

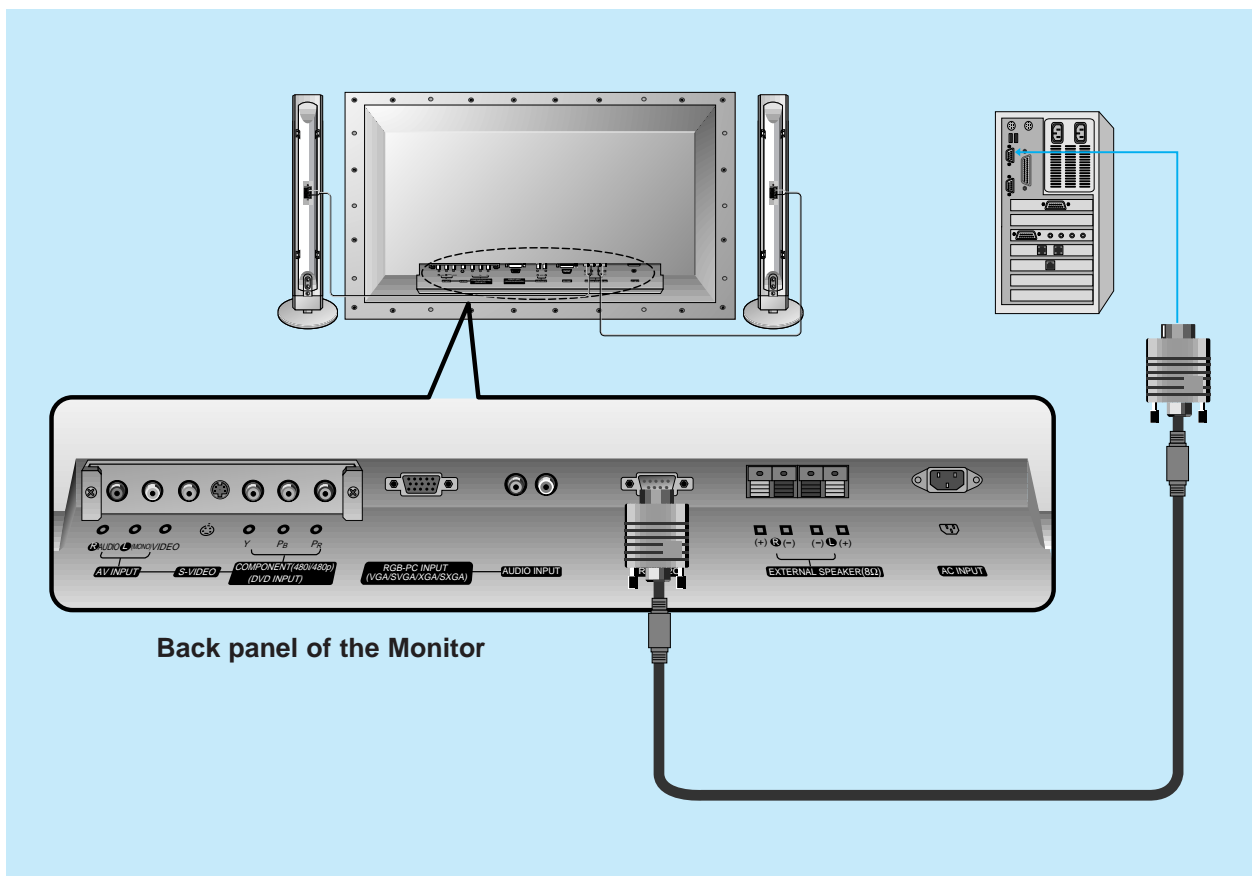


External Adjustment

- Use the RS-232C jack to control monitor's functions externally.

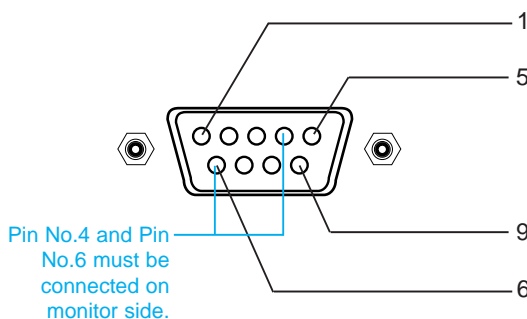
● How to connect external equipment

- Connect the serial port of external equipment to the RS-232C jack of the monitor back panel.
- RS-232C cables not included with the Monitor.
- The remote control and PDP front panel controls (except main power) don't operate when controlling PDP set by PC.



