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# USER'S MANUAL Vol.2 (Extended)

Thank you for purchasing this projector.

**WARNING** • Please read the accompanying manual “SAFETY INSTRUCTIONS” and this “USER'S MANUAL” thoroughly to ensure correct usage through understanding. After reading, store this instruction manual in a safe place for future reference.

**NOTE** • The information in this manual is subject to change without notice.

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For "TECHNICAL" see the end of this manual.

# MULTIFUNCTIONAL SETTINGS

This device has 8 separate menus: **MAIN, PICTURE-1, PICTURE-2, INPUT, AUTO, SCREEN, OPTION, WIRELESS**. Each of these menus is operated using the same methods. The basic operations of these menus are as follows.

**Menu screen display** : Press the "MENU" button.

**Menu selection** : Use the lever switch  $\uparrow/\downarrow$  to select a menu name, then press the  $\rightarrow$  or ENTER button.

**Item selection** : Use the lever switch  $\uparrow/\downarrow$  to select an item, then press the  $\rightarrow$  or ENTER button.

**Return menu to last previous screen**: Press the  $\leftarrow$  button or the ESC button.

**Execution of settings and/or adjustments**: Perform the operation using the lever switch  $\uparrow/\downarrow$ .

(For further details, read the explanation for each separate menu.)

**Initialization of settings and/or adjustments**: During operation, press the RESET button.

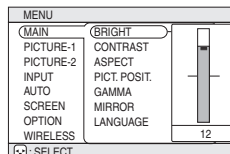
(Functions that are executed at the same time as a selection, including H PHASE, LANGUAGE selection, and ADJUST, will not be reset.)

**End menu operations**: Press the MENU button, or do not perform any operation for several seconds.

## MAIN Menu

With the MAIN menu, the seven items shown in the Table below can be performed.

Perform each operation in accordance with the instructions in the Table.



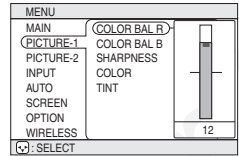
Example : MAIN Menu (BRIGHT)

## MAIN Menu

| Item               | Description   |
|--------------------|---|
| <b>BRIGHT</b>      | <b>Adjust Brightness:</b> Light $\uparrow$ $\leftrightarrow$ $\downarrow$ Dark  |
| <b>CONTRAST</b>    | <b>Adjust Contrast:</b> Strong $\uparrow$ $\leftrightarrow$ $\downarrow$ Weak   |
| <b>ASPECT</b>      | <b>Select Aspect Ratio:</b><br>At RGB Input or Hi-Vision 1125i(1035i/1080i)/750p of COMPONENT VIDEO Input:<br>4:3 $\downarrow$ $\leftrightarrow$ $\uparrow$ 16:9<br>At VIDEO Input, S-VIDEO Input or 525i/525p/625i of COMPONENT VIDEO Input:<br>4:3 $\downarrow$ $\leftrightarrow$ $\uparrow$ 16:9 $\downarrow$ $\leftrightarrow$ $\uparrow$ SMALL<br>• The SMALL picture may not be displayed correctly with certain input signals.   |
| <b>PICT.POSIT.</b> | <b>Select Picture Position (for 16:9/SMALL Picture):</b><br>TOP $\downarrow$ $\leftrightarrow$ $\uparrow$ CENTER $\downarrow$ $\leftrightarrow$ $\uparrow$ BOTTOM   |
| <b>GAMMA</b>       | <b>Select Gamma Mode:</b><br>NORMAL $\downarrow$ $\leftrightarrow$ $\uparrow$ CINEMA $\downarrow$ $\leftrightarrow$ $\uparrow$ DYNAMIC  |
| <b>MIRROR</b>      | <b>Select Mirror Status:</b><br>NORMAL $\downarrow$ $\leftrightarrow$ $\uparrow$ H:INVERT $\downarrow$ $\leftrightarrow$ $\uparrow$ V:INVERT $\downarrow$ $\leftrightarrow$ $\uparrow$ H&V:INVERT   |
| <b>LANGUAGE</b>    | <b>Select Menu Language:</b><br>ENGLISH $\downarrow$ $\leftrightarrow$ $\uparrow$ FRANÇAIS $\downarrow$ $\leftrightarrow$ $\uparrow$ DEUTSCH $\downarrow$ $\leftrightarrow$ $\uparrow$ ESPAÑOL $\downarrow$ $\leftrightarrow$ $\uparrow$<br>ITALIANO $\downarrow$ $\leftrightarrow$ $\uparrow$ NORSK $\downarrow$ $\leftrightarrow$ $\uparrow$ NEDERLANDS $\downarrow$ $\leftrightarrow$ $\uparrow$ 日本語 $\downarrow$ $\leftrightarrow$ $\uparrow$<br>POTUGUÊS $\downarrow$ $\leftrightarrow$ $\uparrow$ 中文 $\downarrow$ $\leftrightarrow$ $\uparrow$ 한글 |

## PICTURE-1 Menu

With the PICTURE-1 menu, the five items shown in the Table below can be performed. Perform each operation in accordance with the instructions in the Table.



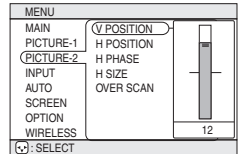
Example : PICTURE1 Menu (COLOR BAL R)

### PICTURE-1 Menu

| Item        | Description  |
|-------------|--|
| COLOR BAL R | <b>Adjust Red Color Balance:</b> Dark  ⇌  Light                            |
| COLOR BAL B | <b>Adjust Blue Color Balance:</b> Dark  ⇌  Light                           |
| SHARPNESS   | <b>Adjust Sharpness (for VIDEO/S-VIDEO):</b> Clear  ⇌  Soft                |
| COLOR       | <b>Adjust COLOR (for VIDEO/S-VIDEO/COMPONENT VIDEO):</b><br>Dark  ⇌  Light |
| TINT        | <b>Adjust Tint (for VIDEO/S-VIDEO):</b> Green  ⇌  Red                      |

## PICTURE-2 Menu

With the PICTURE-2 menu, the five items shown in the Table below can be performed. Perform each operation in accordance with the instructions in the Table.



Example : PICTURE2 Menu (V POSITION)

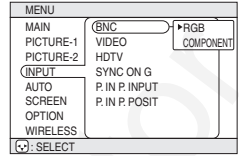
### PICTURE-2 Menu

| Item       | Description  |
|------------|--|
| V POSITION | <b>Adjust Vertical Position (for RGB):</b> Up  ⇌  Down   |
| H POSITION | <b>Adjust Horizontal Position (for RGB):</b> Left  ⇌  Right  |
| H PHASE    | <b>Adjust Horizontal Phase (for RGB/COMPONENT VIDEO):</b><br>Right  ⇌  Left<br>• Adjust to eliminate flicker.  |
| H SIZE     | <b>Adjust Horizontal Size (for RGB):</b> Large  ⇌  Small<br>• If the horizontal size adjustment is excessive, the image may not be displayed correctly. In such a case, initialize H SIZE with the RESET button.                                       |
| OVER SCAN  | <b>Select Over-scan Ratio (for VIDEO/S-VIDEO/COMPONENT VIDEO):</b><br>LARGE  ⇌  MIDDLE  ⇌  SMALL<br>• If you select LARGE, you may note streaking on the top and bottom of the screen, or flicker. If this is irritating, we suggest you select SMALL. |

# MULTIFUNCTIONAL SETTINGS (continued)

## INPUT Menu

The three Input menu items listed in the table below can be manipulated. For RGB input, the reception signal's horizontal and vertical frequency is displayed on the initial menu screen. Use the table below as a guide for operation.



Example : INPUT Menu (BNC)

