3M

MP8730 Multimedia Projector

Operator's Guide

MP8730 Projecteur multimédia Guide de l'opérateur

MP8730 Multimedia-Projektor Benutzerhandbuch

Proyector de Multimedia MP8730 Manual del Usuario

MP8730 Proiettore Multimediale Manuale dell'operatore

MP8730 Bruksanvisning för multimediaprojektor

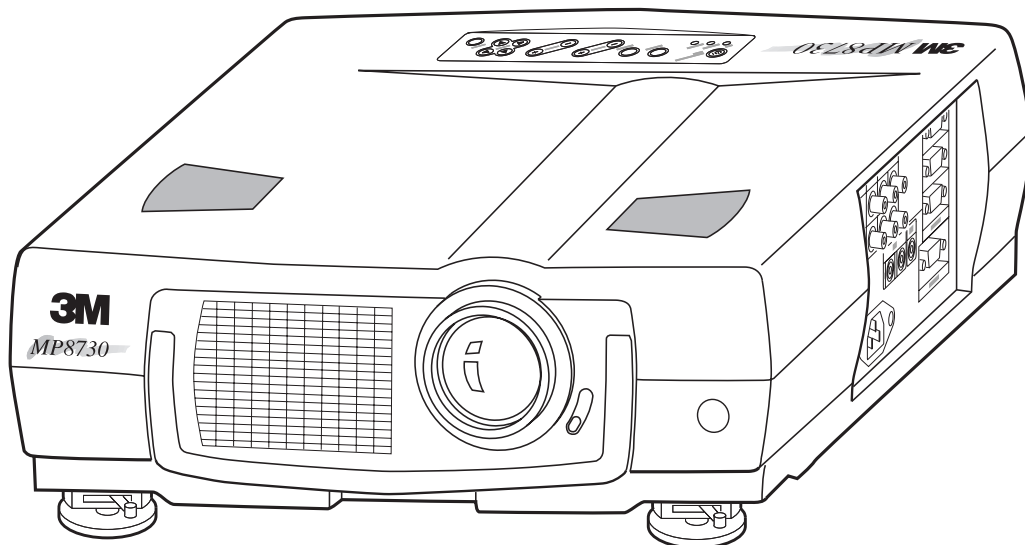*MP8730 Multimedia Projector Gebruiksaanwijzing*

Table of Contents

INTENDED USE

Before operating the machine, please read the entire manual thoroughly. The 3M™ Multimedia Projector 8730 was designed, built and tested for use indoors, using 3M™ brand lamps and nominal local voltages. The use of other replacement lamps, outdoor operation or different voltages has not been tested and could damage the projector or peripheral equipment and/or create a potentially unsafe operating condition.

IMPORTANT SAFEGUARDS

1. Read and understand all instructions before using.

    Pay particular attention to areas where this ⚠ symbol is shown.

    ⚠ **WARNING** - Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

    Caution - Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also be used to alert against unsafe practices.

2. Close supervision is necessary when any appliance is used by or near children. Do not leave appliance unattended while in use.

3. Never look directly into the projector lens when the lamp is on. The metal halide lamp produces a strong light which could damage your eyesight.

4. Care must be taken as burns can occur from touching hot parts.

5. Do not operate appliance with a damaged cord or if the appliance has been dropped or damaged – until it has been examined by a qualified service technician.

6. Position the cord so that it will not be tripped over, pulled, or contact hot surfaces.

7. If any extension cord is necessary, a cord with a current rating at least equal to that of the appliance should be used. Cords rated for less amperage than the appliance may overheat.

8. Always unplug appliance from electrical outlet before cleaning and servicing and when not in use. Grasp plug and pull to disconnect.

9. To reduce the risk of electric shock, do not immerse this appliance in water or other liquids.

10. To reduce the risk of electric shock, do not disassemble this appliance, but take it to a qualified technician when service or repair work is required. Incorrect assembly can cause electric shock when the appliance is subsequently used.

11. Connect this appliance to a grounded outlet.

12. Do not expose this projector to direct sunlight, or use it outside.

13. Keep all ventilation openings free of any obstructions.

14. Always open the lens shutter when the projection lamp is on.

15. Do not look directly into light beam of laser pointer. The pointer produces a strong light which could damage your eyesight.

16. The projection lamp contains mercury. Always dispose of it in a proper manner according to local regulations.

SAVE THESE INSTRUCTIONS

The information contained in this manual will help you operate and maintain your 3M MP8730 Multimedia Projector.

ENGLISH

THANK YOU FOR CHOOSING 3M

Thank you for choosing 3M Multimedia Projector equipment. This product has been produced in accordance with 3M's highest quality and safety standards to ensure smooth and trouble free use in the years to come.

For optimum performance, please follow the operating instructions carefully. We hope you will enjoy using this high performance product in your meetings, presentations and training sessions.

LIMITED WARRANTY

3M warrants this product against any defects in material and workmanship, under normal usage and storage, for a period of two years from date of purchase. Proof of purchase date will be required with any warranty claim. In the event this product is found to be defective within the warranty period, 3M's only obligation and your exclusive remedy shall be replacement of any defective parts (labor included).

To obtain warranty service, immediately notify the dealer from which you purchased the product of any defects. In the USA call 1-800-328-1371 for warranty or repair service.

LIMITATION OF LIABILITY

THE FOREGOING WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, AND 3M SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTIBILITY AND FITNESS. 3M SHALL NOT BE LIABLE FOR ANY DAMAGES, DIRECT, CONSEQUENTIAL, OR INCIDENTAL, ARISING OUT OF THE USE OR INABILITY TO USE THIS PRODUCT.

Important: The above warranty shall be void if the customer fails to operate product in accordance with 3M's written instructions. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

FCC STATEMENT - CLASS A: This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual may cause interference to radio communications. It has been tested and found to comply with the limits for a Class "A" computing device pursuant to Subpart B of Part 15 of the FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his/her own expense will be required to take whatever measures may be required to correct the interference.

EEC STATEMENT: This machine was tested against the 89/336/EEC (European Economic Community) for EMC (Electro Magnetic Compatibility) and fulfills these requirements.

Video signal cables: Double shielded coaxial cables (FCC shield cable) must be used and the outer shield must be connected to the ground. If normal coaxial cables are used, the cable must be enclosed in metal pipes or in a similar way to reduce the interference noise radiation.

Video inputs: The input signal amplitude must not exceed the specified level.

IBM is a registered trademark of **International Business Machines Corporation**. **Apple Macintosh** and **Apple Powerbook** are registered trademarks of **Apple**© **Computer, Inc**. Microsoft and Windows 95 are registered trademarks, and Windows and Windows for Work Groups are trademarks of the **Microsoft Corporation**. **Toshiba** is a registered trademark of **Toshiba Corporation**. **Kensington** is a trademark of **Kensington Corporation.** All other products are trademarks or registered trademarks of their respective companies.

Section 1: Unpack

1.1 Contents of Shipping Box

The 3M™ MP8730 Multimedia Projector is shipped with the necessary cables required for standard VCR, PC, MAC™ II or laptop computer connections. Carefully unpack and verify that you have all of the items shown below in Figure 1.1.
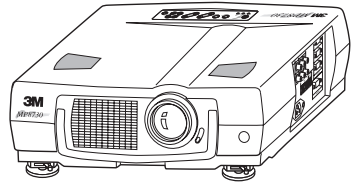
MP8730 Multimedia Projector

Remote Control Transmitter (batteries included)
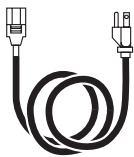
**Power Cord
110V - US
220 - UK, Europe**

**3-Conductor
Video/Audio Cable**
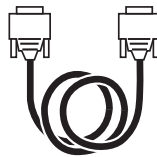
**VGA Cable
(15-15 pin M/M)**
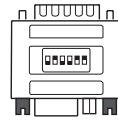
**Adapter
with dip switch**

**Video Cable
(S-Video mini DIN4-pin)**
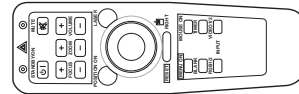
Figure 1.1 Inventory of Shipping Box

The shipping carton contains the items illustrated in Figure 1.1. In addition, the following items are also included, but not shown here. If any of these items are missing, please contact your place of purchase.

- PS/2 mouse cable .... (1)
- ADB mouse cable .... (1)
- Serial mouse cable .... (1)
- Stereo mini-jack .... (1)

1.2 Optional Accessories

- RS-232 control cable .... (1)

1.3 Keep Your Packaging Materials

✔ **Important**

Save the shipping box and packing materials in the event the MP8730 should require shipping to a 3M Service Center for repair.

1.4 What Next?

After you have unpacked the MP8730 system and identified all the parts, you are ready to set up the projector.

2.1   Machine Characteristics

The MP8730 Multimedia Projector integrates metal halide lamp and polysilicon LCD display technology into a single unit. It accepts input from two different computer sources and two video/audio sources and projects a bright, super crisp image. Switching your presentation from a computer input to a video input, and then back to a computer input simply requires the push of a button on the remote control keypad or control panel keypad.

The MP8730 Multimedia Projector offers the following features:

- Metal halide projection lamp
- XGA resolution (3 separate 1024 x 768 LCD panels are used for the R, G and B signals)
- Advanced SXGA scaling (60 Hz and 75 Hz)
- Advanced VGA and SVGA scaling
- Compact size, light weight for portability
- RGB (computer video) output terminal
- Serial, PS/2 and Apple© Desktop Bus (ADB) mouse emulation
- Power zoom and power focus functions
- Easy to set up and use
- Ability to display 16.7 million colors
- Two computer input connections
- Two video input connections (composite and S-video compatible)

- Full function remote control
- Two built-in stereo speakers (2 watts each)
- Horizontal and vertical image inverting function
- Horizontal and vertical image position control
- Fixed keystone correction
- On screen menu with seven languages
- Universal power supply
- IR sensor in front and rear for maximum remote control range
- RS-232 control capability
- Optional ceiling mount kit
- Laser pointer (remote control)
- Color balance control for data/video
- Kensington™ lock

✔ **Note**

The MP8730 is one of the brightest projectors in the marketplace. The brightness of your machine will vary depending on the ambient room conditions and contrast/brightness settings.

