

Panasonic®

Model No.

TH-42PF50W

TH-50PF50W

Operating Instructions Display Operations High Definition Plasma Display



English

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

HDMI

real D 3D



TQB4TC0312

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

Important Safety Notice	3	Day/Time Setup / On/Off Timer Setup.....	35
Safety Precautions	4	Day/Time Setup	35
3D Safety Precautions.....	7	On/Off Timer Setup.....	35
Accessories	9	3D Settings.....	36
Accessories Supply	9	Screensaver (For preventing image retention)....	37
Remote Control Batteries	9	Setup of Screensaver Time	38
Connections.....	10	Reduces screen image retention	39
Speaker connection.....	10	Extended life settings	39
AC cord connection and fixing, cable fixing.....	10	ECO Mode settings.....	42
Video equipment connection	11	Customizing the Input labels.....	43
VIDEO and COMPONENT / RGB IN connection ...	11	Function Button Settings.....	44
HDMI connection.....	12	No activity power off	45
DVI-D IN connection.....	12	Menu Display Duration / OSD Brightness	45
PC Input Terminals connection.....	13	OSD Language.....	45
SERIAL Terminals connection	14	Display orientation	45
Power On / Off.....	15	Setup for MULTI DISPLAY	46
Selecting the input signal.....	17	How to Setup MULTI DISPLAY	46
Basic Controls	18	ID Remote Control Function	47
ASPECT Controls	20	Setup for Portrait.....	48
Digital Zoom.....	21	How to setup Portrait.....	48
Viewing 3D images	22	Setup for Input Signals	50
To view the 3D images	22	Component / RGB-in select.....	50
Troubleshooting for 3D Eyewear	23	YUV / RGB-in select.....	50
Table of images that can be seen for each 3D		Signal menu	51
Picture Format and the source image format.....	23	Options Adjustments	54
On-Screen Menu Displays	24	3D Safety Precautions (To hide 3D Safety	
Adjusting Pos./Size	25	Precautions)	57
Picture Adjustments.....	28	Weekly Command Timer	57
Advanced settings	29	Audio input select.....	59
Picture Profiles	30	Touch Panel settings (Settings when using Touch	
Saving profiles	31	Panel)	60
Loading profiles	32	Input Search	61
Editing profiles.....	32	Troubleshooting	62
Sound Adjustment.....	33	List of Aspect Modes	63
SDI Sound Output	33	Applicable Input Signals.....	64
Setup menu.....	34	Shipping condition	65
		Command list of Weekly Command Timer.....	66
		Specifications	67

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 INFORMATION

If a display is not positioned in a sufficiently stable location, it can be potentially hazardous due to falling. Many injuries, particularly to children, can be avoided by taking simple precautions such as:

- Using cabinets or stands recommended by the manufacturer of the display.
- Only using furniture that can safely support the display.
- Ensuring the display is not overhanging the edge of the supporting furniture.
- Not placing the display on tall furniture (for example, cupboards or bookcases) without anchoring both the furniture and the display to a suitable support.
- Not standing the displays on cloth or other materials placed between the display and supporting furniture.
- Educating children about the dangers of climbing on furniture to reach the display or its controls.

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.
- "RealD 3D" is a trademark of RealD.

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.

Safety Precautions

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-42PF50W),
TY-SP50P8W-K (for TH-50PF50W)
 - Pedestal TY-ST20-K, TY-ST42P50
 - 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 TY-FB9HD
 - HD-SDI Terminal Board with audio TY-FB10HD
 - Dual Link HD-SDI Terminal Board TY-FB11DHD
 - Dual HDMI Terminal Board TY-FB10HMD
 - DMB-T PAL Tuner Board TY-FB12DTH*¹
 - DVB-T Tuner Board TY-FB11DTA*²
 - DVI-D Terminal Board TY-FB11DD
 - AV Terminal Box TY-TB10AV
 - 3D IR TRANSMITTER TY-3D30TRW
 - Touch Panel TY-TP42P30K (for TH-42PF50W),
TY-TP50P30K (for TH-50PF50W)
 - Anti glare filter TY-AR42P12W (for TH-42PF50W),
TY-AR50P12W (for TH-50PF50W)
 - 3D Eyewear TY-EW3D3SW, TY-EW3D3MW, TY-EW3D3LW
 - Wireless Module ET-WM200E
- *¹ Only for Hong Kong.
*² Only for Australia.

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, and ensure that the Plasma Display does not hang over the edge of the base.

- 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 45)

■ 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.

■ 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.



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.

3D Safety Precautions

WARNING

■ Small Parts

3D Eyewear contains small parts (battery and specialised band, etc.) and must be kept out of reach of small children to avoid accidental ingestion.

■ Disassembly

Do not disassemble or modify the 3D Eyewear.



CAUTION

To enjoy 3D images safely and comfortably, please read these instructions fully.

■ Use for commercial applications and public viewing

Someone in authority should responsibly convey the precautions for use of the 3D Eyewear to the user.

■ 3D Eyewear (sold separately)

Do not drop, exert pressure on, or step on the 3D Eyewear.

Be careful of the tips of the frame when putting on the 3D Eyewear.

Be careful not to trap a finger in the hinge section of the 3D Eyewear.

Pay special attention when children are using the 3D Eyewear.

3D Eyewear should not be used by children younger than 5 - 6 years old, as a guideline.

All children must be fully supervised by parents or guardians who must ensure their safety and health throughout the using 3D Eyewear.

Safety Precautions

■ Viewing 3D Content

Content for 3D viewing includes commercially available Blu-ray discs, 3D broadcasts, etc. When preparing your own 3D content, ensure that it is properly produced.

Do not use the 3D Eyewear if you have a history of over-sensitivity to light, heart problems, or have any other existing medical conditions.

Please stop using the 3D Eyewear immediately, if you feel tired, are not feeling well or experience any other uncomfortable sensation.

Take an appropriate break after viewing a 3D movie.

Take a break of between 30 - 60 minutes after viewing 3D content on interactive devices such as 3D games or computers.

Be careful not to strike the screen or other people unintentionally. When using the 3D Eyewear the distance between the user and screen can be misjudged.

The 3D Eyewear must only be worn when viewing 3D content.

If you do not look toward the screen for a while when viewing 3D images, the 3D Eyewear may be turned off automatically.

If you suffer from any eyesight problems (short / far-sighted, astigmatism, eyesight differences in left and right), please ensure to correct your vision before using the 3D Eyewear.

Stop using the 3D Eyewear if you can clearly see double images when viewing 3D content.

Do not use the 3D Eyewear at a distance less than the recommended distance.

View from at least the recommended distance (3 times the effective height of the screen).

Recommended distance

TH-42PF50W: 1.6 m

TH-50PF50W: 1.9 m

When the top and bottom area of the screen is blackened, such as movies, view the screen at a distance 3 times further than the height of the actual image. (That makes the distance closer than above recommended figure.)

■ 3D Eyewear (sold separately) Use

Before using the 3D Eyewear, ensure no breakable objects surrounding the user to avoid any accidental damage or injury.

Remove the 3D Eyewear before moving around to avoid falling or accidental injury.

Use the 3D Eyewear only for the intended purpose and nothing else.

Do not use 3D Eyewear in the condition of high temperature.

Do not use if the 3D Eyewear is physically damaged.

Do not use any devices that emit the infrared signals near the 3D Eyewear, as this may cause the 3D Eyewear false operations.

Do not use devices (such as mobile phones or personal transceivers) that emit strong electromagnetic waves near the 3D Eyewear as this may cause the 3D Eyewear to malfunction.

Stop using the 3D Eyewear immediately if a malfunction or fault occurs.

Stop using the 3D Eyewear immediately if you experience any redness, pain, or skin irritation around the nose or temples.

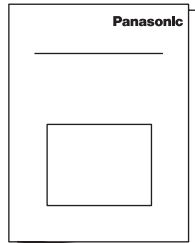
In rare cases, the materials used in the 3D Eyewear may cause an allergic reaction.

Accessories

Accessories Supply

Check that you have the accessories and items shown

Operating
Instruction book

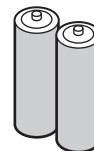


Display Operations
Network Operations

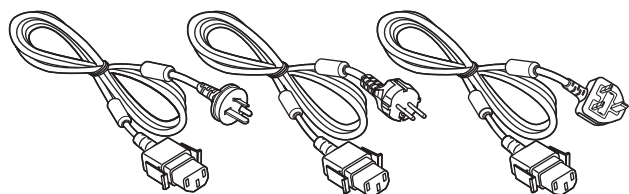
Remote Control
Transmitter
N2QAYB000691



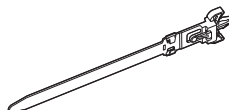
Batteries for the Remote
Control Transmitter
(R6 Size × 2)



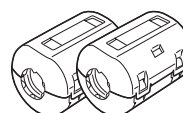
Power supply cord



Clamper × 1
TMME289



Ferrite core × 2
J0KG00000014

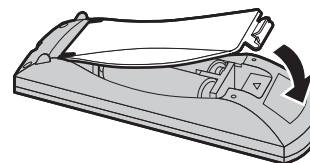
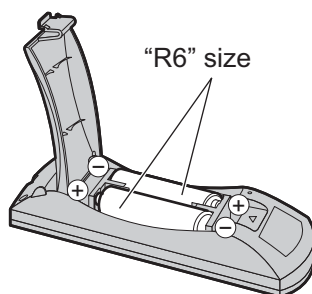
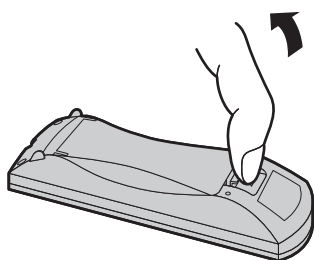


Use the Ferrite cores to comply with the EMC standard.
(refer to “Operating Instructions, Network Operations”)

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.

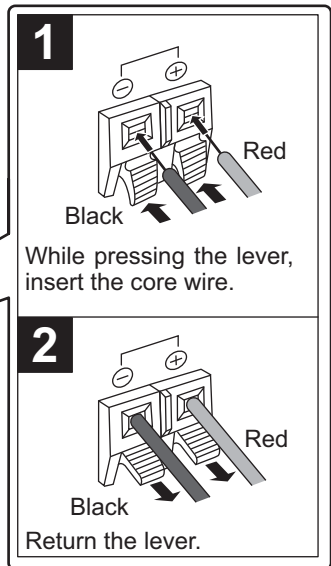
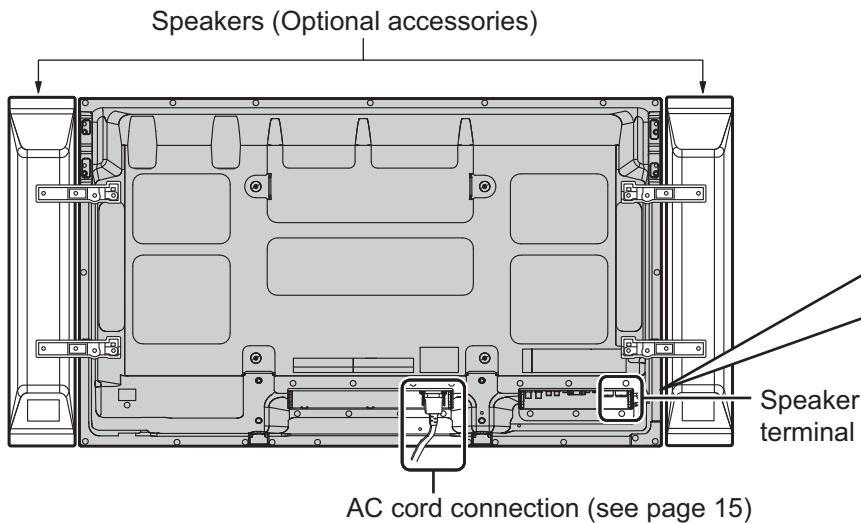
Observe the following precaution:

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.
7. Batteries must not be exposed to excessive heat such as sunshine, fire or the like.

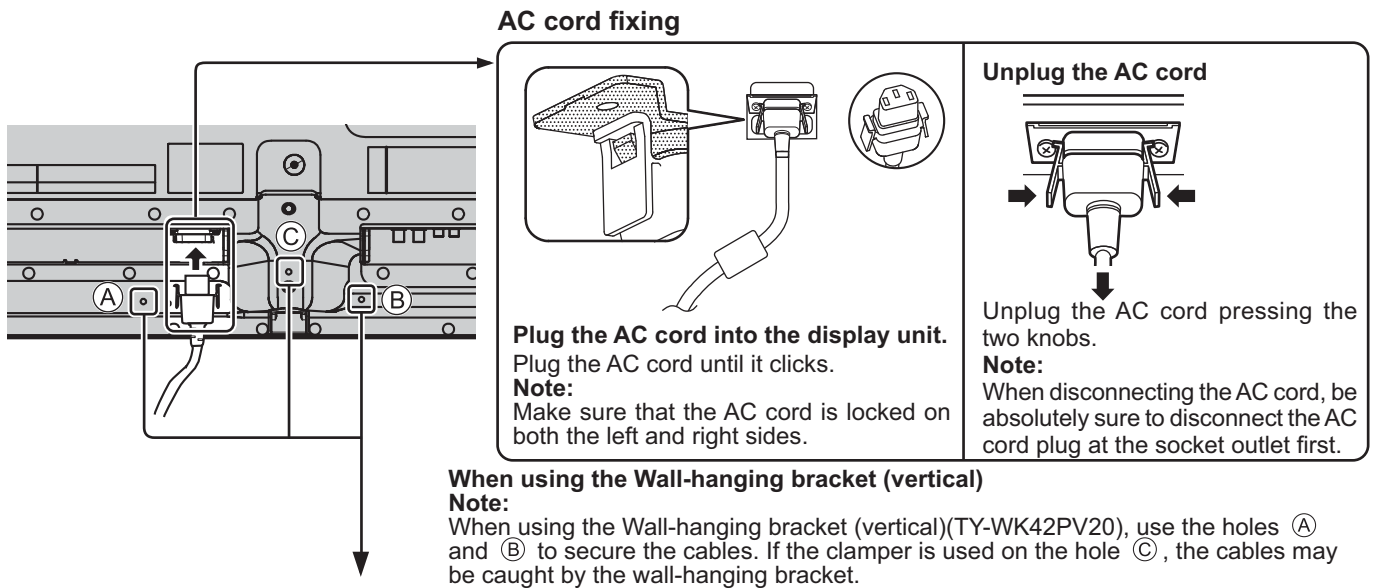
Connections

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

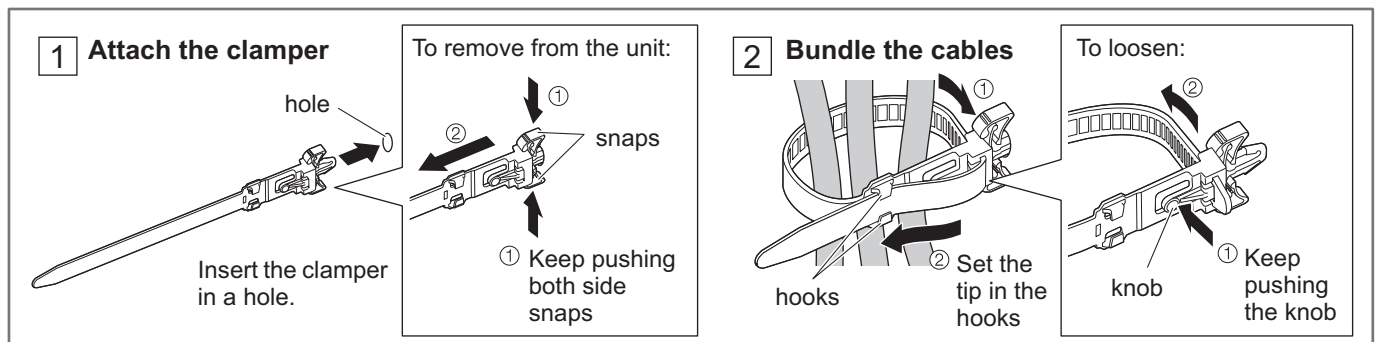


Using the clammer

Secure any excess cables with clammer as required.

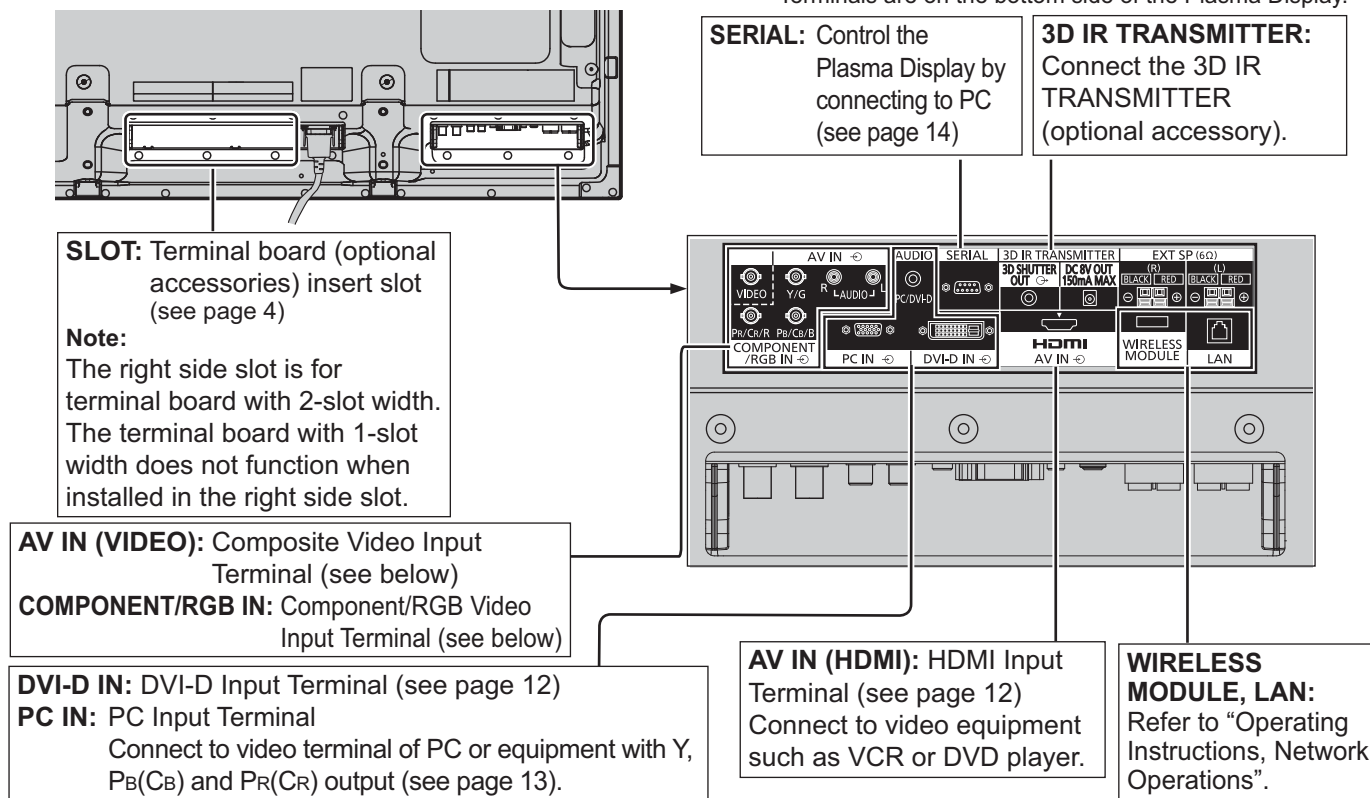
Note:

One clammer is supplied with this unit. In case of securing cables at three positions, please purchase it separately.



