords
- RGB computer video cable(15-pin mini D-sub connector)
- Video/audio cable(RCA connectors)
- Audio (stereo) mini-DIN cable
- User's guide

Installation

1. Connect signal input cables

With both the JR097A and the computer powered OFF, connect the appropriate video and audio cables to the computer, VCR, or other input sources,

2. Connect power cord

Connect the power cord to a properly grounded AC outlet, then to the JR097A.

3. Power-ON projector and all input devices (computer, VCR, etc)

- Power-ON the JR097A projector.
- Power-ON all input devices.

4. Install batteries into Remote Control Unit

- See instructions below.

Inserting Batteries into the Remote Control Unit

1. Remove the compartment cover by sliding it in the direction of the arrow shown below



2. Insert the batteries (Alkaline type) with the polarities (+,-) facing the direction shown below,



3. Replace the compartment cover.

Caution:

- Only use AA(LRG) type of batteries.
- To prevent leakage that may damage the unit, do not combine old and new batteries.
- When inserting batteries, be careful to insert them according to the correct polarities(+,-)
- If not using the Remote Control Unit for an extended period of time, remove the batteries.
- Do not place the Remote Control Unit on any wet surface or close to the cooling fan of the projector.

User Controls and Indicators

. User Controls and Indicators

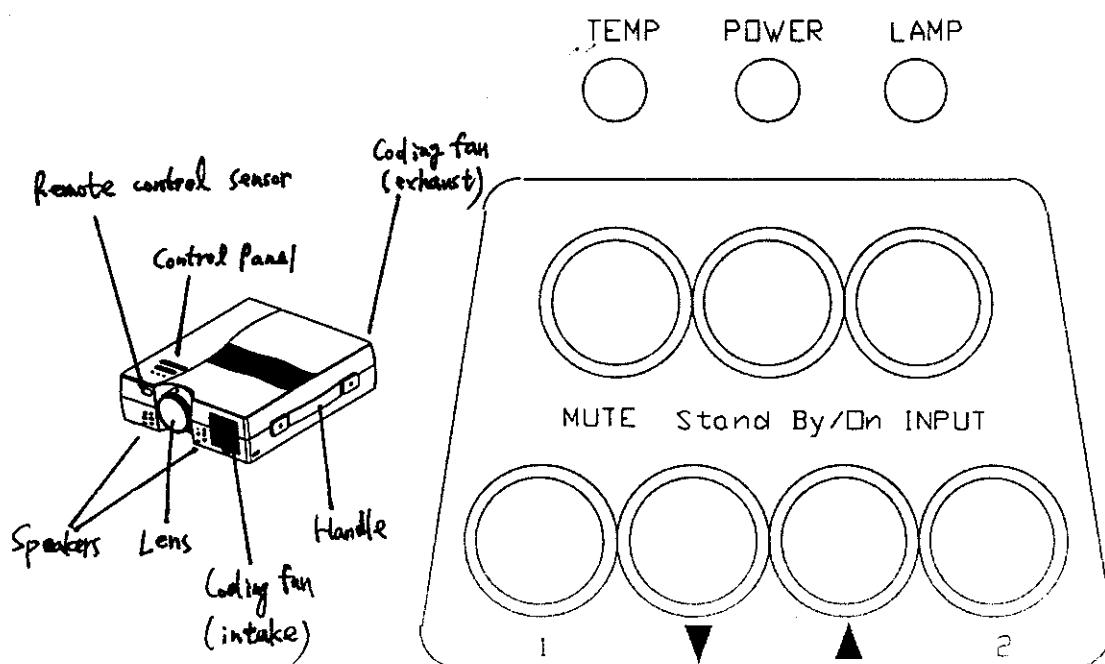
- Standby/on : Power control switch; power is turned on and the projector is warming up. During this warm-up period, no other image can be projected onto the screen about 30 seconds.
- mute: Press the MUTE bottom to instantly mute the sound. Press again to restore the previous sound level.
- Input: To select the desired input signal.

Analog 1 → Analog 2 → VIDEO → S-VIDEO

- 1 : To activate or exit OSD control palette.
- ▼ : To scroll down cursor or decrease adjustment.
- ▲ : To scroll up cursor or increase adjustment.
- 2: To enter functional adjustment.