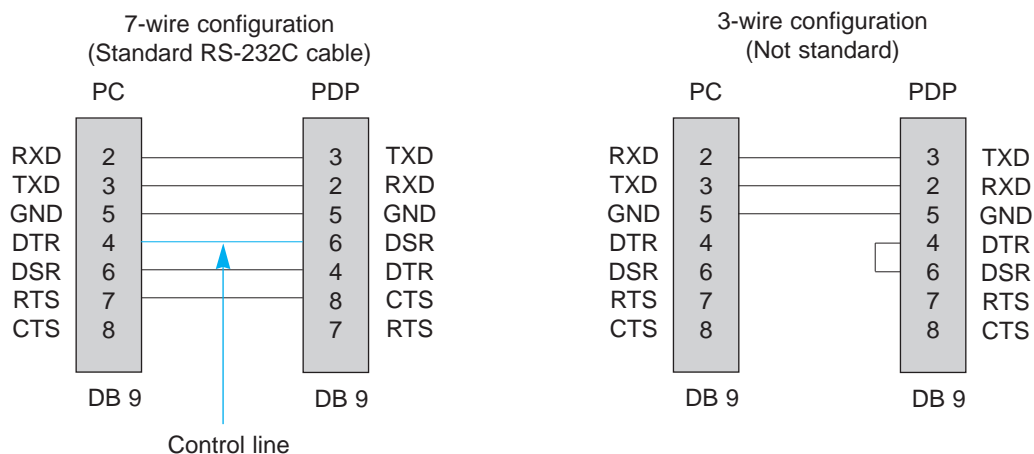
Type of connector : D-Sub 9-pin male

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.
- * Cable can be reversed in either a 3 wire or 7 wire configuration (see the configuration diagrams below).
- * Note that if a 3wire configuration is used, a jumper must be placed across pins 4 (DTR) and 6 (DSR) on the PDP. (The remote control and the front buttons on the PDP ate inoperable while this cable is being used.)
- * Note to technicians - It is possible to alternate between the PC and the remote control when using a 7 wire connecting cable. When the control line (PC 4 to PDP 6) is high, the monitor is controlled by the PC, when it is controlled by the remote control.

RS-232C configurations




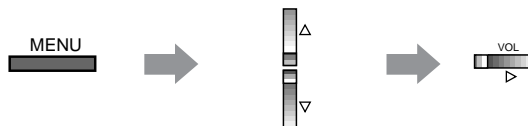
External Adjustment

Set ID

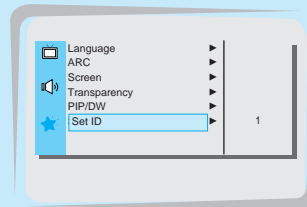
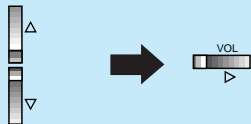
- Use this function to choose monitor ID number.



Press the **MENU** button and then press the ▲ / ▼ button to select  menu. Press the ► button.

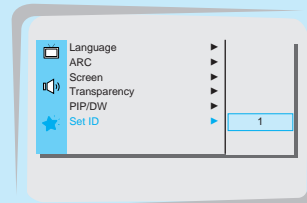


1 Press the ▲ / ▼ buttons to select **Set ID** and then press the ► button.



2 Press the ◀ / ▶ button to adjust **Set ID** until you get desired monitor ID number.

- The adjustment range of **Set ID** is 1 ~ 99.



- Use the RS-232C jack to control monitor's functions externally.

Communication Parameters

- Band rate 2400 bps (UART)
- Data length 8 bits
- Parity None
- Stop bit 1
- Communication code ASCII code

* When the command interval is vacant for more than 4 seconds, thereafter a received Command 1 will be recognized. Be careful in power command especially.

Command Reference List

01. Power	p	0 ~ 1
02. Input Select	i	0 ~ 3
03. Aspect Ratio	r	0 ~ 2
04. Screen mute	m	0 ~ 1
05. Volume mute	w	0 ~ 1
06. Volume control	v	0 ~ 64
07. Contrast	k	0 ~ 64
08. Brightness	b	0 ~ 64
09. Color	c	0 ~ 64
10. Tint	t	0 ~ 64
11. Sharpness	s	0 ~ 64
12. OSD select	d	0 ~ 1
13. Abnormal state	a	0 ~ 1
14. PIP/DW	z	0 ~ 3
15. PIP input select	e	0 ~ 1
16. PIP sound select	u	0 ~ 1
17. PIP position	x	0 ~ 3
18. remote control adjustment mode	j	0 ~ 1

Transmission/Receiving Protocol

Transmission

[Command][][Set ID][][Data][Cr]

- * [Command] : To control PDP set.
- * [Set ID] : You can adjust the set ID to choose desired monitor ID number in special menu. Adjustment range is 1 ~ 99. When selecting Set ID '0', every connected PDP set is controlled.
- * [DATA] : To transmit command data. Transmits 'FF' data to data read mode.
- * [Cr] : Carriage Return
ASCII code '0x0D'
- * [] : ASCII code 'space (0x20)'

OK Acknowledge

[Set ID][:][OK][x][Data][x]

- * The PDP set transmits ACK 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 the PC.