Video equipment connection

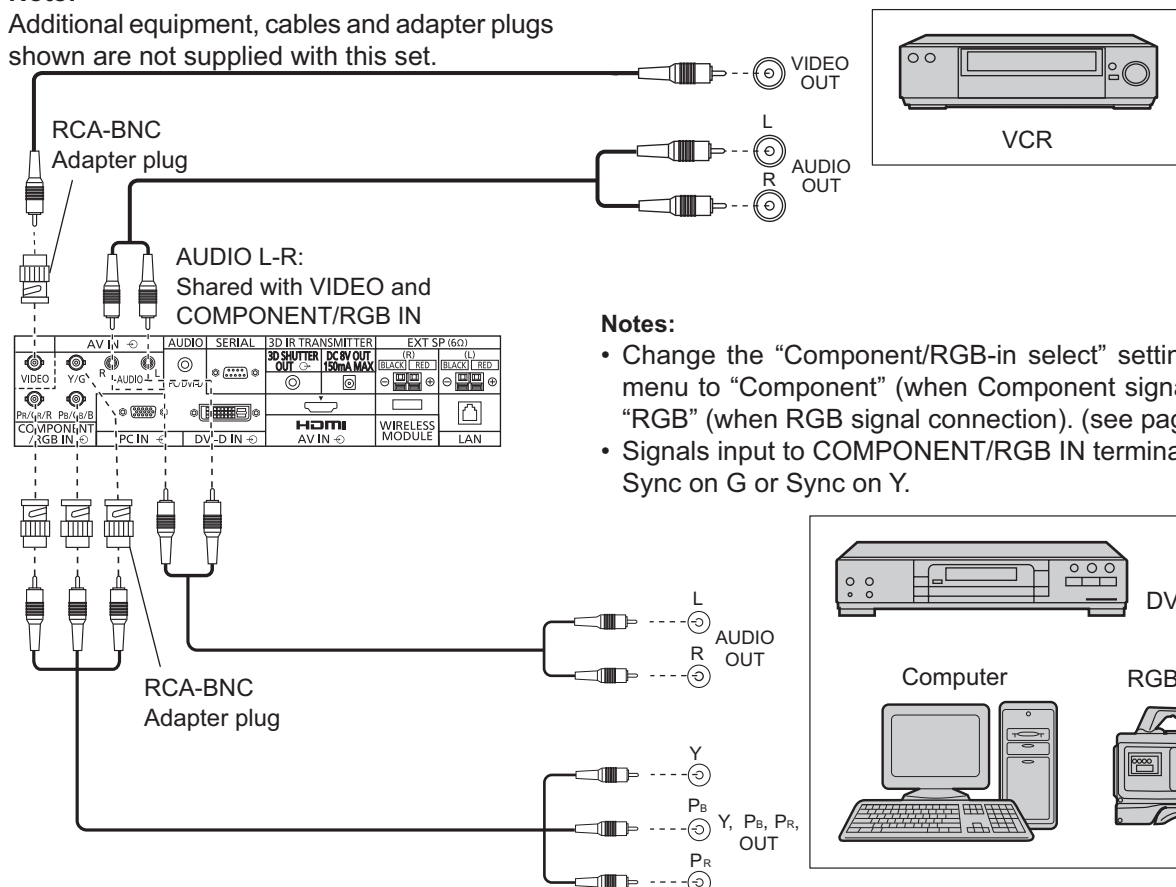
Terminals are on the bottom side of the Plasma Display.



VIDEO and COMPONENT / RGB IN connection

Note:

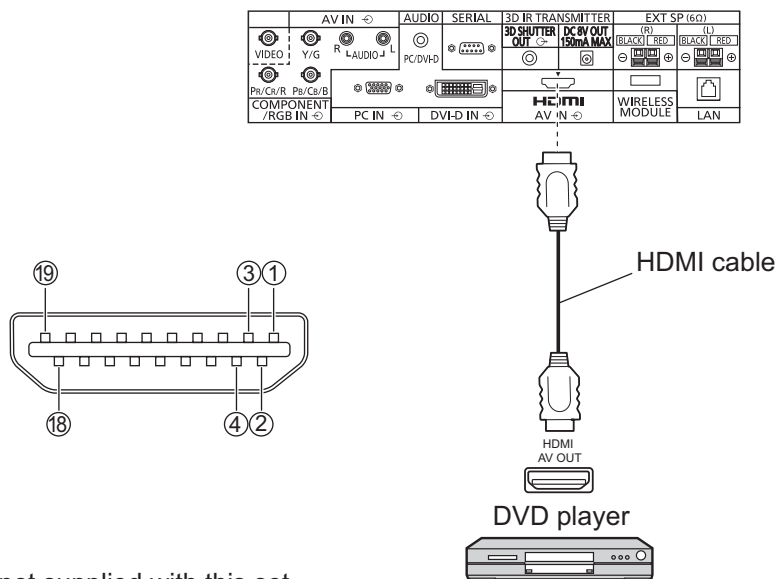
Additional equipment, cables and adapter plugs shown are not supplied with this set.



HDMI connection

[Pin assignments and signal names]

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

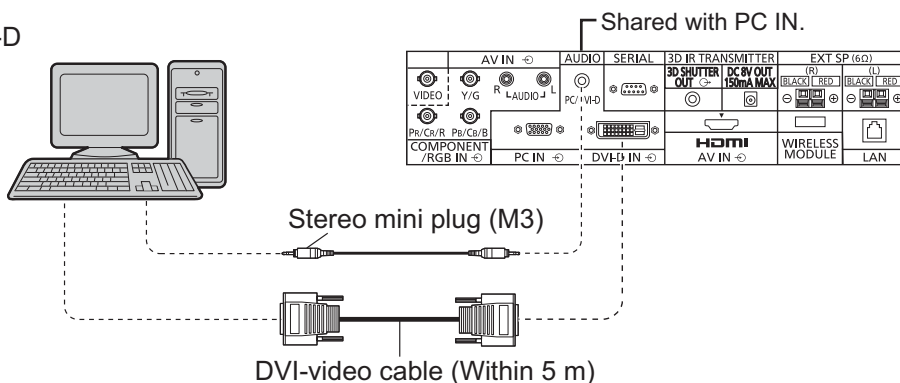


Note:

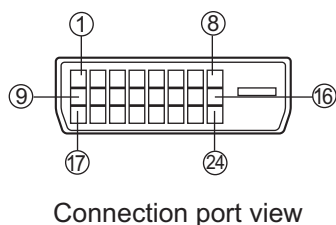
Additional equipment and HDMI cable shown are not supplied with this set.

DVI-D IN connection

PC with DVI-D video out



DVI-D Input Connector Pin Layouts

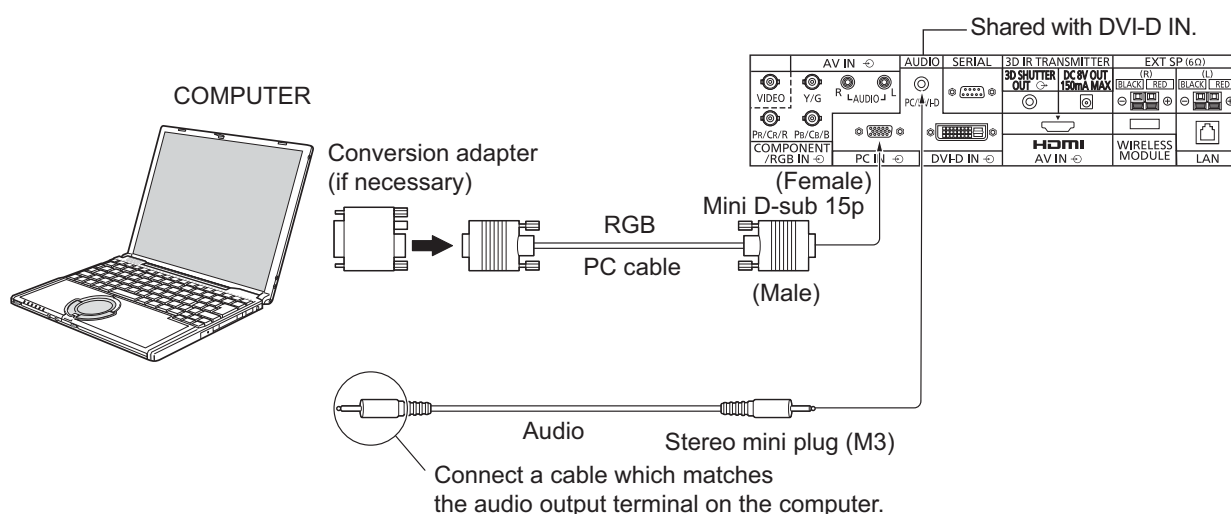


Pin No.	Signal Name	Pin No.	Signal Name
①	T.M.D.S. data 2-	⑬	_____
②	T.M.D.S. data 2+	⑭	+5 V DC
③	T.M.D.S. data 2 shield	⑮	Ground
④	_____	⑯	Hot plug detect
⑤	_____	⑰	T.M.D.S. data 0-
⑥	DDC clock	⑱	T.M.D.S. data 0+
⑦	DDC data	⑲	T.M.D.S. data 0 shield
⑧	_____	⑳	_____
⑨	T.M.D.S. data 1-	㉑	_____
⑩	T.M.D.S. data 1+	㉒	T.M.D.S. clock shield
⑪	T.M.D.S. data 1 shield	㉓	T.M.D.S. clock+
⑫	_____	㉔	T.M.D.S. clock-

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.

PC Input Terminals connection



Notes:

- With regard to the typical PC input signals that are described in the applicable input signals list (see page 64), 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 × 1,080 dots when the aspect mode is set to "4:3", and 1,920 × 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.
- 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 50)

Signal Names for Mini D-sub 15P Connector

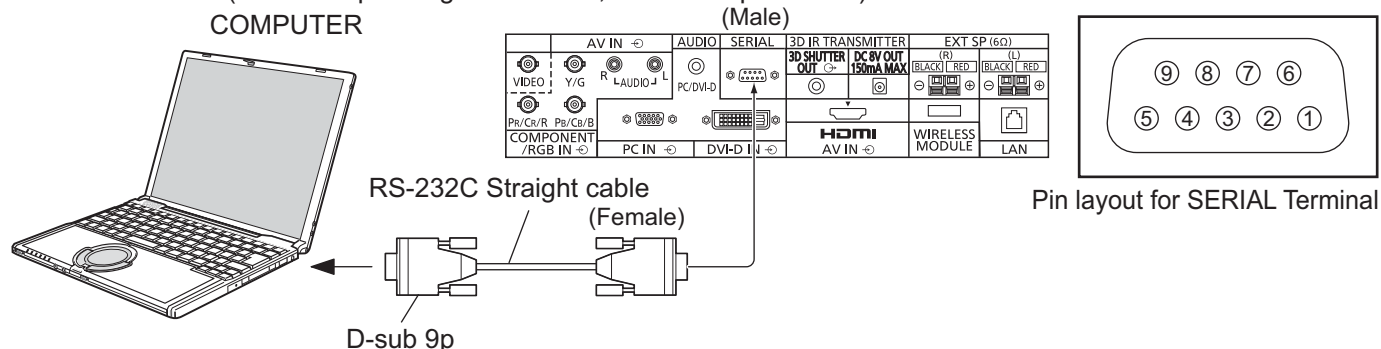
Pin No.	Signal Name	Pin No.	Signal Name	Pin No.	Signal Name
①	R (Pr/CR)	⑥	GND (Ground)	⑪	NC (not connected)
②	G (Y)	⑦	GND (Ground)	⑫	SDA
③	B (Pb/Cb)	⑧	GND (Ground)	⑬	HD/SYNC
④	NC (not connected)	⑨	+5 V DC	⑭	VD
⑤	GND (Ground)	⑩	GND (Ground)	⑮	SCL

Pin Layout for PC Input Terminal

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”. (refer to “Operating Instructions, Network Operations”)



Notes:

- Use the RS-232C straight cable to connect the computer to the Plasma Display.
- The computer shown is for example purposes only.
- Additional equipment and cables shown are not supplied with this set.

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.

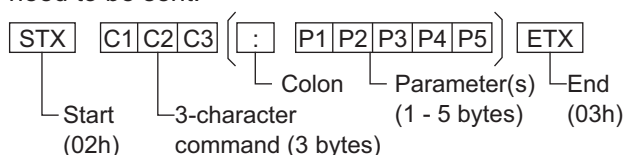
The computer will require software which allows the sending and receiving of control data which satisfies the conditions given below. Use a computer application such as programming language software. Refer to the documentation for the computer application for details.

Communication parameters

Signal level	RS-232C compliant
Synchronization method	Asynchronous
Baud rate	9600 bps
Parity	None
Character length	8 bits
Stop bit	1 bit
Flow control	-

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.
- Consult your local Panasonic dealer for detail instructions on command usage.

Signal names for D-sub 9P connector

Pin No.	Details
②	R X D
③	T X D
⑤	GND
④ • ⑥	Non use
⑦ ⑧	(Shorted in this set)
① • ⑨	NC

These signal names are those of computer specifications.

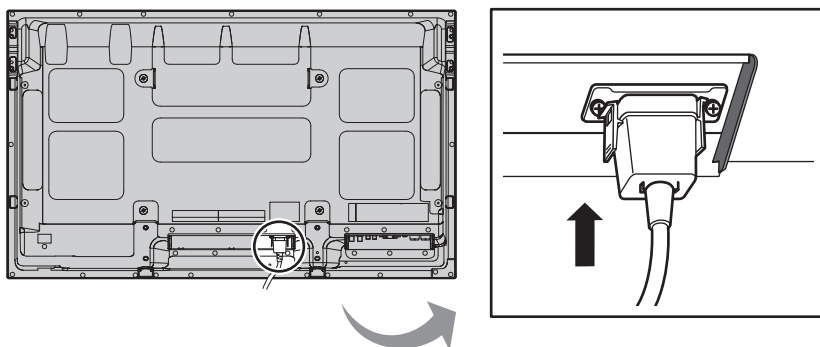
Command

Command	Parameter	Control details
PON	None	Power ON
POF	None	Power OFF
AVL	**	Volume 00 - 63
AMT	0	Audio MUTE OFF
	1	Audio MUTE ON
IMS	None	Input select (toggle)
	SL1	SLOT input (SLOT INPUT)
	S1A	SLOT input (SLOT INPUT A)
	S1B	SLOT input (SLOT INPUT B)
	VD1	VIDEO input (VIDEO)
	YP1	COMPONENT/RGB IN input (COMPONENT)
	HM1	HDMI input (HDMI)
	DV1	DVI-D IN input (DVI)
	PC1	PC IN input (PC)
	NW1	Network input (NETWORK)
DAM	None	Screen mode select (toggle)
	ZOOM	Zoom, Zoom1
	FULL	16:9
	JUST	Just, Just1 (For Video/SD/HD signal)
	NORM	4:3, 4:3 (1)
	ZOM2	Zoom2 (For Video/SD/HD signal)
	ZOM3	Zoom3 (For Video/SD/HD signal)
	SJST	Just2 (For HD signal)
	SNOM	4:3 (2) (For HD signal)
	SFUL	4:3 Full (For HD signal)
	14:9	14:9 (For Video/SD/HD signal)

With the power off, this display responds to PON command only.

Power On / Off

Connecting the AC cord plug to the Plasma Display.



Connecting the plug to the Wall Outlet

Notes:

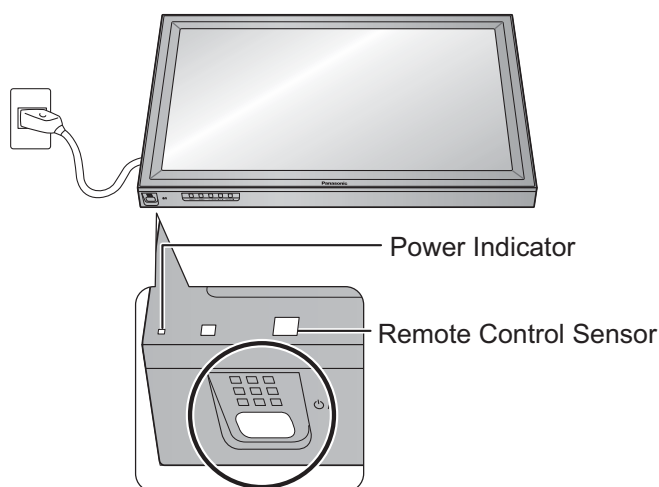
- Main plug types vary between countries. The power plug shown at right may, therefore, not be the type fitted to your set.
- When disconnecting the AC cord, be absolutely sure to disconnect the AC cord plug at the socket outlet first.


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

Power Indicator: Green

[Starting up the network]

It takes some time for the network to start up just after the power is turned on.
During that time, "Network Setup" in the "Setup" menu is grayed out and cannot be set.




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

Power Indicator: Red (standby)

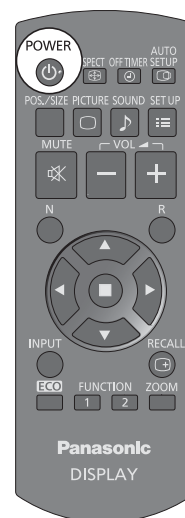
Press the  button on the remote control to turn the Plasma Display on.

Power Indicator: Green

Turn the power to the Plasma Display off by pressing the /I 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.

Note:

The screens are not displayed if a tuner board has been equipped when setting up. Also they will not be displayed from the next time the power is turned on after the settings are completed once.

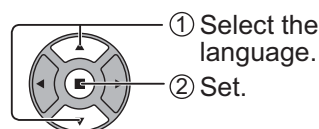
Make the settings in the following menus as necessary.

OSD Language (see page 45)

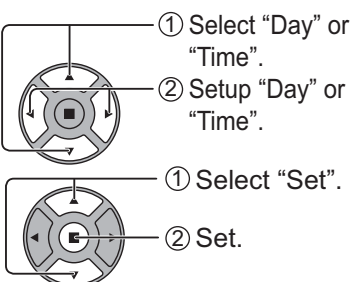
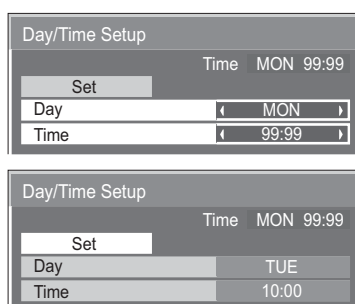
Day/Time Setup (see page 35)

Display orientation (see page 45)

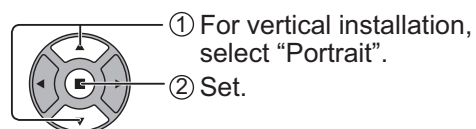
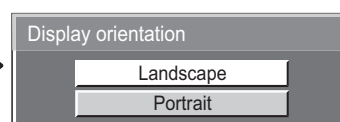
OSD Language



Day/Time Setup



Display orientation



Power ON warning message

The following message may be displayed when turning the unit power ON:

3D Safety Precautions

When 3D images will be viewed by unspecified number of people or used for commercial applications, someone in authority should convey the following precautions. These precautions should be followed in the home as well.