Control Panel Indicators Define:

	POWER	LAMP	TEMP	MEANING
	LED	LED	LED	
A.	Orange	off	off	standby
B.	Blinks Orange	off	off	lamp warming up or cooling down.
C.	Green	off	off	normal operation
D.	Blinks Orange	off	blinks red	cooling fan is not working properly.
E.	Blinks Orange	blinks red	off	temperature inside projector is too high or lamp abnormal



Connecting Input/Output Devices

Side Connector Panel

Analog 1 & Analog 2: Two D-sub 15 pin input ports (to video output of computers).

S-Video input: Mini DIN 4 PIN input ports (used with S-VIDEO output equipment)

VIDEO input: RCA type (used with composite video output equipment)

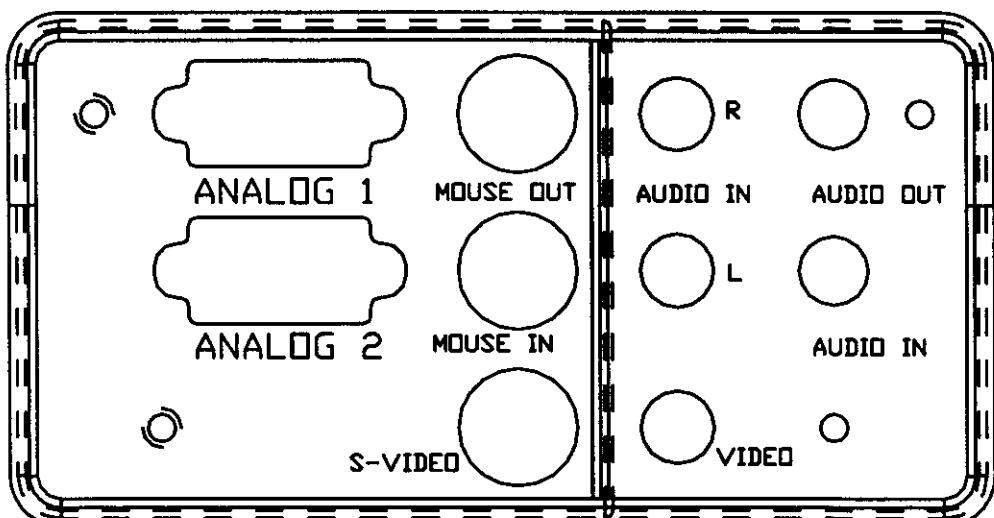
Audio L , R: RCA type, left/right input ports. (used with either S-VIDEO or composite VIDEO outputs)

Audio input: Stereo mini type (stereo audio with RGB input)

Audio output: Stereo mini type (to audio amplifying equipment)

PS/2 mouse output: The mouse cursor can be controlled on remote control disk pad by connecting the cable from projector to a computer.

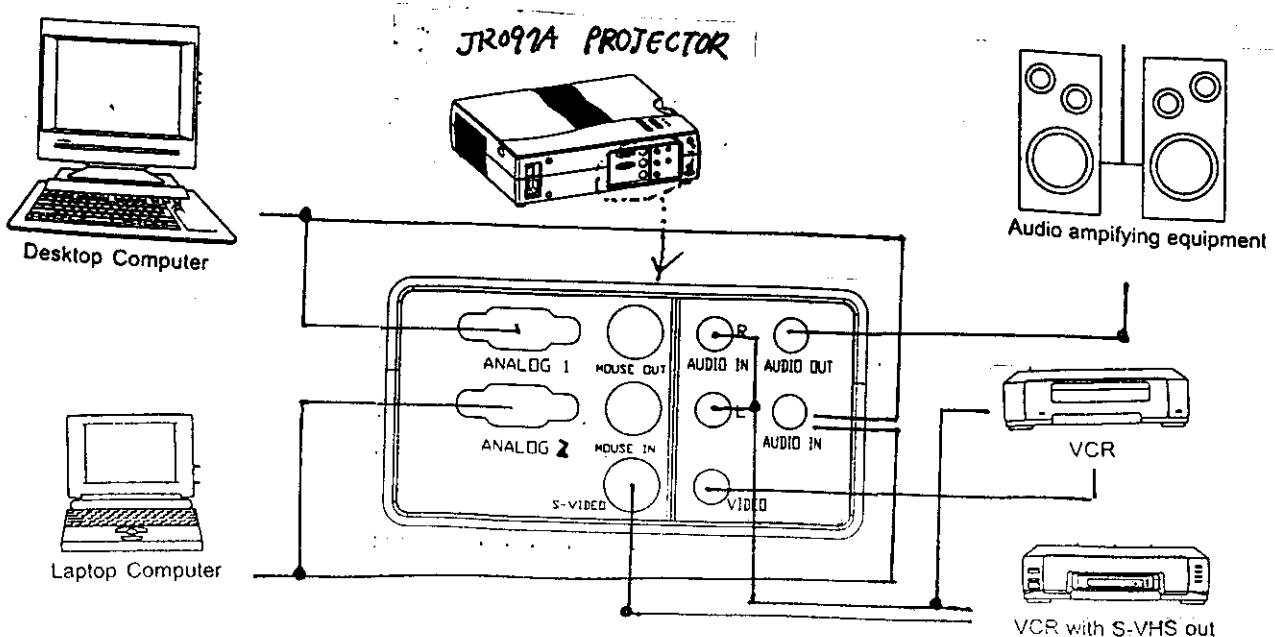
PS/2 mouse input: Connecting mouse to this port to control the cursor.



