

Plasmavision™  
P50XHA10WS  
P50XHA10ES  
P50XHA10US

# SERVICE MANUAL

FUJITSU GENERAL Proprietary

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FUJITSU GENERAL LIMITED

# SPECIFICATIONS

<b>Power requirement</b>	120V, 50/60Hz (U Type) 220-240V, 50/60Hz (W, E Type)	<b>Analog audio input</b>	Two RCA terminals(one system) 500mVrms/22kΩ
Current drain	4.9A (U Type) 2.7A-2.2A (W, E Type)	Effective max. output	Level terminal 12W+12W (L/R), 6 Ω
<b>Display panel</b>		<b>Display colors</b>	16.7 million (256 each for R.G.B.)
Screen size	110.6 (W) x 62.2 (H) [cm] 43.5 (W) x 24.5 (H) [inch]	<b>Outer dimensions</b>	Width : 121.4cm (47.8 inch) Height: 72.8cm (28.7 inch) Depth : 9.8 cm ( 3.9 inch)
Aspect ratio	16 : 9	<b>Net weight</b>	45.0kg
Number of pixels	1,366 (H) x 768 (V) pixels	<b>Environment (Operating)</b>	
Pixel pitch	0.81mm x 0.81mm	Temperature	0° to 40°C
Contrast ratio	3000 : 1	Relative humidity	20 to 80%
Luminance	600 cd/m <sup>2</sup>	Pressure	850 to 1,114 hPa
Viewing angle	Max. 160 degrees	<b>Accessories</b>	User's manual Power cord Small ferrite core (2) Big ferrite core (2) Remote controller Batteries (Type AA x 2)
<b>Input Terminals</b>		<b>Options</b>	
Video input (E model:option)	RCA terminal 1.0V <sub>P-P</sub> /75Ω	Stand	P-TT5000
S video input (E model:option)	S terminal Y signal:1.0V <sub>P-P</sub> /75Ω C signal:0.286V <sub>P-P</sub> /75Ω	Wall mounting unit	P-WB5000 0° to 15° mounting angle
Component video input	Three RCA terminals (one system) Y : 1.0V <sub>P-P</sub> /75Ω P <sub>b</sub> /B-Y: 0.7V <sub>P-P</sub> /75Ω P <sub>r</sub> /R-Y: 0.7V <sub>P-P</sub> /75Ω	Ceiling mounting unit	P-CT5000 0° to 15° mounting angle
Video input (only E model:option)	SCART terminal	Speaker	P-SP5000
Video	1.0V <sub>P-P</sub> /75Ω	Speaker stand	P-ST5000
S video	Y signal:1.0V <sub>P-P</sub> /75Ω C signal:0.286V <sub>P-P</sub> /75Ω	<b>Standards</b>	
RGB	G : 0.7V <sub>P-P</sub> /75Ω B : 0.7V <sub>P-P</sub> /75Ω R : 0.7V <sub>P-P</sub> /75Ω	P50XHA10WS	P50XHA10ES P50XHA10US
Digital RGB 1 input	DVI-D terminal (HDCP) Differential Input 0.5V ± 10% (RX0±, RX1±, RX2±)	• UL,CSA	
Analog RGB 2 input	mD-sub:15pin (3 row type) Video : 0.7V <sub>P-P</sub> /75Ω SYNC signal : TTL level	Safety: UL6500	UL6500
Analog RGB 3 input (only E model)	BNC terminal x 5 G: 0.7V <sub>P-P</sub> /75Ω B: 0.7V <sub>P-P</sub> /75Ω R: 0.7V <sub>P-P</sub> /75Ω H: TTL level or 0.3V <sub>P-P</sub> /75Ω V: TTL level or 0.3V <sub>P-P</sub> /75Ω	C-UL	C-UL
User set mode	8 memories (each RGB1,2,3)	EMC: FCC Part15 Class A	FCC Part15 Class B
Display frequency	Horizontal :15.63 to 80.0MHz Vertical : 50.0 to 120Hz Dot clock:50MHz Max XGA 68MHz	ICES-003 Class A	ICES-003 Class B
<b>RS-232C</b>	D-sub 9 pin terminal	• CE	
<b>Color system</b>	NTSC/PAL/SECAM/N-PAL/M-PAL /4.43NTSC/PAL60	Safety: EN60065	EN60065
		EMC : EN55022 1998	EN55022 1998
		Class A	Class B
		EN61000-3-2 1995	EN61000-3-2 1995
		EN61000-3-3 1995	EN61000-3-3 1995
		EN55024 1998	EN55024 1998
		EN61000-4-2 1995	EN61000-4-2 1995
		EN61000-4-3 1996	EN61000-4-3 1996
		EN61000-4-4 1995	EN61000-4-4 1995
		EN61000-4-5 1995	EN61000-4-5 1995
		EN61000-4-6 1996	EN61000-4-6 1996
		EN61000-4-8 1993	EN61000-4-8 1993
		EN61000-4-11 1994	EN61000-4-11 1994
		• AS	
		Safety : IEC60065	IEC60065
		EMC : AS/NZS 3548	AS/NZS 3548

# SETTING SIGNALS

This display can store parameter settings for eight additional signals for RGB.

To do this, select the desired signal and follow "RGB MODE ADJUSTMENT" in the manual to adjust the parameters. When you finish, the settings will be automatically stored.

## FACTORY SET SIGNALS (RGB MODE)

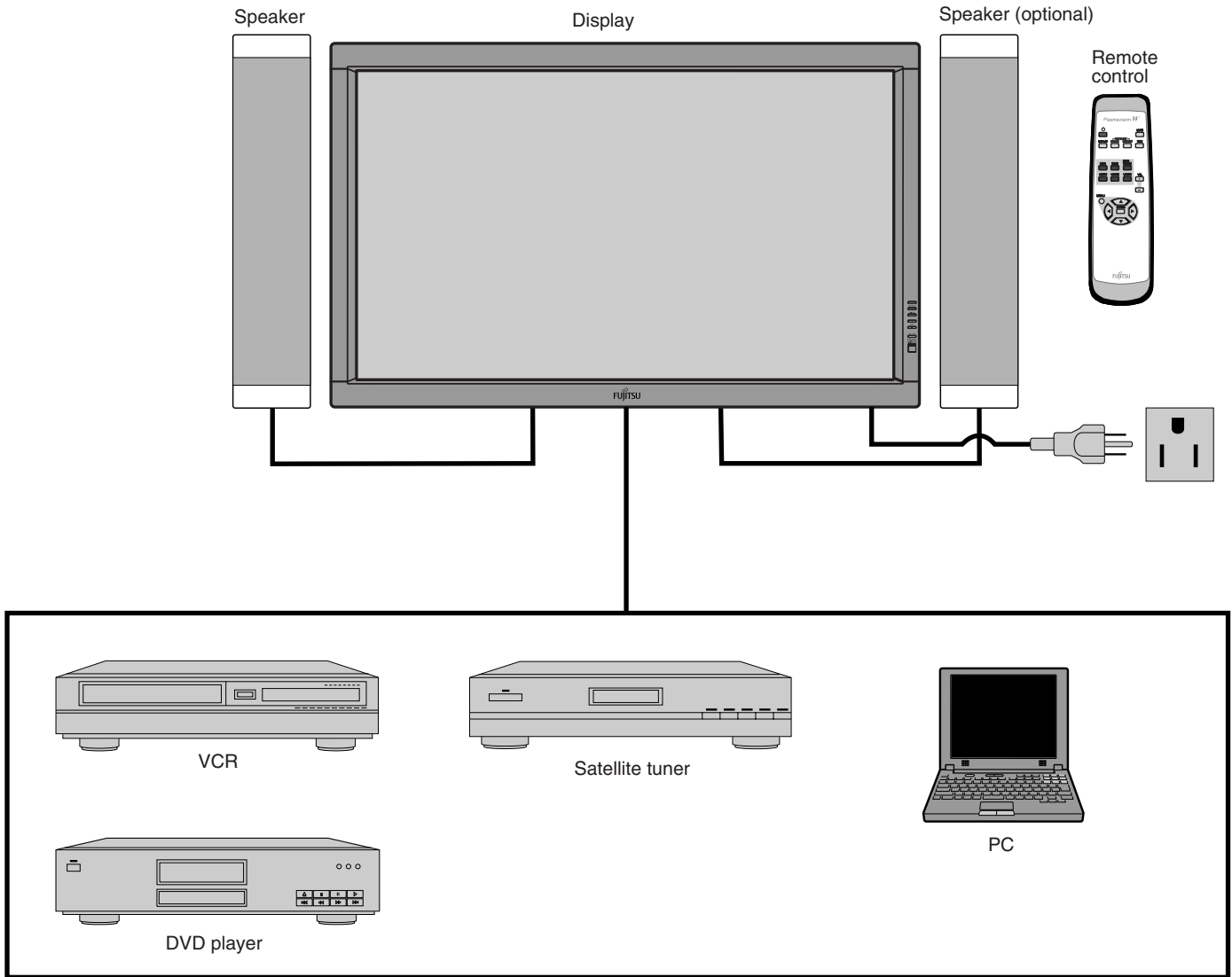
Main corresponding signals (RGB mode)

Display (dots x lines)	Horizontal frequency (kHz)	Vertical frequency (Hz)	Signal	DVD-I
640 x 480	31.47	59.94	VGA	<input type="radio"/>
640 x 480	37.50	75.00	VGA 75 Hz	
640 x 480	43.27	85.01	VGA 85 Hz	
720 x 400	31.47	70.09	400 lines	<input type="radio"/>
800 x 600	37.88	60.32	SVGA 60 Hz	<input type="radio"/>
800 x 600	46.88	75.00	SVGA 75 Hz	
800 x 600	53.67	85.06	SVGA 85 Hz	
1024 x 768	48.36	60.00	XGA 60 Hz	<input type="radio"/>
1024 x 768	60.02	75.03	XGA 75 Hz	
1024 x 768	68.68	84.99	XGA 85 Hz	
1280 x 1024	63.98	60.02	SXGA 60 Hz	
1280 x 1024	79.98	75.03	SXGA 75 Hz	
1600 x 1200	75.00	60.00	UXGA 60 Hz	
1600 x 1200	106.25	85.00	UXGA 85 Hz	
848 x 480	31.02	60.00		<input type="radio"/>
852 x 480	31.72	59.97		
1360 x 768	47.71	60.01		
720 x 485	15.73	59.94	60 fields	
720 x 575	15.63	50.00	50 fields	

\* With some input signals, "Out of range" may appear even when the horizontal and vertical frequencies are within their permissible ranges. Make sure that the vertical frequency of the input signal is 85 Hz or less for SVGA, 75 Hz or less for XGA/ SXGA , 60 Hz or less for UXGA.

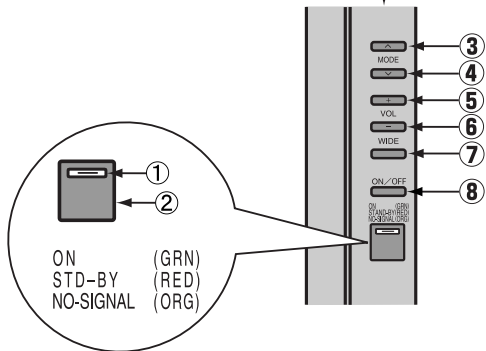
# CONNECTION

## EXAMPLE OF CONNECTION TO EXTERNAL COMPONENTS



# PART NAMES AND FUNCTIONS

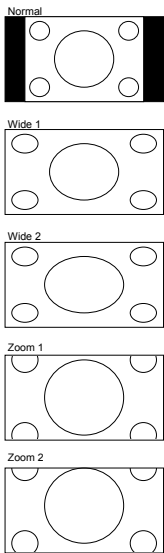
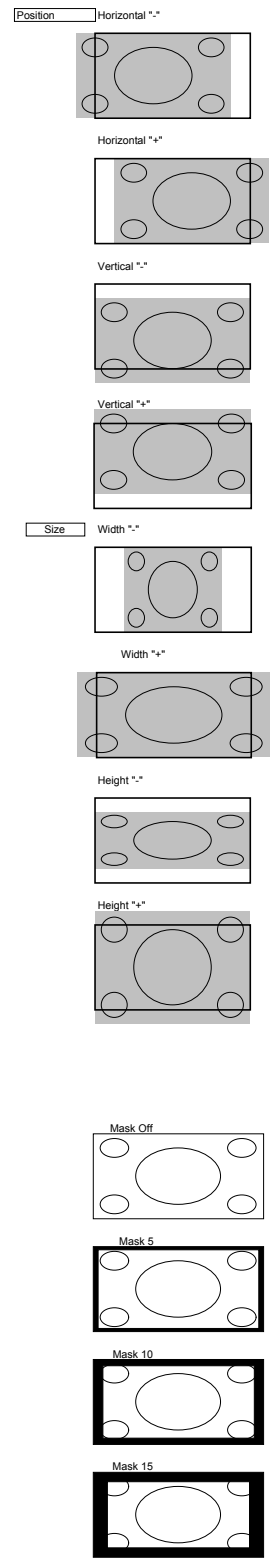
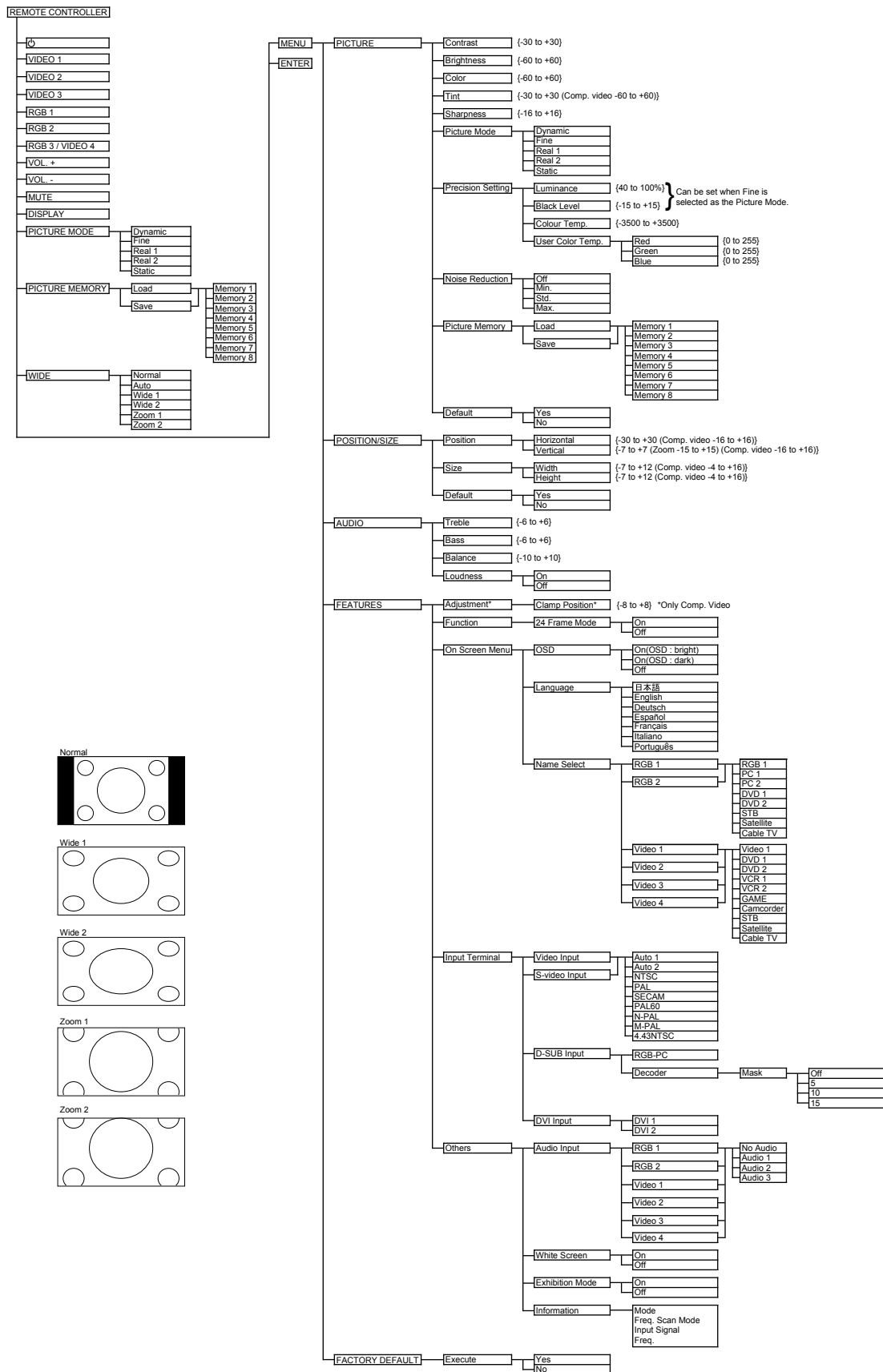
## DISPLAY SECTION – FRONT



**Control Panel (Right side of display)**

- ① **Power indicator lamp**  
This lamp shows the state of the power supply.
  - Lit (red): Stand-by
  - Lit (green): Power ON
  - Lit (orange): Power saving (DPMS: Power saving function) mode ON
  - Flashing (red): Malfunction (Flashes differently depending on the type of malfunction.)
- ② **Remote control signal receiver**  
Receives signals from the remote control.
- ③ **Input mode selector button ▲[MODE]**
- ④ **Input mode selector button ▼[MODE]**  
Switches between picture input modes.
- ⑤ **VOL + button**
- ⑥ **VOL - button**  
Adjusts the sound volume.
- ⑦ **Wide screen selector button [WIDE]**  
Switches the screen over to a desired wide screen.
- ⑧ **ON/OFF button**  
Turns the power "ON" and "OFF (standby state)".

