Operating Instructions
High Definition Plasma Display

Please read these instructions before operating your set and retain them for future reference.
Dear Panasonic Customer

Welcome to the Panasonic family of customers. We hope that you will have many years of enjoyment from your new Plasma Display.

To obtain maximum benefit from your set, please read these Instructions before making any adjustments, and retain them for future reference.

Retain your purchase receipt also, and note down the model number and serial number of your set in the space provided on the rear cover of these instructions.

Visit our Panasonic Web Site http://panasonic.net

Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Important Safety Notice</td>
<td>3</td>
</tr>
<tr>
<td>Safety Precautions</td>
<td>4</td>
</tr>
<tr>
<td>Accessories</td>
<td>7</td>
</tr>
<tr>
<td>Accessories Supply</td>
<td>7</td>
</tr>
<tr>
<td>Remote Control Batteries</td>
<td>7</td>
</tr>
<tr>
<td>Connections</td>
<td>8</td>
</tr>
<tr>
<td>Speaker connection</td>
<td>8</td>
</tr>
<tr>
<td>AC cord connection and fixing, cable fixing</td>
<td>8</td>
</tr>
<tr>
<td>Video equipment connection</td>
<td>9</td>
</tr>
<tr>
<td>VIDEO and COMPONENT / RGB IN connection</td>
<td>9</td>
</tr>
<tr>
<td>HDMI connection</td>
<td>10</td>
</tr>
<tr>
<td>DVI-D IN connection</td>
<td>10</td>
</tr>
<tr>
<td>PC Input Terminals connection</td>
<td>11</td>
</tr>
<tr>
<td>SERIAL Terminals connection</td>
<td>12</td>
</tr>
<tr>
<td>Power On / Off</td>
<td>13</td>
</tr>
<tr>
<td>Selecting the input signal</td>
<td>15</td>
</tr>
<tr>
<td>Basic Controls</td>
<td>16</td>
</tr>
<tr>
<td>ASPECT Controls</td>
<td>18</td>
</tr>
<tr>
<td>MULTI PIP</td>
<td>19</td>
</tr>
<tr>
<td>Digital Zoom</td>
<td>21</td>
</tr>
<tr>
<td>On-Screen Menu Displays</td>
<td>22</td>
</tr>
<tr>
<td>Adjusting Pos. /Size</td>
<td>24</td>
</tr>
<tr>
<td>Picture Adjustments</td>
<td>27</td>
</tr>
<tr>
<td>Advanced settings</td>
<td>28</td>
</tr>
<tr>
<td>Picture Profiles</td>
<td>29</td>
</tr>
<tr>
<td>Saving profiles</td>
<td>30</td>
</tr>
<tr>
<td>Loading profiles</td>
<td>31</td>
</tr>
<tr>
<td>Editing profiles</td>
<td>31</td>
</tr>
<tr>
<td>Sound Adjustment</td>
<td>32</td>
</tr>
<tr>
<td>SDI Sound Output</td>
<td>32</td>
</tr>
<tr>
<td>PRESENT TIME Setup / Set up TIMER</td>
<td>33</td>
</tr>
<tr>
<td>PRESENT TIME Setup</td>
<td>33</td>
</tr>
<tr>
<td>Set up TIMER</td>
<td>33</td>
</tr>
<tr>
<td>Screensaver (For preventing image retention)</td>
<td>34</td>
</tr>
<tr>
<td>Setup of Screensaver Time</td>
<td>35</td>
</tr>
<tr>
<td>Reduces screen image retention</td>
<td>36</td>
</tr>
<tr>
<td>Extended life settings</td>
<td>36</td>
</tr>
<tr>
<td>Reduces power consumption</td>
<td>39</td>
</tr>
<tr>
<td>Customizing the Input labels</td>
<td>40</td>
</tr>
<tr>
<td>Selecting the On-Screen Menu Language</td>
<td>41</td>
</tr>
<tr>
<td>Display orientation</td>
<td>41</td>
</tr>
<tr>
<td>Setup for MULTI DISPLAY</td>
<td>42</td>
</tr>
<tr>
<td>How to Setup MULTI DISPLAY</td>
<td>42</td>
</tr>
<tr>
<td>ID Remote Control Function</td>
<td>43</td>
</tr>
<tr>
<td>MULTI PIP Setup</td>
<td>44</td>
</tr>
<tr>
<td>Set up for Portrait</td>
<td>45</td>
</tr>
<tr>
<td>How to setup Portrait</td>
<td>45</td>
</tr>
<tr>
<td>Setup for Input Signals</td>
<td>47</td>
</tr>
<tr>
<td>Component / RGB-in select</td>
<td>47</td>
</tr>
<tr>
<td>YUV / RGB-in select</td>
<td>47</td>
</tr>
<tr>
<td>Signal menu</td>
<td>48</td>
</tr>
<tr>
<td>3D Y/C Filter – For NTSC AV images</td>
<td>48</td>
</tr>
<tr>
<td>Colour system</td>
<td>49</td>
</tr>
<tr>
<td>Cinema reality</td>
<td>49</td>
</tr>
<tr>
<td>XGA Mode</td>
<td>49</td>
</tr>
<tr>
<td>Noise reduction</td>
<td>50</td>
</tr>
<tr>
<td>Sync</td>
<td>51</td>
</tr>
<tr>
<td>SDI Through</td>
<td>51</td>
</tr>
<tr>
<td>Input signal display</td>
<td>51</td>
</tr>
<tr>
<td>Network Setup</td>
<td>52</td>
</tr>
<tr>
<td>Options Adjustments</td>
<td>53</td>
</tr>
<tr>
<td>Weekly Command Timer</td>
<td>56</td>
</tr>
<tr>
<td>Audio input select</td>
<td>58</td>
</tr>
<tr>
<td>Using Network Function</td>
<td>59</td>
</tr>
<tr>
<td>Example of Network Connection</td>
<td>59</td>
</tr>
<tr>
<td>Command Control</td>
<td>59</td>
</tr>
<tr>
<td>PJLink™ Protocol</td>
<td>60</td>
</tr>
<tr>
<td>Using Web Browser Control</td>
<td>61</td>
</tr>
<tr>
<td>Before Using Web Browser Control</td>
<td>61</td>
</tr>
<tr>
<td>Access from Web Browser</td>
<td>61</td>
</tr>
<tr>
<td>Display Control (BASIC CONTROL/OPTION CONTROL Screen)</td>
<td>62</td>
</tr>
<tr>
<td>NETWORK SETTING (Network Setup Screen)</td>
<td>63</td>
</tr>
<tr>
<td>Password Setting (Password Setup Screen)</td>
<td>63</td>
</tr>
<tr>
<td>Troubleshooting</td>
<td>64</td>
</tr>
<tr>
<td>List of Aspect Modes</td>
<td>65</td>
</tr>
<tr>
<td>Applicable Input Signals</td>
<td>66</td>
</tr>
<tr>
<td>Shipping condition</td>
<td>67</td>
</tr>
<tr>
<td>Command list of Weekly Command Timer</td>
<td>68</td>
</tr>
<tr>
<td>Specifications</td>
<td>69</td>
</tr>
</tbody>
</table>
Important Safety Notice

WARNING
1) To prevent damage which may result in fire or shock hazard, do not expose this appliance to dripping or splashing.
   Do not place containers with water (flower vase, cups, cosmetics, etc.) above the set. (including on shelves above, etc.)
   No naked flame sources, such as lighted candles, should be placed on / above the set.
2) To prevent electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.
3) Do not remove the earthing pin on the power plug. This apparatus is equipped with a three pin earthing-type power plug. This plug will only fit an earthing-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician.
   Do not defeat the purpose of the earthing plug.
4) To prevent electric shock, ensure the earthing pin on the AC cord power plug is securely connected.

CAUTION
This appliance is intended for use in environments which are relatively free of electromagnetic fields. Using this appliance near sources of strong electromagnetic fields or where electrical noise may overlap with the input signals could cause the picture and sound to wobble or cause interference such as noise to appear.
To avoid the possibility of harm to this appliance, keep it away from sources of strong electromagnetic fields.

IMPORTANT: THE MOULDED PLUG

FOR YOUR SAFETY, PLEASE READ THE FOLLOWING TEXT CAREFULLY.
This display is supplied with a moulded three pin mains plug for your safety and convenience. A 10 amp fuse is fitted in this plug. Shall the fuse need to be replaced, please ensure that the replacement fuse has a rating of 10 amps and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark or the BSI mark on the body of the fuse.
If the plug contains a removable fuse cover, you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local Panasonic dealer.
Do not cut off the mains plug.
Do not use any other type of mains lead except the one supplied with this display.
The supplied mains lead and moulded plug are designed to be used with this display to avoid interference and for your safety.
If the socket outlet in your home is not suitable, get it changed by a qualified electrician.
If the plug or mains lead becomes damaged, purchase a replacement from an authorized dealer.
WARNING : — THIS DISPLAY MUST BE EARTHED.
How to replace the fuse. Open the fuse compartment with a screwdriver and replace the fuse.

Trademark Credits
• VGA is a trademark of International Business Machines Corporation.
• Macintosh is a registered trademark of Apple Inc., USA.
• SVGA, XGA, SXGA and UXGA are registered trademarks of the Video Electronics Standard Association.
   Even if no special notation has been made of company or product trademarks, these trademarks have been fully respected.
• HDMI, the HDMI Logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

Note:
Do not allow a still picture to be displayed for an extended period, as this can cause a permanent image retention to remain on the Plasma Display.
Examples of still pictures include logos, video games, computer images, teletext and images displayed in 4:3 mode.
**WARNING**

**Setup**

This Plasma Display is for use only with the following optional accessories. Use with any other type of optional accessories may cause instability which could result in the possibility of injury.

(All of the following accessories are manufactured by Panasonic Corporation.)

- Speakers ................................................................. TY-SP42P8W-K (for TH-42PF20ER),
  TY-SP50P8W-K (for TH-50PF20ER)
- Pedestal ................................................................. TY-ST20-K
- Mobile stand ........................................................... TY-ST58PF20
- Wall-hanging bracket (vertical) ......................... TY-WK42PV20
- Wall-hanging bracket (angled) ......................... TY-WK42PR20
- Ceiling-hanging bracket ................................. TY-CE42PS20
- BNC Dual Video Terminal Board .................... TY-FB9BD
- HD-SDI Terminal Board with audio .................. TY-FB10HD
- Dual Link HD-SDI Terminal Board ..................... TY-FB11DHD
- Dual HDMI Terminal Board ................................. TY-FB10HMD
- Ir Through Terminal Board ................................. TY-FB9RT
- DVI-D Terminal Board ............................................ TY-FB11DD
- AV Terminal Box .................................................... TY-TB10AV
- Touch Panel .......................................................... TY-TP42P10S (for TH-42PF20ER),
  TY-TP50P10S (for TH-50PF20ER)

Always be sure to ask a qualified technician to carry out set-up.

Small parts can present choking hazard if accidentally swallowed. Keep small parts away from young children. Discard unneeded small parts and other objects, including packaging materials and plastic bags/sheets to prevent them from being played with by young children, creating the potential risk of suffocation.

**Do not place the Plasma Display on sloped or unstable surfaces.**
- The Plasma Display may fall off or tip over.

**Do not place any objects on top of the Plasma Display.**
- If water is spills onto the Plasma Display or foreign objects get inside it, a short-circuit may occur which could result in fire or electric shock. If any foreign objects get inside the Plasma Display, please consult your local Panasonic dealer.

**Transport only in upright position!**
- Transporting the unit with its display panel facing upright or downward may cause damage to the internal circuitry.

**Ventilation should not be impeded by covering the ventilation openings with items such as newspapers, table cloths and curtains.**

**For sufficient ventilation;**
- If using the pedestal (optional accessory), leave a space of 10 cm or more at the top, left and right, and 7 cm or more at the rear, and also keep the space between the bottom of the display and the floor surface.
- If using some other setting-up method, follow the manual of it. (If there is no specific indication of installation dimension in the installation manual, leave a space of 10 cm or more at the top, bottom, left and right, and 7 cm or more at the rear.)

**When installing the Plasma Display vertically;**
- Turn up the power switch for the upward direction when you install the Plasma Display vertically.
- And set “Display orientation” to “Portrait” in Setup menu. (see page 41)
Safety Precautions

■ When using the Plasma Display

The Plasma Display is designed to operate on 220 - 240 V AC, 50/60 Hz.

Do not cover the ventilation holes.
• Doing so may cause the Plasma Display to overheat, which can cause fire or damage to the Plasma Display.

Do not stick any foreign objects into the Plasma Display.
• Do not insert any metal or flammable objects into the ventilations holes or drop them onto the Plasma Display, as doing so can cause fire or electric shock.

Do not remove the cover or modify it in any way.
• High voltages which can cause severe electric shocks are present inside the Plasma Display. For any inspection, adjustment and repair work, please contact your local Panasonic dealer.

Ensure that the mains plug is easily accessible.

An apparatus with CLASS I construction shall be connected to a mains socket outlet with a protective earthing connection.

Do not use any power supply cord other than that provided with this unit.
• Doing so may cause fire or electric shocks.

Securely insert the power supply plug as far as it will go.
• If the plug is not fully inserted, heat may be generated which could cause fire. If the plug is damaged or the wall socket is loose, they shall not be used.

Do not handle the power supply plug with wet hands.
• Doing so may cause electric shocks.

Do not do anything that may damage the power cable. When disconnecting the power cable, pull on the plug body, not the cable.
• Do not damage the cable, make any modifications to it, place heavy objects on top of it, heat it, place it near any hot objects, twist it, bend it excessively or pull it. To do so may cause fire and electric shock. If the power cable is damaged, have it repaired at your local Panasonic dealer.

If the Plasma Display is not going to be used for any prolonged length of time, unplug the power supply plug from the wall outlet.

To prevent the spread of fire, keep candles or other open flames away from this product at all times.

■ If problems occur during use

If a problem occurs (such as no picture or no sound), or if smoke or an abnormal odour starts to come out from the Plasma Display, immediately unplug the power supply plug from the wall outlet.
• If you continue to use the Plasma Display in this condition, fire or electric shock could result. After checking that the smoke has stopped, contact your local Panasonic dealer so that the necessary repairs can be made. Repairing the Plasma Display yourself is extremely dangerous, and shall never be done.

If water or foreign objects get inside the Plasma Display, if the Plasma Display is dropped, or if the cabinet becomes damages, disconnect the power supply plug immediately.
• A short circuit may occur, which could cause fire. Contact your local Panasonic dealer for any repairs that need to be made.
Safety Precautions

⚠️ CAUTION

When using the Plasma Display

Do not bring your hands, face or objects close to the ventilation holes of the Plasma Display.
• Heated air comes out from the ventilation holes at the top of Plasma Display will be hot. Do not bring your hands or face, or objects which cannot withstand heat, close to this port, otherwise burns or deformation could result.

Be sure to disconnect all cables before moving the Plasma Display.
• If the Plasma Display is moved while some of the cables are still connected, the cables may become damaged, and fire or electric shock could result.

Disconnect the power supply plug from the wall socket as a safety precaution before carrying out any cleaning.
• Electric shocks can result if this is not done.

Clean the power cable regularly to prevent it becoming dusty.
• If dust built up on the power cord plug, the resultant humidity can damage the insulation, which could result in fire.
  Pull the power cord plug out from the wall outlet and wipe the mains lead with a dry cloth.

Do not burn or breakup batteries.
• Batteries must not be exposed to excessive heat such as sunshine, fire or the like.

This Plasma Display radiates infrared rays, therefore it may affect other infrared communication equipment. Install your infrared sensor in a place away from direct or reflected light from your Plasma Display.

Cleaning and maintenance

The front of the display panel has been specially treated. Wipe the panel surface gently using only a cleaning cloth or a soft, lint-free cloth.
• If the surface is particularly dirty, wipe with a soft, lint-free cloth which has been soaked in pure water or water in which neutral detergent has been diluted 100 times, and then wipe it evenly with a dry cloth of the same type until the surface is dry.
• Do not scratch or hit the surface of the panel with fingernails or other hard objects, otherwise the surface may become damaged. Furthermore, avoid contact with volatile substances such as insect sprays, solvents and thinner, otherwise the quality of the surface may be adversely affected.

If the cabinet becomes dirty, wipe it with a soft, dry cloth.
• If the cabinet is particularly dirty, soak the cloth in water to which a small amount of neutral detergent has been added and then wring the cloth dry. Use this cloth to wipe the cabinet, and then wipe it dry with a dry cloth.
• Do not allow any detergent to come into direct contact with the surface of the Plasma Display. If water droplets get inside the unit, operating problems may result.
• Avoid contact with volatile substances such as insect sprays, solvents and thinner, otherwise the quality of the cabinet surface may be adversely affected or the coating may peel off. Furthermore, do not leave it for long periods in contact with articles made from rubber or PVC.
Accessories

Accessories Supply

Check that you have the accessories and items shown

- Operating Instruction book
- CD-ROM (Operating instructions)
- Remote Control Transmitter N2QAYB000432
- Batteries for the Remote Control Transmitter (R6 (UM3) Size × 2)
- Power supply cord
- Clamper × 3
- Ferrite core × 2

Remote Control Batteries

Requires two R6 batteries.

1. Pull and hold the hook, then open the battery cover.
2. Insert batteries - note correct polarity ( + and -).
3. Replace the cover.