PS/2 mouse connector mini Din 6 pin



Example of System Setup



Operation

Projecting a Picture

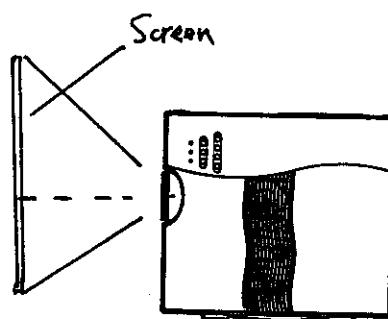
- 1 Power ON the projector. Set the MAIN POWER switch to ON (located on the side Connector Panel) The ON indicator lights orange.
- 2 Press the STANDBY/ON button on the Projector Control Panel or on the Remote Control Unit. The ON indicator blinks orange during warm-up and stays orange when projector is ready for use.
- Note:** The power can not be turned on if the STANDBY/ON button is pressed within 30 seconds after the power is turned off.
- 3 Position the projector the desired distance from the projection screen, then set the projection angle by positioning the foot adjusters (See Positioning the Projector and Setting the Projection Angle below.)
- 4 Power ON all connected input devices
- 5 Select the signal source : press the INPUT button on the projector or one of the INPUT buttons on the Remote Control Unit
- NOTE:** To switch between ANALOG1 and ANALOG2 use the INPUT menu.
- 6 Using buttons on the Remote Control Unit or the control panel on top of the projector. Adjust the picture size with the ZOOM button, then adjust the focus using the FOCUS button.

Positioning the Projector

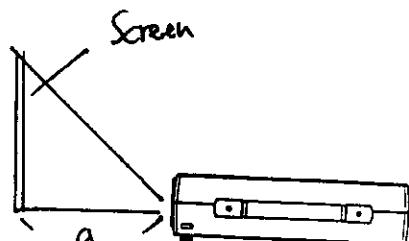
The projector must be horizontal to get a distortion-free picture. Place the projector on a table-top or other flat surface. Use the chart below to determine the placement of the projection screen.

Projection Size (diagonal, inch)		
Distance (mm)	Wide	Tele
1000	26.7	20.5
2000	51.7	39.8
3000	76.8	59.1
4000	101.9	78.3
5000	127.0	97.6
6000	152.0	116.9
7000	177.1	136.2
8000	202.2	155.5
9000	227.2	174.8
10000	252.3	194.0

Top View



Side View



$a =$ distance from projector to screen

CAUTION To prevent a build-up of heat
that can damage the projector:

- Be especially careful not to block ventilation holes when installing the projector.
- Only use this projector in the horizontal position

Setting the Projection Angle

- 1 While firmly grasping the front of the projector with both hands, use your index finger to push—and hold—the Adjuster Buttons (located on the sides of the projector)
- 2 While pressing the Adjuster Buttons, tilt the front of the projector up in order to adjust the viewing angle. Then (while still grasping the Projector) release the Adjuster Buttons. Securely locking the front foot Adjusters.
- 3 To make fine adjustments, turn the base of the Front Adjusters.

