Panasonic®

Operating Instructions
High Definition Plasma Display

Model No. **TH-85PF12E**

The illustration shown is an image.

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

English

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

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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.

Important Safety Notice

WARNING

1) **To prevent damage which may result in fire or shock hazard, do not expose this appliance to dripping or splashing.**
   Do not place containers with water (flower vase, cups, cosmetics, etc.) above the set. (including on shelves above, etc.)
   No naked flame sources, such as lighted candles, should be placed on / above the set.

2) To prevent electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

3) Do not remove the earthing pin on the power plug. This apparatus is equipped with a three pin earthing-type power plug. This plug will only fit an earthing-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician.
   Do not defeat the purpose of the earthing plug.

4) To prevent electric shock, ensure the earthing pin on the AC cord power plug is securely connected.

CAUTION

This appliance is intended for use in environments which are relatively free of electromagnetic fields.

Using this appliance near sources of strong electromagnetic fields or where electrical noise may overlap with the input signals could cause the picture and sound to wobble or cause interference such as noise to appear.

To avoid the possibility of harm to this appliance, keep it away from sources of strong electromagnetic fields.

IMPORTANT: THE MOULDED PLUG

FOR YOUR SAFETY, PLEASE READ THE FOLLOWING TEXT CAREFULLY.

This display is supplied with a moulded three pin mains plug for your safety and convenience. A 10 amp fuse is fitted in this plug. Shall the fuse need to be replaced, please ensure that the replacement fuse has a rating of 10 amps and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark ⟨ASA⟩ or the BSI mark ⟨⟩ on the body of the fuse.

If the plug contains a removable fuse cover, you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local Panasonic dealer.

Do not cut off the mains plug.
Do not use any other type of mains lead except the one supplied with this display.
The supplied mains lead and moulded plug are designed to be used with this display to avoid interference and for your safety.
If the socket outlet in your home is not suitable, get it changed by a qualified electrician.
If the plug or mains lead becomes damaged, purchase a replacement from an authorized dealer.

WARNING : — THIS DISPLAY MUST BE EARTHED.

How to replace the fuse. Open the fuse compartment with a screwdriver and replace the fuse.
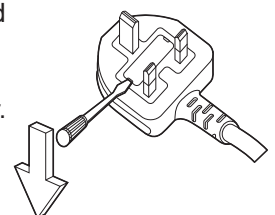
Safety Precautions

WARNING

■ Setup

<u>This Plasma Display is for use only with the following optional accessories.</u> **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.)

- Pedestal TY-ST85P12
- Floor stand TY-ST85PF12
- Wall-hanging bracket (vertical)...................................... TY-WK85PV12
- Ceiling-hanging bracket TY-CE85PS12
- BNC Component Video Terminal Board........................ TY-42TM6A
- BNC Composite Video Terminal Board TY-42TM6B
- BNC Dual Video Terminal Board.................................. TY-FB9BD
- RCA Component Video Terminal Board........................ TY-42TM6Z
- RCA Composite Video Terminal Board TY-42TM6V
- RGB Active Through Terminal Board TY-42TM6G
- PC Input Terminal Board TY-42TM6P
- Composite / Component Video Terminal Board TY-42TM6Y
- BNC SDI Terminal Board TY-FB7SD
- HD-SDI Terminal Board.. TY-FB9HD
- HD-SDI Terminal Board with audio TY-FB10HD
- Dual Link HD-SDI Terminal Board................................ TY-FB11DHD
- HDMI Terminal Board.. TY-FB8HM
- Dual HDMI Terminal Board TY-FB10HMD
- Scart Terminal Board.. TY-FB8SC
- Ir Through Terminal Board.. TY-FB9RT
- DVI-D Terminal Board TY-FB11DD
- Wireless Presentation Board.. TY-FB10WPE
- AV Terminal Box TY-TB10AV

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

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

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

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

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

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

For sufficient ventilation;
If using the pedestal (optional accessory), leave a space of 10 cm or more at the top, left and right, and 15 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 15 cm or more at the rear.)

■ 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.

Safety Precautions

⚠ CAUTION

■ When using the Plasma Display

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

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

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

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

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

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

Cleaning and maintenance

The front of the display panel has been specially treated. Wipe the panel surface gently using only a cleaning cloth or a soft, lint-free cloth.
- If the surface is particularly dirty, wipe with a soft, lint-free cloth which has been soaked in pure water or water in which neutral detergent has been diluted 100 times, and then wipe it evenly with a dry cloth of the same type until the surface is dry.
- Do not scratch or hit the surface of the panel with fingernails or other hard objects, otherwise the surface may become damaged. Furthermore, avoid contact with volatile substances such as insect sprays, solvents and thinner, otherwise the quality of the surface may be adversely affected.
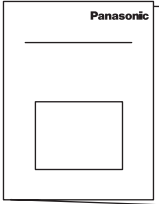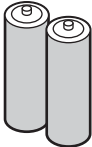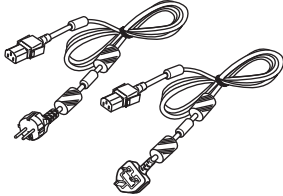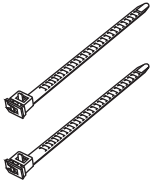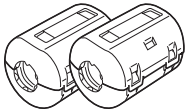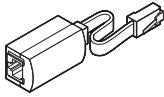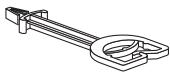
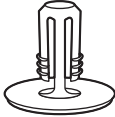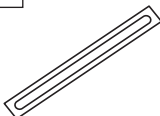**If the cabinet becomes dirty, wipe it with a soft, dry cloth.**
- If the cabinet is particularly dirty, soak the cloth in water to which a small amount of neutral detergent has been added and then wring the cloth dry. Use this cloth to wipe the cabinet, and then wipe it dry with a dry cloth.
- Do not allow any detergent to come into direct contact with the surface of the Plasma Display. If water droplets get inside the unit, operating problems may result.
- Avoid contact with volatile substances such as insect sprays, solvents and thinner, otherwise the quality of the cabinet surface may be adversely affected or the coating may peel off. Furthermore, do not leave it for long periods in contact with articles made from rubber or PVC.

Accessories

Accessories Supply

Check that you have the accessories and items shown ☑

☐ Operating Instruction book	☐ CD-ROM (Operating instructions)	☐ Remote Control Transmitter EUR7636090R	☐ Batteries for the Remote Control Transmitter (R6(UM3) Size × 2)	☐ Power supply cord	☐ Fixing band × 2

☐ Ferrite core × 2	☐ Noise cut filter	☐ Clamper × 1	☐ Eyebolt cap × 1	☐ Eyebolt × 1 (M12)

Use the Ferrite cores and Noise cut filter to comply with the EMC standard. (see page 59)

Use the clamper when connecting a LAN cable. (see page 59)
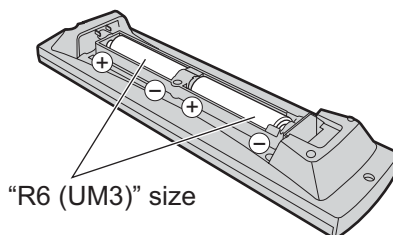
☐ Blind sheet × 1   ☐ Allen wrench

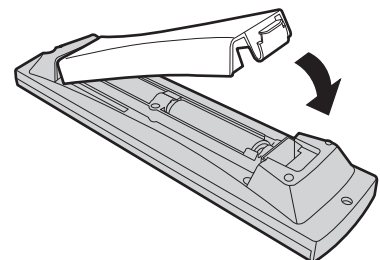## Remote Control Batteries

Requires two R6 batteries.

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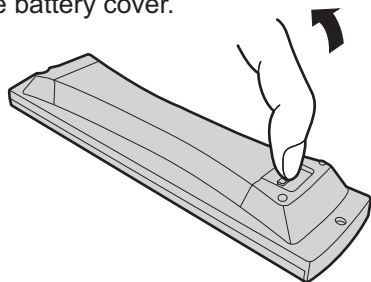
2. Insert batteries - note correct polarity (+ and -).

"R6 (UM3)" size

3. Replace the cover.

Helpful Hint:

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

⚠ Precaution on battery use

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

Observe the following precaution:

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

Connections

AUDIO OUT Terminals connection

AUDIO OUT R L

Stereophonic sound code

audio equipment

line-in

AC cord connection (see page 12)
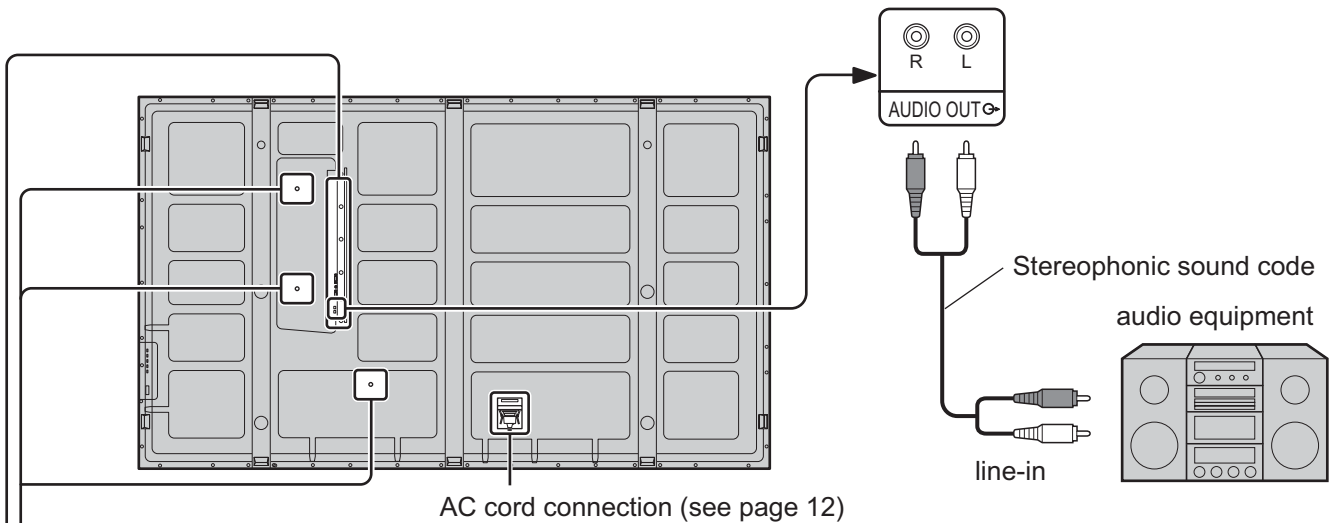
– AC cord fixing
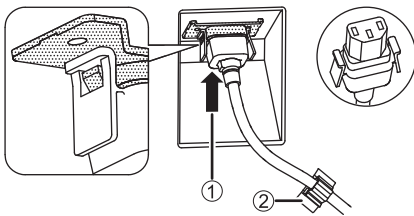
① **Plug the AC cord into the display unit.**
Plug the AC cord until it clicks.

② **Fix the AC cord with the clamper.**

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

Close
Push until the hook clicks.

Open
2. Pull off.
1. Keep the knob pressed.

Unplug the AC cord
Unplug the AC cord pressing the two knobs.

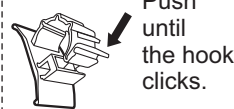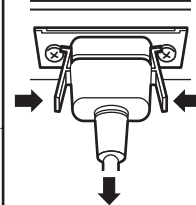**Note:**
When disconnecting the AC cord, be absolutely sure to disconnect the AC cord plug at the socket outlet first.

– Cable fixing band
Secure any excess cables with band as required.
Note:
Two fixing bands are supplied with this unit. In case of securing cables at three positions, please purchase it separately.

1 Pass the attached cable fixing band through the clip as shown in the figure.
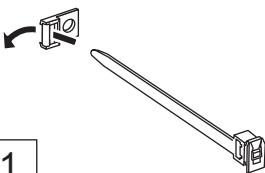
2 To secure cables connected to Terminals, wrap the cable fixing band around them then pass the pointed end through the locking block, as shown in the figure.
While ensuring there is sufficient slack in cables to minimize stress (especially in the power cord), firmly bind all cables with the supplied fixing band.
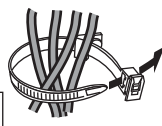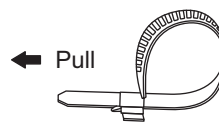
To tighten:
← Pull

To loosen:
Push the catch
Pull ➡
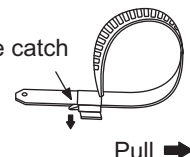
SLOT1	SLOT2	SLOT3	PC IN	SERIAL	AUDIO OUT
	AUDIO DVI-D IN	LAN AUDIO Pв/Cв/R Pв/Cв/B Y/G COMPONENT/RGB IN	AUDIO		R L
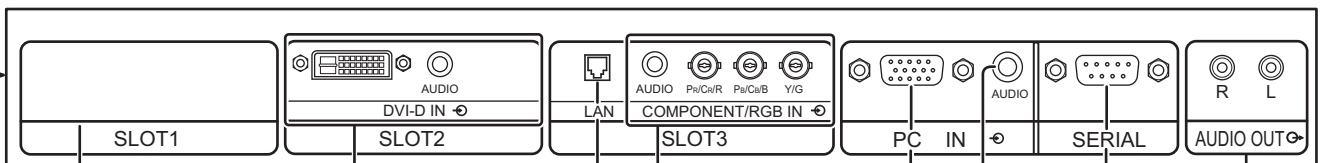
| Optional Terminal Board Insert Slot (covered) | DVI-D IN Terminals (equivalent of DVI-D Terminal Board (TY-FB11DD)) (see page 11) | LAN Terminal (see page 59) | COMPONENT/RGB IN Terminals (see page 11) | From EXTERNAL monitor terminal on Computer (see page 9) | From SERIAL Terminal on Computer (see page 10) | From input on audio amplifier (see page 8) |

Note: Terminal board is installed in SLOT 2 and SLOT 3 at factory shipment.

PC Input Terminals connection
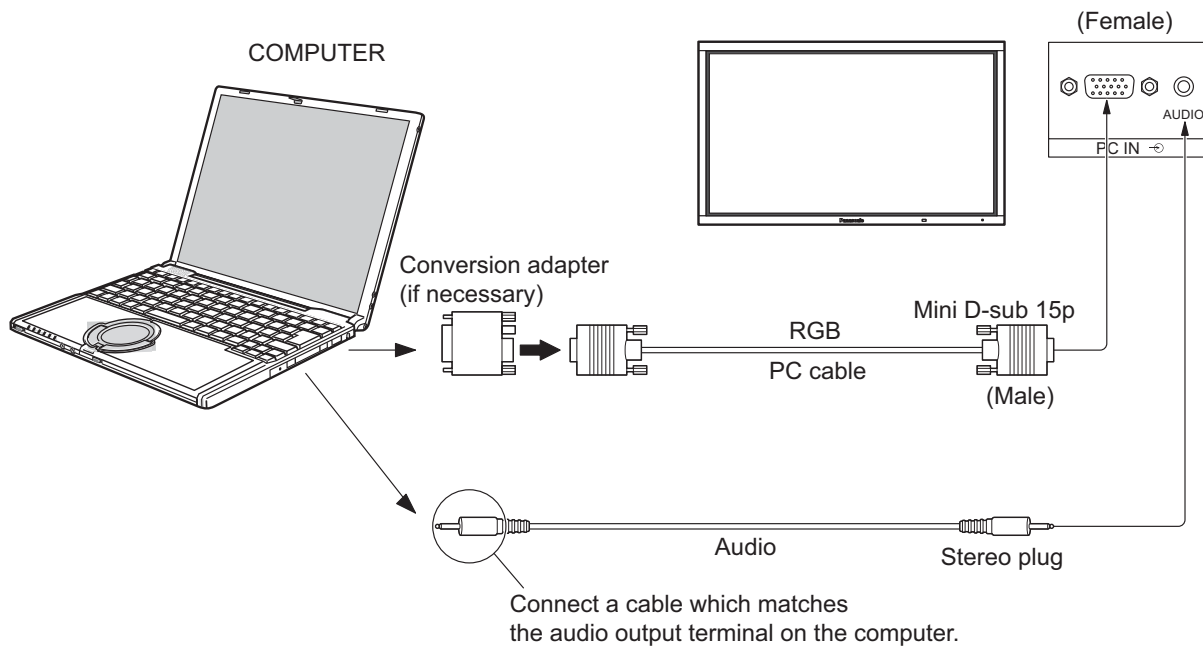
Notes:

- With regard to the typical PC input signals that are described in the applicable input signals list (see page 63), 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.
- To use sync input VBS signals, use the connector which incorporates a 75-ohm termination resistance and which is available on the market, for the connection of the HD connector where the VBS signals are to be input.
- Change the "Component/RGB-in select" setting in the "Setup" menu to "Component" (when Component signal connection) or "RGB" (when RGB signal connection). (see page 48)

Signal Names for Mini D-sub 15P Connector
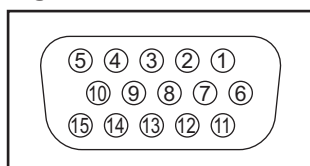
Pin Layout for PC Input Terminal

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

SERIAL Terminals connection

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

Note: To use serial control for this unit, make sure to set the "Control I/F Select" in the "Network Setup" menu to "RS-232C". (see page 53)

COMPUTER

(Male)

SERIAL

Pin layout for SERIAL Terminal

RS-232C Straight cable

(Female)

D-sub 9p
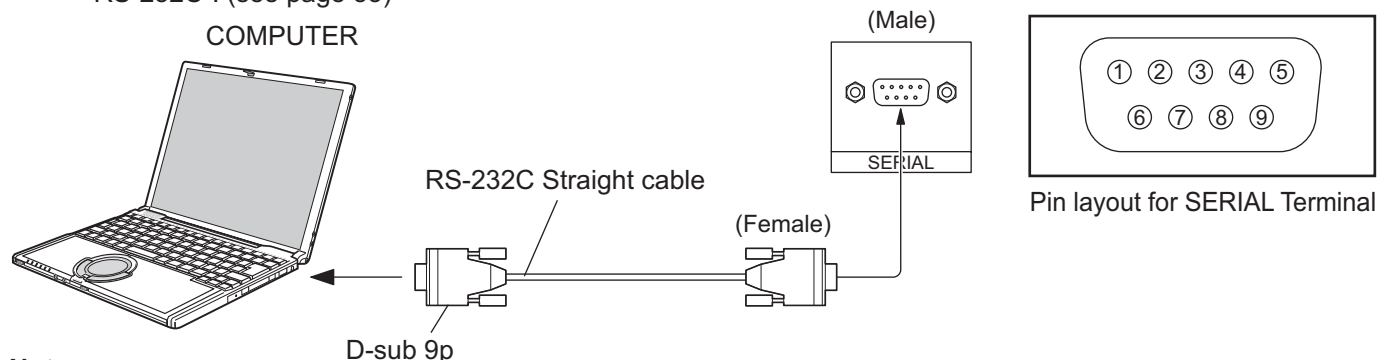
Notes:
- Use the RS-232C straight cable to connect the computer to the Plasma Display.
- The computer shown is for example purposes only.
- Additional equipment and cables shown are not supplied with this set.

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.

STX	C1 C2 C3	:	P1 P2 P3 P4 P5	ETX

- Start (02h)
- 3-character command (3 bytes)
- Colon
- Parameter(s) (1 - 5 bytes)
- End (03h)
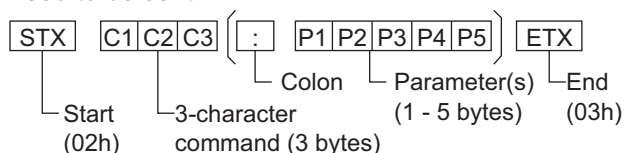
Notes:
- If multiple commands are transmitted, be sure to wait for the response for the first command to come from this unit before sending the next command.
- If an incorrect command is sent by mistake, this unit will send an "ER401" command back to the computer.
- SL1A, SL1B, SL2A and SL2B of Command IMS are available only when a dual input terminal board is attached.