Helpful Hint:

For frequent remote control users, replace old batteries with Alkaline batteries for longer life.

⚠️ Precaution on battery use

Incorrect installation can cause battery leakage and corrosion that will damage the remote control transmitter. Disposal of batteries should be in an environment-friendly manner.

Observe the following precaution:

1. Batteries shall always be replaced as a pair. Always use new batteries when replacing the old set.
2. Do not combine a used battery with a new one.
3. Do not mix battery types (example: “Zinc Carbon” with “Alkaline”).
4. Do not attempt to charge, short-circuit, disassemble, heat or burn used batteries.
5. Battery replacement is necessary when remote control acts sporadically or stops operating the Plasma Display set.
6. Do not burn or breakup batteries.
   Batteries must not be exposed to excessive heat such as sunshine, fire or the like.
Connections

Speaker connection

When connecting the speakers, be sure to use only the optional accessory speakers. Refer to the speaker’s Installation Manual for details on speaker installation.

AC cord connection and fixing, cable fixing

AC cord fixing

Plug the AC cord into the display unit. Plug the AC cord until it clicks.

Note: Make sure that the AC cord is locked on both the left and right sides.

Unplug the AC cord

Unplug the AC cord pressing the two knobs.

Note: When disconnecting the AC cord, be absolutely sure to disconnect the AC cord plug at the socket outlet first.

Using the clamper

Secure any excess cables with clamper as required.

1. Attach the clamper
   Insert the clamper in a hole.

2. Bundle the cables
   Set the tip in the hooks
   Keep pushing the knob

3. To remove from the unit:
   Keep pushing both side snaps
   Snaps

4. To loosen:
   Keep pushing the knob
   Hooks
Connections

Video equipment connection

SLOT: Terminal board (optional accessories) insert slot (see page 4)

Note:
The right side slot is for terminal board with 2-slot width. The terminal board with 1-slot width does not function when installed in the right side slot.

LAN: Connect to a network to control the unit. (see page 59)

PC IN: PC Input Terminal
Connect to video terminal of PC or equipment with Y, Pb(Cb) and Pr(Cr) output (see page 11).

SERIAL: Control the Plasma Display by connecting to PC (see page 12)

TERMINALS:

Terminals are on the bottom side of the Plasma Display.

AV IN (VIDEO): Composite Video Input Terminal (see below)
COMPONENT/RGB IN: Component/RGB Video Input Terminal (see below)
AV IN (HDMI): HDMI Input Terminal (see page 10)
DVI-D IN: DVI-D Input Terminal (see page 10)

Connect to video equipment such as VCR or DVD player.

Note:

Additional equipment, cables and adapter plugs shown are not supplied with this set.

Notes:

- Change the “Component/RGB-in select” setting in the “Setup” menu to “Component” (when Component signal connection) or “RGB” (when RGB signal connection). (see page 47)
- Accepts only RGB signals with “Sync on G”.

VIDEO and COMPONENT / RGB IN connection

Notes:

RCA-BNC Adapter plug

RCA-BNC Adapter plug

RCA-BNC Adapter plug

RCA-BNC Adapter plug
HDMI connection

[Pin assignments and signal names]

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Signal name</th>
<th>Pin No.</th>
<th>Signal name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>T.M.D.S Data2+</td>
<td>11</td>
<td>T.M.D.S Clock</td>
</tr>
<tr>
<td></td>
<td>Shield</td>
<td></td>
<td>Shield</td>
</tr>
<tr>
<td>2</td>
<td>T.M.D.S Data2-</td>
<td>12</td>
<td>CEC</td>
</tr>
<tr>
<td>3</td>
<td>T.M.D.S Data2</td>
<td>13</td>
<td>Reserved</td>
</tr>
<tr>
<td></td>
<td>Shield</td>
<td></td>
<td>(N.C. on device)</td>
</tr>
<tr>
<td>4</td>
<td>T.M.D.S Data1+</td>
<td>14</td>
<td>SCL</td>
</tr>
<tr>
<td>5</td>
<td>T.M.D.S Data1</td>
<td>15</td>
<td>DDC/CEC</td>
</tr>
<tr>
<td></td>
<td>Shield</td>
<td></td>
<td>Ground</td>
</tr>
<tr>
<td>6</td>
<td>T.M.D.S Data1-</td>
<td>16</td>
<td>T.M.D.S. data0-</td>
</tr>
<tr>
<td>7</td>
<td>T.M.D.S Data0+</td>
<td>17</td>
<td>+5V Power</td>
</tr>
<tr>
<td>8</td>
<td>T.M.D.S Data0</td>
<td>18</td>
<td>Hot Plug Detect</td>
</tr>
<tr>
<td>9</td>
<td>T.M.D.S Data0-</td>
<td></td>
<td>Shield</td>
</tr>
<tr>
<td>10</td>
<td>T.M.D.S Clock+</td>
<td>19</td>
<td>Shield</td>
</tr>
</tbody>
</table>

Note:
Additional equipment and HDMI cable shown are not supplied with this set.

DVI-D IN connection

PC with DVI-D video out

DVI-D Input Connector
Pin Layouts

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Signal Name</th>
<th>Pin No.</th>
<th>Signal Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>T.M.D.S. data 2-</td>
<td>13</td>
<td>+5 V DC</td>
</tr>
<tr>
<td>2</td>
<td>T.M.D.S. data 2+</td>
<td>14</td>
<td>Hot plug detect</td>
</tr>
<tr>
<td>3</td>
<td>T.M.D.S. data 2 shield</td>
<td></td>
<td>T.M.D.S. data 0-</td>
</tr>
<tr>
<td>4</td>
<td>T.M.D.S. data 2 shield</td>
<td></td>
<td>Ground</td>
</tr>
<tr>
<td>5</td>
<td>DDC clock</td>
<td>16</td>
<td>T.M.D.S. data 0+</td>
</tr>
<tr>
<td>6</td>
<td>DDC data</td>
<td>17</td>
<td>T.M.D.S. data 0 shield</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>T.M.D.S. data 1-</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>T.M.D.S. data 1+</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>T.M.D.S. data 1 shield</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>T.M.D.S. clock+</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>T.M.D.S. clock-</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- Additional equipment and cables shown are not supplied with this set.
- Use the DVI-D cable complying with the DVI standard. Image deterioration may occur depending on the length or the quality of the cable.
Notes:
• With regard to the typical PC input signals that are described in the applicable input signals list (see page 66), adjustment values such as for the standard picture positions and sizes have already been stored in this unit. You can add up to eight PC input signal types that are not included in the list.
• Computer signals which can be input are those with a horizontal scanning frequency of 15 to 110 kHz and vertical scanning frequency of 48 to 120 Hz. (However, the image will not be displayed properly if the signals exceed 1,200 lines.)
• The display resolution is a maximum of 1,440 x 1,080 dots when the aspect mode is set to “4:3”, and 1,920 x 1,080 dots when the aspect mode is set to “16:9”. If the display resolution exceeds these maximums, it may not be possible to show fine detail with sufficient clarity.
• The PC input terminals are DDC2B-compatible. If the computer being connected is not DDC2B-compatible, you will need to make setting changes to the computer at the time of connection.
• Some PC models cannot be connected to the set.
• There is no need to use an adapter for computers with DOS/V compatible Mini D-sub 15P terminal.
• The computer shown in the illustration is for example purposes only.
• Additional equipment and cables shown are not supplied with this set.
• Do not set the horizontal and vertical scanning frequencies for PC signals which are above or below the specified frequency range.
• Component Input is possible with the pin 1, 2, 3 of the Mini D-sub 15P Connector.
• To use sync input VBS signals, use the connector which incorporates a 75-ohm termination resistance and which is available on the market, for the connection of the HD connector where the VBS signals are to be input.
• Change the “Component/RGB-in select” setting in the “Setup” menu to “Component” (when Component signal connection) or “RGB” (when RGB signal connection). (see page 47)

Signal Names for Mini D-sub 15P Connector

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Signal Name</th>
<th>Pin No.</th>
<th>Signal Name</th>
<th>Pin No.</th>
<th>Signal Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>R (Pr/Cr)</td>
<td>6</td>
<td>GND (Ground)</td>
<td>11</td>
<td>NC (not connected)</td>
</tr>
<tr>
<td>2</td>
<td>G (Y)</td>
<td>7</td>
<td>GND (Ground)</td>
<td>12</td>
<td>SDA</td>
</tr>
<tr>
<td>3</td>
<td>B (Ps/Cl)</td>
<td>8</td>
<td>GND (Ground)</td>
<td>13</td>
<td>HD/SYNC</td>
</tr>
<tr>
<td>4</td>
<td>NC (not connected)</td>
<td>9</td>
<td>+5 V DC</td>
<td>14</td>
<td>VD</td>
</tr>
<tr>
<td>5</td>
<td>GND (Ground)</td>
<td>10</td>
<td>GND (Ground)</td>
<td>15</td>
<td>SCL</td>
</tr>
</tbody>
</table>
SERIAL Terminals connection

The SERIAL terminal is used when the Plasma Display is controlled by a computer.

**Note:** To use serial control for this unit, make sure to set the “Control I/F Select” in the “Network Setup” menu to “RS-232C”. (see page 52)

The SERIAL terminal conforms to the RS-232C interface specification, so that the Plasma Display can be controlled by a computer which is connected to this terminal. The computer will require software which allows the sending and receiving of control data which satisfies the conditions given below. Use a computer application such as programming language software. Refer to the documentation for the computer application for details.

**Communication parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal level</td>
<td>RS-232C compliant</td>
</tr>
<tr>
<td>Synchronization method</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Baud rate</td>
<td>9600 bps</td>
</tr>
<tr>
<td>Parity</td>
<td>None</td>
</tr>
<tr>
<td>Character length</td>
<td>8 bits</td>
</tr>
<tr>
<td>Stop bit</td>
<td>1 bit</td>
</tr>
<tr>
<td>Flow control</td>
<td>-</td>
</tr>
</tbody>
</table>

**Basic format for control data**

The transmission of control data from the computer starts with a STX signal, followed by the command, the parameters, and lastly an ETX signal in that order. If there are no parameters, then the parameter signal does not need to be sent.

**Notes:**

- If multiple commands are transmitted, be sure to wait for the response for the first command to come from this unit before sending the next command.
- If an incorrect command is sent by mistake, this unit will send an “ER401” command back to the computer.
- S1A and S1B of Command IMS are available only when a dual input terminal board is attached.

**Signal names for D-sub 9P connector**

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>R X D</td>
</tr>
<tr>
<td>3</td>
<td>T X D</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
</tr>
<tr>
<td>4 - 6</td>
<td>Non use</td>
</tr>
<tr>
<td>7</td>
<td>(Shorted in this set)</td>
</tr>
<tr>
<td>1 - 9</td>
<td>NC</td>
</tr>
</tbody>
</table>

These signal names are those of computer specifications.

**Command**

<table>
<thead>
<tr>
<th>Command</th>
<th>Parameter</th>
<th>Control details</th>
</tr>
</thead>
<tbody>
<tr>
<td>PON</td>
<td>None</td>
<td>Power ON</td>
</tr>
<tr>
<td>POF</td>
<td>None</td>
<td>Power OFF</td>
</tr>
<tr>
<td>AVL</td>
<td>**</td>
<td>Volume 00 - 63</td>
</tr>
<tr>
<td>AMT</td>
<td>0</td>
<td>Audio MUTE OFF</td>
</tr>
<tr>
<td>1</td>
<td>Audio MUTE ON</td>
<td></td>
</tr>
<tr>
<td>IMS</td>
<td>None</td>
<td>Input select (toggle)</td>
</tr>
<tr>
<td>SL1</td>
<td>SLOT input (SLOT INPUT)</td>
<td></td>
</tr>
<tr>
<td>S1A</td>
<td>SLOT input (SLOT INPUT A)</td>
<td></td>
</tr>
<tr>
<td>S1B</td>
<td>SLOT input (SLOT INPUT B)</td>
<td></td>
</tr>
<tr>
<td>VD1</td>
<td>VIDEO input (VIDEO)</td>
<td></td>
</tr>
<tr>
<td>YP1</td>
<td>COMPONENT/RGB IN input (COMPONENT)</td>
<td></td>
</tr>
<tr>
<td>HM1</td>
<td>HDMI input (HDMI)</td>
<td></td>
</tr>
<tr>
<td>DV1</td>
<td>DVI-D IN input (DVI)</td>
<td></td>
</tr>
<tr>
<td>PC1</td>
<td>PC IN input (PC)</td>
<td></td>
</tr>
<tr>
<td>DAM</td>
<td>None</td>
<td>Screen mode select (toggle)</td>
</tr>
<tr>
<td>ZOOM</td>
<td>Zoom1 (For Video/SD/PC signal)</td>
<td></td>
</tr>
<tr>
<td>FULL</td>
<td>16:9</td>
<td></td>
</tr>
<tr>
<td>JUST</td>
<td>Just (For Video/SD signal)</td>
<td></td>
</tr>
<tr>
<td>NORM</td>
<td>4:3 (For Video/SD/PC signal)</td>
<td></td>
</tr>
<tr>
<td>ZOM2</td>
<td>Zoom2 (For HD signal)</td>
<td></td>
</tr>
<tr>
<td>ZOM3</td>
<td>Zoom3 (For HD signal)</td>
<td></td>
</tr>
<tr>
<td>SNOM</td>
<td>Just (For HD signal)</td>
<td></td>
</tr>
<tr>
<td>SFUL</td>
<td>4:3 Full (For HD signal)</td>
<td></td>
</tr>
<tr>
<td>14:9</td>
<td>14:9</td>
<td></td>
</tr>
</tbody>
</table>

With the power off, this display responds to PON command only.
Connecting the AC cord plug to the Plasma Display.

Press the button on the remote control to turn the Plasma Display off.

Power Indicator: Red (standby)

Press the button on the remote control to turn the Plasma Display on.

Power Indicator: Green

Connecting the plug to the Wall Outlet

Notes:
- Main plug types vary between countries. The power plug shown at right may, therefore, not be the type fitted to your set.
- When disconnecting the AC cord, be absolutely sure to disconnect the AC cord plug at the socket outlet first.

Press the Power switch on the Plasma Display to turn the set on: Power-On.

Power Indicator: Green

Press the button on the remote control to turn the Plasma Display off.

Power Indicator: Red (standby)

Press the button on the remote control to turn the Plasma Display on.

Power Indicator: Green

Turn the power to the Plasma Display off by pressing the Off/On switch on the unit, when the Plasma Display is on or in standby mode.

Note:
During operation of the power management function, the power indicator turns orange in the power off state.
When first switching on the unit

Following screen will be displayed when the unit is turned on for the first time. Select the items with the remote control. Unit buttons are invalid.

OSD Language

1. Select the language.
2. Set.

PRESENT TIME Setup

1. Select “DAY” or “PRESENT TIME”.
2. Setup “DAY” or “PRESENT TIME”.
1. Select “Set”.
2. Set.

Display orientation

1. For vertical installation, select “Portrait”.
2. Set.

Notes:
- Once the items are set, the screens won’t be displayed when switching on the unit next time.
- After the setting, the items can be changed in the following menus.
  - OSD Language (see page 41)
  - PRESENT TIME Setup (see page 33)
  - Display orientation (see page 41)

From the second time on, the below screen is displayed for a while (setting condition is an example).
Selecting the input signal

Press to select the input signal to be played back from the equipment which has been connected to the Plasma Display.

Input signals will change as follows:

PC → VIDEO → COMPONENT* → HDMI → DVI

PC: PC input terminal in PC IN.
VIDEO: Video input terminal in AV IN (VIDEO).
COMPONENT*: Component or RGB input terminal in COMPONENT/RGB IN.
HDMI: HDMI input terminal in AV IN (HDMI).
DVI: DVI input terminal in DVI-D IN.
* “COMPONENT” may be displayed as “RGB” depending on the setting of “Component/RGB-in select”. (see page 47)

When an optional Terminal Board is installed:

PC → SLOT INPUT → VIDEO → COMPONENT → HDMI → DVI

SLOT INPUT: Input terminal in Terminal Board

Note:
When a Terminal Board incompatible with the Plasma Display is installed, “Non-Compatible Function Board” is displayed.

When a Terminal Board with dual input terminals is installed:

PC → SLOT INPUT A → SLOT INPUT B → VIDEO → COMPONENT → HDMI → DVI

SLOT INPUT A, SLOT INPUT B: Dual input terminal in Terminal Board.