Front View



Side View



CAUTION

- To prevent possible injury or damage to the projector, make sure you are holding onto the projector securely before you unlock the foot adjusters
- Securely lock the Front Adjusters.
- Do not unnecessary force when you move the foot adjusters.

Remote Control Define:

Standby/on	button
Input	button
MUTE	button
1	button
▼	button
▲	button
2	button



Same as user controls define

LASER button: Toggles laser-pointer on/off

Caution: To prevent possible eye damage

Do not look directly at the laser light emitted from the laser aperture of the remote control unit.

Do not point the laser light at any persons eyes.

Auto button: Automatically adjusts vertical/horizontal position, horizontal size and phase.

INFO button: To display input signal information.

Blank button: To display blank screen.

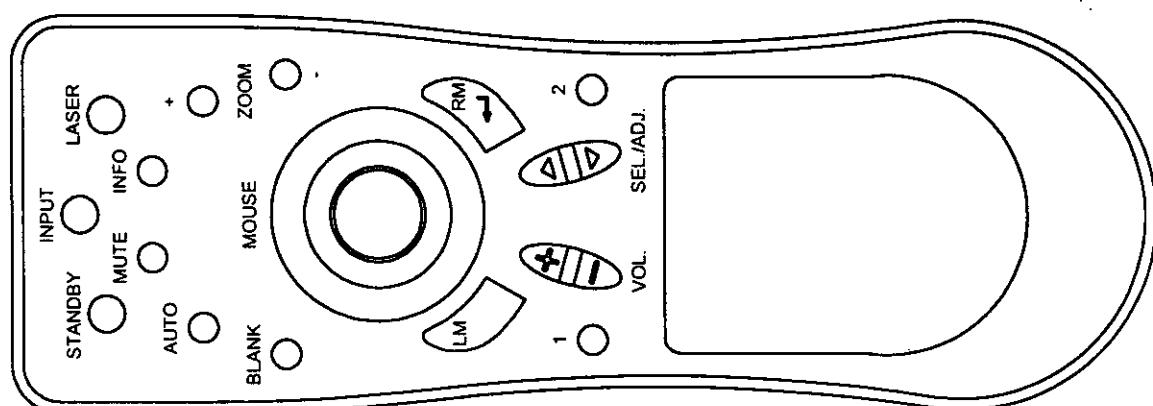
Zoom +, - button: To adjust the size of the screen image.

VOL +, - button: To adjust loudness of audio output.

Disk PAD: Moving your thumb on this pad corresponds to moving the mouse to change the cursor position.

LM button: This button corresponds to the left mouse button for pc.

RM button: This button corresponds to the right mouse button for pc.



CAUTION

To prevent possible eye damage:

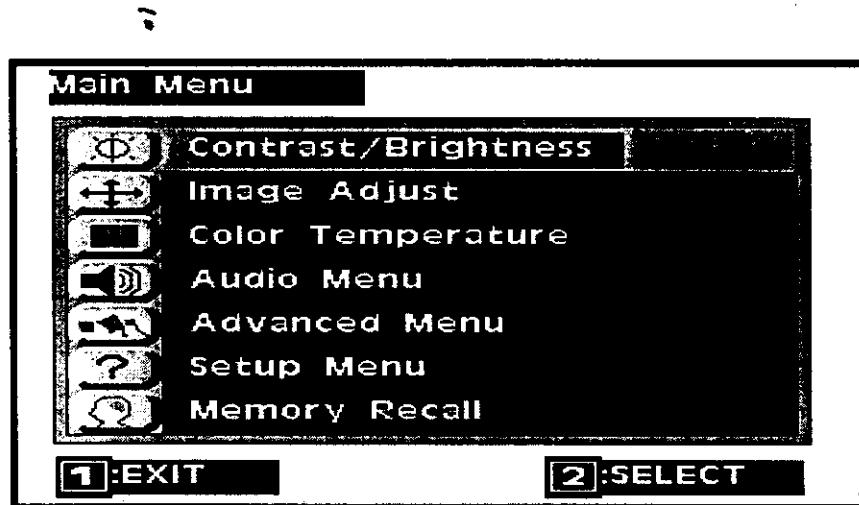
- **DO NOT** look directly at the laser light emitted from the laser Aperture of the Remote control Unit