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

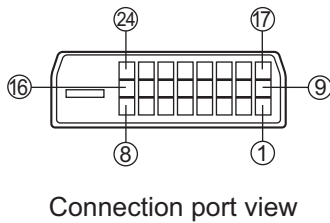| Command	Parameter	Control details
PON	None	Power ON
POF	None	Power OFF
AVL	**	Volume 00 - 63
AMT	0	Audio MUTE OFF
	1	Audio MUTE ON
IMS	None	Input select (toggle)
	SL1	Slot1 input
	SL2	Slot2 input
	SL3	Slot3 input
	PC1	PC input
	SL1A	Slot1 input (INPUT1A)
	SL1B	Slot1 input (INPUT1B)
	SL2A	Slot2 input (INPUT2A)
	SL2B	Slot2 input (INPUT2B)
DAM	None	Screen mode select (toggle)
	ZOOM	Zoom1 (For Video/SD/PC signal)
	FULL	16:9
	JUST	Just (For Video/SD signal)
	NORM	4:3 (For Video/SD/PC signal)
	SELF	Panasonic Auto (For Video singal)
	ZOM2	Zoom2 (For HD signal)
	ZOM3	Zoom3 (For HD signal)
	SJST	Just (For HD signal)
	SNOM	4:3 (For HD signal)
	SFUL	4:3 Full (For HD signal)
	14:9	14:9

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

DVI-D connection

This unit has terminal boards equivalent to DVI-D Terminal Board (TY-FB11DD) as standard equipment.
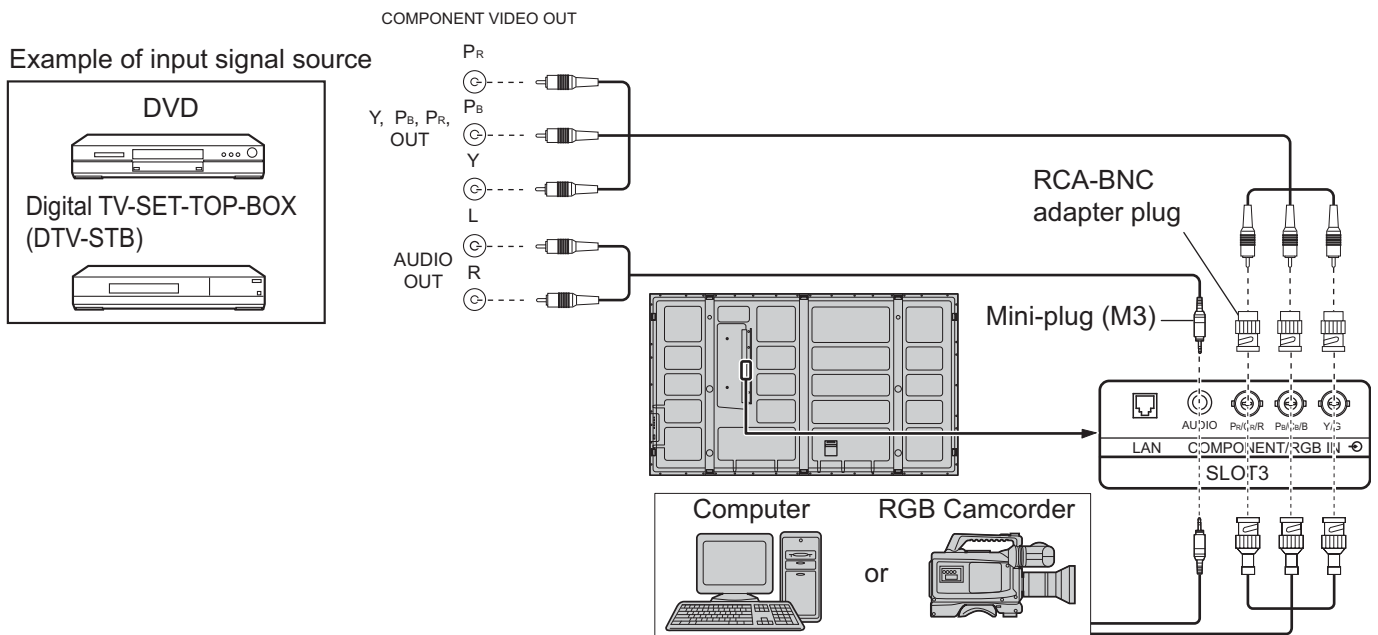
PC with DVI-D
video out

DVI-D
video cable
(Within 5 m)

DVI-D IN
SLOT2

AUDIO

Mini-plug (M3)
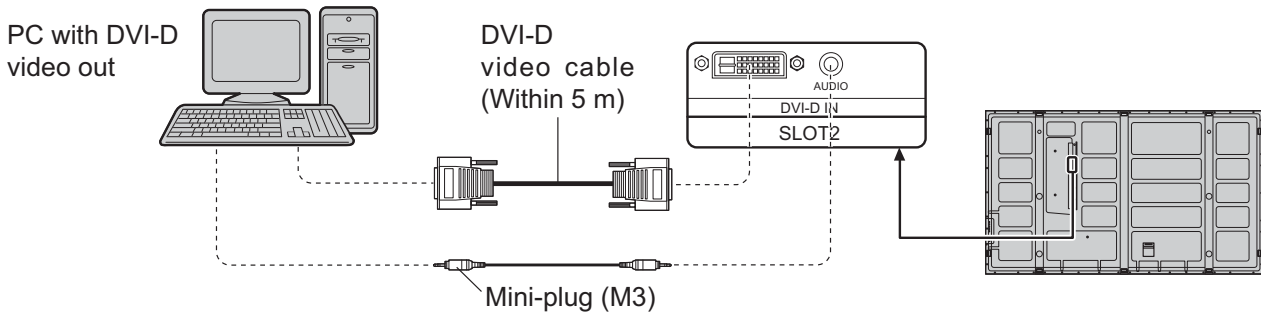
**DVI-D Input Connector
Pin Layouts**

Connection port view

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, cables and adapter plugs shown are not supplied with this set.
• Refer to page 61 for applicable input signal.
• Use the DVI-D cable complying with the DVI standard. Image deterioration may occur depending on the length or the quality of the cable.

COMPONENT / RGB connection

COMPONENT VIDEO OUT

Example of input signal source

DVD

Digital TV-SET-TOP-BOX
(DTV-STB)

P$_R$

P$_B$

Y, P$_B$, P$_R$,
OUT

Y

L

AUDIO
OUT

R

RCA-BNC
adapter plug

Mini-plug (M3)

LAN   COMPONENT/RGB IN

AUDIO   P$_R$/C$_R$/R   P$_B$/C$_B$/B   Y/G

SLOT3

Computer   RGB Camcorder

or

Notes:
• Change the "Component/RGB-in select" setting in the "Setup" menu to "Component"
  (when Component signal connection) or "RGB" (when RGB signal connection). (see page 48)
• Additional equipment, cables and adapter plugs shown are not supplied with this set.
• Sync on G signal is needed. (see page 52)

Power On / Off

Connecting the AC cord plug to the Plasma Display.

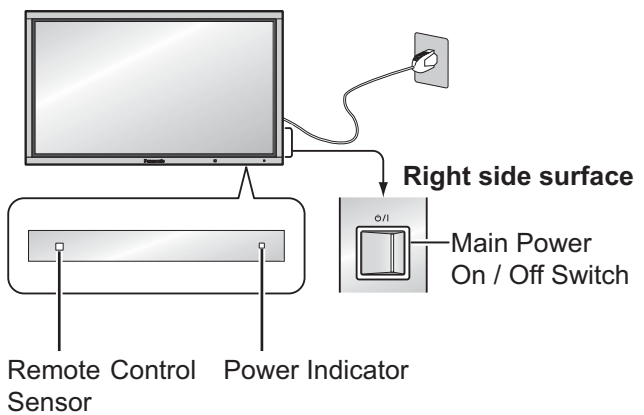Fix the AC cord plug securely to the Plasma Display with the clamper. (see page 8)
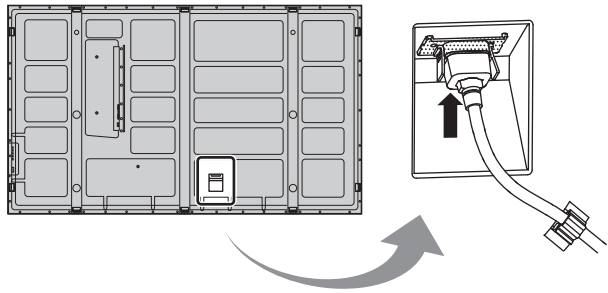
Connecting the plug to the Wall Outlet

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

Right side surface

Main Power
On / Off Switch

Remote Control Sensor   Power Indicator

OFF

Press the OFF button on the remote control to turn the Plasma Display off.
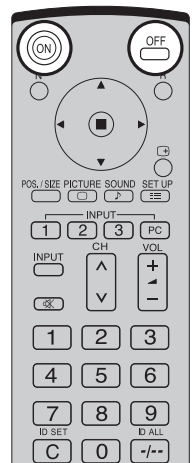
Power Indicator: Red (standby)

ON

Press the ON 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 ⏻/| switch on the unit, when the Plasma Display is on or in standby mode.
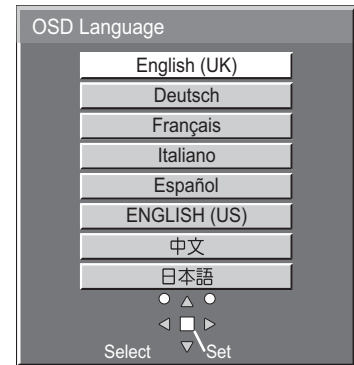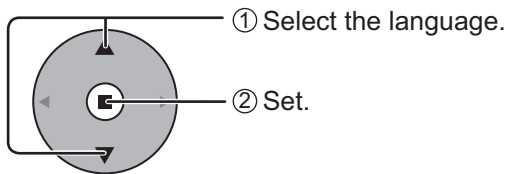
Note:
During operation of the power management function, the power indicator turns orange in the power off state.
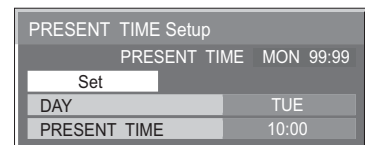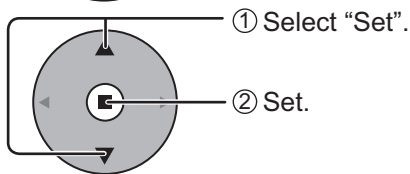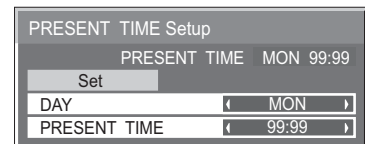
When first switching on the unit

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

OSD Language

① Select the language.

② Set.

OSD Language
English (UK)
Deutsch
Français
Italiano
Español
ENGLISH (US)
中文
日本語

Select   Set

PRESENT TIME Setup

① Select "DAY" or "PRESENT TIME".

② Setup "DAY" or "PRESENT TIME".

① Select "Set".

② Set.

PRESENT TIME Setup
PRESENT TIME   MON 99:99
Set
DAY   MON
PRESENT TIME   99:99

PRESENT TIME Setup
PRESENT TIME   MON 99:99
Set
DAY   TUE
PRESENT TIME   10:00

Display orientation

① For vertical installation, select "Portrait".

② Set.

Display orientation
Landscape
Portrait

Notes:
• Once the items are set, the screens won't be displayed when switching on the unit next time.
• After the setting, the items can be changed in the following menus.
  OSD Language (see page 41)
  PRESENT TIME Setup (see page 36)
  Display orientation (see page 42)

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

PC
16:9
NANODRIFT

Selecting the input signal

Select the input signals to be connected by installing the optional Terminal Boards.

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:

→ INPUT1 → INPUT2 → INPUT3 → PC

INPUT 1 2 3 PC

Press the INPUT "1", "2", "3" or "PC" input mode selection button to select the input mode.
This button is used to switch directly to INPUT mode.
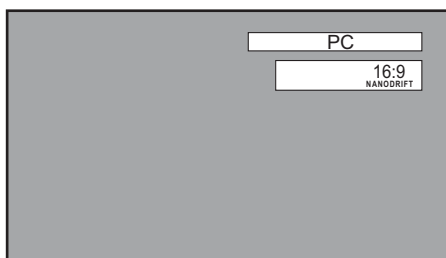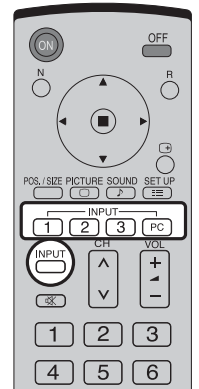These buttons can only display the slot which is installed. If you press the button whose slot is not installed, it automatically displays the current input signal.
When a dual input terminal board is attached, A or B is displayed depending on the selected input signal. (Ex. INPUT1A, INPUT1B)

Notes:
• Selecting is also possible by pressing the INPUT button on the unit.
• Input terminal will not be selected if the terminal board is not installed into the SLOT.
• Select to match the signals from the source connected to the component/RGB input terminals. (see page 48)
• In 2 screen display, the same input mode cannot be selected for the main picture and sub picture.
• Image retention (image lag) may occur on the plasma display panel when a still picture is kept on the panel for an extended period. The function that darkens the screen slightly is activated to prevent image retention (see page 61), but this function is not the perfect solution to image retention.
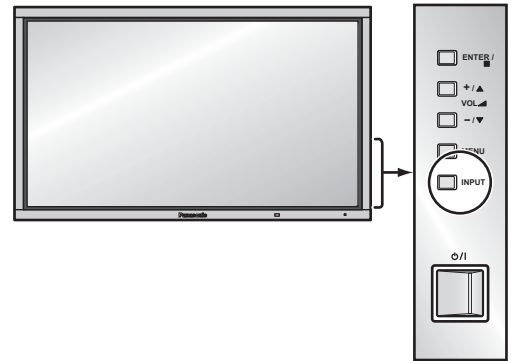
Basic Controls

Main Unit

Right side surface

ENTER/■

+ / ▲
VOL ▲

– / ▼

MENU

INPUT

⏻/❘

Remote control sensor

Power Indicator
The Power Indicator will light.
• Power-OFF .... Indicator not illuminated (The unit will still consume some power as long as the power cord is still inserted into the wall outlet.)
• Standby .... Red
Orange (When "Slot power" is set to "On". See page 56)
Orange (Depending on the type of the function board installed, when the power is supplied to the slot)
Orange (When "Control I/F Select" is set to "LAN". See page 53)
• Power-ON ...... Green
• DPMS (Power management)
........................Orange (With PC input signal. See page 40)

Enter / Aspect button
(see page 17, 21)

Volume Adjustment
Volume Up "+" Down "–"
When the menu screen is displayed:
"+": press to move the cursor up
"–": press to move the cursor down
(see page 21)

MENU Screen ON / OFF
Each time the MENU button is pressed, the menu screen will switch. (see page 21)

⟶ Normal Viewing ⟶ Picture ⟶
└ Sound ⟵ Pos. /Size ⟵ Setup ⟵┘

**INPUT button
(INPUT signal selection)**
(see page 14)

Main Power On / Off Switch

15

Remote Control Transmitter

R button (see page 21)
Press the R button to return to previous menu screen.

Standby (ON / OFF) button
The Plasma Display must first be plugged into the wall outlet and turned on at the power switch (see page 12).
Press ON to turn the Plasma Display On, from Standby mode.
Press OFF to turn the Plasma Display Off to Standby mode.

N button
(see page 25, 26, 27, 33)

POSITION buttons

ACTION button
Press to make selections.

POS. /SIZE button
(see page 23)

PICTURE button
(see page 26)

INPUT button
Press to select INPUT1, INPUT2, INPUT3 and PC input SLOTS sequentially. (see page 14)
When a dual input terminal board is attached, A or B is displayed depending on the selected input signal.
(Ex. INPUT1A, INPUT1B)

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.

Numeric buttons
(see page 44)

ASPECT button
Press to adjust the aspect.
(see page 17)

SURROUND button
The surround setting switches on and off each time the SURROUND button is pressed.
The benefits of surround sound are enormous. You can be completely enveloped in sound; just as if you were at a concert hall or cinema.

Status button
Press the "Status" button to display the current system status.
① Input label
② Aspect mode (see page 17)
   NANODRIFT Saver operating (see page 38)
③ Off timer
   The off timer indicator is displayed only when the off timer has been set.
④ Clock display (see page 56)

PC	①
4:3 NANODRIFT	②
10:00	④
Off timer 90	③

SET UP button (see page 21)

SOUND button (see page 32)

DIRECT INPUT buttons
Press the INPUT "1", "2", "3" or "PC" input mode selection button to select the INPUT mode. (see page 14)
This button is used to switch directly to INPUT mode.

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

Channel Adjustment
This button cannot be used for this model.

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.

$$\rightarrow 30 \rightarrow 60 \rightarrow 90$$
$$0 \leftarrow$$

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

Remote ID lock (see page 44)

Digital Zoom (see page 20)

MULTI Window buttons
(see page 18)

On ⟷ Off

Surround   On

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.

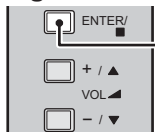ASPECT

Press repeatedly to move through the aspect options:
For details about the aspect mode, please see "List of Aspect Modes" (page 62).

For VIDEO (S VIDEO) signal input:

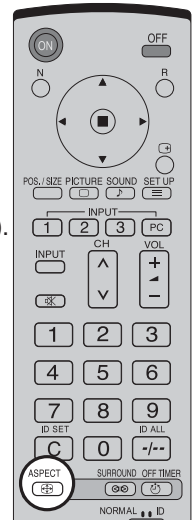→ 4:3 → Zoom1 → Zoom2 → Zoom3 →
└ Just ← 14:9 ← 16:9 ← Panasonic Auto ←

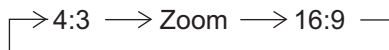**Note:**
When selecting an input slot that attaches BNC Dual Video Terminal Board (TY-FB9BD), Panasonic Auto cannot be selected.
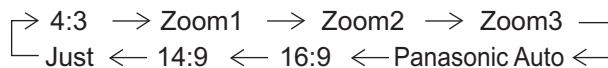
[from the unit]
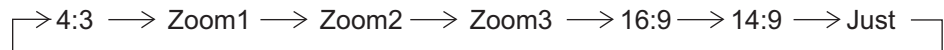**Right side surface**

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

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 ←
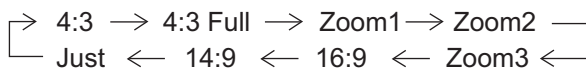
[During MULTI PIP Operations]
• Picture and Picture, Picture in Picture : → 4:3 → 16:9 ┐
• Others : Aspect switching is not possible.

Notes:
• Panasonic Auto can be selected only during Video signal input.
• 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.
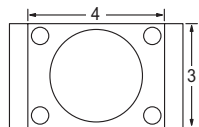
Panasonic Auto
The display will automatically become enlarged (depending on the picture source), allowing you to view the picture at its maximum size.
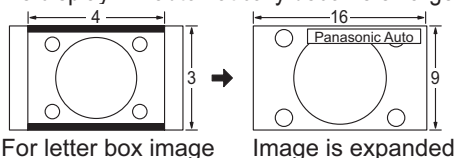
For letter box image   Image is expanded

For a 4:3 image

Changes in accordance with the Panasonic Auto mode setting (see page 50).

Notes:
• Panasonic Auto mode is designed to automatically adjust the aspect ratio to handle a mix of 16:9 and 4:3 program material. Certain 4:3 program material, such as stock market data screens, may occasionally cause the image size to change unexpectedly. When viewing such programs, it is recommended that the ASPECT be set to 4:3.
• If adjusting the Picture V-Pos/V-Size in Panasonic Auto with 16:9 mode, the adjustment is not memorized. When exiting the mode, the screen will return to a former adjustment.