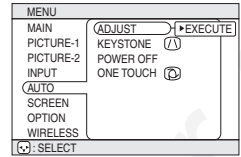
## INPUT Menu

| Item                  | Description   |
|-----------------------|---|
| <b>BNC</b>            | <p><b>BNC Pin (R/C<sub>R</sub>/P<sub>R</sub>, G/Y, B/C<sub>B</sub>/P<sub>B</sub>, H, V) function selection:</b><br/>                     BNC (RGB)  ⇔  BNC (COMPONENT)</p> <p> (R) (G) (B) (H) (V)       (C<sub>R</sub>/P<sub>R</sub>) (Y) (C<sub>B</sub>/P<sub>B</sub>) (-) (-)</p> <p>(Pins for RGB)                      (Pins for COMPONENT)</p> <p>Selecting BNC (RGB) allows the 5 RGB2 pins (R/C<sub>R</sub>/P<sub>R</sub>, G/Y, B/C<sub>B</sub>/P<sub>B</sub>, H, V) to be used as RGB signal BNC input as-is.</p> <p>Selecting BNC (COMPONENT) allows the 3 leftmost RGB2 pins (R/C<sub>R</sub>/P<sub>R</sub>, G/Y, B/C<sub>B</sub>/P<sub>B</sub>) to be used as the COMPONENT VIDEO input C<sub>R</sub>/P<sub>R</sub>, Y, and C<sub>B</sub>/P<sub>B</sub> pins.</p>   |
| <b>VIDEO</b>          | <p><b>Select Mode of Signal Type (for VIDEO/S-VIDEO):</b><br/>                     AUTO  ⇔  NTSC  ⇔  PAL  ⇔  SECAM  ⇔  NTSC4.43  ⇔  M-PAL  ⇔  N-PAL</p> <p>When AUTO is selected, the video/ S-video input function under ADJUST (  ) are enabled, and is executed simultaneously so that the optimum signal mode is selected from among the modes listed above.</p> <p>Use this function if the image becomes unstable with VIDEO/S-VIDEO. (e.g. The image becomes irregular, or lacks color.)</p> <ul style="list-style-type: none"> <li>• AUTO mode may not function correctly with a PAL60 signal and certain other signals.</li> <li>• The AUTO mode operation requires approximately 10 seconds.</li> <li>• For COMPONENT VIDEO, the signal type is identified automatically even if this function is inactive. For a HDTV signal, refer to the item HDTV below.</li> </ul> |
| <b>HDTV</b>           | <p><b>Select HDTV Signal Mode:</b> 1080i  ⇔  1035i</p> <ul style="list-style-type: none"> <li>• If the selected HDTV mode is incompatible with the input signal, the picture may be distorted.</li> </ul>   |
| <b>SYNC ON G</b>      | <p><b>On/Off SYNC ON G Mode:</b> TURN ON  ⇔  TURN OFF</p> <p>Selecting TURN ON turns on the SYNC ON G mode. The SYNC ON G mode allows reception of SYNC on G.</p> <ul style="list-style-type: none"> <li>• In the SYNC ON G mode, the picture may be distorted with certain input signals. In such a case, remove the signal connector so that no signal is received and turn SYNC ON G off, and then reconnect the signal.</li> </ul>  |
| <b>P. IN P. INPUT</b> | <p><b>P. IN P. screen (*) input signal selection:</b> VIDEO  ⇔  S-VIDEO</p> <p>Selects the signal displayed on the P. IN P. subscreen.</p>  |
| <b>P. IN P. POSIT</b> | <p><b>P. IN P. screen (*) display position selection:</b><br/>   ⇔    ⇔    ⇔   </p> <p>Selects the position at which the P. IN P. subscreen is displayed.</p>   |

(\*) The P. IN P. (picture-in-picture) function displays the video signal image in a subscreen (P. IN P. screen) on top of the screen on which the RGB signal image is being displayed. (See "Displaying Child Window" Vol.1

## AUTO Menu

With the AUTO menu, the four items shown in the Table below can be performed.  
Please perform each operation in accordance with the instructions in the Table.



Example : AUTO Menu (ADJUST)

## AUTO Menu

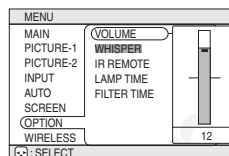
| Item          | Description  |
|---------------|--|
| ADJUST        | <p><b>Auto Adjust (for RGB):</b> Automatically adjusts H POSITION, V POSITION, H PHASE, and H SIZE. Use this function with the maximum window size.</p> <p><b>Auto Adjust (for VIDEO/S-VIDEO):</b> This function automatically selects the appropriate signal mode depending on input signals. This is only performed if AUTO is selected on the VIDEO menu item (4) of the INPUT menu.</p> <ul style="list-style-type: none"> <li>This function may not be available with a PAL60 signal and certain other signals.</li> <li>The AUTO mode operation requires approximately 10 seconds.</li> <li>For COMPONENT VIDEO, the signal type is identified automatically even if this function is inactive. For more information on HDTV signals, see HDTV. (4)</li> </ul> |
| KEYSTONE (A)  | <p><b>Automatic keystone distortion correction:</b><br/>You can automatically correct vertical keystone distortion corresponding to the angle (forward/backward tilt) at which the unit is set up.</p> <ul style="list-style-type: none"> <li>If the projection screen is inclined, or if the projector is angled downwards, it may not be possible to make the correct adjustment when V: INVERT or H&amp;V: INVERT is selected under the MIRROR item of the MAIN menu.</li> <li>When the zoom adjustment is set to the TELE side, automatic correction may be excessive. The automatic correction function should be used with zoom set to WIDE whenever possible.</li> </ul>  |
| POWER OFF     | <p><b>Adjust POWER OFF Time:</b><br/>Long (MAX. 99 min.) [ ] ⇔ [ ] Short (Min. 1 min.) [ ] ⇔ [ ] (DISABLE: 0 min.)</p> <p>If the time set here passes without valid signal input (there is no signal input, or signal input is out of specifications), the standby mode is set (see "TURNING ON THE POWER" Vol.1 15). This function is inactive when DISABLE (0 min.) is selected.</p>   |
| ONE TOUCH (C) | <p><b>Enabling/disabling the KEYSTONE (A) function using the ONE TOUCH (C) button:</b><br/>TURN ON [ ] ⇔ [ ] TURN OFF</p> <p>Pressing the ONE TOUCH button will automatically retrieve pictures and automatically adjust the screen (see "ADJUSTING SCREEN WITH ONE-TOUCH" Vol.1 23), and you can also set the function to execute KEYSTONE (A) (see above in this table) simultaneously when pressed. KEYSTONE will be executed if TURN ON is selected.</p>   |



## OPTION Menu

With the OPTION menu, the five items shown in the Table below can be performed.

Please perform each operation in accordance with the instructions in the Table.



Example : OPTION Menu (VOLUME)

## OPTION Menu

| Item               | Description   |
|--------------------|---|
| <b>VOLUME</b>      | <b>Adjust Volume:</b> High  ⇌  Low  |
| <b>IR REMOTE</b>   | <p><b>Selecting the remote control receiver:</b><br/>The unit has 3 remote control receivers, as shown in the figure to the right (1, 2, and 3). You can select which of them to activate ("v" in the figure), and which to disable.</p> <ul style="list-style-type: none"> <li>The ambient lighting and other factors may prevent the remote control operation from functioning properly. If this happens, use this function to disable receivers being impacted by unneeded light.</li> </ul>   |
| <b>LAMP TIME</b>   | <p><b>Refer to LAMP TIME:</b> When set, this function displays the total time the projector lamp has been used since new.</p> <p><b>Reset LAMP TIME [Use this function only when the lamp has been replaced!]:</b><br/>Depress the RESET button for at least 3 seconds while lamp time is being displayed. The reset menu will then appear. After you replace the lamp with a new lamp, select RESET on the menu with the  button.</p> <ul style="list-style-type: none"> <li>Do not reset the lamp time unless you have replaced the lamp. And, always reset the lamp time when replacing the lamp.</li> <li>Before replacing the lamp, carefully read the descriptions headed "THE LAMP".</li> </ul>  |
| <b>FILTER TIME</b> | <p><b>Refer to FILTER TIME:</b> This function displays the total time the air-filter has been used since new.</p> <p><b>Reset FILTER TIME [Use this function only when the filter is cleaned or replaced!]:</b><br/>Depress the RESET button for at least 3 seconds while lamp time is being displayed. The reset menu will then appear. After you replace the filter, select RESET on the menu with the  button.</p> <p>RESET  ⇌  CANCEL</p> <ul style="list-style-type: none"> <li>Do not reset the filter time unless you have cleaned or replaced the filter. And, always reset the filter time when cleaning or replacing the filter. The message functions will not operate properly if the filter time is not reset correctly.</li> <li>Before cleaning or replacing the filter, carefully read the descriptions headed "THE AIR FILTER".</li> </ul> |

## WIRELESS Menu

The WIRELESS menu is only enabled if the wireless function is enabled. Using the wireless function requires a Wireless & Network Module Terminal (sold separately). See the Wireless & Network Module Terminal user's manual for more information about the WIRELESS menu. Contact your local dealer for more information about the wireless function and Wireless & Network Module Terminal.



## WHAT TO DO WHEN YOU THINK A MACHINE DEFECT HAS OCCURRED

### **Related Messages**

When the unit's power is ON, messages such as those shown below may be displayed. When any such message is displayed on the screen, please respond as described below.

| Message  | Description   |
|--|---|
| <b>CLEAN THE AIR FILTER<br/>AFTER CLEANING AIR FILTER,<br/>RESET THE FILTER TIMER.</b> | A note of precaution when cleaning the air filter.<br>After cleaning the filter, operate FILTER TIME of the OPTION Menu (7), and perform reset of the filter timer.   |
| <b>NO INPUT IS DETECTED<br/>ON * * *</b>   | There is no input signal.<br>Please confirm the signal input connection, and the status of the signal source.   |
| <b>SYNC IS OUT OF RANGE<br/>ON *** fH *****kHz fV *****Hz</b>                          | The horizontal or vertical wavelength of the inputted signal is outside of the response parameters of this unit. Please confirm the specs for this unit or the signal source specs.   |
| <b>CHECK THE AIR FLOW</b>  | The internal portion temperature is rising. Please turn the power OFF, and allow the unit to cool down for approximately 20 minutes. After having confirmed the following items, then please resent the power to ON. <ul style="list-style-type: none"><li>• Is there blockage of the air passage aperture?</li><li>• Is the air filter dirty?</li><li>• Does the peripheral temperature exceed 35°C?</li></ul> |

## Regarding the Indicator Lamps

Lighting and flashing of the POWER indicator, the LAMP indicator, and the TEMP indicator have the meanings as described in the Table below. Please respond in accordance with the instructions within the Table.

