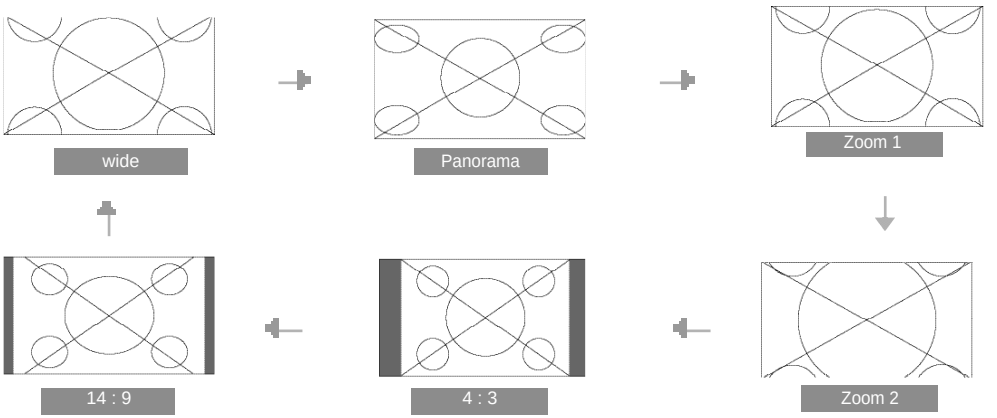
Changing Screen Size

Press  (Aspect Ratio Controller).

wide → Panorama → Zoom1 → Zoom2 → 4 : 3 (normal) → 14 : 9 → wide

In PC/ DVI input mode, you can only select either the wide or the normal (4 : 3) mode.
In Component 2(1080i) input mode, you can't Select Zoom2.



Application

>> Screen Size > >

- wide - It makes 16 : 9 format for input signal.
- Panorama - It makes 4 : 3 format fit into 16 : 9 format with minimal loss in content.
- Zoom 1 - It enlarges the natural screen factor by approx. 5 %
- Zoom 2 - It enlarges the natural screen factor by approx. 10 %
- 4 : 3 - It is the standard format of broadcasting.
- 14 : 9 - It makes 14 : 9 format for input signal.

Viewing Picture in Picture

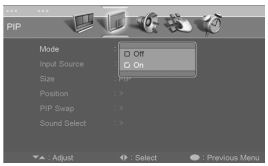
Press  .

Use  to move to  .

Press  to move to "Mode".

Press  to select.

Use  to select the "On".



Press  to go back to the previous menu.

Or press  .

Sound from only one of the screens may be heard.

● External Input

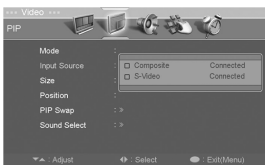
Press  to move to "Input Source".

Press  to select.

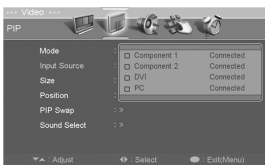
Use  to select the desired input source.

Press  to go back to the previous menu.

Or press  .



<In case, main source is Component 1/2, PC, DVI>



<In case, main source is Composite, S-Video>

The sub-screen can be changed to display picture from the desired input source.

Viewing Picture in Picture

● Changing the Screen Size

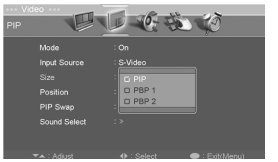
Press  to move to "Size".

Press  to select.

Use  to select the desired size.

Press  to go back to the previous menu.

Or press  .



● Selecting Position

Press  to move to "Position".

Press  to select.

Use  to select the desired position.

Press  to go back to the previous menu.

Or press  .

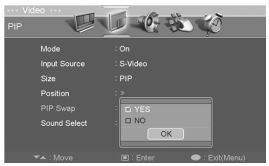
Sub-screen position can be selected only from the  .

Application

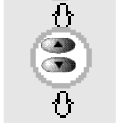
Viewing Picture in Picture

● Main Screen/Sub Screen Swap

Press  to move to "PIP Swap".