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 62)

For VIDEO (S VIDEO) signal input:

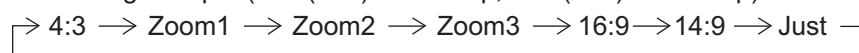→ 4:3 → Zoom1 → Zoom2 → Zoom3 → Panasonic Auto → 16:9 → 14:9 → Just ┐
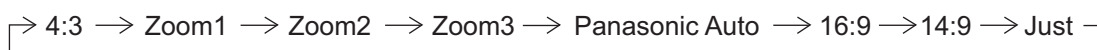
Note: When selecting an input slot that attaches BNC Dual Video Terminal Board (TY-FB9BD), Panasonic Auto cannot be selected.
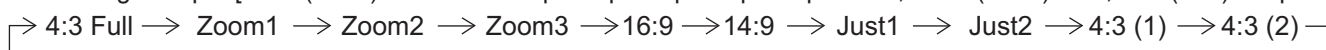
For PC signal input:
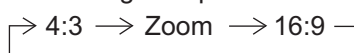
→ 4:3 → Zoom → 16:9 ┐

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) ┐
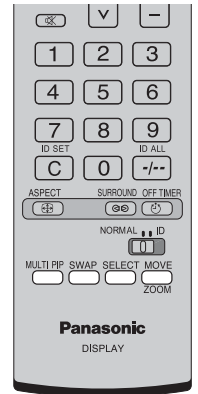
17

MULTI PIP

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

MULTI PIP Setup

Set the functions and mode for two-screen display in "MULTI PIP Setup" in the Setup menu.
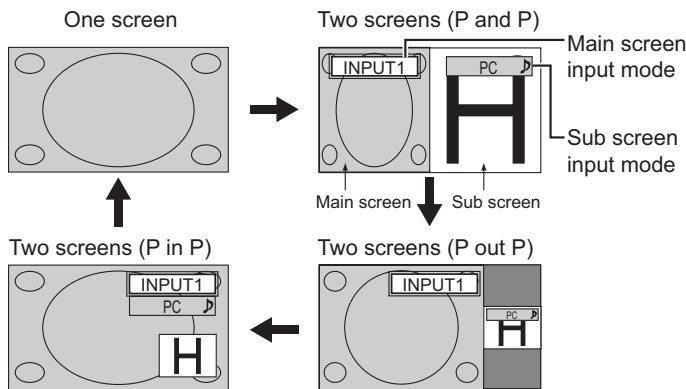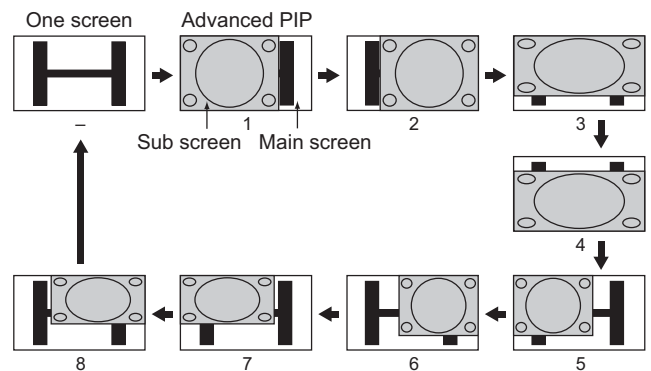(see page 45)

Selecting the Display Mode

MULTI PIP
Each time this button is pressed, the screen changes.

Note:
The screen changes in the same way when "Display Mode" in "MULTI PIP Setup" is changed. (see page 45)

During PIP:

One screen

Two screens (P and P)

Main screen input mode

Sub screen input mode

Main screen   Sub screen

INPUT1   PC

Two screens (P in P)

INPUT1
PC

Two screens (P out P)

INPUT1
PC

During Advanced PIP:

One screen   Advanced PIP

–

Sub screen   Main screen

1   2   3

4

8   7   6   5

Note:
ASPECT and MOVE/ZOOM button operations are not available during advanced PIP.

During Blend PIP (Composite Screen Function):
A composite picture is displayed with the sub screen positioned over the main screen. For example, text data such as a computer image can be displayed as a caption over a movie or still image.

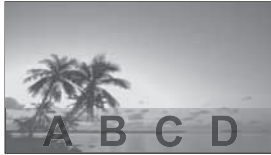One screen   Full   P in P

A B C D   A B C D
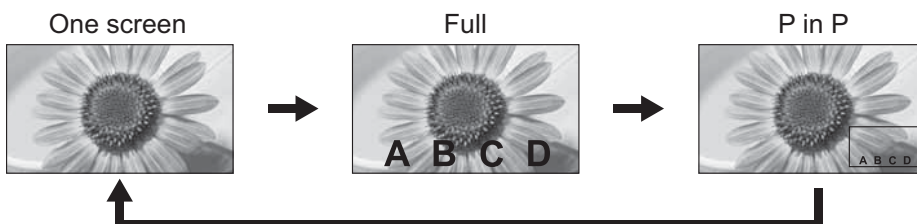
Transparent Function and Insertion Function:
Two functions are available for blend PIP: the transparent function and the insertion function. Set these functions with "Transparency" or "Insert" in "MULTI PIP Setup". (see page 45)

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

Insertion Function:
The sub screen image is divided into transparent and non-transparent areas, and only the non-transparent areas are inserted and displayed on the background image.
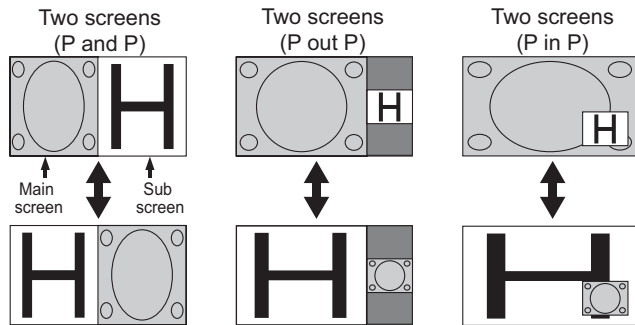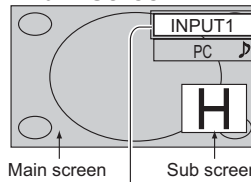
Note:
Be aware that if you put the display in a public place for commercial purposes or a public showing and then use the blend PIP function to make a composite screen display, you may be violating the copyright under copyright law. It is prohibited to show or alter the copyrighted materials of other people for commercial purposes without the prior permission of the copyright holder.

Swapping Screens

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

Two screens (P and P)

Main screen   Sub screen

Two screens (P out P)

Two screens (P in P)

Selecting the Target Screen for Operations
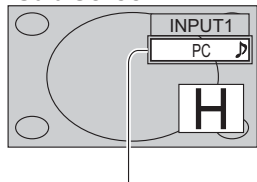
SELECT Each time this button is pressed, the target screen for operations changes.

Operations on the main screen

INPUT1
PC

Main screen   Sub screen

Main screen input mode

**Operations on the sub screen**

INPUT1
PC

Sub screen input mode

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

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

MOVE Each time this button is pressed, the sub screen position changes.
ZOOM
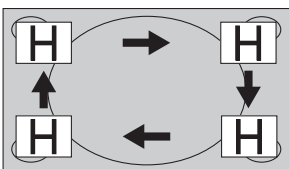
Note:
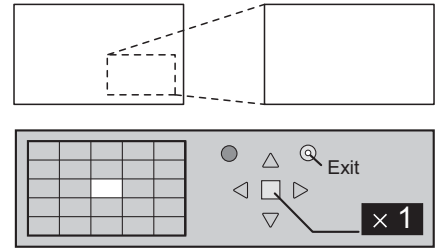Some sub screen positions may hide the display of the menu screen.

Notes:
• Do not use the two-screen display for a long time. It will cause a permanent image retention to remain on the screen.
• If "INPUT lock" in Options menu is set to other than "Off", MULTI PIP function isn't available.
• Sound output is from the picture which is selected in Audio OUT (PIP) (see page 33).
• In two-screen display, the same input mode cannot be selected for the main picture and sub picture.
• The main picture and sub picture are processed by different circuits, resulting in a slight difference in the clarity of the pictures. There may also be a difference in the picture quality of the sub picture depending on the type of signals displayed on the main picture and depending on the two-screen display mode.
• Due to the small dimensions of the sub pictures, these sub pictures cannot be shown in detail.
• Computer screen picture is displayed in a simplified format, and it may not be possible to discern details on them satisfactorily.
• Following combinations of two analog signals cannot be displayed simultaneously;
  Component - Component, Component - PC (RGB), PC (RGB) - Component, PC (RGB) - PC (RGB)
• 2k1k signals that are received with the Dual Link HD-SDI Terminal Board (TY-FB11DHD) cannot be displayed in two-screen display.

Digital Zoom

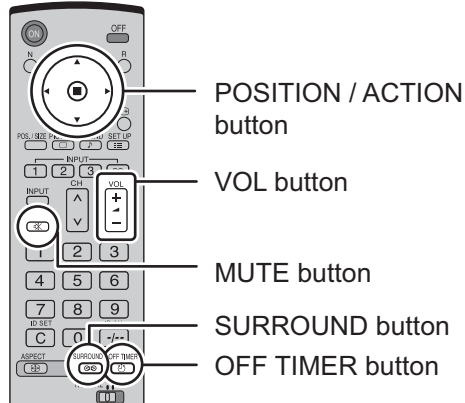This displays an enlargement of the designated part of the displayed image.

1 **Display the operation guide.**

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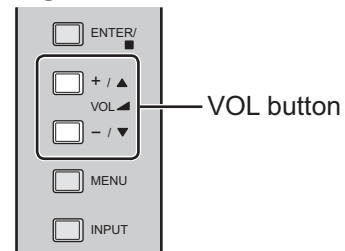The operation guide will be displayed.

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

[Remote control]

POSITION / ACTION button

VOL button

MUTE button

SURROUND button

OFF TIMER button

[Unit]
Right side surface

ENTER/■

+ / ▲
VOL ◢
− / ▼
 — VOL button

MENU

INPUT

---

2 **Select the area of the image to be enlarged.**

Press on the enlargement location to select.
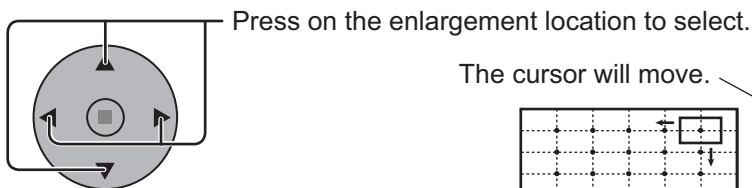
The cursor will move.

Exit

× 2
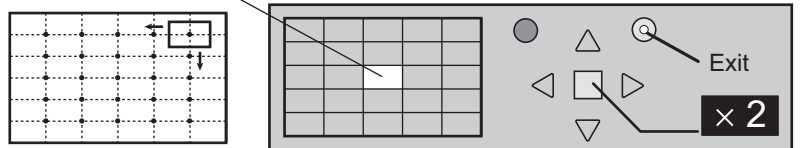
3 **Select the magnification required for the enlarged display.**
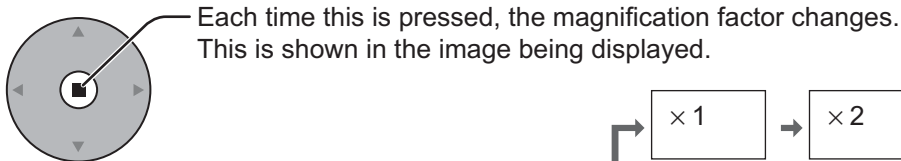
Each time this is pressed, the magnification factor changes.
This is shown in the image being displayed.

× 1 → × 2 → × 3 → × 4

4 **Return to normal display (quit Digital Zoom).**

R

Press to exit from the Digital Zoom.

Notes:
• When power goes OFF (including "Off Timer" operation), Digital Zoom terminates.
• The Digital Zoom function cannot be selected while in the following operation state:
  "Multi-viewer" (P and P, P out P, P in P) operation. (see page 18)
  When MULTI DISPLAY Setup is On (see page 43).
  When Portrait Setup is On (see page 46).
  When Screensaver (except for Negative image) is running (see page 35)
• While Digital Zoom is in operation, "Adjusting Pos. / Size" cannot be used.

On-Screen Menu Displays

	Remote Control	**Unit**

1 Display the menu screen.

POS. / SIZE PICTURE SOUND SET UP

Press to select.
(Example: Picture menu)

MENU — Press several times.

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

→ Normal Viewing → Picture →
Sound ← Pos. /Size ← Setup ←

---

2 Select the item.

□ Picture

Normalise	Normal	▬ ▬ ▬
Picture Mode	◄ Normal ►	
Contrast	25	
Brightness	0	
Colour	0	
Hue	0	
Sharpness	5	
White balance	Normal	
Colour Management	Off	
Advanced settings		
Memory save		
Memory load		
Memory edit		

(Example: Picture menu)

Select.

ENTER/■ ❷ Press.

+ / ▲
VOL▲ ❶ Select.
− / ▼

---

3 Set.

Set.

ENTER/■ ❷ Press.

+ / ▲
VOL▲ ❶ Set.
− / ▼

---

4 Exit the menu.

POS. / SIZE PICTURE SOUND SET UP

Press.
Press ◯R to return to the previous menu.

MENU — Press several times.

On-Screen Menu Displays

Overview

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

Pos. /Size

Normalise	Normal	
Auto Setup		
H-Pos		0
H-Size		0
V-Pos		0
V-Size		0
Dot Clock		0
Clock Phase		0
1:1 Pixel Mode		Off

(see page 23-25)

Picture

Normalise	Normal	
Picture Mode		Normal
Contrast		25
Brightness		0
Colour		0
Hue		0
Sharpness		5
White balance		Normal
Colour Management		Off
Advanced settings		
Memory save		
Memory load		
Memory edit		

(see page 26-32)

Advanced settings

Normalise	Normal	
Black extension		0
Input level		0
Gamma		2.2
AGC		Off
W/B High R		0
W/B High G		0
W/B High B		0
W/B Low R		0
W/B Low G		0
W/B Low B		0

(see page 26, 27)

Setup 1/2

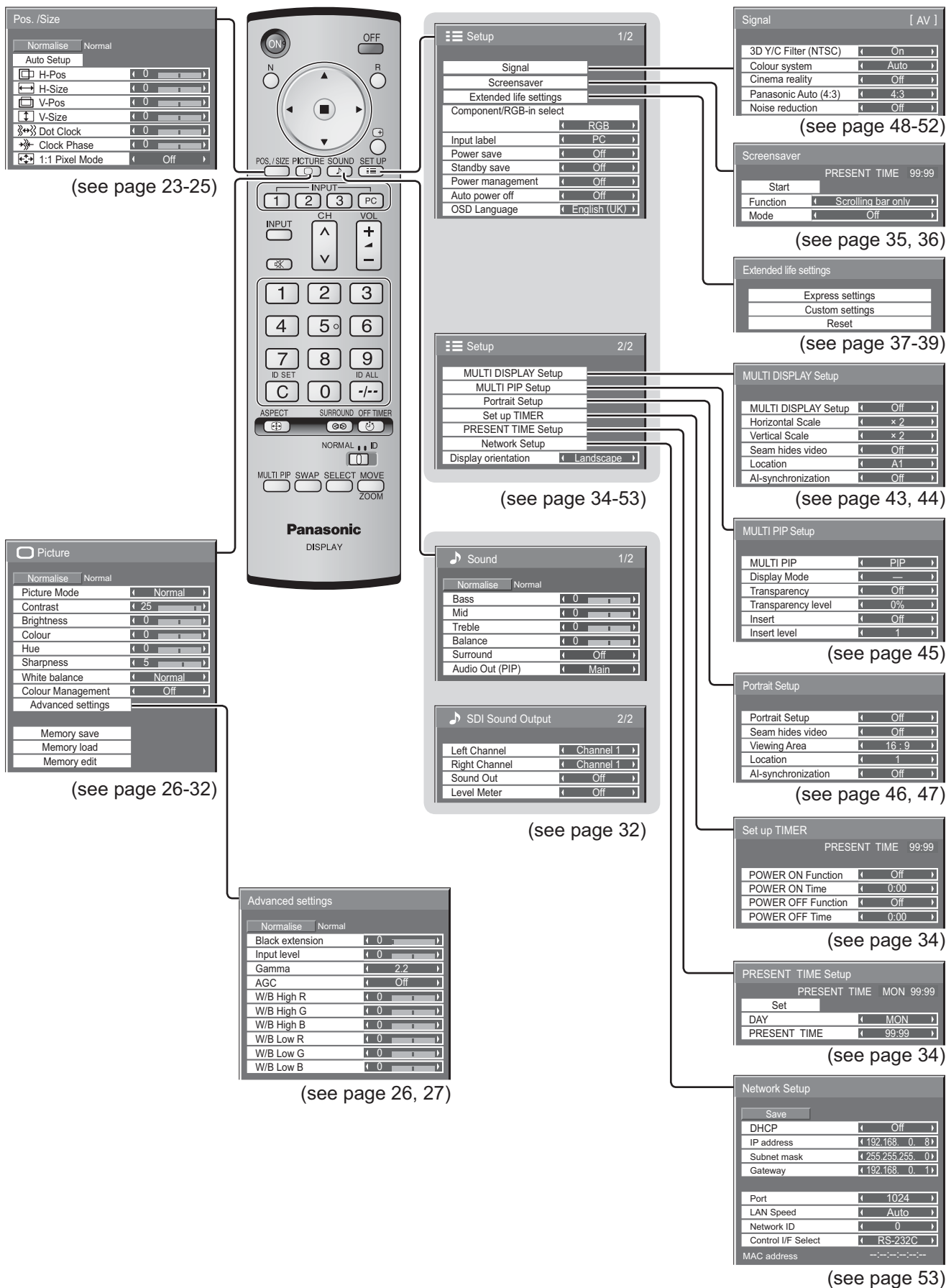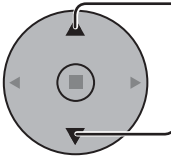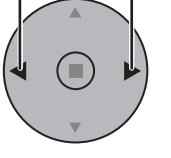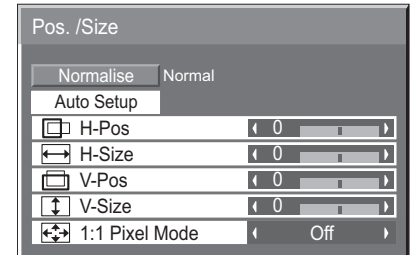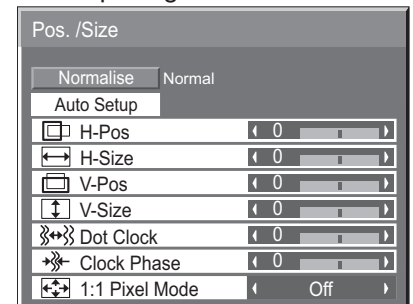|	
Signal	
Screensaver	
Extended life settings	
Component/RGB-in select	RGB
Input label	PC
Power save	Off
Standby save	Off
Power management	Off
Auto power off	Off
OSD Language	English (UK)

Setup 2/2

MULTI DISPLAY Setup	
MULTI PIP Setup	
Portrait Setup	
Set up TIMER	
PRESENT TIME Setup	
Network Setup	
Display orientation	Landscape

(see page 34-53)

Sound 1/2

Normalise	Normal	
Bass		0
Mid		0
Treble		0
Balance		0
Surround		Off
Audio Out (PIP)		Main

SDI Sound Output 2/2

Left Channel	Channel 1
Right Channel	Channel 1
Sound Out	Off
Level Meter	Off

(see page 32)

Signal [AV]

3D Y/C Filter (NTSC)	On
Colour system	Auto
Cinema reality	Off
Panasonic Auto (4:3)	4:3
Noise reduction	Off

(see page 48-52)

Screensaver

	PRESENT TIME 99:99
Start	
Function	Scrolling bar only
Mode	Off

(see page 35, 36)

Extended life settings

Express settings
Custom settings
Reset

(see page 37-39)

MULTI DISPLAY Setup

MULTI DISPLAY Setup	Off
Horizontal Scale	× 2
Vertical Scale	× 2
Seam hides video	Off
Location	A1
AI-synchronization	Off

(see page 43, 44)

MULTI PIP Setup

MULTI PIP	PIP
Display Mode	—
Transparency	Off
Transparency level	0%
Insert	Off
Insert level	1

(see page 45)

Portrait Setup

Portrait Setup	Off
Seam hides video	Off
Viewing Area	16 : 9
Location	1
AI-synchronization	Off

(see page 46, 47)

Set up TIMER

	PRESENT TIME 99:99
POWER ON Function	Off
POWER ON Time	0:00
POWER OFF Function	Off
POWER OFF Time	0:00

(see page 34)

PRESENT TIME Setup

	PRESENT TIME MON 99:99
Set	
DAY	MON
PRESENT TIME	99:99

(see page 34)

Network Setup

Save	
DHCP	Off
IP address	192.168. 0. 8
Subnet mask	255.255.255. 0
Gateway	192.168. 0. 1
Port	1024
LAN Speed	Auto
Network ID	0
Control I/F Select	RS-232C
MAC address	--:--:--:--:--:--

(see page 53)

Adjusting Pos. /Size

1 POS. / SIZE ⊂⊃ ———— Press to display the Pos. /Size menu.

2 ———— Press to select the menu to adjust.