Notes:
• Selecting is also possible by pressing the INPUT button on the unit.
• Outputs the sound as set in “Audio input select” in the Options menu. (see page 58)
• Select to match the signals from the source connected to the component/RGB input terminals. (see page 47)
• In 2 screen display, the same input mode cannot be selected for the main picture and sub picture.
• Image retention (image lag) may occur on the plasma display panel when a still picture is kept on the panel for an extended period. The function that darkens the screen slightly is activated to prevent image retention (see page 64), but this function is not the perfect solution to image retention.
Basic Controls

Main Unit

Remote control sensor

Volume Adjustment
Volume Up “+” Down “–”
When the menu screen is displayed:
“+”: press to move the cursor up
“–”: press to move the cursor down
(see page 22)

Enter / Aspect button
(see page 18, 22)

INPUT button
(INPUT signal selection)
(see page 15)

Main Power On / Off Switch

Power Indicator
The Power Indicator will light.
• Power-OFF .... Indicator not illuminated (The unit will still consume some power as long as the power cord is still inserted into the wall outlet.)
• Standby ........ Red
  Orange (When “Slot power” is set to “On”. See page 55)
  Orange (Depending on the type of the function board installed, when the power is supplied to the slot)
  Orange (When “Control I/F Select” is set to “LAN”. See page 52)
• Power-ON...... Green
• PC Power management (DPMS)
  Orange (With PC input signal.
  See page 39)
• DVI-D Power management
  Orange (With DVI input signal.
  See page 39)

MENU Screen ON / OFF
Each time the MENU button is pressed, the menu screen will switch. (see page 22)

→ Normal Viewing  → Picture
Sound ← Pos. /Size ← Setup ←
Remote Control Transmitter

**ACTION button**
Press to make selections.

**ASPECT button**
Press to adjust the aspect.
(see page 18)

**Standby (ON / OFF) button**
The Plasma Display must first be plugged into the wall outlet and turned on at the power switch (see page 13). Press this button to turn the Plasma Display On, from Standby mode. Press it again to turn the Plasma Display Off to Standby mode.

**POS. /SIZE button**
(see page 24)

**PICTURE button**
(see page 27)

**Sound mute On / Off**
Press this button to mute the sound. Press again to reactivate sound. Sound is also reactivated when power is turned off or volume level is changed.

**N button**
(see page 26, 27, 28, 32)

**POSITION buttons**

**INPUT button**
Press to select Input signal sequentially. (see page 15)

**MULTI Window buttons**
(see page 19)

**OFF TIMER button**
The Plasma Display can be preset to switch to stand-by after a fixed period. The setting changes to 30 minutes, 60 minutes, 90 minutes and 0 minutes (off timer cancelled) each time the button is pressed.

When three minutes remain, “Off timer 3” will flash. The off timer is cancelled if a power interruption occurs.

**AUTO SETUP button**
Automatically adjusts the position/size of the screen. (see page 24)

**SET UP button**
(see page 22)

**SOUND button**
(see page 32)

**Volume Adjustment**
Press the Volume Up “+” or Down “−” button to increase or decrease the sound volume level.

**R button**
(see page 22)
Press the R button to return to previous menu screen.

**RECALL button**
Press the “RECALL” button to display the current system status.
① Input label
② Aspect mode (see page 18)
③ Off timer
The off timer indicator is displayed only when the off timer has been set.
④ Clock display (see page 55)

**Digital Zoom**
(see page 21)
The Plasma Display will allow you to enjoy viewing the picture at its maximum size, including wide screen cinema format picture.

**Note:**
Be aware that if you put the display in a public place for commercial purposes or a public showing and then use the aspect mode select function to shrink or expand the picture, you may be violating the copyright under copyright law. It is prohibited to show or alter the copyrighted materials of other people for commercial purposes without the prior permission of the copyright holder.

The aspect mode changes each time the ENTER button is pressed.

Press repeatedly to move through the aspect options:
For details about the aspect mode, please see “List of Aspect Modes” (page 65).
For VIDEO (S VIDEO) signal input:

```
[ ]
```

Notes:
- The aspect mode is memorized separately for each input terminal.
- Do not allow the picture to be displayed in 4:3 mode for an extended period, as this can cause a permanent image retention to remain on the Plasma Display Panel.

**All Aspect mode**
Set “All Aspect” to “On” in Options menu to enable the extended aspect mode (page 55). When All Aspect mode, the aspect mode of pictures is switched as follows. For details about the aspect mode, please see “List of Aspect Modes”. (page 65)

For VIDEO (S VIDEO) signal input:

```
For HD signal input [1125 (1080) / 60i • 60p, 625 (575) / 50i • 50p]:

[ ]
```

For PC signal input:

```
For HD signal input [1125 (1080) / 60i • 60p, 625 (575) / 50i • 50p]:

[ ]
```

For SD signal input (525 (480) / 60i • 60p, 625 (575) / 50i • 50p):

```
For HD signal input [1125 (1080) / 60i • 60p, 625 (575) / 50i • 50p]:

[ ]
```

Notes:
- The aspect mode is memorized separately for each input terminal.
- Do not allow the picture to be displayed in 4:3 mode for an extended period, as this can cause a permanent image retention to remain on the Plasma Display Panel.
MULTI PIP

You can display two pictures, such as a video image and computer image, in a two-screen display. (Use the remote control for this operation. It cannot be performed with the buttons on the main unit.)

MULTI PIP Setup

Set the functions and mode for two-screen display in “MULTI PIP Setup” in the Setup menu. (see page 44)

Selecting the Display Mode

MULTIP Each time this button is pressed, the screen changes.

Note: The screen changes in the same way when “Display Mode” in “MULTI PIP Setup” is changed. (see page 44)

During PIP:

One screen

Two screens (P and P)

Main screen input mode

Sub screen input mode

Two screens (P in P)

During Advanced PIP:

One screen

Advanced PIP

Sub screen

Main screen

During Blend PIP (Composite Screen Function):

A composite picture is displayed with the sub screen positioned over the main screen. For example, text data such as a computer image can be displayed as a caption over a movie or still image.

One screen

Full

P in P

Note: and button operations are not available during advanced PIP.
**MULTI PIP**

**Transparent Function and Insertion Function:**
Two functions are available for blend PIP: the transparent function and the insertion function. Set these functions with “Transparency” or “Insert” in “MULTI PIP Setup”. (see page 44)

**Transparent Function:**
Data such as text are displayed transparently on the background image.

**Insertion Function:**
The sub screen image is divided into transparent and non-transparent areas, and only the non-transparent areas are inserted and displayed on the background image.

**Note:**
Be aware that if you put the display in a public place for commercial purposes or a public showing and then use the blend PIP function to make a composite screen display, you may be violating the copyright under copyright law. It is prohibited to show or alter the copyrighted materials of other people for commercial purposes without the prior permission of the copyright holder.

---

**Swapping Screens**

*SWAP*
Each time this button is pressed, the main screen and sub screen are swapped.

**Selecting the Target Screen for Operations**

*SELECT*
Each time this button is pressed, the target screen for operations changes.

**Operations on the main screen**

**Operations on the sub screen**

**Notes:**
- When operations are performed for the sub screen, the sub screen audio is played.
- If no operations are performed, the operation target returns to the main screen after about 5 seconds. You can also return to main screen operations by operating the remote control buttons (except for ).

---

**Selecting the Sub Screen Position (During P in P Display)**

*MOVE*
Each time this button is pressed, the sub screen position changes.

*ZOOM*

**Note:**
Some sub screen positions may hide the display of the menu screen.

**Notes:**
- Do not use the two-screen display for a long time. It will cause a permanent image retention to remain on the screen.
- If “Input lock” in Options menu is set to other than “Off”, MULTI PIP function isn’t available.
- Sound output is from the picture which is selected in Audio Out (PIP) (see page 32).
- In two-screen display, the same input mode cannot be selected for the main picture and sub picture.
- The main picture and sub picture are processed by different circuits, resulting in a slight difference in the clarity of the pictures. There may also be a difference in the picture quality of the sub picture depending on the type of signals displayed on the main picture and depending on the two-screen display mode.
- Due to the small dimensions of the sub pictures, these sub pictures cannot be shown in detail.
- Computer screen picture is displayed in a simplified format, and it may not be possible to discern details on them satisfactorily.
- Following combinations of two input signals cannot be displayed simultaneously:
  - COMPONENT - HDMI, COMPONENT - DVI, COMPONENT - PC, HDMI - DVI, HDMI - PC, DVI - PC
- 2k1k signals that are received with the Dual Link HD-SDI Terminal Board (TY-FB11DHD) cannot be displayed in two-screen display.
Digital Zoom

This displays an enlargement of the designated part of the displayed image.

1 Display the operation guide.

MOVE Press to access Digital Zoom. The operation guide will be displayed.

During Digital Zoom, only the following buttons can be operated.

[Remote control]

[Unit]

VOL button

POSITION / ACTION button

2 Select the area of the image to be enlarged.

Press on the enlargement location to select.

The cursor will move.

3 Select the magnification required for the enlarged display.

Each time this is pressed, the magnification factor changes. This is shown in the image being displayed.

4 Return to normal display (quit Digital Zoom).

Press to exit from the Digital Zoom.

Notes:

• When power goes OFF (including “Off Timer” operation), Digital Zoom terminates.
• The Digital Zoom function cannot be selected while in the following operation state:
  “Multi-viewer” (P and P, P out P, P in P) operation. (see page 19)
  When MULTI DISPLAY Setup is On (see page 42).
  When Portrait Setup is On (see page 45).
  When Screensaver (except for Negative image) is running (see page 34)
• While Digital Zoom is in operation, “Adjusting Pos. / Size” cannot be used.
On-Screen Menu Displays

1 Display the menu screen.

Remote Control

Press to select.
(Example: Picture menu)

Unit

Press several times.
Each time the MENU button is pressed, the menu screen will switch.
→ Normal Viewing → Picture
→ Sound ← Pos. /Size ← Setup ←

2 Select the item.

Remote Control

Select.

Unit

1 Select.
2 Press.

(Example: Picture menu)

3 Set.

Remote Control

Set.

Unit

1 Set.
2 Press.

4 Exit the menu.

Remote Control

Press.
Press to return to the previous menu.

Unit

Press several times.
Overview

Note:
Menu that cannot be adjusted is grayout. Adjustable menu changes depending on signal, input and menu setting.
Adjusting Pos. /Size

1. Press to display the Pos. /Size menu.
2. Press to select the menu to adjust.
3. Press to adjust the menu.
4. Press to exit from adjust mode.

Notes:
• Adjustment details are memorized separately for different input signal formats (Adjustments for component signals are memorized for 525 (480) / 60i · 60p, 625 (575) / 50i · 50p, 1125 (1080) / 60i · 50i · 60p · 50p · 24p · 25p · 30p · 24sF, 1250 (1080) / 50i, 750 (720) / 60p · 50p each, and RGB/PC/Digital signals are memorized for each frequency.)
• If a “Cue” or “Rew” signal from a VCR or DVD player is received, the picture position will shift up or down. This picture position movement cannot be controlled by the Picture Pos./Size function.

Auto Setup
H-Pos/V-Pos, H-Size/V-Size, Dot Clock and Clock Phase are automatically adjusted when the RGB or PC signal is received.

This setting is enabled under the following conditions:
• This setting only support single screen display. Two screen display or multiple display are not supported.
• When “Component/RGB-in Select” or “YUV/RGB-in select” in the “Setup” menu (see page 47) is set to “RGB”, this setting is enabled.
• When the signal is not PC format, this setting is enabled only if “Over scan” (see page 25) is “Off” or “1:1 Pixel Mode” (see page 26) is “On”, and H-Size/V-Size is not automatically adjusted.

This setting will be invalid and will not work under the following conditions:
• Aspect is set to “Just”
• “Display size” in the Options menu (see page 54) is set to “On”

Using Remote Control
When on the remote control is pressed, “Auto Setup” will be executed.
When Auto Setup does not work, “Invalid” is displayed.

Auto mode
When the “Auto Setup” is set to “Auto” in the Options menu (see page 55), automatic position adjustment starts:
• When the display power is turned ON.
• When the input signal is switched.
Notes:
- If the dot clock frequency is 162 MHz or higher, Dot Clock and Clock Phase cannot be made.
- When digital RGB signal input, Dot Clock and Clock Phase cannot be made.
- Auto Setup may not work when a cropped or dark image is input. In such case, switch to a bright image with borders and other objects are clearly shown, and then try auto setup again.
- Depending on the signal, out of alignment may occur after Auto Setup. Carry out fine tuning for the position/size as required.
- If Auto Setup cannot set properly for vertical frequency 60Hz XGA signal (1024×768@60Hz, 1280×768@60Hz, and 1366×768@60Hz), pre-selecting the individual signal in “XGA Mode” (see page 49) may results in correct Auto Setup.
- Auto Setup does not work well when a signal such as additional information is superimposed out of valid image period or intervals between synchronizing and image signals are short, or for image signal with tri-level synchronizing signal added.
- If Auto Setup cannot adjust correctly, select “Normalise” once and press ACTION (■), then adjust Pos./Size manually.

H-Pos  Adjust the horizontal position.

V-Pos  Adjust the vertical position.

H-Size  Adjust the horizontal size.

V-Size  Adjust the vertical size.

Dot Clock  (During Component, RGB and PC input signal)
Periodic striped pattern interference (noise) may occur when a striped pattern is displayed. If this happens, adjust so that any such noise is minimized.

Clock Phase  (During Component, RGB and PC input signal)
Eliminate the flickering and distortion.

Over scan  Turn image over scan On/Off.
Configurable signals are as follows:
525i, 525p, 625i, 625p, 750/60p, 750/50p (Component Video, RGB, DVI, SDI, HDMI)

On  Off

Notes:
- When “Off” is set, “H-Size” and “V-Size” cannot be adjusted.
- When the “Display size” is set to “On” in the Options menu, this setting will be invalid. (see page 54)
Clamp Position  
(During Component and RGB input signal)
Adjusts the clamp position when black parts of the image have no detail due to underexposure or are tinged with green.

**Optimum value for Clamp Position adjustment**
When black parts have no detail due to underexposure (blackout)
→ Value that causes least blackout is the optimum.
When black parts are tinged with green
→ Value that cancels the greenishness without causing blackout is the optimum.

1:1 Pixel Mode  
Adjusts the display size when 1125i, 1125p or 1250i signal is input.

**Notes:**
- Select On when you would like to replay 1920 × 1080 input signal.
- Applicable input signal;
  - 1125 (1080) / 50i · 60i · 24sF · 24p · 25p · 30p · 50p · 60p, 1250 (1080) / 50i
- Select Off when flickering is shown around the image.
- H-Size and V-Size cannot be adjusted when On is selected.

1:1 Pixel Mode (2k1k)  
(For 2k1k signals)

When the input signal is a 2k1k signal (2048 × 1080 / 24p, 2048 × 1080 / 24sF), the display size is adjusted as follows.

**Note:**
2k1k signals can only be received when the Dual Link HD-SDI Terminal Board (TY-FB11DHD) is installed.

<table>
<thead>
<tr>
<th>Off</th>
<th>On (Left)</th>
<th>On (Center)</th>
<th>On (Right)</th>
</tr>
</thead>
</table>

**Helpful Hint ( Normalise Normalisation)**
While the Pos. /Size display is active, if either the N button on the remote control is pressed at any time or the ACTION (■) button is pressed during "Normalise", then all adjustment values are returned to the factory settings.
Picture Adjustments

1. Press to display the Picture menu.

2. Select to adjust each item.

Press to select the menu to adjust.

Select the desired level by looking at the picture behind the menu.

Note:
Menu that cannot be adjusted is grayout. Adjustable menu changes depending on signal, input and menu setting.

Press " or " button to switch between modes.

---

Normalise

- Picture Mode Normal
- Contrast 25
- Brightness 0
- Colour 0
- Hue 0
- Sharpness 5
- White balance Normal
- Colour Management Off

Advanced settings

- AGC
- Gamma
- Input level
- W/B High R
- W/B High G
- W/B High B
- W/B Low R
- W/B Low G
- W/B Low B

Press " or " button to switch between modes.

Press to enter Advanced settings.

Advanced settings

Enables fine picture adjustment at a professional level (see next page).

Helpful Hint ( Normalise Normalisation)

While the "Picture" menu is displayed, if either the N button on the remote control is pressed at any time or the ACTION ( ) button is pressed during “Normalise”, then all adjustment values are returned to the factory settings.

---

Normal

For viewing in standard (evening lighting) environments. This menu selects the normal levels of Brightness and Contrast.

Dynamic

For viewing in brighter environments. This menu selects higher than normal levels of Brightness and Contrast.

Cinema

Ideal for movies.

Monitor

For use when creating broadcast or movie content. With this picture, even if the overall average picture level (APL) changes, the brightness of areas with the same signal level does not change.

Notes:

- When “Monitor” is selected in Picture Mode, the following menu items cannot be set.
  - Picture menu: Contrast
  - Extended life settings: Peak limit (see page 37)
  - Setup menu: Power save (see page 39)
  - MULTI DISPLAY Setup menu: AI-synchronization (see page 43)
  - Portrait Setup menu: AI-synchronization (see page 46)

- If you would like to change the picture and colour of the selected Picture menu to something else, adjust using the items in the Picture menu. (see next page)

---

Colour Management On
Enables vivid colour adjustment automatically.
Picture Adjustments

Notes:
• “Colour” and “Hue” settings cannot be adjusted for “RGB/PC” input signal.
• You can change the level of each function (Contrast, Brightness, Colour, Hue, Sharpness) for each Picture Mode.
• The setting details for Normal, Dynamic, Cinema and Monitor respectively are memorized separately for each input terminal.
• The “Hue” setting can be adjusted for NTSC signal only during Video (S Video) input signal.
• In Contrast, there is not a noticeable change even when contrast is increased with a bright picture or reduced with a dark picture.