Press  to select.

Use  to select the "Yes".

Press  to select "OK".

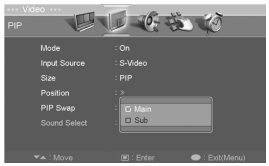
Press  to go back to the previous menu.

Or press  .

The main screen and the sub screen will swap.

● Selecting Sub Screen Sound

Press  to move to "Sound Select".



Press  to select.

Use  to select the "Main" or "Sub".

Press  to go back to the previous menu.

Or press  .

The sound of the sub screen can be selected when PIP is being displayed.

Auto Volume Level

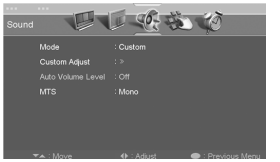
This feature maintains an equal Volume level ; even if you change channels.

Press  .

Use  to move to  .

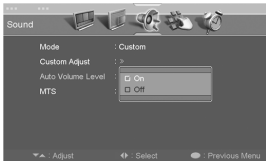
Press  to move to "Auto Volume Level".

Press  to select.



Use  to select the "On".

Press  to go back to the previous menu.



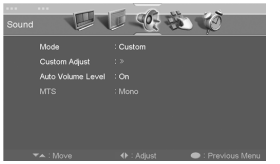
Stereo Settings

Press  .

Use  to move to  .

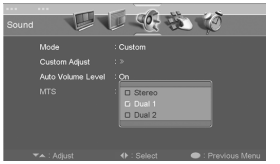
Press  to move to "MTS".

Press  to select.



Use  to select the desired category.

Press  to go back to the previous menu.

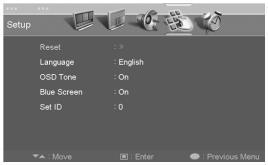


Resetting PDP Settings

It resets all of the parameters to the factory default.

Press  .

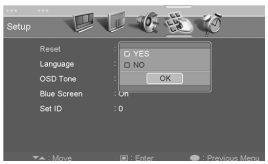
Use  to move to  .



Press  to move to "Reset".

Press  to select.

Use  to select the "Yes".



Press  to select

※ The PDP will turn off. The parameters will be set to factory default.

Setting Digital Noise Reduction

Use when screen is noissy or lines appear.

Press  .

Use  to move to  .

Press  to move to "Digital N/R".

Press  to select.

Use  to select the "On".

Press  to select.

Panel Safety

Press  .

Use  to move to  .

Press  to move to "Panel Safety".

Press  to select.

Use  to select desired category.

Press  to select.

Scroll

-On : The screen will move every 10 seconds.
① (C→L) ② (L→C) ③ (C→U) ④ (U→C)
⑤ (C→R) ⑥ (R→C) ⑦ (C→D) ⑧ (D→C)
-Off : The screen will be in place opposire way of scroll On.

Image Inversion- Enable signal for preventing image sticking.

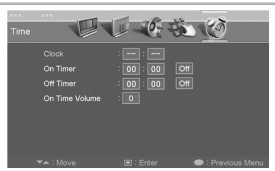
Power Saving

-Mode 1 : Normal mode.(Default)
-Mode 2 : Supporting high power save mode.
-Mode 3 : Supporting middle power save mode.
-Mode 4 : Supporting low power save mode.

Setting Time

Press  .

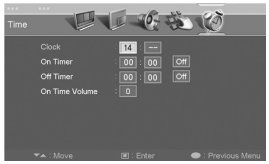
Use  to move to  .



Press  to move to "Clock".

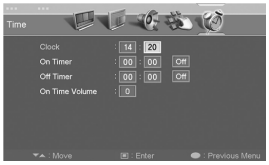
Press  to move one step.

Use  to adjust the desired hour.



Press  to move one step.

Use  to adjust the desired minute.



Press  to go back to the previous menu.

Automatic Power on/off

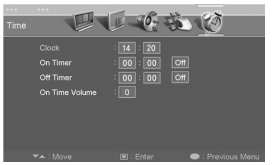
● Clock time must be set

Press  .