- **DO NOT** point the laser light at any person's eyes

Adjusting the Projected Image

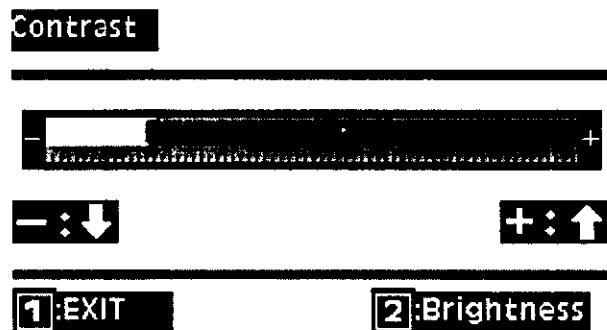
Main menu

The main menu is shown below.



CONTRAST Adjusts the difference between the image background (black level) and the foreground (white level).

[▼] decreases. [▲] increases contrast.



BRIGHTNESS Adjusts background black level of the screen image.

[▼] decreases brightness, [▲] increases brightness.

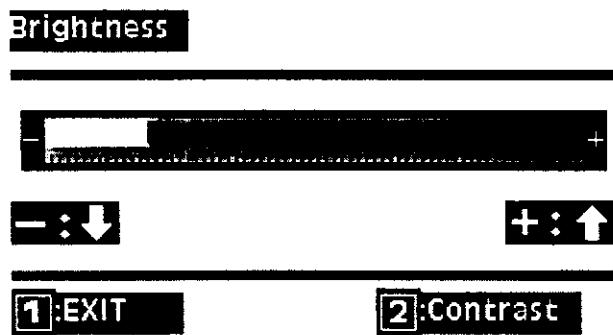
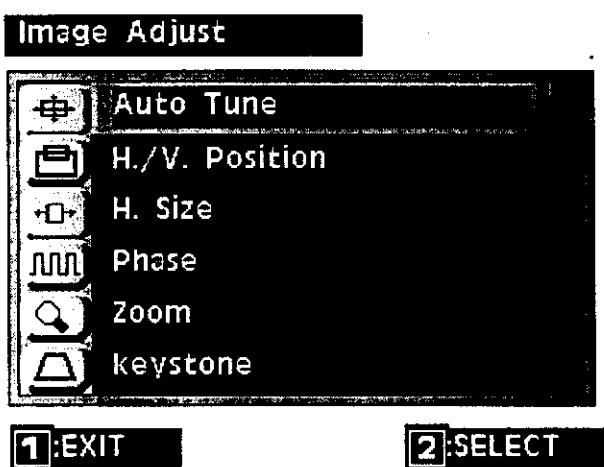


Image Adjust Menu

The Image Adjust menu is shown below.



Note: H. Size, phase cannot be adjusted with VIDEO signal input.



AUTO TUNE Automatically sizes, centers, and fine tunes the video signal to eliminate "noise" and distortion.

Press [2] to activate

NOTE Auto Tune

- May require several seconds to execute
- May not operate correctly with some projected images.

H POSITION (Horizontal Position) moves the screen image to the left or to the right.

[▼] moves screen image left, [▲] moves screen image right.

V POSITION (Vertical Position) moves the screen image up or down.

[▼] moves screen image down, [▲] moves screen image up.



H SIZE (Horizontal Size) adjusts the width of screen image.

[▼] decreases the width of screen image, [▲] increases the width of screen image.



Phase minimizes the video distortion.

Press [▼] or [▲] to adjust to your preference.



Zoom expands and contracts the entire screen image.

[▲] Expands the screen image.

[▼] Contracts the screen image.



Keystone Reduces keystone distortion at top or bottom of picture caused by raising the front of projector using the adjusters.