3 ———— Press to adjust the menu.

4 POS. / SIZE ⊂⊃ ———— Press to exit from adjust mode.

During "Video (S Video)", "Digital", "SDI" and "HDMI" input signal.

Pos. /Size		
Normalise	Normal	
Auto Setup		
⊡ H-Pos	◄ 0	►
↔ H-Size	◄ 0	►
⊟ V-Pos	◄ 0	►
↕ V-Size	◄ 0	►
⊹ 1:1 Pixel Mode	◄ Off	►

During "Component", "RGB" and "PC" input signal.

Pos. /Size		
Normalise	Normal	
Auto Setup		
⊡ H-Pos	◄ 0	►
↔ H-Size	◄ 0	►
⊟ V-Pos	◄ 0	►
↕ V-Size	◄ 0	►
⫶↔⫶ Dot Clock	◄ 0	►
⤨ Clock Phase	◄ 0	►
⊹ 1:1 Pixel Mode	◄ Off	►

Notes:
• Unadjustable items are grayed out.
  Adjustable items differ depending on the input signal and the display mode.
• 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.
• If adjusting the Picture V-Pos/V-Size in Panasonic Auto with 16:9 mode, the adjustment is not memorized. When exiting the mode, the screen will return to a former adjustment.

Auto Setup H-Pos/V-Pos, H-Size/V-Size, Dot Clock and Clock Phase are automatically adjusted when the RGB or PC signal is received.
  This setting is enabled under the following conditions:
  • This setting only support single screen display. Two screen display or multiple display are not supported.
  • When "Component/RGB-in Select" or "YUV/RGB-in select" in the "Setup" menu (see page 48) is set to "RGB", this setting is enabled.
  • When the signal is not PC format, this setting is enabled only if "Over scan" (see page 24) is "Off" or "1:1 Pixel Mode" (see page 25) is "On", and H-Size/V-Size is not automatically adjusted.
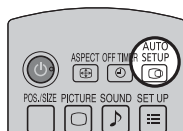 This setting will be invalid and will not work under the following conditions:
  • Aspect is set to "Just"
  • "Display size" in the Options menu (see page 55) is set to "On"

  Using Remote Control
  Note:
  To operate this function, please purchase remote controller sold separately.
  Object model : N2QAYB000432

  When [AUTO SETUP] 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:
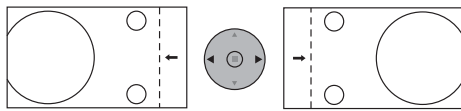 • When the display power is turned ON.
  • When the input signal is switched.

Notes:
- If the dot clock frequency is 162 MHz or higher, Dot Clock and Clock Phase cannot be made.
- When digital RGB signal input, Dot Clock and Clock Phase cannot be made.
- Auto Setup may not work when a cropped or dark image is input. In such case, switch to a bright image with borders and other objects are clearly shown, and then try auto setup again.
- Depending on the signal, out of alignment may occur after Auto Setup. Carry out fine tuning for the position/size as required.
- If Auto Setup cannot set properly for vertical frequency 60Hz XGA signal (1024×768@60Hz, 1280×768@60Hz, and 1366×768@60Hz), pre-selecting the individual signal in "XGA Mode" (see page 50) may results in correct Auto Setup.
- Auto Setup does not work well when a signal such as additional information is superimposed out of valid image period or intervals between synchronizing and image signals are short, or for image signal with tri-level synchronizing signal added.
- If Auto Setup cannot adjust correctly, select "Normalise" once and press ACTION (■), then adjust Pos. /Size manually.

H-Pos	Adjust the horizontal position.	**V-Pos**	Adjust the vertical position.
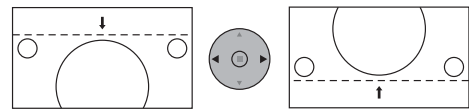
H-Size	Adjust the horizontal size.	**V-Size**	Adjust the vertical size.
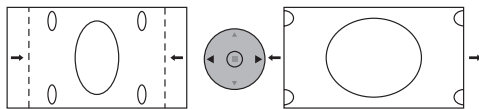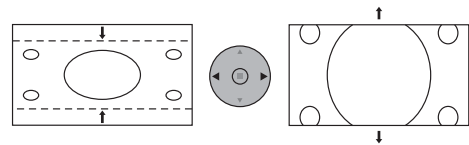
Dot Clock   **(During "Component", "RGB" and "PC" input signal)**
Periodic striped pattern interference (noise) may occur when a striped pattern is displayed. If this happens, adjust so that any such noise is minimized.
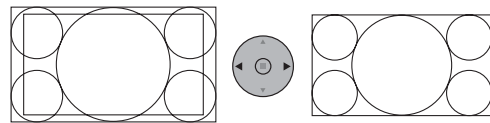
Clock   **(During "Component", "RGB" and "PC" input signal)**
Phase   Eliminate the flickering and distortion.

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)

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.

Off   On
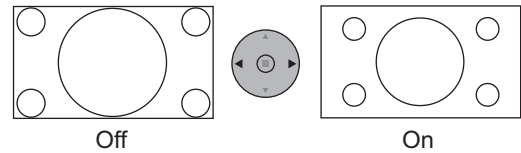
1:1 Pixel Mode   When the input signal is a 2k1k signal (2048 × 1080 / 24p, 2048 × 1080 / 24sF), the display size
(2k1k)   is adjusted as follows.
(For 2k1k signals)

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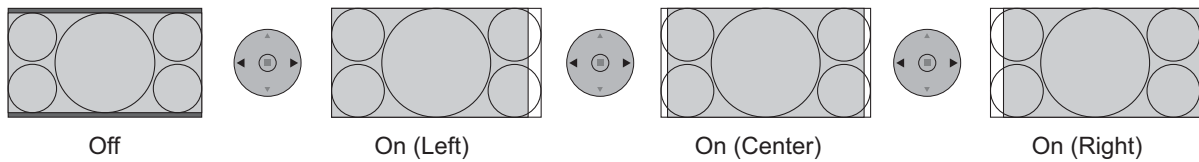
Note:
2k1k signals can only be received when the Dual Link HD-SDI Terminal Board (TY-FB11DHD) is installed.
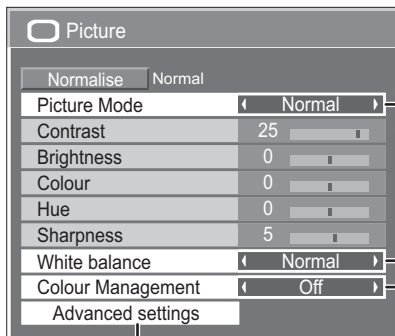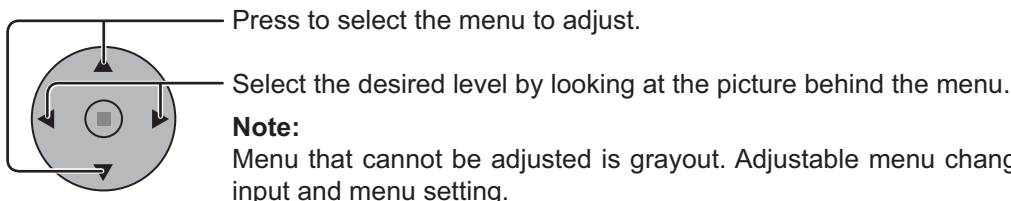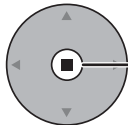

Helpful Hint (N / Normalise Normalisation)

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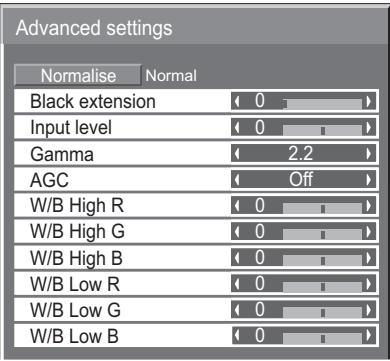

Picture Adjustments

1   PICTURE
⬜— Press to display the Picture menu.
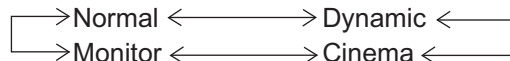
2   Select to adjust each item.

— 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.

Picture	
Normalise Normal	
Picture Mode	◀ Normal ▶
Contrast	25
Brightness	0
Colour	0
Hue	0
Sharpness	5
White balance	◀ Normal ▶
Colour Management	◀ Off ▶
Advanced settings	

Press to enter Advanced settings.

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

Advanced settings	
Normalise Normal	
Black extension	◀ 0 ▶
Input level	◀ 0 ▶
Gamma	◀ 2.2 ▶
AGC	◀ Off ▶
W/B High R	◀ 0 ▶
W/B High G	◀ 0 ▶
W/B High B	◀ 0 ▶
W/B Low R	◀ 0 ▶
W/B Low G	◀ 0 ▶
W/B Low B	◀ 0 ▶

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
Ideal for movies.

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

Notes:
• When "Monitor" is selected in Picture Mode, the following menu items cannot be set.
  Picture menu: Contrast
  Extended life settings: Peak limit (see page 38)
  Setup menu: Power save (see page 40)
  MULTI DISPLAY Setup menu: AI-synchronization (see page 44)
  Portrait Setup menu: AI-synchronization (see page 47)
• 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 ⟷ Cool ⟷ Warm ←

Colour Management On
Enables vivid colour adjustment automatically.

Helpful Hint (N ◯ / Normalise Normalisation)

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

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

Advanced settings

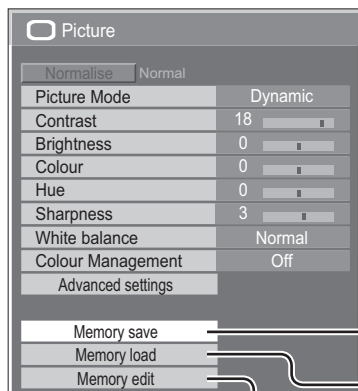| Item	Effect		Details
Black extension	◀ Less	▶ More	Adjusts the dark shades of the image in gradation.
Input level	◀ Less	▶ More	Adjustment of parts which are extremely bright and hard to see.
Gamma	◀ Down	▶ Up	S+ Curve*1 ⟵⟶ S Curve ⟵⟶ 2.0 ⟵⟶ 2.2 ⟵⟶ 2.5 ⟵⟶ 2.6*2 *1 When "Picture Mode" is set to "Dynamic", Gamma "S+ Curve" can be selected. When 2k1k signals are received with the Dual Link HD-SDI Terminal Board (TY-FB11DHD), "S+ Curve" cannot be selected. *2 When 2k1k signals are received with the Dual Link HD-SDI Terminal Board (TY-FB11DHD), Gamma "2.6" can also be selected.
AGC	◀ Off	▶ On	Increases the brightness of dark signal automatically.
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.
    1. Adjust the white balance of the bright sections using the "W/B High R", "W/B High G" and "W/B High B" settings.
    2. Adjust the white balance of the dark sections using the "W/B Low R", "W/B Low G" and "W/B Low B" settings.
    3. Repeat steps **1** and **2** to adjust.
  Steps **1** and **2** affect each other's settings, so repeat each step in turn to make the adjustment.
- The adjustment values are memorized separately for each input terminal.
- The adjustment range values should be used as an adjustment reference.

Helpful Hint (◯ᴺ / 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.
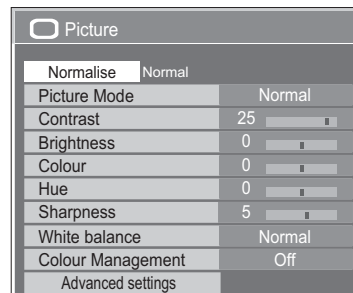
Picture Profiles

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.

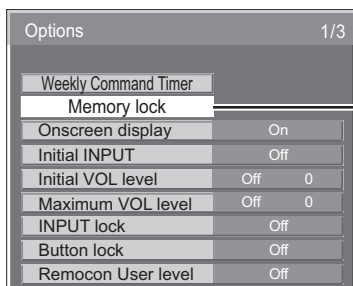| Picture	
Normalise Normal	
Picture Mode	Dynamic
Contrast	18
Brightness	0
Colour	0
Hue	0
Sharpness	3
White balance	Normal
Colour Management	Off
Advanced settings	
Memory save	
Memory load	
Memory edit	

Save profiles(page 29)

Load profiles(page 30)

Edit profiles(page 30)

Options	1/3
Weekly Command Timer	
Memory lock	
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

Lock profiles (page 31, 32)

Picture	
Normalise Normal	
Picture Mode	Normal
Contrast	25
Brightness	0
Colour	0
Hue	0
Sharpness	5
White balance	Normal
Colour Management	Off
Advanced settings	

Save profiles   Save the picture adjustment values in the MEMORY1 profile

Edit the profile Delete or rename the profile

Locked profile

MY PICTURE
MEMORY2
MEMORY3
MEMORY4
⋮
🔒1MEMORY8

MEMORY1
MEMORY2
MEMORY3
MEMORY4
⋮
MEMORY8
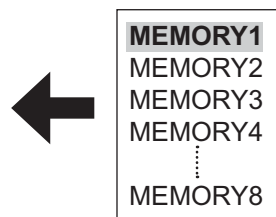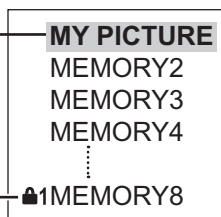
Load the profile   Apply the MEMORY1 profile

Original picture

Picture	
Normalise Normal	
Picture Mode	Normal
Contrast	0
Brightness	0
Colour	0
Hue	0
Sharpness	0
White balance	Normal
Colour Management	Off
Advanced settings	

Custom picture

Picture	
Normalise Normal	
Picture Mode	Normal
Contrast	25
Brightness	0
Colour	0
Hue	0
Sharpness	5
White balance	Normal
Colour Management	Off
Advanced settings	
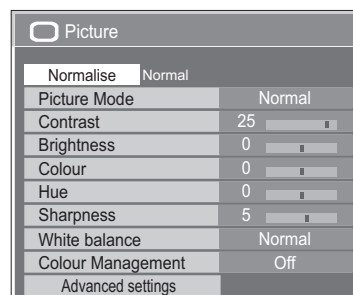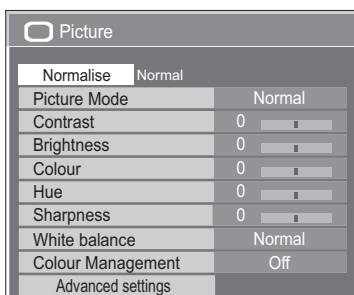
Saving profiles

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 26, 27)

2 In the Picture menu, select "Memory save".

| Memory save |
| Memory load |
| Memory edit |

① select
② access

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

Memory save

1. [ ]　MEMORY1
2. [ ]　MEMORY2
3. [ ]　MEMORY3
4. [ ]　MEMORY4

① select
② set

Profiles are labeled with these icons to indicate their locked status. (see page 31)
[ ], [🔓]:Settings can be saved in this profile.
[🔒1], [🔒2]:Settings cannot be saved in this profile.

4 Select "Ok".

Memory save

Save the adjusted value in MEMORY1

| Ok | Cancel |

① select
② set

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

Memory name input

MEMORY1

A	B	C	D	E	F	G	H	I	J	K	L	M	All delete
N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Delete
a	b	c	d	e	f	g	h	i	j	k	l	m	
n	o	p	q	r	s	t	u	v	w	x	y	z	
0	1	2	3	4	5	6	7	8	9	Space			
!	"	#	$	%	&	*	+	-	/	=	?	@	\	`
_	'		~	<	>	(	)	[	]	{	}	,	.	;	:
Ok		Cancel				
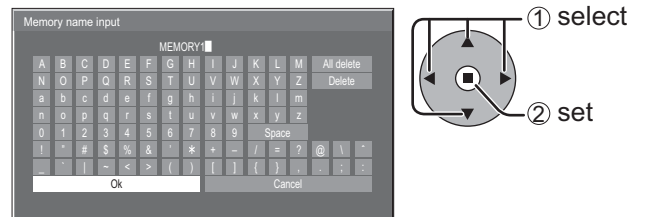
① select
② set

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".

Memory name input

MY　PICTURE

A	B	C	D	E	F	G	H	I	J	K	L	M	All delete
N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Delete
a	b	c	d	e	f	g	h	i	j	k	l	m	
n	o	p	q	r	s	t	u	v	w	x	y	z	
0	1	2	3	4	5	6	7	8	9	Space			
!	"	#	$	%	&	*	+	-	/	=	?	@	\	`
_	'		~	<	>	(	)	[	]	{	}	,	.	;	:
Ok		Cancel				
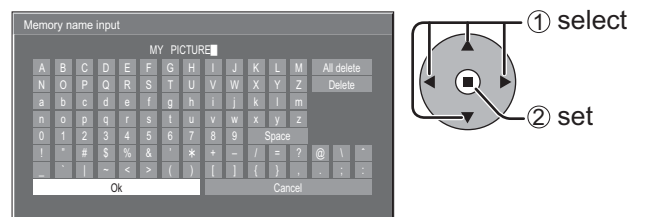
① select
② set

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 (SLOT1, 2, 3 or PC IN). (see page 14)
• When the settings are locked in "Extended life settings", profiles cannot be loaded.

1 In the Picture menu, select "Memory load".

| Memory save |
| Memory load |
| Memory edit |

① select
② access

2 Select the profile to load.

Memory load

1. [🔓] MEMORY1
2. [🔓] MEMORY2
3. [🔒1] MEMORY3

① select
② set

Profiles are labeled with these icons to indicate their locked status. (see page 31)

Editing profiles

Delete or rename profiles as follows.

<Deleting profiles>
Note:
Locked profiles cannot be deleted.

1 In the Picture menu, select "Memory edit".

| Memory save |
| Memory load |
| Memory edit |

① select
② access

2 Select "Memory delete".

Memory edit

Memory delete
Memory name change

① select
② set

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

Memory delete

1. [🔓] MEMORY1
2. [🔓] MEMORY2
3. [🔒1] MEMORY3
All delete

① select
② set

4 Select "Ok".

Memory delete

Delete the MEMORY1 data.

Ok   Cancel

① select
② set

<Renaming profiles>
Note:
Locked profiles cannot be renamed.

1 In the Picture menu, select "Memory edit".

| Memory save |
| Memory load |
| Memory edit |

① select
② access

2 Select "Memory name change".

Memory edit

Memory delete
Memory name change

① select
② set

3 Select the profile to rename.

Memory name change

1. [🔓] MEMORY1
2. [🔓] MEMORY2
3. [🔒1] MEMORY3

① select
② set

4 Enter a name for the profile.
Entering profile names ➡ page 29

Memory name input

ΣMEMORY1

A B C D E F G H I J K L M   All delete
N O P Q R S T U V W X Y Z   Delete
a b c d e f g h i j k l m
n o p q r s t u v w x y z
0 1 2 3 4 5 6 7 8 9   Space
! " # $ % & ' * + − / = ? @ \ ^
_ ¦ ~ < > ( ) [ ] { } . , : ;
Ok   Cancel

① select
② set

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

Ok   Cancel

① select
② set

Locking profiles

You can lock saved profiles to restrict operations when the profiles are loaded. You can also set passwords.

Notes:
• When the lock is set in "Extended life settings", profile cannot be locked.
• If profile is locked, the menu operations of "Extended life settings" are restricted. (see page 38)

<Locking and unlocking profiles>

1 Display the menu screen. (see page 54)

2 Select "Memory lock".

Options	1/3
Weekly Command Timer	
Memory lock	
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
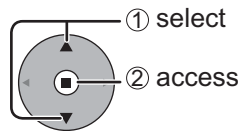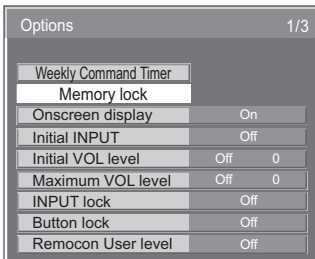
① select
② access

3 Enter a 4-digit password.
The default password is "0123".

```
1 2 3
4 5 6
7 8 9
  0
```

4 Select "Ok".

Input password

* * * *

Ok   Cancel
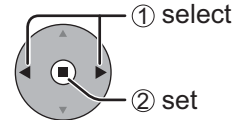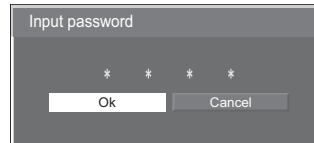
① select
② set

5 Select the profile and specify the desired lock setting.

Memory lock

MEMORY1	◄ Lock1 ►
MEMORY2	Off
MEMORY3	Off
MEMORY4	Off
isf Mode	Off
Change password	

① select
② adjust

6 Exit the menu.

SET UP
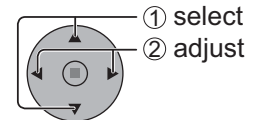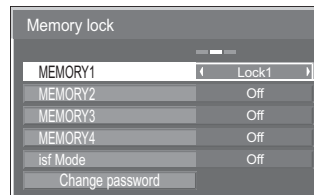
Once a profile is locked, the following operations are restricted when the profile is loaded.