# VIDEO MODE ADJUSTMENT



# TROUBLESHOOTING USING LED AND OSD

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## 1. Display

### (1) OSD

Three kinds of error messages are displayed on the screen, and the power is turned off 10 sec later.

### (2) LED

LED error is displayed continuously after the power is turned off.

## 2. Error types and check points

### (1) OSD

On screen display	Cause	Check point
ERROR MESSAGE CONDITION 1	Fan protector operated	<ul style="list-style-type: none"> <li>● Fan</li> <li>● Main/Digital PCB</li> </ul>
ERROR MESSAGE CONDITION 2	Temperature protector operated	<ul style="list-style-type: none"> <li>● Ambient temperature of unit</li> <li>● Main/Digital PCB</li> <li>● Temp. sensor IC757</li> </ul>

### (2) LED

LED lamp display status	Cause	Check point
Steady light (Red)	Stand-by status	—————
<b>Continuous</b> Flashes continuously (Red)	No power Power supply protector operated	<ul style="list-style-type: none"> <li>● Main/Digital PCB</li> <li>● PDP panel</li> </ul>
<b>1 time</b> Flashes once every 4 sec. (Red)	Fan protector operated	<ul style="list-style-type: none"> <li>● Fan</li> <li>● Main/Digital PCB</li> </ul>
<b>2 times</b> Flashes twice every 5 sec. (Red)	Temperature protector operated	<ul style="list-style-type: none"> <li>● Ambient temperature of unit</li> <li>● Temperature sensor IC757</li> <li>● Main/Digital PCB</li> </ul>
<b>4 times</b> Flashes four times every 7 sec. (Red)	Main/Digital circuit faulty	<ul style="list-style-type: none"> <li>● Main/Digital PCB</li> </ul>
<b>5 times</b> Flashes five times every 8 sec. (Red)	Video circuit faulty	<ul style="list-style-type: none"> <li>● Video PCB Assy</li> </ul>

# MAIN POWER SELECTOR SWITCH ADJUSTMENT

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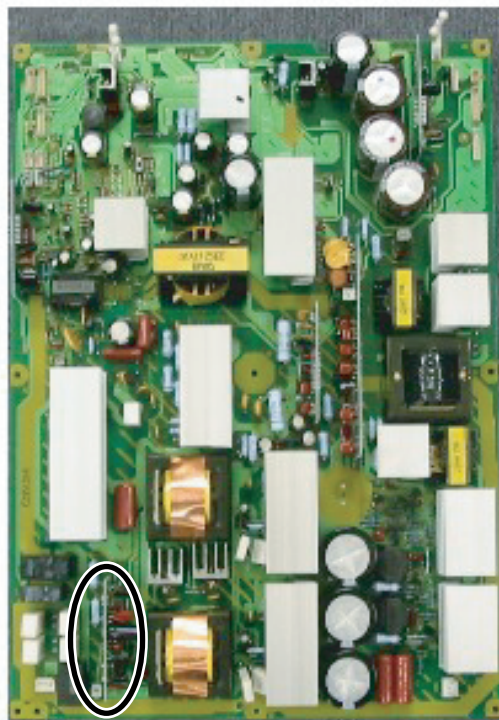
## Adjustment

Confirm the main voltage set switch is set to 220-240V. (W and E version)

Confirm the main voltage set switch is set to 120V. (U version)

## Note:

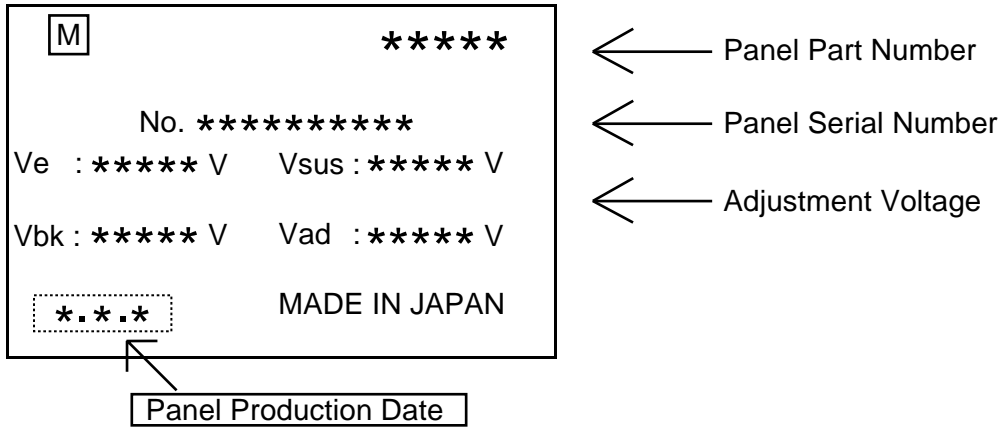
230V covers input AC voltage from 200V till 260V, and 110V covers from 90V till 130V.





# EXPLANATION OF LABELS

## ● Panel Label Information



## Panel Production Date

For Example-----1.8.2

1	8	2
Year	Month	
9 : 1999	1 : JAN	1 : Beginning of Month(01-10th)
0 : 2000	2 : FEB	2 : Middle of Month (11-20th)
1 : 2001	3 : MAR	3 : End of Month (21-31st)
2 : 2002	9 : SEP	
	0 : OCT	
	N : NOV	
	D : DEC	

## ● Unit Serial Number

For Example----- YA1450001

YA 1 4 5 0001 \* MID/AUG/2001  
 ① ② ③ ④ ⑤ \* YA Production Line

- ① Production Line No.
- ② Production Year
  - 1 : 2001
  - 2 : 2002
- ③ Production Month
  - 1 : JAN-FEB
  - 2 : MAR-APR
  - 3 : MAY-JUN
  - 4 : JLY-AUG
  - 5 : SEP-OCT
  - 6 : NOV-DEC
- ④ Production Period (Day)
  - 1st Month
    - 1 : BEG (1-10)
    - 2 : MID (11-20)
    - 3 : END (21-30/31)
  - 2nd Month
    - 4 : BEG (1-10)
    - 5 : MID (11-20)
    - 6 : END (21-30/31)
- ⑤ Serial Number
  - From 0001-----

# REPLACEMENT PARTS AND REQUIRED ADJUSTMENT

## Caution

To remove PCB, wait for 1 minute after power was turned off for electrolytic capacitors to discharge.

## Preparation

Wide----- Auto

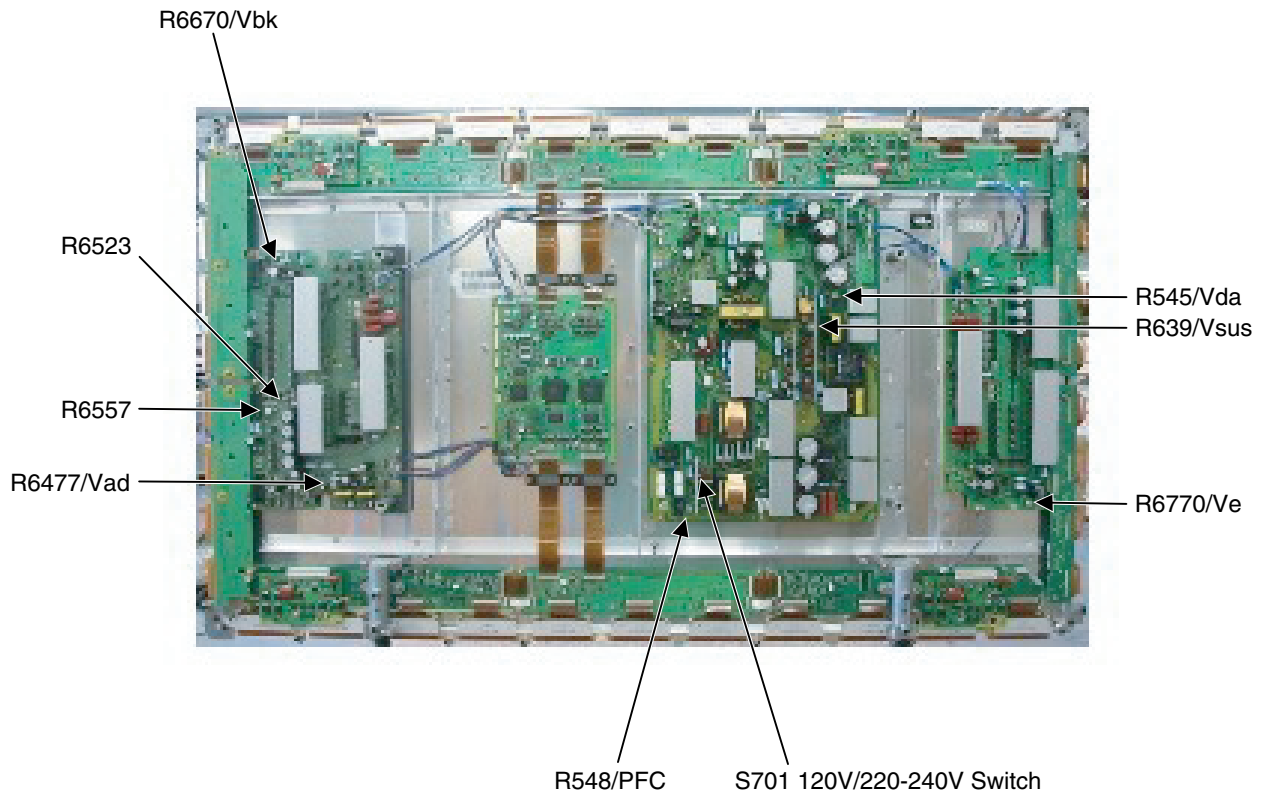
Input----- White pattern

## Quick adjustment after PCB replacement

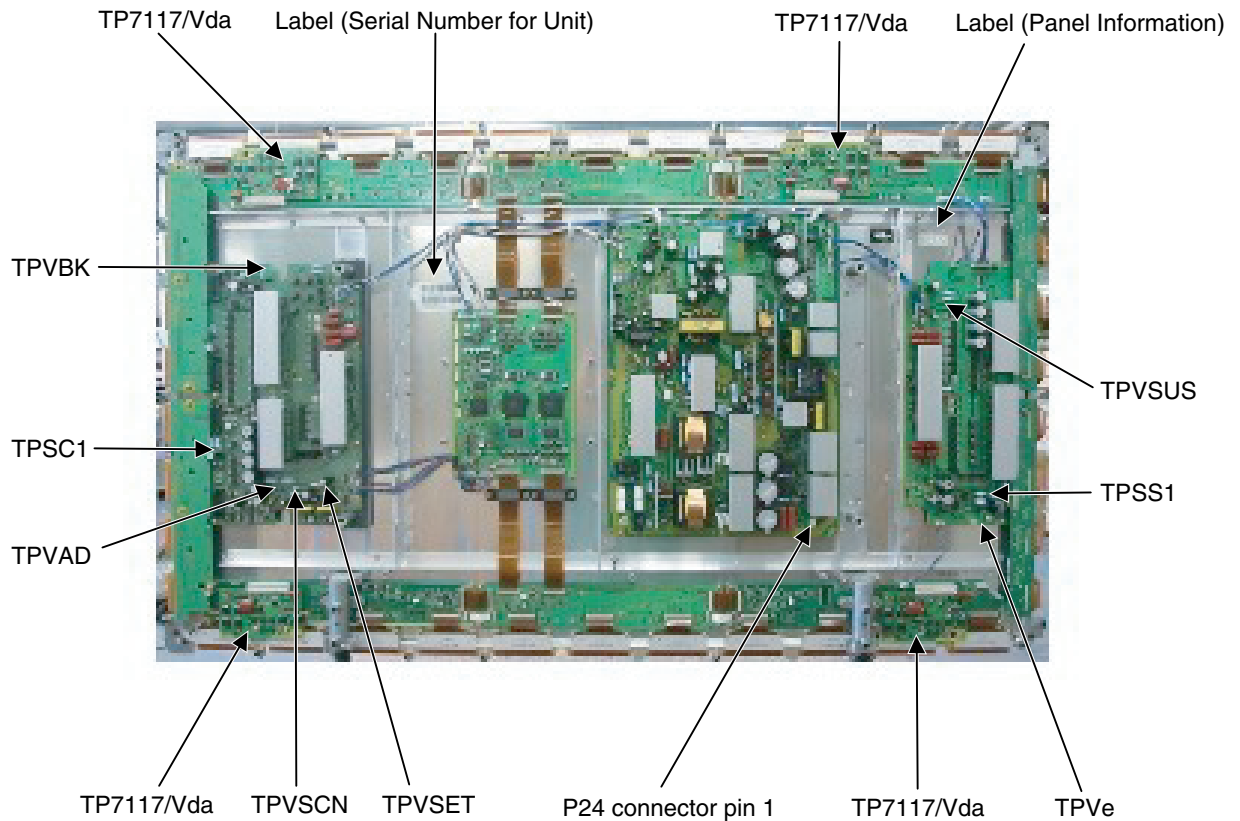
PCB	Item	VR	Test Point	Level
Power Supply PCB	PFC	R548	P24 connector pin 1	400V ± 1V
	Vsus	R639	TPVsus	Vsus ± 1V
	Vda	R545	TP117	74V ± 1V
Scan Drive PCB	Vad	R6477	TPVAD	Vad ± 1V
	Vbk	R6670	TPVBK	Vbk ± 5V
Sustain Drive PCB	Ve	R6829	TPVE	VE ± 1V
Panel Glass	Vsus	R639	TPVsus	Vsus ± 1V
	Vad	R6477	TPVAD	VAD ± 1V
	Ve	R6829	TPVE	VE ± 1V

