



OWNER'S MANUAL

RS-232C

















LED TV*












* LG LED TV applies LCD screen with LED backlights.

Please read this manual carefully before operating your set and retain it for future reference.

IR CODES

- This feature is not available for all models.

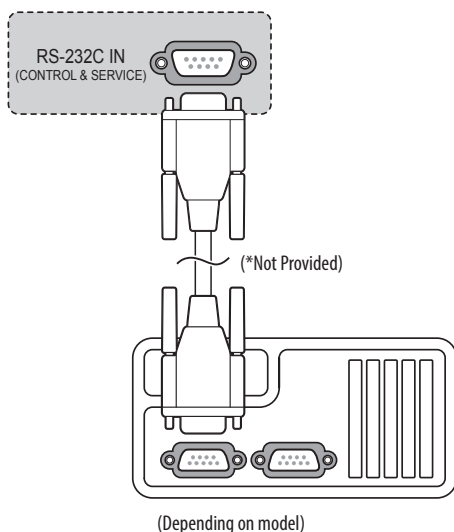
Code (Hexa)	Function	Note
08	 (POWER)	Remote control Button (Power On/Off)
95	 ENERGY SAVING	Remote control Button
AF	 LIVE ZOOM *	Remote control Button
0B	 INPUT	Remote control Button
F0	TV/RAD 	Remote control Button
10-19	Number Key 0-9 Alphabet buttons  (SPACE)	Remote control Button
53	LIST	Remote control Button
1A	Q.VIEW	Remote control Button
02		Remote control Button
03		Remote control Button
7C	SMART	Remote control Button
B5	APP	Remote control Button
09	MUTE 	Remote control Button
00	 P PAGE	Remote control Button
01	P  PAGE	Remote control Button
AB	GUIDE	Remote control Button
0C	PORTAL	Remote control Button
AA	INFO 	Remote control Button
40		Remote control Button
41		Remote control Button
07		Remote control Button
06		Remote control Button

Code (Hexa)	Function	Note
44	OK 	Remote control Button
43	SETTINGS	Remote control Button
28	 (BACK)	Remote control Button
5B	EXIT	Remote control Button
72		Remote control Button
71		Remote control Button
63		Remote control Button
61		Remote control Button
20	 TEXT	Remote control Button
21	T.OPT(T.Option)	Remote control Button
39	SUBTITLE	Remote control Button
B1		Remote control Button
B0		Remote control Button
BA	II	Remote control Button
8F		Remote control Button
8E		Remote control Button
DC	3D/*	Remote control Button
9F	DATA/*	Remote control Button
91	AD/*	Remote control Button
E8	ALARM/*	Remote control Button

EXTERNAL CONTROL DEVICE SETUP

RS-232C Setup

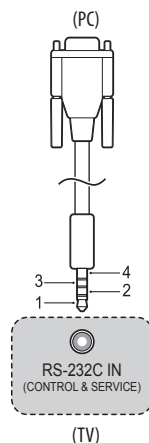
- Image shown may differ from your TV.
- Connect the RS-232C (serial port) input jack to an external control device (such as a computer or an A/V control system) to control the product's functions externally. Connect the serial port of the control device to the RS-232C jack on the product back panel.
- RS-232C connection cables are not supplied with the product.



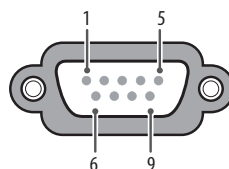
Phone jack Type

(Depending on model)

- You need to purchase the phone-jack to RS-232C cable required for the connection between the PC and the TV, which is specified in the manual.
- * For other models, connect to the USB port.
- * The connection interface may differ from your TV.



Type of Connector : D-Sub 9-Pin Male



No.	Pin name
1	3.5 V
2	RXD (Receive data)
3	TXD (Transmit data)
4	IR OUT from TV
5	GND
6	No Connection
7	No Connection (5 V available in some models)
8	No Connection
9	No Connection (12 V available in some models)

7-Wire Configurations (Standard RS-232C cable)



Transmission / Receiving Protocol

(Depending on Model)

Transmission

(Command1)(Command2)([Set ID])([Data])(Cr)

(Command1) : First command to control the TV. (j, k, m or x)

(Command2) : Second command to control the TV.