Use  to move to  .

Press  to move to desired category.

Press  to select.



	Setting Time for Power On	Setting Time for Power Off
Setting Hour Use  to select, to set		
Setting Minute Use  to select, to set		
Set/Cancel Use  to select, to select the "On" or "Off"		
Volume Control Use  to select, to set volume		

● To have the PDP turn off after you fall a sleep

press  .

It automatically turns off the PDP after a designated period of time
Depending on the number of times the "Sleep" button is pressed, the PDP will be turned off after 30, 60, 90, 120, 150 or 180 minutes.

Using PDP as a Monitor

Press  .

Use  to move to "PC/ DVI".

Press  to select.

PC Mode must be on in order for you to use the PDP as a monitor.

Adjusting PC Screen

Use this function to remove or reduce noise impacts in case PDP vibrates and image boundary is unstable.

Press  .

Use  to move to  .

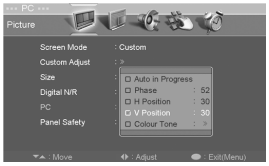
Press  to move to "PC".

Press  to select.

Use  to move to desired category.

Use  to adjust the setting.

Press  to go back to the previous menu.



※ Auto Adjustment, Phase, H-Position, V-Position are not adjustable in DVI input.

・Auto Adjustment : Use when the screen is not focused or centered.
・Phase : It adjusts the phase shift of the image. Use when image appears blurry or out of focus.
・H-Position : It moves the image on the screen horizontally.
・V-Position : It moves the image on the screen vertically.

Adjusting Colour Tone

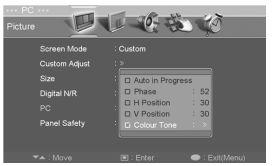
Press  .

Use  to move to  .

Press  to move to "PC".

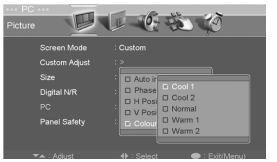
Press  to select.

Use  to move to "Colour Tone"



Press  to select.

Use  to select the desired category.



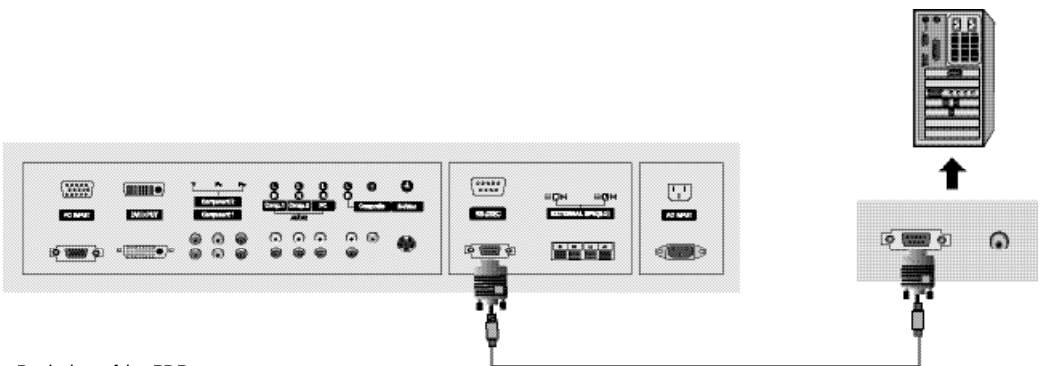
Press  to go back to the previous menu.

- Cool 1: This results in a blueish tone.
- Cool 2: This results in a more blueish tone.
- Normal : This is standard colour setting.
- Warm1 : This results in a reddish tone.
- Warm2 : This results in a more reddish tone.

External adjustment

・Use the RS-232C jack to control monitor's functions externally by external equipment.

● How connect a external equipment



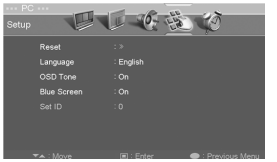
<Back view of the PDP>

Set ID

Use this function to choose monitor ID number.