2.2   Part Identification List
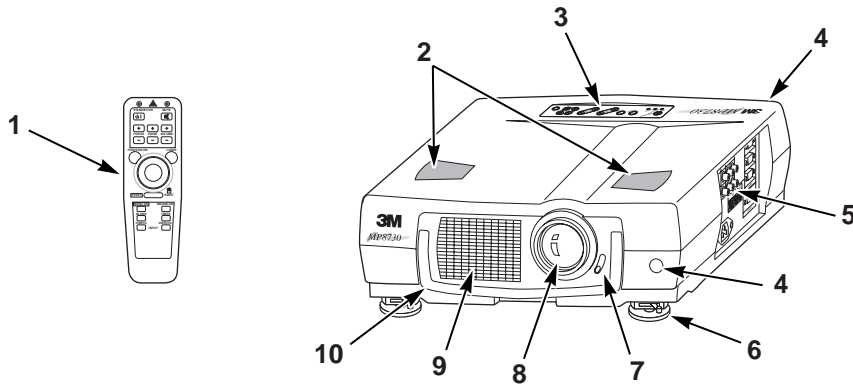
Figure 2.1 Identifying MP8730 Parts

1. Remote control transmitter
2. Stereo speakers
3. Control Panel Keypad
   a) STAND BY/ON button
   b) ON, LAMP, TEMP, Indicator
   c) INPUT, MUTE, RESET buttons
   d) ZOOM, FOCUS, MENU buttons
4. Remote Control Sensors (front/back)
5. Terminal Connection Panel
   a) S-Video, Vidoe, Audio inputs
   b) RGB1 and RGB2 inputs

   c) RGB output
   d) Audio L/R input, Audio output (stereo mini jack)
   e) RS-232 Control
   f) AC input-power cord connection
   g) Main power switch
   h) Kensington™ lock
6. Height Adjustment Feet
7. Lens shutter (open/closed)
8. Projection lens
9. Cooling fan exhaust
10. Carry handle

2.3 System Set Up - connecting various equipment
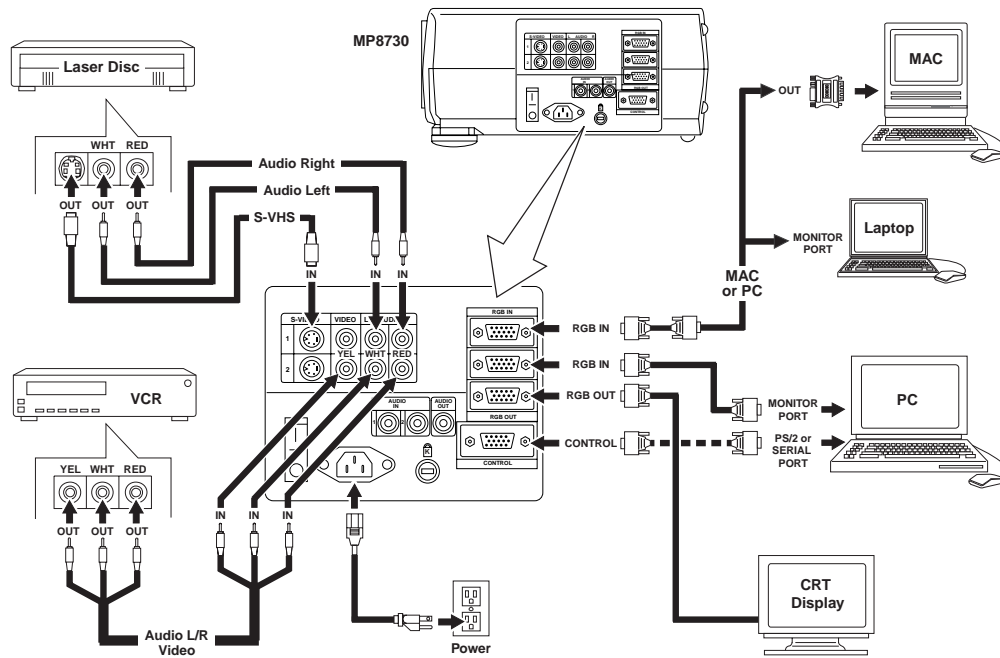
Figure 2.2 Cable Connections

⚠ Caution

Turn power off to all devices before making connections. Never plug anything into the projector or computer while any device is in operation.

The MP8730 must be powered down when making connections. The mouse emulation may not work if the unit is not powered down before the mouse cable connections are made.

2.3.1 **Apple™ Desktop Mouse** - The Macintosh operating system should recognize the MP8730 as a mouse without any drivers being loaded.

VirtualMouse for PC Computer - For IBM™ compatible computers, the operating systems will need to be set to "Serial Mouse" or "PS/2 Mouse" to recognize the projector as a mouse pointer device

Change mouse driver information to "Serial Mouse" or "PS/2 Mouse."

a) *Windows™ 95* - Click "Start"; select "Settings"; select "Control Panel". Click on "Mouse"; select the "General" tab; (see what driver is currently loaded and make note of it); select "Change"; select "Show all devices"; (make note of the current Manufacturer and Model); select "Standard Mouse Type" for Manufacturer; then select "Standard Serial Mouse" or "Standard PS/2 Mouse."   Click OK to change and apply the new driver. Restart Windows when prompted.

b) *Windows™ 3.1* - From "Program Manager" click "Main"; then click "Windows Setup", (make note of what the current mouse driver is); Click "Options"; then "Change Systems Settings". Choose "Mouse". It should be listed as "Microsoft or IBM PS/2".

✔ Note

For proper mouse operation, always turn the projector power on first and then power up the computer.

For some laptop computers you may need to disable the internal pointing device (IPD). This is done through the BIOS level set up of the particular machine, or it could be listed in a "Utilities" program group, i.e., "Toshiba Utilities™," or "Thinkpad Features™."

2.4 Remote Control Transmitter Identification

LASER APERTURE

STANDBY / ON button
Set main power switch to ON.
Press and hold STANDBY/ON button for projector mode (lamp on) or standby mode (lamp off).

ZOOM button
Press +/- to adjust image size.
Note: If needed, move projector closer/further from screen.

FOCUS button
Press +/- to adjust image sharpness.

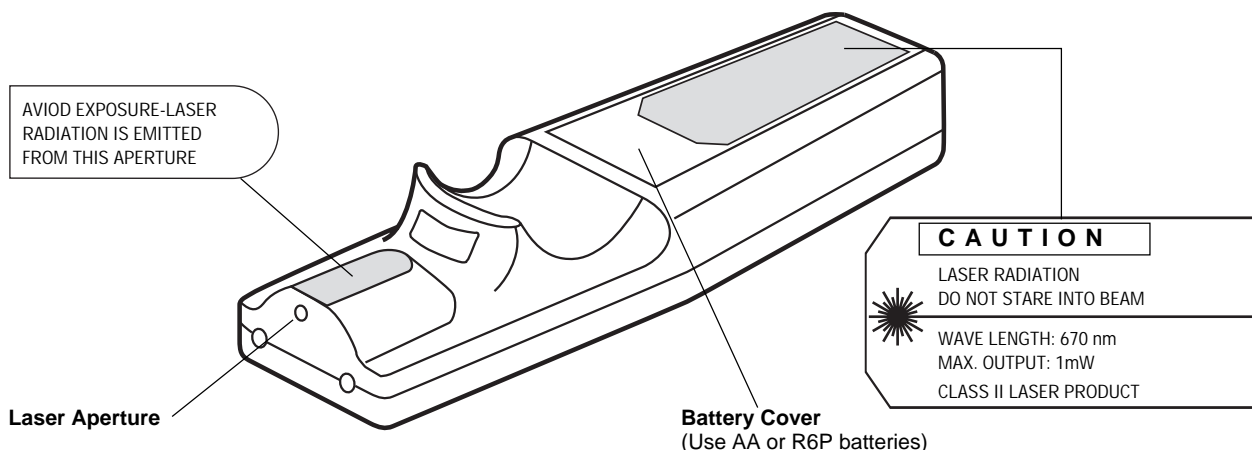**POSITION button**
Press and light POSITION button.
Move DISK PAD to adjust horizontal/vertical image position.

DISK PAD
Select mode, then move DISK PAD to position image, navigate menus or control mouse functions. To select the mode:
• Press and light POSITION button for position mode.
• Press and light MENU ON button for menu mode.

MENU ON button
Press and light MENU ON button to display the Main Menu. Move DISK PAD to select menu and/or adjust screen values.

BLANK ON button
Press BLANK to display a blank background with no image. Press again to return the image to the screen.

INPUT buttons
RGB 1/2: Select computer video input
(RGB1 ➔ RGB2 ➔ RGB1).
VIDEO 1/2: Select video inputs
(VIDEO1 ➔ VIDEO2 ➔ VIDEO1).

MUTE button
Press MUTE to switch the audio sound ON or OFF

VOLUME button
Press +/- to adjust internal/external speaker volume.

LASER POINTER
Press and hold down button to project laser pointer.

⚠ **CAUTION**
To prevent injury to eyesight, do not point laser beam at other persons or look directly into laser beam.

LEFT MOUSE button

Backside of Remote

RESET / RIGHT MOUSE button
RESET: When a menu is being displayed, press RESET to return menu value to factory setting.
RIGHT MOUSE: When computer image is being displayed, press for right mouse button function.

MOUSE ON button
Press MOUSE ON button to activate mouse mode. Move DISK PAD to control mouse functions.

TIMER ON / OFF button
Press TIMER to display and start the timer as set in OPT menu setting. Note: Timer will not display on a blank screen. To remove TIMER display press again.