([Set ID]) : You can adjust the set ID to choose desired monitor ID number in option menu. Adjustment range is 1 to 99. When selecting Set ID '0', every connected set is controlled. Set ID is indicated as decimal (1 to 99) on menu and as Hexa decimal (0 x 0 to 0 x 63) on transmission/receiving protocol.

([Data]) : To transmit command data. Transmit 'FF' data to read status of command.

(Cr) : Carriage Return

ASCII code '0 x 0D'

() : ASCII code 'space (0 x 20)'

OK Acknowledgement

(Command2)([Set ID])(OK)([Data])(x)

- * The set transmits ACK (acknowledgement) 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 computer.

Error Acknowledgement

(Command2)([Set ID])(NG)([Data])(x)

- * The set transmits ACK (acknowledgement) based on this format when receiving abnormal data from non-viable functions or communication errors.

[Data] 00 : Illegal Code

1 Power (Command: k a)

- To control Power On/Off of the set.

Transmission

(k)(a)([Set ID])([Data])(Cr)

[Data] 00 : [Off]

[Data] 01 : [On]

Ack

(a)([Set ID])(OK/NG)([Data])(x)

- To Show TV is Power On/Off.

Transmission

(k)(a)([Set ID])(FF)(Cr)

Ack

(a)([Set ID])(OK/NG)([Data])(x)

- * Similarly, if other functions transmit '0 x FF' data based on this format, Acknowledgement data feed back presents status about each function.
- * OK Ack., Error Ack. and other message may display on the screen when TV is power On.

2 [Aspect Ratio] (Command: k c) (Main Picture Size)

- To adjust the screen format. (Main picture format) You can also adjust the screen format using the picture settings.

Transmission

(k)(c)([Set ID])([Data])(Cr)

[Data] 01 : [4:3] (Normal screen - [Just Scan] Off)

[Data] 02 : [16:9] (Wide screen - [Just Scan] Off)

[Data] 06 : [Original] ([Just Scan] Off)

[Data] 09 : [Just Scan]

- * Please make sure that the model doesn't support both Vertical Zoom and All-Direction Zoom mode.

Ack

(c)([Set ID])(OK/NG)([Data])(x)

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

3 Screen Mute (Command: k d)

- To select screen mute on/off.

Transmission

(k)(d)()([Set ID])()([Data])(Cr)

[Data] 00 : Screen mute off (Picture on) / Video mute off

[Data] 01 : Screen mute on (Picture off)

[Data] 10 : Video mute on

Ack

(d)()([Set ID])()(OK/NG)([Data])(x)

- * In case of video mute on only, TV will display On Screen Display (OSD). But, in case of Screen mute on, TV will not display OSD.

4 Volume Mute (Command: k e)

- To control volume mute on/off.

You can also adjust mute using the mute button on remote control.

Transmission

(k)(e)()([Set ID])()([Data])(Cr)

[Data] 00 : Volume mute on (Volume off)

[Data] 01 : Volume mute off (Volume on)

Ack

(e)()([Set ID])()(OK/NG)([Data])(x)

5 Volume Control (Command: k f)

- To adjust volume.

You can also adjust volume with the volume buttons on remote control.

Transmission

(k)(f)()([Set ID])()([Data])(Cr)

[Data] Min : 00 to Max : 64

- * Refer to "Real data mapping".

Ack

(f)()([Set ID])()(OK/NG)([Data])(x)

6 [Contrast] (Command: k g)

- To adjust screen contrast.

You can also adjust contrast in the picture settings.

Transmission

(k)(g)()([Set ID])()([Data])(Cr)

Data Min : 00 to Max : 64

- * Refer to "Real data mapping".

Ack

(g)()([Set ID])()(OK/NG)([Data])(x)

7 [Brightness] (Command: k h)

- To adjust screen brightness.