### Advanced settings

<table>
<thead>
<tr>
<th>Item</th>
<th>Effect</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Black extension</strong></td>
<td></td>
<td>Adjusts the dark shades of the image in gradation.</td>
</tr>
<tr>
<td><strong>Input level</strong></td>
<td></td>
<td>Adjustment of parts which are extremely bright and hard to see.</td>
</tr>
<tr>
<td><strong>Gamma</strong></td>
<td></td>
<td>S Curve $\leftarrow 2.0 \leftarrow 2.2 \leftarrow 2.6$</td>
</tr>
<tr>
<td><strong>AGC</strong></td>
<td></td>
<td>Increases the brightness of dark signal automatically.</td>
</tr>
<tr>
<td><strong>W/B High R</strong></td>
<td>Less</td>
<td>Adjusts the white balance for light red areas.</td>
</tr>
<tr>
<td><strong>W/B High G</strong></td>
<td>Less</td>
<td>Adjusts the white balance for light green areas.</td>
</tr>
<tr>
<td><strong>W/B High B</strong></td>
<td>Less</td>
<td>Adjusts the white balance for light blue areas.</td>
</tr>
<tr>
<td><strong>W/B Low R</strong></td>
<td>Less</td>
<td>Adjusts the white balance for dark red areas.</td>
</tr>
<tr>
<td><strong>W/B Low G</strong></td>
<td>Less</td>
<td>Adjusts the white balance for dark green areas.</td>
</tr>
<tr>
<td><strong>W/B Low B</strong></td>
<td>Less</td>
<td>Adjusts the white balance for dark blue areas.</td>
</tr>
</tbody>
</table>

**Notes:**
- Carry out “W/B” adjustment as follows.
  1. Adjust the white balance of the bright sections using the “W/B High R”, “W/B High G” and “W/B High B” settings.
  2. Adjust the white balance of the dark sections using the “W/B Low R”, “W/B Low G” and “W/B Low B” settings.
  3. Repeat steps 1 and 2 to adjust.

Steps 1 and 2 affect each other’s settings, so repeat each step in turn to make the adjustment.
- The adjustment values are memorized separately for each input terminal.
- The adjustment range values should be used as an adjustment reference.

**Helpful Hint (\(\uparrow\)/Normalise/Normalisation)**

On the remote control unit, while the “Advanced settings” menu is displayed, if either the N button is pressed at any time or the ACTION (■) button is pressed during “Normalise”, then all adjustment values are returned to the factory settings.
**Picture Profiles**

Up to 8 combinations of picture adjustment values (in the Picture menu and Advanced settings) can be stored in the display memory as profiles and applied as needed, for a convenient way to enjoy your preferred picture settings.

- **Save profiles** (page 30)
- **Load profiles** (page 31)
- **Edit profiles** (page 31)

![Original picture](image1)

![Custom picture](image2)

**Save profiles**

Save the picture adjustment values in the MEMORY1 profile

**Edit the profile**

Delete or rename the profile

**Load the profile**

Apply the MEMORY1 profile

**MY PICTURE**

MEMORY2

MEMORY3

MEMORY4

MEMORY8

**MEMORY1**

MEMORY2

MEMORY3

MEMORY4

MEMORY8

**MEMORY2**

**MEMORY3**

**MEMORY4**

**MEMORY8**
Picture Profiles

Saving profiles

Follow these steps to save picture adjustment values as profiles.

**Note:**
When the settings are locked in “Extended life settings”, profiles cannot be saved.

1. Specify the picture quality in the Picture menu and Advanced settings. (see page 28, 29)

2. In the Picture menu, select “Memory save”.

3. Select a profile name for saving the picture adjustment values.

4. Select “Ok”.

5. Enter a name for the profile. **[Entering profile names]**
   Profile names can be up to 16 characters. To enter text, select characters in the on-screen keyboard. Edit the default profile name in the text box as desired.

   **Example: Specifying “MY PICTURE”**
   1. Select “All delete”.
   2. Select “M”.
   3. Select “Y”.
   4. Select “Space”.

6. When you finished entering the profile name, select “Ok”. To cancel saving the profile, select “Cancel”.

---

**Note:**
- “*” appears for a profile in which the picture adjustments have already been saved.
- Pro/les names can be up to 16 characters.
- To enter text, select characters in the on-screen keyboard.
- Edit the default profile name in the text box as desired.
- All text is deleted.
- To delete individual characters, select “Delete”.
- Repeat this process to enter the next character.
Loading profiles

Load profiles and apply the picture adjustment values to the display as follows.

Notes:
• Loaded profiles are stored in memory according to the selected input terminal. (see page 15)
• When the settings are locked in “Extended life settings”, profiles cannot be loaded.

1 In the Picture menu, select “Memory load”.

2 Select the profile to load.

Editing profiles

Delete or rename profiles as follows.

<Deleting profiles>

1 In the Picture menu, select “Memory edit”.

2 Select “Memory delete”.

3 Select the profile to delete. To delete all profiles, select “All delete”.

4 Select “Ok”.

<Renaming profiles>

1 In the Picture menu, select “Memory edit”.

2 Select “Memory name change”.

3 Select the profile to rename.

4 Enter a name for the profile. Entering profile names ⇒ page 30

5 When you finished entering the profile name, select “Ok”. To cancel renaming the profile, select “Cancel”.

Deleting pro/g191 les

1 Select the pro/g191 le to load.

2. MEMORY2

3. MEMORY3

4. MEMORY4

Renaming pro/g191 les

1 Select the pro/g191 le to rename.

2. MEMORY2

3. MEMORY3

4. MEMORY4
Sound Adjustment

1. Press to display the Sound menu.
2. Select to adjust each item.
   - Press to select the menu to adjust.
   - Select the desired level by listening to the sound.
3. Press to exit from adjust mode.

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
</table>
| Sound Mode       | Normal: Emits the original sound.  
                    Dynamic: Accentuates sharp sound.  
                    Clear: Attenuates human voice. |
| Bass             | Adjusts low pitch sounds.                                               |
| Mid              | Adjusts normal sounds.                                                  |
| Treble           | Adjusts high pitch sounds.                                              |
| Balance          | Adjusts left and right volumes.                                         |
| Surround         | Select On or Off.                                                       |
| Audio Out (PIP)  | Main: Selects main picture sound.                                        |
|                  | Sub: Selects PIP frame sound.                                            |

Note: Bass, Mid, Treble and Surround settings are memorized separately for each Sound Mode.

Helpful Hint (N / Normalise / Normalisation)

While the “Sound” menu is displayed, if either the N button on the remote control is pressed at any time or the ACTION (■) button is pressed during “Normalise”, then all adjustment values are returned to the factory settings.

SDI Sound Output

This menu is displayed when HD-SDI Terminal Board with audio (TY-FB10HD) or Dual Link HD-SDI Terminal Board (TY-FB11DHD) is installed to the unit.

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
</table>
| Left Channel        | Channel 1 to Channel 16  
                    Selects left audio channel.                                       |
| Right Channel       | Channel 1 to Channel 16  
                    Selects right audio channel.                                         |
| Sound Out           | On: Enables audio output.  
                    Off: Disables audio output.                                           |
| Level Meter         | Off: Hides the audio level meter.                                        |
|                     | 1-8ch: Displays the audio level meter (1-8ch)                            |
|                     | 9-16ch: Displays the audio level meter (9-16ch)                           |

Notes:
- This menu is available only when selecting a slot that HD-SDI Terminal Board with audio (TY-FB10HD) or Dual Link HD-SDI Terminal Board (TY-FB11DHD) is installed.
- This menu is unavailable when 2-picture display mode is active.
Present Time Setup / Set up Timer

The timer can switch the Plasma Display On or Off.

Before attempting Timer Set, confirm the Present Time and adjust if necessary. Then set Power On Time / Power Off Time.

1. Press to display the Setup menu.
2. Press to select Set up Timer or Present Time Setup.

Press to display the Set up Timer screen or Present Time Setup screen.

Present Time Setup

1. Press to select Day or Present Time.

Notes:
- Set cannot be selected unless Present Time is set.
- Unless setting the present time other than “99:99”, “Day” and “Present Time” cannot be set.
- The settings of “Day” and “Present Time” are reset when leaving the display turned off for about 7 days for the following reasons:
  - Pressing @/I switch of the unit to turn off the display.
  - Disconnecting the AC cord.
  - Interruption of power supply.

Set up Timer

1. Press to select Power On Time / Power Off Time.
2. Press to select Power On Function / Power Off Function.

Note: Timer function will not work unless “Present Time” is set.
**Screensaver (For preventing image retention)**

Do not display a still picture, especially in 4:3 mode, for any length of time. If the display must remain on, a Screensaver should be used.

1. **Function selection**
   - Press to display the Setup menu.
   - Press to select Screensaver.
   - Press to display Screensaver screen.

2. **Mode selection**
   - Press to select Mode.
   - Press to select each mode items.

   - Off
   - Interval
   - Time Designation
   - Standby after SCR Saver
   - On

   - Operates when Periodic Time and Operating Time are setup and those times arrive.
   - Operates when Start Time and Finish Time are setup and those times arrive.
   - Operates while Screensaver duration, and display enters standby mode.
   - Operates when Start is selected and the ACTION (●) button is pressed.

3. **Start setting**
   - When the Mode is set to On, press to select Start.
   - Press to start Screensaver.
   - The menu screen will disappear and the Screensaver will be activated. **To stop the Screensaver under On, press the R button or any buttons on the main unit.**
   - **Note:** When the display is turned off, the Screensaver will be deactivated.
Setup of Screensaver Time

After selecting Time Designation, Interval or Standby after SCR Saver, the relevant Time Setup will become available for selection and the Operating Time may be set. (Time cannot be set when “Mode” is “On” or “Off”.)

Press to select Start Time / Finish Time (when Time Designation is selected).
Press to select Periodic Time / Operating Time (when Interval is selected).
Press to select Screensaver duration (when Standby after SCR Saver is selected).
Press to setup.
▶ button: Forward
▼ button: Back

Notes:
• Pressing “◄” or “►” button once changes the Time 1 minute.
  [However, switching occurs every 15 minutes when Periodic Time is selected.]
• Pressing “◄” or “►” button continuously changes the Time by 15 minutes.
• “Screensaver duration” of the “Standby after SCR Saver” can be set from 0:00 to 23:59. When this is set to “0:00”, “Standby after SCR Saver” will not be activated.

Note: Timer function will not work unless “PRESENT TIME” is set.

Note:
Timer function will not work unless “PRESENT TIME” is set.
The following settings are setup to reduce image retention:

**Image Retention Reduction Menu**  
“Extended life settings” enables you to set the following 5 menus (Image Retention Reduction Menu) as recommended values or set them individually.

**Picture Mode**
**Contrast**
“Picture Mode” and “Contrast” are same as “Picture” menu items (see page 27). The settings of this menu will be reflected to the “Picture” menu.

**Side panel**
Do not display a picture in 4:3 mode for an extended period, as this can cause an image retention to remain on the side panels on either side of the display field. To reduce the risk of such an image retention, illuminate the side panels.

This function may be applicable to the non-picture area.

**Off:** Darken both ends.
**Low:** Make it dark gray.
**Mid:** Make it gray.
**High:** Make it light gray.

**Notes:**
- To reduce the occurrence of image retention, set the Side panel to High.
- The side panel may flash (alternate black/white) depending on the picture being shown on the screen. Using Cinema mode will reduce such flashing.
NANODRIFT Saver
Moves the display position of the screen slightly to reduce image retention on the display panel.
**Off:** NANODRIFT Saver does not operate.
**Min–Max:** NANODRIFT Saver operates. The display position of the screen moves at set time intervals. You can set the screen movement range. Some of the screen may appear to be missing as a result of this operation. If you change the value, a mask is displayed in the range where the picture is missing as a result of position movement.

When “NANODRIFT” Image Retention Reduction is set, “NANODRIFT” is displayed.

**Note:**
This function does not work in the following cases.
When “MULTI DISPLAY Setup” is set to “On”
When “PORTRAIT Setup” is set to “On”
When in digital zoom mode

Peak limit
**On:** Suppresses image contrast (peak brightness).
**Note:** When a still picture is viewed for an extended time, the screen may become slightly darker. (see page 64)

Express settings
Set the “Image Retention Reduction” menu to the recommended settings.
All menus will be locked.
- **Picture Mode:** Normal
- **Contrast:** Recommended setting for each model
- **Side panel:** High
- **NANODRIFT Saver:** High mid
- **Peak limit:** On

1. Select “Express settings”.
2. Select the input to apply the settings.
3. Select “Yes”.

Reduces screen image retention

Custom settings
Set the individual “Image Retention Reduction” menu.

1 Select “Custom settings”.

2 To set each menu to the recommended setting:
Select “Recommended settings”.

3 Set each menu.

4 To lock each menu setting:
Set the “Lock settings” to “Lock”.

Reset
Reset the “Image Retention Reduction” menu to the factory settings. Each menu will be unlocked.

1 Select “Reset”.

2 Select the input to reset the settings.
**Reduces power consumption**

- **Power save:** When this function is turned On, luminous level of the Plasma Display is suppressed, so power consumption is reduced.

- **Standby save:** When this function is turned On, power consumption of the microcomputer is reduced during power supply standby (see page 13, 16, 17), so standby power of the set is reduced.

- **PC Power management:** When this function is set to On, it operates under the following conditions to turn the power on or off automatically.
  
  When no pictures (HD/VD sync signals) are detected for 30 or so seconds during PC signal input:
  
  → Power is turned off (standby); the power indicator lights up orange.

  When pictures (HD/VD sync signals) are subsequently detected:
  
  → Power is turned on; the power indicator lights up green.

**Notes:**

- This function operates only during PC signal input.
- This function is effective when “Sync” is set to “Auto”, “Component / RGB-in select” is set to “RGB” and during normal viewing (one picture screen).

- **DVI-D Power management:** When this function is set to On, it operates under the following conditions to turn the power on or off automatically.
  
  When no pictures (sync signal) are detected for 30 or so seconds during DVI signal input:
  
  → Power is turned off (standby); the power indicator lights up orange.

  When pictures (sync signal) are subsequently detected:
  
  → Power is turned on; the power indicator lights up green.

**Notes:**

- This function operates only during DVI signal input.
- This function is invalid during input from DVI-D Terminal Board (TY-FB11DD).
- Depending on the type of terminal board equipped, this function may be invalid.

- **Auto power off:** Equipment power supply is turned Off when there is no signal.

  When this is set to On, the power supply of the unit goes Off 10 minutes after the input signals stop.

**Note:**

This function is effective during normal viewing (one picture screen).

---

1. Press to select
   - “Power save”
   - “Standby save”
   - “PC Power management”
   - “DVI-D Power management”
   - “Auto power off”.

2. Press to select “On” or “Off”.

3. Press to exit from Setup.
Customizing the Input labels

This function can change the label of the Input signal to be displayed. (see page 15)

1. Press to display the Setup menu.
2. Press to select Input label.
3. Press to display the Input label screen.
4. Press to select image input.
5. Press to change input label.

Image input  Input label
[SLOT INPUT]*1  SLOT INPUT / DVD1 / DVD2 / DVD3 / Blu-ray1 / Blu-ray2 / Blu-ray3 / CATV / VCR / STB / (Skip)
[COMPONENT]*2  COMPONENT / DVD1 / DVD2 / DVD3 / Blu-ray1 / Blu-ray2 / Blu-ray3 / CATV / VCR / STB / (Skip)

(Skip): The INPUT button press will skip its input.

*1 “SLOT INPUT” is displayed when a Terminal Board is installed.

*2 “COMPONENT” may be displayed as “RGB” depending on the setting of “Component/RGB-in select”. (see page 47)

When a Terminal Board with dual input terminals is installed
“SLOT INPUT” is displayed as “SLOT INPUT A” and “SLOT INPUT B” and independent settings are available.

When a Terminal Board with fixed display (such as Tuner Board) is installed
Only fixed display and (Skip) are available as Input label of “SLOT INPUT”.
[SLOT INPUT]  fixed display / (Skip)
Selecting the On-Screen Menu Language

1. Press to display the Setup menu.
2. Press to select the OSD Language.
3. Press to select your preferred language.

Selectable languages:
- English (UK)
- Deutsch
- Français
- Italiano
- Español
- ENGLISH (US)
- 中文 (Chinese)
- 日本語 (Japanese)
- Русский (Russian)

Display orientation

Sets the fan control and the display style of on-screen menu for vertical installation.

1. Press to display the Setup menu.
2. Press to select Display orientation.
3. Press to select “Landscape” or “Portrait”.
4. Press to exit from adjust mode.

**Landscape**
- Fan control for horizontal installation.

**Portrait**
- Fan control for vertical installation. On-screen menu will be rotated 90 degrees counterclockwise to be suitable for the setting.

**Notes:**
- Turn up the power switch for the upward direction when you set Display vertically.
- Fan control will be switched when turning on the unit next time.
Setup for MULTI DISPLAY

By lining up Plasma Displays in groups, for example, as illustrated below, an enlarged picture may be displayed across all screens. For this mode of operation, each plasma display has to be set up with a Display number to determine its location.

(Example)
- group of 4 (2 x 2)
- group of 9 (3 x 3)
- group of 16 (4 x 4)
- group of 25 (5 x 5)

How to Setup MULTI DISPLAY

1. Press to display the Setup menu.
2. Press to select the MULTI DISPLAY Setup.
3. Press to display the “MULTI DISPLAY Setup” menu.
4. Press to select the MULTI DISPLAY Setup.
5. Press to select “On” or “Off”.