Setting	Editing the Profile (Memory edit)	Editing Picture Adjustment Values via the Menu (Picture menu, Advanced settings)	Saving Picture Adjustment Values (Memory save)
Off (unlocked)	Allowed	Allowed	Allowed
Lock1	Prohibited	Prohibited (picture adjustment values are shown)	Allowed
Lock2	Prohibited	Prohibited (picture adjustment values are hidden)	Prohibited

Loading locked profiles

In the Picture menu, profiles are labeled with these icons to indicate their locked status.

Picture	
Normalise Normal	🔒1
Picture Mode	◄ Normal ►
Contrast	25
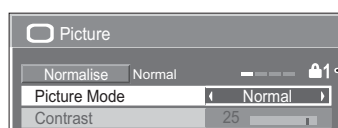
Picture adjustment values in the Picture menu cannot be changed, except for the "Picture Mode". Once you edit the "Picture Mode" setting, you can edit "Contrast", "Brightness", and other picture adjustment values.

🔒1 **Lock1**
Picture adjustment values are shown.
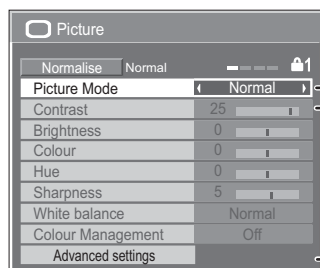
Picture	
Normalise Normal	🔒1
Picture Mode	◄ Normal ►	— Can be specified.
Contrast	25
Brightness	0
Colour	0
Hue	0
Sharpness	5
White balance	Normal
Colour Management	Off
Advanced settings		— Cannot be specified.

🔒2 **Lock2**
Picture adjustment values are hidden.
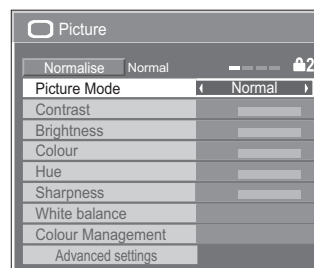
Picture	
Normalise Normal	🔒2
Picture Mode	◄ Normal ►	— Can be specified.
Contrast	
Brightness	
Colour	
Hue	
Sharpness	
White balance	
Colour Management	
Advanced settings		— Cannot be specified.

Picture Profiles

<Changing passwords>

1 Follow steps 1–4 in the previous procedure, <Locking and unlocking profiles>.

2 Select "Change password".

Memory lock	
MEMORY1	Lock1
MEMORY2	Off
MEMORY3	Off
MEMORY4	Off
isf Mode	Off
Change password	

① select
② access

Note:
Make a note of the new password to remember it.
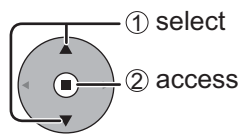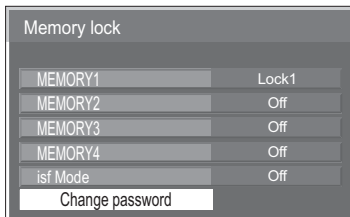
3 Enter a new 4-digit password.

1	2	3
4	5	6
7	8	9
	0	

4 Select "Ok".

Input new password

＊　＊　＊　＊

| Ok | Cancel |

① select
② set

5 Exit the menu.

SET UP

<isf Mode Setting>

Switches to "Picture Mode" mode display.

1 Follow steps 1–4 in the previous procedure, <Locking and unlocking profiles>.

2 Select "isf Mode".

Memory lock	
MEMORY1	Lock1
MEMORY2	Off
MEMORY3	Off
MEMORY4	Off
isf Mode	Off
Change password	

① select
② adjust
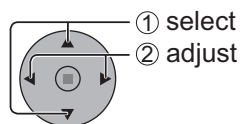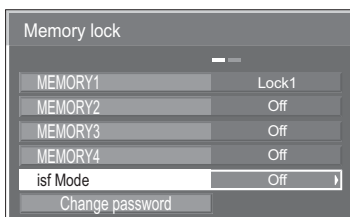
3 Specify "On" or "Off".

4 Exit the menu.

SET UP

Specifying "On" for isf Mode changes the "Picture Mode" mode display as follows.

"Picture Mode" mode display

Picture	
Normalise Normal	
Picture Mode	Normal
Contrast	25
Brightness	0
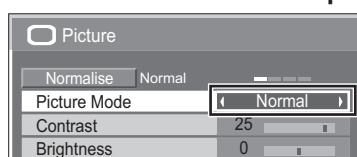
isf Mode: Off	isf Mode: On
Normal	Normal
Dynamic	isf Mode Day
Cinema	isf Mode Night
Monitor	Monitor
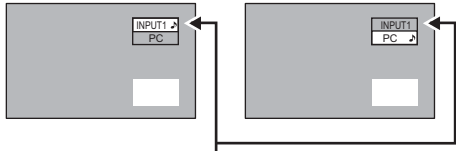
Sound Adjustment

1
<u>SOUND</u>
♪ ——————— Press to display the Sound menu.

♪ Sound	1/2
Normalise Normal	
Bass	◄ 0 ►
Mid	◄ 0 ►
Treble	◄ 0 ►
Balance	◄ 0 ►
Surround	◄ Off ►
Audio Out (PIP)	◄ Main ►

2 Select to adjust each item.

Press to select the menu to adjust.

Select the desired level by listening to the sound.
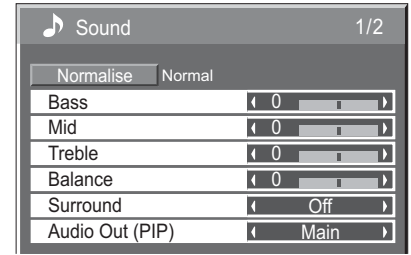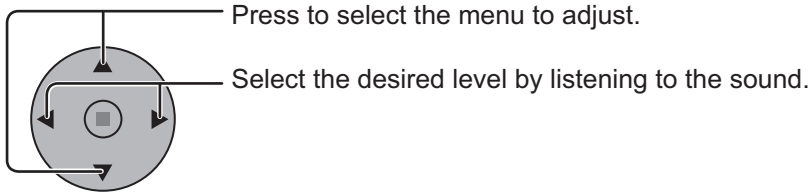
3
<u>SOUND</u>
♪ ——————— Press to exit from adjust mode.

Item	Details
Bass	Adjusts low pitch sounds.
Mid	Adjusts normal sounds.
Treble	Adjusts high pitch sounds.
Balance	Adjusts left and right volumes.
Surround	Select On or Off.
Audio Out (PIP)	**Main:** Selects main picture sound. **Sub:** Selects PIP frame sound. INPUT1 ♪ PC INPUT1 PC ♪ Musical note ♪ is displayed on right side of the audio output screen label.

Helpful Hint (N ○ / Normalise **Normalisation)**

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

SDI Sound Output

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

♪ SDI Sound Output	2/2
Left Channel	◄ Channel 1 ►
Right Channel	◄ Channel 1 ►
Sound Out	◄ Off ►
Level Meter	◄ Off ►
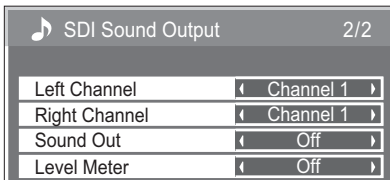
Notes:
• This menu is available only when selecting a slot that HD-SDI Terminal Board with audio (TY-FB10HD) or Dual Link HD-SDI Terminal Board (TY-FB11DHD) is installed.
• This menu is unavailable when 2-picture display mode is active.
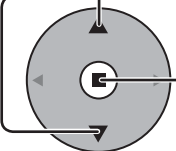
Item	Details
Left Channel	**Channel 1 to Channel 16** Selects left audio channel.
Right Channel	**Channel 1 to Channel 16** Selects right audio channel.
Sound Out	**On ⟷ Off** **On:** Enables audio output. **Off:** Disables audio output.
Level Meter	**Off ⟷ 1-8ch ⟷ 9-16ch** Sets audio channels to show 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)

PRESENT TIME Setup / Set up TIMER

The timer can switch the Plasma Display On or Off.
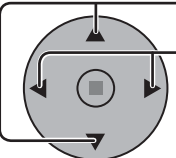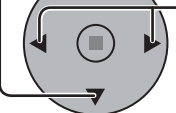
Before attempting Timer Set, confirm the PRESENT TIME and adjust if necessary.
Then set POWER ON Time / POWER OFF Time.

1 SET UP ⸻ Press to display the Setup menu.

2 ⸻ Press to select Set up TIMER or PRESENT TIME Setup.

⸻ Press to display the Set up TIMER screen or PRESENT TIME Setup screen.

☰ Setup	2/2
MULTI DISPLAY Setup	
MULTI PIP Setup	
Portrait Setup	
Set up TIMER	
PRESENT TIME Setup	
Network Setup	
Display orientation	Landscape
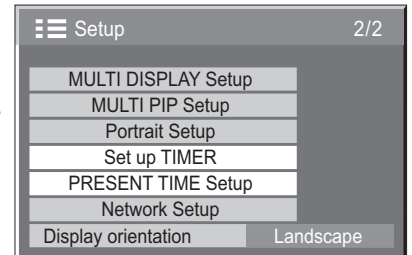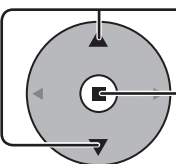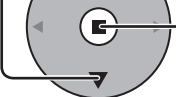
PRESENT TIME Setup

1 ⸻ Press to select DAY or PRESENT TIME.

⸻ Press to setup DAY or PRESENT TIME.
► button: Forward
◄ button: Back
Notes:
• Pressing "◄" or "►" button once changes PRESENT TIME 1 minute.
• Pressing "◄" or "►" button continuously changes PRESENT TIME by 15 minutes.
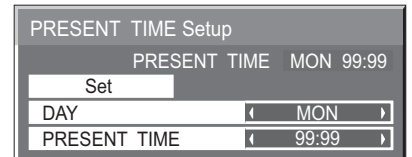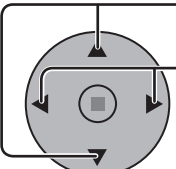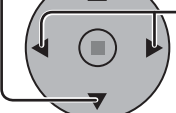
PRESENT TIME Setup	
PRESENT TIME	MON 99:99
Set	
DAY	◄ MON ►
PRESENT TIME	◄ 99:99 ►

2 ⸻ Press to select Set.

⸻ Press to store PRESENT TIME Setup.
Notes:
• Set cannot be selected unless PRESENT TIME is set.
• Unless setting the present time other than "99:99", DAY setting is invalid.
• The settings of "DAY" and "PRESENT 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.
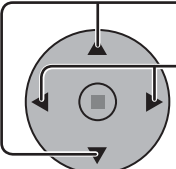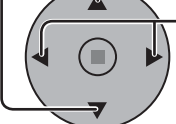
Set up TIMER

1 ⸻ 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.
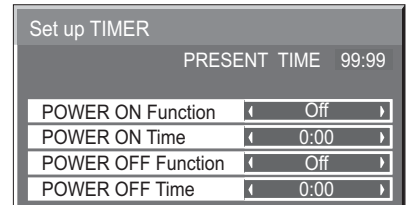
Set up TIMER	
PRESENT TIME	99:99
POWER ON Function	◄ Off ►
POWER ON Time	◄ 0:00 ►
POWER OFF Function	◄ Off ►
POWER OFF Time	◄ 0:00 ►
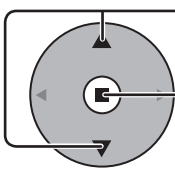
2 ⸻ Press to select POWER ON Function/POWER OFF Function.

⸻ Press to select On.

Note: Timer function will not work unless "PRESENT TIME" is set.
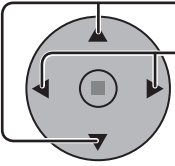
Screensaver (For preventing image retention)

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

1 SET UP ⎯⎯ Press to display the Setup menu.

Setup	1/2
Signal	
Screensaver	
Extended life settings	
Component/RGB-in select	
	RGB
Input label	PC
Power save	Off
Standby save	Off
Power management	Off
Auto power off	Off
OSD Language	English (UK)

2 Press to select Screensaver.

Press to display Screensaver screen.

Screensaver	
	PRESENT TIME 99:99
Start	
Function	◄ Scrolling bar only ►
Mode	◄ Off ►

3 **Function selection**

Press to select Function.

Press to select the desired function.

→Negative image ←→ Scrolling bar only ←
→White screen ←→ Overlay scrolling bar ←
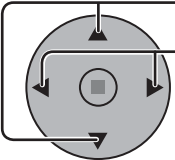
Negative image : Negative image will be displayed on the screen.
Scrolling bar only : A white bar will scroll from left to right. The image won't be displayed.
Overlay scrolling bar : The brightness of the image will be decreased and a white bar will scroll on it.
White screen : The whole screen will be white.
Note: Overlay scrolling bar is not effective during two screen display.
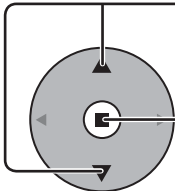
4 **Mode selection**

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.

5 **Start setting**

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

Press to start Screensaver.
The menu screen will disappear and the Screensaver will be activated. **To stop the Screensaver under On, press the R button or any buttons on the main unit.**

Note: When the display is turned off, the Screensaver will be deactivated.

Setup of Screensaver Time

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

Press to select Start Time / Finish Time
(when Time Designation is selected).
Press to select Periodic Time / Operating Time
(when Interval is selected).
Press to select Screensaver duration
(when Standby after SCR Saver is selected).
Press to setup.
▶ button: Forward
◀ button: Back
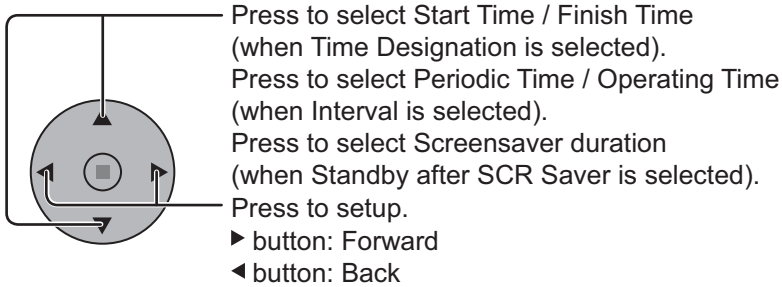
Screensaver	
	PRESENT TIME 15:00
Start	
Function	Scrolling bar only
Mode	Time Designation
Start Time	◀ 6:15 ▶
Finish Time	◀ 12:30 ▶

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

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

Notes:

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

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

Reduces screen image retention

Extended life settings

The following settings are setup to reduce image retention:

Setup	1/2
Signal	
Screensaver	
Extended life settings	
Component/RGB-in select	
	RGB
Input label	PC
Power save	Off
Standby save	Off
Power management	Off
Auto power off	Off
OSD Language	English (UK)

■

Extended life settings
Express settings
Custom settings
Reset

Set to the recommended value
Set individually
Reset to the factory settings

Extended life settings	
Recommended settings	
Picture Mode	Dynamic
Contrast	30
Side panel	High
NANODRIFT Saver	High mid
Peak limit	Off
Lock settings	unlock
Apply to current input	
Apply to all inputs	

Image Retention Reduction Menu

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 26). 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.

side panel

4:3 Screen Display

image retention

Non picture area

P out P   P and P
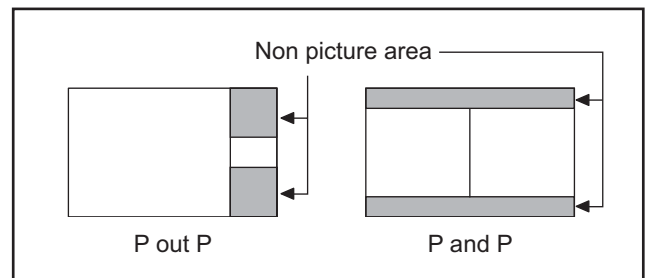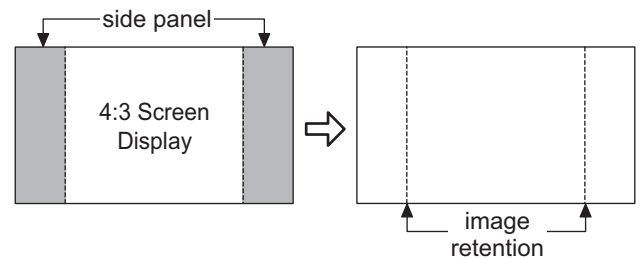
Notes:
• To reduce the occurrence of image retention, set the Side panel to High.
• The side panel may flash (alternate black/white) depending on the picture being shown on the screen. Using Cinema mode will reduce such flashing.

Reduces screen image retention

NANODRIFT Saver

Moves the display position of the screen slightly to reduce image retention on the display panel.
Off: NANODRIFT Saver does not operate.
Min–Max: NANODRIFT Saver operates. The display position of the screen moves at set time intervals. You can set the screen movement range. Some of the screen may appear to be missing as a result of this operation. If you change the value, a mask is displayed in the range where the picture is missing as a result of position movement.

If this is set to other than "Off", "NANODRIFT" is displayed below the aspect mode display.

PC

16:9
NANODRIFT
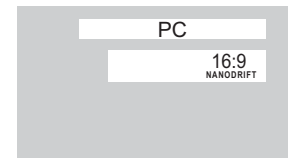
Note:
This function does not work in the following cases.
   When "MULTI DISPLAY Setup" is set to "On"
   When "PORTRAIT Setup" is set to "On"
   When in digital zoom mode

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 61)

Extended life settings when profile is locked
If profile is locked with "Memory lock" of the Options menu, the operations of this settings menu are restricted as shown below. "Locking profiles" ➡ page 31
   Express settings: Cannot be set.
   Custom settings: "Picture Mode", "Contrast" and "Lock settings" cannot be set.
   Reset: "Picture Mode" and "Contrast" are not reset.

Express settings

Set the "Image Retention Reduction" menu to the recommended settings.
All menus will be locked.
   Picture Mode: Normal
   Contrast: 10
   Side panel: High
   NANODRIFT Saver: High mid
   Peak limit: On

1 Select "Express settings".

Extended life settings
Express settings
Custom settings
Reset

① select
② access

2 Select the input to apply the settings.

Extended life settings
Apply to current input
Apply to all inputs

① select
② set

3 Select "Yes".

Extended life settings
Apply to current input
Yes   No
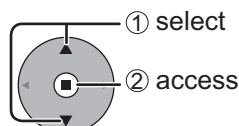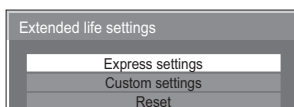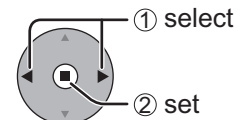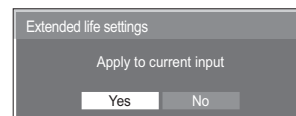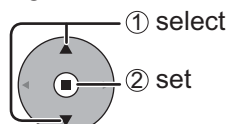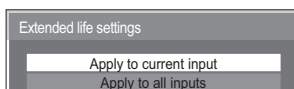
① select
② set

Custom settings

Set the individual "Image Retention Reduction" menu.