Press  .

Use  to move to  .

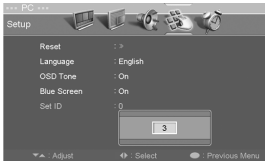


Press  to move to "Set ID".

Press  to select.

Use  to select the desired ID number.

Press  to go back to the previous menu.

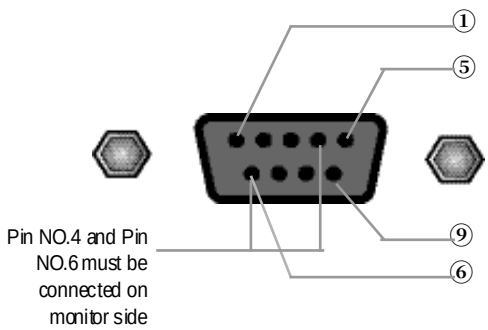


The adjustment range of Set ID is 0 ~ 99.

Special features

● Type of connector : D-Sub 9-pin male

No.	Pin name
1	No connection
2	RXD (Receive data)
3	TXD (Transmit data)
4	DTR (DTE side ready)
5	GND
6	DSR (Dce side ready)
7	RTS (Ready to send)
8	CTS (Clear to send)
9	No Connection

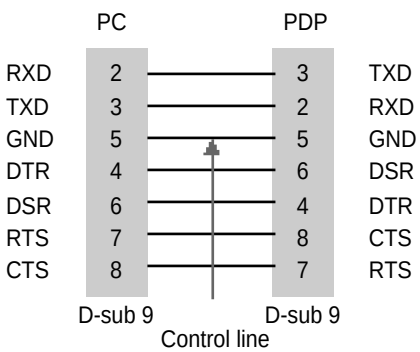


・Use a crossed (reverse) cable.

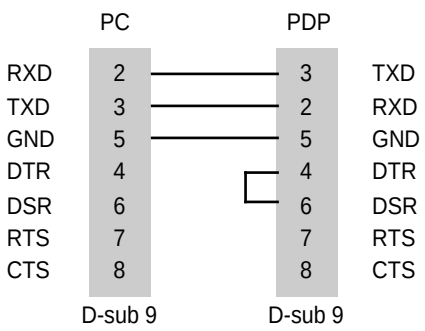
Wire the cable so that each pair of data lines cross between the two devices. These data line pairs are RXD (Receive to send) and TXD (Transmit data), DTR (DTE side ready) and DSR (DCE side ready), and RTS (Ready to send) and CTS (Clear to send).

● RS-232C configurations

・7-wire configuration
(Standard RS-232C cable)



・3-wire configuration
(Not standard)



RS232C Communication Protocol

● COMMUICATION PARAMETERS

BAUD RATE : 9600 bps
Data Length : 8bits
Parity : None
Stop bit : 1bit

※ The Remote Control and PDP Key Control(Except Main Power) Don't Operate When Controlling PDP Set by PC.

● Command List

Item	ASCII Code	Data(hex)
1. Power	p	00h~01h
2. Input Source	i	00h~07h
3. Aspect Ratio	r	00h~08h
4. Volume Mute	w	00h~01h
5. Volume Control	v	00h~64h
6. Screen Mode	s	00h~04h
7. Brightness	b	00h~64h
8. Contrast	k	00h~64h
9. Colour	c	00h~64h
10. Tint	t	00h~64h

Item	ASCII Code	Data(hex)
11. Sharpness	h	00h~64h
12. Information	f	00h~01h
13. Pip On	o	00h~01h
14. Pip Source	u	00h~07h
15. Pip Location	n	00h~03h
16. Pip Sound set	e	00h~01h
17. Pip Mode	d	00h~02h
18. Remote Control On	j	00h~01h
19. Abnormal State	q	00h~01h
20. Sound Mode	y	00h~04h

● Tramsmission / Receiving Protocol List

* Transmission

{Command}{ }{SET ID}{ }{Data}{Cr}

{Commad}	To Control Code PDP
{ }	"Space , ASCII Code = 0x20"
{SET ID}	You Can Adjust SET ID Setup Menu of PDP
{Data}	Data Command Transmit 'FF' data to data read mode
{Cr}	Carriage Return ASCII Code 0x0d

* Ok Acknowledge

{SET ID}{:}{OK}{x}{Data}{x}

The PDP set transmits ASCII based on this format When receiving normal data. At this time, If the data is data read mode, it indicates present status data if the data is data write mode, it returns the data of PC.