| POWER indicator                    | LAMP indicator                          | TEMP indicator           | Description  |
|------------------------------------|---|--------------------------|--|
| The orange lamp is lighted         | Turned OFF (Not lighted)                | Turned OFF (Not lighted) | The STANDBY mode is set  |
| Flashing of the green lamp         | Turned OFF                              | Turned OFF               | The unit is warming up. Please wait.   |
| The green lamp is lighted          | Turned OFF                              | Turned OFF               | The unit is in an ON state. Ordinary operations may be performed.  |
| Flashing of the orange lamp        | Turned OFF                              | Turned OFF               | The unit is cooling down. Please wait.   |
| Blinking of the red lamp           | -                                       | -                        | The unit is cooling down. Please wait.<br>A certain error has been detected. Wait until the POWER indicator lamp has finished flashing, and then perform the proper response measure using the item descriptions below as reference.   |
| The red lamp is lighted, or blinks | The red lamp is lighted                 | Turned OFF               | The lamp does not light.<br>There is a possibility that the interior portion has become heated. Turn the power OFF and wait approximately 20 minutes. After the main unit has cooled down, please confirm whether or not there is blockage of the air passage aperture, whether or not the filter is dirty, and/or whether or not the peripheral temperature exceeds 35°C, etc. After performing any needed maintenance, turn the power ON again; if the same display is displayed, then please change the lamp. |
| The red lamp is lighted, or blinks | Blinking of the red lamp                | Turned OFF               | Either there is no lamp and/or lamp cover, or either of these has not been properly fixed (attached). Turn the power OFF and wait approximately 45 minutes. After the main unit has sufficiently cooled down, please make confirmation of the attachment state of the lamp and lamp cover. After performing any needed maintenance, turn the power ON again; if the same display is displayed, then please contact a sales store or a service company.   |
| The red lamp is lighted, or blinks | Turned OFF                              | Blinking of the red lamp | The cooling fan is not operating. Turn the power OFF and wait approximately 20 minutes. After the main unit has cooled down, please make confirmation that no foreign matter has become caught in the fan, etc. After performing any needed maintenance, turn the power ON again; if the same display is displayed, then please contact a sales store or a service company.  |
| The red lamp is lighted, or blinks | Turned OFF                              | The red lamp is lighted  | There is a possibility that the interior portion has become heated. Turn the power OFF and wait approximately 20 minutes. After the main unit has cooled down, please confirm whether or not there is blockage of the air passage aperture, whether or not the filter is dirty, and/or whether or not the peripheral temperature exceeds 35°C, etc. After performing any needed maintenance, turn the power ON again; if the same display is displayed, then please contact a sales store or a service company.  |
| The green lamp is lighted          | Alternative blinking with the red lamp  |                          | There is a possibility that the interior portion has become overcooled. Please use the unit within the usage temperature parameters (0°C to 35°C). After performing any needed maintenance, turn the power ON again; if the same display is displayed, then please contact a sales store or a service company.   |
| The green lamp is lighted          | Simultaneous blinking with the red lamp |                          | This is a notification that it is time to clean the filter.<br>After cleaning the filter, operate the FILTER TIME portion of the OPTION Menu, and perform reset of the FILTER TIME.  |

### NOTE

When the interior portion has become overheated, for safety purposes, the power source is automatically turned OFF, and the indicator lamps may also be turned OFF. Press the "○" (power OFF) side of the main power switch, and wait for approximately 20 minutes. Please then use the unit only after having first confirmed that the unit has sufficiently cooled down.

## WHAT TO DO WHEN YOU THINK A MACHINE DEFECT HAS OCCURRED (continued)

### Phenomena That May Easily Be Mistaken for Machine Defects

Before requesting repair, check in accordance with the following chart.

If the situation cannot be corrected, then contact your dealer.

| Phenomenon   | Cases not involving a machine defect  | Items to be confirmed   | Reference Page(s)   |
|--|---|---|---------------------|
| Power does not come ON                                   | The main power source is not ON.  | Turn on the main power.   | Vol.1-3, 15         |
|  | The electrical power cord is not plugged in.  | Correctly connect the power cord.   |                     |
|  | The main power source has been interrupted during operation, such as by a power outage (blackout), etc. | Be sure to press the "O" (power OFF) side of the main power switch, and leave this OFF for approximately 20 minutes. After the unit has sufficiently cooled down, turn ON the power source. | Vol.1-15            |
| No sound or pictures are outputted                       | The input changeover settings are mismatched.   | Select the input signal, and correct the settings.  | Vol.1-16            |
|  | No signal is being inputted.  | Correctly connect the connection cord.  | Vol.1-8-12          |
| Pictures are displayed, but no sounds are heard          | The electrical wiring to this unit is not correctly connected.  | Correctly connect the connection cord.  | Vol.1-8-12          |
|  | The volume setting has been set at (or adjusted to) an extremely low level.                             | Adjust the VOLUME setting to a higher level.  | Vol.1-18            |
|  | The MUTE mode is the current setting.   | Press the MUTE button to release (change) the MUTE mode setting.  | Vol.1-18            |
| Sounds are heard, but no pictures are displayed          | The electrical wiring to this unit is not correctly connected.  | Correctly connect the connection cord.  | Vol.1-8-12          |
|  | The brightness setting has been set at (or adjusted to) an extremely low level.                         | Adjust the BRIGHT setting to a brighter level.  | Vol.2-2             |
|  | The lens cap has not been removed.  | Remove the lens cap.  | Vol.1-15            |
| Colors have a faded-out appearance<br>Color tone is poor | Color depth setting or color tone setting   | Perform picture adjustments by changing the COLOR BAL R, the COLOR BAL B, and/or the TINT settings, etc.  | Vol.2-3             |
| Pictures appear dark                                     | The brightness setting and/or contrast setting has not been properly adjusted.                          | Perform picture adjustments by changing the BRIGHT and/or CONTRAST settings, etc.   | Vol.2-2             |
|  | Lamp is approaching the end of its product lifetime.  | Exchange the old lamp with a new lamp.  | Vol.1-27, 28        |
| Pictures appear blurry                                   | Either the FOCUS setting or the H PHASE is not properly adjusted.                                       | Adjust the FOCUS and H PHASE settings.  | Vol.1-16<br>Vol.2-3 |
| Input signal changes with no-operation.                  | INPUT dial is set between the click points.   | Turn the INPUT dial and set it at the click point.  | Vol.1-16            |

#### NOTE

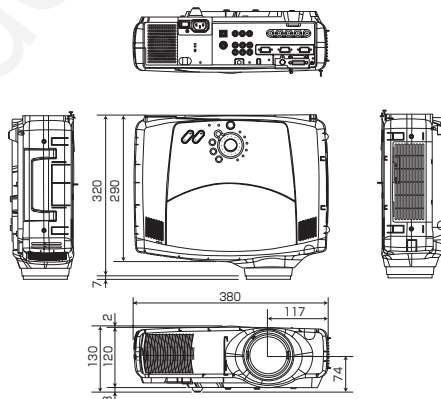
Although bright spots or dark spots may appear on the screen, this is a unique characteristic of liquid crystal displays, and such do not constitute or imply a machine defect.

# SPECIFICATIONS

**NOTE** • This specifications are subject to change without notice.

| Item                 |              | Specification   |
|----------------------|--------------|---|
| Product name         |              | Liquid crystal projector  |
| Liquid crystal panel | Panel size   | 3.3 cm (1.3 type)   |
|                      | Drive system | TFT active matrix   |
|                      | Pixels       | 786,432 pixels (1024 horizontal x 768 vertical)   |
| Lens                 |              | Zoom lens F=1.7 ~ 2.3 f=49 ~ 64 mm  |
| Lamp                 |              | 150 W UHB   |
| Speaker              |              | 1.0W+1.0W (Stereo)  |
| Power supply         |              | AC100 ~ 120V, 3.0A / AC220 ~ 240V, 1.4A   |
| Power consumption    |              | 270W  |
| Temperature range    |              | 0 ~ 35°C (Operating)  |
| Size                 |              | 380 (W) x 120 (H) x 290 (D) mm (Not including protruding parts)   |
| Weight (mass)        |              | 6.0 kg  |
| Ports                |              | <p><b>RGB Input Ports</b><br/>           RGB .....1<br/>           BNC (when RGB selected)<br/>           – (R.G.B.H.V) .....1<br/>           DVI .....1</p> <p><b>VIDEO Input Ports</b><br/>           VIDEO IN .....1<br/>           S-VIDEO IN .....1<br/>           COMPONENT VIDEO<br/>           – (Cr/Pr, Cb/Pb, Y) .....1<br/>           BNC<br/>           (when COMPONENT selected)<br/>           – (Cr/Pr, Y, Cb/Pb) .....1</p> <p><b>AUDIO Ports</b><br/>           AUDIO IN 1 .....1<br/>           AUDIO IN 2 .....1<br/>           AUDIO IN (R, L) .....1</p> <p><b>RGB Output Port</b><br/>           RGB OUT .....1</p> <p><b>AUDIO Output Port</b><br/>           AUDIO OUT .....1</p> <p><b>CONTROL Ports</b><br/>           CONTROL .....1<br/>           USB .....1</p> <p><b>Other Ports</b><br/>           WIRELESS &amp; NETWORK MODULE ....1<br/>           REMOTE CONTROL .....1</p> |
| Optional Parts       |              | Lamp: DT00571 Air Filter: NJ07081<br>* For others, consult your dealer.   |

## Dimension Diagram



Unit : mm

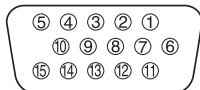
## WARRANTY AND AFTER-SERVICE

If a problem occurs with the equipment, first refer to the **8** “WHAT TO DO WHEN YOU THINK A MACHINE DEFECT HAS OCCURRED” section and run through the suggested checks. If this does not resolve the problem contact your dealer or service company. They will tell you what warranty condition is applied.