# VR AND TEST POINT LOCATION

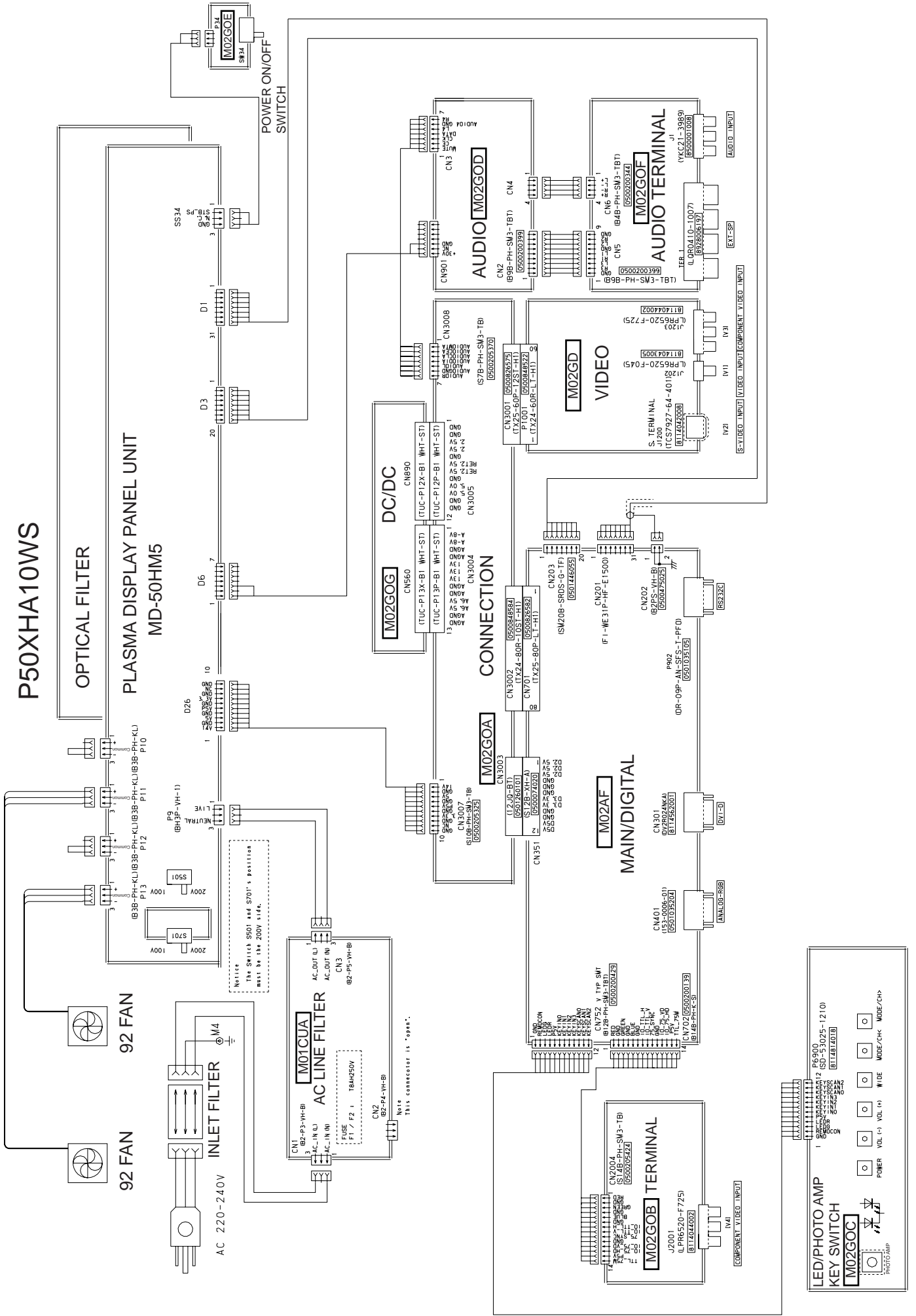
## Adjustment VR Location



## Test Point Location



# GENERAL CONNECTION DIAGRAM

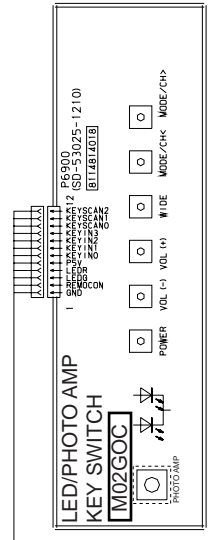
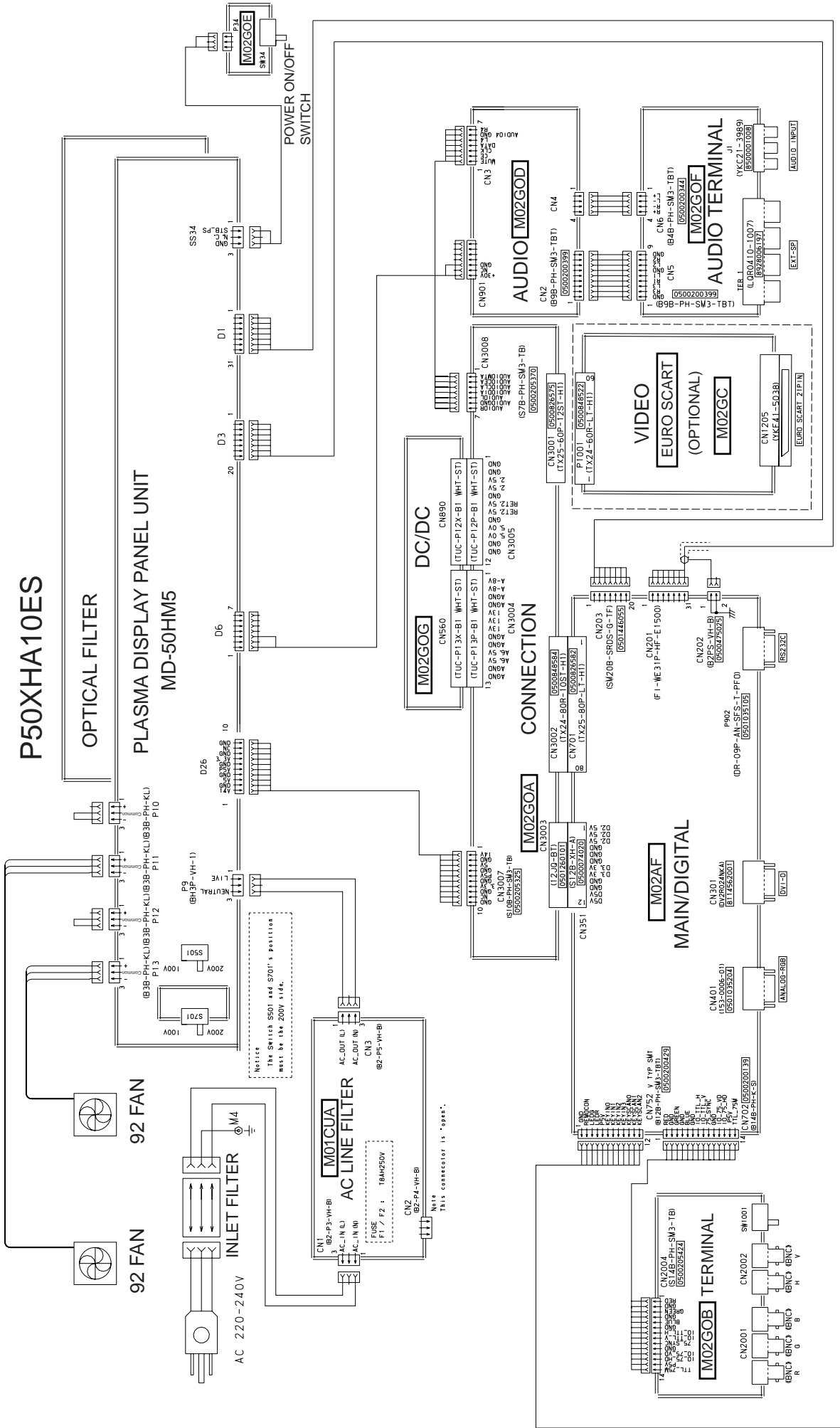


# PARTS LIST

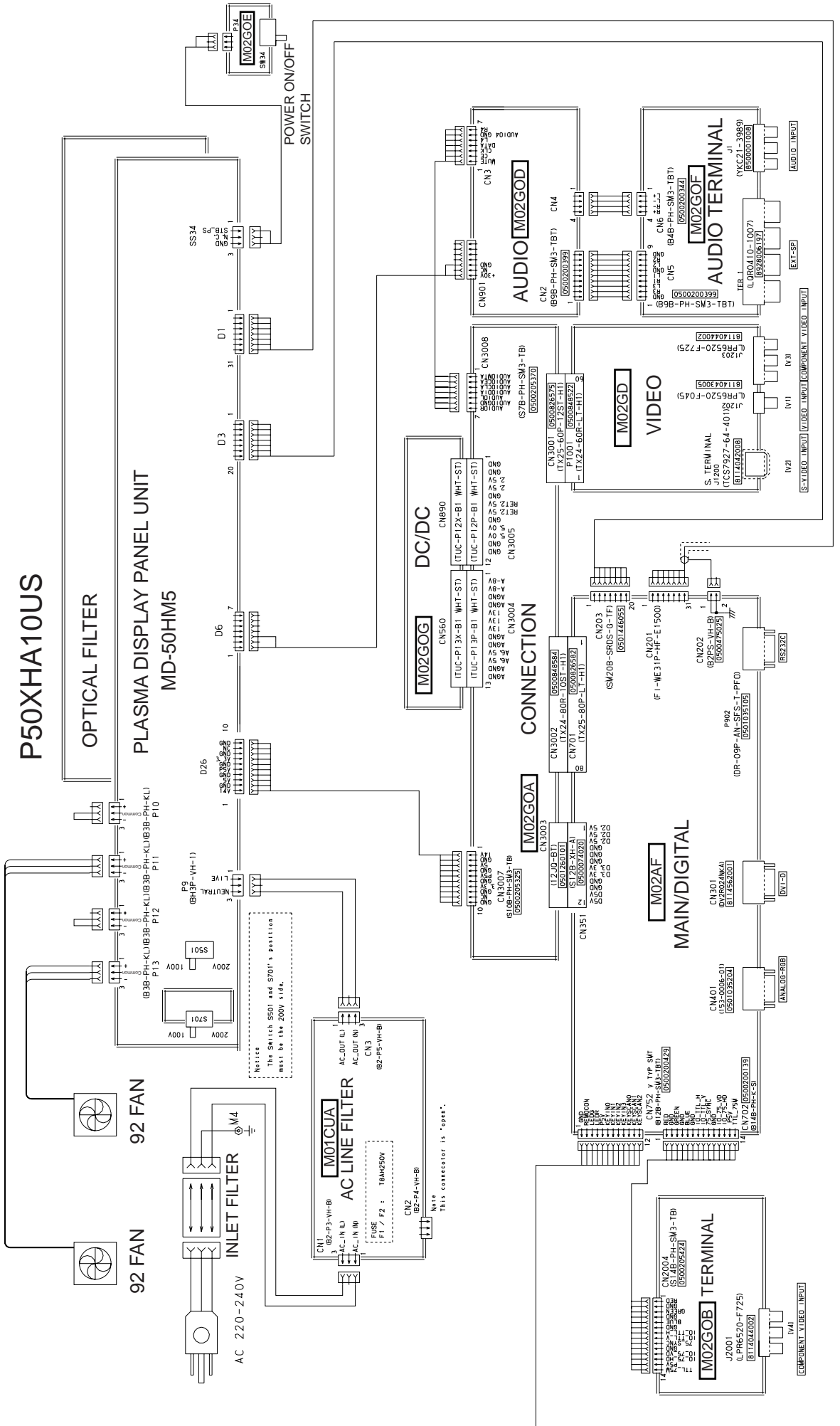
Ref.no.	Description	P50XHA10WS	P50XHA10ES	P50XHA10US
Cabinet	Bezel Front Top	8115002001	↔	↔
	Bezel Front Bottom	8115003008	↔	↔
	Bezel Front Right	8115005002	↔	↔
	Bezel Front Left	8115004005	↔	↔
	Case Rear	8114998008	↔	↔
Electric	Fan Motor	8900280003	↔	↔
	Optical Filter	8113177008	↔	↔
	Audio Connection PCB	8115058008	↔	↔
	Audio Main PCB	8115056004	↔	↔
	Filter PCB	8115882009	↔	↔
	Connection PCB	8115049006	8115204009	8115049006
	DC/DC PCB	8115054000	↔	↔
	I/O PCB	8115047002	↔	↔
	Power Switch PCB	8115053003	↔	↔
	LED/PHOTO PCB	8115051009	↔	↔
	Main Digital PCB	8115888001	8115890004	8115888001
	Video PCB	8115842003	-----	8115842003
	PDP Unit	S141011951	↔	↔
	Power Cord VDE	8112527002	↔	-----
	UL.CSA	-----	-----	8112528009
	Remote Control Unit	8114649016	↔	↔
	Panel Glass	S141011821	↔	↔
	Data Drive (Upper Left) PCB (C1)	S141011678	↔	↔
	Data Drive (Upper Center) PCB (C2)	S141011685	↔	↔
	Data Drive (Upper Right) PCB (C3)	S141011692	↔	↔
	Data Drive (Lower Right) PCB (C4)	S141011708	↔	↔
	Data Drive (Lower Center) PCB (C5)	S141011715	↔	↔
	Data Drive (Lower Left) PCB (C6)	S141011722	↔	↔
	Saving Power PCB (C9)	S141011777	↔	↔
	Scan Drive Output (Upper) PCB (SU)	S141011739	↔	↔
	Scan Drive Output (Lower) PCB (SD)	S141011746	↔	↔
	Scan Drive PCB (SC)	S141011807	↔	↔
Sustain Drive Output (Upper) PCB (SS2)	S141011753	↔	↔	
Sustain Drive Output (Lower) PCB (SS3)	S141011760	↔	↔	
Sustain Drive PCB (SS)	S141011814	↔	↔	
Power Supply PCB (P1)	S141011791	↔	↔	
Digital PCB (D)	S141011784	↔	↔	
Packing	Carton Top	8115025000	↔	↔
	Carton Bottom	8112247009	↔	↔
	Packing Joint-D	8108655009	↔	↔
	Packing Pad-Top	8112248006	↔	↔
	Packing Pad-Bottom	8112249003	↔	↔
	Carton Accessory	8111799004	↔	↔
	Insheet	8112260008	↔	↔

↔ : Same as left

# GENERAL CONNECTION DIAGRAM



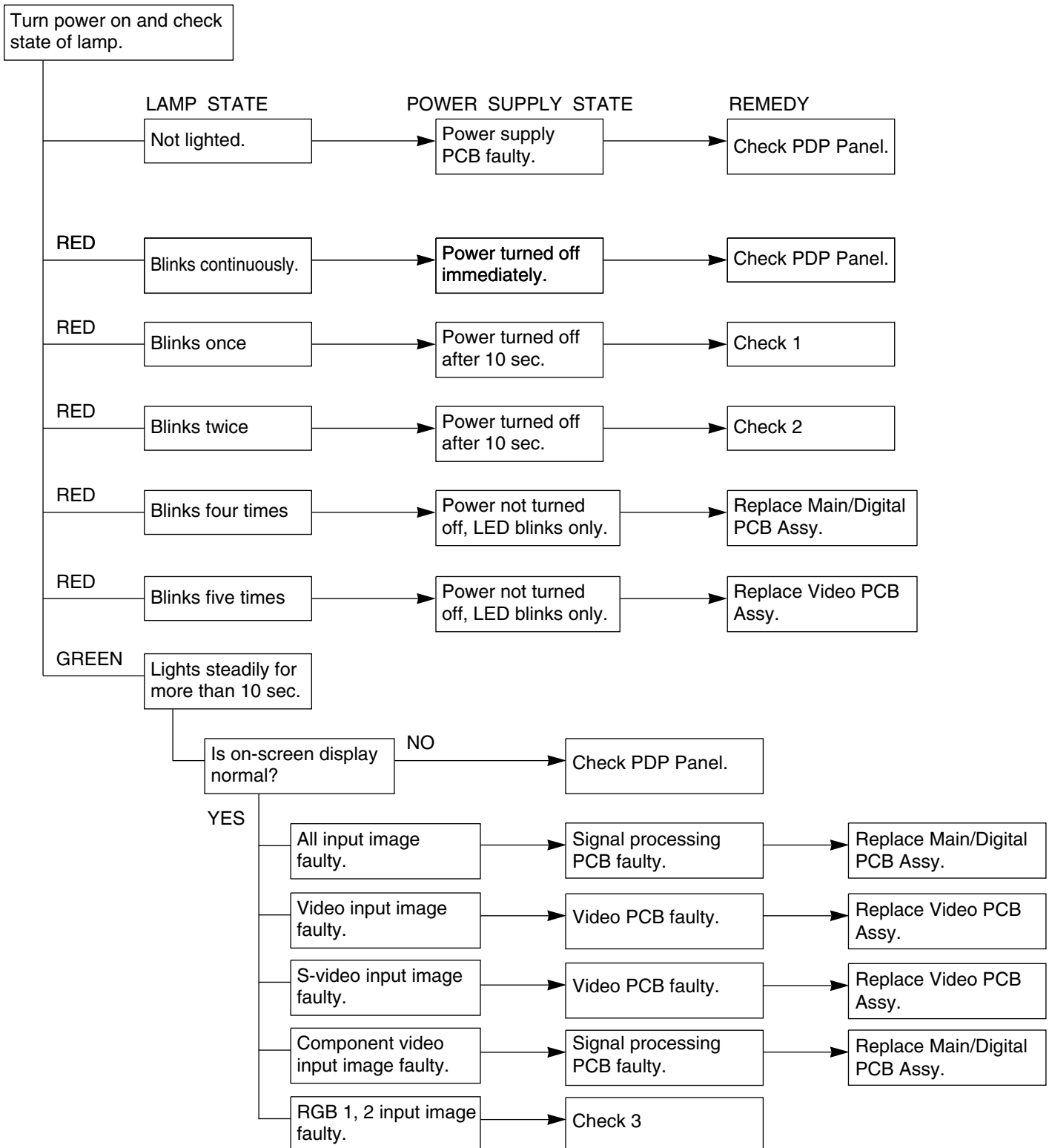
# GENERAL CONNECTION DIAGRAM



# TROUBLESHOOTING FLOWCHART

## LED lamp blinking

- Note : 1. Since a voltage is applied to the Main Power PCB heat sinks while the set is operating, do not touch the heat sinks.  
 2. If the Main Power PCB insulation sheet is not installed when assembling, the Main Power PCB fuse will blow.

