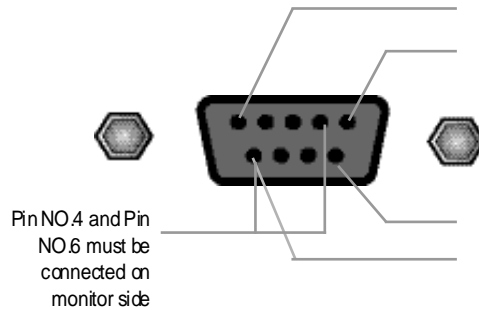


## Special features

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

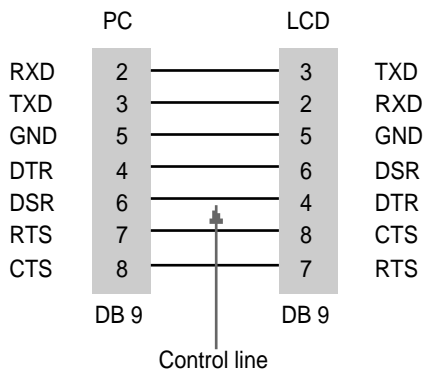


- Use a crossed (reverse) cable.

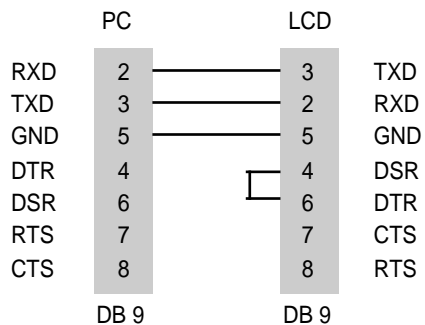
Wire the cable so that each pair of data lines cross between the two devices. These data line pairs are RXD (Receive to send) and TXD (Transmit data), DTR (DTE side ready) and DSR (DCE side ready), and RTS (Ready to send) and CTS (Clear to send).

## RS-232C configurations

• 7-wire configuration



• 3-wire configuration



## RS-232C Communication Protocol

### COMMUNICATION PARAMETERS

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

### 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. Prog -,+	a	00h~01h
20. Abnormal State	q	00h~01h
21. Sound Mode	y	00h~04h

### Transmission / Receiving Protocol List

#### \* Transmission

{Command}{ }{SET ID}{ }{Data}{Cr}  
 {Command} To Control Code LCD TV  
 { } "Space , ASCII Code = 0x20"  
 {SET ID} You Can Adjust SET ID Setup  
 Menu of LCD TV  
 {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 LCD TV 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 LCD set.

## RS-232C Communication Protocol

## Commands

## 1. Power : p

To Control Power On/Off of the LCD TV

\* 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 TV

Data 2 : Power On Scart1

Data 3 : Power On Scart2

Data 4 : Power On Composite

Data 5 : Power On S-Video

Data 6 : Power On Component1

Data 7 : Power On Component2

Data 8 : Power On PC(RGB)

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 0 : TV

Data 1 : Scart1

Data 2 : Scart2

Data 3 : Composite

Data 4 : S-Video

Data 5 : Component1

Data 6 : Component2

Data 7 : PC(RGB)

\* Ack

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

Data 0 : TV

Data 1 : Scart1

Data 2 : Scart2

Data 3 : Composite

Data 4 : S-Video

Data 5 : Component1

Data 6 : Component2

Data 7 : PC(RGB)

## 3. Aspect Ratio : r

To adjust screen format

\* Transmission

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

Data 0 : Auto Wide

Data 1 : Wide

Data 2 : Panorama

Data 3 : Zoom1

Data 4 : Zoom2

Data 5 : 4:3

Data 6 : 14:9

Data 7 : 4:3(In PC Mode)

Data 8 : Wide(In PC Mode)

\* Ack

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

Data 0 : Auto Wide

Data 1 : Wide

Data 2 : Panorama

Data 3 : Zoom1

Data 4 : Zoom2

Data 5 : 4:3

Data 6 : 14:9

Data 7 : 4:3(In PC Mode)

Data 8 : Wide(In PC Mode)

## RS-232C Communication Protocol

**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 (In PC Mode : High)

Data 2 : Standard (In PC Mode : Middle)

Data 3 : Movie (In PC Mode : Low)

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

## RS-232C Communication Protocol

## Commands

**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 [Not available]

(only adjustable when pip mode is activated.)

\* Transmission

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

Data 0 : TV

Data 1 : Scart1

Data 2 : Scart2

Data 3 : Composite

Data 4 : S-Video

Data 5 : Component1

Data 6 : Component2

Data 7 : PC(RGB)

\* Ack

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

Data 0 : TV

Data 1 : Scart1

Data 2 : Scart2

Data 3 : Composite

Data 4 : S-Video

Data 5 : Component1

Data 6 : Component2

Data 7 : PC(RGB)

**15. Pip Location : n**

To Select Pip Position

(only adjustable when pip mode is activated.)

\* 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

## RS-232C Communication Protocol

**16. Pip Sound Set : e**

To Select Pip Sound  
(only adjustable when pip mode is activated.)

\* 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  
(only adjustable when pip mode is activated.)

\* 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 Controller On

\* Ack

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

Data 0 : Pc Control

Data 1 : Remote Controller On

**19. Prog -, + : a**

To Adjust Program Number

\* Transmission

{a}{SET ID}{Data}{Cr}

Data 0 : Decrement Program Number

Data 1 : Increment Program Number

\* Ack

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

Data 0 : Decrement Program Number

Data 1 : Increment Program Number

**20. Abnormal Status : q**

You Can Read LCD TV Status

\* Read Only Mode

\* Transmission

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

\* Ack

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

Data 0 : OK

Data 1 : Standby

Data 2 : AC Downr

**21. 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

Do not use other functions that are mentioned on this user's manual. It will be main reason of a faulty and motion error.

In case a problem occurs with your LCD TV, 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 25)
Screen is too large or too small.	Adjust the screen size. (Please refer to page 29)
Stripes appear on the screen and it shakes.	Stop using wireless telephones, hair driers and electric drills.
Simultaneous Screen does not appear.	Check that LCD TV 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 33) Check if the Pause button is pressed on external equipment
Computer Input Screen is abnormal.	Perform manual fine adjustment (Please refer to page 41).
Automatic Turn On does not work.	Automatic Turn On function works only when turning the LCD TV off with the remote controller or Standby button.

### Sound related Matters

Problem	Action
Screen appears, Voice is not heard	<ol style="list-style-type: none"> <li>1. Press the "Mute" button. (page 21)</li> <li>2. Increase the sound by pressing volume adjustment button.</li> <li>3. Check if voice terminal of external input is connected properly.</li> <li>4. Check if audio cables are connected properly.</li> <li>5. If it is on PIP mode, convert audio of main screen and sub-screen by pressing S.SELECT.</li> <li>6. Select and check the other input.</li> </ol> <p>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.</p>
Lots of noise (static) occurs.	When connecting a Set-Top-Box, check that it is on stereo broadcasting. If it is, the TV 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.