# TECHNICAL

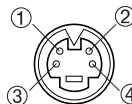
## SIGNAL CONNECTOR PIN ASSIGNMENT

RGB  
RGB OUT



D-sub 15-pin Shrink

S-VIDEO



Mini Din 4-pin

| Pin No | Signal            | Pin No | Signal                    |
|--------|-------------------|--------|---------------------------|
| 1      | Video input Red   | 9      | -                         |
| 2      | Video input Green | 10     | Ground                    |
| 3      | Video input Blue  | 11     | -                         |
| 4      | -                 | 12     | RGB IN: SDA (DDC)         |
| 6      | Ground Red        |        | RGB OUT : -               |
| 7      | Ground Green      | 13     | H. sync./ Composite sync. |
| 8      | Ground Blue       | 14     | Vertical sync             |
|        |                   | 15     | RGB IN : SCL (DDC)        |
|        |                   |        | RGB OUT : -               |

| Mini Din 4-pin |   |
|----------------|---|
| Pin No         | Signal  |
| 1              | Color:<br>0.286Vp-p (NTSC, burst signal),<br>75Ω terminator<br>0.3Vp-p (PAL/SECAM, burst signal),<br>75Ω terminator |
| 2              | Brightness:<br>1.0Vp-p, 75Ω terminator  |
| 3              | Ground  |
| 4              | Ground  |

| signal             | Terminal                             | Specification  |
|--------------------|--------------------------------------|--|
| RGB signal input   | RGB                                  | Video: RGB separate, Analog, 0.7Vp-p, 75Ω terminator (positive)<br>H/V. sync.: TTL level (positive/negative)<br>Composite sync.: TTL level<br>D-sub 15-pin shrink jack                               |
|                    | BNC (RGB)<br>(R,G,B,H,V)             | Video: RGB separate, Analog 0.7Vp-p, 75Ω terminator (positive)<br>H/V. sync.: TTL level (positive/negative)<br>Composite sync.: TTL level<br>BNC connector x 5                                       |
|                    | DVI                                  | TMDS, DC 150-1200 mV/AC 1.56 Vp-p, TTL Level (Positive/Negative)<br>DVI connector  |
|                    | AUDIO IN 1                           | 200mVrms, 57 kΩ (max. 3.0Vp-p)   |
|                    | AUDIO IN 2                           | Stereo mini jack   |
| Video signal input | VIDEO IN                             | 1.0Vp-p, 75Ω terminator, RCA jack  |
|                    | S-VIDEO IN                           | Brightness signal: 1.0Vp-p, 75Ω terminator<br>Color signal: 0.286Vp-p (NTSC, burst signal),75Ω terminator<br>Color signal: 0.300Vp-p (PAL/SECAM, burst signal),75Ω terminator<br>Mini DIN 4-pin jack |
|                    | COMPONENT VIDEO<br>(Cr/Pr, Cb/Pb, Y) | Y signal: 1.0 Vp-p, 75 Ω terminator<br>Cr/Pr signal: 0.7 Vp-p, 75 Ω terminator<br>Cb/Pb signal: 0.7 Vp-p, 75 Ω terminator<br>RCA jack x 3 (BNC connector x 5)  |
|                    | BNC (COMPONENT)<br>(Cr/Pr, Cb/Pb, Y) | RCA jack x 3 (BNC connector x 5)   |
|                    | AUDIO IN (R, L)                      | 200mVrms, 57 kΩ (max. 3.0Vp-p)<br>RCA jack   |
| Signal output      | RGB OUT                              | Video: RGB separate, Analog 0.7Vp-p, 75Ω (positive)<br>Sync.: H,V separate, TTL level (positive/negative)<br>Composite sync.: TTL level<br>D-sub 15-pin shrink jack                                  |
|                    | AUDIO OUT                            | 0~200mV(rms), output impedance 1kΩ (max. 3.0Vp-p)<br>Stereo mini jack  |
| Control functions  | CONTROL                              | D-sub 15pin shrink plug  |
|                    | USB                                  | USB jack (B type)  |

## EXAMPLE OF COMPUTER SIGNAL

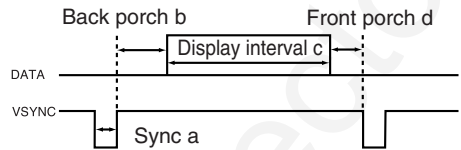
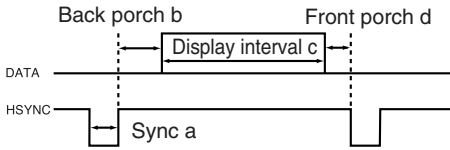
| Resolution<br>H × V | fH (kHz) | fV (Hz) | Rating | Signal mode | Display<br>mode |
|---------------------|----------|---------|--------|-------------|-----------------|
| 720 × 400           | 37.9     | 85.0    | VESA   | TEXT        | Zoom in         |
| 640 × 480           | 31.5     | 59.9    | VESA   | VGA (60Hz)  | Zoom in         |
| 640 × 480           | 35.0     | 66.7    |        | Mac13"mode  | Zoom in         |
| 640 × 480           | 37.9     | 72.8    | VESA   | VGA (72Hz)  | Zoom in         |
| 640 × 480           | 37.5     | 75.0    | VESA   | VGA (75Hz)  | Zoom in         |
| 640 × 480           | 43.3     | 85.0    | VESA   | VGA (85Hz)  | Zoom in         |
| 800 × 600           | 35.2     | 56.3    | VESA   | SVGA (56Hz) | Zoom in         |
| 800 × 600           | 37.9     | 60.3    | VESA   | SVGA (60Hz) | Zoom in         |
| 800 × 600           | 48.1     | 72.2    | VESA   | SVGA (72Hz) | Zoom in         |
| 800 × 600           | 46.9     | 75.0    | VESA   | SVGA (75Hz) | Zoom in         |
| 800 × 600           | 53.7     | 85.1    | VESA   | SVGA (85Hz) | Zoom in         |
| 832 × 624           | 49.7     | 74.5    |        | Mac16"mode  | Zoom in         |
| 1024 × 768          | 48.4     | 60.0    | VESA   | XGA (60Hz)  |                 |
| 1024 × 768          | 56.5     | 70.1    | VESA   | XGA (70Hz)  |                 |
| 1024 × 768          | 60.0     | 75.0    | VESA   | XGA (75Hz)  |                 |
| 1024 × 768          | 68.7     | 85.0    | VESA   | XGA (85Hz)  |                 |
| 1152 × 864          | 67.5     | 75.0    | VESA   | SXGA (75Hz) | Zoom out        |
| 1280 × 960          | 60.0     | 60.0    | VESA   | SXGA (60Hz) | Zoom out        |
| 1280 × 1024         | 64.0     | 60.0    | VESA   | SXGA (60Hz) | Zoom out        |
| 1280 × 1024         | 80.0     | 75.0    | VESA   | SXGA (75Hz) | Zoom out        |
| 1280 × 1024         | 91.2     | 85.0    | VESA   | SXGA (85Hz) | Zoom out        |
| 1600 × 1200         | 75.0     | 60.0    | VESA   | UXGA (60Hz) | Zoom out        |

- NOTE** • Some computers may have multiple display screen modes. Use of some of these modes will not be possible with this projector.
- Be sure to check jack type, signal level, timing and resolution before connecting this projector to a computer.
  - Depending on the input signal, full-size display may not be possible in some cases. Refer to the number of display pixels above.
  - Although the projector can display signals (except DVI input) with resolution up to UXGA (1,600 × 1,200), the signal will be converted to the projector's panel resolution before being displayed. The best display performance will be achieved if the resolutions of the input signal and projector panel are identical.
  - The image may not be displayed correctly when the input sync. signal is "Composite Sync." or "Sync. on G".
  - UXGA (1,600 × 1,200) signals cannot be displayed with DVI input.

# INITIAL SET SIGNALS

The following signals are used for the initial settings.