Remote control panel labels: STANDBY/ON, MUTE, FOCUS, ZOOM, VOLUME, POSITION ON, LASER, RESET, RIGHT, MENU ON, MOUSE ON, BLANK, TIMER, RGB1/2, VIDEO1/2, INPUT

AVIOD EXPOSURE-LASER RADIATION IS EMITTED FROM THIS APERTURE

C A U T I O N
LASER RADIATION
DO NOT STARE INTO BEAM
WAVE LENGTH: 670 nm
MAX. OUTPUT: 1mW
CLASS II LASER PRODUCT

Laser Aperture

Battery Cover
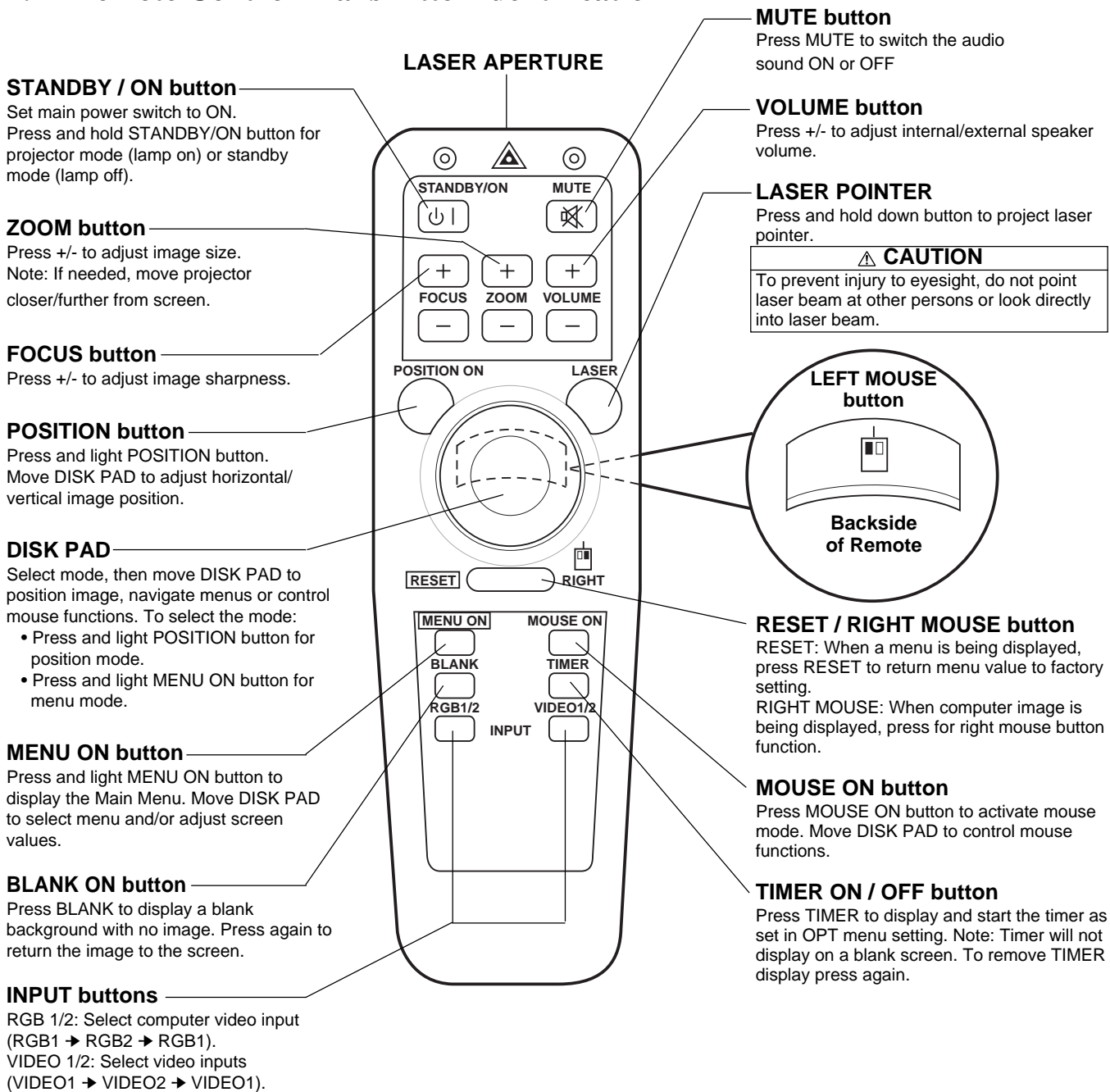(Use AA or R6P batteries)

Figure 2.3 Remote Control Buttons

Section 3: Basic Operations

3.1 Projector Startup

Figure 3.1 Projector Controls

1. **Make all cable connections and line hookups with the power off.**

2. **Turn the POWER SWITCH** ⬚ **of the projector on.** The ON indicator will light up orange.

3. **Move the LENS SHUTTER CONTROL** ⬚ **to the open position.**

4. **Press the STANDBY/ON button** ⬚ **.** The ON indicator blinks (green) and then lights (green). The ON indicator will blink green during warm-up and lamp ignition.

5. **Adjust the screen size using the ZOOM button** ⬚.

6. **Adjust the focus using the FOCUS button** ⬚ **.**
   A) Press the FOCUS button. The on-screen display shown on the right appears.
   B) Adjust the focus so that the picture is sharp using the FOCUS button.

7. **Turn on all connected equipment.** The method of connecting various equipment, see section 2.3.

8. **Press the INPUT button** ⬚ **on the projector or the INPUT SELECT (VIDEO or RGB) button on the remote to select the source of the signal to be projected on the screen.** The selected signal input is displayed at the bottom right of the screen. The display will show the **last selected input source** before power was turned off.

3.2 Projector Shutdown

1. **Hold the STANDBY/ON button** ⬚ **for 3-5 seconds.** The ON indicator blinks orange and the lamp turns off. After approximately 1 minute, the fan stops and the indicator stays orange.

2. Turn the **MAIN POWER SWITCH** ⬚ of the projector off.

⚠ Caution
Do not turn off the POWER SWITCH before pressing the STANDBY/ON button. After the STANDBY/ON button is pressed, the fan rotates for about 1 minute to cool the projector.

3. **Close the LENS SHUTTER** ⬚**.** Push up on the lens cover switch to close.

4. **Disconnect cables.**

ENGLISH

4.1   Menu Navigation
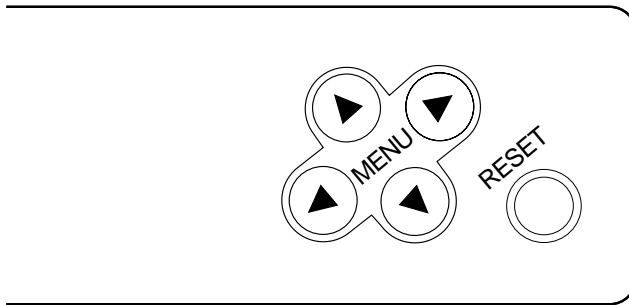
Figure 4.1 Menu Button

1. **Press the MENU button on projector or remote control MENU button.**
    On-screen menus are displayed on the screen.

2. **Select the menu to be adjusted using the MENU (◀ ▶) buttons or DISC PAD**.
    Selected Menu is highlighted.

3. **Select the item to be adjusted using the MENU (▲ ▼ ◀ ▶) buttons or DISC PAD.**
    Highlighted items may be adjusted.

✔ Note

Separate settings are provided for the VIDEO1, VIDEO2, RGB1 and RGB2 input terminals. Adjustments are saved after power off.

Factory Default Setting:

1. **Highlight SETUP option.**

2. **To reset the entire SETUP menu**
    • Press the RESET button.
    • Select DEFAULT or CANCEL.

3. **To reset a single item from SETUP menu**
    • Select the adjustment item (brightness, contrast...)
    • Press the RESET button. **Only the selected item resets.**
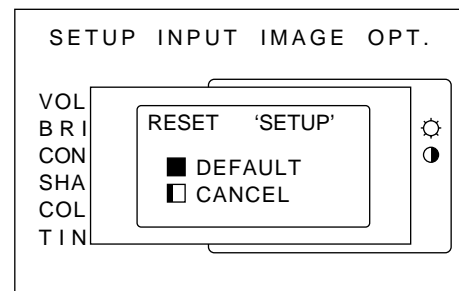
Figure 4.2 Default Settings

4.2 How To Use Height Adjustment

Adjust the image elevation using the height adjustment at the front of the projector.

1.   Raise the front end of the projector so the feet are not touching the table top.

2.   Move the lock lever to the unlock position.

3.   Extend or retract each foot to the desired height.

4.   Move the lock lever to the lock position.

5.   For fine adjustments, rotate each foot.

⚠ Caution
Do not unlock the foot adjusters if the projector is not supported. If the foot adjusters do not lock completely, turn the foot adjusters slightly before locking.

Front view

unlock ←   → lock

Foot adjusters
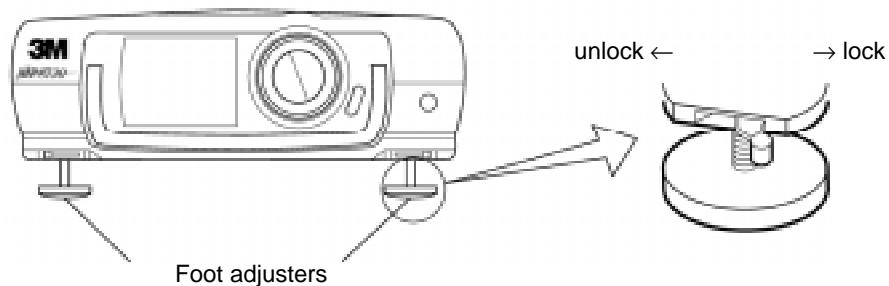
Side view
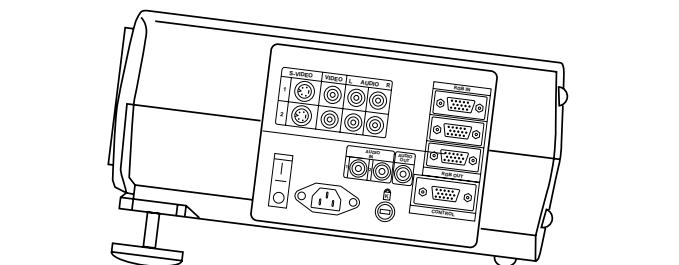
Figure 4.3 Height Adjustment

4.3 SETUP

The SETUP sub-menu is used to adjust and move the image position. The projector will display either the RGB (Figure 4.4) or Video (Figure 4.5) menu according to the input source being projected.