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>MULTI DISPLAY Setup</td>
<td>Select “On” or “Off”. Note: If you set MULTI DISPLAY Setup to On, Portrait Setup will be unavailable.</td>
</tr>
<tr>
<td>Horizontal Scale</td>
<td>Select “× 1”, “× 2”, “× 3”, “× 4”, “× 5”.</td>
</tr>
<tr>
<td>Vertical Scale</td>
<td>Select “× 1”, “× 2”, “× 3”, “× 4”, “× 5”.</td>
</tr>
<tr>
<td>Seam hides video</td>
<td>Select “On” or “Off”. To hide joints between displays. Suitable for moving image display.</td>
</tr>
<tr>
<td>Location</td>
<td>Select the required arrangement number. (A1-E5 : Refer to the following) Display Number locations for each arrangement. (Examples)</td>
</tr>
<tr>
<td>(2 x 1)</td>
<td>(2 x 3)</td>
</tr>
<tr>
<td>A1, A2</td>
<td>A1, A2, A3, A4</td>
</tr>
</tbody>
</table>
### Setup for MULTI DISPLAY

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>AI-Synchronization</td>
<td>Select “Off” or “On”. The brightness depends on each display’s setting.</td>
</tr>
</tbody>
</table>

**Notes:**
- If you set AI-synchronization to On, the following menus will be unavailable and these settings will be fixed to the initial values.
  - Picture menu: Colour, Hue, Input level (Advanced settings)
- This function cannot be adjusted during input from VIDEO terminal.

### ID Remote Control Function

You can set the remote control ID when you want to use this remote control on one of several different displays.

**Note:**
To operate this function, please purchase ID remote controller sold separately.
Object model: EUR7636090R

1. Switch to on the right side.
2. Press the button on the remote control.
3. Press one of for the tens digit setting.
4. Press one of for the units digit setting.

**Notes:**
- The numbers in 2, 3 and 4 should be set up quickly.
- Adjustable ID number range is 0 - 99.
- If a number button is pressed more than two times, the first two numbers become the ID number for the remote control.

**ID remote control button operation**

The operation is the same as normal remote control except for the button.

**ID Cancellation**

Press button on remote control. (This has the same effect as pressing the buttons at the same time.)

**Notes:**
- Set the Remote ID “On” to operate the ID remote control.
  - If Remote ID is set to “On”, you can use the remote control without identical ID number during option menu display. (see page 54)
- The ID remote control cannot be used when ID select is set to anything other than 0, and the remote control ID is not the same as the ID select number (see page 54).
MULTI PIP Setup

Set the two-screen display function that is activated when MULTI PIP is pressed.

1. Press to display the Setup menu.
2. Press to select the MULTI PIP Setup.
3. Press to display the “MULTI PIP Setup” menu.
4. Press to select the menu to adjust.
5. Press to adjust the menu.

MULTI PIP

Set the two-screen function.

→ PIP ↔ Advanced PIP ↔ Blend PIP

Display Mode

The display mode can be changed separately for each function that was set in “MULTI PIP Setup”.

For “PIP”:  — (One screen) ↔ P and P ↔ P out P ↔ P in P

For “Advanced PIP”:  — (One screen) ↔ 1 to 8

For “Blend PIP”:  — (One screen) ↔ Full ↔ P in P

Note: The display mode changes in the same way when MULTI PIP is pressed.

Transparent Display of the Sub Screen (During Blend PIP)

① Select “On” in “Transparency”.
② Set the transparency level for the sub screen in “Transparency level”. (0 to 100 %)

Setting example: Transparent image (sub screen)

Note: “Insert” cannot be set when “Transparency” is “On”.

Sub Screen Insertion (During BLEND PIP)

① Select “On” in “Insert”.
② Set the “Insert level”. (1 to 10 %)

Set the brightness level threshold for discriminating between the transparent areas and non-transparent areas on the sub screen.

Setting example: Image to insert (sub screen)

Note: “Transparency” cannot be set when “Insert” is “On”.

44
Set up for Portrait

Divide an input image into 3 parts, and display one of them to a plasma display which is set vertically. The image will be enlarged 3 times and rotated 90-degree.

(Example)

Notes:
- When using the Portrait function with displays set vertically, “Display orientation” in Setup menu has to be set to “Portrait” (see page 41).
- Turn up the power switch for the upward direction when you set Display vertically.

How to setup Portrait

1. Press to display the Setup menu.
2. Press to select the Portrait Setup.
3. Press to display the “Portrait Setup” menu.
4. Press to select Seam hides video.
   - Press to select “Off”, “On”.

Note:
- If you set Portrait Setup to On, MULTI DISPLAY Setup will be unavailable.

Notes:
- When using the Portrait function with displays set vertically, “Display orientation” in Setup menu has to be set to “Portrait” (see page 41).
- Turn up the power switch for the upward direction when you set Display vertically.
5 Viewing Area / Location

Viewing Area: Set a mode of image division for Portrait function.
Location: Set a location of image to be displayed for Portrait function.

Press to select Viewing Area or Location.
Press to select each functions.

Notes:
• For HD signal videos, the “Viewing Area” is set at “16:9”, and cannot be changed.
  HD signal: 1125(1080) / 60i • 50i • 60p • 50p • 24p • 25p
  • 30p • 24sF, 750(720) / 60p • 50p, 1250(1080) / 50i
• When “Viewing Area” is “16:9”, the aspect mode is set to “16:9”.

Location setting
When Portrait Setup is “On”:
Display the image of the selected location.

When Portrait Setup is “Off”:
Represent an area of the selected Location at a normal brightness and darken the rest of it.

Viewing Area and Location
The mode of image division and the Location by setting of Viewing Area is as follows.

Viewing Area: 16:9

Location 1
Undisplayed area (48 dots)

Location 2

Location 3

Viewing Area: 4:3

Location 1

Location 2

Location 3

Suitable to display 16:9 images. 4:3 images extend transversely. Both right and left sides of the image are cut by 48 dots.

4:3 images are displayed without changing aspect ratio. Although the images of each Location overlap, you can adjust Pos. / Size to display the image normally. (see page 24)

6 Al-synchronization

Adjust to equalize the brightness of the 3 displays when using Portrait setting.

Press to select Al-synchronization.
Press to select “Off”, “On”.

The brightness depends on each display’s setting.
Equalize the brightness of all the displays.

Notes:
• If you set Al-synchronization to On, the following menus will be unavailable and these settings will be fixed to the initial values.
  Picture menu: Colour, Hue, Input level (Advanced settings)
• This function cannot be adjusted during input from VIDEO terminal.

7 Press to exit from adjust mode.
Setup for Input Signals

Component / RGB-in select

Select to match the signals from the source connected to the Component / RGB or PC input terminals.

Y, Pb, Pr signals ↔ “Component”
RGB signals ↔ “RGB”

1 Press to display the Setup menu.

2 Press to select the “Component / RGB-in select”.
   Press to select the desired input signal.
   Component ↔ RGB

3 Press to exit from adjust mode.

Note:
Make setting of the selected input terminal (COMPONENT RGB IN or PC IN).

YUV / RGB-in select

Select to match the signals from the source connected to the DVI input terminals.

YUV signals ↔ “YUV”
RGB signals ↔ “RGB”

1 Press to display the Setup menu.

2 Press to select the “YUV / RGB-in select”.
   Press to select the desired mode.
   YUV ↔ RGB

3 Press to exit from adjust mode.

Notes:
• Selection may not be possible, depending on which optional board is installed.
• Make setting of the selected input terminal (SLOT or DVI-D IN).
Setup for Input Signals

Signal menu

Note:
“Signal” setup menu displays a different setting condition for each input signal.

1. Press to display the Setup menu.
2. Press to select the “Signal”.
3. Press to display the Signal menu.
4. Press to select the menu to adjust.
5. Press to adjust the menu.
6. Press to exit from adjust mode.

For Video (S VIDEO)
For Action ( ) button
For RGB
For Component
For Digital

3D Y/C Filter – For NTSC AV images

This menu is displayed when BNC Dual Video Terminal Board (TY-FB9BD) is installed to the unit. Select “Signal” from the “Setup” menu during Video (S Video) input signal. (“Signal [AV]” menu is displayed.)

Press to select the “3D Y/C Filter (NTSC)”
Press to set On / Off.

Note:
When On, this setting only affects NTSC input signals.
Setup for Input Signals

**Colour system**

Select Signal from the “Setup” menu during Video (S Video) input signal. (“Signal [AV]” menu is displayed.)

- Press to select the “Colour system”.
- Press to select each functions.

<table>
<thead>
<tr>
<th>Signal</th>
<th>[ AV ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>3D Y/C Filter (NTSC)</td>
<td>On</td>
</tr>
<tr>
<td>Colour system</td>
<td>Auto</td>
</tr>
<tr>
<td>Cinema reality</td>
<td>Off</td>
</tr>
<tr>
<td>Noise reduction</td>
<td>Off</td>
</tr>
</tbody>
</table>

If the picture image becomes unstable:

With the system set on Auto, under conditions of low level or noisy input signals the image may in rare cases become unstable. Should this occur, set the system to match the format of the input signal.

**Colour system**: Set the colour system to match the input signal. When “Auto” is set, Colour system will be automatically selected from NTSC/PAL/SECAM/M.NTSC.

To display PAL60 signal, select “Auto” or “PAL”.

→ Auto ↔ PAL ↔ SECAM ↔ M.NTSC ↔ NTSC

**Cinema reality**

**Cinema reality**: When on, the display attempts to reproduce a more natural interpretation of sources such as movie pictures, which are recorded at 24 frames per second. If the picture is not stable, turn the setting to off.

**Note:**
When On, this setting only affects the following signal input:
• NTSC / PAL signal input during “AV (S Video)” input signal.
• 525i (480i), 625i (575i), 1125 (1080) / 60i signal input during “Component” input signal.

- Press to select Cinema reality.
- Press to set On / Off.

**XGA Mode**

This menu is displayed when the input signal is analog (Component/PC). This unit supports three types of XGA signals with 60Hz vertical frequency having different aspect ratios and sampling rates (1,024 × 768 @ 60Hz, 1,280 × 768 @ 60Hz and 1,366 × 768 @ 60Hz).

- Press to select “XGA Mode”.

**Auto**: Automatically selected from 1024×768/1280×768/1366×768.

Switch the setting to suit the input signal for better display depends on the angle of view or display resolution condition.

**Note:**
After making this setting, be sure to make each adjustment (such as “Auto Setup”) on the “Pos. /Size” menu as necessary. (see page 24)
Noise reduction

Sets the following three NR (Noise Reduction) functions together.
P-NR, Mosquito NR, Block NR

Press to select “Noise reduction”.
Press to select “Off”, “Min”, “Mid”, “Max”, “Advanced”.

Advanced NR

Sets the three NR functions separately.

1

Press to select “Advanced”.
Press to enter Advanced NR.

2

Press to select P-NR, Mosquito NR or Block NR.
Press to select “Off”, “Min”, “Mid”, “Max”.

P-NR: Automatically reduces unwanted picture noise.
Mosquito NR: Reduces mosquito noise around subtitles on MPEG videos.
Block NR: Reduces block noise when playing MPEG videos.

Note:
Noise reduction cannot be adjusted while a PC signal is being applied.
Sync

This function operates only during input from PC IN terminal. Select Signal from the “Setup” menu during RGB or Component input signal.

Press to select the “Sync”.

Press to adjust.

Setting RGB sync signal

Confirm that the input is set to RGB input (this setting is valid only for RGB input signal).

Auto: The H and V sync or synchronized signal is automatically selected. If both input, it is selected the H and V sync.

on G: Uses a synchronized signal on the Video G signal, which is input from the G connector.

VBS: Uses a synchronized signal of Composite Sync input, which is input from the HD connector.

Setting Component sync signal

Confirm that the input is set to Component input (this setting is valid only for Component input signal).

Auto: The H and V sync or synchronized signal is automatically selected. If both input, it is selected the H and V sync.

on Y: Uses a synchronized signal on the Video Y signal, which is input from the Y connector.

Note:
Accepts only RGB signals from COMPONENT/RGB IN terminal with “Sync on G”.

SDI Through

Set the active through function of the Dual Link HD-SDI Terminal Board (TY-FB11DHD).

Note:
Settings can only be performed for this menu when a slot mounted with a Dual Link HD-SDI Terminal Board (TY-FB11DHD) is selected.

Input signal display

Displays the frequency and the type of the current input signal.

This display is valid only for Component / RGB / PC and Digital input signal.

Display range:
Horizontal 15 - 110 kHz
Vertical 48 - 120 Hz

The dot clock frequency is displayed during digital signal input.
Make the various settings to use the network function.

**DHCP, IP address, Subnet mask, and Gateway settings**

1. Set DHCP. When “Off” is selected, IP address and other settings can be set manually.
2. Select the item and press .
3. Enter an address.
4. Select “Save” and press .

**Port setting**

1. Select “Port” and press .
2. Enter a port number.

Pressing will cancel the address change.

Pressing will cancel the port number change.

**Save**

Save the current network Setup. Each value set for DHCP, IP address, Subnet mask, and Gateway will be saved. If “NG” is displayed, check the same IP address is not used within the same network.

**DHCP (DHCP client function)**

To obtain an IP address automatically using a DHCP server, set this to “On”. If DHCP server is not used, set this to “Off”.

**IP address (IP address display and setting)**

Enter an IP address if DHCP server is not used.

**Subnet mask (Subnet mask display and setting)**

Enter a subnet mask if DHCP server is not used.

**Gateway (Gateway address display and setting)**

Enter a gateway address if DHCP server is not used.

**Port**

Set the port number used for command control. The available setting range is 1024 – 65535. When the PJLink™ protocol is used, the port setting is not necessary.

**LAN Speed**

Set the connection speed of the LAN environment. Select the value from Auto, 10 Half, 10 Full, 100 Half or 100 Full.

**Network ID**

Set the ID to identify this unit. The available setting range is 0 – 99.

**Control I/F Select**

Set whether to control with RS-232C (serial) or LAN. When “LAN” is set, the slot power is turned on, and power indicator is lit orange under the condition of power “Off” with remote control (stand-by state), regardless of the “Slot power” setting. (see page 55)

**MAC address**

Display the MAC address of this unit. However, the MAC address is not displayed when the “Control I/F Select” is set to “RS-232C”.

**Notes:**

- To use a DHCP server, make sure the DHCP server is started.
- Contact your network administrator for details on settings.
Options Adjustments

1. **Weekly Command Timer**
   - **Sets Weekly Command Timer.** (see page 56)
   - **Audio input select**
     - **On:** Displays all the following on screen.
     - **Power on display**
     - **Input signal switch display**
     - **No signal display**
     - **Mute and the remaining time of off-timer after \( \) was pressed.
     - **Off:** Hides all the items above from view.

2. **Onscreen display**
   - Adjusts the input signal when the unit is turned on.
   - **Off ↔ PC ↔ SLOT INPUT*1 ↔ VIDEO ↔ COMPONENT*2 ↔ HDMI ↔ DVI**
     - *1 “SLOT INPUT” is displayed when an optional Terminal Board is installed.
     - *2 “COMPONENT” may be displayed as “RGB” depending on the setting of “Component/RGB-in select”. (see page 47)

   **Notes:**
   - Only the adjusted signal is displayed. (see page 15)
   - This menu is available only when “Input lock” is “Off”.

3. **Initial VOL level**
   - **Press \( \) button to adjust the volume when the unit is turned on.**
   - **Off ↔ On**
   - **On:** Sets normal volume.
   - **Notes:**
     - When “Maximum VOL level” is “On”, the volume can only be adjusted between 0 and your maximum range.
     - You can hear the changed volume regardless of your volume setting before opening the options menu if you adjust the volume when “Initial VOL level” is “On” and cursor is on the menu.

4. **Maximum VOL level**
   - **Press \( \) button to adjust the maximum volume.**
   - **Off ↔ On**
   - **Off:** Sets auto maximum volume.
   - **On:** Sets your preferred maximum volume.