The signal timing of some computer models may be different. In such case, refer to adjust the V.POSIT and H.POSIT of the menu.



| Computer / Signal | Horizontal signal timing (μs) |     |      |     |
|-------------------|-------------------------------|-----|------|-----|
|                   | a                             | b   | c    | d   |
| TEXT              | 2.0                           | 3.0 | 20.3 | 1.0 |
| VGA (60Hz)        | 3.8                           | 1.6 | 25.4 | 0.6 |
| Mac 13"mode       | 2.1                           | 3.2 | 21.2 | 2.1 |
| VGA (72Hz)        | 1.3                           | 3.8 | 20.3 | 0.5 |
| VGA (75Hz)        | 2.0                           | 3.8 | 20.3 | 0.5 |
| VGA (85Hz)        | 1.6                           | 2.2 | 17.8 | 1.6 |
| SVGA (56Hz)       | 2.0                           | 3.6 | 22.2 | 0.7 |
| SVGA (60Hz)       | 3.2                           | 2.2 | 20.0 | 1.0 |
| SVGA (72Hz)       | 2.4                           | 1.3 | 16.0 | 1.1 |
| SVGA (75Hz)       | 1.6                           | 3.2 | 16.2 | 0.3 |
| SVGA (85Hz)       | 1.1                           | 2.7 | 14.2 | 0.6 |
| Mac 16"mode       | 1.1                           | 3.9 | 14.5 | 0.6 |
| XGA (60Hz)        | 2.1                           | 2.5 | 15.8 | 0.4 |
| XGA (70Hz)        | 1.8                           | 1.9 | 13.7 | 0.3 |
| XGA (75Hz)        | 1.2                           | 2.2 | 13.0 | 0.2 |
| XGA (85Hz)        | 1.0                           | 2.2 | 10.8 | 0.5 |
| 1152×864 (75Hz)   | 1.2                           | 2.4 | 10.7 | 0.6 |
| 1280×960 (60Hz)   | 1.0                           | 2.9 | 11.9 | 0.9 |
| 1280×1024 (60Hz)  | 1.0                           | 2.3 | 11.9 | 0.4 |
| 1280×1024 (75Hz)  | 1.1                           | 1.8 | 9.5  | 0.1 |
| 1280×1024 (85Hz)  | 1.0                           | 1.4 | 8.1  | 0.4 |
| 1600×1200 (60Hz)  | 1.2                           | 1.9 | 9.9  | 0.4 |

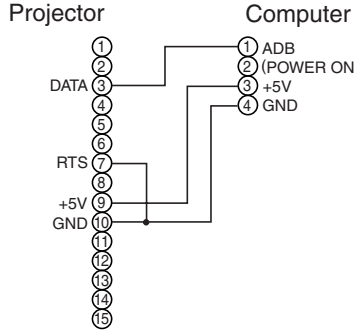
| Computer / Signal | Vertical signal timing (lines) |    |      |    |
|-------------------|--------------------------------|----|------|----|
|                   | a                              | b  | c    | d  |
| TEXT              | 3                              | 42 | 400  | 1  |
| VGA (60Hz)        | 2                              | 25 | 480  | 2  |
| Mac 13"mode       | 3                              | 39 | 480  | 3  |
| VGA (72Hz)        | 3                              | 20 | 480  | 1  |
| VGA (75Hz)        | 3                              | 16 | 480  | 1  |
| VGA (85Hz)        | 3                              | 25 | 480  | 1  |
| SVGA (56Hz)       | 2                              | 22 | 600  | 1  |
| SVGA (60Hz)       | 4                              | 23 | 600  | 1  |
| SVGA (72Hz)       | 6                              | 23 | 600  | 37 |
| SVGA (75Hz)       | 3                              | 21 | 600  | 1  |
| SVGA (85Hz)       | 3                              | 27 | 600  | 1  |
| Mac 16"mode       | 3                              | 39 | 624  | 1  |
| XGA (60Hz)        | 6                              | 29 | 768  | 3  |
| XGA (70Hz)        | 6                              | 29 | 768  | 3  |
| XGA (75Hz)        | 3                              | 28 | 768  | 1  |
| XGA (85Hz)        | 3                              | 36 | 768  | 1  |
| 1152×864 (75Hz)   | 3                              | 32 | 864  | 1  |
| 1280×960 (60Hz)   | 3                              | 36 | 960  | 1  |
| 1280×1024 (60Hz)  | 3                              | 38 | 1024 | 1  |
| 1280×1024 (75Hz)  | 3                              | 38 | 1024 | 1  |
| 1280×1024 (85Hz)  | 3                              | 44 | 1024 | 1  |
| 1600×1200 (60Hz)  | 3                              | 46 | 1200 | 1  |



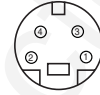
# CONNECTION TO THE MOUSE CONTROL

## ADB Mouse

CONTROL Terminal  
D-sub 15-pin shrink jack

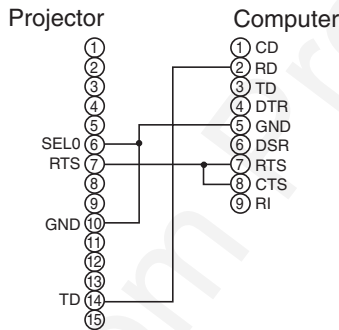


Mouse jack  
Mini DIN 4-pin

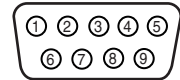


## Serial Mouse

CONTROL Terminal  
D-sub 15-pin shrink jack

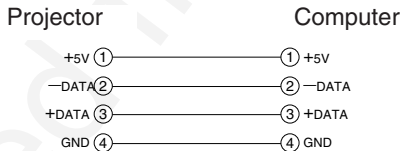


Mouse jack  
D-sub 9-pin



## USB Mouse

USB jack  
(B type)



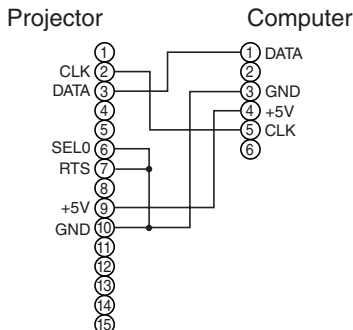
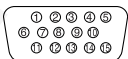
USB jack  
(A type)



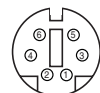
USB cable

## PS/2 Mouse

CONTROL Terminal  
D-sub 15-pin shrink jack

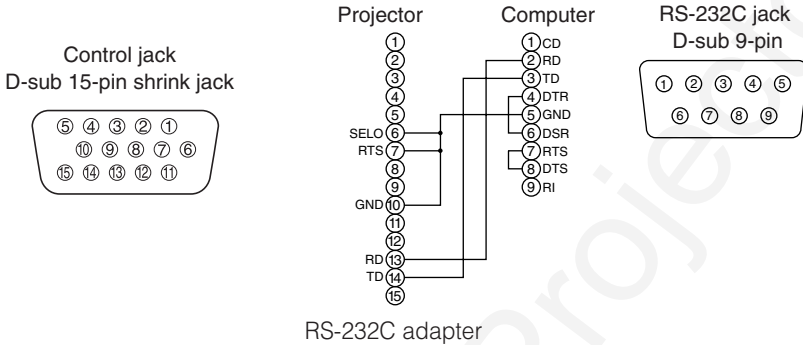


Mouse jack  
Mini DIN 6-pin



# RS-232C COMMUNICATION

- (1) Turn off the projector and computer power supplies, and connect with the RS-232C adapter via the RS-232C cable.
- (2) Turn on the computer power supply and after the computer has started up, turn on the projector power supply.



## Communications setting

19200bps, 8N1

### 1 Protocol

Consist of header (7 bytes) + command data (6 bytes).

### 2 Header

BE + EF + 03 + 06 + 00 + CRC\_low + CRC\_high

CRC\_low : Lower byte of CRC flag for command data.

CRC\_high : Upper byte of CRC flag for command data.

### 3 Command data

Command data chart

| byte_0 | byte_1 | byte_2 | byte_3 | byte_4       | byte_5 |
|--------|--------|--------|--------|--------------|--------|
| Action |        | Type   |        | Setting code |        |
| low    | high   | low    | high   | low          | high   |

Action (byte\_0 - 1)

| Action | Classification | Content                              |
|--------|----------------|--------------------------------------|
| 1      | SET            | Change setting to desired value.     |
| 2      | GET            | Read projector internal setup value. |
| 4      | INCREMENT      | Increment setup value by 1.          |
| 5      | DECREMENT      | Decrement setup value by 1.          |
| 6      | EXECUTE        | Run a command.                       |

## RS-232C COMMUNICATION (continued)

### Requesting projector status (Get command)

- (1) Send the request code Header + Command data ('02H'+ '00H'+ type (2 bytes) + '00H'+ '00H') from the computer to the projector.
- (2) The projector returns the response code '1DH'+ data (2 bytes) to the computer.

### Changing the projector settings (Set command)

- (1) Send the setting code Header + Command data ('01H'+ '00H'+ type (2 bytes) + setting code (2 bytes)) from the computer to the projector.
- (2) The projector changes the setting based on the above setting code.
- (3) The projector returns the response code '06H' to the computer.

### Using the projector default settings (Reset Command)

- (1) The computer sends the default setting code Header + Command data ('06H'+ '00H'+ type (2 bytes) + '00H'+ '00H') to the projector.
- (2) The projector changes the specified setting to the default value.
- (3) The projector returns the response code '06H' to the computer.

### Increasing the projector setting value (Increment command)

- (1) The computer sends the increment code Header + Command data ('04H'+ '00H'+ type (2 bytes) + '00H'+ '00H') to the projector.
- (2) The projector increases the setting value on the above setting code.
- (3) The projector returns the response code '06H' to the computer.

### Decreasing the projector setting value (Decrement command)

- (1) The computer sends the decrement code Header + Command data ('05H'+ '00H'+ type (2 bytes) + '00H'+ '00H') to the projector.
- (2) The projector decreases the setting value on the above setting code.
- (3) The projector returns the response code '06H' to the computer.

### When a command sent by the projector cannot be understood by the computer

When the command sent by the projector cannot be understood, the error command '15H' is returned by the computer. Some times, the projector ignores RS-232C commands during other works. If the error command '15H' is returned, please send the same command again.

### When data sent by the projector cannot be practice

When the command sent by the projector cannot be practiced, the the error code '1cH' + 'xxxxH' is returned.

When the data length is greater than indicated by the data length code, the projector will ignore the excess data code.

Conversely, when the data length is shorter than indicated by the data length code, an error code will be returned to the projector.