3D Viewing/ 3D Content/ Viewing distance/ 3D Eyewear recommendations

- To enjoy 3D images safely and comfortably, please read the Operating Instructions fully.

Activate 3D Safety Precautions if you deliver 3D images to unspecified audiences for business or other purposes. If "3D Function" in "3D Settings" is set to "On", a warning message is displayed every time the power is turned ON. (see page 36)

No activity power off Precautions

'No activity power off' is enabled.

If "No activity power off" in Setup menu is set to "Enable", a warning message is displayed every time the power is turned ON. (see page 45)

These message displays can be set with the following menu: Options menu

3D Safety Precautions (see page 57)

Power On Message (see page 56)

Selecting the input signal

INPUT



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 → NETWORK → VIDEO → COMPONENT* → HDMI → DVI →

PC: PC input terminal in PC IN.

NETWORK: Network input terminal in LAN or WIRELESS MODULE.

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 50)

When an optional Terminal Board is installed:

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

SLOT INPUT: Input terminal in Terminal Board

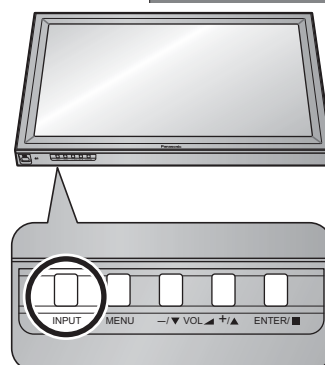
Note:

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

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

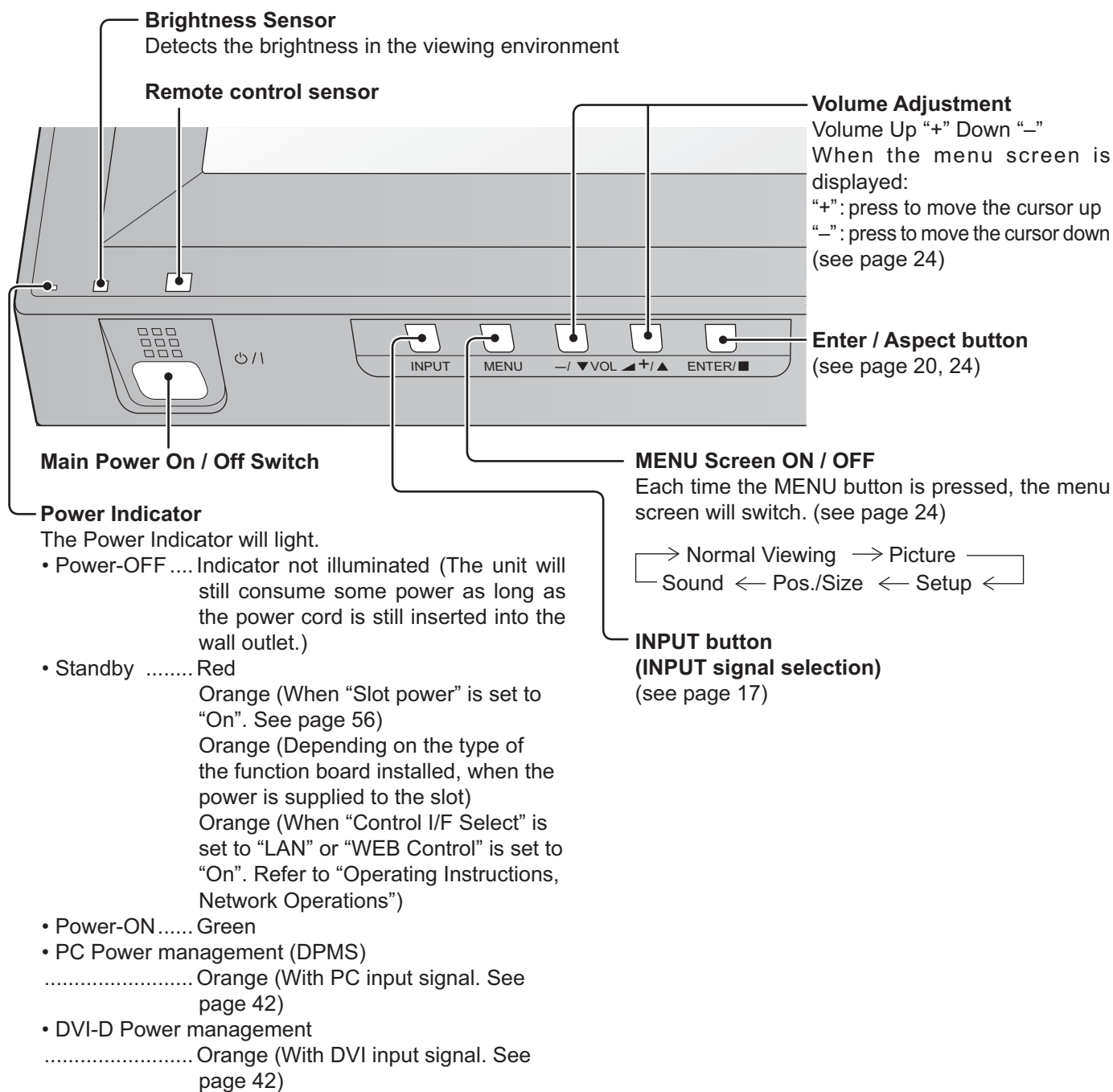


Notes:

- 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 59)
- Select to match the signals from the source connected to the component/RGB input terminals. (see page 50)
- 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 62), but this function is not the perfect solution to image retention.

Basic Controls

Main Unit



Remote Control Transmitter

ACTION button

Press to make selections.

ASPECT button

Press to adjust the aspect.
(see page 20)

Standby (ON / OFF) button

The Plasma Display must first be plugged into the wall outlet and turned on at the power switch (see page 15). 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 25)

PICTURE button

(see page 28)

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 27, 28, 29, 33)

POSITION buttons

INPUT button

Press to select Input signal sequentially. (see page 17)

ECO MODE (ECO)

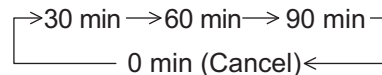
Press to change the ECO MODE setup status. (see page 42)

FUNCTION buttons (FUNCTION)

(see page 44)

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 min" 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 25)

SET UP button

(see page 34)

SOUND button

(see page 33)

Volume Adjustment

Press the Volume Up "+" or Down "-" button to increase or decrease the sound volume level.

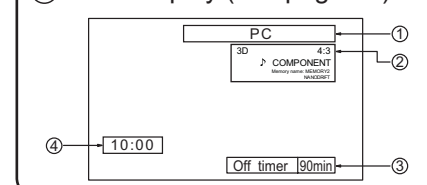
R button

(see page 24)
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 20)
During 3D images (see page 36)
Audio input (see page 59)
Profile name (see page 32)
NANODRIFT Saver operating (see page 40)
- ③ Off timer
The off timer indicator is displayed only when the off timer has been set.
- ④ Clock display (see page 56)



Digital Zoom (see page 21)

ASPECT Controls

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.

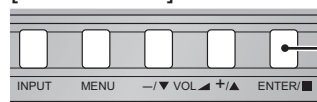
ASPECT



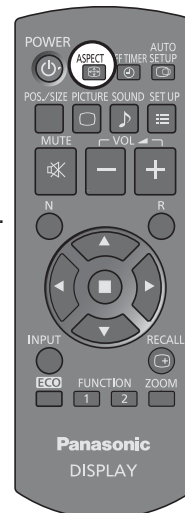
Press repeatedly to move through the aspect options:

For details about the aspect mode, please see "List of Aspect Modes" (page 63).

[from the unit]



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



For VIDEO (S VIDEO) signal input:

→ 4:3 → Zoom1 → Zoom2 → Zoom3 → 16:9 → 14:9 → Just

For PC signal input:

→ 4:3 → Zoom → 16:9

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

→ 4:3 → Zoom1 → Zoom2 → Zoom3 → 16:9 → 14:9 → Just

For HD signal input [1125 (1080) / 60i • 50i • 60p • 50p • 24p • 25p • 30p • 24sF, 1250 (1080) / 50i, 750 (720) / 60p • 50p]:

→ 4:3 → 4:3 Full → Zoom1 → Zoom2
Just ← 14:9 ← 16:9 ← Zoom3 ←

[For 3D images]

The aspect is fixed as "16:9" and you cannot switch.

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 56). 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 63)

For VIDEO (S VIDEO) signal input:

→ 4:3 → Zoom1 → Zoom2 → Zoom3 → 16:9 → 14:9 → Just

For PC signal input:

→ 4:3 → Zoom → 16:9

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

→ 4:3 → Zoom1 → Zoom2 → Zoom3 → 16:9 → 14:9 → Just

For HD signal input [1125 (1080) / 60i • 50i • 60p • 50p • 24p • 25p • 30p • 24sF, 1250 (1080) / 50i, 750 (720) / 60p • 50p]:

→ 4:3 Full → Zoom1 → Zoom2 → Zoom3 → 16:9 → 14:9 → Just1 → Just2 → 4:3 (1) → 4:3 (2)

Digital Zoom

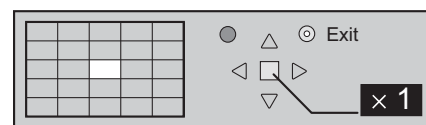
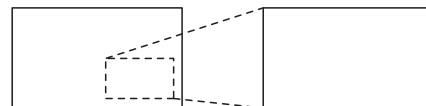
This displays an enlargement of the designated part of the displayed image.

1 Display the operation guide.

ZOOM

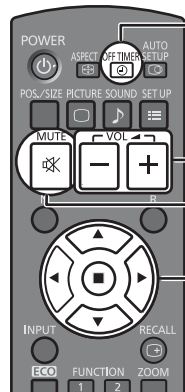


Press to access Digital Zoom.
The operation guide will be displayed.



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

[Remote control]



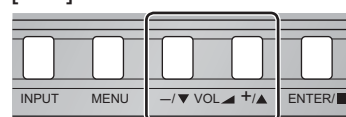
OFF TIMER button

VOL button

MUTE button

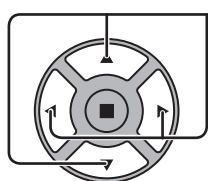
POSITION / ACTION button

[Unit]



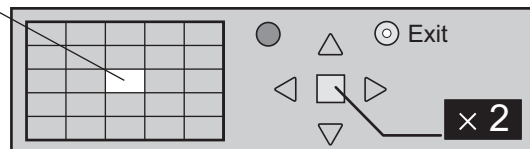
VOL button

2 Select the area of the image to be enlarged.

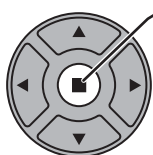


Press on the enlargement location to select.

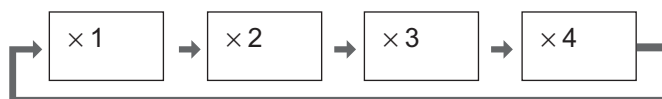
The cursor will move.



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:
During 3D images (see page 36)
When MULTI DISPLAY Setup is On (see page 46).
When Portrait Setup is On (see page 48).
When Screensaver (except for Negative image) is running (see page 37)
- While Digital Zoom is in operation, "Adjusting Pos./Size" cannot be used.

Viewing 3D images

You can enjoy viewing 3D images with contents or programmes compatible with 3D effect by using the 3D eyewear (optional).

Note:

You need the 3D IR TRANSMITTER (optional) and the 3D eyewear (optional) to view the 3D images on this display. For further information, see the instruction manuals of the 3D IR TRANSMITTER and the 3D eyewear.

This display supports "Frame Sequential"^{*1}, "Side by Side"^{*2} and "Top and Bottom"^{*3} 3D formats.

^{*1}: The 3D format that the images for the left and right eyes are recorded with the high definition quality and alternately played back

^{*2}, ^{*3}: See "Table of images that can be seen for each 3D Picture Format and the source image format" on page 23.

To view the 3D images

To view the contents of the Frame Sequential format (ex. 3D-compatible Blu-ray Disc, etc.) with 3D effect

Connect the 3D-compatible player via an HDMI cable (see page 12) and playback the contents.

- Use fully wired HDMI compliant cable.
- For the settings of the player, read the manual of the player.
- If you use the non 3D-compatible player, the images will be displayed without 3D effect.

To view the contents of 3D formats other than Frame Sequential with 3D effect.

Match the picture format in "3D Picture Format" (see page 36) before viewing.

- You can view "Side by Side" and "Top and Bottom" with 3D effect even if you use the non 3D-compatible player.
- Please consult the suppliers of contents or programmes for availability of this service.

① **Turn the 3D Eyewear on**

- See the instruction manual of 3D eyewear for handling.

② **Put on the 3D Eyewear**

③ **Watch the 3D images**

Notes:













- If the room is lit by fluorescent lights and light appears to flicker when using the 3D Eyewear, switch off the fluorescent light. Alternatively, please set "3D Refresh Rate" to "100Hz" or "120Hz" whichever reduces flicker. (see page 52)
- 3D content will not be correctly visible if the 3D Eyewear is worn upside down or back-to-front.
- Do not wear the 3D Eyewear when watching anything other than 3D images. Liquid crystal displays (such as computer screens, digital clocks or calculators, etc.) may be difficult to see while wearing the 3D Eyewear.
- Do not use the 3D Eyewear as sunglasses.
- 3D effects may be perceived differently depending on the person.

Troubleshooting for 3D Eyewear

Symptoms	Checks
Cannot see 3D images	<ul style="list-style-type: none"> Has the 3D Eyewear been switched On? Ensure that "3D Function" in "3D Settings" is set to "On". (see page 36) Some 3D image signals may not be automatically recognized as 3D images. Set "3D Picture Format" in "3D Settings" to match the picture format. (see page 36) Check if 3D IR TRANSMITTER is turned on and corrected properly. Check that there are no obstacles between the 3D IR TRANSMITTER and the 3D Eyewear. If the 3D Eyewear stops receiving the infrared signal for about 5 minutes, the 3D Eyewear will be turned off automatically. Check the available area to use the 3D Eyewear. Depending on the person, the 3D images may be difficult to see, or cannot be seen, especially in users that have a different level of eyesight between the left and right eyes. Take the necessary steps (wearing glasses etc.) to correct your eyesight before use.
3D Eyewear is turned off automatically	<ul style="list-style-type: none"> Check that there are no obstacles between the 3D IR TRANSMITTER and the 3D Eyewear or that the 3D Eyewear is placed inside the coverage area. If the 3D Eyewear stops receiving the infrared signal for about 5 minutes, the 3D Eyewear will be turned off automatically.
There is something wrong with the 3D images	<ul style="list-style-type: none"> Switch "Reverse" and "Normal" under "3D Picture Sequence" in "3D Settings" (see page 36).
Indicator lamp will not light when the 3D glasses are turned ON.	<ul style="list-style-type: none"> The battery may be running low or flat. Change the battery or charge the 3D glasses.

Table of images that can be seen for each 3D Picture Format and the source image format

If the picture appears to be abnormal, refer to the table below to choose the correct 3D picture format setting.

3D Picture Format Source image format	Auto	Side by Side	Top and Bottom	Native
Side by side	 *1	 Normal*2		
Top and bottom	 *1		 Normal*2	
Normal format (2D)	 Normal			 Normal

*1 When the source image is not recognized correctly

*2 When "3D Function" is set to "On", the images will be displayed with 3D effect. When set to "Off", displayed without 3D effect.

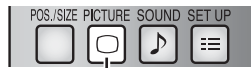
• Depending on the player or contents, the image may be different from the above illustrations.

On-Screen Menu Displays

Remote Control

Unit

1 Display the menu screen.



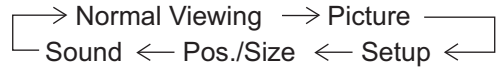
Press to select.
(Example: Picture menu)



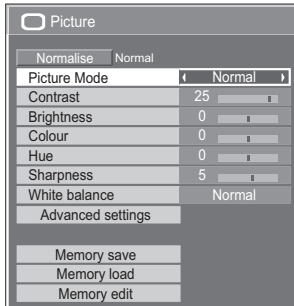
Press several times.

MENU

Each time the MENU button is pressed, the menu screen will switch.



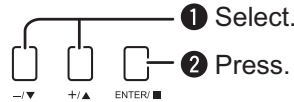
2 Select the item.



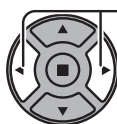
(Example: Picture menu)



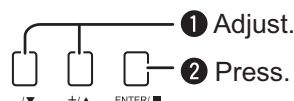
Select.



3 Set.



Set.



4 Exit the menu.



Press.

Press to return to the previous menu.

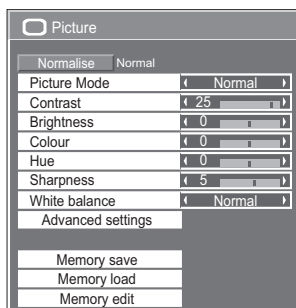


Press several times.

Menu display list

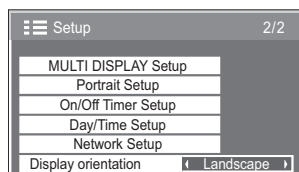
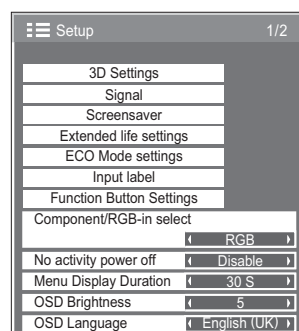
Note: Menu that cannot be adjusted is grayout. Adjustable menu changes depending on signal, input and menu setting.

Picture menu



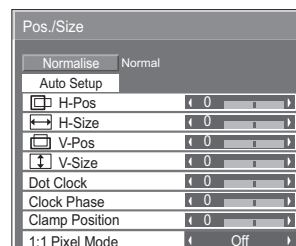
see page 28-32

Setup menu



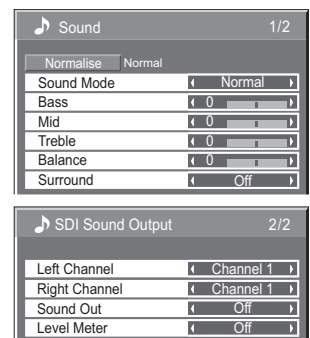
see page 34-53

Pos./Size menu




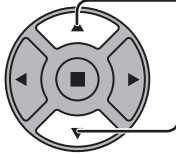
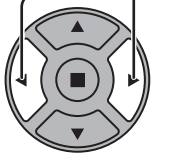

see page 25-27

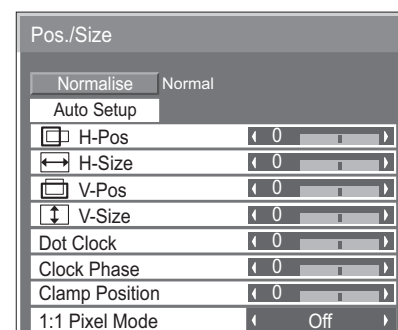
Sound menu



see page 33

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.



Note:

Unadjustable items are grayed out.

Adjustable items differ depending on the input signal and the display 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 When inputting a PC signal as an example, "H-Pos/V-Pos", "H-Size/V-Size", "Dot Clock" and "Clock Phase" are automatically corrected.