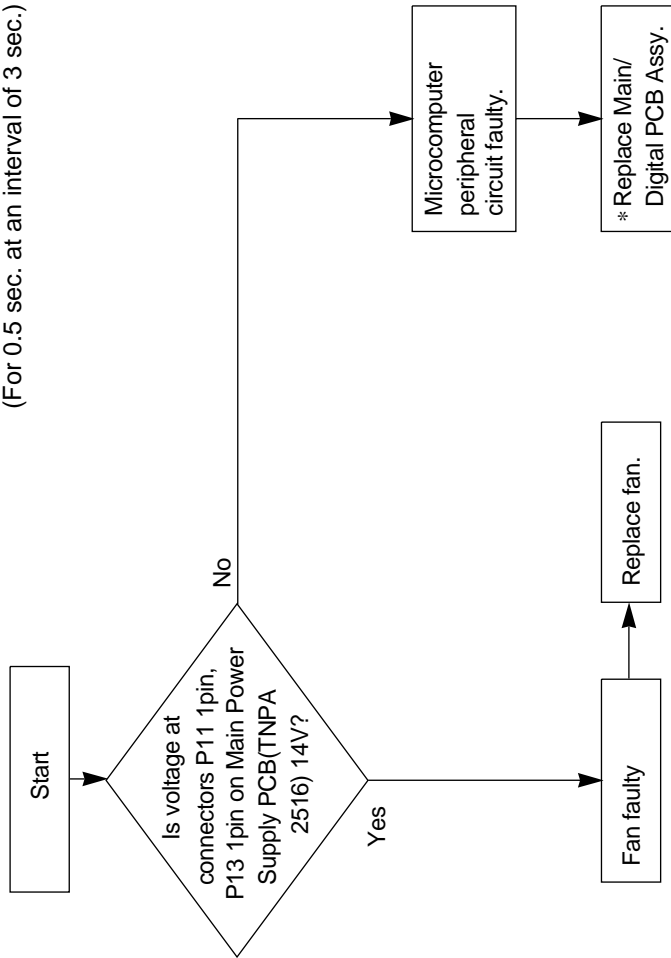




## Check 1

Fan protector operated

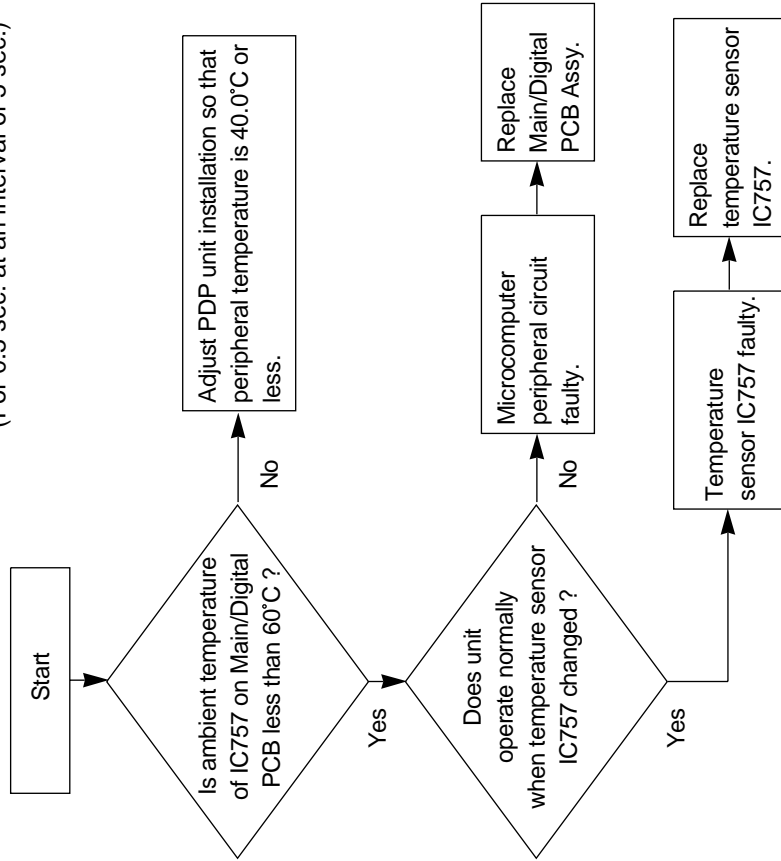
Power lamp: Flashes once intermittently in red.  
(For 0.5 sec. at an interval of 3 sec.)



## Check 2

Temperature protector operated

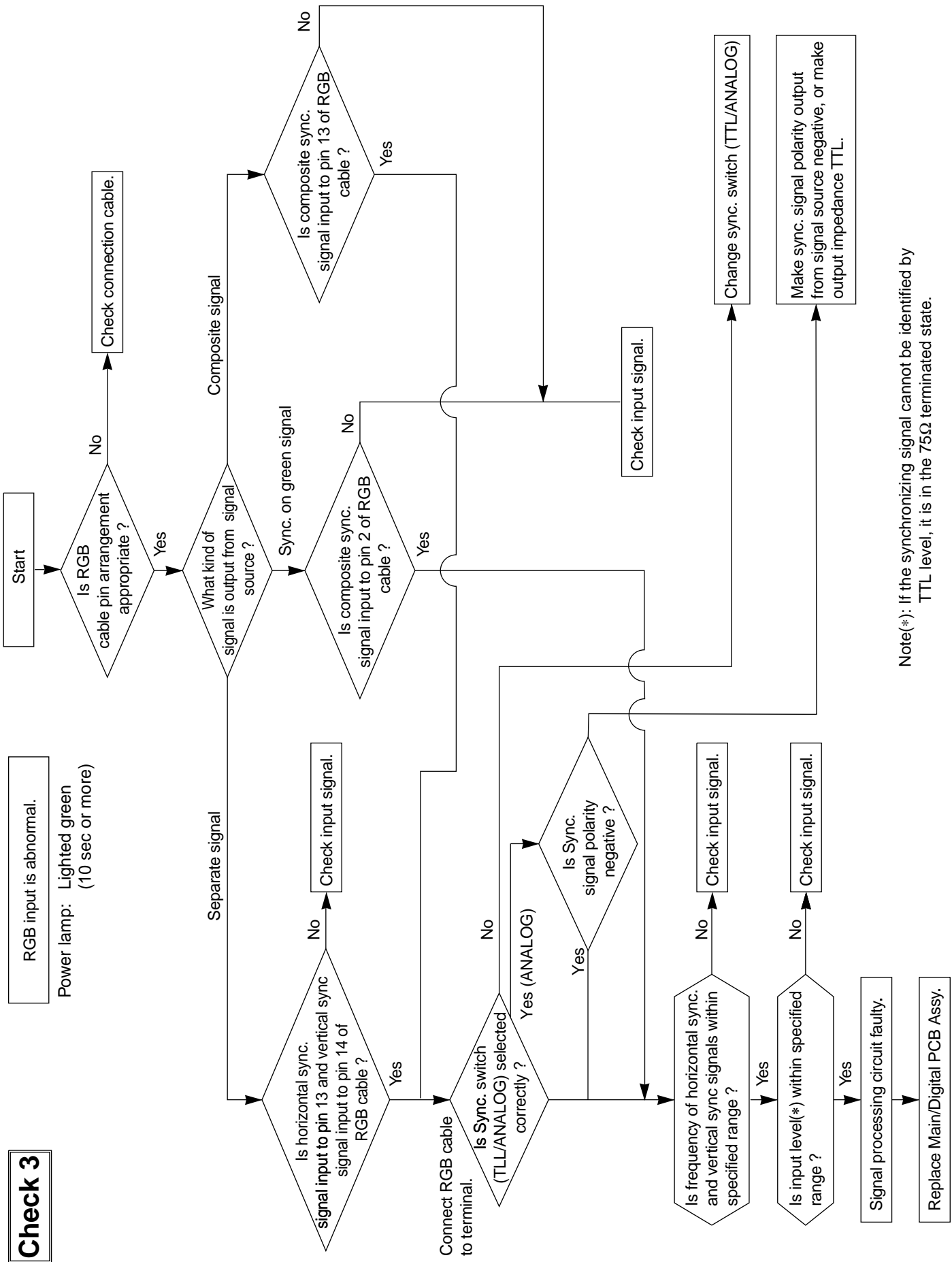
Power lamp : Flashes intermittently twice in red.  
(For 0.5 sec. at an interval of 5 sec.)



Temperature sensor cooling  
The temperature sensor IC757 is installed on Main/Digital PCB. Turn the power off and cool with a point cooler.

# Check 3

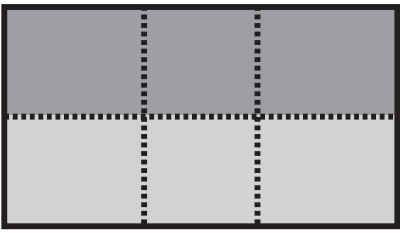
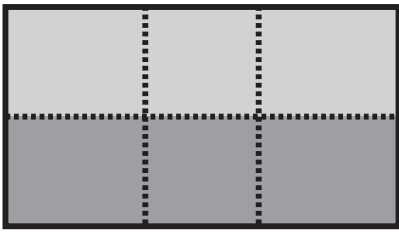
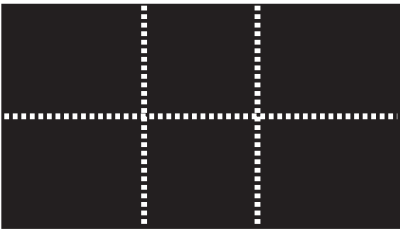
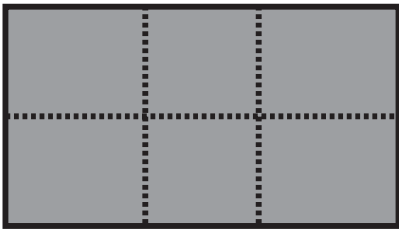
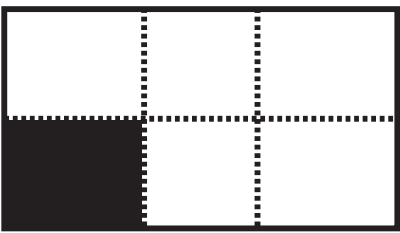
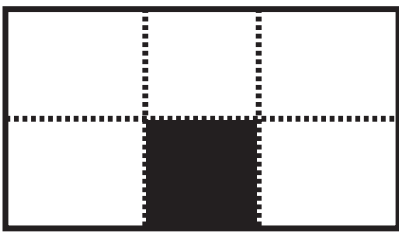
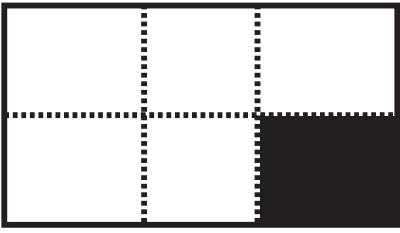
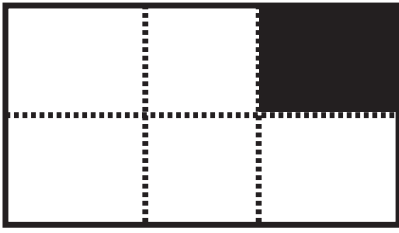
RGB input is abnormal.  
Power lamp: Lighted green (10 sec or more)

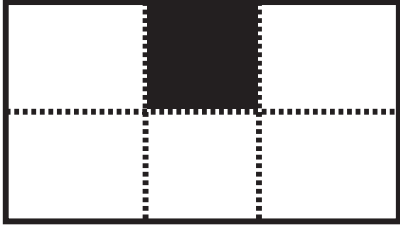
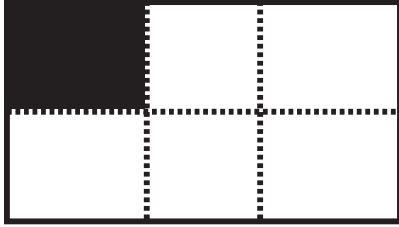
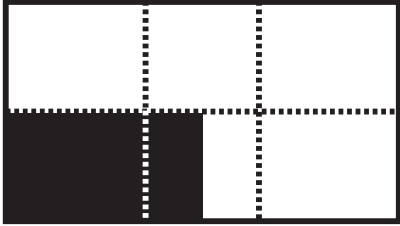
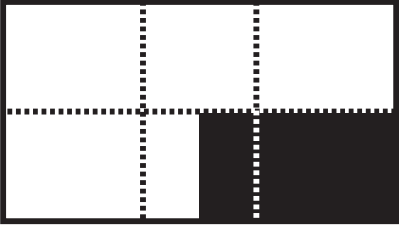
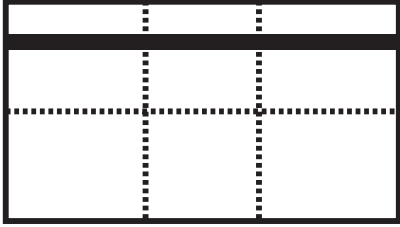
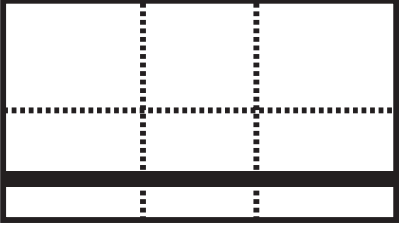
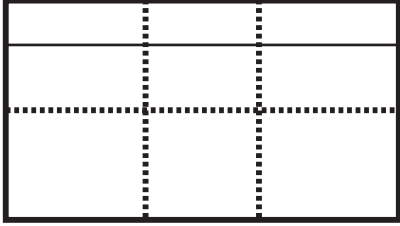
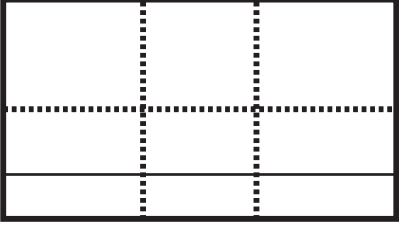
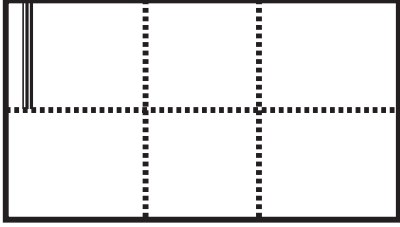
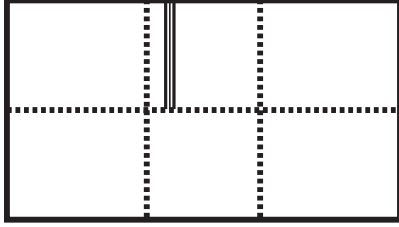


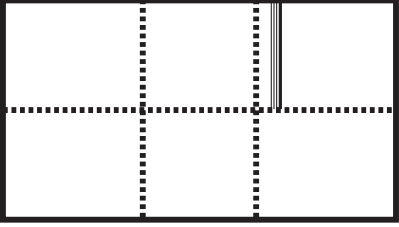
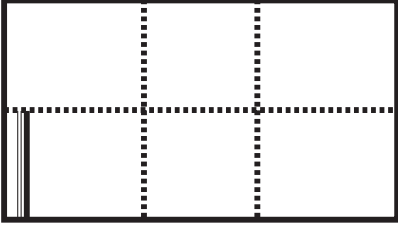
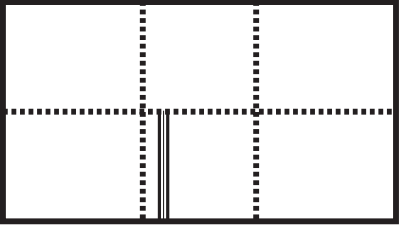
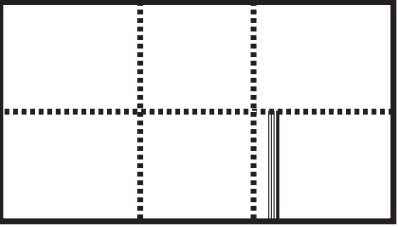
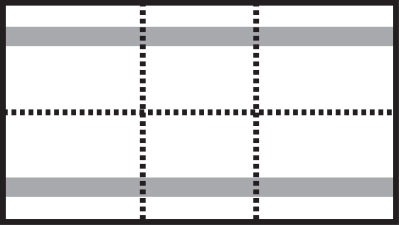
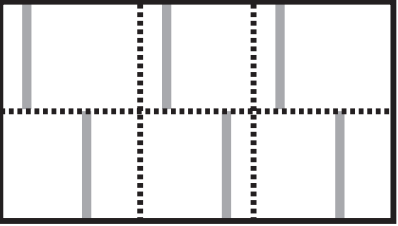
Note(\*): If the synchronizing signal cannot be identified by TTL level, it is in the 75Ω terminated state.