Color Temperature Color Menu

The color temperature Color menu is shown below:

Color Temperature

Preset

User Color

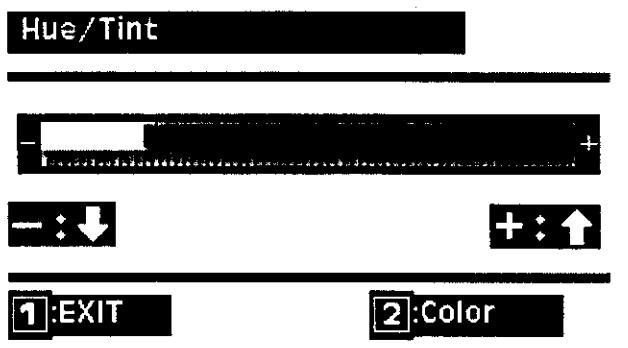
[1]:EXIT

[2]:SELECT

User Color—Individual adjustments for red, green and blue.

1. From the USER COLOR screen, press [▼] or [▲] to highlight red, green, or blue, then press button [2] to it.
2. To adjust a highlighted color, press [▼] or [▲]. The number next to the status bar changes accordingly.
3. To save your adjustment and exit a color, press button [1].

Note: For VIDEO signal input the color temperature menu is shown below:

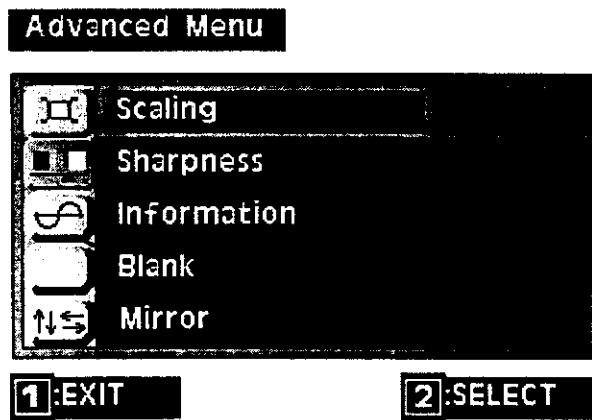


Audio Menu

- 1.Audio Source Allows you to choose the audio input source.
- 2.Volume : Allows you to adjust the audio signal gain.
- 3.Bass: Allows you to emphasis or attenuation for Low frequency.
- 4.Tribal: Allows you to emphasis or attenuation for higher frequency.

Advanced Menu

Selecting the Advanced Menu from the Main Menu takes you to the menu shown below.



 **Scaling** adjusts the input signal to the screen size using the following options.

Press [▼] or [▲] to select from the menu:

- (1) Fill All
- (2) 1 : 1
- (3) 16:9 (Only for video input)

 **Sharpness** adjusts the clarity and focus of the screen image.

Press [▼] or [▲] to adjust the image sharpness.

 **Information** displays the timing mode (video signal input) coming from the graphics card in your computer. See page 16,17 for instructions on changing the resolution. Also, see your graphic card's user guide for instructions on changing the refresh rate (vertical frequency).

 **Blank** Displays blank screen press [▼] or [▲] to select blank screen type

 **Mirror** Inverts picture horizontally and / or vertically press [▼] or [▲] the invert ty

Setup Menu

The Setup Menu takes you to the menu shown below.



Input Select Allows you to choose the input source press [▼] or [▲] to select input signal.
(Analog 1 , Analog 2, Video, S-Video)

Language Select allows you to choose the language used in the menus and control screens.
Press [▼] or [▲] to select a language (English, French, German, Spanish, or Italian).

OSD Position allows you to move the on-screen display menus and control screens.
Press [▼] or [▲] to move the OSD.

OSD Timeout sets the length of time the on-screen display screen is displayed. For example,
with a “30 second” setting, if a control is not pushed within 30 seconds, the display screen
disappears.

Memory Recall returns adjustments of some controls (see below) to the original factory
settings if the display is operating in a factory Preset Timing Mode listed in this user guide.
The controls affected by MEMORY RECALL are:

CONTRAST, BRIGHTNESS, H (Horizontal) POSITION, V (Vertical) POSITION,
H(Horizontal) SIZE, PHASE, ZOOM, OSD TIME OUT, and OSD POSITION.

NOTE: MEMORY RECALL does not affect changes made with the USER COLOR control.