This setting is enabled under the following conditions:

- When inputting an analog signal (Component/PC):
This setting is enabled if "Component/RGB-in select" (see page 50) in Setup menu is "RGB".
- When inputting a digital signal (HDMI/DVI):
A PC format signal enables this setting.


When the signal is not PC format, this setting is enabled only if "Over Scan" (see page 26) is "Off" or "1:1 Pixel Mode" (see page 27) is "On". "H-Size/V-Size" is not automatically adjusted.

This setting will be invalid and will not work under the following conditions:

- When NETWORK input is selected.
- When VIDEO signal input
- During Multiple display, Portrait display or Digital Zoom.
- Aspect is set to "Just"
- "Display size" in the Options menu (see page 55) 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 56), automatic position adjustment starts:

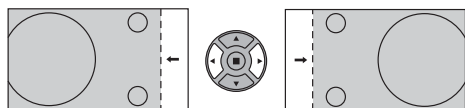
- When the display power is turned ON.
- When the input signal is switched.

Notes:

- If the dot clock frequency of an analog signal is 162 MHz or higher, "Dot Clock" and "Clock Phase" cannot be automatically corrected.
- When digital 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 51) 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.

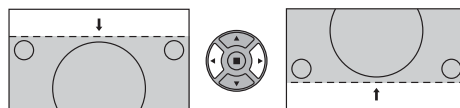
H-Pos

Adjust the horizontal position.



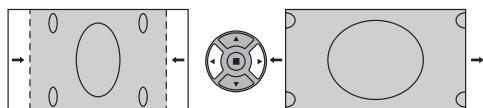
V-Pos

Adjust the vertical position.



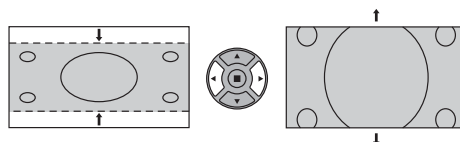
H-Size

Adjust the horizontal size.



V-Size

Adjust the vertical size.



Dot Clock (During Component/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.

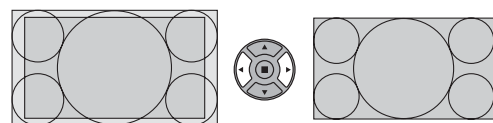
Clock Phase (During Component/PC input signal)

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 55)

Clamp Position (During Component/PC 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.

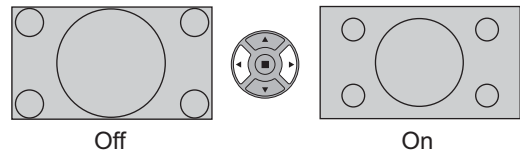
When black parts are tinged with green

→ Value that cancels the greenishness without causing blackout is the optimum.

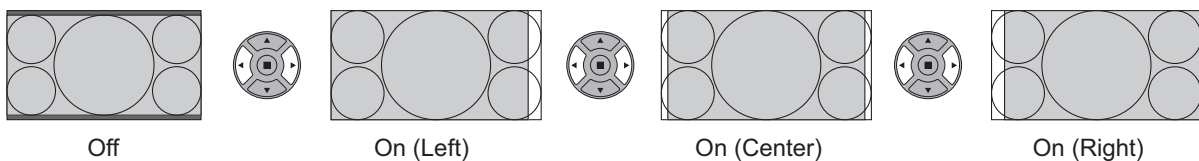
1:1 Pixel Mode Adjusts the display size when 1125i, 1125p or 1250i signal is input.

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




Note:

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

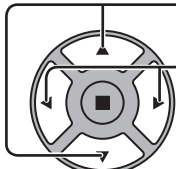
Helpful Hint (/ Normalisation)

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.

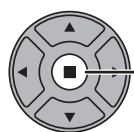
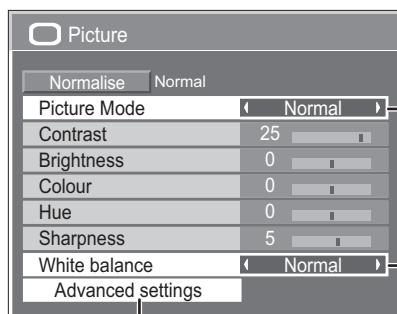
Picture Adjustments

1  Press to display the Picture menu.

2 Select to adjust each item.

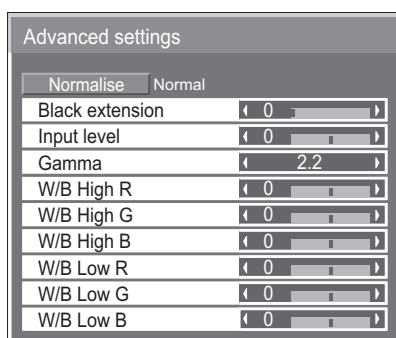
 Press to select the menu to adjust.
Select the desired level by looking at the picture behind the menu.

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



Press to enter Advanced settings.

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



Press “◀” or “▶” button to switch between modes.

▶Normal ◀ ◀Dynamic ◀
▶Monitor ◀ ◀Cinema ◀

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

For use in viewing tone-focused pictures with brightness reduced.

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.
Extended life settings: Peak limit (see page 40)
MULTI DISPLAY Setup menu: Video Wall Uniformity (see page 47)
Portrait Setup menu: Video Wall Uniformity (see page 49)
- 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)

Press “◀” or “▶” button to switch between modes.

▶Normal (9300K)◀◀Cool (11500K)◀◀Warm (6500K)◀

Helpful Hint (/ 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.

Item	Effect	Adjustments
Contrast	 Less  More	Selects the proper brightness and density for the room.
Brightness	 Darker  Brighter	Adjusts for easier viewing of dark pictures such as night scenes and black hair.
Colour	 Less  More	Adjusts colour saturation.
Hue	 Reddish  Greenish	Adjusts for nice skin colour.
Sharpness	 Less  More	Adjusts picture sharpness.

Notes:

- 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.
- 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

Item	Effect	Details
Black extension	 Less  More	Adjusts the dark shades of the image in gradation.
Input level	 Less  More	Adjustment of parts which are extremely bright and hard to see.
Gamma	 Down  Up	2.0 \longleftrightarrow 2.2 \longleftrightarrow 2.4 \longleftrightarrow 2.6
W/B High R	 Less  More	Adjusts the white balance for light red areas.
W/B High G	 Less  More	Adjusts the white balance for light green areas.
W/B High B	 Less  More	Adjusts the white balance for light blue areas.
W/B Low R	 Less  More	Adjusts the white balance for dark red areas.
W/B Low G	 Less  More	Adjusts the white balance for dark green areas.
W/B Low B	 Less  More	Adjusts the white balance for dark blue areas.

Notes:

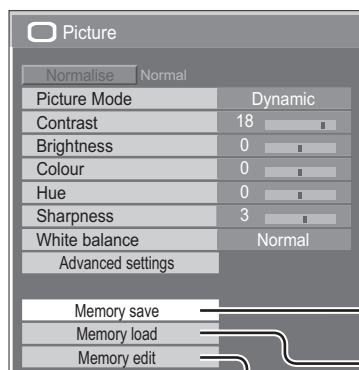
- Carry out "W/B" adjustment as follows.
 - Adjust the white balance of the bright sections using the "W/B High R", "W/B High G" and "W/B High B" settings.
 - Adjust the white balance of the dark sections using the "W/B Low R", "W/B Low G" and "W/B Low B" settings.
 - Repeat steps 1 and 2 to adjust.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

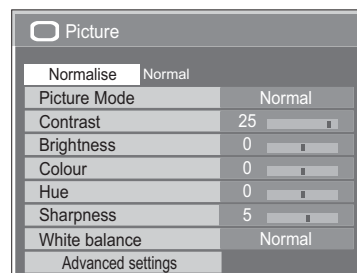
Up to 8 combinations of picture adjustment values (in the Picture menu and Advanced settings) can be stored in the display memory as profiles and applied as needed, for a convenient way to enjoy your preferred picture settings.



Save profiles (page 31)

Load profiles (page 32)

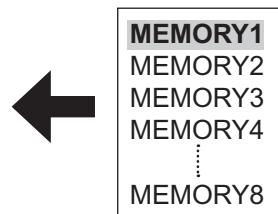
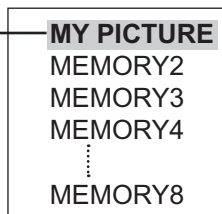
Edit profiles (page 32)



Save profiles

Save the picture adjustment values in the MEMORY1 profile

Edit the profile
Delete or rename the profile



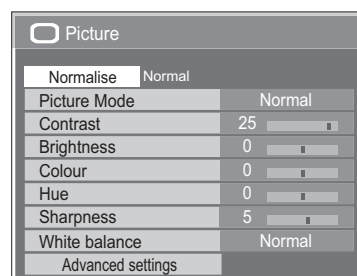
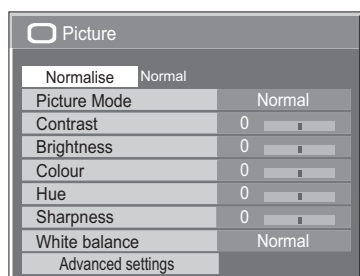
Load the profile

Apply the MEMORY1 profile

Original picture



Custom picture



Saving profiles

Follow these steps to save picture adjustment values as profiles.

Note:

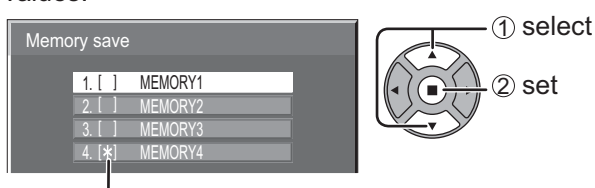
When the settings are locked in “Extended life settings”, profiles cannot be saved.

- 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.



“*” appears for a profile in which the picture adjustments have already been saved.

- 4 Select “Ok”.



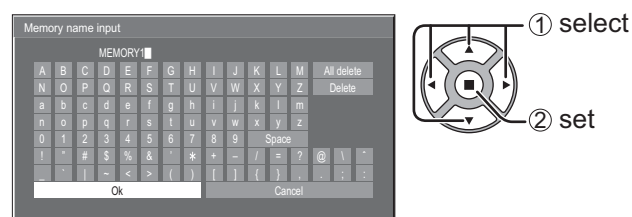
- 5 Enter a name for the profile.

[Entering profile names]

Profile names can be up to 40 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”.

MEMORY1

All text is deleted.

To delete individual characters, select “Delete”.

- ② Select “M”.

M

Repeat this process to enter the next character.

- ③ Select “Y”.

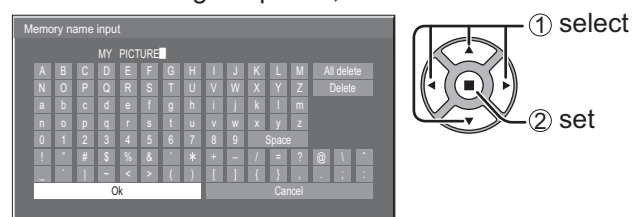
MY

- ④ Select “Space”.

MY

- 6 When you finished entering the profile name, select “Ok”.

To cancel saving the profile, select “Cancel”.




Loading profiles

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


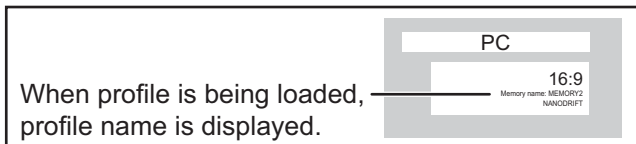
Notes:

- Loaded profiles are stored in memory according to the selected input terminal. (see page 17)
- 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>

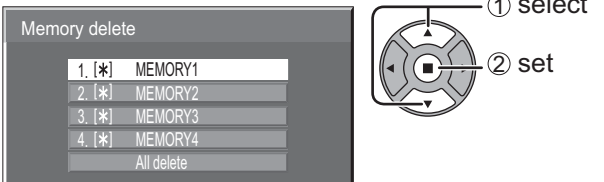
1 In the Picture menu, select “Memory edit”.




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”.



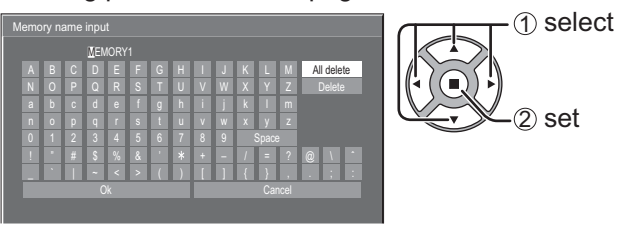
2 Select “Memory name change”.



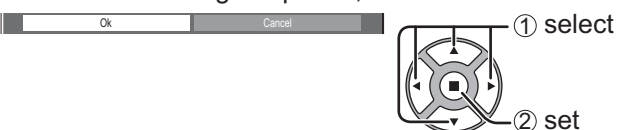
3 Select the profile to rename.



4 Enter a name for the profile.
Entering profile names → page 31




5 When you finished entering the profile name, select “Ok”.

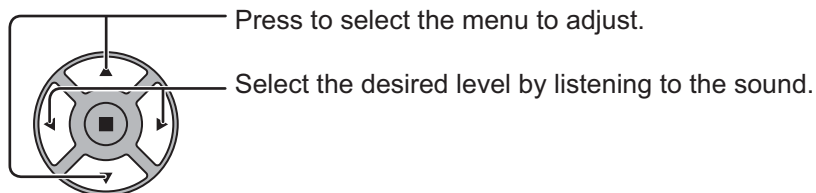


To cancel renaming the profile, select “Cancel”.

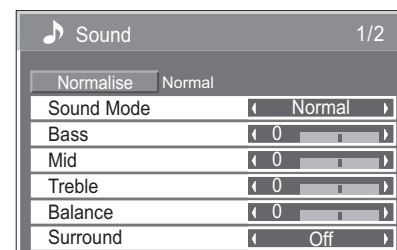
Sound Adjustment

1  Press to display the Sound menu.

2 Select to adjust each item.




3  Press to exit from adjust mode.



Item	Details
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.

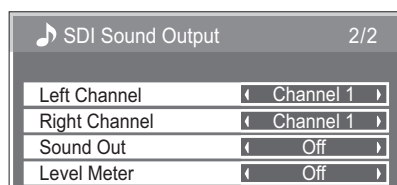
Note: Bass, Mid, Treble and Surround settings are memorized separately for each Sound Mode.

Helpful Hint (/ 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.


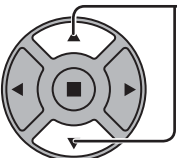
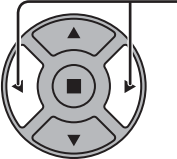

SDI Sound Output


This menu is available only when selecting a slot that any of the following terminal boards is installed:
HD-SDI Terminal Board with audio (TY-FB10HD) or Dual Link HD-SDI Terminal Board (TY-FB11DHD)



Item	Details
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 <=> Off On: Enables audio output. Off: Disables audio output.
Level Meter	Off <=> 1-8ch <=> 9-16ch Sets audio channels to show in the audio level meter. 8 channels are displayed in the audio level meter; 4 channels each on both right and left sides of the display. Off: Hides the audio level meter. 1-8ch: Displays the audio level meter (1-8ch) 9-16ch: Displays the audio level meter (9-16ch)

Setup menu

- 1  Press to display the Setup menu.
- 2  Press to select the menu to adjust.
- 3  Press to adjust the menu.
- 4  Press to exit from adjust mode.

Press  to return to the previous menu.

Setup 1/2	
3D Settings	
Signal	
Screensaver	
Extended life settings	
ECO Mode settings	
Input label	
Function Button Settings	
Component/RGB-in select	RGB
No activity power off	Disable
Menu Display Duration	30 S
OSD Brightness	5
OSD Language	English (UK)

Setup menu screen

Setup 1/2	
3D Settings	Page 36
Signal	Page 51
Screensaver	Page 37
Extended life settings	Page 39
ECO Mode settings	Page 42
Input label	Page 43
Function Button Settings	Page 44
Component/RGB-in select	
RGB	Page 50
No activity power off	Disable
Menu Display Duration	30 S
OSD Brightness	5
OSD Language	English (UK)

Setup 2/2	
MULTI DISPLAY Setup	Page 46
Portrait Setup	Page 48
On/Off Timer Setup	Page 35
Day/Time Setup	Page 35
Network Setup	
Display orientation	Page 45


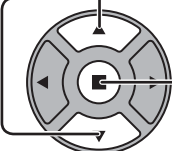
Network Setup

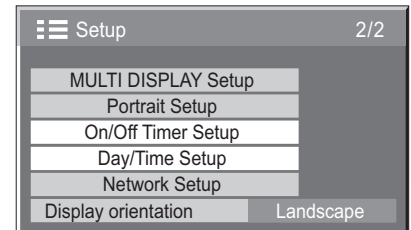
Set this to connect the Display to a computer via a network. For details of PLink and Network, refer to "Operating Instructions, Network Operations".

Day/Time Setup / On/Off Timer Setup

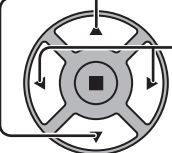
The timer can switch the Plasma Display On or Off.

Before attempting Timer Set, confirm the Time and adjust if necessary.
Then set POWER ON Time / POWER OFF Time.

-  Press to display the Setup menu.
- 
 - Press to select On/Off Timer Setup or Day/Time Setup.
 - Press to display the On/Off Timer Setup screen or Day/Time Setup screen.

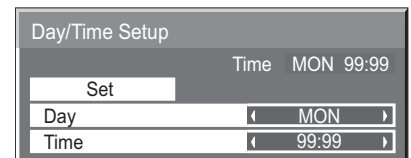


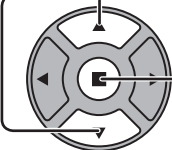
Day/Time Setup

- 
 - Press to select Day or Time.
 - Press to setup Day or Time.
 - button: Forward
 - ◄ button: Back


Notes:

- Pressing “◄” or “►” button once changes Time 1 minute.
- Pressing “◄” or “►” button continuously changes Time by 15 minutes.

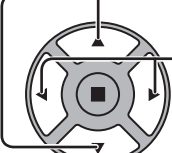


- 
 - Press to select Set.
 - Press to store Day/Time Setup.

Notes:

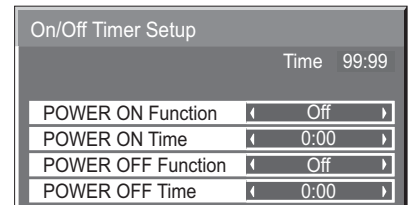
- Set cannot be selected unless Time is set.
- Unless setting the present time other than “99:99”, “Day” and “Time” cannot be set.
- The settings of “Day” and “Time” are reset when leaving the display turned off for about 7 days for the following reasons:
 - Pressing  switch of the unit to turn off the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


On/Off Timer Setup

- 
 - Press to select POWER ON Time / POWER OFF Time.
 - Press to setup POWER ON Time / POWER OFF Time.
 - button: Forward
 - ◄ button: Back

Notes:

- Pressing “◄” or “►” button once changes POWER ON Time / POWER OFF Time 1 minute.
- Pressing “◄” or “►” button continuously changes POWER ON Time / POWER OFF Time by 15 minutes.



- 
 - Press to select POWER ON Function/POWER OFF Function.
 - Press to select On.


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

3D Settings

To view the 3D images, please adjust and setup the 3D settings.