You can also adjust brightness in the picture settings.

Transmission

(k)(h)()([Set ID])()([Data])(Cr)

Data Min : 00 to Max : 64

- * Refer to "Real data mapping".

Ack

(h)()([Set ID])()(OK/NG)([Data])(x)

8 [Colour] (Command: k i)

- To adjust the screen colour.

You can also adjust colour in the picture settings.

Transmission

(k)(i)()([Set ID])()([Data])(Cr)

[Data] Min : 00 to Max : 64

- * Refer to "Real data mapping".

Ack

(i)()([Set ID])()(OK/NG)([Data])(x)

9 [Tint] (Command: k j)

- To adjust the screen tint.

You can also adjust tint in the picture settings.

Transmission

(k)(j)()([Set ID])()([Data])(Cr)

[Data] Red : 00 to Green : 64

- * Refer to "Real data mapping".

Ack

(j)()([Set ID])()(OK/NG)([Data])(x)

10 [Sharpness] (Command: k l)

- To adjust the screen sharpness.

You can also adjust sharpness in the picture settings.

Transmission

(k)(l)()([Set ID])()([Data])(Cr)

[Data] Min : 00 to Max : 32

- * Refer to "Real data mapping".

Ack

(l)()([Set ID])()(OK/NG)([Data])(x)

11 OSD Select (Command: k l)

- To select OSD (On Screen Display) on/off when controlling remotely.

Transmission

(k)(l)()([Set ID])()([Data])(Cr)

[Data] 00 : [Off]

[Data] 01 : [On]

Ack

(l)()([Set ID])()(OK/NG)([Data])(x)

12 Remote Control Lock Mode (Command: k m)

- To lock the front panel controls on the monitor and remote control.

Transmission

(k)(m)()([Set ID])()([Data])(Cr)

[Data] 00 : [Off]

[Data] 01 : [On]

Ack

(m)()([Set ID])()(OK/NG)([Data])(x)

- * If you are not using the remote control, use this mode. When main power is on/off, external control lock is released.

- * In the standby mode, if key lock is on, TV will not turn on by power on key of IR & Local Key.

13 [Balance] (Command: k t)

- To adjust balance.

You can also adjust balance in the audio settings.

Transmission

(k)(t)()([Set ID])()([Data])(Cr)

[Data] L : 00 to R : 64

- * Refer to "Real data mapping".

Ack

(t)()([Set ID])()(OK/NG)([Data])(x)

14 [Colour Temperature] (Command: x u)

- To adjust Colour Temperature. You can also adjust Colour Temperature in the picture settings.

Transmission

(x)(u)()([Set ID])()([Data])(Cr)

[Data] Warm: 00 to Cool: 64

- * Refer to "Real data mapping".

Ack

(u)()([Set ID])()(OK/NG)([Data])(x)

15 [Energy Saving] (Command: j q)

- To reduce the power consumption of the TV. You can also adjust Energy Saving in picture settings.

Transmission

(j)(q)()([Set ID])()([Data])(Cr)

Power Saving Function					Level				Description
7	6	5	4		3	2	1	0	
0	0	0	0	Low Power	0	0	0	0	[Off]
0	0	0	0	Low Power	0	0	0	1	[Minimum]
0	0	0	0	Low Power	0	0	1	0	[Medium]
0	0	0	0	Low Power	0	0	1	1	[Maximum]
0	0	0	0	Low Power	0	1	0	1	[Screen Off]
0	0	0	0	Low Power	0	1	0	0	[Auto]

- [Auto] is available in TV that supports 'Intelligent Sensor'.

Ack

(q)()([Set ID])()(OK/NG)([Data])(x)

16 [Auto Configuration] (Command: j u) (Only RGB support model)

- To adjust picture position and minimize image shaking automatically. It works only in RGB (PC) mode.