# TROUBLESHOOTING PANEL

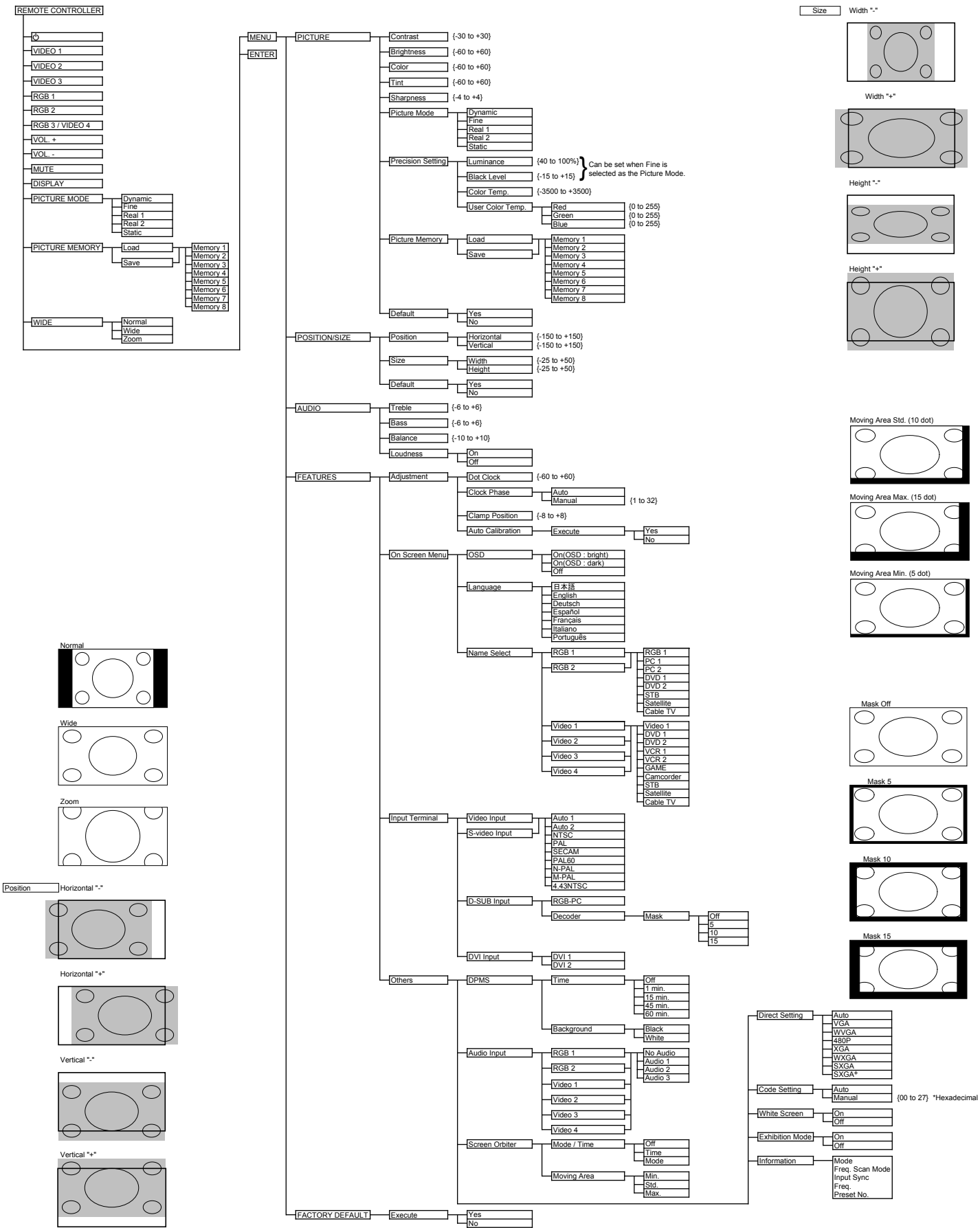
The plasma display panel consists of a set of six surfaces and is connected to each PCB. For that reason, the faulty part of PCB or plasma display panel can be focused depending on its symptom.

Symptom		Symptom	
Check PCB	<ol style="list-style-type: none"> <li>Digital PCB (D2)</li> <li>Data Drive (U/L) (C1)</li> <li>Data Drive (U/C) (C2)</li> <li>Data Drive (U/R) (C3)</li> <li>Sustain Drive (SS)</li> </ol>	Check PCB	<ol style="list-style-type: none"> <li>Digital PCB (D2)</li> <li>Data Drive (L/R) (C4)</li> <li>Data Drive (L/C) (C5)</li> <li>Data Drive (L/L) (C6)</li> <li>Sustain Drive (SS)</li> </ol>
Symptom		Symptom	
Check PCB	<ol style="list-style-type: none"> <li>Main/Digital PCB</li> <li>Digital PCB (D2)</li> <li>Scan Drive (SC)</li> <li>Sustain Drive (SS)</li> </ol>	Check PCB	<ol style="list-style-type: none"> <li>Digital PCB (D2)</li> <li>Sustain Drive (SS)</li> </ol>
Symptom		Symptom	
Check PCB	<ol style="list-style-type: none"> <li>Digital PCB (D2)</li> <li>Data Drive (L/R) (C4)</li> </ol>	Check PCB	<ol style="list-style-type: none"> <li>Digital PCB (D2)</li> <li>Data Drive (L/C) (C5)</li> </ol>
Symptom		Symptom	
Check PCB	<ol style="list-style-type: none"> <li>Digital PCB (D2)</li> <li>Data Drive (L/L) (C6)</li> </ol>	Check PCB	<ol style="list-style-type: none"> <li>Digital PCB (D2)</li> <li>Data Drive (U/L) (C1)</li> </ol>

Symptom		Symptom	
Check PCB	1. Digital PCB (D2) 2. Data Drive (U/C) (C2)	Check PCB	1. Digital PCB (D2) 2. Data Drive (U/R) (C3)
Symptom		Symptom	
Check PCB	1. Saving Power (C9)	Check PCB	1. Saving Power (C9)
Symptom		Symptom	
Check PCB	1. Scan Drive Output (Upper) (SU) 2. Scan Drive (SC)	Check PCB	1. Scan Drive Output (Lower) (SD) 2. Scan Drive (SC)
Symptom		Symptom	
Check PCB	1. Scan Drive Output (Upper) (SU) 2. Display Panel Assy (Glass)	Check PCB	1. Scan Drive Output (Lower) (SD) 2. Display Panel Assy (Glass)
Symptom		Symptom	
Check PCB	1. Data Drive (U/R) (C3) 2. Digital PCB (D2) 3. Display Panel Assy (Glass)	Check PCB	1. Data Drive Power (U/C) (C2) 2. Digital PCB (D2) 3. Display Panel Assy (Glass)

Symptom		Symptom	
Check PCB	1. Data Drive (U/L) (C1) 2. Digital PCB (D2) 3. Display Panel Assy (Glass)	Check PCB	1. Data Drive (L/R) (C4) 2. Digital PCB (D2) 3. Display Panel Assy (Glass)
Symptom		Symptom	
Check PCB	1. Data Drive (L/C) (C5) 2. Digital PCB (D2) 3. Display Panel Assy (Glass)	Check PCB	1. Data Drive (L/L) (C6) 2. Digital PCB (D2) 3. Display Panel Assy (Glass)
Symptom		Symptom	
Check PCB	1. Sustain Drive (SS)	Check PCB	1. Display Panel Assy (Glass)

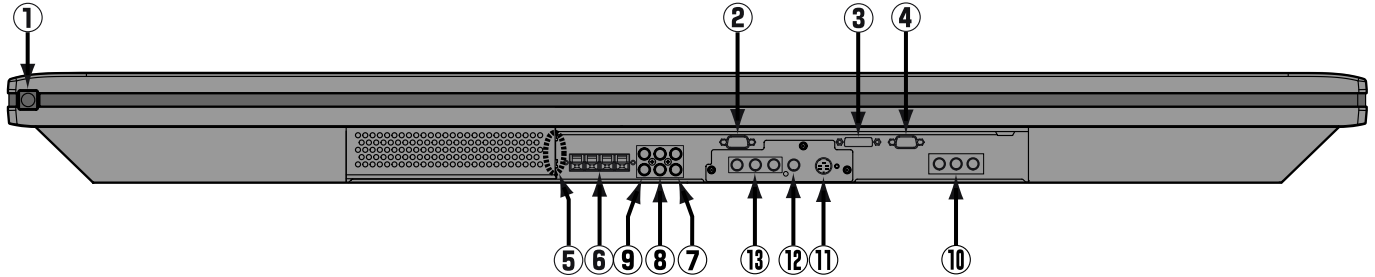
# RGB MODE ADJUSTMENT



# Model : P50XHA10W/U

## DISPLAY SECTION – LOWER PART

Bottom

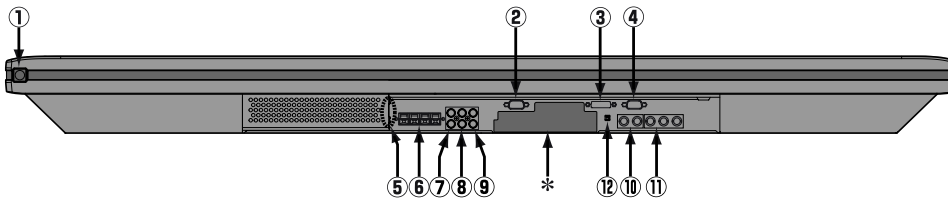


- ① **⏻ power switch**  
When pressed while in the "OFF" state, the power indicator lamp lights and the display is placed in the "ON ⏻" state, and the power can be turned "ON" or "OFF" by the remote control or on the control panel of the display. When pressed while in the "ON ⏻" state, the power indicator lamp goes out and the display is placed in the "OFF" state where power is still partly supplied.
- ② **RS-232C terminal (RS-232C)**  
This terminal is provided for you to control the display from the PC. Connect it to the RS-232C terminal on the PC. When connecting a cable, attach a ferrite core to the cable.
- ③ **RGB1 input terminal (RGB1 INPUT/DVI-D)**  
Connect this terminal to the PC's display (digital RGB) output terminal.  
\*The connection cable No.88741-8000 made by **molex Inc.** is recommended.
- ④ **RGB2 input terminal (RGB2 INPUT/mD-sub)**  
Connect this terminal to the PC's display (analog RGB) output terminal or decoder (digital broadcast tuner, etc.) output terminal.
- ⑤ **Power input terminal**  
Connect this terminal to the power cable supplied with the display.  
When connecting a cable, attach a ferrite core to the cable.
- ⑥ **External speaker output terminal (EXT SP)**  
Connect this terminal to the optionally available speaker.  
When connecting a cable, attach a ferrite core to the cable.  
\*See the speaker instruction manual for more information.
- ⑦ **Audio1 input terminal (AUDIO1 INPUT)**
- ⑧ **Audio2 input terminal (AUDIO2 INPUT)**
- ⑨ **Audio3 input terminal (AUDIO3 INPUT)**  
Connect this terminal to the sound output terminal of your VCR, etc.
- ⑩ **Component video input terminal (VIDEO3 INPUT)**  
Connect this terminal to the component video output (color difference output) terminal of your HDTV unit or DVD player.
- ⑪ **S-Video input terminal (VIDEO2 INPUT)**  
Connect this terminal to the S-video output terminal of your VCR.
- ⑫ **Video input terminal (VIDEO1 INPUT)**  
Connect this terminal to the video output terminal of your VCR.
- ⑬ **Component video input terminal (VIDEO4 INPUT)**  
Connect this terminal to the component video output (color difference output) terminal of your HDTV unit or DVD player.

# Model : P50XHA10E

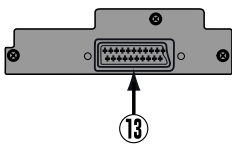
## DISPLAY SECTION - LOWER PART

### Bottom

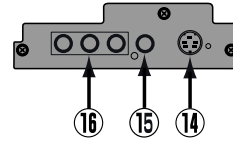


### \* Videoboard

#### P-TE1000E type



#### P-TE1010E type



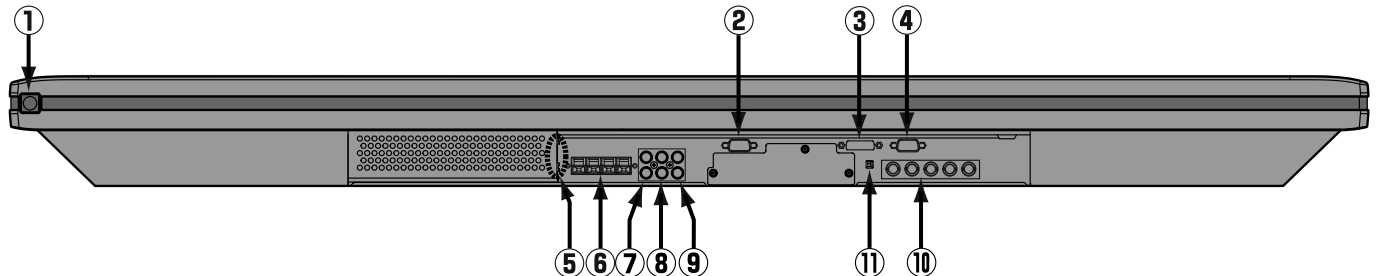
- ① **⏻/⏿ power switch**  
When pressed while in the "OFF" state, the power indicator lamp lights and the display is placed in the "ON Ⓟ" state, and the power can be turned "ON" or "OFF" by the remote control or on the control panel of the display. When pressed while in the "ON Ⓟ" state, the power indicator lamp goes out and the display is placed in the "OFF" state where power is still partly supplied.
- ② **RS-232C terminal (RS-232C)**  
This terminal is provided for you to control the display from the PC. Connect it to the RS-232C terminal on the PC.  
When connecting a cable, attach a ferrite core to the cable.
- ③ **RGB1 input terminal (RGB1 INPUT/DVI-D)**  
Connect this terminal to the PC's display (digital RGB) output terminal.  
\*The connection cable No.88741-8000 made by **molex Inc.** is recommended.
- ④ **RGB2 input terminal (RGB2 INPUT/mD-sub)**  
Connect this terminal to the PC's display (analog RGB) output terminal or decoder (digital broadcast tuner, etc.) output terminal.
- ⑤ **Power input terminal**  
Connect this terminal to the power cable supplied with the display.  
When connecting a cable, attach a ferrite core to the cable.
- ⑥ **External speaker output terminal (EXT SP)**  
Connect this terminal to the optionally available speaker.  
When connecting a cable, attach a ferrite core to the cable.  
\*See the speaker instruction manual for more information.
- ⑦ **Audio3 input terminal (AUDIO3 INPUT)**
- ⑧ **Audio2 input terminal (AUDIO2 INPUT)**
- ⑨ **Audio1 input terminal (AUDIO1 INPUT)**  
Connect this terminal to the sound output terminal of your VCR, etc.
- ⑩+⑪ **RGB3 input terminal (RGB3 INPUT/BNC)**  
Connect this terminal to the PC's display (analog RGB) output terminal or decoder (digital broadcast tuner, etc.) output terminal.  
\*When RGB3 input terminal is connected, Comp.video mode is not available.
- ⑫ **Component video input terminal (VIDEO4 INPUT)**  
Connect this terminal to the component video output (colour difference output) terminal of your HDTV unit or DVD player.  
\*When Comp.video input terminal is connected, RGB3 mode is not available.
- ⑬ **RGB3 synchronization switch (SYNC SW TTL/ANALOG (75 Ω))**  
This switch is used to terminate horizontal (H) terminal and vertical (V) terminal, out of RGB3 input terminals, with 75 Ω.  

	TTL	: Does not terminate.
	ANALOG (75 Ω):	Terminates.
- \* ⑬ **Video1 input terminal (VIDEO1 INPUT/P-TE1000E)**  
Connect this terminal to the SCART terminal of your VCR or DVD, etc.
- \* ⑭ **S-Video input terminal (VIDEO2 INPUT/P-TE1010E)**  
Connect this terminal to the S-video output terminal of your VCR.
- \* ⑮ **Video input terminal (VIDEO1 INPUT/P-TE1010E)**  
Connect this terminal to the video output terminal of your VCR.
- \* ⑯ **Component video input terminal (VIDEO3 INPUT/P-TE1010E)**  
Connect this terminal to the component video output (colour difference output) terminal of your HDTV unit or DVD player.



## DISPLAY SECTION – LOWER PART

Bottom



① **⏻ power switch**

When pressed while in the "OFF" state, the power indicator lamp lights and the display is placed in the "ON ⏻" state, and the power can be turned "ON" or "OFF" by the remote control or on the control panel of the display. When pressed while in the "ON ⏻" state, the power indicator lamp goes out and the display is placed in the "OFF" state where power is still partly supplied.

② **RS-232C terminal (RS-232C)**

This terminal is provided for you to control the display from the PC. Connect it to the RS-232C terminal on the PC. When connecting a cable, attach a ferrite core to the cable.

③ **RGB1 input terminal (RGB1 INPUT/DVI-D)**

Connect this terminal to the PC's display (digital RGB) output terminal.

\*The connection cable No.88741-8000 made by **molex Inc.** is recommended.

④ **RGB2 input terminal (RGB2 INPUT/mD-sub)**

Connect this terminal to the PC's display (analog RGB) output terminal or decoder (digital broadcast tuner, etc.) output terminal.

⑤ **Power input terminal**

Connect this terminal to the power cable supplied with the display.

When connecting a cable, attach a ferrite core to the cable.

⑥ **External speaker output terminal (EXT SP)**

Connect this terminal to the optionally available speaker.

When connecting a cable, attach a ferrite core to the cable.

\*See the speaker instruction manual for more information.

⑦ **Audio3 input terminal (AUDIO3 INPUT)**

⑧ **Audio2 input terminal (AUDIO2 INPUT)**

⑨ **Audio1 input terminal (AUDIO1 INPUT)**

Connect this terminal to the sound output terminal of your VCR, etc.

⑩ **RGB3 input terminal (RGB3 INPUT/BNC)**

Connect this terminal to the PC's display (analog RGB) output terminal.

⑪ **RGB3 synchronization switch (SYNC SW TTL/ANALOG (75 Ω))**

This switch is used to terminate horizontal (H) terminal and vertical (V) terminal, out of RGB3 input terminals, with 75 Ω.

☐ TTL : Does not terminate.

▣ ANALOG (75 Ω) : Terminates.

## REMOTE CONTROL

① **Power button**

Switches between power ON and standby state.