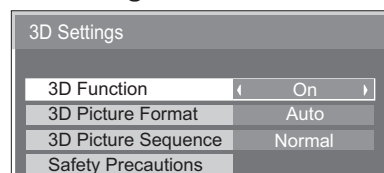
Note:

Set these settings for each input terminals.

Select “3D Settings” in “Setup” menu and press  button.



3D Settings sub-menu screen



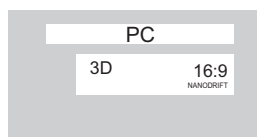
- **3D Function**

On \longleftrightarrow **Off**

On: To view the 3D images, please set it to “On”. You can see 3D images for 3D image signal and 2D images for 2D image signal.

Off: You can see 2D images instead of 3D images.

When set to “On”, “3D” is displayed during 3D images.



- **3D Picture Format**

3D images method is set.

Auto: 3D images are automatically displayed according to the signal.

Side by Side/Top and Bottom: One of the formats of the 3D standard. Select these formats as necessary.

Native: Displays the input signal as it is. Use to identify the format type of the input signal.

- **3D Picture Sequence**

Normal \longleftrightarrow **Reverse**

This function calibrates the timing to switch the right and left images as well as the timing to switch the shutter of right and left 3D Eyewear.

Select “Reverse” if you feel that the sense of depth is unusual.

- **Safety Precautions**

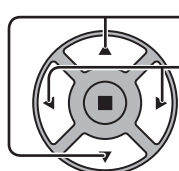
Displays the precautions for viewing 3D images.

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 Select "Screensaver" in "Setup" menu and press  button.

2 Function selection



Press to select Function.

Press to select the desired function.

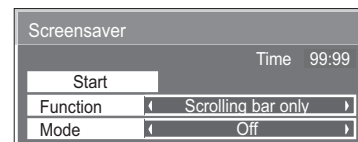
→ Negative image ↔ Scrolling bar only <
→ White screen ↔ Overlay scrolling bar <

Negative image : Negative image will be displayed on the screen.

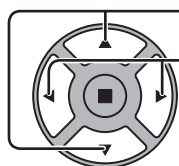
Scrolling bar only : A white bar will scroll from left to right. The image won't be displayed.

Overlay scrolling bar : The brightness of the image will be decreased and a white bar will scroll on it.

White screen : The whole screen will be white.




3 Mode selection

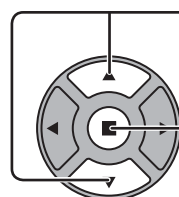


Press to select Mode.

Press to select each mode items.

Off
↕
Interval : Operates when Periodic Time and Operating Time are setup and those times arrive.
↕
Time Designation : Operates when Start Time and Finish Time are setup and those times arrive.
↕
Standby after SCR Saver: Operates while Screensaver duration, and display enters standby mode.
↕
On : Operates when Start is selected and the ACTION () button is pressed.

4 Start setting



When the Mode is set to On, press to select Start.

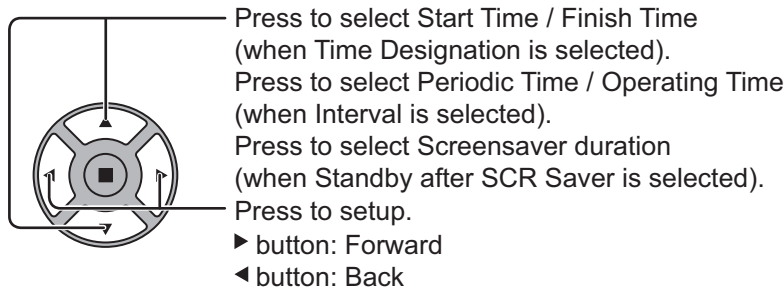
Press to start Screensaver.

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”.)



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 “Time” is set.

Screensaver		Time 15:00
Start		
Function	Scrolling bar only	
Mode	Time Designation	
Start Time	◀ 6:15 ▶	
Finish Time	◀ 12:30 ▶	


Screensaver		Time 15:00
Start		
Function	Scrolling bar only	
Mode	Interval	
Periodic Time	◀ 12:00 ▶	
Operating Time	◀ 3:00 ▶	

Screensaver		Time 15:00
Start		
Function	Scrolling bar only	
Mode	Standby after SCR Saver	
Screensaver duration	◀ 6:15 ▶	

Reduces screen image retention

Extended life settings

The following settings are setup to reduce image retention:

Select “Extended life settings” in “Setup” menu and press  button.

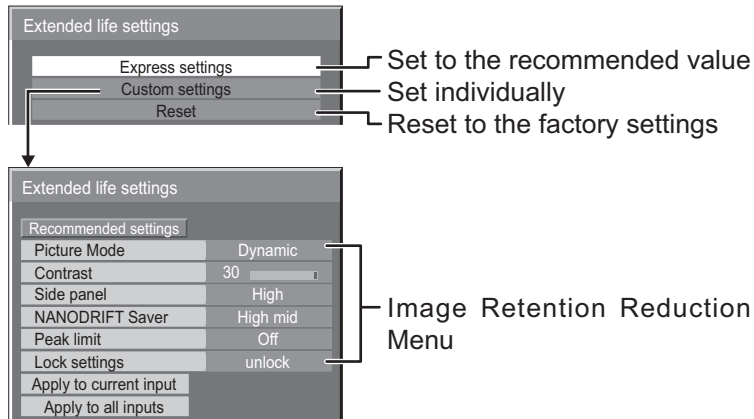


Image Retention Reduction Menu

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

Picture Mode

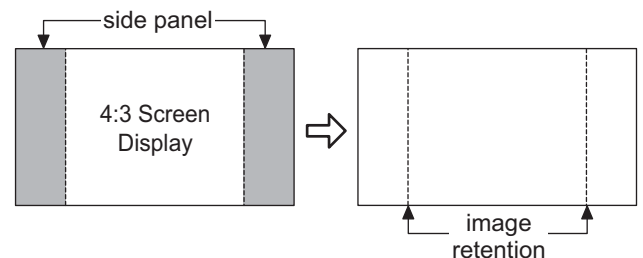
Contrast

“Picture Mode” and “Contrast” are same as “Picture” menu items (see page 28). 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.

Reduces screen image retention

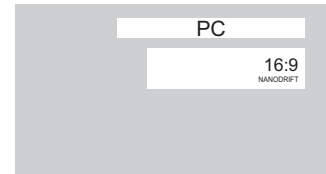
NANODRIFT Saver

Moves the display position of the screen slightly to reduce image retention on the display panel.

Low–High: 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 operating, “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 62)

Express settings

Set the “Image Retention Reduction” menu to the recommended settings.

All menus will be locked.

Picture Mode: Normal

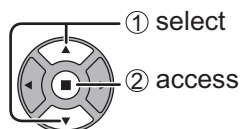
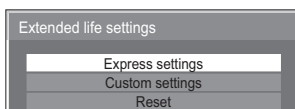
Contrast: Recommended setting for each model

Side panel: High

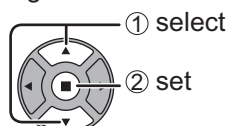
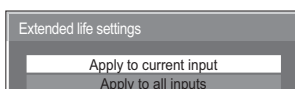
NANODRIFT Saver: High mid

Peak limit: On

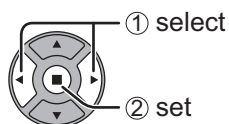
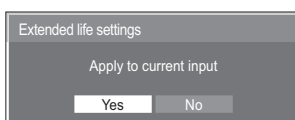
1 Select “Express settings”.



2 Select the input to apply the settings.



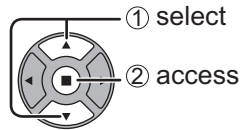
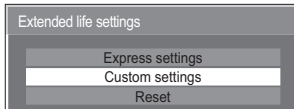
3 Select “Yes”.



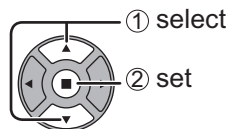
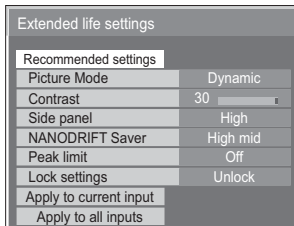
Custom settings

Set the individual "Image Retention Reduction" menu.

1 Select "Custom settings".

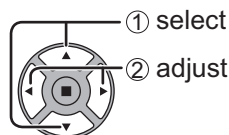
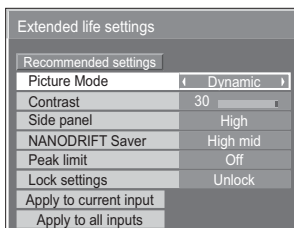


2 To set each menu to the recommended setting: Select "Recommended settings".

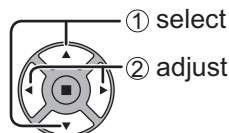
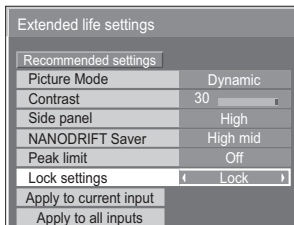


Each menu will be set as same as the "Express settings".

3 Set each menu.

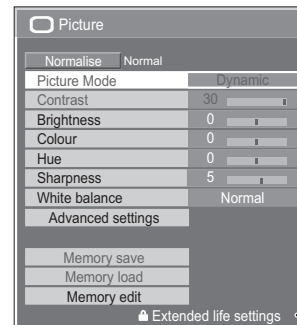


4 To lock each menu setting: Set the "Lock settings" to "Lock".

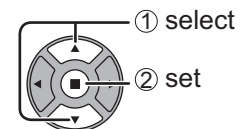
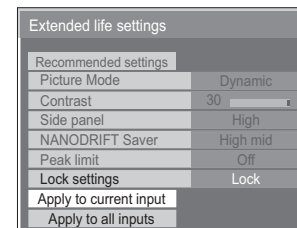


When a menu is locked, it is grayed out and cannot be set.

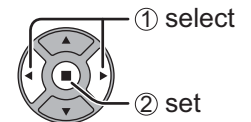
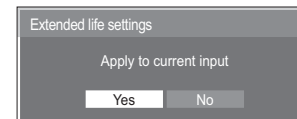
"Picture Mode" and "Contrast" will no longer be able to set in the "Picture" menu, and they are labeled with icon to indicate their locked status. Also, "Normalise", "Memory save" and "Memory load" are not available.



5 Select the input to apply the settings.



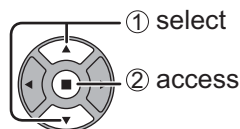
6 Select "Yes".



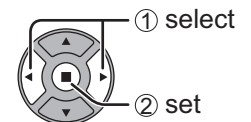
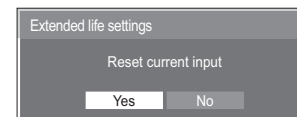
Reset

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

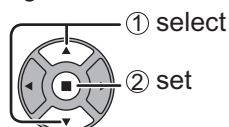
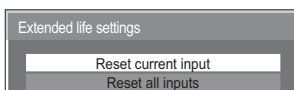
1 Select "Reset".



3 Select "Yes".



2 Select the input to reset the settings.

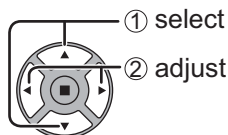


ECO Mode settings

Select "ECO Mode settings" in "Setup" menu and press  button.



ECO Mode settings	
ECO Mode	Custom
Power save	Off
Standby save	On
PC Power management	Off
DVI-D Power management	Off
No signal power off	Disable



ECO Mode

Custom: The menu of power consumption reduction is individually set.

On: The following fixed values are set to the menu of power consumption reduction. Individual setting is not available.

Power save: Sensor


DVI-D Power management: On

Standby save: On

No signal power off: Enable

PC Power management: On

Using Remote Control

When  is pressed, the "ECO Mode" setting changes.

ECO Mode On

Custom settings

The menu of the power consumption reduction is individually set. This setting is enabled when "ECO Mode" is set to "Custom".

Power save

When this function is turned On, luminous level of the Plasma Display is suppressed, so power consumption is reduced.

Sensor: The luminous level of the Plasma Display is automatically adjusted according to the viewing environment.

Standby save

When this function is turned On, power consumption of the microcomputer is reduced during power supply standby (see page 15, 18, 19), 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.

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.

No signal power off

Equipment power supply is turned Off when there is no signal.

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

Customizing the Input labels

This function can change the label of the Input signal to be displayed. (see page 17)

Select "Input label" in "Setup" menu and press  button.

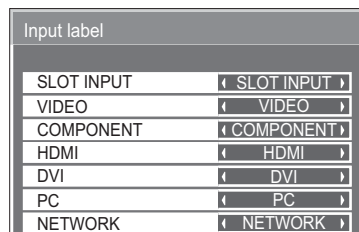


Image input	Input label
[SLOT INPUT]*1	SLOT INPUT / DVD1 / DVD2 / DVD3 / DVD4 / Blu-ray1 / Blu-ray2 / Blu-ray3 / Blu-ray4 / CATV / VCR / STB / (Skip)
[VIDEO]	VIDEO / DVD1 / DVD2 / DVD3 / DVD4 / Blu-ray1 / Blu-ray2 / Blu-ray3 / Blu-ray4 / CATV / VCR / STB / (Skip)
[COMPONENT]*2	COMPONENT / DVD1 / DVD2 / DVD3 / DVD4 / Blu-ray1 / Blu-ray2 / Blu-ray3 / Blu-ray4 / CATV / VCR / STB / (Skip)
[HDMI]	HDMI / DVD1 / DVD2 / DVD3 / DVD4 / Blu-ray1 / Blu-ray2 / Blu-ray3 / Blu-ray4 / CATV / VCR / STB / (Skip)
[DVI]	DVI / DVD1 / DVD2 / DVD3 / DVD4 / Blu-ray1 / Blu-ray2 / Blu-ray3 / Blu-ray4 / CATV / VCR / STB / (Skip)
[PC]	PC / DVD1 / DVD2 / DVD3 / DVD4 / Blu-ray1 / Blu-ray2 / Blu-ray3 / Blu-ray4 / CATV / VCR / STB / (Skip)
[NETWORK]	NETWORK / (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 50)

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.

[SLOT INPUT A]	SLOT INPUT A / DVD1 / DVD2 / DVD3 / DVD4 / Blu-ray1 / Blu-ray2 / Blu-ray3 / Blu-ray4 / CATV / VCR / STB / (Skip)
[SLOT INPUT B]	SLOT INPUT B / DVD1 / DVD2 / DVD3 / DVD4 / Blu-ray1 / Blu-ray2 / Blu-ray3 / Blu-ray4 / CATV / VCR / STB / (Skip)


When a Terminal Board with fixed display (such as Tuner Board) is installed

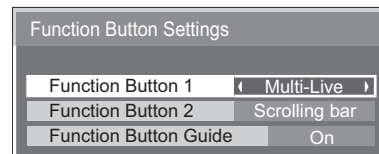
Only fixed display and (Skip) are available as Input label of "SLOT INPUT".

[SLOT INPUT]	fixed display / (Skip)
--------------	--

Function Button Settings

Set the functions that operates when ^{FUNCTION} 1 2 is pressed.

Select "Function Button Settings" in "Setup" menu and press  button.



• Function Button 1, Function Button 2

The following functions are set to the FUNCTION button.

Note:

Factory settings are as follows.

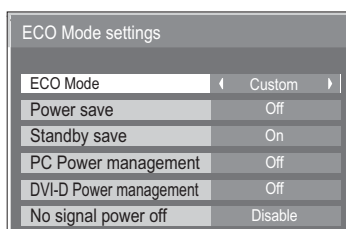
FUNCTION1 button: Multi-Live

FUNCTION2 button: Scrolling bar

ECO Mode settings / 3D Settings / Signal / On/Off Timer Setup

The menu is displayed. (Example: ECO Mode settings)

^{FUNCTION}
1 2



Pressing the FUNCTION button clears the menu.

Scrolling bar

Activates the "Scrolling bar only" screensaver.
After 15 minutes, the display enters standby mode.



To exit this mode, press any button.

INPUT (SLOT)* - INPUT (NETWORK)

Simply press ^{FUNCTION} 1 2 to select the input.

* "INPUT (SLOT)" is displayed when an optional Terminal Board is installed.

When a Terminal Board with dual input terminals is installed, "INPUT (SLOT A)" and "INPUT (SLOT B)" are displayed.

Network Setup

"Network Setup" menu is displayed.

Computer Search

The list of connectable computers on the network is displayed.

Multi-Live

Switch to the Multi-Live mode when using the "Wireless Manager mobile edition 5.5".

AV Mute

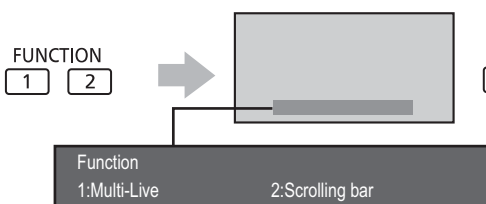
Mutes the audio and video. To exit this mode, press any button.

• Function Button Guide

The function display setting for the FUNCTION button is configured.

On: Press the FUNCTION button to display the function list of the button.

Off: The function list is not displayed.



^{FUNCTION}
1 2



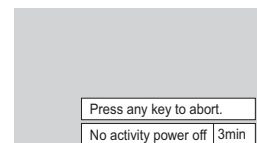
The operation starts.

No activity power off

Disable ↔ Enable

When this function is set to “Enable”, the power is turned off (standby) automatically when there is no operation of the Plasma Display for 4 hours.

Starting from 3 minutes before the turn off, the remaining time will be displayed.



When the power is turned off due to this function, a message “Last turn off due to 'No activity power off'.” is displayed next time the power is turned on.

Note:

During the screensaver is running, this function is disabled.

Menu Display Duration / OSD Brightness

Set the display time and brightness of the on-screen menu display.

Menu Display Duration: 5 S - 30 S

OSD Brightness: 1 - 5

OSD Language

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, panel drive control, and the display style of on-screen menu for vertical installation.



Landscape

Fan control and panel drive control for horizontal installation.



Portrait

Fan control and panel drive 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.
- When you change this setting, fan control and panel drive control will be switched as the power is turned on 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.

Note:

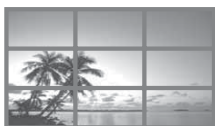
During Multi display, the 3D images are displayed as 2D images.

(Example)

group of 4 (2×2)



group of 9 (3×3)




group of 16 (4×4)

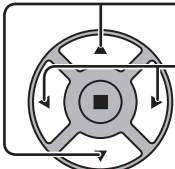


group of 25 (5×5)






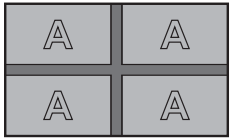
How to Setup MULTI DISPLAY

- 1 Select "MULTI DISPLAY Setup" in "Setup" menu and press  button.

- 2  Press to select the MULTI DISPLAY Setup.
Press to select "On" or "Off".