1 Select "Custom settings".

Extended life settings
Express settings
Custom settings
Reset

① select
② access

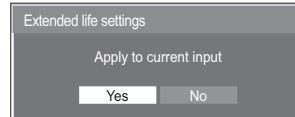When a menu is locked, it is grayed out and cannot be set.
"Picture Mode" and "Contrast" will no longer be able to set in the "Picture" menu, and they are labeled with icon to indicate their locked status. Also, "Normalise", "Memory save" and "Memory load" are not available.
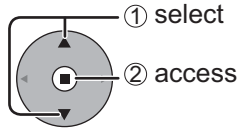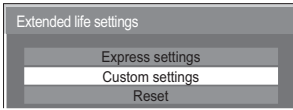
2 To set each menu to the recommended setting:
Select "Recommended settings".

Extended life settings	
Recommended settings	
Picture Mode	Dynamic
Contrast	30
Side panel	High
NANODRIFT Saver	High mid
Peak limit	Off
Lock settings	Unlock
Apply to current input	
Apply to all inputs	

① select
② set
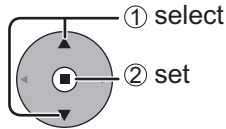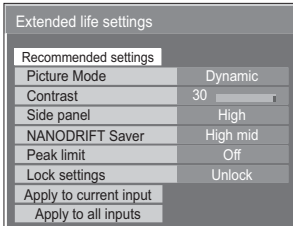
Each menu will be set as same as the "Express settings".

Picture	
Normalise Normal	
Picture Mode	Dynamic
Contrast	30
Brightness	0
Colour	0
Hue	0
Sharpness	5
White balance	Normal
Colour Management	Off
Advanced settings	
Memory save	
Memory load	
Memory edit	
🔒 Extended life settings	

3 Set each menu.

Extended life settings	
Recommended settings	
Picture Mode	◀ Dynamic ▶
Contrast	30
Side panel	High
NANODRIFT Saver	High mid
Peak limit	Off
Lock settings	Unlock
Apply to current input	
Apply to all inputs	

① select
② adjust

5 Select the input to apply the settings.

Extended life settings	
Recommended settings	
Picture Mode	Dynamic
Contrast	30
Side panel	High
NANODRIFT Saver	High mid
Peak limit	Off
Lock settings	Lock
Apply to current input	
Apply to all inputs	

① select
② set

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

Extended life settings	
Recommended settings	
Picture Mode	Dynamic
Contrast	30
Side panel	High
NANODRIFT Saver	High mid
Peak limit	Off
Lock settings	◀ Lock ▶
Apply to current input	
Apply to all inputs	

① select
② adjust

6 Select "Yes".

Extended life settings
Apply to current input
Yes   No

① select
② set

Reset

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

1 Select "Reset".

Extended life settings
Express settings
Custom settings
Reset

① select
② access

3 Select "Yes".

Extended life settings
Reset current input
Yes   No
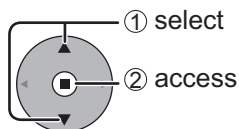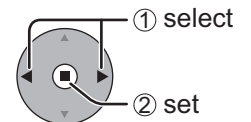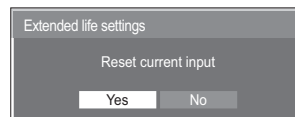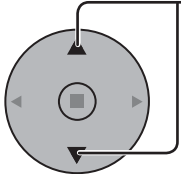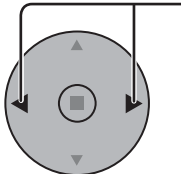
① select
② set

2 Select the input to reset the settings.

Extended life settings
Reset current input
Reset all inputs

① select
② set
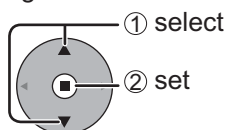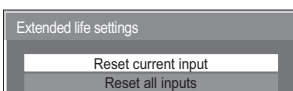
Reduces power consumption

- Power save: When this function is turned On, luminous level of the Plasma Display is suppressed, so power consumption is reduced.
- Standby save: When this function is turned On, power consumption of the microcomputer is reduced during power supply standby (see page 12, 15, 16), so standby power of the set is reduced.
- 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 invalid during input from PC Input Terminal Board (TY-42TM6P).
  - This function is effective when "Sync" is set to "Auto", "Component / RGB-in select" is set to "RGB" and during normal viewing (one picture screen).
- Auto power off: Equipment power supply is turned Off when there is no signal.

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

  Note:
  This function is effective during normal viewing (one picture screen) for input signals except PC IN terminal.

1 Press to select
"Power save"
"Standby save"
"Power management"
"Auto power off".

Setup	1/2
Signal	
Screensaver	
Extended life settings	
Component/RGB-in select	RGB
Input label	PC
Power save	◄ Off ►
Standby save	◄ Off ►
Power management	◄ Off ►
Auto power off	◄ Off ►
OSD Language	English (UK)

2 Press to select "On" or "Off".

On ⟷ Off

3 SET UP

Press to exit from Setup.

Customizing the Input labels

This function can change the label of the Input signal to be displayed.
Select the input signal which you would like to change its label before customizing the Input labels. (see page 14, 16)

Press to select Input label.

Press to change the Input label.
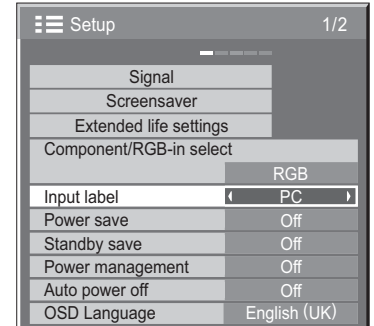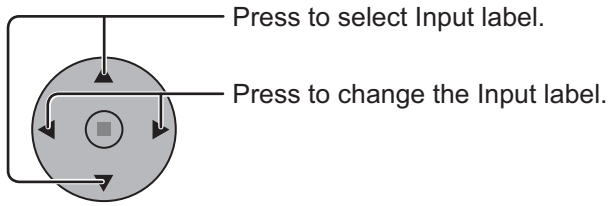
Note:
While selecting an Input signal through Optional Terminal Board connected to Slot1,
Slot2 and Slot3, the Input label will depend on each Optional Terminal Board.

Input labels for SLOT1, 2, 3 and PC IN:
    [SLOT1] INPUT1 / DVD1 / DVD2 / DVD3 / Blu-ray1 / Blu-ray2 / Blu-ray3 / CATV / VCR / STB
    [SLOT2] INPUT2 / DVD1 / DVD2 / DVD3 / Blu-ray1 / Blu-ray2 / Blu-ray3 / CATV / VCR / STB
    [SLOT3] INPUT3 / DVD1 / DVD2 / DVD3 / Blu-ray1 / Blu-ray2 / Blu-ray3 / CATV / VCR / STB
    [PC IN]   PC / DVD1 / DVD2 / DVD3 / Blu-ray1 / Blu-ray2 / Blu-ray3 / CATV / VCR / STB
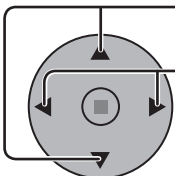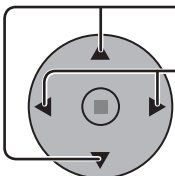
When BNC Dual Video Terminal Board (TY-FB9BD) is used, an "A" or "B" is added at the end of each input label, depending on the input selected (see below).

Addition sign	"A"	"B"
Selected Input	Composite	S VIDEO

Selecting the On-Screen Menu Language

1 SET UP — Press to display the Setup menu.

2 Press to select the OSD Language.

Press to select your preferred language.
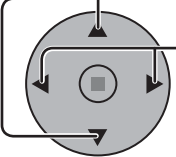
■ Selectable languages

English(UK)
Deutsch
Français
Italiano
Español
ENGLISH(US)
中文.......(Chinese)
日本語.......(Japanese)
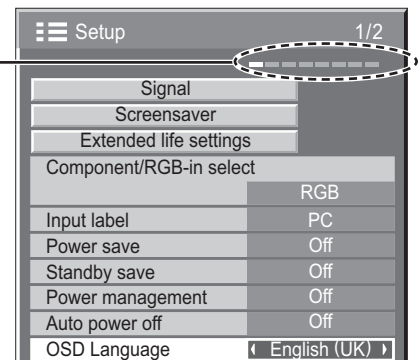
Display orientation

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

1 SET UP
⊟ ——————— Press to display the Setup menu.

2 ——————— Press to select Display orientation.

Press to select "Landscape" or "Portrait".

3 SET UP
⊟ ——————— Press to exit from adjust mode

Setup	2/2
MULTI DISPLAY Setup	
MULTI PIP Setup	
Portrait Setup	
Set up TIMER	
PRESENT TIME Setup	
Network Setup	
Display orientation	◄ Landscape ►
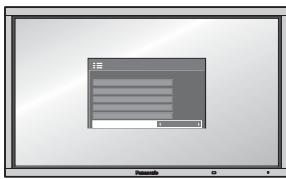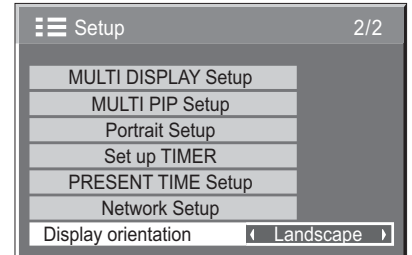
Landscape

Fan control for horizontal installation.

Portrait

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

Notes:
• If the display is installed vertically, the power switch should be located at the bottom.
• Fan control will be switched when turning on the unit next time.

Setup for MULTI DISPLAY

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

(Example)

group of 4 (2 × 2) group of 9 (3 × 3) group of 16 (4 × 4) group of 25 (5 × 5)
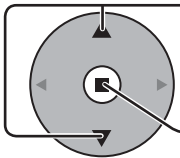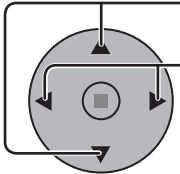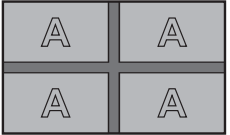
How to Setup MULTI DISPLAY

1 SET UP — Press to display the Setup menu.

Setup	2/2
MULTI DISPLAY Setup	
MULTI PIP Setup	
Portrait Setup	
Set up TIMER	
PRESENT TIME Setup	
Network Setup	
Display orientation	Landscape

2 Press to select the MULTI DISPLAY Setup.

Press to display the "MULTI DISPLAY Setup" menu.

MULTI DISPLAY Setup	
MULTI DISPLAY Setup	◄ Off ►
Horizontal Scale	◄ × 2 ►
Vertical Scale	◄ × 2 ►
Seam hides video	◄ Off ►
Location	◄ A1 ►
AI-synchronization	◄ Off ►

3 Press to select the MULTI DISPLAY Setup.

Press to select "On" or "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	Select "On" or "Off". To hide joints between displays. / To show joints between displays. Suitable for moving image display. / Suitable for still image display. On / Off
Location	Select the required arrangement number. (A1-E5 : Refer to the following) **Display Number locations for each arrangement.** (Examples) (2 × 1) (2 × 3) (4 × 2) (4 × 4) (5 × 5)

(2 × 1)

A1	A2

(2 × 3)

A1	A2
B1	B2
C1	C2

(4 × 2)

A1	A2	A3	A4
B1	B2	B3	B4

(4 × 4)

A1	A2	A3	A4
B1	B2	B3	B4
C1	C2	C3	C4
D1	D2	D3	D4

(5 × 5)

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		
AI-Synchronization	Select "Off" or "On".	The brightness depends on each display's setting.	Equalize the brightness of all the displays.
		Off	On
	Note: If you set AI-synchronization to On, the following menus will be unavailable and these settings will be fixed to the initial values. Picture menu: Colour, Hue, Input level (Advanced settings)		

4 SET UP ⊞ ——— Press to exit from Setup.

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.

1 Switch NORMAL 〓 ID to NORMAL 〓 ID on the right side.

2 Press the C button on the remote control.

3 Press one of 1 - 9 , 0 for the tens digit setting.

4 Press one of 1 - 9 , 0 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
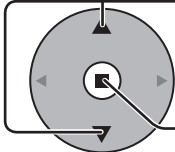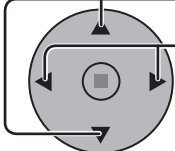
Press -/-- button on remote control. (This has the same effect as pressing the C , 0 , 0 buttons at the same time.)

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).

MULTI PIP Setup

Set the two-screen display function that is activated when $\overset{\text{MULTI PIP}}{\bigcirc}$ is pressed.
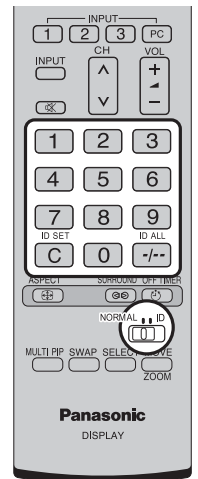
1 SET UP
  ▤≡ — Press to display the Setup menu.

2 Press to select the MULTI PIP Setup.

  Press to display the "MULTI PIP Setup" menu.

3 Press to select the menu to adjust.

  Press to adjust the menu.

Setup	2/2
MULTI DISPLAY Setup	
MULTI PIP Setup	
Portrait Setup	
Set up TIMER	

MULTI PIP Setup	
MULTI PIP	◄ PIP ►
Display Mode	◄ — ►
Transparency	◄ Off ►
Transparency level	◄ 0% ►
Insert	◄ Off ►
Insert level	◄ 1 ►
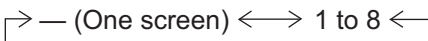
MULTI PIP

Set the two-screen function.

PIP ⟷ Advanced PIP
⟶ Blend PIP ⟵
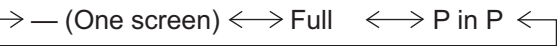
Display Mode

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

For "PIP": — (One screen) ⟷ P and P ⟷ P out P ⟷ P in P

For "Advanced PIP": — (One screen) ⟷ 1 to 8

For "Blend PIP": — (One screen) ⟷ Full ⟷ P in P

Note: The display mode changes in the same way when $\overset{\text{MULTI PIP}}{\bigcirc}$ is pressed.

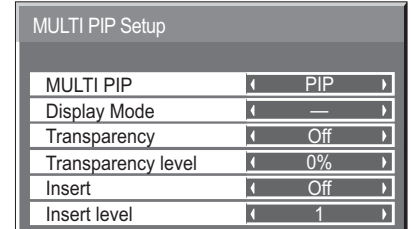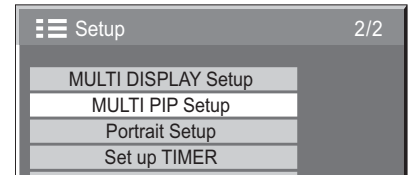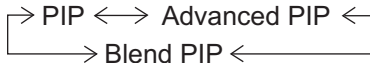## Transparent Display of the Sub Screen (During Blend PIP)

① Select "On" in "Transparency".
② Set the transparency level for the sub screen in "Transparency level". (0 to 100 %)
  Setting example Transparent image (sub screen)

A B C D   A B C D   A B C D

0 %: No transparency ⟶ 100 %: Fully transparent

Note: "Insert" cannot be set when "Transparency" is "On".

Sub Screen Insertion (During BLEND PIP)

① Select "On" in "Insert".
② Set the "Insert level". (1 to 10 %)
  Set the brightness level threshold for discriminating between the transparent areas and non-transparent areas on the sub screen.
  Setting example Image to insert (sub screen)

Panasonic Display

Now on sale!

Panasonic Display

Now on sale!

Background image (main screen)

Insert level
10 %

1 %

Only the areas on the overlay image that are brighter than the "Insert level" are displayed on the background image.

Two-picture Insertion

Panasonic Display

Now on sale!
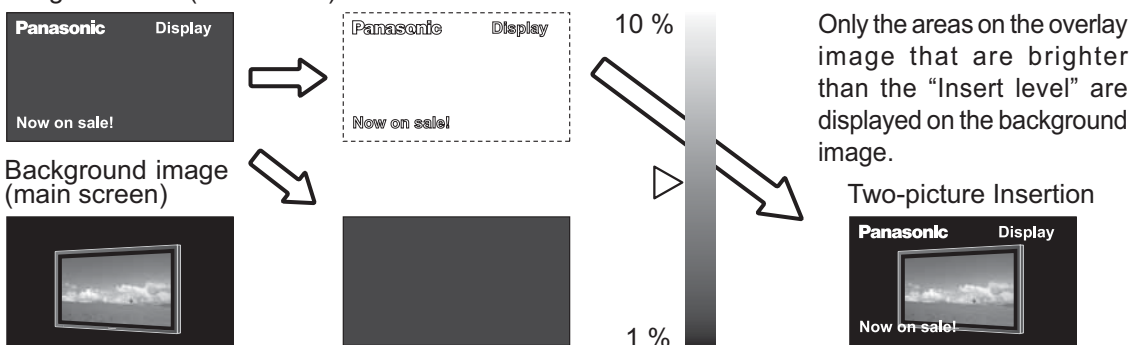
Note: "Transparency" cannot be set when "Insert" is "On".

Set up for Portrait

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

(Example)

Note:
When using the Portrait function with displays set vertically, "Display orientation" in Setup menu has to be set to "Portrait" (see page 42).

How to setup Portrait

1
SET UP

Press to display the Setup menu.

2
Press to select the Portrait Setup.

Press to display the "Portrait Setup" menu.

Setup	2/2
MULTI DISPLAY Setup	
MULTI PIP Setup	
Portrait Setup	
Set up TIMER	
PRESENT TIME Setup	
Network Setup	
Display orientation	Landscape

3
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
AI-synchronization	Off

4
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
AI-synchronization	Off

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

5   Viewing Area / Location

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

Press to select Viewing Area or Location.

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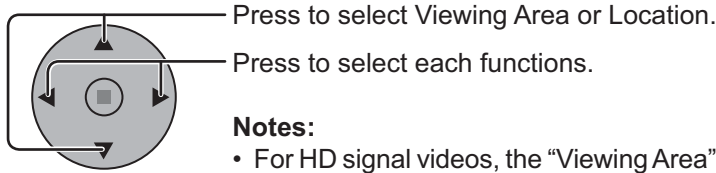
Notes:
- For HD signal videos, the "Viewing Area" is set at "16:9", and cannot be changed.
  HD signal: 1125(1080) / 60i • 50i • 60p • 50p • 24p • 25p
        • 30p • 24sF, 750(720) / 60p • 50p, 1250(1080) / 50i
- When "Viewing Area" is "16:9", the aspect mode is set to "16:9".

Portrait Setup	
Portrait Setup	Off
Seam hides video	Off
Viewing Area	◀ 16 : 9 ▶
Location	◀ 1 ▶
AI-synchronization	Off

Location setting

When Portrait Setup is "On":
Display the image of the selected location.

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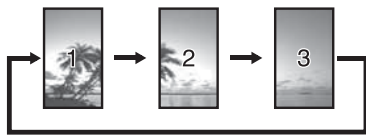Represent an area of the selected Location at a normal brightness and darken the rest of it.

Viewing Area and Location

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

Viewing Area : 16:9
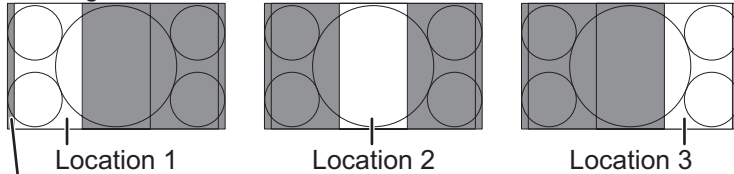
Location 1   Location 2   Location 3
Undisplayed area (48 dots)
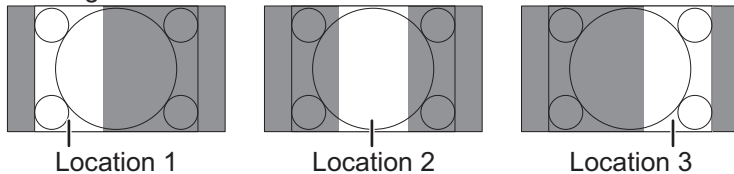
Suitable to display 16:9 images. 4:3 images extend transversely.
Both right and left sides of the image are cut by 48 dots.

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 23)

6   AI-synchronization

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

Press to select AI-synchronization.

Press to select "Off" , "On".

The brightness depends on each display's setting.	Equalize the brightness of all the displays.
Off	On

Portrait Setup	
Portrait Setup	Off
Seam hides video	Off
Viewing Area	16 : 9
Location	1
AI-synchronization	◀ Off ▶

Note:
If you set AI-synchronization to On, the following menus will be unavailable and these settings will be fixed to the initial values.
Picture menu: Colour, Hue, Input level (Advanced settings)

7   SET UP

Press to exit from adjust mode.