③ **DISPLAY OFF button**

For showing on-screen-information.

④ **PICTURE MODE button**

Switches the picture mode.

⑦ **RGB input mode selector button [RGB 1 - 2]**

Selects RGB 1 - 2.

⑨ **Video input mode selector button [VIDEO 1 - 3]**

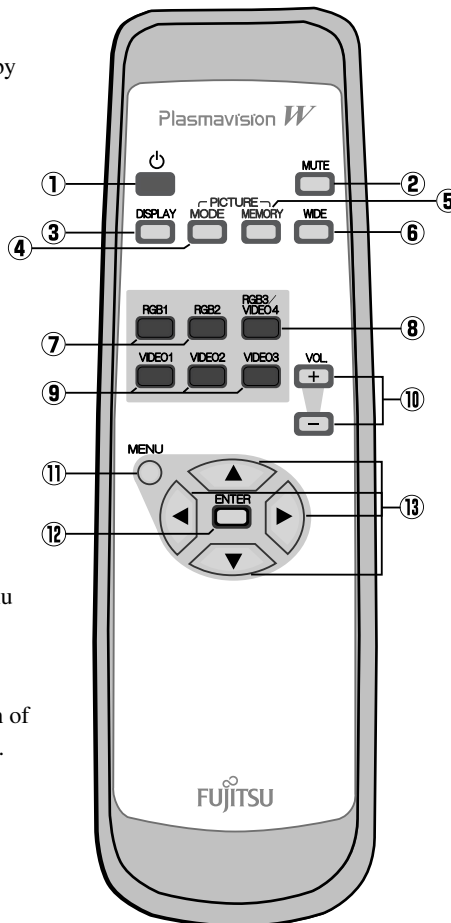
Selects VIDEO 1 - 3.

⑪ **Menu button [MENU]**

Use this button to display a desired menu for adjusting the picture.

⑫ **Enter button [ENTER]**

Press this button to finalize the selection of a desired menu or option within a menu.



② **MUTE button**

Temporarily mutes the sound.

⑤ **PICTURE MEMORY button**

Recalls the PICTURE MEMORY.

⑥ **WIDE button**

Switches the screen over to a desired wide screen.

⑧ **RGB3/VIDEO4 input mode selector button [RGB3/VIDEO4]**

Selects RGB3 or VIDEO4.

⑩ **Volume adjustment buttons [VOL +/- ]**

Adjust the volume.

Press the + button to increase the volume.

Press the - button to reduce the volume.

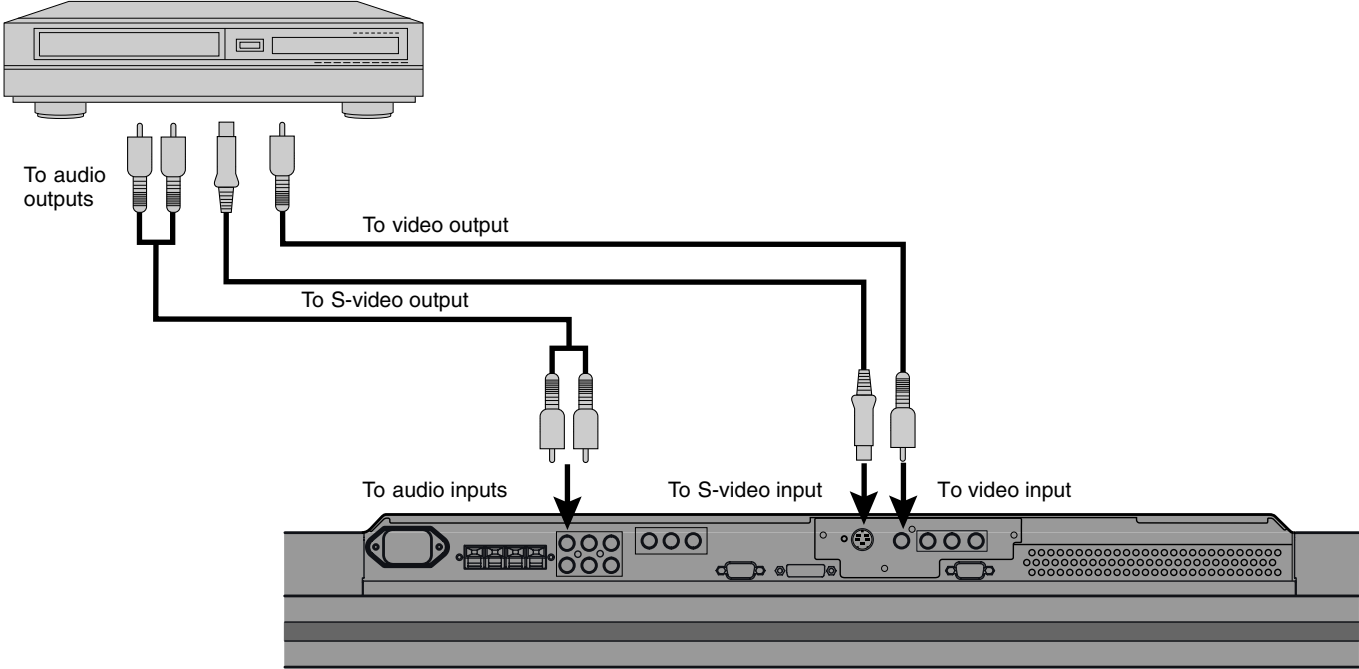
⑬ **Adjustment buttons [◀/▶/▲/▼]**

Use these buttons to scroll through options in a menu.

# Model : P50XHA10W/U

## VCR

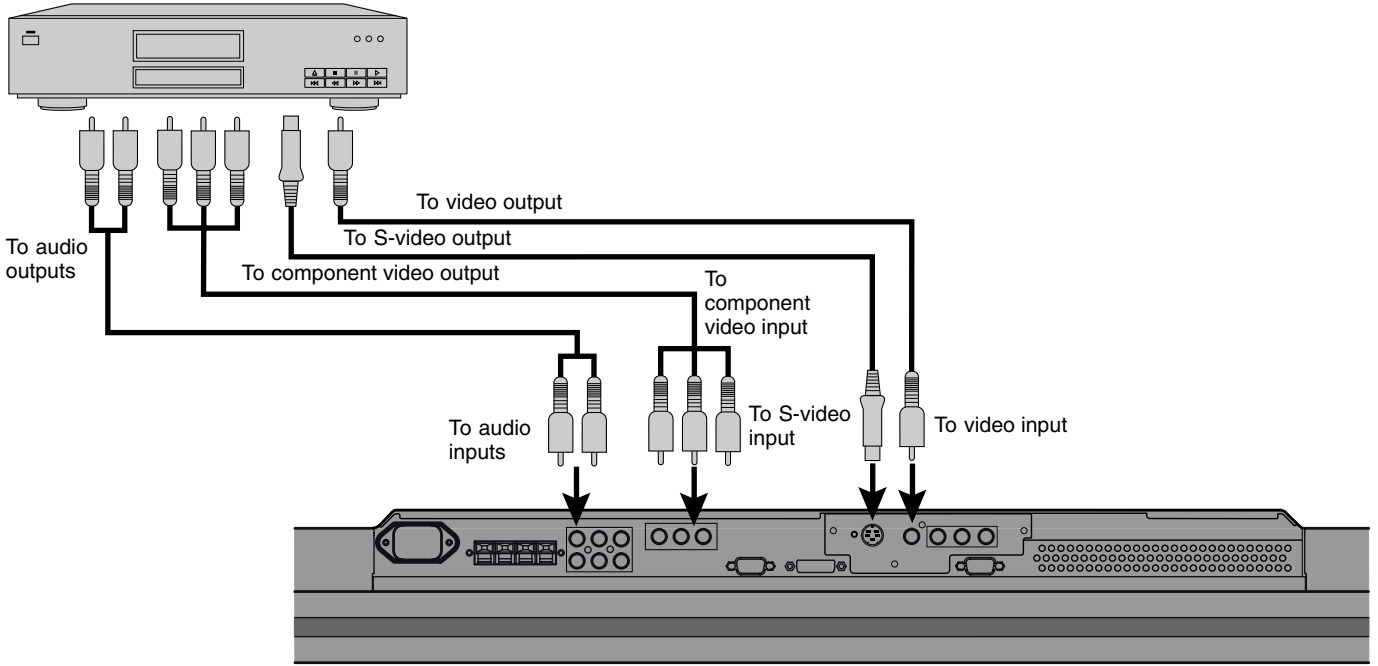
- Connect the video signal cable to either the S-video input terminal or the video input terminal.



Bottom of Display (Ex.: P42VHA10)

## DVD PLAYER

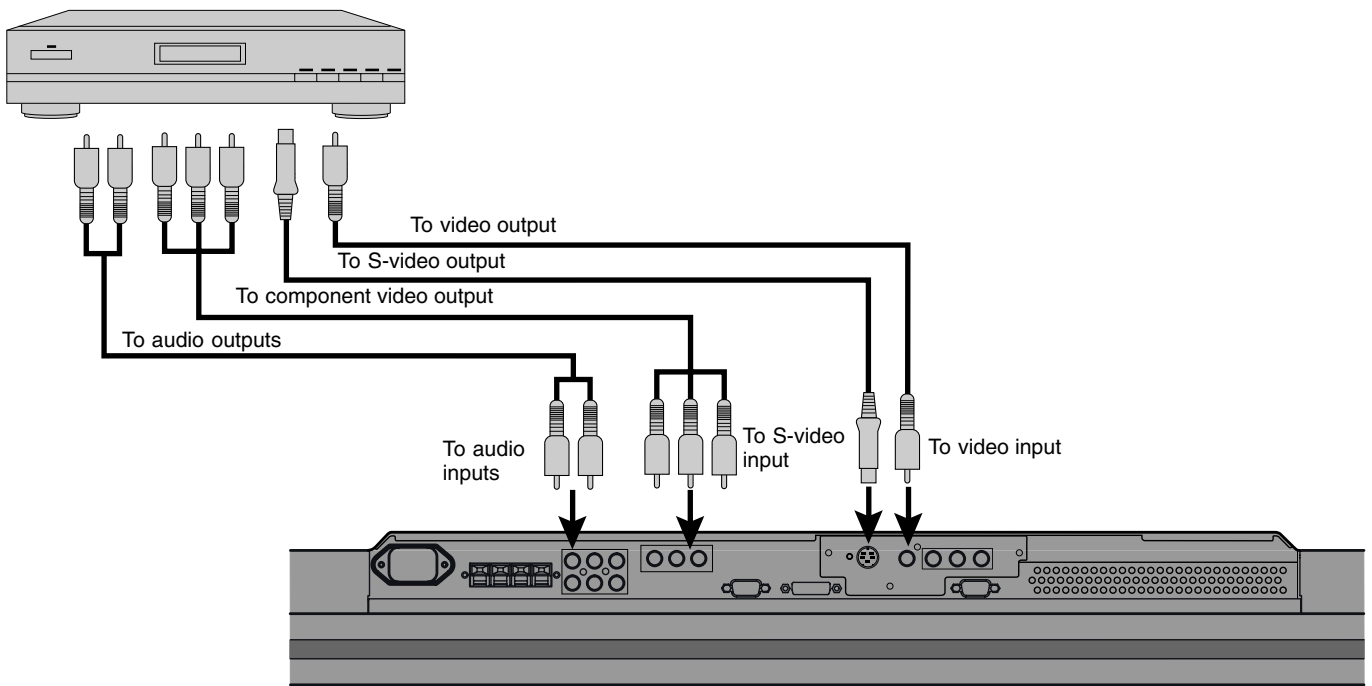
- Connect the video signal cable to the component video input terminal, S-video input terminal, or the video input terminal.
- If the component to be connected is equipped with component video output terminal, it is recommended to connect to the component video terminal.



Bottom of Display (Ex.: P42VHA10)

## SATELLITE TUNER

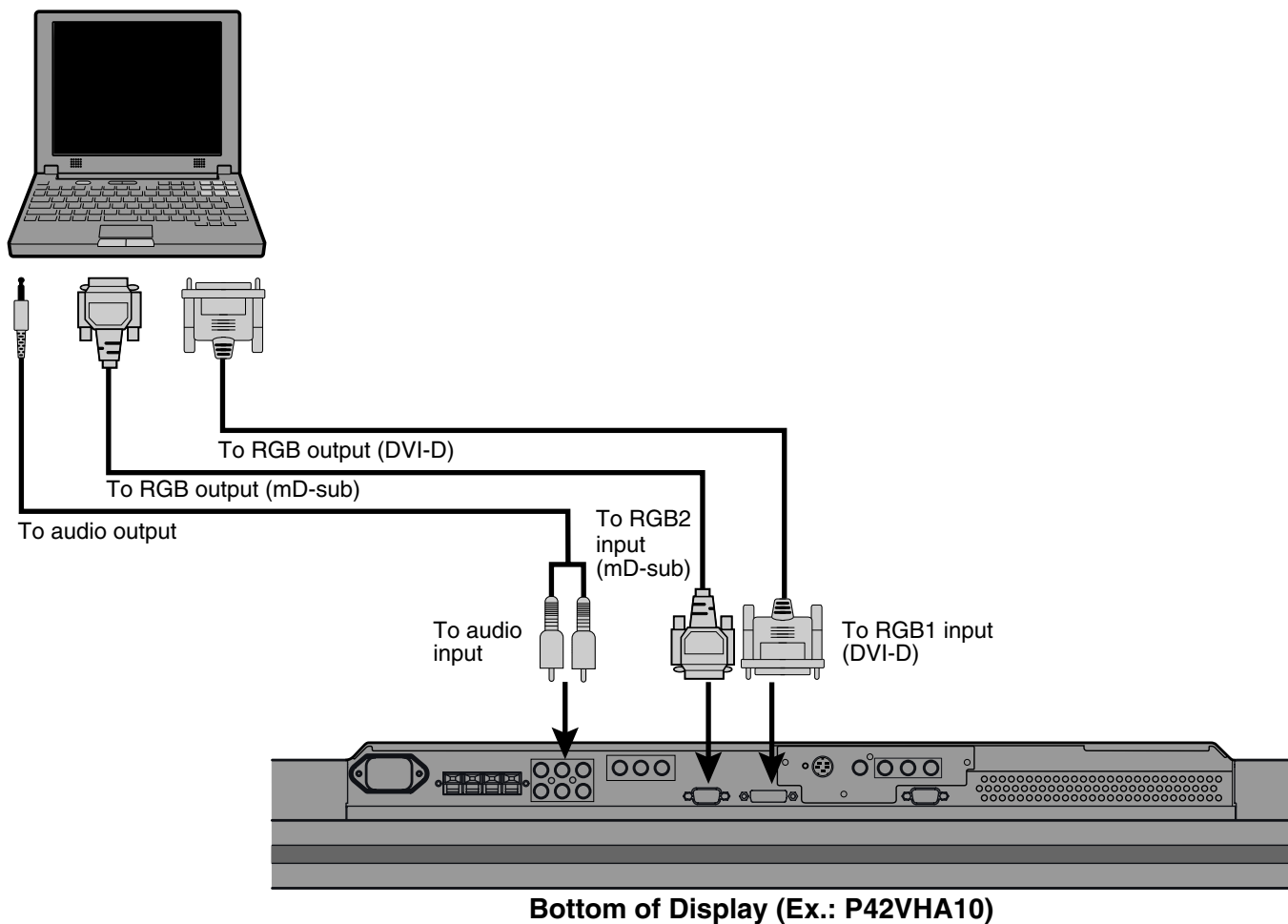
- Connect the video signal cable to the component video input terminal, S-video input terminal, or the video input terminal.
- If the component to be connected is equipped with component video output terminal, it is recommended to connect to the component video terminal.