MULTI DISPLAY Setup	
MULTI DISPLAY Setup	Off
Horizontal Scale	$\times 2$
Vertical Scale	$\times 2$
Seam hides video	Off
Location	A1
Video Wall Uniformity	Off

Item	Details																																																									
MULTI DISPLAY Setup	Select “On” or “Off”. Note: If you set MULTI DISPLAY Setup to On, Portrait Setup will be unavailable.																																																									
Horizontal Scale	Select “× 1”, “× 2”, “× 3”, “× 4”, “× 5”.																																																									
Vertical Scale	Select “× 1”, “× 2”, “× 3”, “× 4”, “× 5”.																																																									
Seam hides video	<div><div>Select “On” or “Off”.</div><div><div><div>To hide joints between displays.</div><div><div>Example</div></div><div>Suitable for moving image display.</div><div>On</div></div><div><div>To show joints between displays.</div><div><div>Example</div></div><div>Suitable for still image display.</div><div>Off</div></div></div></div>																																																									
Location	<div><div>Select the required arrangement number. (A1-E5 : Refer to the following)</div><div>Display Number locations for each arrangement.</div><div>(Examples)</div><div><div>(2 × 1)</div><div><table><tr><td>A1</td><td>A2</td></tr></table></div></div><div><div>(2 × 3)</div><div><table><tr><td>A1</td><td>A2</td></tr><tr><td>B1</td><td>B2</td></tr><tr><td>C1</td><td>C2</td></tr></table></div></div><div><div>(4 × 2)</div><div><table><tr><td>A1</td><td>A2</td><td>A3</td><td>A4</td></tr><tr><td>B1</td><td>B2</td><td>B3</td><td>B4</td></tr></table></div></div><div><div>(4 × 4)</div><div><table><tr><td>A1</td><td>A2</td><td>A3</td><td>A4</td></tr><tr><td>B1</td><td>B2</td><td>B3</td><td>B4</td></tr><tr><td>C1</td><td>C2</td><td>C3</td><td>C4</td></tr><tr><td>D1</td><td>D2</td><td>D3</td><td>D4</td></tr></table></div></div><div><div>(5 × 5)</div><div><table><tr><td>A1</td><td>A2</td><td>A3</td><td>A4</td><td>A5</td></tr><tr><td>B1</td><td>B2</td><td>B3</td><td>B4</td><td>B5</td></tr><tr><td>C1</td><td>C2</td><td>C3</td><td>C4</td><td>C5</td></tr><tr><td>D1</td><td>D2</td><td>D3</td><td>D4</td><td>D5</td></tr><tr><td>E1</td><td>E2</td><td>E3</td><td>E4</td><td>E5</td></tr></table></div></div></div>	A1	A2	A1	A2	B1	B2	C1	C2	A1	A2	A3	A4	B1	B2	B3	B4	A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	D1	D2	D3	D4	D5	E1	E2	E3	E4	E5
A1	A2																																																									
A1	A2																																																									
B1	B2																																																									
C1	C2																																																									
A1	A2	A3	A4																																																							
B1	B2	B3	B4																																																							
A1	A2	A3	A4																																																							
B1	B2	B3	B4																																																							
C1	C2	C3	C4																																																							
D1	D2	D3	D4																																																							
A1	A2	A3	A4	A5																																																						
B1	B2	B3	B4	B5																																																						
C1	C2	C3	C4	C5																																																						
D1	D2	D3	D4	D5																																																						
E1	E2	E3	E4	E5																																																						

Item	Details
Video Wall Uniformity	<p>Reduces the peak of brightness for each display to enable as uniform display as possible. Select "Off" or "On".</p> <p>The brightness depends on each display's setting.</p>  <p>Off</p> <p>The brightness difference is minimized.</p>  <p>On</p> <p>Note: If you set Video Wall Uniformity 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)</p>










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:

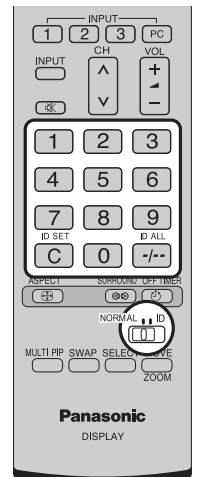
To operate this function, please purchase ID remote controller sold separately.

Object model : EUR7636070R


- 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 55)
- 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 55).

Setup 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 45).
- Turn up the power switch for the upward direction when you set Display vertically.
- During Portrait display, the 3D images are displayed as 2D images.

How to setup Portrait

1 Select “Portrait Setup” in “Setup” menu and press button.

2 Press to select the Portrait Setup.
Press to select “On” or “Off”.

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

Portrait Setup	
Portrait Setup	Off
Seam hides video	Off
Viewing Area	16 : 9
Location	1
Video Wall Uniformity	Off

3 Press to select Seam hides video.
Press to select “Off” , “On”.

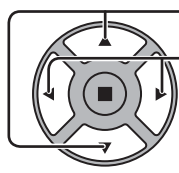
Portrait Setup	
Portrait Setup	Off
Seam hides video	Off
Viewing Area	16 : 9
Location	1
Video Wall Uniformity	Off

To hide joints between displays.	To show joints between displays.
 Example	 Example
Suitable for moving image display.	Suitable for still image display.
On	Off

4 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".

Portrait Setup	
Portrait Setup	Off
Seam hides video	Off
Viewing Area	16 : 9
Location	1
Video Wall Uniformity	Off

Location setting

When Portrait Setup is "On":

Display the image of the selected location.



When Portrait Setup is "Off":

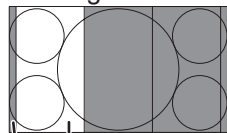
Represent an area of the selected Location at a normal brightness and darken the rest of it.



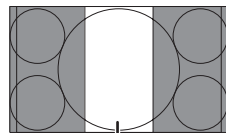
Viewing Area and Location

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

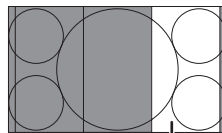
Viewing Area : 16:9



Location 1



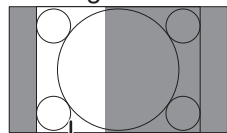
Location 2



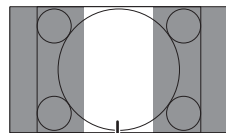
Location 3

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

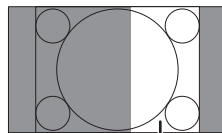
Viewing Area : 4:3



Location 1



Location 2

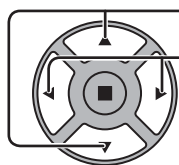


Location 3

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 25)

5 Video Wall Uniformity

Reduces the peak of brightness for each display to enable as uniform display as possible.



Press to select Video Wall Uniformity

Press to select "Off", "On".

The brightness depends on each display's setting.	The brightness difference is minimized.
Off	On

Portrait Setup	
Portrait Setup	Off
Seam hides video	Off
Viewing Area	16 : 9
Location	1
Video Wall Uniformity	Off

Note:

If you set Video Wall Uniformity 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)

Setup for Input Signals

Component / RGB-in select

Component \longleftrightarrow RGB

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

Y, P_B, P_R signals \Rightarrow "Component"

RGB signals \Rightarrow "RGB"

Note:

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

YUV / RGB-in select

YUV \longleftrightarrow RGB

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

YUV signals \Rightarrow "YUV"

RGB signals \Rightarrow "RGB"


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).

Signal menu

Note:

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

Select “Signal” in “Setup” menu and press  button.



For Video (S VIDEO)

Signal [AV]	
3D Y/C Filter (NTSC)	On
Colour system	Auto
Cinema reality	Off
Noise reduction	Off

For RGB

Signal [RGB]	
Sync	Auto
Cinema reality	Off
XGA Mode	Auto
Noise reduction	Off
H-Freq.	63.98 kHz
V-Freq.	60.02 Hz
Signal Format	1280×1024/60i

For Component

Signal [Component]	
Sync	Auto
Cinema reality	Off
XGA Mode	Auto
Noise reduction	Off
H-Freq.	63.98 kHz
V-Freq.	60.02 Hz
Signal Format	1280×1024/60i

For Digital

Signal [Digital]	
Cinema reality	Off
Noise reduction	Off
H-Freq.	63.98 kHz
V-Freq.	60.02 Hz
Dot Clock Freq.	108.0 MHz
Signal Format	1280×1024/60i

• 3D Y/C Filter (NTSC)

This menu is displayed when BNC Dual Video Terminal Board (TY-FB9BD) is installed to the unit. Set this menu when the moving image looks unnatural during Video (S Video) input signal.

On \longleftrightarrow Off

Note:

When On, this setting only affects NTSC input signals.

• Colour system

\rightarrow Auto \longleftrightarrow PAL \longleftrightarrow SECAM \longleftrightarrow M.NTSC \longleftrightarrow NTSC \leftarrow

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”.

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.

• 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”.

On \longleftrightarrow Off

Note:

When On, this setting only affects the following signal input:

- NTSC / PAL signal input during Video (S Video) input signal.
- 525i(480i), 625i(575i), 1125(1080)/60i signal input during “Component” input signal.

• 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).

Auto \longleftrightarrow 1024×768 \longleftrightarrow 1280×768 \longleftrightarrow 1366×768

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 25)

Setup for Input Signals

- **Sync**

This function operates only during input from PC IN terminal.

- **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.

- **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:**

Signals input to COMPONENT/RGB IN terminals correspond to Sync on G or Sync on Y.

- **SDI Through**

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

On \longleftrightarrow **Off**

On: Enables active through.

Off: Disables active through.

- **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.

- **FRAME CREATION**

Automatically compensates the picture frame rate and removes juddering movements to make the images smooth.

Off \longleftrightarrow **Mid** \longleftrightarrow **Max**

- **Note:**

Depending on the contents, images may be noisy. To prevent the noise, change the setting.

- **3D Refresh Rate**

Reduces juddering or flicker of image due to lighting interference during 3D viewing.

100Hz \longleftrightarrow **120Hz**

- **Note:**

This setting is disabled when "FRAME CREATION" is set to "Off".

- **HDMI Range**

Switches the dynamic range according to the input signal from HDMI terminal.

Video(16-235) \longleftrightarrow **Full(0-255)** \longleftrightarrow **Auto**

Video(16-235): If the input signal is the video range, Example: HDMI terminal output for DVD player

Full(0-255): If the input signal is full range, Example: HDMI terminal output for personal computer

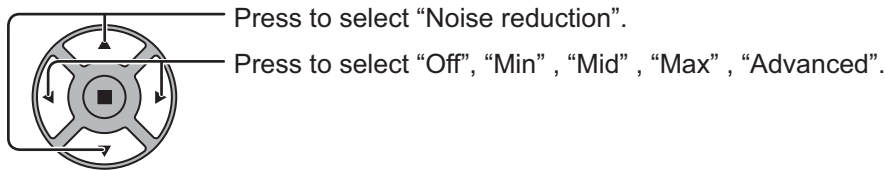
Auto: Switches the dynamic range automatically between "Video(16-235)" and "Full(0-255)" according to the input signal.

- **Note:**

This function can be set only for HDMI signal input.

• Noise reduction

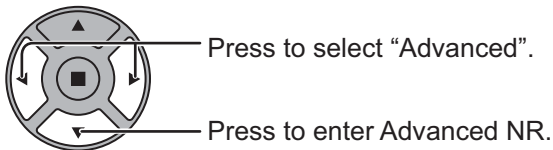
Sets the following three NR (Noise Reduction) functions together.
P-NR, Mosquito NR, Block NR



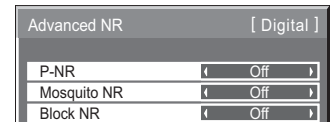
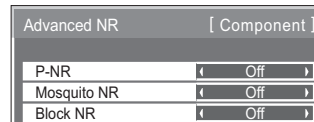
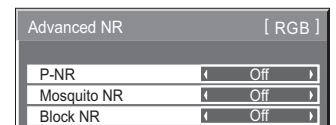
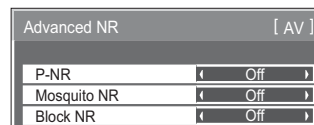
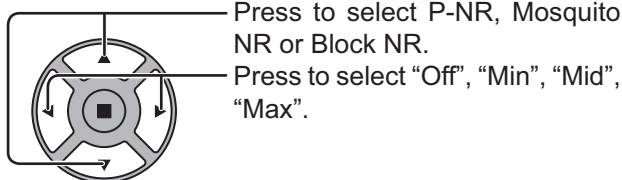
Advanced NR

Sets the three NR functions separately.

1



2



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.

• 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


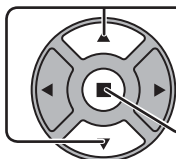
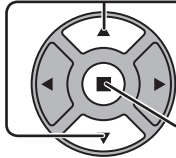
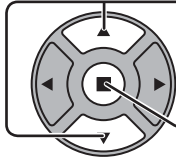
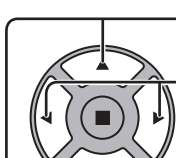
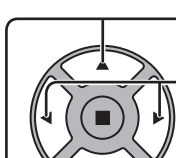


Vertical 48 - 120 Hz

The dot clock frequency is displayed during DVI signal input.

H-Freq.	63.98	kHz
V-Freq.	60.02	Hz
Signal Format	1280×1024/60i	

H-Freq.	63.98	kHz
V-Freq.	60.02	Hz
Dot Clock Freq.	108.0	MHz
Signal Format	1280×1024/60i	

Options Adjustments






- 1  Press to display the Setup menu.
- 2  Press to select "OSD Language".
 Press for more than 3 seconds.
- 3  Press to select "Options".
 Press to display the Options menu.
- 4  Press to select your preferred menu.
 Press to adjust the menu.
- 5  Press to exit from Options menu.




















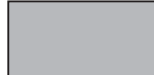
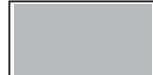


Options 1/3	
Weekly Command Timer	
Audio input select	
Touch Panel settings	
Input Search	
Onscreen display	On
Initial input	Off
Initial VOL level	Off 0
Maximum VOL level	Off 0
Input lock	Off
Button lock	Off
Remocon User level	Off

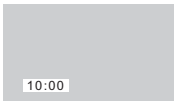
Options 2/3	
Off-timer function	
Initial Power Mode	
ID select	0
Remote ID	Off
Serial ID	Off
Display size	Off
Studio W/B	Off
Studio Gain	Off

Options 3/3	
Slot power	
Power On Screen Delay	
Clock Display	
All Aspect	
Auto Setup	
Rotate	
Advanced Motion Resolution	
Power On Message (No activity power off)	
3D Safety Precautions	

Item	Adjustments
Weekly Command Timer	Sets Weekly Command Timer. (see page 57)
Audio input select	Set up the sound when an image input is selected. (see page 59)
Touch Panel settings	Set while using Touch Panel (available as an option). (see page 60)
Input Search	Set auto input switching for when there is no signal. (see page 61)
Onscreen display	On: Displays all the following on screen. <ul style="list-style-type: none"> • 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.
Initial input	Adjusts the input signal when the unit is turned on. Off ↔ SLOT INPUT *1 ↔ VIDEO ↔ COMPONENT *2 ↔ HDMI ↔ DVI ↔ PC ↔ NETWORK *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 50) Notes: <ul style="list-style-type: none"> • Only the adjusted signal is displayed. (see page 17) • This menu is available only when "Input lock" is "Off".
Initial VOL level	Press   button to adjust the volume when the unit is turned on. Off ↔ On Off: Sets normal volume. On: Sets your preferred volume. Notes: <ul style="list-style-type: none"> • 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.
Maximum VOL level	Press   button to adjust the maximum volume. Off ↔ On Off: Sets auto maximum volume. On: Sets your preferred maximum volume. Notes: <ul style="list-style-type: none"> • 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.

Item	Adjustments
Input lock	<p>Locks the input switch operation.</p> <p>Off ↔ SLOT INPUT*1 ↔ VIDEO ↔ COMPONENT*2 ↔ HDMI ↔ DVI ↔ PC ↔ NETWORK</p> <p>*1 "SLOT INPUT" is displayed when an optional Terminal Board is installed.</p> <p>When a Terminal Board with dual input terminals is installed, "SLOT INPUT A" and "SLOT INPUT B" are displayed.</p> <p>*2 "COMPONENT" may be displayed as "RGB" depending on the setting of "Component/RGB-in select". (see page 50)</p> <p>Notes:</p> <ul style="list-style-type: none"> Only the adjusted signal is displayed (see page 17). Input switch can be used when this is set to "Off".
Button lock	<p>Off ↔ MENU&ENTER ↔ On</p> <p>Off: All the buttons on main unit can be used.</p> <p>MENU&ENTER: Locks  and  buttons on main unit.</p> <p>On: Locks all the button on main unit.</p> <p>Sets Button lock with the unit buttons in the following procedure.</p> <p>Off: Press  four times → Press  four times → Press  four times → Press </p> <p>MENU&ENTER: Press  four times → Press  four times → Press  four times → Press </p> <p>On: Press  four times → Press  four times → Press  four times → Press </p>
Remocon User level	<p>Off ↔ User1 ↔ User2 ↔ User3</p> <p>Off: You can use all of the buttons on the remote control.</p> <p>User1: You can only use , , ,  buttons on the remote control.</p> <p>User2: You can only use  button on the remote control.</p> <p>User3: Locks all the buttons on remote control.</p>
Off-timer function	<p>Enable: Enables the "Off-timer function".</p> <p>Disable: Disables the "Off-timer function".</p> <p>Note: When "Disable" is set, the Off-timer is cancelled.</p>
Initial Power Mode	<p>Normal ↔ Standby ↔ On</p> <p>Sets the power mode of the unit for when the power recovers from failure or after plugging off and in again.</p> <p>Normal: Power returns in as the same state as before the power interruption.</p> <p>Standby: Power returns in standby mode. (Power Indicator : red/orange)</p> <p>On: Power returns in power On. (Power Indicator : green)</p> <p>Note: When using multiple displays, "Standby" is preferred to be set in order to reduce a power load.</p>
ID select	<p>Sets panel ID number when panel is used in "Remote ID" or "Serial ID".</p> <p>Set value range: 0 - 100</p> <p>(Standard value: 0)</p>
Remote ID	<p>The setting of this menu is valid only when using ID remote control.</p> <p>Off: Disables ID remote control functions. You can use normal remote control operations.</p> <p>On: Enable ID remote control functions.</p> <p>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 47) and "ID select" (above-mentioned).</p>
Serial ID	<p>Sets the panel ID Control.</p> <p>Off: Disables external control by the ID.</p> <p>On: Enables the external control by the ID.</p>
Display size	<p>Adjusts the image display size on screen.</p> <p>Off: Sets the normal image display size on screen.</p> <p>On: Sets the image display size approximately 95 % of the normal image display.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Off</p>  </div> <div style="text-align: center;"> <p>On</p>  </div> </div> <p>Notes:</p> <ul style="list-style-type: none"> This setting is valid only when the input signals are as follows; NTSC, PAL, SECAM, M.NTSC, PAL60, PAL-M, PAL-N (Video) 525i, 525p, 625i, 625p, 750/60p, 750/50p, 1125/60i, 1125/50i, 1125/24sF, 1125/25p, 1125/24p, 1125/30p, 1125/60p, 1125/50p, 1250/50i (Component Video, RGB, DVI, SDI, HDMI) This setting is invalid when 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

Item	Adjustments
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 \longleftrightarrow Auto \longleftrightarrow 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 \leftrightarrow 1 \leftrightarrow 2 \leftrightarrow 3... \leftrightarrow 30 You can set the power-on delay time of the displays to reduce the power load, when you press \odot /I 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 \odot /I is pressed. 1 to 30 (sec.): Set the power-on delay time (second). After pressing \odot /I, the display will be powered on with time delay depending on this setting. Notes: <ul style="list-style-type: none"> 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 MENU \odot button is pressed.  Note: When "Day/Time Setup" is not set, the clock is not displayed even if "Clock Display" is "On". (see page 35)
All Aspect	Sets All Aspect mode (advanced aspect setting) or default aspect mode. With each press of ASPECT AB 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 \rightarrow 4:3 Full \rightarrow Zoom1 \rightarrow Zoom2 \rightarrow Zoom3 \rightarrow 16:9 \rightarrow 14:9 \rightarrow Just On 4:3 (1) \rightarrow 4:3 (2) \rightarrow 4:3 Full \rightarrow Zoom1 \rightarrow Zoom2 \rightarrow Zoom3 \rightarrow 16:9 \rightarrow 14:9 \rightarrow Just1 \rightarrow Just2
Auto Setup	Sets the operational mode of the automatic position adjustment in the Pos./Size menu. Manual: Automatic position adjustment starts when AUTO SETUP \odot 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. Note: During the image is rotated, the 3D images are displayed as 2D images.
Advanced Motion Resolution	Displays motion picture images at higher resolution. On \longleftrightarrow Off Notes: <ul style="list-style-type: none"> Please set to "Off" if images look unnatural. This function is disabled during 3D images.
Power On Message (No activity power off)	Whether to show/hide No activity power off Precautions at the time of power ON is set. On: The warning precautions are shown at the time of power ON. Off: The warning precautions are not shown at the time of power ON. Note: This setting is enabled only if "No activity power off" is "Enable" (see page 45).