* In case set ID is 0, Ack data doesn't feed back, and you can adjust all PDP set.

RS232C Communication Protocol

1. Power : p

▶ To Control Power On/Off of the PDP

* Transmission

{p}{ }{SET ID}{ }{Data}{Cr}

Data 0 : Off

Data 1 : On

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data 0 : Off

Data 1 : On

▶ Read Power On Source Status

* Transmission

{p}{ }{SET ID}{ }{FF}{Cr}

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data 0 : Power Off

Data 1 : Power On

Data 2 : Power On Composite

Data 3 : Power On S-Video

Data 6 : Power On Component1

Data 7 : Power On Component2

Data 8 : Power On PC(RGB)

Data 9 : Power On DVI

※ If Other Functions Transmit 0xFF data based on this format, Ack data feeds back present status about each function.

2. Input Source : i

▶ To Input Source Select

* Transmission

{i}{ }{SET ID}{ }{Data}{Cr}

Data 1 : Composite

Data 2 : S-Video

Data 3 : Not available

Data 4 : Not available

Data 5 : Component1

Data 6 : Component2

Data 7 : PC(RGB)

Data 8 : DVI

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data 1 : Composite

Data 2 : S-Video

Data 3 : Not available

Data 4 : Not available

Data 5 : Component1

Data 6 : Component2

Data 7 : PC(RGB)

Data 8 : DVI

3. Aspect Ratio : r

▶ To adjust screen format

* Transmission

{r}{ }{SET ID}{ }{Data}{Cr}

Data 0 : Wide

Data 1 : Panorama

Data 2 : Zomm1

Data 3 : zomm2

Data 4 : 4:3

Data 5 : 14:9

Data 6 : 4:3(In PC Mode)

Data 7 : Wide(In PC Mode)

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data 0 : Wide

Data 1 : Panorama

Data 2 : Zomm1

Data 3 : zomm2

Data 4 : 4:3

Data 5 : 14:9

Data 6 : 4:3(In PC Mode)

Data 7 : Wide(In PC Mode)

4. Volume Mute : w

▶To Select volume mute on/off

* Transmission

{w}{ }{SET ID}{ }{Data}{Cr}

Data 0 : On

Data 1 : Off

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data 0 : On

Data 1 : Off

5. Volume Control : v

▶ To adjust volume

* Transmission

{v}{ }{SET ID}{ }{Data}{Cr}

Data : Min : 00h~Max : 64h

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data : Min : 00h~Max : 64h

6. Screen Mode : s

▶ To Select Screen Mode

* Transmission

{s}{ }{SET ID}{ }{Data}{Cr}

Data 0 : Custom

Data 1 : Dynamic (In PC Mode : High)

Data 2 : Standard (In PC Mode : Middle)

Data 3 : Movie (In PC Mode : Low)

Data 4 : Mild

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data 0 : Custom

Data 1 : Dynamic

Data 2 : Standard

Data 3 : Movie

Data 4 : Mild

7. Brightness : b

▶ To adjust Brightness

* Transmission

{b}{ }{SET ID}{ }{Data}{Cr}

Data : Min : 00h~Max : 64h

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data : Min : 00h~Max : 64h

8. Contrast : k

▶ To adjust Contrast

* Transmission

{k}{ }{SET ID}{ }{Data}{Cr}

Data : Min : 00h~Max : 64h

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data : Min : 00h~Max : 64h

9. Colour : c

▶To adjust Colour (Not available in PC Mode)