   **Notes:**
   - If the “Maximum VOL level” is set lower than the “Initial VOL level”, the “Initial VOL level” automatically becomes the same as the “Maximum VOL level”.
   - The volume display can go up to 63 regardless of the settings.
   - You can hear the changed volume regardless of your volume setting before opening the options menu if you adjust the volume when “Maximum VOL level” is “On” and cursor is on the menu.
Options Adjustments

<table>
<thead>
<tr>
<th>Item</th>
<th>Adjustments</th>
</tr>
</thead>
</table>
| Input lock        | Off ↔ PC ↔ SLOT INPUT*1 ↔ VIDEO ↔ COMPONENT*2 ↔ HDMI ↔ DVI  
*1 “SLOT INPUT” is displayed when an optional Terminal Board is installed.  
When a Terminal Board with dual input terminals is installed, “SLOT INPUT A” and “SLOT INPUT B”  
are displayed.  
*2 “COMPONENT” may be displayed as “RGB” depending on the setting of “Component/RGB-in select”.  
(see page 47)  
Notes:  
• Only the adjusted signal is displayed (see page 15).  
• Input switch can be used when this is set to “Off”.  
• In two screen display mode, if anything other than “Off” is set, the value will be fixed as the value input  
in the single screen display mode. |
| Button lock       | Off ↔ MENU&ENTER ↔ On  
Off: All the buttons on main unit can be used.  
MENU&ENTER: Locks  and  buttons on main unit.  
On: Locks all the button on main unit.  
Sets Button lock with the unit buttons in the following procedure.  
Off: Press  four times→Press  four times→Press  four times→Press  
MENU&ENTER: Press  four times→Press  four times→Press  four times→Press  
On: Press  four times→Press  four times→Press  four times→Press |
| Rememo User level | Off ↔ User1 ↔ User2 ↔ User3  
Off: You can use all of the buttons on the remote control.  
User1: You can only use  ,  ,  ,  ,  buttons on the remote control.  
User2: You can only use  button on the remote control.  
User3: Locks all the buttons on remote control. |
| Off-timer function| Enable: Enables the “Off-timer function”.  
Disable: Disables the “Off-timer function”.  
Note: When “Disable” is set, the Off-timer is cancelled. |
| Initial Power Mode| Normal ↔ Standby ↔ On  
Sets the power mode of the unit for when the power recovers from failure or after plugging off and in again.  
Normal: Power returns in as the same state as before the power interruption.  
Standby: Power returns in standby mode. (Power Indicator: red/orange)  
On: Power returns in power On. (Power Indicator: green)  
Note: When using multiple displays, “Standby” is preferred to be set in order to reduce a power load. |
| ID select         | Sets panel ID number when panel is used in “Remote ID” or “Serial ID”.  
Set value range: 0 - 100  
(Standard value: 0) |
| Remote ID         | The setting of this menu is valid only when using ID remote control.  
Off: Disables ID remote control functions. You can use normal remote control operations.  
On: Enables ID remote control functions.  
Note: To use the ID remote control function, it is necessary to set each ID number of remote control and display unit.  
About the setting method, please refer to “ID Remote Control Function” (see page 43) and “ID select” (above-mentioned). |
| Serial ID         | Sets the panel ID Control.  
Off: Disables external control by the ID.  
On: Enables the external control by the ID. |
| Display size      | Adjusts the image display size on screen.  
Off: Sets the normal image display size on screen.  
On: Sets the image display size approximately 95 % of the normal image display.  
Notes:  
• This setting is valid only when the input signals are as follows;  
NTSC, PAL, SECAM, M.NTSC, PAL60, PAL-M, PAL-N  
525i, 525p, 625i, 625p, 750/60p, 750/50p, 1125/60i, 1125/50i, 1125/24F, 1125/25p, 1125/24p,  
1125/30p, 1125/60p, 1125/50p, 1250/50i (Component Video, RGB, DVI, SDI, HDMI)  
• This setting is invalid when two screen display, digital zoom, Multi display or Portrait display is  
selected.  
• When “Display size” is set to “On”, “H-Pos” and “V-Pos” in “Pos./Size” can be adjusted.  
• Refer to each board’s operating instruction for DVI, SDI, HDMI’s corresponding signals.
## Options Adjustments

<table>
<thead>
<tr>
<th>Item</th>
<th>Adjustments</th>
</tr>
</thead>
</table>
| **Studio W/B**  | Off: Nullify all the settings adjusted.  
On: Sets the colour temperature for TV studio.  
Note: Valid only when the “Warm” is set as “White balance” in Picture menu.                                                                                                                                                                                                                          |
| **Studio Gain** | Sharpens the contrast for a better view when a part of the image is too light to see.  
Off: Disables “Studio Gain”.  
On: Enables “Studio Gain”.  
Note: This setting is valid only when the input signals are as follows: Component Video, RGB (analog), SDI, HDMI                           |
| **Slot power**  | Off ↔ Auto ↔ On  
Off: Power is not transmitted to the slot power.  
Auto: Power is transmitted to the slot power only when main power is on.  
On: Power is transmitted to the slot power when main power is on or in the standby state.  
Note: In some cases, power is transmitted to the slot power when main power is on or in the standby state regardless of the slot power setting.                                                                                                  |
| **Power On Screen Delay** | Off ↔ 1 ↔ 2 ↔ 3... ↔ 30  
You can set the power-on delay time of the displays to reduce the power load, when you press $\Box / \mid$ to turn on the multiple displays that are set together, for example, on MULTI DISPLAY system.  
Set each display’s setting individually.  
Off: The display will be turned on at the same time as $\Box / \mid$ is pressed.  
1 to 30 (sec.): Set the power-on delay time (second).  
After pressing $\Box / \mid$, the display will be powered on with time delay depending on this setting.  
Notes:  
• During this function is working, the power indicator is blinking green.  
• This function also works when the power recovers from failure or after plugging off and in again the power cord.  
After you unplug and plug the power cord in while the unit is in standby mode and also the power is being supplied to a terminal board, the unit will start supplying the power to the board with time delay according to the setting.  
The power indicator lights up red first and it turns orange when the power starts being supplied to the board. |
| **Clock Display** | Off: Not display the clock.  
On: Display the clock.  
The clock is displayed at the lower left of the screen when $\Box$ button is pressed.  
Note: When “PRESENT TIME Setup” is not set, the clock is not displayed even if “Clock Display” is “On”. (see page 33) |
| **All Aspect**   | Sets All Aspect mode (advanced aspect setting) or default aspect mode.  
With each press of $\Box$ button, the aspect changes in the selected mode.  
Off: Default aspect mode  
On: All Aspect mode  
Aspect mode of each setting is as follows:  
(Example: HD signal)  
Off: 4:3 → 4:3 Full  
On: 4:3 (1) → 4:3 (2) → 4:3 Full  
Sets All Aspect mode (advanced aspect setting) or default aspect mode.  
With each press of $\Box$ button, the aspect changes in the selected mode.  
Off: Default aspect mode  
On: All Aspect mode  
Aspect mode of each setting is as follows:  
(Example: HD signal)  
Off: 4:3 → 4:3 Full  
On: 4:3 (1) → 4:3 (2) → 4:3 Full  |
| **Auto Setup**  | Sets the operational mode of the automatic position adjustment in the Pos./Size menu.  
Manual: Automatic position adjustment starts when $\Box$ is pressed on the remote control or automatic position adjustment is executed from the Pos./Size menu.  
Auto: Other than remote control or menu operation, automatic position adjustment starts:  
When the display power is turned ON.  
When the input signal is switched. |
| **Rotate**      | Off: Does not rotate the image.  
On: Rotates the image 180 degrees. |

## Normalization

When both main unit buttons and remote control are disabled due to the “Button lock”, “Remocon User level” or “Remote ID” adjustments, set all the values “Off” so that all the buttons are enabled again.

Press the $\Box$ button on main unit together with $\Box$ button on the remote control and hold for more than 5 seconds.  
The “Shipping” menu is displayed and the lock is released when it disappears.
Weekly Command Timer

You can set 7-day timer programming by setting time and command.

Note: Before setting Weekly Command Timer, set PRESENT TIME Setup. (see page 33)

1. Press to select Function.
   Press to select “On”.

Note:
• When Function is set to On, Set up TIMER (see page 33) is unavailable and Interval / Time Designation in Mode of Screensaver (see page 34) cannot be selected.

2. Press to select a day.
   Press to select a program number.

Note:
• You can set the program from 1 to 7. --- indicates unset.

3. Press to select Program Edit.

Press to show the Program Edit screen.

4. Press to select Program.

Press to change the program numbers (1-7).

5. Press to select a command number.

Press to show the previous / next command pages (1-8) of the selected program.

Press to show the command setting screen.
Options Adjustments

6
Press to select Command No.
Press to select a command number.

7
Press to select Time / Command.
Press to set each item.

Time: Set the time to execute a command program.
Pressing “<” or “>” button once changes “Time” 1 minute.
Pressing “<” or “>” button continuously changes “Time” by 15 minutes.

Command: Select a command to execute at the set time. This unit has 64 commands to set.
(see page 68)

Notes:
• Command is performed in order of execution time, regardless of the command number.
• If a command execution time overlaps with that of other commands, these commands are performed in number order.
• Pressing  Time becomes --:-- and Command becomes ---.

Note:
Press  to return to the previous screen.
Options Adjustments

Audio input select

Set up the sound when an image input is selected.

Set up the sound when an image input is selected.

**Image input**

- **[SLOT INPUT]**
- **[VIDEO]**
- **[COMPONENT]**
- **[HDMI]**
- **[DVI]**
- **[PC]**

**Audio input**

- **SLOT INPUT / VIDEO / COMPONENT / DVI / PC / NO AUDIO**
- **SLOT INPUT / VIDEO / COMPONENT / DVI / PC / NO AUDIO**
- **SLOT INPUT / VIDEO / COMPONENT / DVI / PC / NO AUDIO**
- **SLOT INPUT / VIDEO / COMPONENT / HDMI / DVI / PC / NO AUDIO**
- **SLOT INPUT / VIDEO / COMPONENT / DVI / PC / NO AUDIO**

*1 "SLOT INPUT" is displayed when a Terminal Board is installed.
*2 "COMPONENT" may be displayed as "RGB" depending on the setting of “Component/RGB-in select”. (see page 47)

When a Terminal Board with dual input terminals is installed

“SLOT INPUT” is displayed as “SLOT INPUT A” and “SLOT INPUT B” and independent settings are available. To set other image inputs, you can select “SLOT INPUT A” and “SLOT INPUT B”.

**Image input**

- **[SLOT INPUT A]**
- **[SLOT INPUT B]**
- **[VIDEO]**
- **[COMPONENT]**
- **[HDMI]**
- **[DVI]**
- **[PC]**

**Audio input**

- **SLOT INPUT / VIDEO / COMPONENT / DVI / PC / NO AUDIO**
- **SLOT INPUT / VIDEO / COMPONENT / DVI / PC / NO AUDIO**
- **SLOT INPUT / VIDEO / COMPONENT / DVI / PC / NO AUDIO**
- **SLOT INPUT / VIDEO / COMPONENT / HDMI / DVI / PC / NO AUDIO**
- **SLOT INPUT / VIDEO / COMPONENT / DVI / PC / NO AUDIO**

When Image input and Audio input differ from each other, the Audio input is displayed as below.

**Notes:**

- HDMI Audio is selectable only for HDMI Input.
- You cannot set audio of B for SLOT INPUT A, or audio of A for SLOT INPUT B.
- In Dual Picture mode, the audio is not output as per this setting.
Using Network Function

This unit has a network function to control the network connected display with your computer.

Note:
To use the network function, set each “Network Setup” setting and make sure to set the “Control I/F Select” to “LAN”. (see page 52)
When “LAN” is set, the slot power is turned on, and power indicator is lit orange under the condition of power “Off” with remote control (stand-by state), regardless of the “Slot power” setting. (see page 55)

Example of Network Connection

Notes:
• Make sure the broadband router or hub supports 10BASE-T/100BASE-TX.
• To connect a device using 100BASE-TX, use “category 5” LAN cable.
• Touching the LAN terminal with a statically charged hand (body) may cause damage due to its discharge. Do not touch the LAN terminal or a metal part of the LAN cable.
• For instructions on how to connect, consult your network administrator.

Command Control

Network function of the unit can control the unit in the same way as serial control from a network.

Supported commands
Commands used in the serial control are supported. (see page 12)

Note:
Consult your local Panasonic dealer for detail instructions on command usage.
Using Network Function

## PJLink™ Protocol

The network function of the unit conforms with PJLink™ class 1 and you can operate the following actions from your computer using PJLink™ protocol.

- Display setup
- Display status query

### Supported commands

Commands to control the unit with PJLink™ protocol are shown in the table below.

<table>
<thead>
<tr>
<th>Command</th>
<th>Control</th>
<th>Parameter</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWR</td>
<td>Power control</td>
<td>0 = Standby 1 = Power “On”</td>
<td></td>
</tr>
<tr>
<td>POWR?</td>
<td>Power status query</td>
<td>0 = Standby 1 = Power “On”</td>
<td></td>
</tr>
<tr>
<td>INPT</td>
<td>Input switch</td>
<td>Parameter</td>
<td></td>
</tr>
<tr>
<td>INPT?</td>
<td>Input switch query</td>
<td>See the parameter for command INST?</td>
<td></td>
</tr>
<tr>
<td>AVMT</td>
<td>Shutter control</td>
<td>10 = Picture On (picture mute deactivated), 11 = Picture Off (picture on mute) 20 = Audio On (audio mute deactivated), 21 = Audio Off (audio on mute) 30 = Shutter mode Off (picture and audio mute deactivated) 31 = Shutter mode On (picture and audio on mute)</td>
<td></td>
</tr>
<tr>
<td>AVMT?</td>
<td>Shutter control query</td>
<td>11 = Picture Off (picture on mute) 21 = Audio Off (audio on mute) 30 = Shutter mode Off (picture and audio mute deactivated) 31 = Shutter mode On (picture and audio on mute)</td>
<td></td>
</tr>
<tr>
<td>ERST?</td>
<td>Error status query</td>
<td>Parameter  First byte: Means fan error. 0 or 2. Second byte: 0 Third byte: 0 Fourth byte: 0 Fifth byte: 0 Sixth byte: Means other error. 0 or 2. Meaning of the 0 – 2 settings: 0 = Error is not detected, 2 = Error</td>
<td></td>
</tr>
<tr>
<td>LAMP?</td>
<td>Lamp status query</td>
<td>Not supported</td>
<td></td>
</tr>
<tr>
<td>INST?</td>
<td>Input switch list query</td>
<td>Numbers 11 to 13 are depending on the slot installation condition 11: PC IN input (PC) When a single input terminal board is attached 11: SLOT input (SLOT INPUT) 12: PC IN input (PC) 21: VIDEO input (VIDEO) 31: HDMI input (HDMI) When a dual input terminal board is attached 11: SLOT input (SLOT INPUT A) 12: SLOT input (SLOT INPUT B) 13: PC IN input (PC) 22: COMPONENT/RGB IN input (COMPONENT) 32: DVI-D IN input (DVI)</td>
<td></td>
</tr>
<tr>
<td>NAME?</td>
<td>Projector name query</td>
<td>Returns empty character (no name information)</td>
<td></td>
</tr>
<tr>
<td>INF1?</td>
<td>Manufacturer name query</td>
<td>Returns “Panasonic”</td>
<td></td>
</tr>
<tr>
<td>INF2?</td>
<td>Model name query</td>
<td>Returns “TH-50PF20” (for 50-inch model)</td>
<td></td>
</tr>
<tr>
<td>INFO?</td>
<td>Other information query</td>
<td>Returns version number</td>
<td></td>
</tr>
<tr>
<td>CLSS?</td>
<td>Class information query</td>
<td>Returns “1”</td>
<td></td>
</tr>
</tbody>
</table>

### PJLink™ security authentication

Set “Panasonic” for the PJLink™ password.

- PJLink™ is a pending trademark in Japan, the United States, and other countries or areas.
Using Web Browser Control

You can use a Web browser to control the unit and set up a network and password.

Before Using Web Browser Control

To use the Web browser control, the unit and computer setups are required.

Unit Setup
Set each “Network Setup” setting and make sure to set the “Control I/F Select” to “LAN”. (see page 52)

Computer Setup
Disable the proxy server settings and enable JavaScript.

(Windows)

Disable proxy server settings
1 Display [Internet Properties] window.
2 Click the [Connections] tab and then [LAN Settings].
3 Deselect the [Use automatic configuration script] and [Use a proxy server for your LAN] boxes.
4 Click [OK].

Enable JavaScript
1 Display [Internet Properties] window.
2 Set the security level on the [Security] tab to [Default Level]. Alternatively enable [Active scripting] from the [Custom Level] button.

(Macintosh)

Disable proxy server settings
1 From the [Safari] menu, click [Preferences].
   General screen is displayed.
2 From the [Advanced] tab, click the [Change Settings…] button next to [Proxies]. Click [Proxies] and set up a proxy server.
3 Deselect the [Web Proxy] and [Automatic Proxy Configuration] boxes.
4 Click [Apply Now].

Enable JavaScript
1 Display [Security] of Safari.
2 Select [Enable JavaScript] under [Web content].

Access from Web Browser

Access to the TOP screen of the Web browser control using a Web browser.

1 Start your Web browser.
2 Enter the IP address set with the “Network Setup” of the unit. (see page 52)
   ![Address](http://192.168.0.8)
3 Enter the user name and password when the Authentication screen is displayed.

Authentication screen

![Authentication Screen]

4 Click [OK].
   After logged in, the TOP screen of the Web browser control is displayed. (see page 62)

Notes:
- The password used here is the same password used for command control and the PJLink™ security authentication.
- Default user name and password are as follows:
  User name: user1
  Password: Panasonic
- The password can be changed on the Password Setup screen after logging in (see page 63). The user name cannot be changed.
- Under no circumstances, Panasonic Corporation or its associated companies will ask customers their password directly. Even if you are asked directly, please do not reveal your password.
Using Web Browser Control

TOP screen structure of the Web browser control
After logging in, the TOP screen of the Web browser control is displayed.

① Menu
Menu items are displayed. When a button is clicked, setup screen of each item is displayed.

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>BASIC CONTROL</td>
<td>BASIC CONTROL screen is displayed. (see below)</td>
</tr>
<tr>
<td>OPTION CONTROL</td>
<td>OPTION CONTROL screen is displayed. (see below)</td>
</tr>
<tr>
<td>NETWORK SETTING</td>
<td>Network Setup screen is displayed. (see page 63)</td>
</tr>
<tr>
<td>CHANGE PASSWORD</td>
<td>Password setup screen is displayed. (see page 63)</td>
</tr>
</tbody>
</table>

② According to the selected item from the main menu, setup status or set items are displayed.

③ Network ID information
ID to identify the unit is displayed.