Item	Adjustments
3D Safety Precautions	<p>3D Safety Precautions show/hide is set during power ON.</p> <p>On: 3D Safety Precaution is shown every time when the power is ON.</p> <p>Off: 3D Safety Precaution is not shown when the power is ON.</p> <p>When the setting changes from “On” to “Off”, the confirmation screen is displayed as below. Pressing “YES” switches the setting.</p> <div><div>3D Safety Precautions</div><div>If Off is selected, the 3D safety precautions will not be displayed when power is turned on. Change Setting?</div><div>YESNO</div></div>

Normalisation

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  button on main unit together with  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.

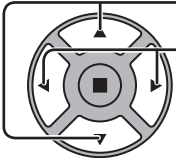
Weekly Command Timer

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

Note:

Before setting Weekly Command Timer, set Day/Time Setup. (see page 35)

- 1

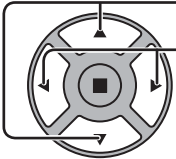


Press to select Function.

Press to select “On”.

Note:

 - When Function is set to On, On/Off Timer Setup (see page 35) is unavailable and Interval / Time Designation in Mode of Screensaver (see page 37) cannot be selected.
- 2

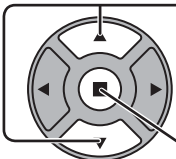


Press to select a day.

Press to select a program number.

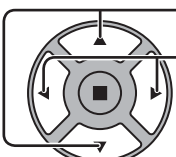
Note:

 - You can set the program from 1 to 7.
 - indicates unset.
- 3



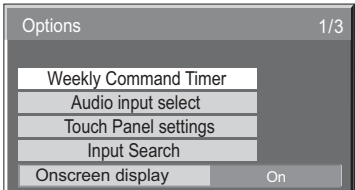
Press to select Program Edit.

Press to show the Program Edit screen.
- 4

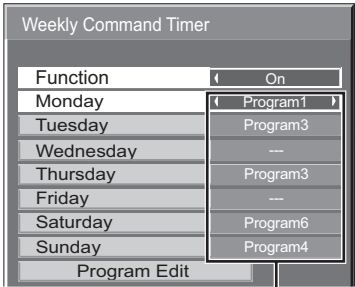


Press to select Program.

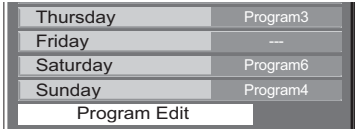
Press to change the program numbers (1-7).



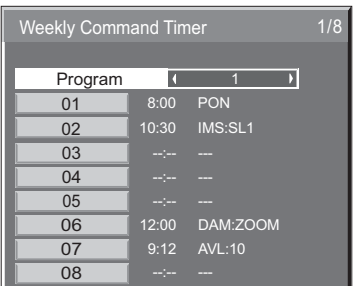
Press ACTION (■) button



Program number

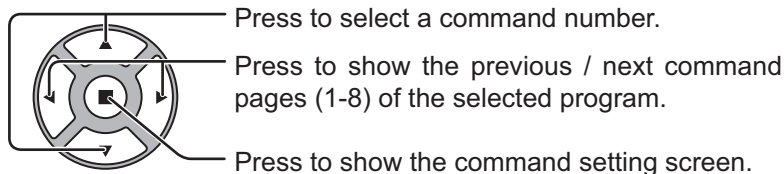


Program Edit screen

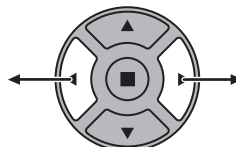


Options Adjustments

5



Weekly Command Timer 1/8		
Program 1		
01	8:00	PON
02	10:30	IMS:SL1
03	--:--	---
04	--:--	---
05	--:--	---
06	12:00	DAM:ZOOM
07	9:12	AVL:10
08	--:--	---



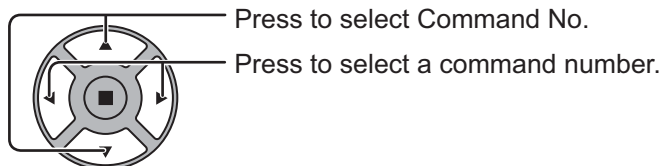
Weekly Command Timer 8/8		
Program 1		
57	20:00	AVL:00
58	20:30	DAM:NORM
59	22:00	POF
60	--:--	---
61	--:--	---
62	--:--	---
63	--:--	---
64	--:--	---

Command (--- indicates unset)

Set time of timer(--:-- indicates unset)

Command numbers

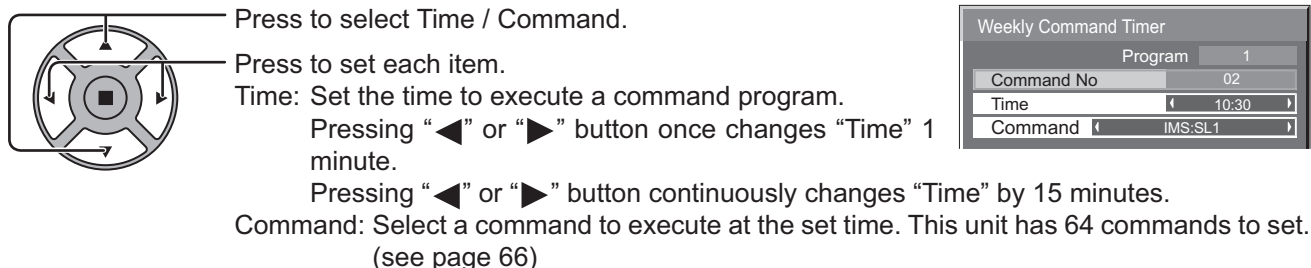
6



Command setting screen


Weekly Command Timer		
Program 1		
Command No	◀ 02 ▶	
Time	10:30	
Command	IMS:SL1	

7




Weekly Command Timer		
Program 1		
Command No	02	
Time	◀ 10:30 ▶	
Command	◀ IMS:SL1 ▶	

Notes:

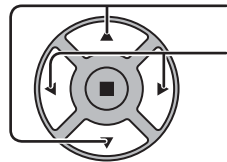
- Command is performed in order of execution time, regardless of the command number.
- If a command execution time overlaps with that of other commands, these commands are performed in number order.
- Pressing , Time becomes --:-- and Command becomes ---.

Note:

Press  to return to the previous screen.

Audio input select

Set up the sound when an image input is selected.



Press to select image input.

Press to select audio input.

Image input

[SLOT INPUT]*1

[VIDEO]

[COMPONENT]*2

[HDMI]

[DVI]

[PC]

[NETWORK]

Audio input

SLOT INPUT / VIDEO/COMPONENT / DVI/PC / NETWORK / NO AUDIO

SLOT INPUT / VIDEO/COMPONENT / DVI/PC / NETWORK / NO AUDIO

SLOT INPUT / VIDEO/COMPONENT / DVI/PC / NETWORK / NO AUDIO

SLOT INPUT / VIDEO/COMPONENT / HDMI / DVI/PC / NETWORK / NO AUDIO

SLOT INPUT / VIDEO/COMPONENT / DVI/PC / NETWORK / NO AUDIO

SLOT INPUT / VIDEO/COMPONENT / DVI/PC / NETWORK / NO AUDIO

SLOT INPUT / VIDEO/COMPONENT / DVI/PC / NETWORK / NO AUDIO

VIDEO/COMPONENT: Sound input for both VIDEO and COMPONENT.

DVI/PC: Sound input for both DVI and PC.

NO AUDIO: No audio input (Mute)

*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 50)

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]

[NETWORK]

Audio input

SLOT INPUT A / VIDEO/COMPONENT / DVI/PC / NETWORK / NO AUDIO

SLOT INPUT B / VIDEO/COMPONENT / DVI/PC / NETWORK / NO AUDIO

SLOT INPUT A / SLOT INPUT B / VIDEO/COMPONENT / DVI/PC / NETWORK / NO AUDIO

SLOT INPUT A / SLOT INPUT B / VIDEO/COMPONENT / DVI/PC / NETWORK / NO AUDIO

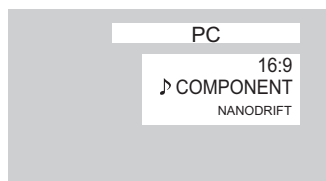
SLOT INPUT A / SLOT INPUT B / VIDEO/COMPONENT / HDMI / DVI/PC / NETWORK / NO AUDIO

SLOT INPUT A / SLOT INPUT B / VIDEO/COMPONENT / DVI/PC / NETWORK / NO AUDIO

SLOT INPUT A / SLOT INPUT B / VIDEO/COMPONENT / DVI/PC / NETWORK / NO AUDIO

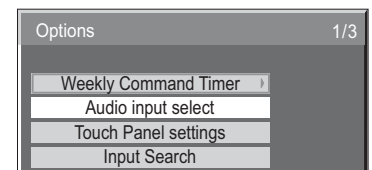
SLOT INPUT A / SLOT INPUT B / VIDEO/COMPONENT / DVI/PC / NETWORK / NO AUDIO

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

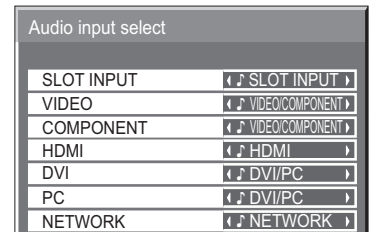


Notes:

- 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.
- If a tuner board is equipped to SLOT, the audio of SLOT INPUT (tuner board) cannot be output with the image input other than SLOT INPUT.

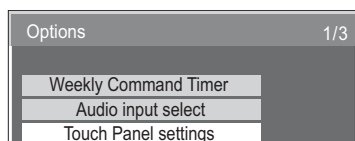


Press ACTION (■) button

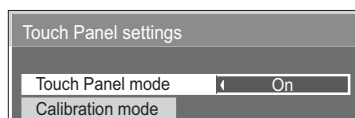


Touch Panel settings (Settings when using Touch Panel)

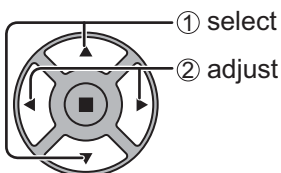
The mode to restrict NANODRIFT Saver (see page 40) operation when using Touch Panel (available as an option) is set up.



↓ Press ACTION (■) button



Set "Touch Panel mode" to "On".



NANODRIFT Saver in Touch Panel mode: On


The value set for NANODRIFT turns into "On" and displayed in gray.

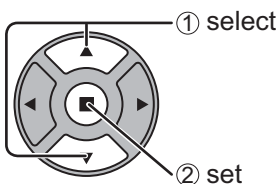
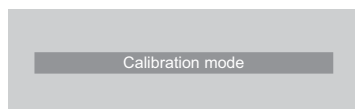
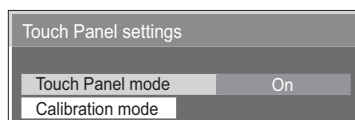
The moving distance of NANODRIFT is limited to 5 × 5 dots to prevent pointer drift on a touch panel.

Calibration mode

This setting is used in calibrating a touch panel.

You can configure the setting if "Touch Panel mode" is "On".

Select "Calibration mode" and then press .



When the menu is not displayed (normal screen)

Hold down  for over 3 seconds.

The screen is displayed in the middle and NANODRIFT is deactivated for 180 seconds.

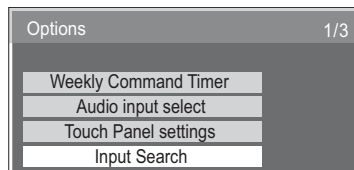
After 180 seconds or when you have the menu displayed with a remote control, Calibration mode is cancelled.

Note:

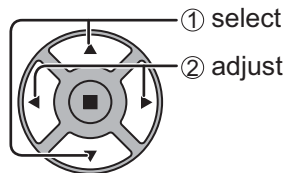
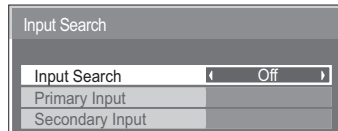
For information on how to set up Calibration, please see Touch Panel instruction manual.

Input Search

When a signal is not detected, another input with a signal is automatically selected.



↓ Press ACTION (■) button



Input Search

Off: When there is no signal, the input is not switched automatically.

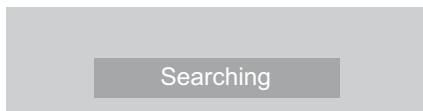
All Inputs: Searches all inputs and switches to an input with a signal.

Input search is executed in the following order.

(Example) When the current input is PC



Priority: Searches "Primary Input" and "Secondary Input" in order and switches to an input with a signal.



"Searching" is displayed during the input search.

Primary Input, Secondary Input

Set the input to search when "Priority" is selected.

(NONE) <=> SLOT INPUT* <=> VIDEO <=> COMPONENT <=> HDMI <=> DVI <=> PC <=> NETWORK

* "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.

Notes:

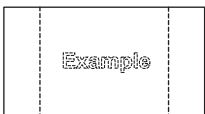
- This menu is available only when "Input lock" is "Off". (see page 55)
- If the input is changed by this function, the last input is selected when the power is turned on next time. If you wish to retain the original input when the power is turned on, set "Initial input" to the original input. (see page 54)

Troubleshooting

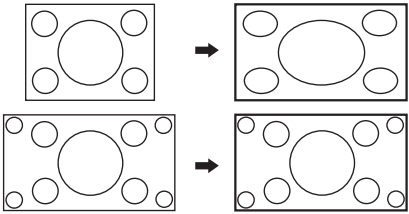
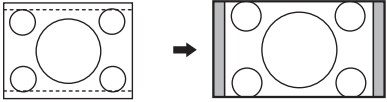
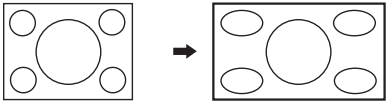
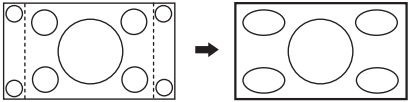
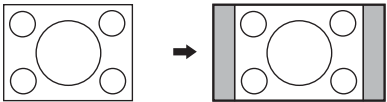
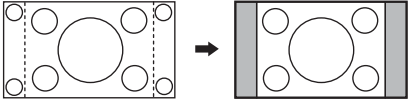
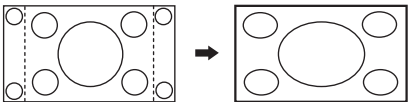
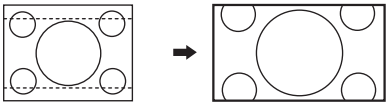
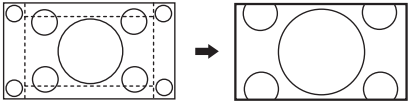

Before you call for service, determine the symptoms and make a few simple checks as shown below.

Symptoms		Checks
Picture	Sound	
 Interference	 Noisy Sound	Electrical Appliances Cars / Motorcycles Fluorescent light
 Normal Picture	 No Sound	Volume (Check whether the mute function has been activated on the remote control.) Check if speakers are connected properly.
 No Picture	 No Sound	Not plugged into AC outlet Not switched on Picture and Brightness/Volume setting (Check by pressing the power switch or stand-by button on the remote control.)
 No Picture	 Normal Sound	If a signal with a non-applicable colour system format, or frequency is input, only the input terminal indication is displayed.
 No Colour	 Normal Sound	Colour controls set at minimum level (see page 28, 29) Colour system (see page 51)
No remote control operations can be performed.		Check whether the batteries have discharged completely and, if they have not, whether they were inserted properly. Check whether the remote control sensor is exposed to an outdoor light or a strong fluorescent light. Check whether the remote control designed specifically for use with the unit is being used. (The unit cannot be operated by any other remote control.)
A cracking sound is sometimes heard from the unit.		If there is nothing wrong with the picture or sound, this is the sound of the cabinet undergoing very slight contractions in response to changes in the room temperature. There are no adverse effects on the performance or other aspects.
The top or bottom of the picture on the screen is cut off when I use the zoom function.		Adjust the position of the picture on the screen.
Areas at the top and bottom of the screen where the image is missing appear when I use the zoom function.		When using a video software program (such as a cinema size program) with a screen wider than one in the 16:9 mode, blank areas separate from the images are formed at the top and bottom of the screen.
I can hear sounds coming from inside the unit.		When the power is turned on, a sound of the display panel being driven may be heard: This is normal and not indicative of malfunctioning.
Parts of the unit become hot.		Even when the temperature of parts of the front, top and rear panels has risen, these temperature rises will not pose any problems in terms of performance or quality.
Power automatically turns off unexpectedly.		Check the settings of "PC Power management", "DVI-D Power management", "No signal power off" and "No activity power off" in the Setup menu. Any of them may be set to "On (Enable)". (see page 42, 45)
Power indicator is blinking in red.		There is possibility of malfunction. Please contact an Authorized Service Center.
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

Symptoms	Check
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 unit digitally processes the various signals in order to reproduce esthetically pleasing images. As such, it sometimes takes a few moments for the picture to appear when the power has been turned on, when the input has been switched.
The edges of the images flicker.	Due to the characteristics of the system used to drive the panel, the edges may appear to flicker in the fast-moving parts of the images: This is normal and not indicative of malfunctioning.
The brightness on both sides of images in the 4:3 mode changes.	When viewing the side panels at the "High" or "Mid" setting, the brightness on both sides may change depending on the kind of program shown: This is normal and not indicative of malfunctioning.
Some parts of the screen do not light up.	The plasma display panel is manufactured using an extremely high level of precision technology, however, sometimes some parts of the screen may be missing picture elements or have luminous spots. This is not a malfunction.
 Image retention appears	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.
Whirring sounds can be heard from the display unit.	The display unit is fitted with a cooling fan to dissipate heat generated during normal use. The whirring sound is caused by rotation of the fan and is not a malfunction.