* Transmission

{c}{ }{SET ID}{ }{Data}{Cr}

Data : Min : 00h~Max : 64h

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data : Min : 00h~Max : 64h

10. Tint : t

▶ To adjust Tint (Not available in PC Mode)

* Transmission

{t}{ }{SET ID}{ }{Data}{Cr}

Data : Min : 00h~Max : 64h

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data : Min : 00h~Max : 64h

RS232C Communication Protocol

11. Sharpness : h

▶ To adjust Sharpness

* Transmission

{h}{ }{SET ID}{ }{Data}{Cr}

Data : Min : 00h~Max : 64h

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data : Min : 00h~Max : 64h

12. Information : f

▶ Information on/off

* Transmission

{f}{ }{SET ID}{ }{Data}{Cr}

Data 0 : On

Data 1 : Off

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data 0 : On

Data 1 : Off

13. Pip On : o

▶ Pip on/off

* Transmission

{o}{ }{SET ID}{ }{Data}{Cr}

Data 0 : On

Data 1 : Off

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data 0 : On

Data 1 : Off

14. Pip Source : u

▶ To Select Pip Source

* Transmission

{u}{ }{SET ID}{ }{Data}{Cr}

Data 1 : Composite

Data 2 : S-Video

Data 3 : Not available

Data 4 : Not available

Data 5 : Component1

Data 6 : Component2

Data 7 : PC(RGB)

Data 8 : DVI

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data 1 : Composite

Data 2 : S-Video

Data 3 : Not available

Data 4 : Not available

Data 5 : Component1

Data 6 : Component2

Data 7 : PC(RGB)

Data 8 : DVI

15. Pip Location : n

▶ To Select Pip Position

* Transmission

{n}{ }{SET ID}{ }{Data}{Cr}

Data 0 : Right Bottom

Data 1 : Right Top

Data 2 : Left Top

Data 3 : Left Bottom

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data 0 : Right Bottom

Data 1 : Right Top

Data 2 : Left Top

Data 3 : Left Bottom

16. Pip Sound Set : e

▶To Select Pip Sound

* Transmission

{e}{ }{SET ID}{ }{Data}{Cr}

Data 0 : Main

Data 1 : Sub

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data 0 : Main

Data 1 : Sub

17. Pip Mode : d

▶ To Select Pip Mode

* Transmission

{d}{ }{SET ID}{ }{Data}{Cr}

Data 0 : PIP

Data 1 : PBP1

Data 2 : PBP2

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data 0 : PIP

Data 1 : PBP1

Data 2 : PBP2

18. Remote Control On : j

▶ To Select Remote Control on/off

* Transmission

{j}{ }{SET ID}{ }{Data}{Cr}

Data 0 : Pc Control

Data 1 : Remote Conroller On

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data 0 : Pc Control

Data 1 : Remote Conroller On

19. Abnormal Status : q

▶ You Can Read PDP Status

* Read Only Mode

* Transmission

{q}{ }{SET ID}{ }{FF}{Cr}

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data 0 : OK

Data 1 : Stanby

Data 2 : AC Downr

20. Sound Mode : y

▶ To Select Sound Mode

* Transmission

{s}{ }{SET ID}{ }{Data}{Cr}

Data 0 : Custom

Data 1 : Standard

Data 2 : Music

Data 3 : Movie

Data 4 : Speech

* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data 0 : Custom

Data 1 : Standard

Data 2 : Music

Data 3 : Movie

Data 4 : Speech

· Trouble shooting Tips

In case a problem occurs with your PDP, please take the following steps first.
If you still have the problem, turn the power off and contact your dealer or an authorized service center.