Bottom of Display (Ex.: P42VHA10)

## PC

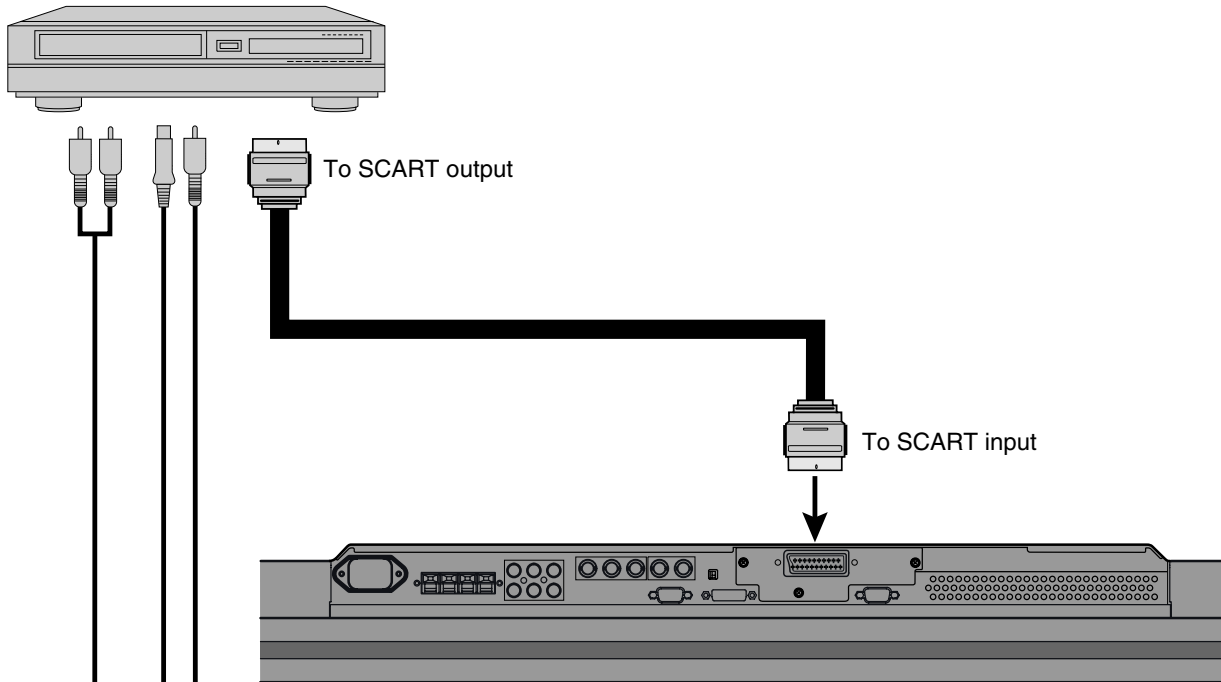
- As the cable for connecting a PC differs with the PC model, please consult your dealer for information on the right cable to purchase.
- The PC can be connected to either the front side or the rear side, whichever is most convenient.



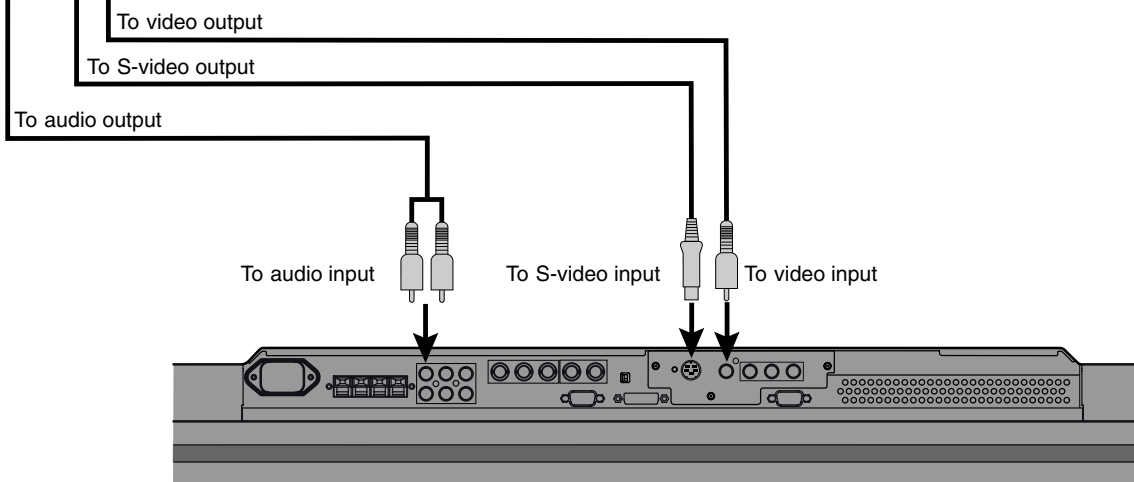
# Model : P50XHA10E

## VCR

- Connect the video signal cable to the SCART terminal. (When the P-TE1000E is installed.)
- Connect the video signal to either the S-video input terminal or the video input terminal. (When the P-TE1010E is installed.)



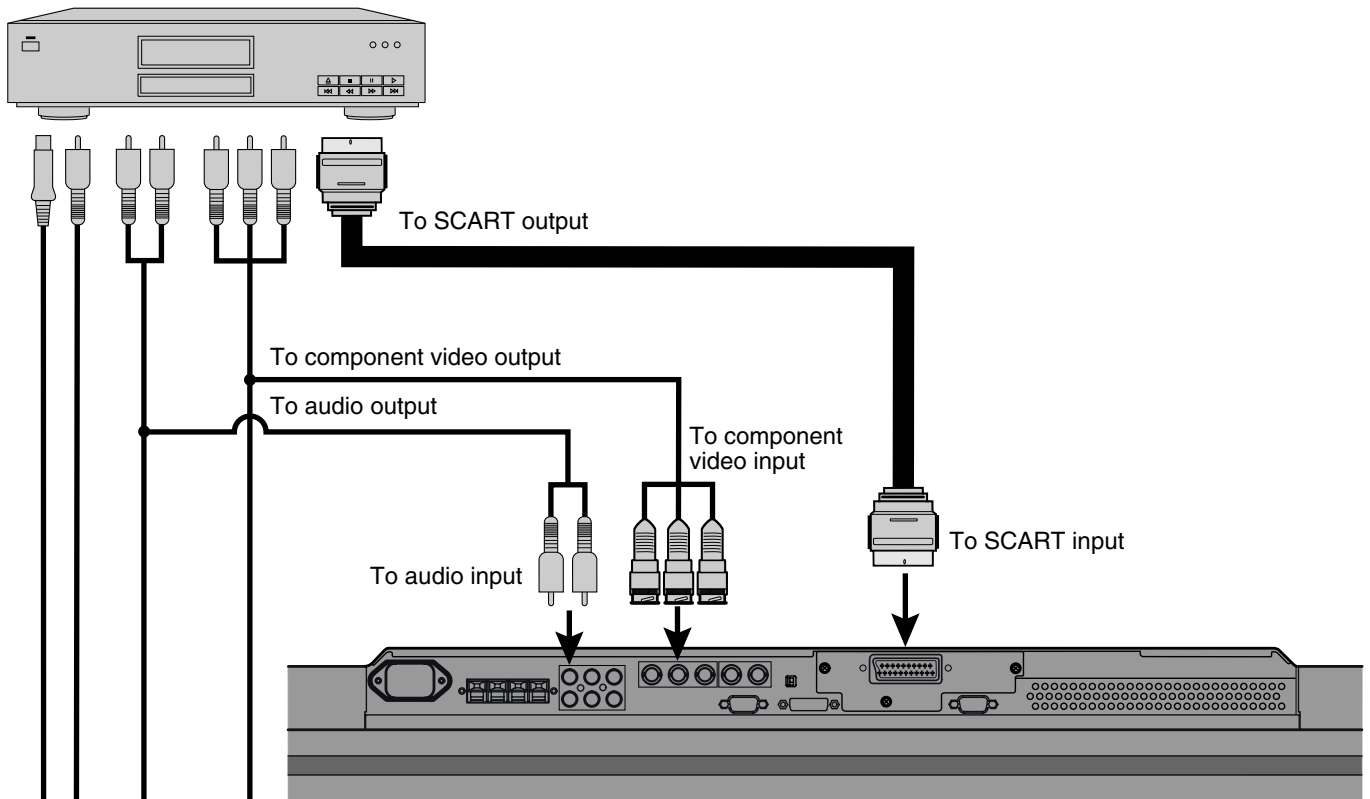
**An example of the underside of the display  
(with the P-TE1000E installed in the P42VHA10)**



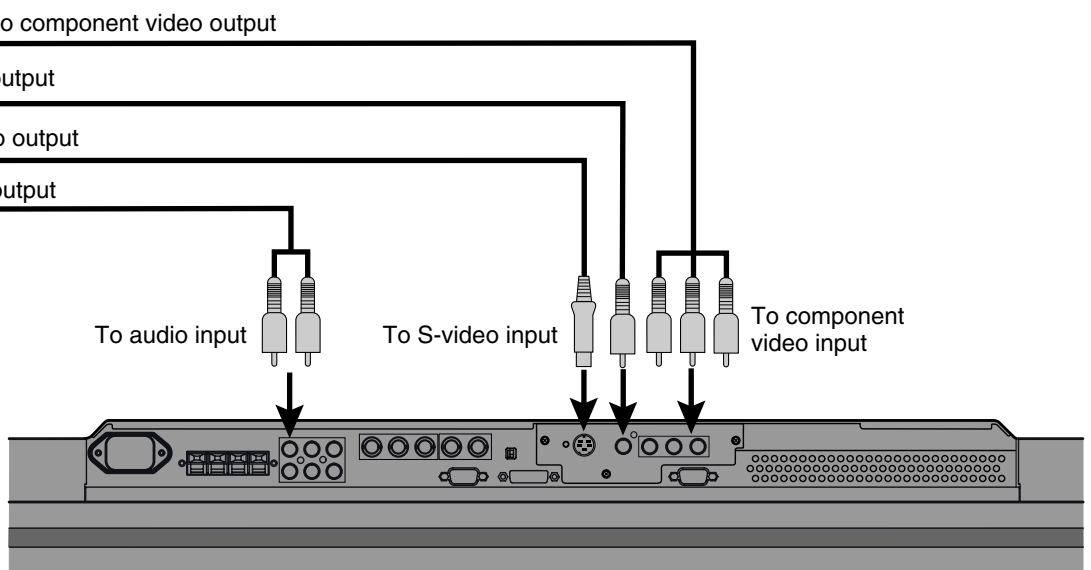
**An example of the underside of the display  
(with the P-TE1010E installed in the P42VHA10)**

## DVD PLAYER

- Connect the video signal cable to either the component video terminal or the SCART terminal. (When the P-TE1000E is installed.)
- Connect the video signal cable to the component video input terminal, S-video input terminal, or the video input terminal. (When the P-TE1010E is installed.)
- If the component to be connected is equipped with component video output terminal, it is recommended to connect to the component video terminal.



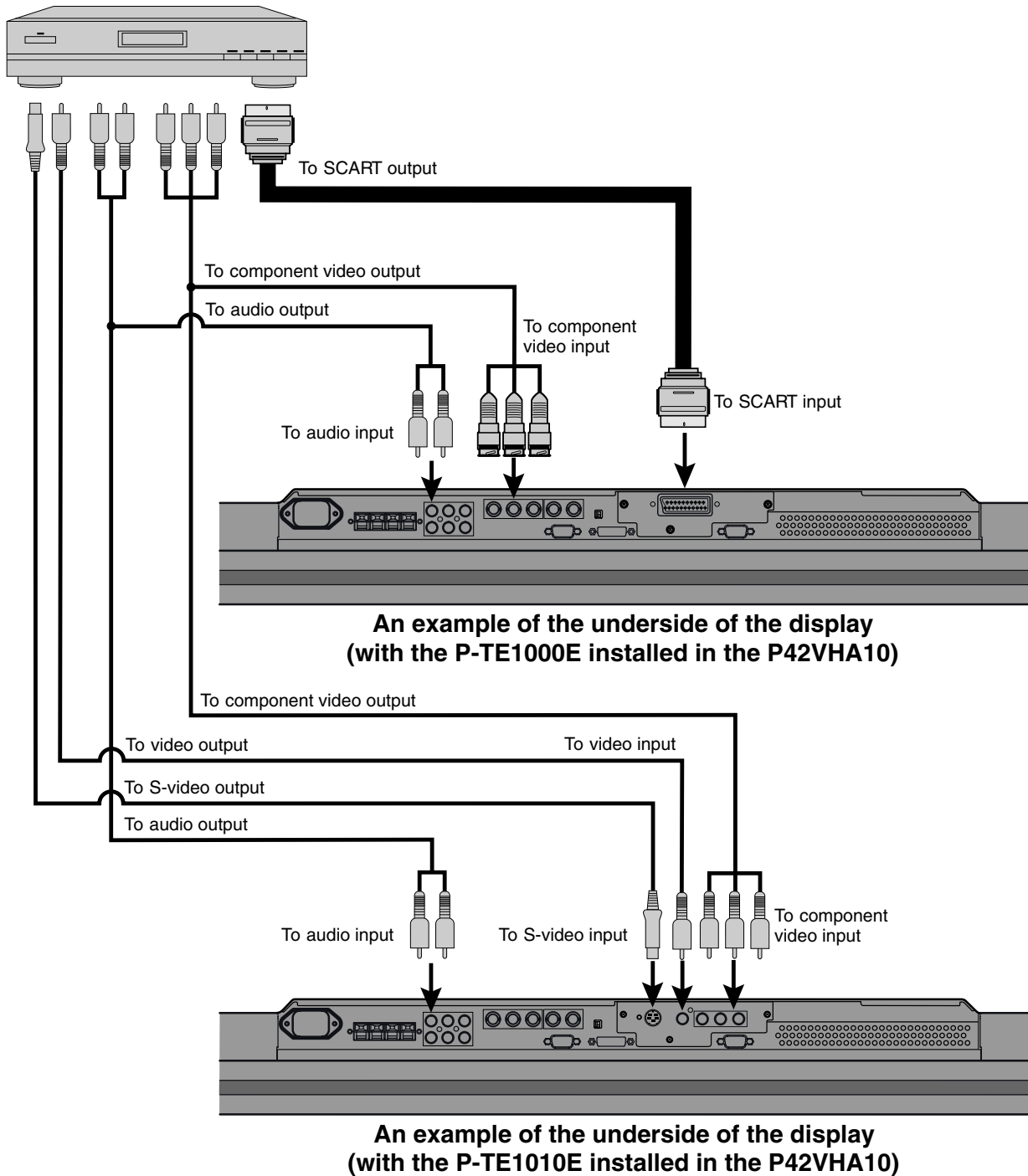
**An example of the underside of the display  
(with the P-TE1000E installed in the P42VHA10)**



**An example of the underside of the display  
(with the P-TE1010E installed in the P42VHA10)**

## SATELLITE TUNER

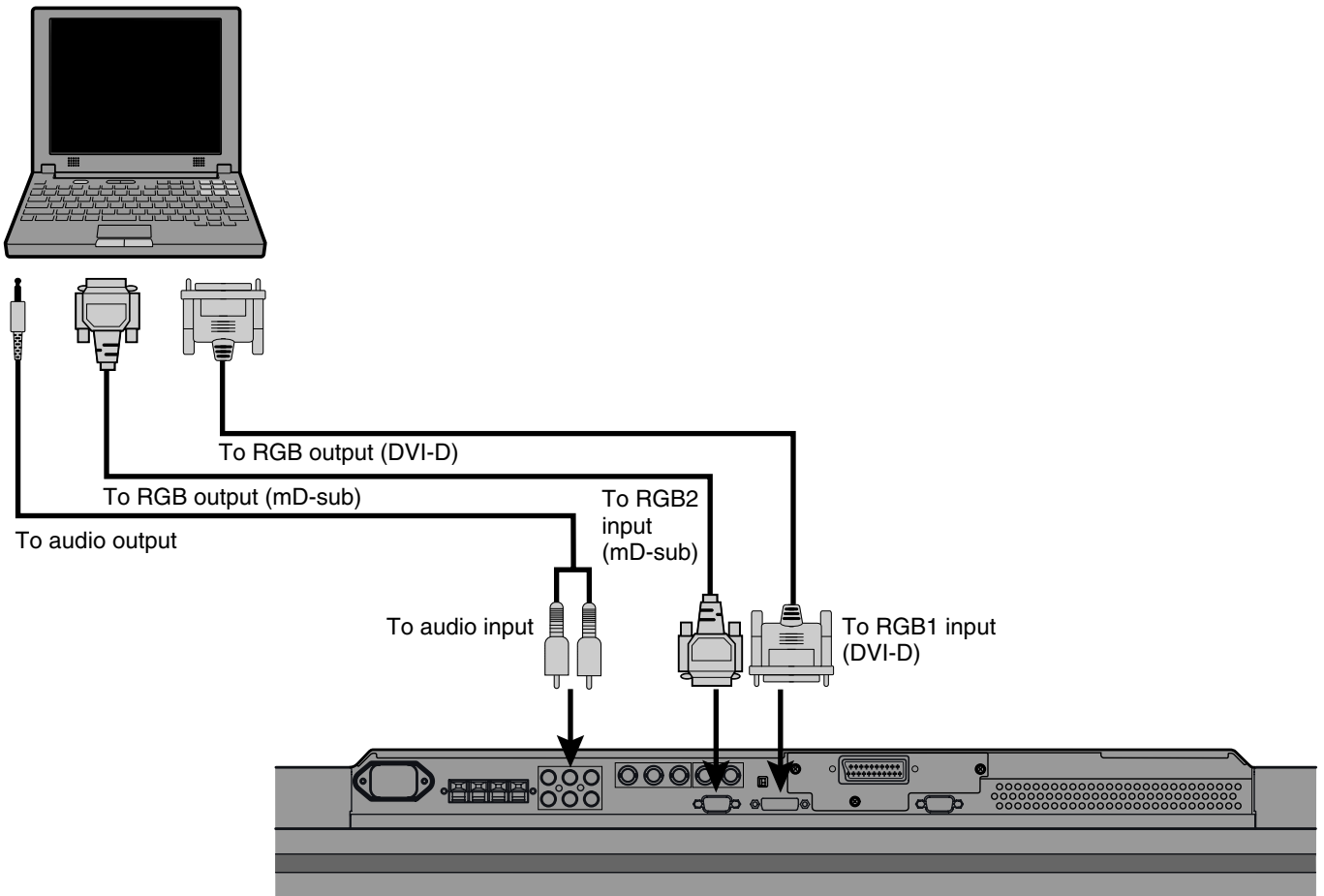
- Connect the video signal cable to either the component video terminal or the SCART terminal. (When the P-TE1000E is installed.)
- Connect the video signal cable to the component video input terminal, S-video input terminal, or the video input terminal. (When the P-TE1010E is installed.)
- If the component to be connected is equipped with component video output terminal, it is recommended to connect to the component video terminal.