RGB signal input

```
┌─────────────────────────────────┐
│ ┌─────┐                          │
│ │SETUP│ INPUT  IMAGE  OPT.       │
│ └─────┘                          │
│                                  │
│ VOLUME      � ██████░░░░░░        │
│ BRIGHT      ████████░░░░   ☼     │
│ CONTRAST    ████████░░░░   ◐     │
│ V.POSIT         121        ⊟     │
│ H.POSIT          57        ⊡     │
│ H.PHASE           7              │
│ H.SIZE          800        ⊟     │
│ COLOR  BAL  ████████░░░░         │
└─────────────────────────────────┘
```

Figure 4.4 RGB Signal

Video signal input
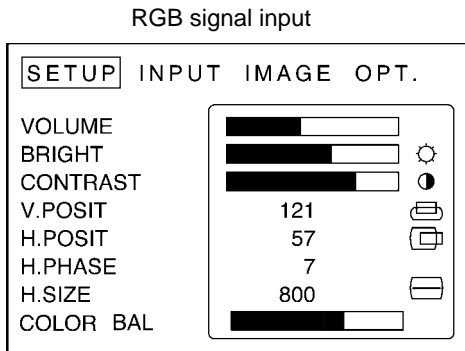
```
┌─────────────────────────────────┐
│ ┌─────┐                          │
│ │SETUP│ INPUT  IMAGE  OPT.       │
│ └─────┘                          │
│                                  │
│ VOLUME      ██████░░░░░░          │
│ BRIGHT      ████████░░░░   ☼     │
│ CONTRAST    ████████░░░░   ◐     │
│ SHARPNESS   ███████░░░░░          │
│ COLOR       ███████░░░░░          │
│ TINT        ███████░░░░░          │
│ COLOR  BAL  ███████░░░░░          │
└─────────────────────────────────┘
```
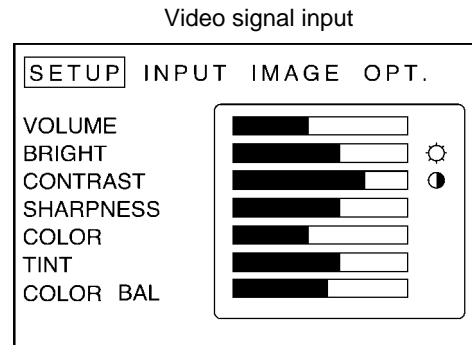
Figure 4.5 Video Signal

Adjustment Item	Details of adjustment	Default
VOLUME	Decrease ⟵⟶ Increase	████░░░░
BRIGHT (BRIGHTNESS)	Dark ⟵⟶ Bright	███░░░░░
CONTRAST	Lower ⟵⟶ Higher	███░░░░░
SHARPNESS	Soft ⟵⟶ Sharp	███░░░░░
COLOR	Less ⟵⟶ More	███░░░░░
TINT	Red ⟵⟶ Green	███░░░░░
V.POSIT (V.POSITION)	Moves the picture up or down.	———
H.POSIT (H.POSITION)	Moves the picture left or right.	———
H.PHASE	Decreases the picture flicker	———
H.SIZE	Widens or Narrows the horizontal size of picture	———
COLOR BAL	Red ⟵⟶ Blue	███░░░░░

✔ **Note**
- TINT cannot be adjusted with a PAL or M-PAL video signal input.
- TINT, COLOR and SHARPNESS cannot be adjusted with an RGB signal input.
- V. POSIT, H. POSIT, H. PHASE and H. SIZE cannot be adjusted with a VIDEO signal input.

4.4 INPUT

The menu INPUT sub-menu (Figure 4.6) is used to select the input source. The VIDEO1 and VIDEO2 values (Figure 4.7) have additional values that can be selected.
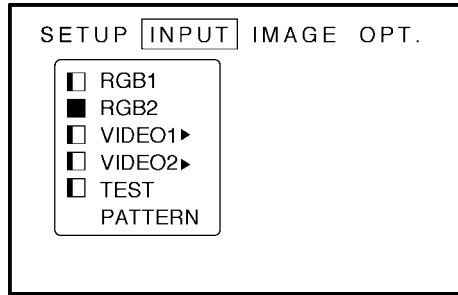
Figure 4.6 Input Menu
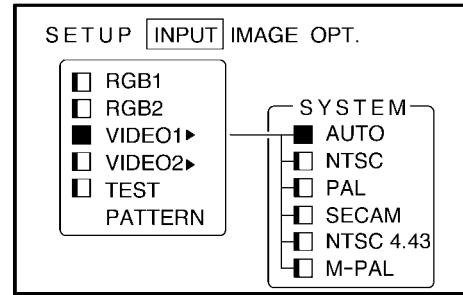
Figure 4.7

Adjustment Area	Value	Value Screen	Value
RGB1	Selects the RGB1 terminal		
RGB2	Selects the RGB2 terminal		
Video1	Select the VIDEO1 or VIDEO2 terminal	System	Selects the video signal format Auto, NTSC, PAL, SECAM, NTSC, 4.43, M-PAL
Video2			
Test Pattern	Selects the TEST PATTERN. (Start up Screen)		

4.5 IMAGE

The IMAGE sub-menu is used to change the image characteristics.

```
SETUP  INPUT  IMAGE  OPT.


        MIRROR    ▶
        BLANK     ▶
        REVEAL    ▶
        MESSAGE   ▶
```

```
SETUP  INPUT  IMAGE  OPT.


  MIRROR   ■ NORMAL
           □ H:INVERT
           □ V:INVERT
           □ H&V:
               INVERT
```

```
SETUP  INPUT  IMAGE  OPT.


  BLANK   □ WHITE
          ■ BLUE
          □ BLACK
```

```
SETUP  INPUT  IMAGE  OPT.


  REVEAL   ■ FAST
           □   ↑
           □ MEDIUM
           □   ↓
           □ SLOW
```

```
SETUP  INPUT  IMAGE  OPT.


  MESSAGE   □ TURN ON
            ■ TURN OFF
```
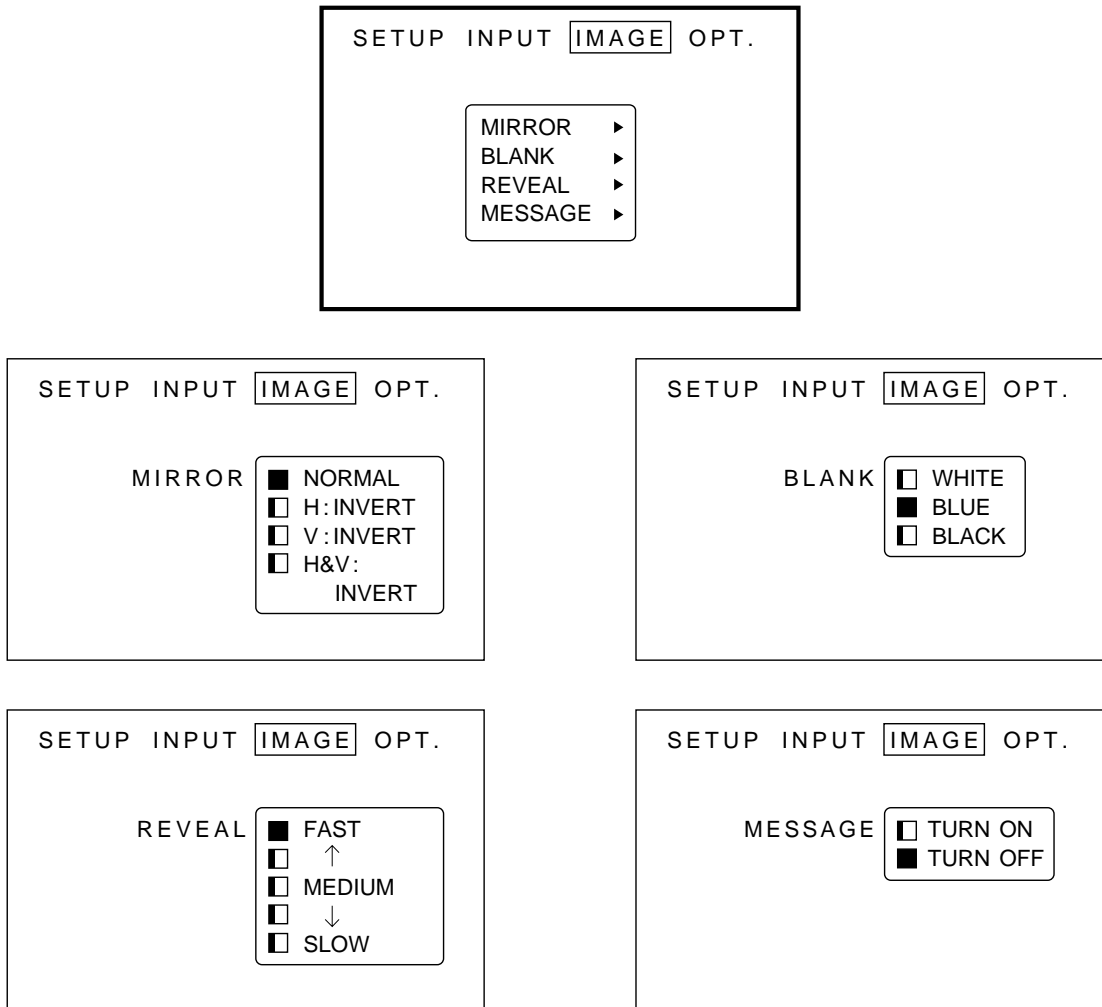
Figure 4.8 Image Adjustment Screens

Adjustment Screen	Value

MIRROR	Inverts the picture horizontally or vertically.
	    H : INVERT Inverts the picture horizontally.
	    V : INTERT Inverts the picture vertically.
	  H&V : INVERT Inverts the picture horizontally and vertically.

BLANK	Selects the blank color.
REVEAL	Selects reveal speed.
MESSAGE	Turn ON or OFF on-screen messages.