Regulations		C-UL,FCC,FN60950,CE,CB,TUV/GS VCCI
Power Savings	"On" Green "Stand By" Orange	200 W 22 W

*Brightness may vary with lamp age and environmental conditions.
Specifications and design subject to change without notice.

Technical Information

Specifications

LCD	Type Pixels	0.9" Polysilicon (x3) Stripe Pixel 1024 x 768(XGA) TFT Active Matrix 2,359,296 (1024dots x 768 lines x 3 colors)
Lens Display	Type Image Size Projection Distance Brightness Contrast Ratio Aspect Ratio Lamp Lamp Life	1~1.3 zoom lens, F1.7~2.0(f=35.7-46.5mm), Manual Focus 30"~300" (762 x 7620mm) 1.5m - 15m 1200 Lumens(typical)*, 200:1(typical) 4:3/16:9(VIDEO) 150 W Ultra High Pressure Mercury Lamp 2000 hours
Audio	Power	1W x 2 1%THD
Input Signal	RGB Analog Video	75 ohms, 0.7 Vp-p x 2 H/V Separated NTSC/PAL/SECAM/S-Video Luminance signal 0.7 Vp-p, 75 ohms termination Chrominance signal 0.29 Vp-p (NTSC), 0.30 Vp-p(PAL), 75 ohms Termination f _h 15.75/15.63, 30~70 kHz, f _v 50-85Hz
Compatibility	PC Video	PC compatible(up to 1024 x 768 @ 85Hz) NTSC PAL/SECAM/S-Video
Maximum Recommended Resolutions		1024 x 768@85 Hz 1024 x 768@60 Hz
Input Ports	RGB Video S-Video Audio	15 pin mini D-sub (x2) RCA (x1) Mini DIN 4-pin (x1) RCA jack (L/R) for Video, stereo Mini (x1) for RGB
Output Ports	Audio	Stereo Mini (x1) for Audio-out
Power	Voltage Consumption	AC 100-120/220-240 50/60 Hz (Automatic), 3 Wire Grounded 200 Watts
User Controls	Physical / Projector	Main Power, Standby On/Off,(1,▼,▲,2),Input, Mute
Video	Input Bandwidth	95 MHz
Operating Conditions	Temperature Humidity	32°F to 95°F (0°C to 35°C) 10% TO 85% (no condensation)
Optimum Installation Environment	Temperature Humidity	59°F to +82°F (15°C to 28°C) 40% TO 75% (no condensation)
Storage Conditions	Temperature Humidity	-4°F to +140°F (-20°C to +60°C) 10% TO 85% (no condensation)
Dimensions	Physical Packing	272 mm(W) x 82mm (H) x 312mm(D) 10.7"(W) x 3.2"(H) x 12.2(D) 385 mm (W) x 220 mm (H) x 420 (D) 15.1" (W) x 8.6"(H) 16.5 (D)
Weight(typical)	Net Gross	3.8kg (8.3 lb) 5.2kg(11.4 lb)

Timing Chart

The following table lists the maximum refresh rates that the JR097A will operate at a number of standard resolutions (timing presets). While the projector is capable of this level of performance, not all video cards are capable of operating at these signal timings. See your graphics card's user guide to ensure compatibility.

Computer/Signal Timings	Input Resolution HxV	Vertical Frequency (Refresh Rate) (Hz)	Horizontal Frequency (kHz)	Polarity Synchronizing Signal H/V
VESA VGA 640x400@70Hz	640x400	70	31.5	-/+
VESA VGA 640x480@85Hz	640x480	85.1	43.3	-/+
VESA VGA 640x480@60Hz	640x400	59.9	31.5	-/-
Mac 640x480@67Hz	640x400	66.7	35.0	-/-
VESA VGA 640x480@75Hz	640x400	75.0	37.5	-/-
VESA SVGA 800x600@56Hz	800x600	56.3	35.2	+/+
VESA SVGA 800x600@60Hz	800x600	60.2	37.9	+/+
VESA SVGA 800x600@72Hz	800x600	72.2	48.1	+/+
VESA SVGA 800x600@75Hz	800x600	75.0	46.9	+/+
VESA SVGA 800x600@85Hz	800x600	85.1	53.7	+/+
Mac 832x624@75Hz	832x624	74.57	49.7	+/+
VESA XGA 1024x768@60Hz	1024x768	60.0	48.4	-/-
VESA XGA 1024x768@70Hz	1024x768	70.1	56.5	-/-
VESA XGA 1024x768@75Hz	1024x768	75.0	60.0	+/+
VESA XGA 1024x768@85Hz	1024x768	85.0	68.7	+/+

CAUTION:

Some input source may not display properly if they are not compatible with the projector.
Some input sources may not display in full size, as shown in Output Resolutions.