Error Acknowledge

[Set ID][:][NG][x]

- * The PDP set transmits ACK based on this format when receiving abnormal data of no operated functions or communication error.

External Adjustment

01. Power (Command:p)

- ▶ To control the Power On/Off of the PDP set.

Transmission

[p][][Set ID][][Data][Cr]

Data 0 : Power Off
1 : Power On

Ack

[Set ID][:][OK][x][Data][x]

Data 0 : Power Off
1 : Power On

- ▶ To show Power On/Off.

Transmission

[p][][Set ID][][FF][Cr]

Ack

[Set ID][:][OK][x][Data][x]

Data 0 : Power Off
1 : Power On (RGB)
2 : Power On (Video)
3 : Power On (Component)
4 : Power On (S-Video)

- * If other functions transmit 'FF' data based on this format, Ack data feeds back present status about each function.

02. Input select (Command:i)

- ▶ To select input source of PDP set
You can also select input source by using the Input select button of the remote control.

Transmission

[i][][Set ID][][Data][Cr]

Data 0 : RGB
1 : AV
2 : Component
3 : S-AV

Ack

[Set ID][:][OK][x][Data][x]

Data 0 : RGB
1 : AV
2 : Component
3 : S-AV

03. Aspect Ratio (Command:r)

- ▶ To adjust the screen format
You can also adjust the screen format by using the ARC button of the remote control or in special menu.

Transmission

[r][][Set ID][][Data][Cr]

Data 0 : Wide screen (16:9)
1 : Normal screen (4:3)
2 : Full screen (Zoom)

Ack

[Set ID][:][OK][x][Data][x]

Data 0 : Wide screen (16:9)
1 : Normal screen (4:3)
2 : Full screen (Zoom)

- * With the PC input, you can select either 16:9 or 4:3 screen aspect ratio.

04. Screen mute (Command:m)

- ▶ To select screen mute on/off

Transmission

[m][][Set ID][][Data][Cr]

Data 0 : Screen mute on (Picture off)
1 : Screen mute off (Picture on)

Ack

[Set ID][:][OK][x][Data][x]

Data 0 : Screen mute on (Picture off)
1 : Screen mute off (Picture on)

05. Volume mute (Command:w)

- ▶ To control volume mute on/off
You can also adjust mute with using mute button of remote control.

Transmission

[w][][Set ID][][Data][Cr]

Data 0 : Volume mute on (Volume off)
1 : Volume mute off (Volume on)

Ack

[Set ID][:][OK][x][Data][x]

Data 0 : Volume mute on (Volume off)
1 : Volume mute off (Volume on)

06. Volume control (Command:v)

- ▶ To adjust volume
You can also adjust volume with using volume button of remote control.

Transmission

[v][][Set ID][][Data][Cr]

Data Min : 0 ~ Max : 64
* Refer to 'Real data mapping' as shown below.

Ack

[Set ID][:][OK][x][Data][x]

Data Min : 0 ~ Max : 64

07. Contrast (Command:k)

- ▶ To adjust screen contrast
You can also adjust contrast in Picture menu.

Transmission

[k][][Set ID][][Data][Cr]

Data Min : 0 ~ Max : 64
* Refer to 'Real data mapping' as shown below.

Ack

[Set ID][:][OK][x][Data][x]

Data Min : 0 ~ Max : 64

08. Brightness (Command:b)

- ▶ To adjust screen brightness
You can also adjust brightness in Picture menu.

Transmission

[b][][Set ID][][Data][Cr]

Data Min : 0 ~ Max : 64
* Refer to 'Real data mapping' as shown below.

Ack

[Set ID][:][OK][x][Data][x]

Data Min : 0 ~ Max : 64

09. Color (Command:c)

- ▶ To adjust the screen color
You can also adjust color in Picture menu.

Transmission

[c][][Set ID][][Data][Cr]

Data Min : 0 ~ Max : 64
* Refer to 'Real data mapping' as shown below.