Display Control (BASIC CONTROL/OPTION CONTROL Screen)

Click BASIC CONTROL or OPTION CONTROL from the menu. Various controls of the unit can be set.

BASIC CONTROL screen
Click BASIC CONTROL from the menu. Unit status and buttons to change settings are displayed.

<table>
<thead>
<tr>
<th>STATUS</th>
<th>CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER</td>
<td>ON</td>
</tr>
<tr>
<td></td>
<td>OFF</td>
</tr>
<tr>
<td>INPUT SELECT</td>
<td>PC</td>
</tr>
<tr>
<td></td>
<td>VIDEO</td>
</tr>
<tr>
<td></td>
<td>COMPONENT</td>
</tr>
<tr>
<td></td>
<td>HDMI</td>
</tr>
<tr>
<td>AUDIO MUTE</td>
<td>OFF</td>
</tr>
<tr>
<td></td>
<td>ON</td>
</tr>
<tr>
<td></td>
<td>OFF</td>
</tr>
<tr>
<td>ASPECT</td>
<td>FULL</td>
</tr>
<tr>
<td></td>
<td>JUST</td>
</tr>
<tr>
<td></td>
<td>NORMAL</td>
</tr>
</tbody>
</table>

OPTION CONTROL screen
Click OPTION CONTROL from the menu. Command input field for command control of the unit is displayed.

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMAND</td>
<td>Enter a command. Use the same command used for the serial control. (see page 12)</td>
</tr>
<tr>
<td>RESPONSE</td>
<td>Response from the unit is displayed.</td>
</tr>
<tr>
<td>SEND</td>
<td>Command is sent and run.</td>
</tr>
</tbody>
</table>

Note:
After the settings are changed, it may take a while till the display status is displayed.
**NETWORK SETTING (Network Setup Screen)**

Click NETWORK SETTING from the menu. Various settings of a network can be set. For the details of the setting items, please check Network Setup under the Setup of the unit. (see page 52)

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHCP</td>
<td>Set to ON when a DHCP server is used, or OFF when it is not used.</td>
</tr>
<tr>
<td>IP ADDRESS</td>
<td>Enter an IP address.</td>
</tr>
<tr>
<td>SUBNET MASK</td>
<td>Enter a subnet mask.</td>
</tr>
<tr>
<td>GATEWAY</td>
<td>Enter a gateway address.</td>
</tr>
<tr>
<td>PORT</td>
<td>Enter the port number used for command control. The available setting range is 1024 - 65535.</td>
</tr>
<tr>
<td>LAN SPEED</td>
<td>Set the connection speed of the LAN environment.</td>
</tr>
<tr>
<td>NETWORK ID</td>
<td>Set the ID to identify this unit. The available setting range is 0 - 99.</td>
</tr>
</tbody>
</table>

**Notes:**
- To use a DHCP server, make sure the DHCP server is started.
- During a DHCP server is used, IP ADDRESS, SUBNET MASK, and GATEWAY values cannot be entered.
- When the set values are changed properly, “NETWORK SETTING CHANGED.” message and the changed set items are displayed.

**Password Setting (Password Setup Screen)**

Click CHANGE PASSWORD from the menu. Password to access the Web browser control can be set. When the password is changed in this screen, the password used for command control and the PJLink™ security authentication is also changed.

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>OLD PASSWORD</td>
<td>Enter the old password.</td>
</tr>
<tr>
<td>NEW PASSWORD</td>
<td>Enter the new password.</td>
</tr>
<tr>
<td>NEW PASSWORD (RETYPE)</td>
<td>Enter the password entered in “NEW PASSWORD” for confirmation.</td>
</tr>
</tbody>
</table>

**Notes:**
- The default password is “Panasonic”.
- Up to 32 alphanumeric characters can be used for a password.
- When the password is changed properly, “Password has changed.” message is displayed.
Troubleshooting

Before you call for service, determine the symptoms and make a few simple checks as shown below.

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Checks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture</td>
<td>Sound</td>
</tr>
<tr>
<td>Interference</td>
<td>Noisy Sound</td>
</tr>
<tr>
<td>Normal Picture</td>
<td>No Sound</td>
</tr>
<tr>
<td>No Picture</td>
<td>No Sound</td>
</tr>
<tr>
<td>No Colour</td>
<td>Normal Sound</td>
</tr>
</tbody>
</table>

No remote control operations can be performed.

A cracking sound is sometimes heard from the unit.

The top or bottom of the picture on the screen is cut off when I use the zoom function.

Areas at the top and bottom of the screen where the image is missing appear when I use the zoom function.

I can hear sounds coming from inside the unit.

Parts of the unit become hot.

Power automatically turns off unexpectedly.

This Plasma Display uses special image processing. Hence a slight time lag may occur between image and audio, depending on the type of input signal. However, this is not a malfunction.

### Plasma Display panel

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Check</th>
</tr>
</thead>
</table>
| The screen darkens slightly when bright pictures with minimal movements are shown. | The screen will darken slightly when photos, still images of a computer or other pictures with minimal movements are shown for an extended period. This is done to reduce image retention on the screen and the shortening of the screen’s service life. It is normal and not indicative of malfunctioning.

It takes a while for the picture to appear.

The edges of the images flicker.

The brightness on both sides of images in the 4:3 mode changes.

Some parts of the screen do not light up.

Example

Image retention appears

Whirring sounds can be heard from the display unit.

Example

Do not allow a still picture to be displayed for an extended period, as this can cause a permanent image retention to remain on the Plasma Display. Examples of still pictures include logos, video games, computer images, teletext and images displayed in 4:3 mode.

Note:
The permanent image retention on the Plasma Display resulting from fixed image use is not an operating defect and as such is not covered by the Warranty.

This product is not designed to display fixed images for extended periods of time.
<table>
<thead>
<tr>
<th>Aspect mode</th>
<th>Factory setting</th>
<th>Picture ➔ Enlarged screen</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Aspect: On</td>
<td>16:9</td>
<td><img src="image1" alt="Picture" /> ➔ <img src="image2" alt="Enlarged screen" /></td>
<td>The display of the pictures fills the screen. In the case of SD signals, pictures with a 4:3 aspect ratio are enlarged horizontally, and displayed. This mode is suited to displaying anamorphic pictures with a 16:9 aspect ratio.</td>
</tr>
<tr>
<td>All Aspect: Off</td>
<td>16:9</td>
<td><img src="image3" alt="Picture" /> ➔ <img src="image4" alt="Enlarged screen" /></td>
<td></td>
</tr>
<tr>
<td>16:9</td>
<td>16:9</td>
<td><img src="image5" alt="Picture" /> ➔ <img src="image6" alt="Enlarged screen" /></td>
<td>Letterbox pictures with a 14:9 aspect ratio are enlarged vertically and horizontally so that their display fills the screen vertically and is slightly smaller than the screen horizontally. The top and bottom edges of the pictures are cut off. Side panels are displayed at the left and right edges of the screen.</td>
</tr>
<tr>
<td>14:9</td>
<td>14:9</td>
<td><img src="image7" alt="Picture" /> ➔ <img src="image8" alt="Enlarged screen" /></td>
<td></td>
</tr>
<tr>
<td>Just</td>
<td>Just</td>
<td><img src="image9" alt="Picture" /> ➔ <img src="image10" alt="Enlarged screen" /></td>
<td>Pictures with a 4:3 aspect ratio are enlarged horizontally so that the picture distortion is minimized. The display of the areas around the left and right edges of the screen is slightly elongated.</td>
</tr>
<tr>
<td>Just1</td>
<td>Just1</td>
<td><img src="image11" alt="Picture" /> ➔ <img src="image12" alt="Enlarged screen" /></td>
<td></td>
</tr>
<tr>
<td>Just2</td>
<td>Just2</td>
<td><img src="image13" alt="Picture" /> ➔ <img src="image14" alt="Enlarged screen" /></td>
<td>The pictures with a 4:3 aspect ratio among the 16:9 aspect ratio signals are enlarged horizontally so that the picture distortion is minimized. The left and right edges of the pictures are cut off. The display of the areas around the left and right edges of the screen is slightly elongated.</td>
</tr>
<tr>
<td>4:3</td>
<td>4:3</td>
<td><img src="image15" alt="Picture" /> ➔ <img src="image16" alt="Enlarged screen" /></td>
<td>Pictures with a 4:3 aspect ratio are displayed with their original aspect ratio. Side panels are displayed at the left and right edges of the screen.</td>
</tr>
<tr>
<td>4:3 (1)</td>
<td>4:3 (1)</td>
<td><img src="image17" alt="Picture" /> ➔ <img src="image18" alt="Enlarged screen" /></td>
<td></td>
</tr>
<tr>
<td>4:3 (2)</td>
<td>4:3 (2)</td>
<td><img src="image19" alt="Picture" /> ➔ <img src="image20" alt="Enlarged screen" /></td>
<td>The pictures with a 4:3 aspect ratio among the 16:9 aspect ratio signals are displayed with their original aspect ratio. The left and right edges of the pictures are masked with side panels.</td>
</tr>
<tr>
<td>4:3 Full</td>
<td>4:3 Full</td>
<td><img src="image21" alt="Picture" /> ➔ <img src="image22" alt="Enlarged screen" /></td>
<td>The pictures with a 4:3 aspect ratio among the 16:9 aspect ratio signals are enlarged horizontally so that their display fills the screen. The left and right edges of the pictures are cut off.</td>
</tr>
<tr>
<td>Zoom</td>
<td>Zoom1</td>
<td><img src="image23" alt="Picture" /> ➔ <img src="image24" alt="Enlarged screen" /></td>
<td>Letterbox pictures with a 16:9 aspect ratio are enlarged vertically and horizontally so that their display fills the screen. The top and bottom edges of the pictures are cut off.</td>
</tr>
<tr>
<td>Zoom2</td>
<td>Zoom2</td>
<td><img src="image25" alt="Picture" /> ➔ <img src="image26" alt="Enlarged screen" /></td>
<td>The letterbox pictures with a 2.35:1 aspect ratio among the 16:9 aspect ratio signals are enlarged vertically and horizontally so that their display fills the screen. The top and bottom edges as well as the left and right edges of the pictures are cut off.</td>
</tr>
<tr>
<td>Zoom3</td>
<td>Zoom3</td>
<td><img src="image27" alt="Picture" /> ➔ <img src="image28" alt="Enlarged screen" /></td>
<td>Letterbox pictures with a 2.35:1 aspect ratio are enlarged vertically and horizontally so that their display fills the screen vertically and is slightly larger than the screen horizontally. The top and bottom edges as well as the left and right edges of the pictures are cut off.</td>
</tr>
<tr>
<td>Signal name</td>
<td>Horizontal frequency (kHz)</td>
<td>Vertical frequency (Hz)</td>
<td>COMPONENT / RGB IN / PC IN (Dot clock (MHz))</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------</td>
<td>-------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>525 (480) / 60</td>
<td>15.73</td>
<td>59.94</td>
</tr>
<tr>
<td>2</td>
<td>525 (480) / 60p</td>
<td>31.47</td>
<td>59.94</td>
</tr>
<tr>
<td>3</td>
<td>625 (575) / 50</td>
<td>15.63</td>
<td>50.00</td>
</tr>
<tr>
<td>4</td>
<td>625 (575) / 50p</td>
<td>15.63</td>
<td>50.00</td>
</tr>
<tr>
<td>5</td>
<td>625 (575) / 50p</td>
<td>31.25</td>
<td>50.00</td>
</tr>
<tr>
<td>6</td>
<td>625 (575) / 50p</td>
<td>31.25</td>
<td>50.00</td>
</tr>
<tr>
<td>7</td>
<td>750 (720) / 60p</td>
<td>45.00</td>
<td>60.00</td>
</tr>
<tr>
<td>8</td>
<td>750 (720) / 50p</td>
<td>37.50</td>
<td>50.00</td>
</tr>
<tr>
<td>9</td>
<td>1,125 (1,080) / 60i</td>
<td>67.50</td>
<td>50.00</td>
</tr>
<tr>
<td>10</td>
<td>1,125 (1,080) / 60i</td>
<td>33.75</td>
<td>50.00</td>
</tr>
<tr>
<td>11</td>
<td>1,125 (1,080) / 50p</td>
<td>56.26</td>
<td>50.00</td>
</tr>
<tr>
<td>12</td>
<td>1,125 (1,080) / 50p</td>
<td>28.13</td>
<td>50.00</td>
</tr>
<tr>
<td>13</td>
<td>1,125 (1,080) / 24sF</td>
<td>37.00</td>
<td>48.00</td>
</tr>
<tr>
<td>14</td>
<td>1,125 (1,080) / 30p</td>
<td>33.75</td>
<td>30.00</td>
</tr>
<tr>
<td>15</td>
<td>1,125 (1,080) / 25p</td>
<td>28.13</td>
<td>25.00</td>
</tr>
<tr>
<td>16</td>
<td>1,125 (1,080) / 24p</td>
<td>27.00</td>
<td>24.00</td>
</tr>
<tr>
<td>17</td>
<td>1,250 (1,080) / 50i</td>
<td>31.25</td>
<td>50.00</td>
</tr>
<tr>
<td>18</td>
<td>2,048 × 1,080 / 24sF</td>
<td>27.00</td>
<td>48.00</td>
</tr>
<tr>
<td>19</td>
<td>2,048 × 1,080 / 24p</td>
<td>27.00</td>
<td>24.00</td>
</tr>
<tr>
<td>20</td>
<td>640 × 480 @ 70Hz</td>
<td>31.46</td>
<td>70.07</td>
</tr>
<tr>
<td>21</td>
<td>640 × 480 @ 60Hz</td>
<td>31.47</td>
<td>59.94</td>
</tr>
<tr>
<td>22</td>
<td>640 × 480 @ 72Hz</td>
<td>37.86</td>
<td>72.81</td>
</tr>
<tr>
<td>23</td>
<td>640 × 480 @ 75Hz</td>
<td>37.50</td>
<td>75.00</td>
</tr>
<tr>
<td>24</td>
<td>640 × 480 @ 85Hz</td>
<td>43.27</td>
<td>85.01</td>
</tr>
<tr>
<td>25</td>
<td>800 × 600 @ 56Hz</td>
<td>35.16</td>
<td>56.25</td>
</tr>
<tr>
<td>26</td>
<td>800 × 600 @ 60Hz</td>
<td>37.88</td>
<td>60.32</td>
</tr>
<tr>
<td>27</td>
<td>800 × 600 @ 72Hz</td>
<td>48.08</td>
<td>72.19</td>
</tr>
<tr>
<td>28</td>
<td>800 × 600 @ 75Hz</td>
<td>46.88</td>
<td>75.00</td>
</tr>
<tr>
<td>29</td>
<td>800 × 600 @ 85Hz</td>
<td>53.67</td>
<td>85.06</td>
</tr>
<tr>
<td>30</td>
<td>852 × 480 @ 60Hz</td>
<td>31.47</td>
<td>59.94</td>
</tr>
<tr>
<td>31</td>
<td>1,024 × 768 @ 50Hz</td>
<td>39.55</td>
<td>50.00</td>
</tr>
<tr>
<td>32</td>
<td>1,024 × 768 @ 60Hz</td>
<td>48.36</td>
<td>60.00</td>
</tr>
<tr>
<td>33</td>
<td>1,024 × 768 @ 70Hz</td>
<td>56.48</td>
<td>70.07</td>
</tr>
<tr>
<td>34</td>
<td>1,024 × 768 @ 75Hz</td>
<td>60.02</td>
<td>75.03</td>
</tr>
<tr>
<td>35</td>
<td>1,024 × 768 @ 85Hz</td>
<td>68.68</td>
<td>85.00</td>
</tr>
<tr>
<td>36</td>
<td>1,066 × 600 @ 60Hz</td>
<td>37.64</td>
<td>59.94</td>
</tr>
<tr>
<td>37</td>
<td>1,152 × 864 @ 60Hz</td>
<td>53.70</td>
<td>60.00</td>
</tr>
<tr>
<td>38</td>
<td>1,152 × 864 @ 75Hz</td>
<td>67.50</td>
<td>75.00</td>
</tr>
<tr>
<td>39</td>
<td>1,280 × 768 @ 60Hz</td>
<td>47.70</td>
<td>60.00</td>
</tr>
<tr>
<td>40</td>
<td>1,280 × 960 @ 60Hz</td>
<td>60.00</td>
<td>60.00</td>
</tr>
<tr>
<td>41</td>
<td>1,280 × 960 @ 85Hz</td>
<td>85.94</td>
<td>85.00</td>
</tr>
<tr>
<td>42</td>
<td>1,280 × 1,024 @ 60Hz</td>
<td>63.98</td>
<td>60.02</td>
</tr>
<tr>
<td>43</td>
<td>1,280 × 1,024 @ 75Hz</td>
<td>79.98</td>
<td>75.03</td>
</tr>
<tr>
<td>44</td>
<td>1,280 × 1,024 @ 85Hz</td>
<td>91.15</td>
<td>85.02</td>
</tr>
<tr>
<td>45</td>
<td>1,366 × 768 @ 50Hz</td>
<td>39.55</td>
<td>50.00</td>
</tr>
<tr>
<td>46</td>
<td>1,366 × 768 @ 60Hz</td>
<td>48.36</td>
<td>60.00</td>
</tr>
<tr>
<td>47</td>
<td>1,400 × 1,050 @ 60Hz</td>
<td>65.22</td>
<td>60.00</td>
</tr>
<tr>
<td>48</td>
<td>1,600 × 1,200 @ 60Hz</td>
<td>75.00</td>
<td>60.00</td>
</tr>
<tr>
<td>49</td>
<td>1,600 × 1,200 @ 65Hz</td>
<td>81.25</td>
<td>65.00</td>
</tr>
<tr>
<td>50</td>
<td>1,920 × 1,080 @ 60Hz</td>
<td>67.50</td>
<td>60.00</td>
</tr>
<tr>
<td>51</td>
<td>1,920 × 1,080 @ 60Hz</td>
<td>74.04</td>
<td>59.95</td>
</tr>
<tr>
<td>52</td>
<td>Macintosh13&quot; (640 × 480)</td>
<td>35.00</td>
<td>66.67</td>
</tr>
<tr>
<td>53</td>
<td>Macintosh16&quot; (832 × 624)</td>
<td>49.72</td>
<td>74.54</td>
</tr>
<tr>
<td>54</td>
<td>Macintosh21&quot; (1,152 × 870)</td>
<td>68.68</td>
<td>75.06</td>
</tr>
</tbody>
</table>

*Mark: Applicable input signal

Note: Signals without above specification may not be displayed properly.
Applicable Input Signals

<table>
<thead>
<tr>
<th>Signal name</th>
<th>Horizontal frequency(kHz)</th>
<th>Vertical frequency(Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 NTSC</td>
<td>15.73</td>
<td>59.94</td>
</tr>
<tr>
<td>2 PAL</td>
<td>15.63</td>
<td>50.00</td>
</tr>
<tr>
<td>3 PAL60</td>
<td>15.73</td>
<td>59.94</td>
</tr>
<tr>
<td>4 SECAM</td>
<td>15.63</td>
<td>50.00</td>
</tr>
<tr>
<td>5 Modified NTSC</td>
<td>15.73</td>
<td>59.94</td>
</tr>
</tbody>
</table>

Shipping condition

This function allows you to reset the unit to the factory setting.