Troubleshooting

On-Screen Warning Messages

OnView Message	Recommended Action
Lamp will be out of warranty, Please check your service technician for replacement.	The Lamp unit should be replaced soon. After 50 hours of use the lamp life will decay to 50% of the lamp initial value.
SYNC Out of Range	Check to make sure the input signal (Horizontal and Vertical frequency) is within the range supported by the projector.

Problem Solving Chart (check before contacting Customer Support)

Symptom	Possible Cause
Power cannot be turned on	<ul style="list-style-type: none">● Main Power switch is not ON● Power cord is disconnected● 30 Seconds have not elapsed since the power was turned off● Inside the projector is too hot
No picture or sound	<ul style="list-style-type: none">● Input source is not set correctly● Connections to projector are not correct
Picture without sound	<ul style="list-style-type: none">● Connections to projector are not correct● Volume is set to minimum● Projector is in Mute mode
Sound without picture	<ul style="list-style-type: none">● Connections to projector are not correct● Lens cap is attached
Colors are pale and color matching is poor	<ul style="list-style-type: none">● Color density and color matching are not connectedly adjusted
Picture is dark	<ul style="list-style-type: none">● Brightness and Contrast are not adjusted correctly● The lamp is nearing the end of its service life
Picture is blurred	<ul style="list-style-type: none">● Focus or H Phase is out of adjustment
LAMP indicator is Blinks red	<ul style="list-style-type: none">● Lamp is not functioning properly or internal overheating
TEMP indicator is Blinks red	<ul style="list-style-type: none">● Cooling fan is not working properly● Verify that operating environment of projector● Is under 35°C

Control Panel Indicators

ON Indicator	LAMP Indicator	TEMP indicator	Meaning	Recommended Action
Lights orange	Turns off	Turns off	Standby mode	-----
Lights green	Turns off	Turns off	During normal operation	-----
Blinks orange	Turns off	Blinks red	Cooling fan is not working properly	Contract service technician
Blinks orange	Blinks red	Turns off	Lamp abnormal or temperature inside projector is too high	Contract service technician

Maintenance

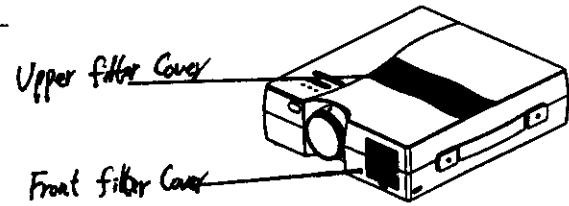
Cleaning Instructions

To ensure that the projector functions properly. Follow the recommended cleaning instructions below.

Cleaning the Air Filter

IMPORTANT : Clean the air filter about every 100 hours.

1. Turn OFF the Main Power switch of them projector and disconnect the power cord from the wall outlet.
2. Remove the Front and upper Filter Cover (see diagram to the right)
3. Remove the air filter from the Front and upper Filter Cover (as shown in the illustration to the right) and use a vacuum clean the filter
4. Re-install the air filter, Then the Front and upper Filter Cover



NOTE : If sufficient dust, etc, collects in the air filter, a protection circuit in the projector will automatically turn off the power. To prevent this from occurring, make sure you clean the air filter every 100 hours.

Cleaning the Lens

- To clean the lens, use a camera lens cleaning issue **CAUTION: Never use any ammonia or alcohol based cleaner on the lens.**
- Be careful not scratch the lens with a sharp or hard object

Cleaning the Cabinet

- Use a soft, dry, lint-free cloth to wipe dust, etc **CAUTION: Never use any ammonia or alcohol-based cleaner to clean the cabinet.**
- If this is insufficient, use a soft, lint-free cloth moistened with a mils detergent diluted with water. Then wipe the surface with a soft, dry, lint-free cloth.