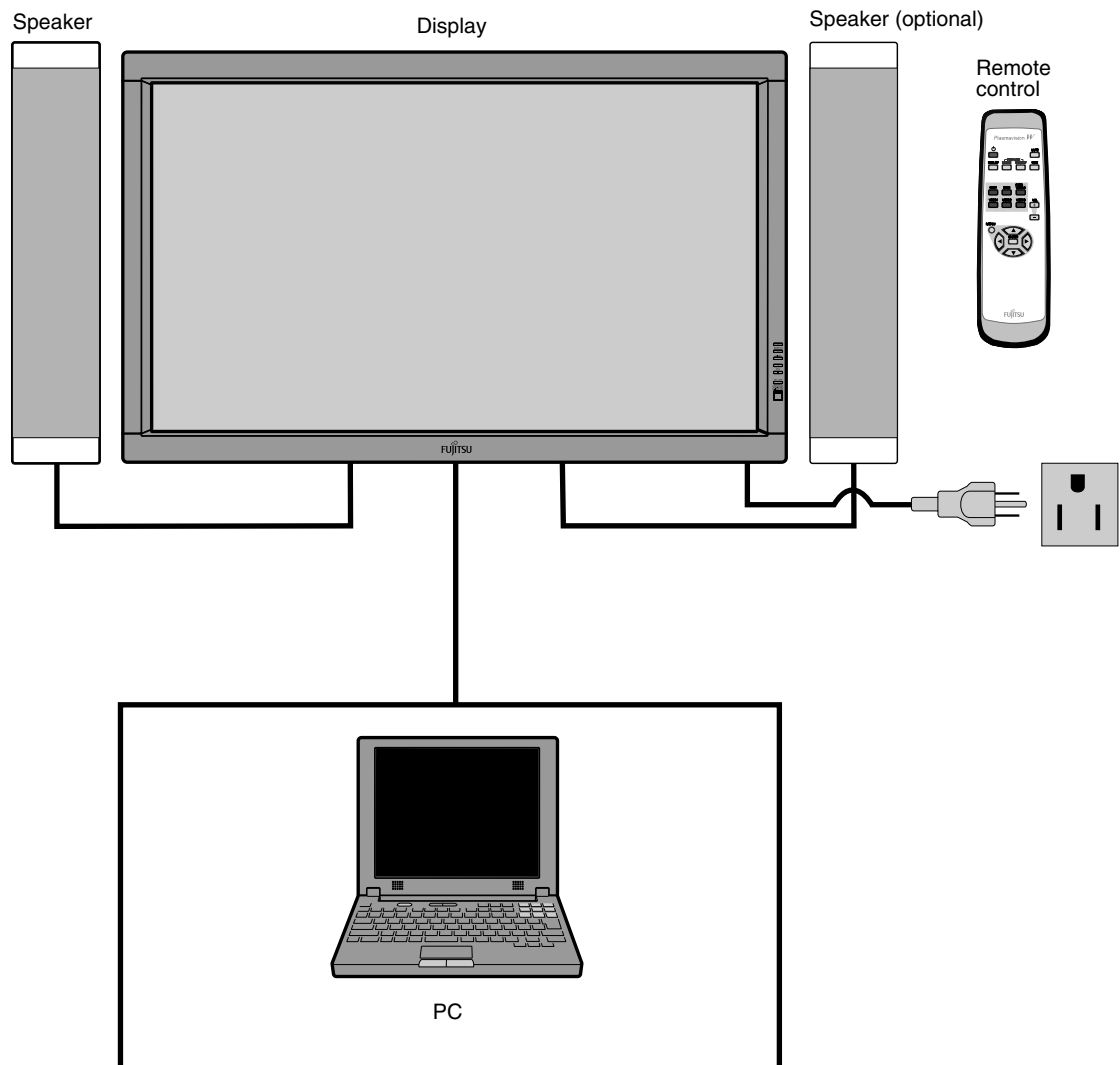
## PC

- As the cable for connecting a PC differs with the PC model, please consult your dealer for information on the right cable to purchase.
- The PC can be connected to either the front side or the rear side, whichever is most convenient.



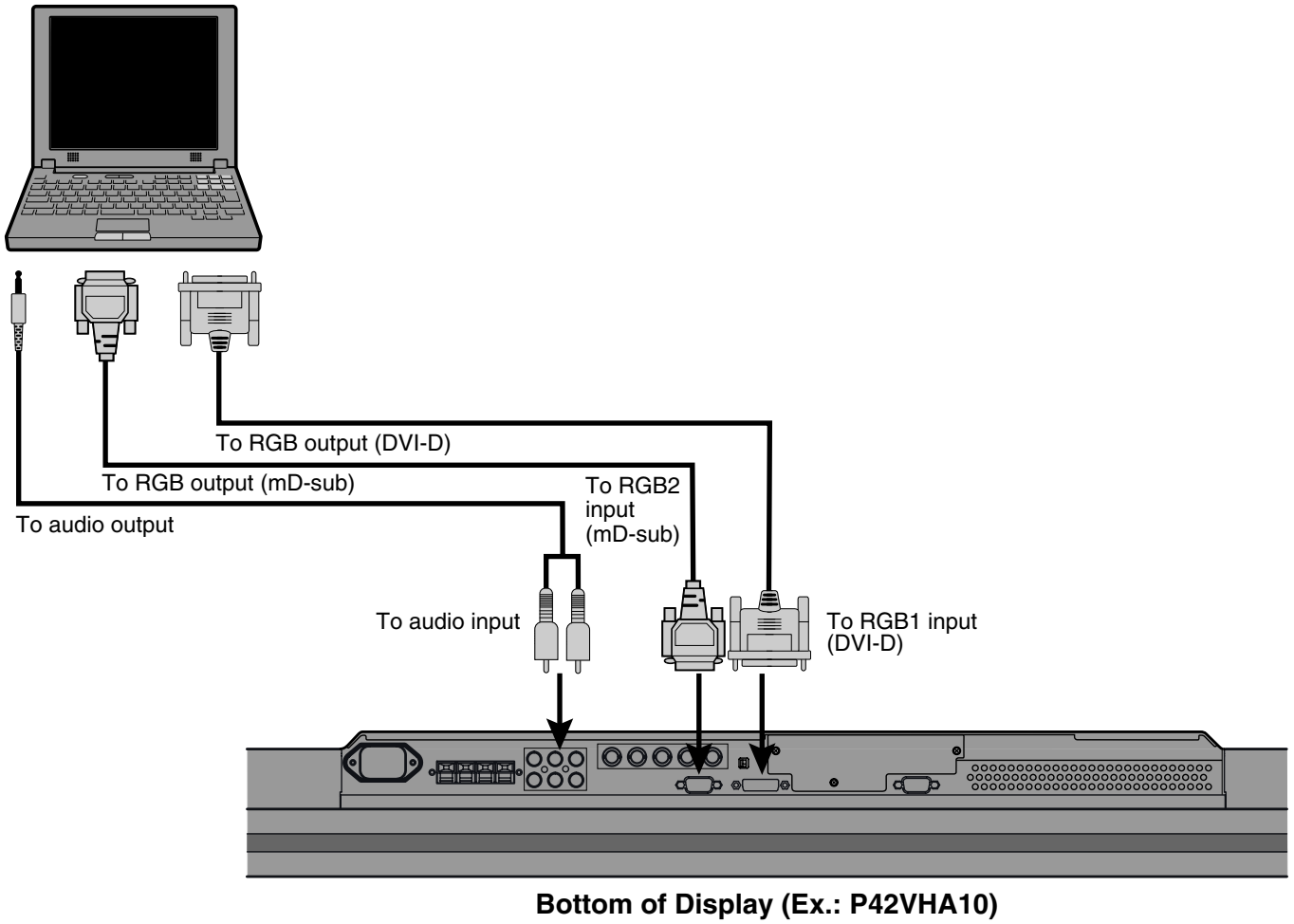
**An example of the underside of the display  
(with the P-TE1000E installed in the P42VHA10)**

## EXAMPLE OF CONNECTION TO EXTERNAL COMPONENTS



## PC

- As the cable for connecting a PC differs with the PC model, please consult your dealer for information on the right cable to purchase.
- The PC can be connected to either the front side or the rear side, whichever is most convenient.



### FACTORY SET SIGNALS (Component video mode)

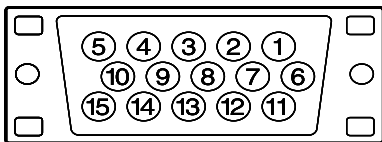
Horizontal frequency (kHz)	Vertical frequency (Hz)	Signal
15.73	59.94	SDTV 480i
15.63	50.00	SDTV 576i
31.47	59.94	SDTV 480p
31.25	50.00	SDTV 576p
45.00	60.00	HDTV 720p
37.50	50.00	HDTV 720p
33.75	60.00	HDTV 1,080i
28.13	50.00	HDTV 1,080i

### FACTORY SET SIGNALS (Video, S-video mode)

Horizontal frequency (kHz)	Vertical frequency (Hz)	Signal
15.73	59.94	NTSC
15.63	50.00	PAL
15.63	50.00	SECAM
15.63	59.52	PAL 60
15.63	50.00	N-PAL
15.73	59.95	M-PAL
15.73	59.94	4.43 NTSC

- The dedicated graphics card is optional.
- In the 800 x 600 and 1,024 x 768 modes, images of reduced size are displayed on the screen, using size reduction and interpolation. Also note that on-screen information is also displayed in reduced size.
- " Out of range" appears if the display receives a signal whose characteristic does not fall within the display's permissible range.
- You can check the input signals with "Information" on the OTHERS Menu screen.

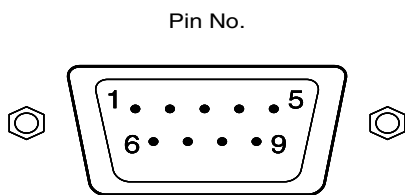
## RGB INPUT TERMINAL



\* The sync switch (TTL/ANALOG switch) is on the rear of the 13-pin horizontal sync and 14-pin vertical sync terminals.

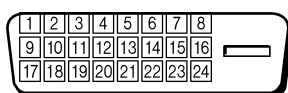
Pin No.	Input signal	Pin No.	Input signal
1	Red	9	Ground
2	Green	10	Ground
3	Blue	11	Ground
4	Ground	12	Ground
5	Ground	13	Horiz. sync
6	Ground	14	Vert. sync
7	Ground	15	Ground
8	Ground	Outer side	Ground

## RS-232C INPUT TERMINAL



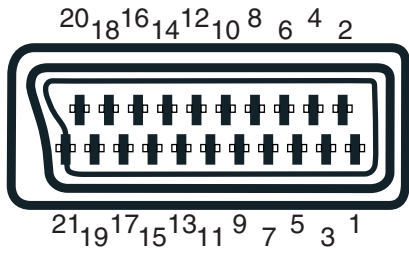
Pin No.	No. signal
1	DCD (Data Carrier Detect)
2	RD (Receive Data)
3	TD (Transmit Data)
4	DTR (Data Terminal Ready)
5	GND (Ground)
6	DSR (Data Set Ready)
7	RTS (Request To Send)
8	CTS (Clear To Send)
9	RI (Ring Indication)

## DVI-D INPUT TERMINAL



Pin No.	Signal	Pin No.	Signal	Pin No.	Signal
1	T.M.D.S. Data2-	9	T.M.D.S. Data1-	17	T.M.D.S. Data0-
2	T.M.D.S. Data2+	10	T.M.D.S. Data1+	18	T.M.D.S. Data0+
3	T.M.D.S. Data2 Shield	11	T.M.D.S. Data1 Shield	19	T.M.D.S. Data0 Shield
4	—	12	—	20	—
5	—	13	—	21	—
6	DDC Clock	14	+5V Power	22	T.M.D.S. Clock Shield
7	DDC Data	15	Ground(for +5V)	23	T.M.D.S. Clock +
8	—	16	Hot Plug Detect	24	T.M.D.S. Clock-

# SCART TERMINAL



Pin No.	Input Signal	Pin No.	Input Signal	Pin No.	Input Signal
1	—	8	—	15	Red/chrominance
2	Right audio	9	Green ground	16	—
3	—	10	—	17	—
4	Audio ground	11	Green	18	Composite video ground
5	Blue ground	12	—	19	—
6	Left audio	13	Red ground	20	Composite video/Y
7	Blue	14	—	21	Ground

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# IMPORTANT INFORMATION

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**WARNING : TO REDUCE THE RISK OF FIRE AND ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.**

Please use a screen saver to prevent burning of an after-image on the screen.

Electrical energy can perform many useful functions. This unit has been engineered and manufactured to assure your personal safety. But **IMPROPER USE CAN RESULT IN POTENTIAL ELECTRICAL SHOCK OR FIRE HAZARD.** In order not to defeat the safeguards incorporated into this unit, observe the following basic rules governing its installation, use and service. Please read these "Important Safeguards" carefully before use.

Read all the safety and operating instructions before operating the unit.

Retain the safety and operating instructions for future reference.

Adhere to all warnings on the unit and in the operating instructions.

Follow all operating instructions.

Unplug the unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.

Do not use attachments not recommended by the manufacturer as they may be hazardous.

Do not use the unit near water. Do not use the unit immediately after moving it from a low temperature to a high temperature environment, as this causes condensation, which may result in fire, electric shock, or other hazards.

Do not place the unit on an unstable cart, stand, or table. The unit may fall, causing serious injury to a child or adult, and serious damage to the unit. Mount the unit according to the manufacturer's instructions, using the mount recommended by the manufacturer.

When the unit is used on a cart, avoid quick stops, excessive force, and uneven surfaces which may cause the unit and cart to overturn, damaging the unit or causing possible injury to the operator.

When transporting by car, place the unit as shown in the figure.



Slots and openings in the cabinet are provided for ventilation. These ensure reliable operation and protect the unit from overheating. These openings must not be blocked or covered. (The openings should never be blocked by placing the unit on a bed, sofa, rug, or similar surface. The unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided and the manufacturer's instructions are adhered to.) For proper ventilation, separate the unit from other equipment, which may obstruct ventilation. Keep the unit at least 10cm from other equipment.

Operate only with the type of power source indicated on the label. If you are not sure of the type of power supply to your home, consult your dealer or local power company.

This unit is equipped with a three-wire plug. This plug will fit only into a grounded power outlet. If you cannot insert the plug into the outlet, have an electrician install the proper outlet. Do not defeat the safety purpose of the grounded plug.

Route power cords so that they are not likely to be walked on or pinched by items placed on or against them. Pay particular attention to cords at doors, plugs, receptacles, and where they exit from the unit.

For added protection during a lightning storm, or when the unit is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cabling. This will prevent damage to the unit by lightning and power line surges.

Do not overload wall outlets, extension cords, or convenience receptacles on other equipment as this can result in fire or electric shock.

Never push objects of any kind into this unit through openings as they may touch dangerous voltage points or short-circuit parts that could result in a fire or electric shock. Never spill liquid of any kind onto the unit.

Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltages and other hazards. Have all service done by qualified service personnel.

Unplug this unit from the wall outlet and have it serviced by qualified service personnel in the following cases:

- a) If the power supply cord or plug is damaged.
- b) If liquid has been spilled, or objects have fallen onto the unit.
- c) If the unit has been exposed to rain or water.
- d) If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the Operation Manual, as improper adjustment of controls may result in damage and will often require extensive work by a qualified technician to restore the unit to normal operation.
- e) If the unit has been dropped or damaged in any way.
- f) A distinct change in performance indicates that service is required.

When required, be sure the service technician uses replacement parts specified by the manufacturer or parts with the same characteristics as the original parts. Unauthorized substitutions may result in fire, electric shock, or other hazards.

Upon completion of any service of repairs, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

Place the unit more than one foot away from heat sources such as radiators, heat registers, stoves, and other devices (including amplifiers) that produce heat.

When connecting other devices such as VCR's and personal computers, turn off the power to this unit to protect against electric shock.

Do not place combustibles such as cloth, paper, matches, aerosol cans or gas lighters that prevent special hazards when overheated behind the cooling fan.

Use only the accessory cord designed for this unit to prevent shock.

The power supply voltage rating of this unit is AC100-240V, but the attached power cord conforms to the following power supply voltage. Use only the Power Cord designated by our dealer to ensure Safety and EMC.

When used with other power supply voltages, the power cable must be changed.  
Consult your local dealer.