4.6 OPT

The OPT. sub-menu allows you to control communication function.

```
SETUP  INPUT  IMAGE  OPT.


                    COM. SPEED ▶
                    COM. BITS    ▶
                    TIMER          ▶
                    LANGUAGE   ▶
                    AUTO OFF    ▶
                    STARTUP     ▶
```

```
SETUP  INPUT  IMAGE  OPT.


    COM. SPEED  ■    1200
         (bps)  □    2400
                □    4800
                □    9600
                □   19200
```
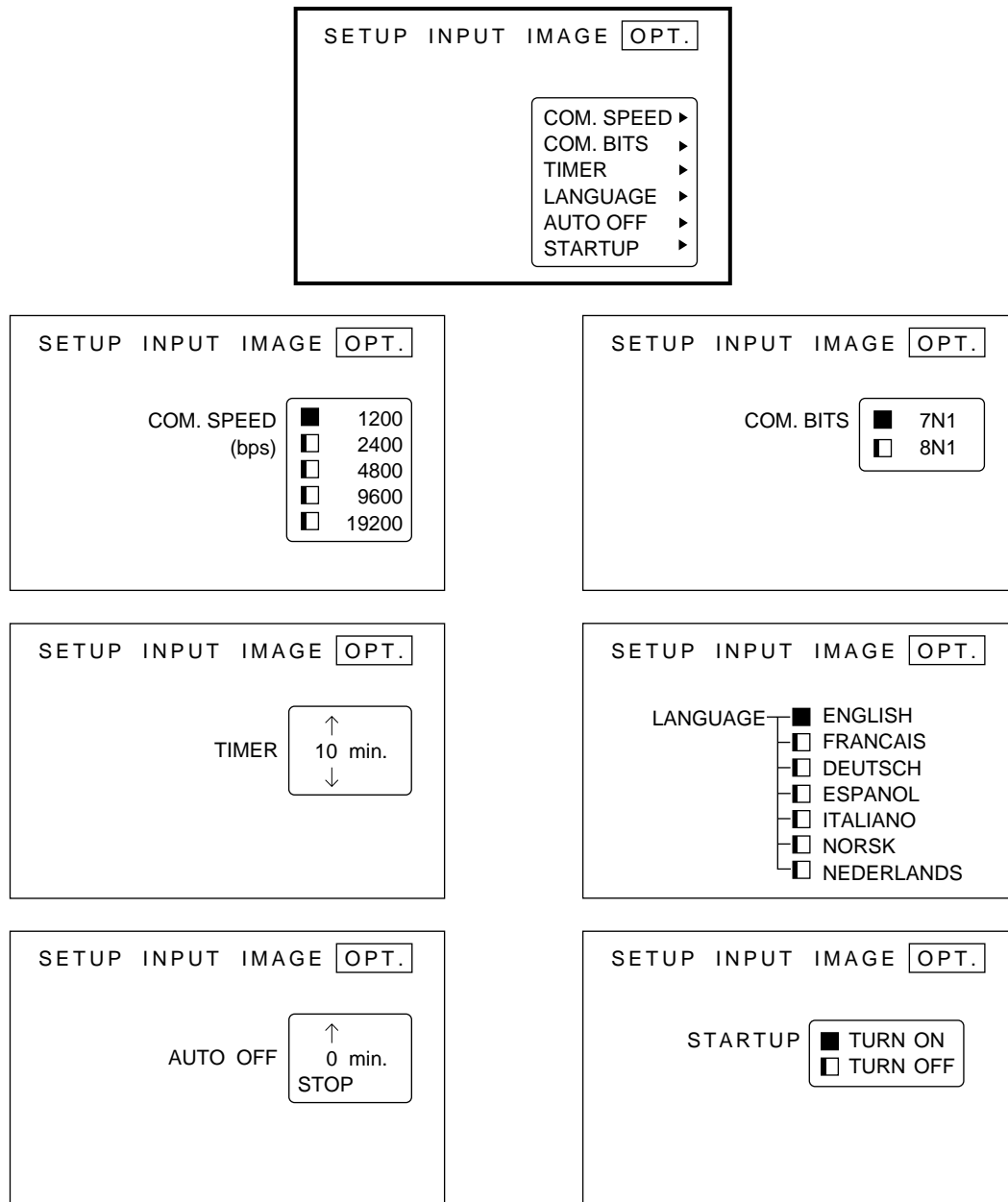
```
SETUP  INPUT  IMAGE  OPT.


    COM. BITS  ■   7N1
               □   8N1
```

```
SETUP  INPUT  IMAGE  OPT.


                    ↑
    TIMER      10  min.
                    ↓
```

```
SETUP  INPUT  IMAGE  OPT.


    LANGUAGE ─■ ENGLISH
             ─□ FRANCAIS
             ─□ DEUTSCH
             ─□ ESPANOL
             ─□ ITALIANO
             ─□ NORSK
             ─□ NEDERLANDS
```

```
SETUP  INPUT  IMAGE  OPT.


                    ↑
    AUTO  OFF   0  min.
             STOP
```

```
SETUP  INPUT  IMAGE  OPT.


    STARTUP  ■ TURN ON
             □ TURN OFF
```

Figure 4.9 OPT Adjustment Screens

ADJUSTMENT SCREEN	VALUE	DEFAULT
COM. SPEED	Selects the data speed of transmission. (For mouse emulation-1200)	1200
COM. BITS	Selects the data format of transmission. 7N1... 7 data-bits, No parity, 1 stop bit. (For mouse emulation-7N1) 8N1... 8 data-bits, No parity, 1 stop bit.	7N1
TIMER	Sets the timer (in minutes).	—
LANGUAGE	Selects the language on-screen menu. (English, French, German, Spanish, Italian, Norwegian, Dutch)	—
AUTO OFF	Selects how long projector will stay on, if no input is detected. Select 0 to disable this function.	—
START UP	Enable/Disable Startup Screen.	TURN ON

ENGLISH

5.1   Cleaning the Air Filter

✔ **Note**

Clean the air filter about every 50 hours.

---

1.   Turn off the **MAIN POWER** switch of the projector and pull out power cord. Let cool for 20 minutes.

2.   Remove the air filter from the bottom of projector. Unscrew two retaining screws **(1)** and pull down and out **(2)** on the handle to free air cleaner door. Lift air filter door up and out **(3)** and set it aside.
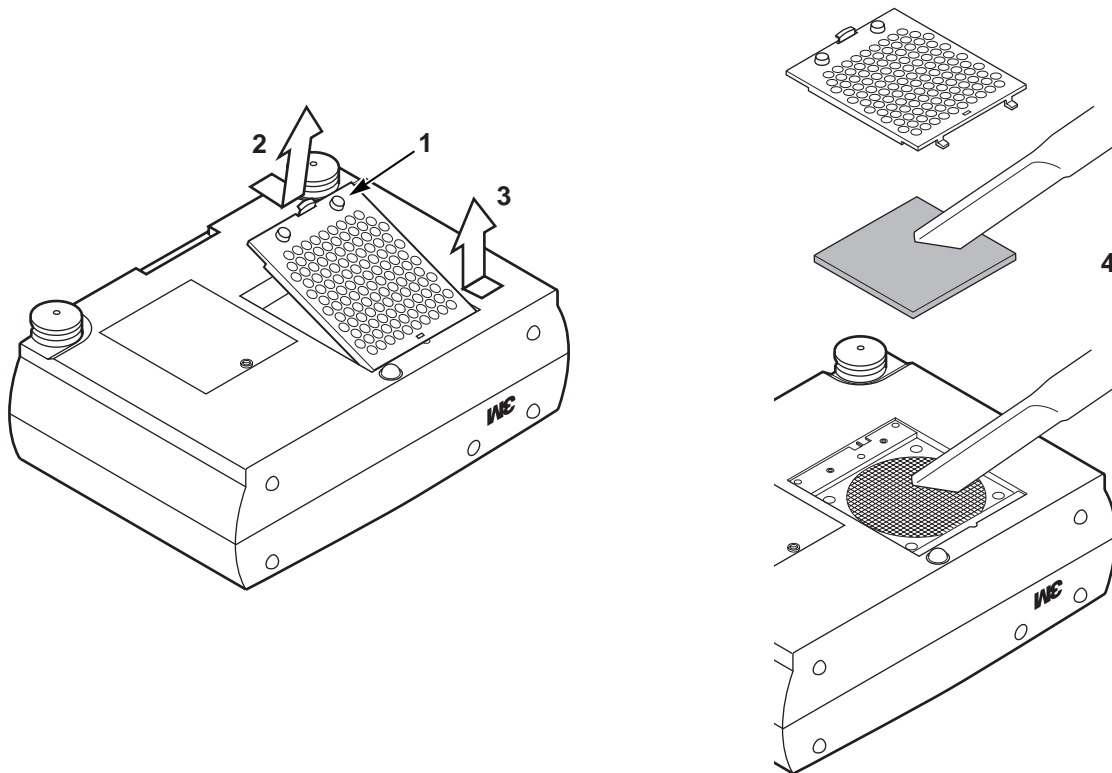
Figure 5.1 Remove Air Filter

3.   Carefully remove foam air filter Screen **(4)** and clean foam screen and metal screen using a vacuum cleaner.

4.   After filter dries completely, re-install the air filter and replace the air filter door.

✔ **Note**

If air flow is restricted due to dust accumulation on filter, the projector may shut down due to over heating.

6.1 Lamp

The following symptoms may indicate a lamp in need of replacement:

- LAMP indicator lights up red.
- "CHANGE THE LAMP" message appears on the screen.

6.2 Display Lamp Operation Hours

To determine the lamp operation hours, follow these steps:

1. While the projector is running, press and hold the timer button on the remote control for 3 seconds.

2. The operating time of the lamp will be displayed. If the operating hours are greater than 1,900 the "CHANGE THE LAMP" message will appear. If the hours are greater than 1,980 the following message will appear, "POWER WILL SHUT OFF IN **20** HOURS" The number of hours left until shut down will decrease until **0** hour is reached, then power will be turned off.

✔ Note

After 2000 hours, the projector will only run for 10 minute intervals when restarted until the lamp is replaced and the lamp timer is reset. The message "CALL A MAINTENANCE PERSON" will blink at projector start up to remind you to change the lamp.

---

3. To reset the timer, press the reset button and select **0** (or CANCEL). The "CHANGE THE LAMP" message will not come up if the timer is reset.

6.3 Replacing the Lamp

⚠ WARNING

Always turn off and unplug projector when changing lamp.

Lamp and adjacent metal parts become extremely hot and can cause severe burns to your fingers. Allow the projector to cool for at least 30 minutes before replacing the lamp.

---

1. **Remove lamp access door:** The lamp access door is located on the bottom of the machine on the right side. Use screwdriver to unscrew the cover retaining screw **(1)** and gently open the cover and set it aside.

2. **Retaining screws:** Use a screwdriver to unscrew the lamp module retaining screws. **(2)**

✔ Note

There are three lamp module screws that must be loosened. These screws are self-containing screws that cannot be removed from the lamp module.
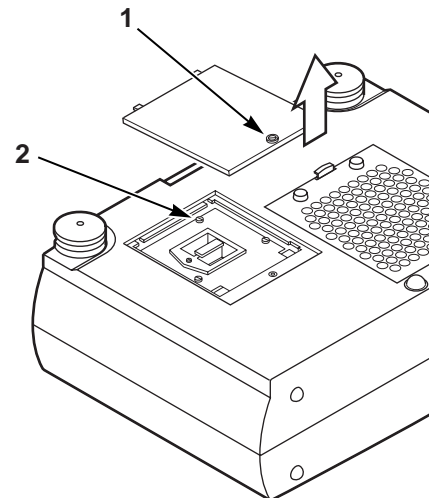
Figure 6.1 Lamp Door

3. **Remove lamp module:** Grasp the lamp module with hand and the projector body with the other hand. Carefully slide the lamp module out **(3)** using steady pressure.

4. **Insert lamp module:** Carefully insert the new lamp module. Ensure that it is fully seated.

   Tighten the lamp module retaining screws to secure the lamp module in place.

   Insert the hinge tabs on the left side of the lamp access door, then close and tighten the retaining screws to secure the door.