● Screen related Matters

Problem Action	
The screen does not appear.	Is the power plug pulled out? Insert the power plug. Turn the main power button on and press the power button of the remote controller.
The screen appears too slowly after the power is turned on.	This problem occurs for a brief time in the process of image elimination processing in order to hide temporary screen noise that occurs when the power is turned on. But if the screen does not come after 1 minute has passed, contact your dealer or an authorized service center.
Screen is too bright or too dark.	Perform brightness adjustment or Contrast adjustment. (Please refer to page 23)
Screen is too large or too small.	Adjust the screen size. (Please refer to page 27)
Stripes appear on the screen and it shakes.	Stop using wireless telephones, hair driers and electric drills.
Simultaneous Screen does not appear.	Check that PDP and external equipment are connected. Check the inputs of simultaneous screen by pressing sub-screen selection.
The screen does not move.	Press the STILL button. (Please refer to page 21) Check if the Pause button is pressed on external equipment.
Computer Input Screen is abnormal.	Perform manual fine adjustment (Please refer to page 36).
Automatic Turn On does not work.	Automatic Turn On function works only when turning the PDP off with the remote controller or Standby button.

● Sound related Matters

Problem	Action
Screen appears, Voice is not heard	1. Press the "Mute"button. (page 21) 2. Increase the sound by pressing volume adjustment button. 3. Check if voice terminal of external input is connected properly. 4. Check if speaker cables are connected properly. 5. If it is on PIP mode, convert audio of main screen and sub-screen by pressing S.SELECT. 6. Select and check the other input. If the sound still does not work and the other channels are the same after you have done as the above, contact your dealer or an authorized service center.
Lots of noise (static) occurs.	When connecting a Set-Top-Box, check that it is on stereo broadcasting. If it is, the program may not be available or the reception may be bad. Check the audio source with another player. If that source is good, contact your dealer or an Authorized service center.

● Others

Problem	Action
Remote controller does not work.	1. Check if main power is On. 2. Check that the batteries of the remote controller were loaded properly. 3. Check to see if any obstacle exists between the PDP and the remote controller and remove it, if any. 4. If the batteries have no power, replace them with two new batteries.
PDP makes strange noise.	It is the noise when the mechanism expands or contracts from to changes to the environment due to factors such as humidity, temperature, etc. It is not a failure.
PDP indication lamp is On.	The red means the Stand-by power is ON. It will take a few seconds to turn off as the main power is off.a

This PDP is for household use and registered as suitable on electromagnetic waves. Therefore, you can use it in every location as well as residential areas.

● Supporting display mode

It is optimal screen when the resolution is 1024x768 or 1280x 1024.

Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)
640×480	31.47	60
	37.86	72
	37.50	75
720×400	31.47	70
800×600	35.15	56
	37.88	60
	48.88	72
	46.88	75
	53.7	85
1024×768	48.36	60
	56.48	70
	60.02	75
	68.677	85
1280×1024	63.981	60
	79.976	75

● Considerations in Installation

If any signal of unsupported resolution is input, the "Out of Range" message appears.

● Component Mode [Y, $C_B(P_B)$, $C_R(P_R)$]

Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	
720×480	15.73	60.00	SDTV, DVD 480i
720×576	15.63	50.00	SDTV, DVD 576i
720×480	31.47	59.94	SDTV, 480p
720×576	31.25	50.00	HDTV, 576p
1280×720	37.50	50.00	HDTV, 720p
1280×720	45.00	60.00	HDTV, 720p
1920×1080	28.12	50.00	HDTV, 1080i
1920×1080	33.75	60.00	HDTV, 1080i

● Specifications

Aspect Ratio	16 : 9
Screen Size (H×V)	1106.5×622.1mm
Resolution	1366×768(Wide VGA)
Cell pitch (H× V)	0.270(H)×0.810(V)mm
Displayable Colors	16.77M(256×256×256)
Brightness	1000cd/㎡(w/o filter)
Contrast	5000:1
Viewing Angle	over 160。
Input signal	PAL, SECAM, NTSC SD, HD, VGA, SVGA, XGA
RGB Input	D-Sub(15pin), DVI
AC Input	AC100-240V~, 50/60Hz, 5A
Power Consumption	450W

USER INFORMATION

Note: This equipment has been tested and found to comply with the limit for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to connect the interference at his own expense.

Change or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This is a class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

PLASMA DISPLAY

90-X-4201 M2-V6M-EXP-00