List of Aspect Modes

Aspect mode		Picture → Enlarged screen	Description
All Aspect: On	Factory setting All Aspect: Off		
16:9	16:9		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.
14:9	14:9		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.
Just ----- Just1	Just		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.
Just2	–		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.
4:3 ----- 4:3 (1)	4:3		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.
4:3 (2)	–		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.
4:3 Full	4:3 Full		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.
Zoom ----- Zoom1	Zoom1		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.
Zoom2	Zoom2		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.
Zoom3	Zoom3		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.

Applicable Input Signals

*Mark: Applicable input signal

	Signal name	Horizontal frequency (kHz)	Vertical frequency (Hz)	COMPONENT / RGB IN / PC IN (Dot clock (MHz))	DVI-D IN (Dot clock (MHz))	HDMI
1	525 (480) / 60i	15.73	59.94	* (13.5)	* (27.0)	*
2	525 (480) / 60p	31.47	59.94	* (27.0) *5	* (27.0)	*
3	625 (575) / 50i	15.63	50.00	* (13.5)		
4	625 (576) / 50i	15.63	50.00		* (27.0)	*
5	625 (575) / 50p	31.25	50.00	* (27.0)		
6	625 (576) / 50p	31.25	50.00		* (27.0)	*
7	750 (720) / 60p	45.00	60.00	* (74.25)	* (74.25)	*
8	750 (720) / 50p	37.50	50.00	* (74.25)	* (74.25)	*
9	1,125 (1,080) / 60p	67.50	60.00	* (148.5) *1	* (148.5)	*
10	1,125 (1,080) / 60i	33.75	60.00	* (74.25) *1	* (74.25)	*
11	1,125 (1,080) / 50p	56.26	50.00	* (148.5) *1	* (148.5)	*
12	1,125 (1,080) / 50i	28.13	50.00	* (74.25) *1	* (74.25)	*
13	1,125 (1,080) / 24sF	27.00	48.00	* (74.25) *2		
14	1,125 (1,080) / 30p	33.75	30.00	* (74.25) *1	* (74.25)	
15	1,125 (1,080) / 25p	28.13	25.00	* (74.25) *1	* (74.25)	
16	1,125 (1,080) / 24p	27.00	24.00	* (74.25) *1	* (74.25)	*
17	1,250 (1,080) / 50i	31.25	50.00	* (74.25) *3		
18	2,048 × 1,080 / 24sF *7	27.00	48.00			
19	2,048 × 1,080 / 24p *7	27.00	24.00			
20	640 × 400 @70 Hz	31.46	70.07	* (25.17)		
21	640 × 480 @60 Hz	31.47	59.94	* (25.18) *6	* (25.18)	*
22	640 × 480 @72 Hz	37.86	72.81	* (31.5)		
23	640 × 480 @75 Hz	37.50	75.00	* (31.5)		
24	640 × 480 @85 Hz	43.27	85.01	* (36.0)		
25	800 × 600 @56 Hz	35.16	56.25	* (36.0)		
26	800 × 600 @60 Hz	37.88	60.32	* (40.0)	* (40.0)	*
27	800 × 600 @72 Hz	48.08	72.19	* (50.0)		
28	800 × 600 @75 Hz	46.88	75.00	* (49.5)		
29	800 × 600 @85 Hz	53.67	85.06	* (56.25)		
30	852 × 480 @60 Hz	31.47	59.94	* (33.54) *6	* (34.24)	*
31	1,024 × 768 @50 Hz	39.55	50.00		* (51.89)	*
32	1,024 × 768 @60 Hz	48.36	60.00	* (65.0)	* (65.0)	*
33	1,024 × 768 @70 Hz	56.48	70.07	* (75.0)		
34	1,024 × 768 @75 Hz	60.02	75.03	* (78.75)		
35	1,024 × 768 @85 Hz	68.68	85.00	* (94.5)		
36	1,066 × 600 @60 Hz	37.64	59.94	* (53.0)	* (53.0)	*
37	1,152 × 864 @60 Hz	53.70	60.00		* (81.62)	*
38	1,152 × 864 @75 Hz	67.50	75.00	* (108.0)		
39	1,280 × 768 @60 Hz	47.70	60.00	* (80.14)		
40	1,280 × 800 @60 Hz (1)	49.31	59.91	* (71.0)	* (71.0)	*
41	1,280 × 800 @60 Hz (2)	49.70	59.81	* (83.5)	* (83.5)	*
42	1,280 × 960 @60 Hz	60.00	60.00	* (108.0)		
43	1,280 × 960 @85 Hz	85.94	85.00	* (148.5)		
44	1,280 × 1,024 @60 Hz	63.98	60.02	* (108.0)	* (108.0)	*
45	1,280 × 1,024 @75 Hz	79.98	75.03	* (135.0)		
46	1,280 × 1,024 @85 Hz	91.15	85.02	* (157.5)		
47	1,366 × 768 @50 Hz	39.55	50.00		* (69.92)	*
48	1,366 × 768 @60 Hz	48.36	60.00	* (86.71)	* (87.44)	*
49	1,400 × 1,050 @60 Hz	65.22	60.00		* (122.61)	*
50	1,440 × 900 @60 Hz (1)	55.47	59.90	* (88.75)	* (88.75)	*
51	1,440 × 900 @60 Hz (2)	55.93	59.89	* (106.5)	* (106.5)	*
52	1,600 × 1,200 @60 Hz	75.00	60.00	* (162.0)	* (162.0)	*
53	1,600 × 1,200 @65 Hz	81.25	65.00	* (175.5)		
54	1,920 × 1,080 @60 Hz	67.50	60.00	* (148.5) *4	* (148.5)	*
55	1,920 × 1,200 @60 Hz	74.04	59.95		* (154.0)	*
56	Macintosh13" (640 × 480)	35.00	66.67	* (30.24)		
57	Macintosh16" (832 × 624)	49.72	74.54	* (57.28)		
58	Macintosh21" (1,152 × 870)	68.68	75.06	* (100.0)		

*1: Based on SMPTE 274M standard.

*2: Based on SMPTE RP211 standard.

*3: Based on SMPTE 295M standard.

*4: The input signal is recognized as 1,125 (1,080) / 60p.

*5: When selected the RGB format and 525p signal input to the PC IN terminal, it is recognized as VGA 60Hz signal.

*6: When inputted VGA 60Hz format signal from the other than PC IN terminal, it is recognized as 525p signal.

*7: Based on SMPTE 292M and 372M standards. These signals can be received when the Dual Link HD-SDI Terminal Board (TY-FB11DHD) is installed.

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


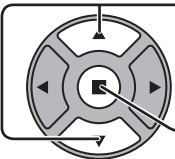



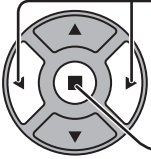


Applicable Input Signals

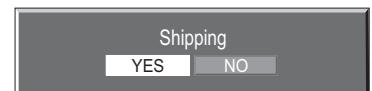
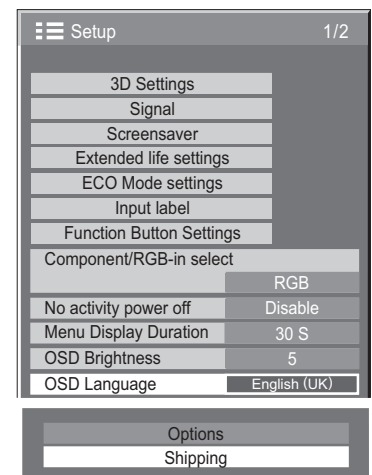
Video input (VIDEO)

	Signal name	Horizontal frequency(kHz)	Vertical frequency(Hz)
1	NTSC	15.73	59.94
2	PAL	15.63	50.00
3	PAL60	15.73	59.94
4	SECAM	15.63	50.00
5	Modified NTSC	15.73	59.94

Shipping condition

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

-  Press to display the Setup menu.
-  Press to select "OSD Language".
 Press for more than 3 seconds.
-  Press to select "Shipping".
 Press to display the Shipping menu.
-  Press to select "YES".
 Press to confirm.
- Wait for 10 seconds.
-  Press the power switch (⏻/⏻) on main unit to turn the power off.



[from the unit]

- Press the MENU button till the Setup menu is displayed.
- Press the Volume Up "+" or Down "-" button to select "OSD Language".
- Press and hold the ENTER button till the Shipping menu is displayed.
- Press the Volume Up "+" or Down "-" button to select "YES".
- Press the ENTER button and wait for 10 sec.
- Press the power switch (⏻/⏻) on main unit to turn the power off.

Command list of Weekly Command Timer

No.	Command	Control details
1	AAC:MENCLR	Audio Menu (Clear)
2	AAC:MENDYN	Audio Menu (Dynamic)
3	AAC:MENSTD	Audio Menu (Standard)
4	AAC:SURMON	Surround (ON)
5	AAC:SUROFF	Surround (OFF)
6	AMT:0	Audio Mute (OFF)
7	AMT:1	Audio Mute (ON)
8	-	-
9	-	-
10	AVL:00	Audio Volume (00)
11	AVL:10	Audio Volume (10)
12	AVL:20	Audio Volume (20)
13	AVL:30	Audio Volume (30)
14	AVL:40	Audio Volume (40)
15	AVL:50	Audio Volume (50)
16	AVL:60	Audio Volume (60)
17	DAM:FULL	Aspect (16:9)
18	DAM:JUST	Aspect (Just)
19	DAM:NORM	Aspect (4:3)
20	-	-
21	DAM:ZOOM	Aspect (Zoom)
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	IMS:SL1	Input select (SLOT INPUT)
40	IMS:S1A	Input select (SLOT INPUT A)
41	IMS:S1B	Input select (SLOT INPUT B)
42	IMS:VD1	Input select (VIDEO)
43	IMS:YP1	Input select (COMPONENT)
44	IMS:HM1	Input select (HDMI)
45	IMS:DV1	Input select (DVI)
46	IMS:PC1	Input select (PC)
47	IMS:NW1	Input select (NETWORK)
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	-	-
55	OSP:SCR0	Screen Saver Scrolling bar only (OFF)
56	OSP:SCR1	Screen Saver Scrolling bar only (ON)
57	POF	Power OFF
58	PON	Power ON
59	SSC:FNC0	Screen Saver function (Scrolling bar only)
60	SSC:FNC1	Screen Saver function (Negative image)
61	SSC:MOD0	Screen Saver (Mode (OFF))
62	SSC:MOD3	Screen Saver (Mode (ON))
63	VMT:0*	Picture Mute (OFF)
64	VMT:1*	Picture Mute (ON)

* 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

		TH-42PF50W	TH-50PF50W
Power Source		220 - 240 V AC, 50/60 Hz	
Power Consumption			
	Power on	365 W	445 W
	Stand-by condition	0.5 W	0.5 W
	Power off condition	0.3 W	0.3 W
Plasma Display panel		Drive method : AC type 42-inch, 16:9 aspect ratio	Drive method : AC type 50-inch, 16:9 aspect ratio
Screen size		921 mm (W) × 518 mm (H) × 1,057 mm (diagonal)	1,105 mm (W) × 622 mm (H) × 1,268 mm (diagonal)
	(No.of pixels)	2,073,600 (1,920 (W) ×1,080 (H)) [5,760 × 1,080 dots]	
Operating condition			
	Temperature	0 °C - 40 °C	
	Humidity	20 % - 80 %	
Applicable signals			
	Colour System	NTSC, PAL, PAL60, SECAM, Modified NTSC	
	Scanning format	525 (480) / 60i · 60p, 625 (575) / 50i · 50p, 750 (720) / 60p · 50p, 1125 (1080) / 60i · 60p · 50i · 50p · 24p · 25p · 30p · 24sF, 1250 (1080) / 50i	
	PC signals	VGA, SVGA, XGA, SXGA UXGA (compressed) Horizontal scanning frequency 15 - 110 kHz Vertical scanning frequency 48 - 120 Hz	
Connection terminals			
AV IN	VIDEO	BNC	1.0 Vp-p (75 Ω)
	AUDIO L-R	RCA Pin jack × 2	0.5 Vrms, Shared with COMPONENT/RGB IN
	HDMI	TYPE A Connector	
COMPONENT/RGB IN			
	Y/G	BNC	with sync 1.0 Vp-p (75 Ω)
	PB/Cb/B	BNC	0.7 Vp-p (75 Ω)
	Pr/Cr/R	BNC	0.7 Vp-p (75 Ω)
	AUDIO L-R	RCA Pin jack × 2	0.5 Vrms, Shared with VIDEO
DVI-D IN		DVI-D 24 Pin Content Protection	Compliance with DVI Revision 1.0 Compatible with HDCP 1.1
	AUDIO	Stereo mini jack (M3) × 1	0.5 Vrms, Shared with PC IN
PC IN		High-Density Mini D-sub 15 Pin	Y or G with sync 1.0 Vp-p (75 Ω) Y or G without sync 0.7 Vp-p (75 Ω) PB/Cb/B: 0.7 Vp-p (75 Ω) Pr/Cr/R: 0.7 Vp-p (75 Ω) HD/VD: 1.0 - 5.0 Vp-p (high impedance)
	AUDIO	Stereo mini jack (M3) × 1	0.5 Vrms, Shared with DVI-D IN
SERIAL		External Control Terminal D-sub 9 Pin	RS-232C compatible
3D IR TRANSMITTER		for 3D IR TRANSMITTER (TY-3D30TRW)	
	3D SHUTTER OUT	M3 jack × 1	
	DC 8V OUT	Center plus, for EIAJ 4mm plug	
WIRELESS MODULE		for Wireless module (ET-WM200E)	
LAN		RJ45 10BASE-T/100BASE-TX, compatible with PLink™	
EXT SP		Speaker Terminal	6 Ω, 16 W [8 W + 8 W] (10 % THD)
Dimensions (W × H × D)		1,020 mm × 610 mm × 89 mm	1,210 mm × 724 mm × 89 mm
Mass (weight)			
	main unit only	approx. 25.0 kg net	approx. 33.0 kg net
	with speakers	approx. 29.0 kg	approx. 38.0 kg

Note:

Design and specifications are subject to change without notice. Mass and dimensions shown are approximate.

This product incorporates the following software:

- (1) the software developed independently by or for Panasonic Corporation,
- (2) the software owned by third party and licensed to Panasonic Corporation,
- (3) the software licensed under the GNU General Public License, Version 2.0 (GPL-2.0),
- (4) the software licensed under the GNU LESSER General Public License, Version 2.1 (LGPL-2.1) and/or,
- (5) open source software other than the software licensed under the GPL and/or LGPL.

For the software categorized as (3) and (4), please refer to the terms and conditions of GPL-2.0 and LGPL-2.1, as the case may be at

<http://www.gnu.org/licenses/old-licenses/gpl-2.0.html> and

<http://www.gnu.org/licenses/old-licenses/lgpl-2.1.html>

The GPL/LGPL software is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY, without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

At least three (3) years from delivery of products, Panasonic will give to any third party who contact us at the contact information provided below, for a charge no more than our cost of physically performing source code distribution, a complete machine-readable copy of the corresponding source code and the copyright notice, covered under GPL-2.0/LGPL-2.1.

Contact Information

oss-cd-request@gg.jp.panasonic.com

For the software categorized as (5) includes as follows.

- 1. The software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (<http://www.openssl.org/>)
- 2. The software developed by the University of California, Berkeley and its contributors.
- 3. FreeType code.
- 4. The Independent JPEG Group's JPEG software.
- 5. tthtpd code.

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software—to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software. Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:
 - a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
 - b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
 - c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:
 - a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
 - b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
 - c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.
5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.
6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.
7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and “any later version”, you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.
12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the “copyright” line and a pointer to where the full notice is found.

one line to give the program's name and an idea of what it does.

Copyright (C) yyyy name of author

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type 'show w'.

This is free software, and you are welcome to redistribute it under certain conditions; type 'show c' for details.

The hypothetical commands ‘show w’ and ‘show c’ should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than ‘show w’ and ‘show c’; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a “copyright disclaimer” for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program ‘Gnomovision’ (which makes passes at compilers) written by James Hacker.

signature of Ty Coon, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

GNU LESSER GENERAL PUBLIC LICENSE

Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.

51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights. We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called “this License”). Each licensee is addressed as “you”.

A “library” means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The “Library”, below, refers to any such software library or work which has been distributed under these terms. A “work based on the Library” means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term “modification”.)

“Source code” for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library’s complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:
- a) The modified work must itself be a software library.
 - b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
 - c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

- d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a “work that uses the Library”. Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a “work that uses the Library” with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a “work that uses the library”. The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a “work that uses the Library” uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a “work that uses the Library” with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer’s own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

- a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable “work that uses the Library”, as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)
- b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user’s computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.
- c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
- d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.
- e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the “work that uses the Library” must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:
 - a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.
 - b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.
9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.
10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.
11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.
14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.
16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the “copyright” line and a pointer to where the full notice is found.

one line to give the library's name and an idea of what it does.

Copyright (C) *year name of author*

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a “copyright disclaimer” for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library ‘Frob’ (a library for tweaking knobs) written by James Random Hacker.

signature of Ty Coon, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

OpenSSL

This is a copy of the current LICENSE file inside the CVS repository.

LICENSE ISSUES

The OpenSSL toolkit stays under a dual license, i.e. both the conditions of the OpenSSL License and the original SSLeay license apply to the toolkit. See below for the actual license texts. Actually both licenses are BSD-style Open Source licenses. In case of any license issues related to OpenSSL please contact openssl-core@openssl.org.

OpenSSL License

Copyright (c) 1998-2006 The OpenSSL Project. 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 acknowledgment: "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (<http://www.openssl.org/>)"
- 4 The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact openssl-core@openssl.org.
- 5 Products derived from this software may not be called "OpenSSL" nor may "OpenSSL" appear in their names without prior written permission of the OpenSSL Project.
- 6 Redistributions of any form whatsoever must retain the following acknowledgment: "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>)"

THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT "AS IS" AND ANY EXPRESSED 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 OpenSSL PROJECT OR ITS 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.

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com).

This product includes software written by Tim Hudson (tjh@cryptsoft.com).

Original SSLeay License

/ Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com) All rights reserved.

This package is an SSL implementation written by Eric Young (eay@cryptsoft.com). The implementation was written so as to conform with Netscapes SSL.

This library is free for commercial and non-commercial use as long as the following conditions are adhered to. The following conditions apply to all code found in this distribution, be it the RC4, RSA, lhash, DES, etc., code; not just the SSL code. The SSL documentation included with this distribution is covered by the same copyright terms except that the holder is Tim Hudson (tjh@cryptsoft.com).

Copyright remains Eric Young's, and as such any Copyright notices in the code are not to be removed. If this package is used in a product, Eric Young should be given attribution as the author of the parts of the library used.

This can be in the form of a textual message at program startup or in documentation (online or textual) provided with the package. 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 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 cryptographic software written by Eric Young (eay@cryptsoft.com)" The word 'cryptographic' can be left out if the routines from the library being used are not cryptographic related :-).

4 If you include any Windows specific code (or a derivative thereof) from the apps directory (application code) you must include an acknowledgement: "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"

THIS SOFTWARE IS PROVIDED BY ERIC YOUNG "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 AUTHOR 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.

The licence and distribution terms for any publically available version or derivative of this code cannot be changed. i.e. this code cannot simply be copied and put under another distribution licence [including the GNU Public Licence.]

Copyright (c) 1995,1998,1999,2000,2001 by Jef Poskanzer <jef@mail.acme.com>.

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.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR 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 AUTHOR 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 2012

Printed in Thailand

M0812-0