Figure 6.2 Lamp Module

✔ **Note**
Reset the lamp operation hours. See section 6.2 for details.

Section 7: Troubleshooting
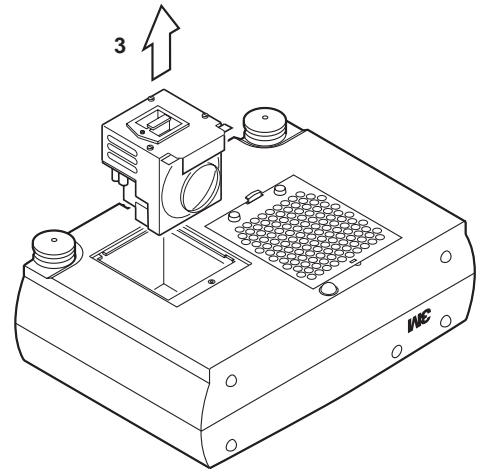
7.1 Sympton/Solution Table

Symptom	Cause	Solution
Power cannot be turned on.	• The Main power is not turned on. • The power cord is disconnected.	• Turn the MAIN POWER switch on. • Insert the power cord into an AC socket.
No picture and sound	• The setting of the input source is not correct. • RGB/Video/Audio wiring to projector is not correct.	• Set the correct input using the input select button of the projector or the remote control. • Connect the cable to correct input/output source.
Sound is heard with no picture	• RGB/Video wiring to projector is not correct. • The brightness is set fully to dark.	• Connect the cable to correct input/output source. • Press the MENU button and increase BRIGHTNESS.
Picture is displayed with no sound	• Audio wiring to projector is not correct. • The volume is set to minimum. • The unit is muted.	• Connect the cable to correct input/output source. • Press the VOL button and increase VOLUME. • Press the MUTE button.
Color is weak and tint is incorrect	• The color and tint have been adjusted incorrectly.	• Adjust the color and tint correctly.
Picture is dark	• The brightness and contrast has been adjusted incorrectly. • The lamp needs to be replaced.	• Adjust the brightness and contrast correctly. • Replace the lamp with a new one.
Picture is not clear	• Projector is out of focus.	• Adjust the focus.
LAMP indicator lights red.	• Lamp will not ignite.	• Turn off power and let cool for 20 minutes, then restart. • If problem persists call your dealer.
TEMP indicator lights red.	• Temperature inside projector is too hot.	• Do not block the ventilation holes. • Clean air filter
LAMP indicator blinks red	• Air filter door on bottom of case is open.	• Ensure air filter door is closed.

7.2 Message/Solution Table

Error Message Displays	Cause	Solution
NO INPUT IS DETECTED	The projector is not detecting a signal.	Check cable connections to input device. Input device not connected to this input mode, switch to next mode.
SYNC IS OUT OF RANGE	The horizontal frequency of input signal exceeds projector capability.	Switch projector to correct resolution. See Appendix A.5
CHANGE THE LAMP	Lamp operation time is greater than 1,900 hours.	Change the projector lamp and reset the lamp operation hours to zero.
CALL A MAINTENANCE PERSON	Lamp operating time is greater than 2000 hours. Safety feature shuts projector down after 10 minutes.	Change the projector lamp and reset the lamp operation hours to zero.

7.3 Service Information

For product information, product assistance, service information, or to order accessories, please call:

In U.S. or Canada: **1-800-328-1371**
In other locations, contact your local 3M Sales office.

Accessories   Part Number

Metal halide lamp module, 260 W 78-6969-8461-2
Power cord (US) 26-1011-8852-7
Power cord (UK) 78-8118-3304-1
Power cord (Germany) 78-8118-3303-3
VGA cable 78-8118-3401-5
MAC adapter 78-1011-3308-2
S-video cable 26-1011-3419-0
3-conductor video/audio cable 78-8118-3306-6
Serial mouse cable 78-8118-3426-2
PS/2 mouse cable 78-8118-3424-7
ADB mouse cable 78-8118-3425-4
Stereo mini jack cable 26-1012-0683-2
Remote Control 78-8118-3402-3
Ceiling mount 78-6969-8357-2
Adjustable height suspension 78-6969-8312-7
Shipping case 78-6969-8347-3
Soft carry case 78-6969-8346-5
Soft travel case with wheels 78-6969-8130-3

Not Included with Basic Packet   Part Number

RS-232 control cable 78-8118-3312-4

How to Order

Please order these parts through your dealer, or contact 3m Customer Service at the following number:

In U.S. or Canada: **1-800-328-1371**

In other locations, contact your 3M Sales office.

The contents of this manual are subject to revision without prior notice.

3M assumes no responsibility for the infringement of special rights of a third party or other rights that may arise out of the information contained in this manual.

Reproduction of this manual in any form without prior permission is strictly prohibited.

3M will replace the manual if any pages are missing or collated incorrectly.

Table of Contents

A.1   Technical Specifications

✔ **Note**

All specifications are subject to change without notice.

Product name		Multimedia projector
Model Name		MP8730
Display system		3 beam poly-silicon LCD
Liquid crystal panel	Panel size	1.3 inches (33 mm)
	Drive system	TFT active matrix
	Number of pixels	786,432 pixels (V768 × H1024) per panel. 2.36 million total pixels with 3 panels.
Lens		F/Number: F/2.3 – F/3.0 Focal Length: F = 48.1 – 72.1 mm (1.9" – 2.8")
Lamp		Metal halide lamp 260W
Speaker (stereo)		2 watts each
Power supply		AC100 ~ 120V, 5A / AC220 ~ 240V, 2.2A (Universal)
Power consumption		370W
Operating temperature range		32° ~ 95°F (0° ~ 35°C)
Dimensions		16.3" (W) × 5.9" (H) × 12.0" (D) 414 mm (W) x 150 mm (H) x 305 mm (D)
Weight		18.6 lbs. (8.4 kg)
Input/Output terminal	video signal input terminal	S VIDEO : Mini DIN4-pin terminal VIDEO : RCA Jack terminal AUDIO : RCA Jack terminal
	RGB input/output signal terminal	RGB signal : D-sub 15pin (Female) AUDIO : Stereo mini jack
	Control terminal	D-sub 15pin (Male)

A.2   Dimension

16.3 in (415 mm)

12.0 in (305 mm)

10.1 in (260 mm)

1.6 in (40 mm)

5.9 in (150 mm)

3M
MP8730

12.6 in (320 mm)
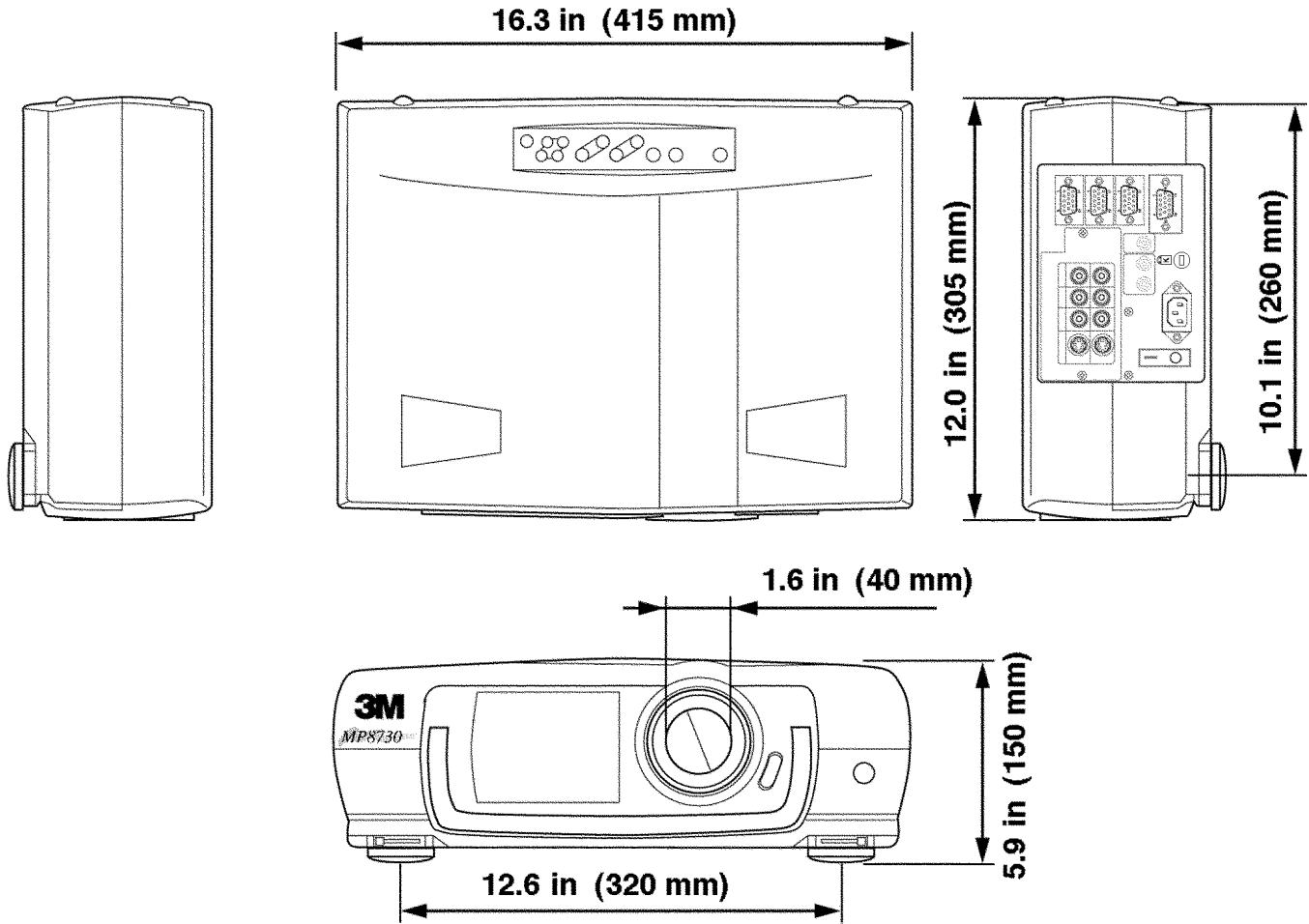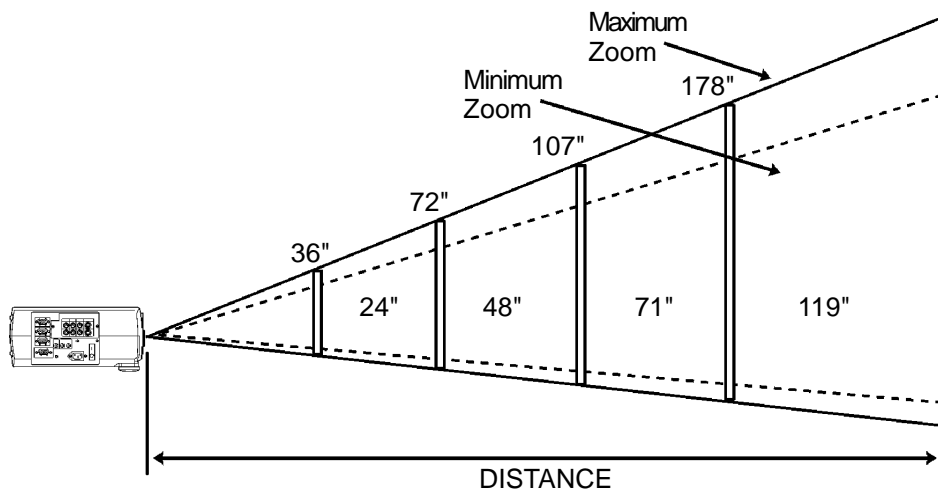
A.3 Projector-to-Screen Distance