- NOTE**
- Operation cannot be guaranteed when the projector receives an undefined command or data.
  - Provide an interval of at least 40ms between the response code and any other code.
  - The projector outputs test data when the power supply is switched ON, and when the lamp is lit. Ignore this data.
  - Commands are not accepted during warm-up.

## Command data chart

| Names            | Operation type | Header      |    |    |     | Command data |      |              |    |    |    |    |    |    |    |
|------------------|----------------|-------------|----|----|-----|--------------|------|--------------|----|----|----|----|----|----|----|
|                  |                |             |    |    | CRC | Action       | Type | Setting code |    |    |    |    |    |    |    |
| Blank Color      | Set            | Blue        | BE | EF | 03  | 06           | 00   | CB           | D3 | 01 | 00 | 00 | 30 | 03 | 00 |
|                  |                | White       | BE | EF | 03  | 06           | 00   | 6B           | D0 | 01 | 00 | 00 | 30 | 05 | 00 |
|                  |                | Black       | BE | EF | 03  | 06           | 00   | 9B           | D0 | 01 | 00 | 00 | 30 | 06 | 00 |
|                  |                | MyScreen    | BE | EF | 03  | 06           | 00   | FB           | CA | 01 | 00 | 00 | 30 | 20 | 00 |
|                  |                | ORIGNAL     | BE | EF | 03  | 06           | 00   | FB           | E2 | 01 | 00 | 00 | 30 | 40 | 00 |
|                  | Get            | BE          | EF | 03 | 06  | 00           | 08   | D3           | 02 | 00 | 00 | 30 | 00 | 00 |    |
| Mirror           | Set            | Normal      | BE | EF | 03  | 06           | 00   | C7           | D2 | 01 | 00 | 01 | 30 | 00 | 00 |
|                  |                | H Inverse   | BE | EF | 03  | 06           | 00   | 57           | D3 | 01 | 00 | 01 | 30 | 01 | 00 |
|                  |                | V Inverse   | BE | EF | 03  | 06           | 00   | A7           | D3 | 01 | 00 | 01 | 30 | 02 | 00 |
|                  |                | H&V Inverse | BE | EF | 03  | 06           | 00   | 37           | D2 | 01 | 00 | 01 | 30 | 03 | 00 |
|                  | Get            | BE          | EF | 03 | 06  | 00           | F4   | D2           | 02 | 00 | 01 | 30 | 00 | 00 |    |
| Freeze           | Set            | Normal      | BE | EF | 03  | 06           | 00   | 83           | D2 | 01 | 00 | 02 | 30 | 00 | 00 |
|                  |                | Freeze      | BE | EF | 03  | 06           | 00   | 13           | D3 | 01 | 00 | 02 | 30 | 01 | 00 |
|                  | Get            | BE          | EF | 03 | 06  | 00           | B0   | D2           | 02 | 00 | 02 | 30 | 00 | 00 |    |
| Startup          | Set            | ORIGNAL     | BE | EF | 03  | 06           | 00   | 0B           | D2 | 01 | 00 | 04 | 30 | 00 | 00 |
|                  |                | OFF         | BE | EF | 03  | 06           | 00   | 9B           | D3 | 01 | 00 | 04 | 30 | 01 | 00 |
|                  |                | MyScreen    | BE | EF | 03  | 06           | 00   | CB           | CB | 01 | 00 | 04 | 30 | 20 | 00 |
|                  | Get            | BE          | EF | 03 | 06  | 00           | 38   | D2           | 02 | 00 | 04 | 30 | 00 | 00 |    |
| Language         | Set            | English     | BE | EF | 03  | 06           | 00   | F7           | D3 | 01 | 00 | 05 | 30 | 00 | 00 |
|                  |                | Français    | BE | EF | 03  | 06           | 00   | 67           | D2 | 01 | 00 | 05 | 30 | 01 | 00 |
|                  |                | Deutsch     | BE | EF | 03  | 06           | 00   | 97           | D2 | 01 | 00 | 05 | 30 | 02 | 00 |
|                  |                | Español     | BE | EF | 03  | 06           | 00   | 07           | D3 | 01 | 00 | 05 | 30 | 03 | 00 |
|                  |                | Italiano    | BE | EF | 03  | 06           | 00   | 37           | D1 | 01 | 00 | 05 | 30 | 04 | 00 |
|                  |                | Norsk       | BE | EF | 03  | 06           | 00   | A7           | D0 | 01 | 00 | 05 | 30 | 05 | 00 |
|                  |                | Nederlands  | BE | EF | 03  | 06           | 00   | 57           | D0 | 01 | 00 | 05 | 30 | 06 | 00 |
|                  |                | Português   | BE | EF | 03  | 06           | 00   | C7           | D1 | 01 | 00 | 05 | 30 | 07 | 00 |
|                  |                | 日本語         | BE | EF | 03  | 06           | 00   | 37           | D4 | 01 | 00 | 05 | 30 | 08 | 00 |
|                  | 中文             | BE          | EF | 03 | 06  | 00           | A7   | D5           | 01 | 00 | 05 | 30 | 09 | 00 |    |
| 한글               | BE             | EF          | 03 | 06 | 00  | 57           | D5   | 01           | 00 | 05 | 30 | 0A | 00 |    |    |
|                  | Get            | BE          | EF | 03 | 06  | 00           | C4   | D3           | 02 | 00 | 05 | 30 | 00 | 00 |    |
| Magnify          | Get            | BE          | EF | 03 | 06  | 00           | 7C   | D2           | 02 | 00 | 07 | 30 | 00 | 00 |    |
|                  | Increment      | BE          | EF | 03 | 06  | 00           | 1A   | D2           | 04 | 00 | 07 | 30 | 00 | 00 |    |
|                  | Decrement      | BE          | EF | 03 | 06  | 00           | CB   | D3           | 05 | 00 | 07 | 30 | 00 | 00 |    |
| Auto off         | Get            | BE          | EF | 03 | 06  | 00           | 08   | 86           | 02 | 00 | 10 | 31 | 00 | 00 |    |
|                  | Increment      | BE          | EF | 03 | 06  | 00           | 6E   | 86           | 04 | 00 | 10 | 31 | 00 | 00 |    |
|                  | Decrement      | BE          | EF | 03 | 06  | 00           | BF   | 87           | 05 | 00 | 10 | 31 | 00 | 00 |    |
| Brightness Reset | Execute        | BE          | EF | 03 | 06  | 00           | 58   | D3           | 06 | 00 | 00 | 70 | 00 | 00 |    |
| Contrast Reset   | Execute        | BE          | EF | 03 | 06  | 00           | A4   | D2           | 06 | 00 | 01 | 70 | 00 | 00 |    |
| V.Position Reset | Execute        | BE          | EF | 03 | 06  | 00           | E0   | D2           | 06 | 00 | 02 | 70 | 00 | 00 |    |