Ack

[Set ID][:][OK][x][Data][x]

Data Min : 0 ~ Max : 64

10. Tint (Command:t)

- ▶ To adjust the screen tint
You can also adjust tint in Picture menu

Transmission

[t][][Set ID][][Data][Cr]

Data Red : 0 ~ Green : 64
* Refer to 'Real data mapping' as shown below.

Ack

[Set ID][:][OK][x][Data][x]

Data Red : 0 ~ Green : 64

11. Sharpness (Command:s)

- ▶ To adjust the screen sharpness
You can also adjust sharpness in Picture menu

Transmission

[s][][Set ID][][Data][Cr]

Data Min : 0 ~ Max : 64
* Refer to 'Real data mapping' as shown below.

Ack

[Set ID][:][OK][x][Data][x]

Data Min : 0 ~ Max : 64

* Real data mapping

0 : Step 0
⋮
A : Step 10
⋮
F : Step 15
10 : Step 16
⋮
64 : Step 100

External Adjustment

12. OSD select (Command:d)

- ▶ To select OSD (On Screen Display) on/off

Transmission

[d][][Set ID][][Data][Cr]

Data 0 : OSD off
1 : OSD on

Ack

[Set ID][:][OK][x][Data][x]

Data 0 : OSD off
1 : OSD on

- * The remote control and PDP front panel controls (except main power) don't operate when controlling PDP set by PC.

13. Abnormal state (Command:a)

- ▶ To recognize an abnormal state

Transmission

[a][][Set ID][][FF][Cr]

Ack

[Set ID][:][OK][x][Data][x]

Data 0 : OK
1 : Fan alarm
2 : 5V down
3 : AC down

- * This function is "read only".

14. PIP/DW (Command:z)

- ▶ To control PIP (Picture In Picture) or twin picture(DW). You can also control PIP/DW with using pip/twin picture button of the remote control or in a special menu.

Transmission

[z][][Set ID][][Data][Cr]

Data 0 : PIP/DW off
1 : PIP (small)
2 : PIP (large)
3 : Twin picture (DW)

Ack

[Set ID][:][OK][x][Data][x]

Data 0 : PIP/ DW off
1 : PIP(small)
2 : PIP(large)
3 : Twin picture(DW)

- * PIP only works in the following resolutions:
RGB PC 640x480(VGA) / 800x600(SVGA) / 1024x768(XGA) (only in vertical frequency 60Hz),
Component 480p / 720p / 1080i.
- * Twin picture works only in the following resolutions:
RGB PC 640x480(VGA) (only in vertical frequency 60Hz),
Component 480p.

15. PIP input select (Command:e)

- ▶ To select input source for sub picture in PIP. You can also adjust volume with using PIP input button of remote control or in special menu.

Transmission

[e][][Set ID][][Data][Cr]

Data 0 : AV (VIDEO)
1 : COMPONENT
2 : S-AV (S-VIDEO)

Ack

[Set ID][:][OK][x][Data][x]

Data 0 : AV (VIDEO)
1 : COMPONENT
2 : S-AV (S-VIDEO)

- * COMPONENT source only works in 480i input signal.

16. PIP sound select (Command:u)

- ▶ To select main or sub (inset) sound for PIP/Twin picture. You can also select sound select in PIP/DW of special menu.

Transmission

[u][][Set ID][][Set ID][Cr]

Data 0 : Main picture sound
1 : Sub picture sound

Ack

[Set ID]::[OK][x][Data][x]

Data 0 : Main picture sound
1 : Sub picture sound

- * COMPONENT source only works in 480i input signal.

18. Change into Remote control adjustment mode (Command:j)

- ▶ To control the PDP set with remote control when connecting the cable.

Transmission

[j][][Set ID][][Set ID][Cr]

Data 1 : Remote control adjustment mode

Ack

[Set ID]::[OK][x][Data][x]

Data 0 : PC adjustment mode
1 : Remote control adjustment mode

- * If external equipment commands the PDP set to "change into remote control adjustment mode", only the remote control can adjust the picture. To revert the PDP to external adjustment, turn it off and then on again.

17. PIP position (Command:x)

- ▶ To select sub picture position for PIP. You can also adjust the sub picture position with using position button of remote control or in PIP/DW of special menu.

Transmission

[x][][Set ID][][Data][Cr]

Data 0 : Right down on screen
1 : Left down on screen
2 : Left up on screen
3 : Right up on screen

Ack

[Set ID]::[OK][x][Data][x]

Data 0 : Right down on screen
1 : Left down on screen
2 : Left up on screen
3 : Right up on screen