Setup for Input Signals
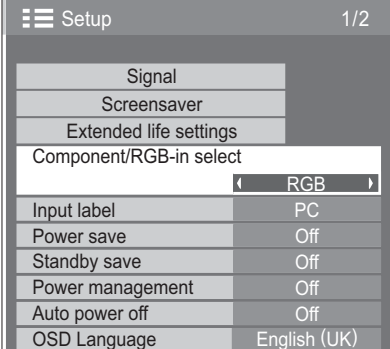
Component / RGB-in select

Select to match the signals from the source connected to the Component / RGB input terminals.
Y, P_B, P_R signals ⇨ "Component"
RGB signals ⇨ "RGB"

1 SET UP ⸬ ———— Press to display the Setup menu.

2 ———— Press to select the "Component / RGB-in select".

———— Press to select the desired input signal.

Component ⟷ RGB

3 SET UP ⸬ ———— Press to exit from adjust mode.

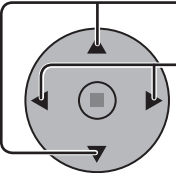| ⸬ Setup	1/2
Signal	
Screensaver	
Extended life settings	
Component/RGB-in select	
◄ RGB ►	
Input label	PC
Power save	Off
Standby save	Off
Power management	Off
Auto power off	Off
OSD Language	English (UK)

Notes:
• Selection may not be possible, depending on which optional board is installed.
• Make setting of the selected input terminal (SLOT1, SLOT2, SLOT3 or PC IN).

YUV / RGB-in select

Select to match the signals from the source connected to the DVI input terminals.
YUV signals ⇨ "YUV"
RGB signals ⇨ "RGB"

1 SET UP ⸬ ———— Press to display the Setup menu.

2 ———— Press to select the "YUV / RGB-in select".

———— Press to select the desired mode.

YUV ⟷ RGB

3 SET UP ⸬ ———— Press to exit from adjust mode.

⸬ Setup	1/2
Signal	
Screensaver	
Extended life settings	
YUV/RGB-in select	
◄ RGB ►	
Input label	PC
Power save	Off
Standby save	Off
Power management	Off
Auto power off	Off
OSD Language	English (UK)
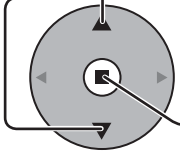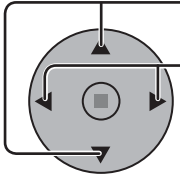
Notes:
• Selection may not be possible, depending on which optional board is installed.
• Make setting of the selected input terminal (SLOT1 or SLOT2).

Signal menu

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

1 SET UP

Press to display the Setup menu.

2

Press to select the "Signal".

Press to display the Signal menu.

3

Press to select the menu to adjust.

Press to adjust the menu.
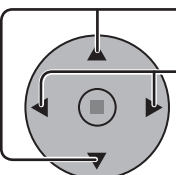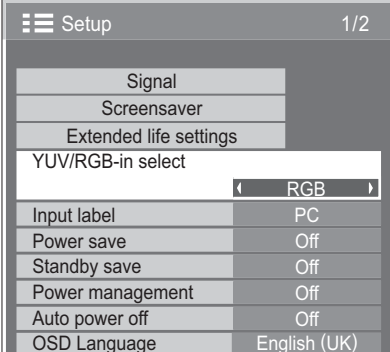
4 SET UP

Press to exit from adjust mode.

Setup	1/2
Signal	
Screensaver	
Extended life settings	
Component/RGB-in select	
	RGB
Input label	PC
Power save	Off
Standby save	Off
Power management	Off
Auto power off	Off
OSD Language	English (UK)
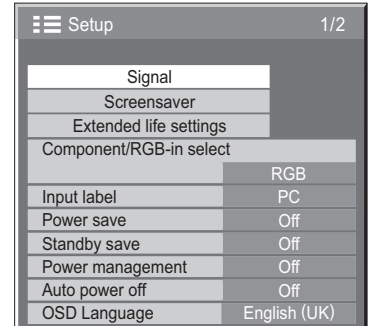
⇩ Press ACTION (■) button

For Video (S VIDEO)

Signal	[AV]
3D Y/C Filter (NTSC)	◄ On ►
Colour system	Auto
Cinema reality	Off
Panasonic Auto (4:3)	4:3
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	1280×1024/60

For Component

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

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	1280×1024/60

3D Y/C Filter – For NTSC AV images

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

Press to select the "3D Y/C Filter (NTSC)"

Press to set On / Off.

3D Y/C Filter (NTSC)	◄ On ►

Note:
When On, this setting only affects NTSC input signals.

Colour system / Panasonic Auto

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

Press to select the "Colour system" or
"Panasonic Auto (4:3)".
Press to select each functions.
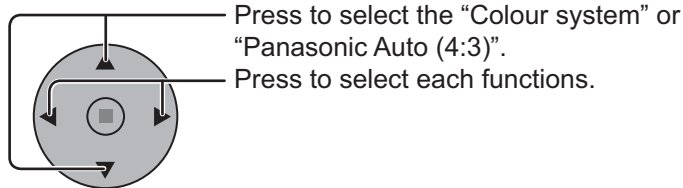
Signal	[AV]
3D Y/C Filter (NTSC)	On
Colour system	◀ Auto ▶
Cinema reality	Off
Panasonic Auto (4 : 3)	◀ 4 : 3 ▶
Noise reduction	Off

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.

Mode	Function
Colour system	Set the colour system to match the input signal. When selecting "Auto", the Colour system is automatically selected from NTSC/PAL/SECAM, however, M.NTSC signal is not displayed properly depending on the attached terminal board. To display M.NTSC signal, select "M.NTSC" in Colour system. To display PAL60 signal, select "PAL" when BNC Dual Video Terminal Board (TY-FB9BD) is used. For other Video Terminal Boards, select "M.NTSC". → Auto ←→ PAL ←→ SECAM ←→ M.NTSC ←→ NTSC ←
Panasonic Auto (4 : 3)	Set to "4 : 3" to view 4:3 images in an unchanged format when Panasonic Auto is selected. If you would like to view 4:3 images in Just format, set to "Just".

Note:
Panasonic Auto does not function when BNC Dual Video Terminal Board (TY-FB9BD) is used.

Cinema reality

Cinema reality:
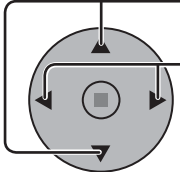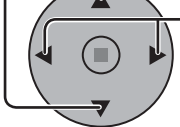When on, the display attempts to reproduce a more natural interpretation of sources such as movie pictures, which are recorded at 24 frames per second. If the picture is not stable, turn the setting to off.
Note:
When On, this setting only affects the following signal input:
• NTSC / PAL signal input during "AV (S Video)" input signal.
• 525i (480i), 625i (575i), 1125 (1080) / 60i signal input during "Component" input signal.

Press to select Cinema reality.
Press to set On / Off.
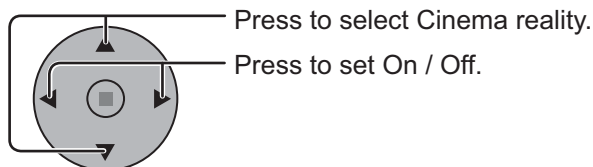
Cinema reality	◀ Off ▶

XGA Mode

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

Press to select "XGA Mode".

XGA Mode	◀ Auto ▶
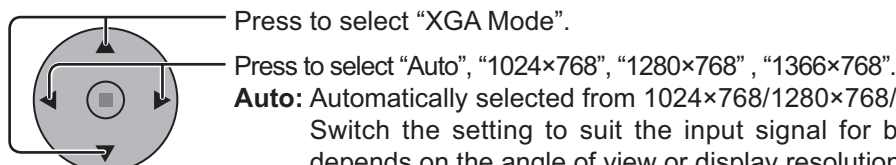
Press to select "Auto", "1024×768", "1280×768" , "1366×768".
Auto: Automatically selected from 1024×768/1280×768/1366×768.
Switch the setting to suit the input signal for better display depends on the angle of view or display resolution condition.

Note:
After making this setting, be sure to make each adjustment (such as "Auto Setup") on the "Pos. /Size" menu as necessary. (see page 23)

Noise reduction

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

Press to select "Noise reduction".

Press to select "Off", "Min" , "Mid" , "Max" , "Advanced".

| Noise reduction | ◄ Off ► |
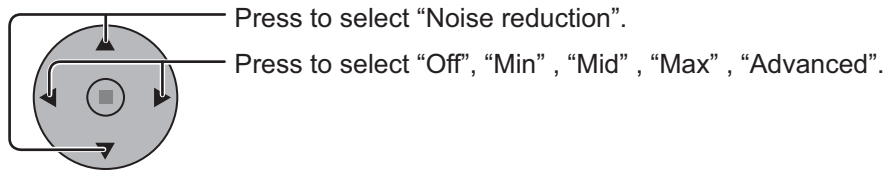
Advanced NR

Sets the three NR functions separately.

1

Press to select "Advanced".

Press to enter Advanced NR.

| Noise reduction | ◄ Advanced ► |

▼

Advanced NR	[AV]
P-NR	◄ Off ►
Mosquito NR	◄ Off ►
Block NR	◄ Off ►

Advanced NR	[RGB]
P-NR	◄ Off ►
Mosquito NR	◄ Off ►
Block NR	◄ Off ►

2

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

Advanced NR	[Component]
P-NR	◄ Off ►
Mosquito NR	◄ Off ►
Block NR	◄ Off ►

Advanced NR	[Digital]
P-NR	◄ Off ►
Mosquito NR	◄ Off ►
Block NR	◄ Off ►

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

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

Sync

Select Signal from the "Setup" menu during RGB input signal.

Press to select the "Sync".

Press to adjust.

Signal	[RGB]
Sync	◄ Auto ►
Cinema reality	Off
XGA Mode	Auto
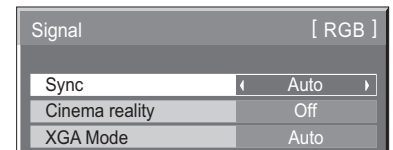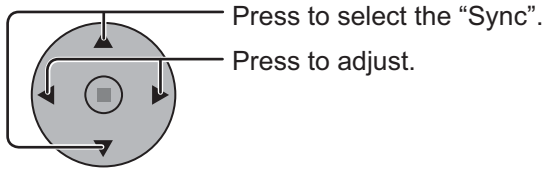
Setting RGB sync signal:

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 are automatically selected. If both input, it is selected the H and V sync.

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

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

Sync	◄ Auto ►

⇕

Sync	◄ on G ►

⇕

Sync	◄ VBS ►
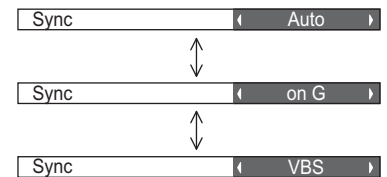
SDI Through

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

Press to select the "SDI Through".

Press to select "On" or "Off".

On: Enables active through.
Off: Disables active through.

Signal	[Digital]
Cinema reality	Off
SDI Through	◄ Off ►
Noise reduction	Off
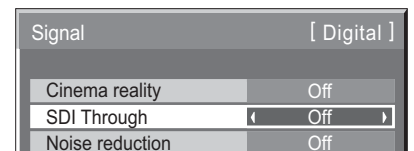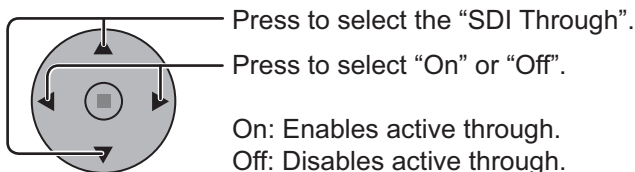
Input signal display

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

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

The dot clock frequency is displayed during digital signal input.

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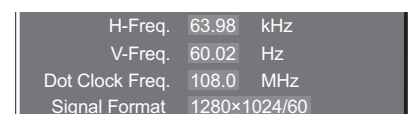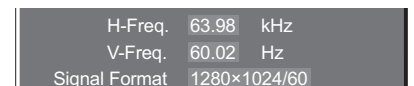
Network Setup

Make the various settings to use the network function.

Setup	2/2
MULTI DISPLAY Setup	
MULTI PIP Setup	
Portrait Setup	
Set up TIMER	
PRESENT TIME Setup	
Network Setup	
Display orientation	Landscape

Network Setup	
Save	
DHCP	◀ Off ▶
IP address	192.168. 0. 8
Subnet mask	255.255.255. 0
Gateway	192.168. 0. 1
Port	1024
LAN Speed	Auto
Network ID	0
Control I/F Select	RS-232C
MAC address	--:--:--:--:--:--
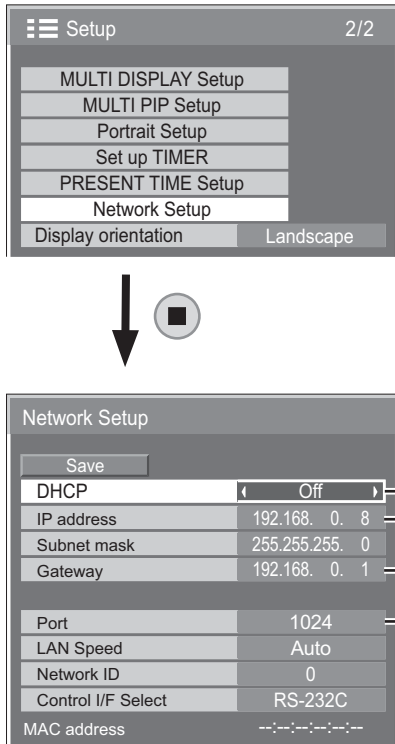
DHCP, IP address, Subnet mask, and Gateway settings

1 Set DHCP.
When "Off" is selected, IP address and other settings can be set manually.

2 Select the item and press ■.

3 Enter an address.

IP address
192.168. 0. 8
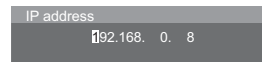
① Use ◀▶ to select a digit.
② Use ▲▼ to change a number.
③ Press ■.

Pressing ◯ R will cancel the address change.

4 Select "Save" and press ■.

Port setting

1 Select "Port" and press ■.

2 Enter a port number.
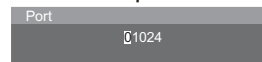
Port
1024

① Use ◀▶ to select a digit.
② Use ▲▼ to change a number.
③ Press ■.

Pressing ◯ R will cancel the port number change.

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

DHCP (DHCP client function)
To obtain an IP address automatically using a DHCP server, set this to "On". If DHCP server is not used, set this to "Off".

IP address (IP address display and setting)
Enter an IP address if DHCP server is not used.

Subnet mask (Subnet mask display and setting)
Enter a subnet mask if DHCP server is not used.

Gateway (Gateway address display and setting)
Enter a gateway address if DHCP server is not used.

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

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

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

Control I/F Select
Set whether to control with RS-232C (serial) or LAN. When "LAN" is set, the slot power is turned on, and power indicator is lit orange under the condition of power "Off" with remote control (stand-by state), regardless of the "Slot power" setting. (see page 56)

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

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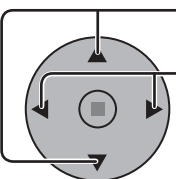
Options Adjustments

1 SET UP ▤ ——— Press to display the Setup menu.

2 ——— Press to select "OSD Language".

——— Press for more than 3 seconds.

3 ——— Press to select "Options".

Options
Shipping

——— Press to display the Options menu.
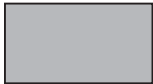
4 ——— Press to select your preferred menu.

——— Press to adjust the menu.

5 SET UP ▤ ——— Press to exit from Options menu.

Options	1/3
Weekly Command Timer	
Memory lock	
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	Enable
Initial Power Mode	Normal
ID select	0
Remote ID	Off
Serial ID	Off
Display size	Off
Studio W/B	Off
Studio Gain	Off

Options	3/3
Slot power	Off
Power On Screen Delay	Off
Clock Display	Off
All Aspect	Off
Auto Setup	Manual
Rotate	Off
Serial Slot Select	Slot1

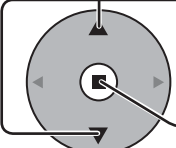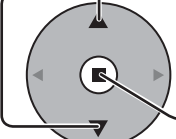| Item	Adjustments
Weekly Command Timer	Sets Weekly Command Timer. (see page 57)
Memory lock	Locks or unlocks saved profiles. Also for setting passwords. (see page 31)
Onscreen display	**On:** Displays all the following on screen. • Power on display • Input signal switch display • No signal display • Mute and the remaining time of off-timer after ⊖ was pressed. **Off:** Hides all the items above from view.
Initial INPUT	**Off** ⟷ **PC** ⟷ **INPUT1** ⟷ **INPUT2** ⟷ **INPUT3** Adjusts the input signal when the unit is turned on. **Notes:** • Only the adjusted signal is displayed. (see page 14) • Signal can be displayed when the Terminal board is installed. • This menu is available only when "INPUT lock" is "Off". • When a dual input terminal board is attached, A or B is displayed depending on the selected input signal. (Ex. INPUT1A, INPUT1B)
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:** • 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:** • 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	**Off ⟷ PC ⟷ INPUT1 ⟷ INPUT2 ⟷ INPUT3** Locks the input switch operation. **Notes:** • Only the adjusted signal is displayed (see page 14). • Signal can be displayed when the Terminal board is installed. • Input switch can be used when this is set to "Off". • In two screen display mode, if anything other than "Off" is set, the value will be fixed as the value input in the single screen display mode. • When a dual input terminal board is attached, A or B is displayed depending on the selected input signal. (Ex. INPUT1A, INPUT1B)
Button lock	**Off ⟷ MENU&ENTER ⟷ On** **Off:** All the buttons at the right side of the main unit can be used. **MENU&ENTER:** Locks ☐ MENU and ☐ ENTER/■ buttons on right side of main unit. **On:** Locks all the button on right side of main unit. Sets Button lock with the unit buttons in the following procedure. **Off:** Press ☐ +/▲ four times→Press ☐ INPUT four times→Press ☐ −/▼ four times→Press ☐ ENTER/■ **MENU&ENTER:** Press ☐ ENTER/■ four times→Press ☐ +/▲ four times→Press ☐ INPUT four times→Press ☐ ENTER/■ **On:** Press ☐ −/▼ four times→Press ☐ ENTER/■ four times→Press ☐ +/▲ four times→Press ☐ ENTER/■
Remocon User level	**Off ⟷ User1 ⟷ User2 ⟷ User3** **Off:** You can use all of the buttons on the remote control. **User1:** You can only use (ON), OFF, INPUT, INPUT 1 2 3 PC, SURROUND ⊙ ⊙⊙, ⊠, VOL +/− buttons on the remote control. **User2:** You can only use (ON), OFF, buttons on the remote control. **User3:** Locks all the buttons on remote control.
Off-timer function	**Enable:** Enables the "Off-timer function". **Disable:** Disables the "Off-timer function". **Note:** When "Disable" is set, the Off-timer is cancelled.
Initial Power Mode	**Normal ⟷ Standby ⟷ On** Sets the power mode of the unit for when the power recovers from failure or after plugging off and in again. **Normal:** Power returns in as the same state as before the power interruption. **Standby:** Power returns in standby mode. (Power Indicator : red/orange) **On:** Power returns in power On. (Power Indicator : green) **Note:** When using multiple displays, "Standby" is preferred to be set in order to reduce a power load.
ID select	Sets panel ID number when panel is used in "Remote ID" or "Serial ID". Set value range: 0 - 100 (Standard value: 0)
Remote ID	The setting of this menu is valid only when using ID remote control. **Off:** Disables ID remote control functions. You can use normal remote control operations. **On:** Enable ID remote control functions. **Note:** To use the ID remote control function, it is necessary to set each ID number of remote control and display unit. About the setting method, please refer to "ID Remote Control Function" (see page 44) and "ID select" (above-mentioned).
Serial ID	Sets the panel ID Control. **Off:** Disables external control by the ID. **On:** Enables the external control by the ID.

Display size	Adjusts the image display size on screen.
	Off: Sets the normal image display size on screen.
	On: Sets the image display size approximately 95 % of the normal image display.
	    Off **On**
	Notes:
	• This setting is valid only when the input signals are as follows;
	  NTSC, PAL, SECAM, M.NTSC, PAL60, PAL-M, PAL-N (BNC Dual Video Terminal Board (TY-FB9BD)) 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 two screen display, digital zoom, Multi display or Portrait display is selected.
	• When "Display size" is set to "On", "H-Pos" and "V-Pos" in "Pos. /Size" can be adjusted.
	• Refer to each board's operating instruction for DVI, SDI, HDMI's corresponding signals.