Example of the Multimedia projector and screen installation. Determine picture size and projection distance as illustrated below.

| Distance To Screen	Minimum Image			Maximum Image		
	Diagonal	Width	Height	Diagonal	Width	Height
227 cm (7.4 ft)	102 cm (40 in.)	81 cm (32 in.)	61 cm (24 in.)	153 cm (60 in.)	122 cm (48 in.)	92 cm (36 in.)
341 cm (11.2 ft)	152 cm (60 in.)	121 cm (48 in.)	91 cm (36 in.)	228 cm (90 in.)	183 cm (72 in.)	137 cm (54 in.)
455 cm (15 ft)	202 cm (80 in.)	162 cm (64 in.)	121 cm (48 in.)	304 cm (120 in.)	243 cm (96 in.)	182 cm (72 in.)
569 cm (18.7 ft)	252 cm (99 in.)	202 cm (79 in.)	151 cm (60 in.)	379 cm (149 in.)	303 cm (119 in.)	227 cm (90 in.)
682 cm (22.4 ft)	302 cm (119 in.)	241 cm (95 in.)	181 cm (71 in.)	454 cm (179 in.)	363 cm (143 in.)	272 cm (107 in.)
853 cm (28.0 ft)	377 cm (148 in.)	302 cm (119 in.)	226 cm (89 in.)	556 cm (223 in.)	453 cm (178 in.)	340 cm (134 in.)
1137 cm (37.3 ft)	502 cm (198 in.)	402 cm (158 in.)	301 cm (119 in.)	755 cm (297 in.)	604 cm (238 in.)	453 cm (178 in.)

✔ **Note**

These sizes are ± 1 inch. This is due to variations in the manufacture of the lens. If you are close to one of the endpoints you should verify with your unit that the image is the proper size at the proper distance.

A.4 Connection to the Video Signal Terminal

a)   **Input signal**

S-VIDEO signal	Luminance signal	1.0Vp-p, 75 Ω termination
	Chrominance signal	0.286Vp-p (burst signal), 75 Ω termination
VIDEO signal		1.0Vp-p, 75Ω termination
AUDIO signal	Input	200mVrms, 20 kΩ below (MAX 3.0Vp-p)
	Output	0~200mVrms, 1k Ω

b)   **Signal input terminal**

S VIDEO input (Mini DIN4 pin)
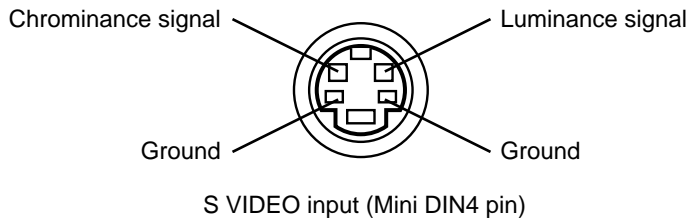
✔ Note

Video input signal terminals have priority in the following order:
1. S-VIDEO input terminal
2. RCA jack (composite) input terminal

A.5 Connection to the RGB Signal Terminal

a)   **Input signal / Output signal**

|		
Video signal		Analog 0.7Vp-p 75 Ω termination (Positive polarity)
Horizontal sync signal		TTL level (Positive/negative polarity)
Vertical sync signal		TTL level (Positive/negative polarity)
Composite sync signal		TTL level
Audio signal	Input	200mVrms, 20k Ω below (MAX 3.0Vp-p)
	Output	0 ~ 200mVrms, 1k Ω

b)   **Signal input terminal / output terminal**

1	Video signal (Red)	9	N.C
2	Video signal (Green)	10	Ground
3	Video signal (Blue)	11	Ground
4	N.C	12	SDA (DDC)
5	N.C	13	Horizontal/Composite sync signal
6	Ground (for R)	14	Vertical sync signal
7	Ground (for G)	15	SCL (DDC)
8	Ground (for B)		

c) Example of computer signal

Resolution HxV	Refresh Rate	Horizontal Frequency	Standard Type	Note	Display Dots HxV
640 x 350	70.1 Hz	31.6 kHz		VGA-1	1024 x 560
640 x 400	56.4 Hz	24.8 kHz		NEC P89801	1024 x 640
640 x 400	70.1 Hz	31.8 kHz		VGA-2	1024 x 640
640 x 480	86.0 Hz	43.3 kHz	VESA		863 x 640
640 x 480	59.0 Hz	31.6 kHz	VESA	VGA-3	1024 x 768
640 x 480	66.7 Hz	35.0 kHz		MAC 13"	1024 x 768
640 x 480	72.8 Hz	37.9 kHz	VESA		1024 x 768
640 x 480	78.0 Hz	35.7 kHz	VESA		1024 x 768
800 x 600	58.3 Hz	36.2 kHz	VESA		1000 x 750
800 x 600	60.3 Hz	37.9 kHz	VESA		1000 x 750
800 x 600	72.2 Hz	48.1 kHz	VESA		1000 x 750
800 x 600	75.0 Hz	46.9 kHz	VESA		1000 x 750
800 x 600	85.1 Hz	53.7 kHz	VESA		800 x 600
832 x 824	74.5 Hz	49.7 kHz		MAC 16"	980 x 735
1024 x 768	43.5 Hz Interlaced	35.5 kHz	VESA	Compressed	853 x 640
1024 x 768	60.0 Hz	48.4 kHz	VESA		1024 x 768
1024 x 768	70.1 Hz	56.5 kHz	VESA		1024 x 768
1024 x 768	75.0 Hz	60.0 kHz	VESA		1024 x 768
1152 x 864	75.0 Hz	67.5 kHz	VESA	Compressed	960 x 720
1280 x 960	60.0 Hz	60.0 kHz	VESA	Compressed	1024 x 768
1280 x 1024	60.0 Hz	64.0 kHz	VESA	Compressed	960 x 768
1280 x 1024	75.0 Hz	80.0 Hz	VESA	Compressed	960 x 768

Note 1: MAC adapter is necessary to set the resolution mode. Projector is compatible with 13 inch mode and 16 inch mode.

Set all dip switches OFF except those indicated in the chart. For example:

MAC 13" mode = switch 1, 5 and 6 are ON
MAC 16" mode = switch 2, 5 and 6 are ON
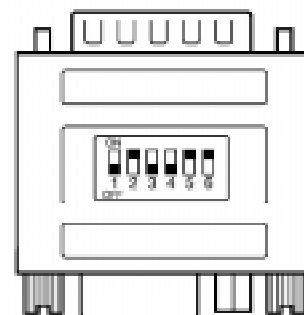
(Example of 16 inch mode)

Note 2: Some input sources may not be displayed properly because they are not compatible with the projector.

ENGLISH

A.6   Indicator Status

The ON, LAMP and TEMP indicators will light or blink in the following cases:

	Indicator status	Meaning	Remedy
ON indicator	Lights orange	Standby mode	normal
	Blinks green	During warming up	normal
	Lights green	During operation	normal
	Blinks orange	During cooling down	normal
LAMP indicator	Lights red	Lamp cannot light	Cool projector by power off for 20 minutes.
	Blinks red	Air filter open	Ensure filter is closed.
TEMP indicator	Lights red	Temperature inside too high	Let projector cool 20 minutes. Check air flow and filter.
	Blinks red	Cooling fan not operating	call your dealer

*When the LAMP indicator lights or blinks, turn the power off. If the problem persists, contact your dealer.

A.7   Connection to the Control Signal Terminal

a)   Mouse emulation

(1) While the projector and computer are turned OFF, connect the projector and the mouse terminal of computer using an appropriate cable. (PS/2, Serial or ADB)

(2) Turn ON the projector.

(3) Turn ON the computer.

(4) Select the correct mouse driver for the application. See computer's User Manual for this procedure.
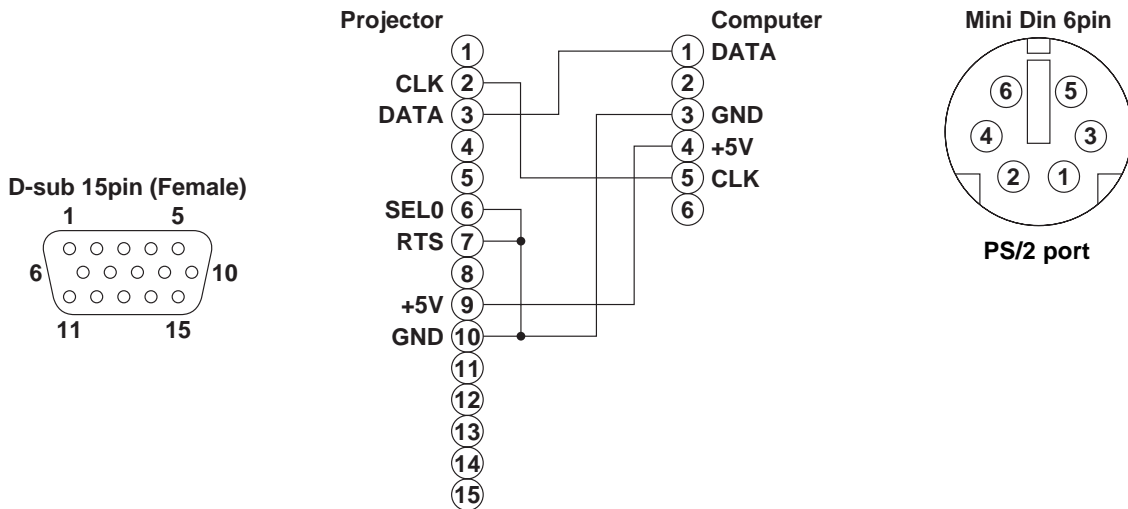