## Command data chart (continued)

| Names                 | Operation type  |  | Header   |          |       | Command data |        |       |              |
|-----------------------|-----------------|--|----------|----------|-------|--------------|--------|-------|--------------|
|                       |                 |  |          |          |       | CRC          | Action | Type  | Setting code |
| H.Position Reset      | Execute         |  | BE EF    | 03 06 00 | IC D3 | 06 00        | 03 70  | 00 00 |              |
| H.Size Reset          | Execute         |  | BE EF    | 03 06 00 | 68 D2 | 06 00        | 04 70  | 00 00 |              |
| Color Balance R Reset | Execute         |  | BE EF    | 03 06 00 | 94 D3 | 06 00        | 05 70  | 00 00 |              |
| Color Balance B Reset | Execute         |  | BE EF    | 03 06 00 | D0 D3 | 06 00        | 06 70  | 00 00 |              |
| Sharpness Reset       | Execute         |  | BE EF    | 03 06 00 | C4 D0 | 06 00        | 09 70  | 00 00 |              |
| Color Reset           | Execute         |  | BE EF    | 03 06 00 | 80 D0 | 06 00        | 0A 70  | 00 00 |              |
| Tint Reset            | Execute         |  | BE EF    | 03 06 00 | 7C D1 | 06 00        | 0B 70  | 00 00 |              |
| Keystone_V Reset      | Execute         |  | BE EF    | 03 06 00 | 08 D0 | 06 00        | 0C 70  | 00 00 |              |
| Keystone_H Reset      | Execute         |  | BE EF    | 03 06 00 | 98 D8 | 06 00        | 20 70  | 00 00 |              |
| Auto Adjust           | Execute         |  | BE EF    | 03 06 00 | 91 D0 | 06 00        | 0A 20  | 00 00 |              |
| Auto Keystone_V       | Execute         |  | BE EF    | 03 06 00 | E5 D1 | 06 00        | 0D 20  | 00 00 |              |
| Lamp Time Reset       | Execute         |  | BE EF    | 03 06 00 | 58 DC | 06 00        | 30 70  | 00 00 |              |
| Filter Time Reset     | Execute         |  | BE EF    | 03 06 00 | 98 C6 | 06 00        | 40 70  | 00 00 |              |
| Blank on/off          | Set             | off  | BE EF    | 03 06 00 | FB D8 | 01 00        | 20 30  | 00 00 |              |
|                       |                 | on   | BE EF    | 03 06 00 | 6B D9 | 01 00        | 20 30  | 01 00 |              |
|                       | Get             | BE EF  | 03 06 00 | C8 D8    | 02 00 | 20 30        | 00 00  |       |              |
| Error Status          | Get             | (Example of Return)<br>00 00 01 00 02 00 03 00<br>(Normal) (Cover-error) (Fan-error) (Lamp-error)<br>04 00 05 00 06 00 07 00 08 00<br>(Temp-error) (Air flow-error) (Lamp-Time-over) (Cool-error) (Filter-Error) |          |          |       |              |        |       |              |
|                       |                 | BE EF 03 06 00 D9 D8 02 00 20 60 00 00   |          |          |       |              |        |       |              |
| Power                 | Set             | OFF  | BE EF    | 03 06 00 | 2A D3 | 01 00        | 00 60  | 00 00 |              |
|                       |                 | ON   | BE EF    | 03 06 00 | BA D2 | 01 00        | 00 60  | 01 00 |              |
|                       | Get             | BE EF  | 03 06 00 | 19 D3    | 02 00 | 00 60        | 00 00  |       |              |
| Input Source          | Set             | RGB  | BE EF    | 03 06 00 | FE D2 | 01 00        | 00 20  | 00 00 |              |
|                       |                 | BNC (RGB)  | BE EF    | 03 06 00 | 3E D0 | 01 00        | 00 20  | 04 00 |              |
|                       |                 | Video  | BE EF    | 03 06 00 | 6E D3 | 01 00        | 00 20  | 01 00 |              |
|                       |                 | S-Video  | BE EF    | 03 06 00 | 9E D3 | 01 00        | 00 20  | 02 00 |              |
|                       |                 | Component  | BE EF    | 03 06 00 | AE D1 | 01 00        | 00 20  | 05 00 |              |
|                       |                 | DVI  | BE EF    | 03 06 00 | 0E D2 | 01 00        | 00 20  | 03 00 |              |
|                       | BNC (Component) | BE EF  | 03 06 00 | 5E D1    | 01 00 | 00 20        | 06 00  |       |              |
| Get                   | BE EF           | 03 06 00   | CD D2    | 02 00    | 00 20 | 00 00        |        |       |              |
| Volume                | Get             | BE EF  | 03 06 00 | 31 D3    | 02 00 | 01 20        | 00 00  |       |              |
|                       | Increment       | BE EF  | 03 06 00 | 57 D3    | 04 00 | 01 20        | 00 00  |       |              |
|                       | Decrement       | BE EF  | 03 06 00 | 86 D2    | 05 00 | 01 20        | 00 00  |       |              |
| Mute                  | Set             | Normal   | BE EF    | 03 06 00 | 46 D3 | 01 00        | 02 20  | 00 00 |              |
|                       |                 | Mute   | BE EF    | 03 06 00 | D6 D2 | 01 00        | 02 20  | 01 00 |              |
|                       | Get             | BE EF  | 03 06 00 | 75 D3    | 02 00 | 02 20        | 00 00  |       |              |
| Brightness            | Get             | BE EF  | 03 06 00 | 89 D2    | 02 00 | 03 20        | 00 00  |       |              |
|                       | Increment       | BE EF  | 03 06 00 | EF D2    | 04 00 | 03 20        | 00 00  |       |              |
|                       | Decrement       | BE EF  | 03 06 00 | 3E D3    | 05 00 | 03 20        | 00 00  |       |              |
| Contrast              | Get             | BE EF  | 03 06 00 | FD D3    | 02 00 | 04 20        | 00 00  |       |              |
|                       | Increment       | BE EF  | 03 06 00 | 9B D3    | 04 00 | 04 20        | 00 00  |       |              |
|                       | Decrement       | BE EF  | 03 06 00 | 4A D2    | 05 00 | 04 20        | 00 00  |       |              |
| Color Balance R       | Get             | BE EF  | 03 06 00 | 01 D2    | 02 00 | 05 20        | 00 00  |       |              |
|                       | Increment       | BE EF  | 03 06 00 | 67 D2    | 04 00 | 05 20        | 00 00  |       |              |
|                       | Decrement       | BE EF  | 03 06 00 | B6 D3    | 05 00 | 05 20        | 00 00  |       |              |

| Names                               | Operation type | Header    |    |    |     | Command data |      |              |    |    |    |    |    |    |    |
|-------------------------------------|----------------|-----------|----|----|-----|--------------|------|--------------|----|----|----|----|----|----|----|
|                                     |                |           |    |    | CRC | Action       | Type | Setting code |    |    |    |    |    |    |    |
| Color Balance B                     | Get            | BE        | EF | 03 | 06  | 00           | 45   | D2           | 02 | 00 | 06 | 20 | 00 | 00 |    |
|                                     | Increment      | BE        | EF | 03 | 06  | 00           | 23   | D2           | 04 | 00 | 06 | 20 | 00 | 00 |    |
|                                     | Decrement      | BE        | EF | 03 | 06  | 00           | F2   | D3           | 05 | 00 | 06 | 20 | 00 | 00 |    |
| Keystone_V                          | Get            | BE        | EF | 03 | 06  | 00           | B9   | D3           | 02 | 00 | 07 | 20 | 00 | 00 |    |
|                                     | Increment      | BE        | EF | 03 | 06  | 00           | DF   | D3           | 04 | 00 | 07 | 20 | 00 | 00 |    |
|                                     | Decrement      | BE        | EF | 03 | 06  | 00           | 0E   | D2           | 05 | 00 | 07 | 20 | 00 | 00 |    |
| Keystone_H                          | Get            | BE        | EF | 03 | 06  | 00           | E9   | D0           | 02 | 00 | 0B | 20 | 00 | 00 |    |
|                                     | Increment      | BE        | EF | 03 | 06  | 00           | 8F   | D0           | 04 | 00 | 0B | 20 | 00 | 00 |    |
|                                     | Decrement      | BE        | EF | 03 | 06  | 00           | 5E   | D1           | 05 | 00 | 0B | 20 | 00 | 00 |    |
| Aspect                              | Set            | 4:3       | BE | EF | 03  | 06           | 00   | 9E           | D0 | 01 | 00 | 08 | 20 | 00 | 00 |
|                                     |                | 16:9      | BE | EF | 03  | 06           | 00   | 0E           | D1 | 01 | 00 | 08 | 20 | 01 | 00 |
|                                     |                | Small     | BE | EF | 03  | 06           | 00   | FE           | D1 | 01 | 00 | 08 | 20 | 02 | 00 |
|                                     | Get            | BE        | EF | 03 | 06  | 00           | AD   | D0           | 02 | 00 | 08 | 20 | 00 | 00 |    |
| Picture Position at 16 : 9 or Small | Set            | Default   | BE | EF | 03  | 06           | 00   | 62           | D1 | 01 | 00 | 09 | 20 | 00 | 00 |
|                                     |                | Bottom    | BE | EF | 03  | 06           | 00   | F2           | D0 | 01 | 00 | 09 | 20 | 01 | 00 |
|                                     |                | Top       | BE | EF | 03  | 06           | 00   | 02           | D0 | 01 | 00 | 09 | 20 | 02 | 00 |
|                                     | Get            | BE        | EF | 03 | 06  | 00           | 51   | D1           | 02 | 00 | 09 | 20 | 00 | 00 |    |
| V.Position                          | Get            | BE        | EF | 03 | 06  | 00           | 0D   | 83           | 02 | 00 | 00 | 21 | 00 | 00 |    |
|                                     | Increment      | BE        | EF | 03 | 06  | 00           | 6B   | 83           | 04 | 00 | 00 | 21 | 00 | 00 |    |
|                                     | Decrement      | BE        | EF | 03 | 06  | 00           | BA   | 82           | 05 | 00 | 00 | 21 | 00 | 00 |    |
| H.Position                          | Get            | BE        | EF | 03 | 06  | 00           | F1   | 82           | 02 | 00 | 01 | 21 | 00 | 00 |    |
|                                     | Increment      | BE        | EF | 03 | 06  | 00           | 97   | 82           | 04 | 00 | 01 | 21 | 00 | 00 |    |
|                                     | Decrement      | BE        | EF | 03 | 06  | 00           | 46   | 83           | 05 | 00 | 01 | 21 | 00 | 00 |    |
| H.Size                              | Get            | BE        | EF | 03 | 06  | 00           | B5   | 82           | 02 | 00 | 02 | 21 | 00 | 00 |    |
|                                     | Increment      | BE        | EF | 03 | 06  | 00           | D3   | 82           | 04 | 00 | 02 | 21 | 00 | 00 |    |
|                                     | Decrement      | BE        | EF | 03 | 06  | 00           | 02   | 83           | 05 | 00 | 02 | 21 | 00 | 00 |    |
| H.Phase                             | Get            | BE        | EF | 03 | 06  | 00           | 49   | 83           | 02 | 00 | 03 | 21 | 00 | 00 |    |
|                                     | Increment      | BE        | EF | 03 | 06  | 00           | 2F   | 83           | 04 | 00 | 03 | 21 | 00 | 00 |    |
|                                     | Decrement      | BE        | EF | 03 | 06  | 00           | FE   | 82           | 05 | 00 | 03 | 21 | 00 | 00 |    |
| Sharpness                           | Get            | BE        | EF | 03 | 06  | 00           | F1   | 72           | 02 | 00 | 01 | 22 | 00 | 00 |    |
|                                     | Increment      | BE        | EF | 03 | 06  | 00           | 97   | 72           | 04 | 00 | 01 | 22 | 00 | 00 |    |
|                                     | Decrement      | BE        | EF | 03 | 06  | 00           | 46   | 73           | 05 | 00 | 01 | 22 | 00 | 00 |    |
| Color                               | Get            | BE        | EF | 03 | 06  | 00           | B5   | 72           | 02 | 00 | 02 | 22 | 00 | 00 |    |
|                                     | Increment      | BE        | EF | 03 | 06  | 00           | D3   | 72           | 04 | 00 | 02 | 22 | 00 | 00 |    |
|                                     | Decrement      | BE        | EF | 03 | 06  | 00           | 02   | 73           | 05 | 00 | 02 | 22 | 00 | 00 |    |
| Tint                                | Get            | BE        | EF | 03 | 06  | 00           | 49   | 73           | 02 | 00 | 03 | 22 | 00 | 00 |    |
|                                     | Increment      | BE        | EF | 03 | 06  | 00           | 2F   | 73           | 04 | 00 | 03 | 22 | 00 | 00 |    |
|                                     | Decrement      | BE        | EF | 03 | 06  | 00           | FE   | 72           | 05 | 00 | 03 | 22 | 00 | 00 |    |
| BNC                                 | Set            | RGB       | BE | EF | 03  | 06           | 00   | C2           | D7 | 01 | 00 | 11 | 20 | 00 | 00 |
|                                     |                | Component | BE | EF | 03  | 06           | 00   | 52           | D6 | 01 | 00 | 11 | 20 | 01 | 00 |
|                                     | Get            | BE        | EF | 03 | 06  | 00           | F1   | D7           | 02 | 00 | 11 | 20 | 00 | 00 |    |
| Video Format                        | Set            | Auto      | BE | EF | 03  | 06           | 00   | 9E           | 75 | 01 | 00 | 00 | 22 | 0A | 00 |
|                                     |                | NTSC      | BE | EF | 03  | 06           | 00   | FE           | 71 | 01 | 00 | 00 | 22 | 04 | 00 |
|                                     |                | PAL       | BE | EF | 03  | 06           | 00   | 6E           | 70 | 01 | 00 | 00 | 22 | 05 | 00 |
|                                     |                | SECAM     | BE | EF | 03  | 06           | 00   | 6E           | 75 | 01 | 00 | 00 | 22 | 09 | 00 |
|                                     |                | NTSC 4.43 | BE | EF | 03  | 06           | 00   | 5E           | 72 | 01 | 00 | 00 | 22 | 02 | 00 |
|                                     |                | M-PAL     | BE | EF | 03  | 06           | 00   | FE           | 74 | 01 | 00 | 00 | 22 | 08 | 00 |
|                                     | N-PAL          | BE        | EF | 03 | 06  | 00           | 0E   | 71           | 01 | 00 | 00 | 22 | 07 | 00 |    |
| Get                                 | BE             | EF        | 03 | 06 | 00  | 0D           | 73   | 02           | 00 | 00 | 22 | 00 | 00 |    |    |
| HDTV                                | Set            | 1080i     | BE | EF | 03  | 06           | 00   | F2           | 73 | 01 | 00 | 05 | 22 | 00 | 00 |
|                                     |                | 1035i     | BE | EF | 03  | 06           | 00   | 62           | 72 | 01 | 00 | 05 | 22 | 01 | 00 |
|                                     | Get            | BE        | EF | 03 | 06  | 00           | C1   | 73           | 02 | 00 | 05 | 22 | 00 | 00 |    |