Options Adjustments

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** ⟷ **Auto** ⟷ **On** **Off:**　Power is not transmitted to the slot power. **Auto:** Power is transmitted to the slot power only when main power is on. **On:**　Power is transmitted to the slot power when main power is on or in the standby state. **Note:** In some cases, power is transmitted to the slot power when main power is on or in the standby state regardless of the slot power setting.
Power On Screen Delay	**Off** ⟷ **1** ⟷ **2** ⟷ **3....** ⟷ **30** You can set the power-on delay time of the displays to reduce the power load, when you press ⏻/| 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 ⏻/| is pressed. **1 to 30 (sec.):** Set the power-on delay time (second). 　　　　After pressing ⏻/|, the display will be powered on with time delay depending on this setting. **Notes:** • During this function is working, the power indicator is blinking green. • This function also works when the power recovers from failure or after plugging off and in again the power cord. 　After you unplug and plug the power cord in while the unit is in standby mode and also the power is being supplied to a terminal board, the unit will start supplying the power to the board with time delay according to the setting. 　The power indicator lights up red first and it turns orange when the power starts being supplied to the board.
Clock Display	**Off:** Not display the clock. **On:** Display the clock. The clock is displayed at the lower left of the screen when ⌷ button is pressed. 10:00　　　　**Note:** When "PRESENT TIME Setup" is not set, the clock is not displayed even if "Clock Display" is "On". (see page 34)
All Aspect	Sets All Aspect mode (advanced aspect setting) or default aspect mode. With each press of ASPECT button, the aspect changes in the selected mode. **Off:** Default aspect mode **On:** All Aspect mode Aspect mode of each setting is as follows: (Example: HD signal) **Off** 4:3→4:3 Full→Zoom1→Zoom2→Zoom3→16:9→14:9→Just **On** 4:3 (1)→4:3 (2)→4:3 Full→Zoom1→Zoom2→Zoom3→16:9→14:9→Just1→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 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.
Serial Slot Select	**Slot1** ⟷ **Slot2** ⟷ **Slot3** Selects the slot which communicates serial. **Note:** The setting of an external command can be set only from the fixed serial terminal. (see page 10)

Normalization

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

Press the ▢ –/▼ button on main unit together with ◯ R button on the remote control and hold for more than 5 seconds.

The "Shipping" menu is displayed and the lock is released when it disappears.
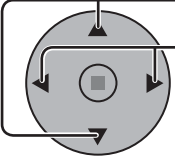
Weekly Command Timer

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

Note:
Before setting Weekly Command Timer, set PRESENT TIME Setup. (see page 34)

1 Press to select Function.
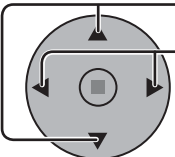
Press to select "On".

Note:
• When Function is set to On, Set up TIMER (see page 34) is unavailable and Interval / Time Designation in Mode of Screensaver (see page 35) cannot be selected.

Options	1/3
Weekly Command Timer	
Memory lock	
Onscreen display	On

⇩ Press ACTION (■) button

Weekly Command Timer	
Function	◄ On
Monday	◄ Program1 ►
Tuesday	Program3
Wednesday	---
Thursday	Program3
Friday	---
Saturday	Program6
Sunday	Program4
Program Edit	
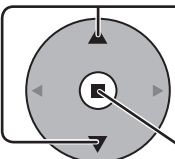
2 Press to select a day.

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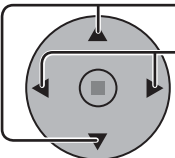
Note:
• You can set the program from 1 to 7.
  --- indicates unset.

Program number

Thursday	Program3
Friday	---
Saturday	Program6
Sunday	Program4
Program Edit	
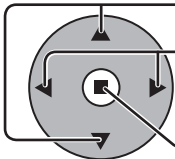
3 Press to select Program Edit.

Press to show the Program Edit screen.

Program Edit screen

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	--:-- ---

4 Press to select Program.

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

5 Press to select a command number.

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

Press to show the command setting screen.

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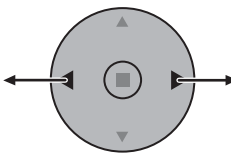
Weekly Command Timer	8/8
Program	1
57	20:00 AVL:00
58	20:30 DAM:NORM
59	22:00 POF
60	--:-- ---
61	--:-- ---
62	--:-- ---
63	--:-- ---
64	--:-- ---

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

6

Press to select Command No.

Press to select a command number.

Command setting screen

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

7

Press to select Time / Command.

Press to set each item.

Time: Set the time to execute a command program.

Pressing "◀" or "▶" button once changes "Time" 1 minute.

Pressing "◀" or "▶" button continuously changes "Time" by 15 minutes.

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

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 N○, Time becomes --:-- and Command becomes ---.

Note:
Press R○ to return to the previous screen.

Shipping condition

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

1

SET UP

Press to display the Setup menu.

2

Press to select "OSD Language".

Press for more than 3 seconds.

Setup	1/2
Signal	
Screensaver	
Extended life settings	
Component/RGB-in select	
	RGB
Input label	PC
Power save	Off
Standby save	Off
Power management	Off
Auto power off	Off
OSD Language	◀ English (UK) ▶

3

Press to select "Shipping".

Press to display the Shipping menu.

Options
Shipping

4

Press to select "YES".

Press to confirm.

Shipping	
YES	NO

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

Using Network Function

This unit has a network function to control the network connected display with your computer.
Note:
To use the network function, set each "Network Setup" setting and make sure to set the "Control I/F Select" to "LAN".
(see page 53)
When "LAN" is set, the slot power is turned on, and power indicator is lit orange under the condition of power "Off" with remote control (stand-by state), regardless of the "Slot power" setting. (see page 56)

Example of Network Connection

COMPUTER

Display (main unit, rear)

Less than 10 cm

LAN cable (not supplied)

Ferrite core (supplied)

Ferrite core (supplied)

Noise cut filter (supplied)

AUDIO   Pᴿ/Cᴿ/R   Pᵦ/Cᵦ/B   Y/G

LAN   COMPONENT/RGB IN
SLOT3

Less than 10 cm

Hub or broadband router

Installing the Ferrite core

① Pull back the tabs (in two places)

② Wind the cable twice — Open

③ Press the cable through and close
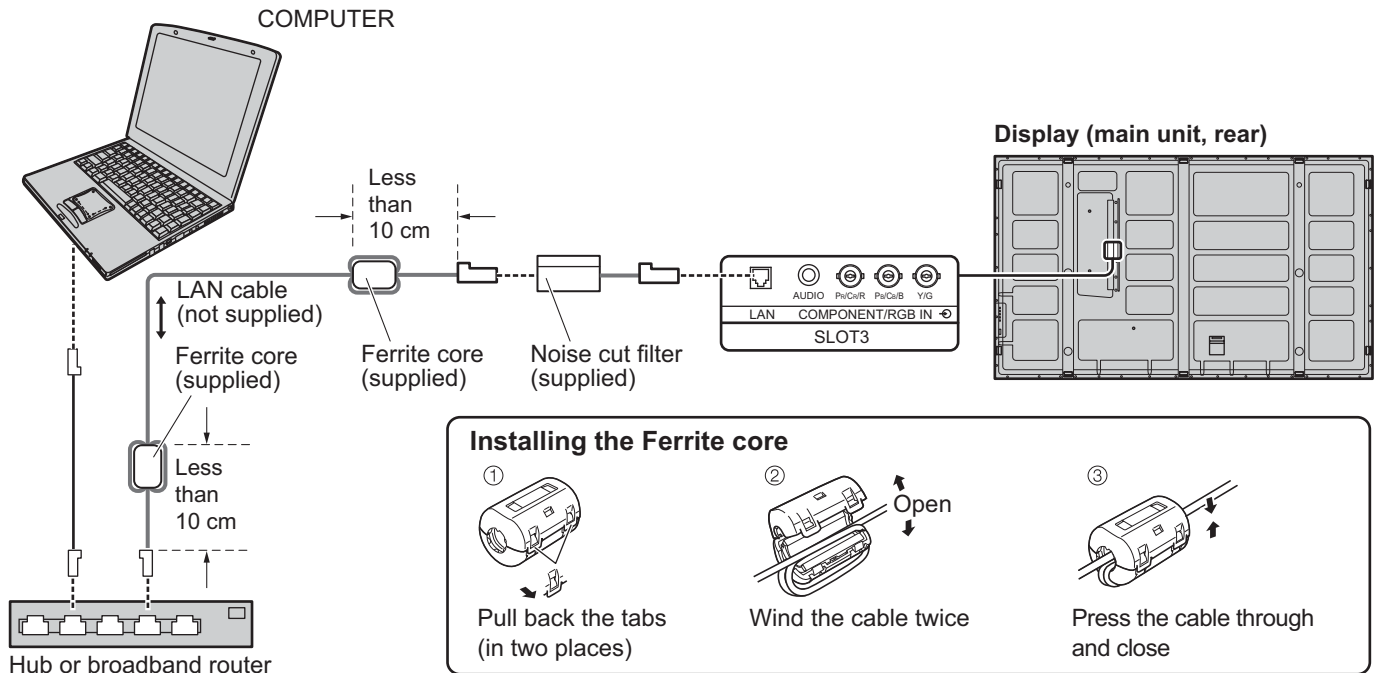
Notes:
• Lay the LAN cable away from other connection cables (excluding the power cord).
• Make sure the broadband router or hub supports 10BASE-T/100BASE-TX.
• To connect a device using 100BASE-TX, use "category 5" LAN cable.
• Touching the LAN terminal with a statically charged hand (body) may cause damage due to its discharge.
  Do not touch the LAN terminal or a metal part of the LAN cable.
• For instructions on how to connect, consult your network administrator.

Securing the LAN cable
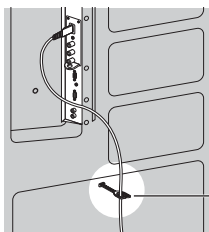
When using a pedestal (TY-ST85P12) for the installation of the display, use a clamper supplied with the display to secure the LAN cable. For use with another method of installation, refer to the corresponding Installation Instructions.

Clamper
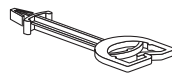
Note: In accordance with the Installation Instructions, secure the LAN cable so that it will not become near the display unit.

Command Control

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

Supported commands
Commands used in the serial control are supported. (see page 10)

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

PJLink™ Protocol

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

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

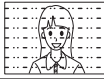| Command	Control	Remark
POWR	Power control	Parameter 0 = Standby 1 = Power "On"
POWR?	Power status query	Parameter 0 = Standby 1 = Power "On"
INPT	Input switch	Parameter
INPT?	Input switch query	First byte: 1 (RGB) fixed Second byte: Input position (from 1)
AVMT	Shutter control	Parameter 10 = Picture On (picture mute deactivated), 11 = Picture Off (picture on mute) 20 = Audio On (audio mute deactivated), 21 = Audio Off (audio on mute) 30 = Shutter mode Off (picture and audio mute deactivated) 31 = Shutter mode On (picture and audio on mute)
AVMT?	Shutter control query	Parameter 11 = Picture Off (picture on mute) 21 = Audio Off (audio on mute) 30 = Shutter mode Off (picture and audio mute deactivated) 31 = Shutter mode On (picture and audio on mute)
ERST?	Error status query	Parameter First byte: Means fan error. 0 or 2. Second byte: 0 Third byte: 0 Fourth byte: 0 Fifth byte: 0 Sixth byte: Means other error. 0 or 2. Meaning of the 0 – 2 settings: 0 = Error is not detected, 2 = Error
LAMP?	Lamp status query	Not supported
INST?	Input switch list query	Parameter 11: Computer input 12 - 16: Slot 1 input (INPUT1A) Slot 1 input (INPUT1B) Slot 2 input (INPUT2A) Slot 2 input (INPUT2B) Slot 3 input (INPUT3) Numbers greater than 12 are depending on the slot installation condition
NAME?	Projector name query	Returns empty character (no name information)
INF1?	Manufacturer name query	Returns "Panasonic"
INF2?	Model name query	Returns "TH-85PF12" (for 85-inch model)
INFO?	Other information query	Returns version number
CLSS?	Class information query	Returns "1"

PJLink™ security authentication
Set "Panasonic" for the PJLink™ password.

• PJLink™ is a pending trademark in Japan, the United States, and other countries or areas.

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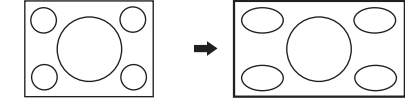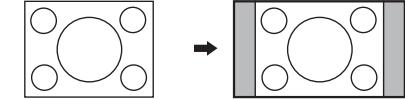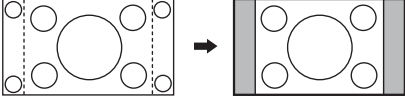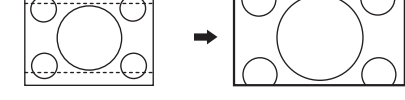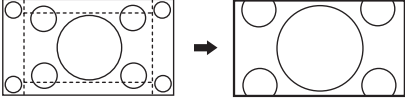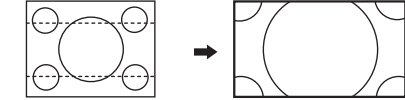
Before you call for service, determine the symptoms and make a few simple checks as shown below.

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.)
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 26, 27) Colour system (see page 50)
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.
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

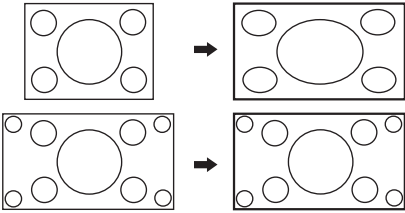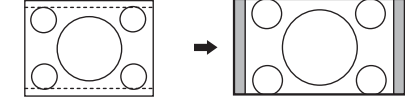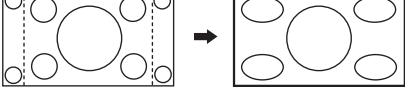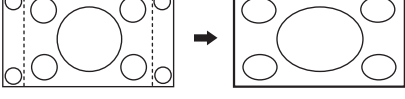| Symptoms	Check
The screen darkens slightly when bright pictures with minimal movements are shown.	The screen will darken slightly when photos, still images of a computer or other pictures with minimal movements are shown for an extended period. This is done to reduce image retention on the screen and 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 or when the images for the main picture and sub picture on the two screens are swapped.
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.
Example 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

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

Command list of Weekly Command Timer

No.	Command	Control details
1	AAC:MENCLR*¹	Audio Menu (Clear)
2	AAC:MENDYN*¹	Audio Menu (Dynamic)
3	AAC:MENSTD*¹	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	ASO:M	Audio out when PIP mode (Main Picture)
9	ASO:S	Audio out when PIP mode (Sub Picture)
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	DAM:SELF	Aspect (Panasonic Auto)
21	DAM:ZOOM	Aspect (Zoom)
22	DWA:OFF	Dual Picture mode (OFF)
23	DWA:OVL1	Advanced PIP mode (1) (see page 18)
24	DWA:OVL2	Advanced PIP mode (2) (see page 18)
25	DWA:OVL3	Advanced PIP mode (3) (see page 18)
26	DWA:OVL4	Advanced PIP mode (4) (see page 18)
27	DWA:OVL5	Advanced PIP mode (5) (see page 18)
28	DWA:OVL6	Advanced PIP mode (6) (see page 18)
29	DWA:OVLOF	Advanced PIP mode (OFF) (normal two screen display mode)
30	DWA:OVLON	Advanced PIP mode (ON)
31	DWA:PIN0	The location of the sub picture (lower right)
32	DWA:PIN1	The location of the sub picture (lower left)
33	DWA:PIN2	The location of the sub picture (upper left)
34	DWA:PIN3	The location of the sub picture (upper right)
35	DWA:PIP	Dual Picture mode (Picture in Picture)
36	DWA:POP	Dual Picture mode (Picture out Picture)
37	DWA:SWP	Swap main picture and sub picture when PIP mode
38	DWA:TWN	Dual Picture mode (Picture and Picture)
39	IMS:PC1	Input select (PC1) (Main Picture when PIP mode)
40	IMS:SL1	Input select (SLOT1) (Main Picture when PIP mode)
41	IMS:SL1A	Input select (SLOT1A) (Main Picture when PIP mode)
42	IMS:SL1B	Input select (SLOT1B) (Main Picture when PIP mode)
43	IMS:SL2	Input select (SLOT2) (Main Picture when PIP mode)
44	IMS:SL2A	Input select (SLOT2A) (Main Picture when PIP mode)
45	IMS:SL2B	Input select (SLOT2B) (Main Picture when PIP mode)
46	IMS:SL3	Input select (SLOT3) (Main Picture when PIP mode)
47	ISS:PC1	Sub Picture Input Select (PC1)
48	ISS:SL1	Sub Picture Input Select (SLOT1)
49	ISS:SL1A	Sub Picture Input Select (SLOT1A)
50	ISS:SL1B	Sub Picture Input Select (SLOT1B)
51	ISS:SL2	Sub Picture Input Select (SLOT2)
52	ISS:SL2A	Sub Picture Input Select (SLOT2A)
53	ISS:SL2B	Sub Picture Input Select (SLOT2B)
54	ISS:SL3	Sub Picture Input Select (SLOT3)
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*²	Picture Mute (OFF)
64	VMT:1*²	Picture Mute (ON)

*1 These commands are unavailable on this model.

*2 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-85PF12E
Power Source	220 - 240 V AC, 50/60 Hz
Power Consumption	
Power on	1,100 W
Stand-by condition	Save off 1.2 W, Save on 0.7 W
Power off condition	0.4 W
Plasma Display panel	Drive method : AC type 85-inch, 16:9 aspect ratio
Screen size	1,889 mm (W) × 1,062 mm (H) × 2,167 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	
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	

DVI-D IN	Video Input DVI-D 24 Pin × 1
	      compliance with DVI Revision 1.0
	      * Refer to page 11 for applicable signals
	Audio Input Stereo mini jack (M3) × 1
	      0.5 Vrms
	Content Protection Compatible with HDCP 1.1

LAN	RJ45 10BASE-T/100BASE-TX, compatible with PJLink™
COMPONENT/RGB IN	Y/G (BNC) with sync 1.0 Vp-p (75 Ω) P_B/B (BNC), P_R/R (BNC) 0.7 Vp-p (75 Ω) Audio Input Stereo mini jack (M3) × 1 0.5 Vrms

PC IN	(HIGH-DENSITY MINI D-SUB 15PIN) Y or G with sync 1.0 Vp-p (75 Ω)
	                       Y or G without sync 0.7 Vp-p (75 Ω)
	B/P_B/C_B: 0.7 Vp-p (75 Ω)
	R/P_R/C_R: 0.7 Vp-p (75 Ω)
	HD/VD: 1.0 - 5.0 Vp-p (high impedance)
	VBS (use HD port) with picture 1.0 Vp-p (high impedance)
	      without picture 0.3 Vp-p (high impedance)
	Audio Input Stereo mini jack (M3) × 1
	      0.5 Vrms

SERIAL	EXTERNAL CONTROL TERMINAL (D-SUB 9PIN) RS-232C COMPATIBLE
AUDIO OUT	RCA PIN JACK × 2 (L / R) OUTPUT LEVEL : VARIABLE (-∞ ~ 0 dB) [INPUT 1 kHz / 0 dB, 10 kΩ Load]
Accessories Supplied	
Remote Control Transmitter	EUR7636090R
Batteries	R6 Size × 2
Fixing band	TMME203 × 2
Ferrite core	J0KG00000014 × 2
Noise cut filter	TXZDM011MBE
Clamper	TMM15412-2 × 1
Dimensions (W × H × D)	2,015 mm × 1,195 mm × 99 mm
Mass (weight)	approx. 117.0 kg net

Notes:
- Design and specifications are subject to change without notice. Mass and dimensions shown are approximate.
- This equipment complies with the EMC standards listed below.
  EN55022, EN55024, EN61000-3-2, EN61000-3-3.

Information for Users on Collection and Disposal of Old Equipment and used Batteries

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

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

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

For business users in the European Union

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

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

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

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

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

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