✔ **Note**

In some Notebook computers which have internal pointing device, mouse emulation will not work unless the internal pointing device is disabled. In this case, disable the internal pointing device in BIOS setting. Check the computer's manual for procedure to follow to disable internal pointing device in BIOS setting.
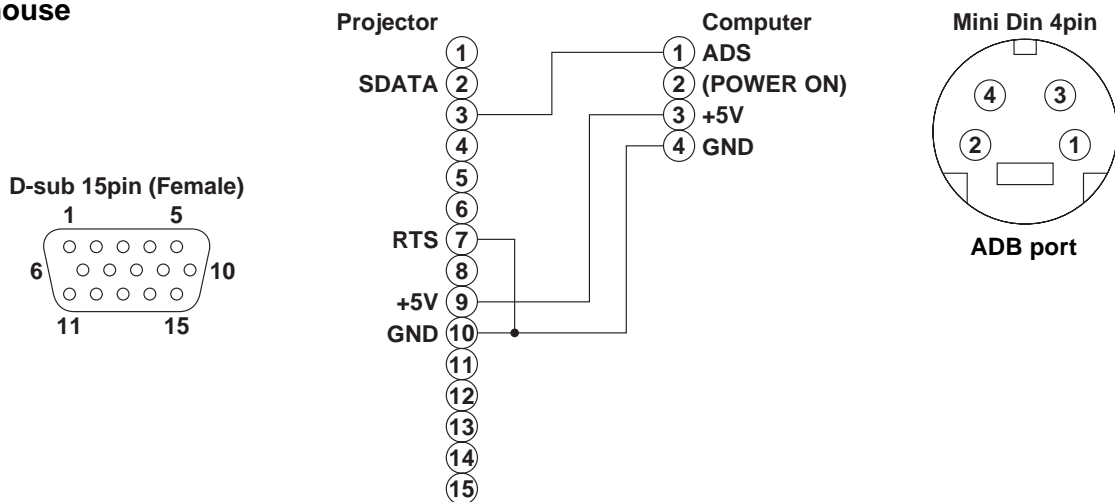

⚠ **Caution**

Turn off the power to both the projector and computer before connecting. Connect the computer to the control terminal of the projector using the appropriate cable.
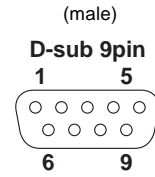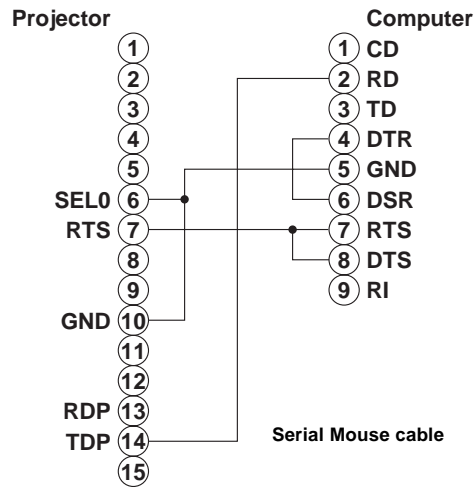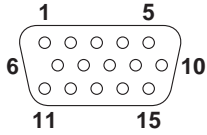

PS/2 mouse

Projector | Computer | Mini Din 6pin

1 — 1 DATA
CLK 2 — 2
DATA 3 — 3 GND
4 — 4 +5V
5 — 5 CLK
SEL0 6 — 6
RTS 7
8
+5V 9
GND 10
11
12
13
14
15

D-sub 15pin (Female)
1   5
6   10
11   15

PS/2 port

ADB mouse

Projector | Computer | Mini Din 4pin

1 — 1 ADS
SDATA 2 — 2 (POWER ON)
3 — 3 +5V
4 — 4 GND
5
6
RTS 7
8
+5V 9
GND 10
11
12
13
14
15

D-sub 15pin (Female)
1   5
6   10
11   15

ADB port

A.7 Connection to the Control Signal Terminal (continued)

Serial mouse

Projector

Projector		Computer	
	1	1	CD
	2	2	RD
	3	3	TD
	4	4	DTR
	5	5	GND
SEL0	6	6	DSR
RTS	7	7	RTS
	8	8	DTS
	9	9	RI
GND	10		
	11		
	12		
RDP	13		
TDP	14		
	15		

D-sub 15pin (Female)
1   5
6   10
11   15

(male)
D-sub 9pin
1   5
6   9

Serial Mouse cable

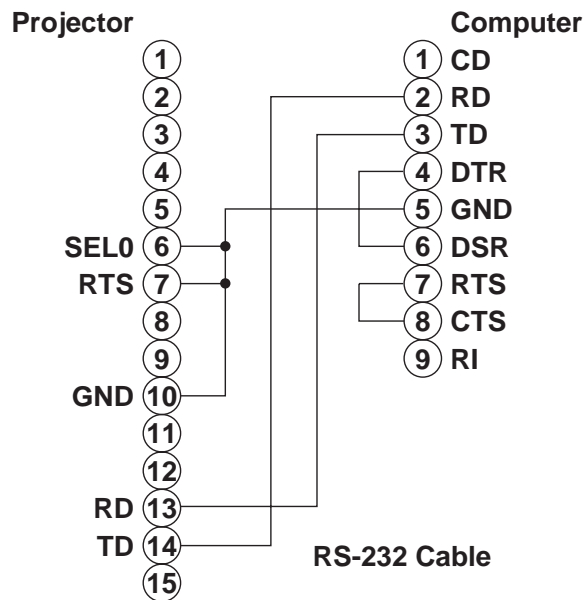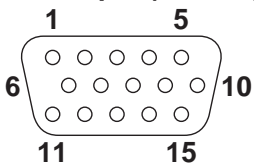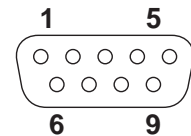## b) RS-232 Control Cable (not included with basic packout)

This cable is used to directly control the projector without using the Remote Control or Operator's Panel.

Projector		Computer	
	1	1	CD
	2	2	RD
	3	3	TD
	4	4	DTR
	5	5	GND
SEL0	6	6	DSR
RTS	7	7	RTS
	8	8	CTS
	9	9	RI
GND	10		
	11		
	12		
RD	13		
TD	14		
	15		

D-sub 15pin (Female)
1   5
6   10
11   15

D-sub 9pin (male)
1   5
6   9

RS-232 Cable

Serial Command Codes

All numbers in this document are in Hexadecimal. You must send at the same communication setting as the projector and use a null modem serial cable to connect to the projector.

There are four types of messages for the MP8730, 1) ASK, 2) REPLY, 3) SET and 4) DEFAULT.
Ask Code:
User:

20	XX

XX is the attribute you are checking.
Projector:

1Y	XX	Y bytes of data

This is a reply code. The Y is the number of extra bytes that come after the command.
The XX is the same as in the Ask code.
Set Code:
User:

3Y	XX	Y bytes of data

XX is the attribute you are checking. The Y is the number of bytes for the data.
Projector:

1Y	XX	Y bytes of data

This is a reply code. The Y is the number of extra bytes that come after the command.
The XX is the same as in the Set code.

Default Code:
User:

40	XX

XX is the attribute you are checking.
Projector:

1Y	XX	Y bytes of data

This is a reply code. The Y is the number of extra bytes that come after the command.
The XX is the same as in the Ask code.

Errors:
For an error, the projector will reply with the same code that was sent but with a 0 in the first nibble.

Serial Command Code Table

Function	Command Code	# Bytes	Data Code	Meaning
Mouse	05	1	00 01-7F	Stop mouse function Enable mouse function
Communication	06	1	0X 1X X0 X1 X2 X3 X4	8N1 7N1 1200 bps 2400 bps 4800 bps 9600 bps 19200 bps
Power	11	1	1E 1F	Power off Power on
Zoom	12	1	01-3F 41-7F	Zoom + Zoom -
Focus	13	1	01-3F 41-7F	Focus + Focus -
Mirror	14	1	00 01 02 03	Normal H Invert V Invert H & V Invert
Input	21	1	11 12 21 22	Video 1 Video 2 RGB 1 RGB 2
Video Type	22	2	00 00 00 01 00 02 00 03	Auto NTSC PAL SECAM
Volume	23	1	00-7F	00 - Softest
Mute	24	1	00 01	Mute off Mute on
Brightness	31	3	00 00 00 - 00 00 7F	7F is high end of scale
Contrast	32	3	00 00 00 - 00 00 7F	7F is high end of scale
Color	33	3	00 00 00 - 00 00 7F	7F is high end of scale
Tint	34	3	00 00 00 - 00 00 7F	7F is green end of scale
Sharpness	35	3	00 00 00 - 00 00 7F	7F is sharp end of scale
H. Phase	37	3	00 00 00 - 00 00 1F	
H. Position	38	4	00 00 00 00 - 00 00 7F 01	7F is right end of scale
H. Size	36	4	00 00 02 06 - 00 00 1E 08	1E 08 is wide end of scale
V. Position	3A	3	00 00 00 00 - 00 00 7F 01	7F 01 is down

Serial Command Code Table (con't)

Function	Command Code	# Bytes	Data Code	Meaning
Blank	41	1	0X 1X bit 0 - 0 bit 0 - 1 bit 1 - 0 bit 1 - 1 bit 2 - 0 bit 2 - 1 bit 3 - 0 bit 3 - 1	Blank off Blank on Blue off Blue on Green off Green on Red off Red on No change Change
Reveal	42	1	0X X1 X4	Stop Reveal down Reveal right X in down and right is 0 - 7 with 7 being the fastest

Let us help you make the most of your next presentation. We offer everything from presentation supplies to tips for better meetings. And we're the only transparency manufacturer that offers a recycling program for your used transparencies. For late-breaking news, handy reference and free product samples, call us toll-free in the continental United States and Canada from 7:30 a.m. to 5:30 p.m. (CST) or visit our Internet Website.

800-328-1371
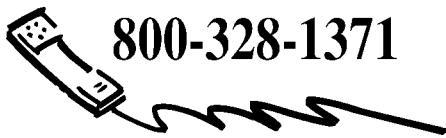
http://www.mmm.com/presentations
e-mail: presentations@mmm.com