## Command data chart (continued)

| Names           | Operation type |              | Header   |          |       | Command data |        |       |              |
|-----------------|----------------|--------------|----------|----------|-------|--------------|--------|-------|--------------|
|                 |                |              |          |          |       | CRC          | Action | Type  | Setting code |
| Sync on G       | Set            | off          | BE EF    | 03 06 00 | CB D0 | 01 00        | 08 30  | 01 00 |              |
|                 |                | on           | BE EF    | 03 06 00 | 5B D1 | 01 00        | 08 30  | 00 00 |              |
|                 | Get            | BE EF        | 03 06 00 | 68 D1    | 02 00 | 08 30        | 00 00  |       |              |
| PinP Size       | Set            | off          | BE EF    | 03 06 00 | FE 22 | 01 00        | 00 23  | 00 00 |              |
|                 |                | Large        | BE EF    | 03 06 00 | 6E 23 | 01 00        | 00 23  | 01 00 |              |
|                 |                | Small        | BE EF    | 03 06 00 | 9E 23 | 01 00        | 00 23  | 02 00 |              |
|                 | Get            | BE EF        | 03 06 00 | CD 22    | 02 00 | 00 23        | 00 00  |       |              |
| PinP Position   | Set            | Upper left   | BE EF    | 03 06 00 | 02 23 | 01 00        | 01 23  | 00 00 |              |
|                 |                | Upper right  | BE EF    | 03 06 00 | 92 22 | 01 00        | 01 23  | 01 00 |              |
|                 |                | Bottom left  | BE EF    | 03 06 00 | 62 22 | 01 00        | 01 23  | 02 00 |              |
|                 |                | Bottom right | BE EF    | 03 06 00 | F2 23 | 01 00        | 01 23  | 03 00 |              |
|                 | Get            | BE EF        | 03 06 00 | 31 23    | 02 00 | 01 23        | 00 00  |       |              |
| PinP Audio ch   | Set            | RGB          | BE EF    | 03 06 00 | BA 22 | 01 00        | 03 23  | 00 00 |              |
|                 |                | Video        | BE EF    | 03 06 00 | 2A 23 | 01 00        | 03 23  | 01 00 |              |
|                 | Get            | BE EF        | 03 06 00 | 89 22    | 02 00 | 03 23        | 00 00  |       |              |
| PinP Input      | Set            | Video        | BE EF    | 03 06 00 | D6 22 | 01 00        | 02 23  | 01 00 |              |
|                 |                | S-Video      | BE EF    | 03 06 00 | 26 22 | 01 00        | 02 23  | 02 00 |              |
|                 | Get            | BE EF        | 03 06 00 | 75 23    | 02 00 | 02 23        | 00 00  |       |              |
| GAMMA           | Set            | NORMAL       | BE EF    | 03 06 00 | C7 F0 | 01 00        | A1 30  | 00 00 |              |
|                 |                | CINEMA       | BE EF    | 03 06 00 | 57 F1 | 01 00        | A1 30  | 01 00 |              |
|                 |                | DYNAMIC      | BE EF    | 03 06 00 | A7 F1 | 01 00        | A1 30  | 02 00 |              |
|                 | Get            | BE EF        | 03 06 00 | F4 F0    | 02 00 | A1 30        | 00 00  |       |              |
| Over Scan       | Set            | Large        | BE EF    | 03 06 00 | C2 71 | 01 00        | 09 22  | 02 00 |              |
|                 |                | Middle       | BE EF    | 03 06 00 | 32 71 | 01 00        | 09 22  | 01 00 |              |
|                 |                | Small        | BE EF    | 03 06 00 | A2 70 | 01 00        | 09 22  | 00 00 |              |
|                 | Get            | BE EF        | 03 06 00 | 91 70    | 02 00 | 09 22        | 00 00  |       |              |
| MyScreen Size   | Set            | Full         | BE EF    | 03 06 00 | 43 D6 | 01 00        | 12 30  | 00 00 |              |
|                 |                | X1           | BE EF    | 03 06 00 | D3 D7 | 01 00        | 12 30  | 01 00 |              |
|                 | Get            | BE EF        | 03 06 00 | 70 D6    | 02 00 | 12 30        | 00 00  |       |              |
| MyScreen Lock   | Set            | off          | BE EF    | 03 06 00 | 3B EF | 01 00        | C0 30  | 00 00 |              |
|                 |                | on           | BE EF    | 03 06 00 | AB EE | 01 00        | C0 30  | 01 00 |              |
|                 | Get            | BE EF        | 03 06 00 | 08 EF    | 02 00 | C0 30        | 00 00  |       |              |
| Lamp Time       | Get            | BE EF        | 03 06 00 | C2 FF    | 02 00 | 90 10        | 00 00  |       |              |
| Filter Time     | Get            | BE EF        | 03 06 00 | C2 F0    | 02 00 | A0 10        | 00 00  |       |              |
| IR Remote Front | Set            | off          | BE EF    | 03 06 00 | FF 32 | 01 00        | 00 26  | 00 00 |              |
|                 |                | on           | BE EF    | 03 06 00 | 6F 33 | 01 00        | 00 26  | 01 00 |              |
|                 | Get            | BE EF        | 03 06 00 | CC 32    | 02 00 | 00 26        | 00 00  |       |              |
| IR Remote Rear  | Set            | off          | BE EF    | 03 06 00 | 03 33 | 01 00        | 01 26  | 00 00 |              |
|                 |                | on           | BE EF    | 03 06 00 | 93 32 | 01 00        | 01 26  | 01 00 |              |
|                 | Get            | BE EF        | 03 06 00 | 30 33    | 02 00 | 01 26        | 00 00  |       |              |
| IR Remote Top   | Set            | off          | BE EF    | 03 06 00 | 47 33 | 01 00        | 02 26  | 00 00 |              |
|                 |                | on           | BE EF    | 03 06 00 | D7 32 | 01 00        | 02 26  | 01 00 |              |
|                 | Get            | BE EF        | 03 06 00 | 74 33    | 02 00 | 02 26        | 00 00  |       |              |

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