Transmission

(j)(u)()([Set ID])()([Data])(Cr)

[Data] 01 : To set

Ack

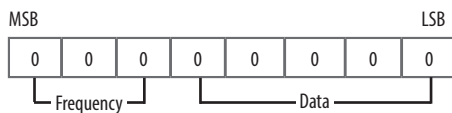
(u)()([Set ID])()(OK/NG)([Data])(x)

17 [Equalizer] (Command : j v)

- To adjust equalizer.

Transmission

(j)(v)()([Set ID])()([Data])(Cr)



7	6	5	Frequency	4	3	2	1	0	Step
0	0	0	1st Band	0	0	0	0	0	0 (decimal)
0	0	1	2nd Band	0	0	0	0	1	1 (decimal)
0	1	0	3rd Band
0	1	1	4th Band	1	0	0	1	1	19 (decimal)
1	0	0	5th Band	1	0	1	0	0	20 (decimal)

Ack

(v)()([Set ID])()(OK/NG)([Data])(x)

18 Tune Command (Command: m a)

► Select channel to following physical number.

Transmission

```
(m)(a)( )([Set ID])( )([Data] 00)( )([Data] 01)( )([Data] 02)(Cr)
```

[Data] 00 : High channel data

[Data] 01 : Low channel data

ex. No. 47 → 00 2F (2FH)

No. 394 → 01 8A (18AH),

DTV No. 0 → Don't care

[Data] 02 : (Antenna)

0 x 00 : Analogue Main

0 x 10 : DTV Main

0 x 20 : Radio

(Cable)

0 x 80 : Analogue Main

0 x 90 : DTV Main

0 x A0 : Radio

(Satellite)

0 x 40 : DTV Main

0 x 50 : Radio Main

Channel data range

Min : 00 Max : 270F (0 to 9999)

Ack

```
(a)( )([Set ID])( ) (OK/NG)([Data])(x)
```

19 Programme [Skip] / [Add] (Command: m b)

► To set skip status for the current Programme.

Transmission

```
(m)(b)( )([Set ID])( )([Data])(Cr)
```

[Data] 00 : [Skip]

[Data] 01 : [Add]

Ack

```
(b)( )([Set ID])( ) (OK/NG)([Data])(x)
```

20 Key (Command: m c)

► To send IR remote key code.

Transmission

```
(m)(c)( )([Set ID])( )([Data])(Cr)
```

[Data] IR CODES

Ack

```
(c)( )([Set ID])( ) (OK/NG)([Data])(x)
```

21 Control [Backlight] (Command: m g)

► To control the backlight.

Transmission

```
(m)(g)( )([Set ID])( )([Data])(Cr)
```

[Data] Min : 00 to Max : 64

Ack

```
(g)( )([Set ID])( ) (OK/NG)([Data])(x)
```

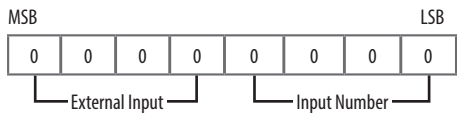
22 [Input] select (Command: x b) (Main Picture Input)

► To select input source for main picture.

Transmission

(x)(b)()([Set ID])()([Data])(Cr)

[Data] Structure



External Input				Data
0	0	0	0	[DTV]
0	0	0	1	[Analogue]
0	0	1	0	[AV]
0	1	0	0	[Component]
0	1	1	0	[RGB]
0	1	1	1	[HDMI]
1	0	0	0	
1	0	0	1	
1	0	1	0	

Input Number				Data
0	0	0	0	Input1
0	0	0	1	Input2
0	0	1	0	Input3
0	0	1	1	Input4

Ack

(b)()([Set ID])()(OK/NG)([Data])(x)

* Real data mapping

00 :	Step 0
:	
A :	Step 10 ([Set ID] 10)
:	
F :	Step 15 ([Set ID] 15)
10 :	Step 16 ([Set ID] 16)
:	
64 :	Step 100
:	
6E :	Step 110
:	
73 :	Step 115
74 :	Step 116
:	
CF :	Step 199
:	
FE :	Step 254
FF :	Step 255



The model and serial number of the product are located on the back and on one side of the product. Record them below in case you ever need service.

Model _____

Serial no. _____