1. Press the MENU button till the Setup menu is displayed.
2. Press the Volume Up"+" or Down"–" button to select "OSD Language".
3. Press and hold the ENTER button till the Shipping menu is displayed.
4. Press the Volume Up"+" or Down"–" button to select "YES".
5. Press the ENTER button and wait for 10 sec.

[from the unit]
1. Press the MENU button till the Setup menu is displayed.
2. Press the Volume Up"+" or Down"–" button to select "OSD Language".
3. Press and hold the ENTER button till the Shipping menu is displayed.
4. Press the Volume Up"+" or Down"–" button to select "YES".
5. Press the ENTER button and wait for 10 sec.
# Command list of Weekly Command Timer

<table>
<thead>
<tr>
<th>No.</th>
<th>Command</th>
<th>Control details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AAC:MENCLR</td>
<td>Audio Menu (Clear)</td>
</tr>
<tr>
<td>2</td>
<td>AAC:MENDYN</td>
<td>Audio Menu (Dynamic)</td>
</tr>
<tr>
<td>3</td>
<td>AAC:MENSTD</td>
<td>Audio Menu (Standard)</td>
</tr>
<tr>
<td>4</td>
<td>AAC:SUROFF</td>
<td>Surround (OFF)</td>
</tr>
<tr>
<td>5</td>
<td>AAC:SUROFF</td>
<td>Surround (OFF)</td>
</tr>
<tr>
<td>6</td>
<td>AMT:0</td>
<td>Audio Mute (OFF)</td>
</tr>
<tr>
<td>7</td>
<td>AMT:1</td>
<td>Audio Mute (ON)</td>
</tr>
<tr>
<td>8</td>
<td>ASO:M</td>
<td>Audio out when PIP mode (Main Picture)</td>
</tr>
<tr>
<td>9</td>
<td>ASO:S</td>
<td>Audio out when PIP mode (Sub Picture)</td>
</tr>
<tr>
<td>10</td>
<td>AVL:00</td>
<td>Audio Volume (00)</td>
</tr>
<tr>
<td>11</td>
<td>AVL:10</td>
<td>Audio Volume (10)</td>
</tr>
<tr>
<td>12</td>
<td>AVL:20</td>
<td>Audio Volume (20)</td>
</tr>
<tr>
<td>13</td>
<td>AVL:30</td>
<td>Audio Volume (30)</td>
</tr>
<tr>
<td>14</td>
<td>AVL:40</td>
<td>Audio Volume (40)</td>
</tr>
<tr>
<td>15</td>
<td>AVL:50</td>
<td>Audio Volume (50)</td>
</tr>
<tr>
<td>16</td>
<td>AVL:60</td>
<td>Audio Volume (60)</td>
</tr>
<tr>
<td>17</td>
<td>DAM:FULL</td>
<td>Aspect (16:9)</td>
</tr>
<tr>
<td>18</td>
<td>DAM:JUST</td>
<td>Aspect (Just)</td>
</tr>
<tr>
<td>19</td>
<td>DAM:NORM</td>
<td>Aspect (4:3)</td>
</tr>
<tr>
<td>20</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>21</td>
<td>DAM:ZOOM</td>
<td>Aspect (Zoom)</td>
</tr>
<tr>
<td>22</td>
<td>DWA:OFF</td>
<td>Dual Picture mode (OFF)</td>
</tr>
<tr>
<td>23</td>
<td>DWA:OVL1</td>
<td>Advanced PIP mode (1) (see page 19)</td>
</tr>
<tr>
<td>24</td>
<td>DWA:OVL2</td>
<td>Advanced PIP mode (2) (see page 19)</td>
</tr>
<tr>
<td>25</td>
<td>DWA:OVL3</td>
<td>Advanced PIP mode (3) (see page 19)</td>
</tr>
<tr>
<td>26</td>
<td>DWA:OVL4</td>
<td>Advanced PIP mode (4) (see page 19)</td>
</tr>
<tr>
<td>27</td>
<td>DWA:OVL5</td>
<td>Advanced PIP mode (5) (see page 19)</td>
</tr>
<tr>
<td>28</td>
<td>DWA:OVL6</td>
<td>Advanced PIP mode (6) (see page 19)</td>
</tr>
<tr>
<td>29</td>
<td>DWA:OVL6F</td>
<td>Advanced PIP mode (OFF) (normal two screen display mode)</td>
</tr>
<tr>
<td>30</td>
<td>DWA:OVLON</td>
<td>Advanced PIP mode (ON)</td>
</tr>
<tr>
<td>31</td>
<td>DWA:PIN0</td>
<td>The location of the sub picture (lower right)</td>
</tr>
<tr>
<td>32</td>
<td>DWA:PIN1</td>
<td>The location of the sub picture (lower left)</td>
</tr>
<tr>
<td>33</td>
<td>DWA:PIN2</td>
<td>The location of the sub picture (upper left)</td>
</tr>
<tr>
<td>34</td>
<td>DWA:PIN3</td>
<td>The location of the sub picture (upper right)</td>
</tr>
<tr>
<td>35</td>
<td>DWA:PIP</td>
<td>Dual Picture mode (Picture in Picture)</td>
</tr>
<tr>
<td>36</td>
<td>DWA:POP</td>
<td>Dual Picture mode (Picture out Picture)</td>
</tr>
<tr>
<td>37</td>
<td>DWA:SWP</td>
<td>Swap main picture and sub picture when PIP mode</td>
</tr>
<tr>
<td>38</td>
<td>DWA:TWN</td>
<td>Dual Picture mode (Picture and Picture)</td>
</tr>
<tr>
<td>39</td>
<td>IMS:SL1</td>
<td>Input select (SLOT INPUT) (Main Picture when PIP mode)</td>
</tr>
<tr>
<td>40</td>
<td>IMS:S1A</td>
<td>Input select (SLOT INPUT A) (Main Picture when PIP mode)</td>
</tr>
<tr>
<td>41</td>
<td>IMS:S1B</td>
<td>Input select (SLOT INPUT B) (Main Picture when PIP mode)</td>
</tr>
<tr>
<td>42</td>
<td>IMS:VD1</td>
<td>Input select (VIDEO) (Main Picture when PIP mode)</td>
</tr>
<tr>
<td>43</td>
<td>IMS:VD1</td>
<td>Input select (COMPONENT) (Main Picture when PIP mode)</td>
</tr>
<tr>
<td>44</td>
<td>IMS:HML1</td>
<td>Input select (HDMI) (Main Picture when PIP mode)</td>
</tr>
<tr>
<td>45</td>
<td>IMS:DV1</td>
<td>Input select (DVI) (Main Picture when PIP mode)</td>
</tr>
<tr>
<td>46</td>
<td>IMS:PC1</td>
<td>Input select (PC) (Main Picture when PIP mode)</td>
</tr>
<tr>
<td>47</td>
<td>ISS:SL1</td>
<td>Sub Picture Input Select (SLOT INPUT)</td>
</tr>
<tr>
<td>48</td>
<td>ISS:S1A</td>
<td>Sub Picture Input Select (SLOT INPUT A)</td>
</tr>
<tr>
<td>49</td>
<td>ISS:S1B</td>
<td>Sub Picture Input Select (SLOT INPUT B)</td>
</tr>
<tr>
<td>50</td>
<td>ISS:VD1</td>
<td>Sub Picture Input Select (VIDEO)</td>
</tr>
<tr>
<td>51</td>
<td>ISS:YP1</td>
<td>Sub Picture Input Select (COMPONENT)</td>
</tr>
<tr>
<td>52</td>
<td>ISS:HML1</td>
<td>Sub Picture Input Select (HDMI)</td>
</tr>
<tr>
<td>53</td>
<td>ISS:DV1</td>
<td>Sub Picture Input Select (DVI)</td>
</tr>
<tr>
<td>54</td>
<td>ISS:PC1</td>
<td>Sub Picture Input Select (PC)</td>
</tr>
<tr>
<td>55</td>
<td>OSP:SCR0</td>
<td>Screen Saver Scrolling bar only (OFF)</td>
</tr>
<tr>
<td>56</td>
<td>OSP:SCR1</td>
<td>Screen Saver Scrolling bar only (ON)</td>
</tr>
<tr>
<td>57</td>
<td>POP</td>
<td>Power OFF</td>
</tr>
<tr>
<td>58</td>
<td>PON</td>
<td>Power ON</td>
</tr>
<tr>
<td>59</td>
<td>SSC:FNC0</td>
<td>Screen Saver function (Scrolling bar only)</td>
</tr>
<tr>
<td>60</td>
<td>SSC:FNC1</td>
<td>Screen Saver function (Negative image)</td>
</tr>
<tr>
<td>61</td>
<td>SSC:MOD0</td>
<td>Screen Saver (Mode (OFF))</td>
</tr>
<tr>
<td>62</td>
<td>SSC:MOD3</td>
<td>Screen Saver (Mode (ON))</td>
</tr>
<tr>
<td>63</td>
<td>VMT:0*</td>
<td>Picture Mute (OFF)</td>
</tr>
<tr>
<td>64</td>
<td>VMT:1*</td>
<td>Picture Mute (ON)</td>
</tr>
</tbody>
</table>

* Picture Mute cannot be unlocked by powering off/on with the remote control. Turn off and on again with the button on the unit or enter the command VMT:0 to unlock Picture Mute.
## Specifications

<table>
<thead>
<tr>
<th></th>
<th>TH-42PF20ER</th>
<th>TH-50PF20ER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Power Source</strong></td>
<td>220 - 240 V AC, 50/60 Hz</td>
<td></td>
</tr>
<tr>
<td><strong>Power Consumption</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power on</td>
<td>375 W</td>
<td>445 W</td>
</tr>
<tr>
<td>Stand-by condition</td>
<td>Save off 1.1 W, Save on 0.6 W</td>
<td>Save off 1.1 W, Save on 0.6 W</td>
</tr>
<tr>
<td>Power off condition</td>
<td>0.3 W</td>
<td>0.3 W</td>
</tr>
<tr>
<td><strong>Plasma Display panel</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drive method</td>
<td>AC type</td>
<td>AC type</td>
</tr>
<tr>
<td>Size</td>
<td>42-inch, 16:9 aspect ratio</td>
<td>50-inch, 16:9 aspect ratio</td>
</tr>
<tr>
<td><strong>Screen size</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(No.of pixels)</td>
<td>2,073,600 (1,920 (W)×1,080 (H))</td>
<td>2,073,600 (1,920 (W)×1,080 (H))</td>
</tr>
<tr>
<td><strong>Operating condition</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>0 °C - 40 °C</td>
<td></td>
</tr>
<tr>
<td>Humidity</td>
<td>20 % - 80 %</td>
<td></td>
</tr>
<tr>
<td><strong>Applicable signals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colour System</td>
<td>NTSC, PAL, PAL60, SECAM, Modified NTSC</td>
<td></td>
</tr>
<tr>
<td>Scanning format</td>
<td>525 (480) / 60 · 60p, 625 (575) / 50i · 50p, 750 (720) / 60 · 50p, 1125 (1080) / 60i · 60p · 50i · 50p · 24p · 25p · 30p · 24sF, 1250 (1080) / 50i</td>
<td></td>
</tr>
<tr>
<td>PC signals</td>
<td>VGA, SVGA, XGA, SXGA, UXGA (compressed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Horizontal scanning frequency 15 - 110 kHz</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vertical scanning frequency 48 - 120 Hz</td>
<td></td>
</tr>
<tr>
<td><strong>Connection terminals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LAN</td>
<td>RJ45 10BASE-T/100BASE-TX, compatible with PJLink™</td>
<td></td>
</tr>
<tr>
<td>AV IN</td>
<td>BNC</td>
<td>RCA Pin jack × 2</td>
</tr>
<tr>
<td>AUDIO L-R</td>
<td>1.0 Vp-p (75 Ω)</td>
<td>0.5 Vrms</td>
</tr>
<tr>
<td>HDMI</td>
<td>TYPE A Connector</td>
<td></td>
</tr>
<tr>
<td>COMPONENT/RGB IN</td>
<td>BNC</td>
<td>with sync 1.0 Vp-p (75 Ω)</td>
</tr>
<tr>
<td></td>
<td>BNC</td>
<td>0.7 Vp-p (75 Ω)</td>
</tr>
<tr>
<td></td>
<td>BNC</td>
<td>0.7 Vp-p (75 Ω)</td>
</tr>
<tr>
<td></td>
<td>RCA Pin jack × 2</td>
<td>0.5 Vrms</td>
</tr>
<tr>
<td>DVI-D IN</td>
<td>DVI-D 24 Pin</td>
<td></td>
</tr>
<tr>
<td>AUDIO</td>
<td>Compliance with DVI Revision 1.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compatible with HDCP 1.1</td>
<td></td>
</tr>
<tr>
<td>PC IN</td>
<td>High-Density Mini D-sub 15 Pin</td>
<td></td>
</tr>
<tr>
<td>AUDIO</td>
<td>Y or G with sync 1.0 Vp-p (75 Ω)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Y or G without sync 0.7 Vp-p (75 Ω)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P/Cl/C/B: 0.7 Vp-p (75 Ω)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P/Cl/C/R: 0.7 Vp-p (75 Ω)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HD/VD: 1.0 - 5.0 Vp-p (high impedance)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>with picture 1.0 Vp-p (high impedance)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>without picture 0.3 Vp-p (high impedance)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.5 Vrms</td>
<td></td>
</tr>
<tr>
<td>SERIAL</td>
<td>External Control Terminal</td>
<td>RS-232C compatible</td>
</tr>
<tr>
<td>EXT SP</td>
<td>Speaker Terminal</td>
<td>6 Ω, 16 W [8 W + 8 W] (10 % THD)</td>
</tr>
<tr>
<td><strong>Dimensions (W × H × D)</strong></td>
<td>1,020 mm × 610 mm × 89 mm</td>
<td>1,210 mm × 724 mm × 89 mm</td>
</tr>
<tr>
<td><strong>Mass (weight)</strong></td>
<td>main unit only approx. 24.0 kg net</td>
<td>approx. 31.0 kg net</td>
</tr>
<tr>
<td></td>
<td>with speakers approx. 28.0 kg</td>
<td>approx. 36.0 kg</td>
</tr>
</tbody>
</table>

**Notes:**
- Design and specifications are subject to change without notice. Mass and dimensions shown are approximate.
- This equipment complies with the EMC standards listed below.
- EN55022, EN55024, EN61000-3-2, EN61000-3-3.
Information for Users on Collection and Disposal of Old Equipment and used Batteries

These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste. For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.

By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

[Information on Disposal in other Countries outside the European Union]

These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

Note for the battery symbol (bottom two symbol examples):

This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

<Software Information for This Product>

This product has software installed partially licensed under the Free BSD LICENSE.

Free BSD LICENSE regulations under the above specifications are as follows:

(These regulations are set by the third party; therefore the original (English) regulations are stated.)

Copyright © 1980, 1986, 1993
The Regents of the University of California. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgement: This product includes software developed by the University of California, Berkeley and its contributors.
4. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS “AS IS” AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Customer’s Record

The model number and serial number of this product can be found on its rear panel. You should note this serial number in the space provided below and retain this book, plus your purchase receipt, as a permanent record of your purchase to aid in identification in the event of theft or loss, and for Warranty Service purposes.

Model Number

Serial Number

Panasonic Corporation

Web Site : http://panasonic.net
© Panasonic Corporation 2010