



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

98UH1C

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To obtain the source code under GPL, LGPL, MPL, and other open source licenses, that is contained in this product, please visit

http://opensource.lge.com.

In addition to the source code, all referred license terms, warranty disclaimers and copyright notices are available for download.

LG Electronics will also provide open source code to you on CD-ROM for a charge covering the cost of performing such distribution (such as the cost of media, shipping, and handling) upon email request to opensource@lge.com. This offer is valid for three (3) years from the date on which you purchased the product.

## **NOTE**

- The software-related contents may be changed without prior notice due to upgrade of the product functions.
- 'HOME (A)' marks in the following pages of this User Guide represent the button on the remote controller to start
  the following UI commands.

## **USER SETTINGS**

## **Main Menu Settings**

### **Picture Settings**

### To Select Picture Mode

### 

Select the picture mode that is best suited to the video type.

- · Vivid: Adjusts the video image for a retail environment by enhancing the contrast, brightness, and sharpness.
- · Standard: Adjusts the video image for a normal environment.
- APS: APS (Auto power saving) mode reduces power consumption by dimming control.
- · Cinema: Optimizes the video image for watching movies.
- Sports: Optimizes the video image for watching sports. Even fast actions such as kicking or throwing a ball are rendered clearly on the screen.
- Game: Optimizes the video image for playing videogames.
- · Photo: Optimizes the screen for viewing photos.
- HDR Effect: This option lets you enjoy a more dynamic, intense image by correcting the light and dark areas of the
  display. It provides a realistic image even when the source image's gradation level is high.
  - You can only set this option when using normal signals. When using HDR video signals, the mode changes automatically to HDR Standard / Movie Dark.
  - Certain video mode settings may not be available if the video mode is set to **HDR** Effect.

### When you use HDR signals

[Except for the Dolby Vision signals]

- · HDR Vivid: Sharpens the image by increasing the contrast, brightness and sharpness.
- HDR Bright: The screen appears as a bright and colourful screen than the HDR Standard.
- · HDR Standard: Optimized the screen for HDR video signal.

### When you use the Dolby Vision signals

- · Vivid: Sharpens the image by increasing the contrast, brightness and sharpness on the Dolby Vision video.
- Movie Bright: The screen appears as a bright and clear screen than the Movie Dark.
- · Movie Dark: Optimized the screen for the Dolby Vision video signal.

## **NOTE**

· Depending on the input signal, the available Picture modes may differ.

#### To Select Picture Mode

### 

Select the picture mode that is best suited to the video type.

- Backlight/OLED LIGHT: Adjusts the brightness of the screen by controlling the LCD backlight. The closer the value is to 100, the brighter the screen is.
- Contrast: Adjusts the difference between the light and dark areas of the picture. The closer the value is to 100, the
  greater the difference is.
- Brightness: Adjusts the overall brightness of the screen. The closer the value is to 100, the brighter the screen is.
- **Sharpness**: Adjusts the sharpness of the edges of objects. The closer the value is 50, the clearer and the sharper the edge becomes.
- Color: Softens or deepens the tints on the screen. The closer the value is 100, the deeper the colors become.
- **Tint**: Adjusts the balance between red and green levels displayed on the screen. The closer the value is to Red 50, the deeper the color red becomes, and the closer the value is to Green 50, the deeper the color green becomes.
- Color Temperature: Adjusts the tints of the screen to evoke feelings of warmth or coolness.
- Advanced Controls/Expert Control: customizes the advanced options.
  - **Dynamic Contrast**: Optimizes the difference between the light and dark parts of the screen according to the brightness of the image.
  - Super Resolution: Sharpens the blurry or indistinguishable parts of the picture.
  - Color Gamut: Selects the range of colors to display.
    - Bypass: Display the input by the panel native color gamut without transforming color gamut.
    - Auto: Display the input after transforming to the color gamut according to the gamut information of the input.
  - Dynamic Color: Adjusts the tint and saturation of the image for a more vivid and lively display.
  - Edge Enhancer: Provides much sharper and clearer edges to the picture.
  - Color Filter: Accurately adjusts color and tint by filtering a specific color area of RGB space.
  - Preferred Color: Adjusts the skin tint, grass tint, and sky tint to your preference.
  - Gamma: Adjusts the medium brightness of the image. (Low: 1.9 / Medium: 2.2 / High1: 2.5 / High2: BT.1886)
  - White Balance: Adjusts the overall tint of the picture to your preference. In Expert mode, you can fine-tune the
    picture using the Method/Pattern options.
- · Picture Options: Customizes the picture options.
  - Noise Reduction: Removes irregularly generated tiny dots for a clear picture.
  - MPEG Noise Reduction: Reduces the noise produced while creating digital video signals.
  - Black Level: Adjusts the black level of the picture to correct the brightness and contrast of the picture.
    - High: input video range 0~255 / Low: input video range 16~235
  - Real Cinema: Optimizes the video image for a cinematic look.
  - TruMotion: Reduces image shaking and image sticking that can occur with moving images.

## **♠** NOTE

- · You can adjust advanced settings only in the User mode.
- · Depending upon the input signal or the selected picture mode, the available options may differ.

### To set the aspect ratio

### 

Changes the aspect ratio to view the image in its optimal size.

- 16:9: Displays the image with a 16:9 aspect ratio.
- Just Scan: Displays the image in the original size without cutting off the edges.
   Original is available in HDMI (720p or higher) mode.
- Original: Automatically changes the aspect ratio to 4:3 or 16:9 depending on the input video signal.
- 4:3: Displays the image with a 4:3 aspect ratio.
- Vertical Zoom: Adjusts the height and vertical position of the displayed image.
- All-Direction Zoom: Adjusts the horizontal/vertical/diagonal dimensions and horizontal/vertical position of the displayed image.

### **CAUTION**

- If a fixed image is displayed on the screen for a long period of time, it will be imprinted and become a permanent disfigurement on the screen. This image burn or burn-in is not covered by the warranty.
- If the aspect ratio is set to 4:3 for a long period of time, image burn may occur on the letterboxed area of the screen.
- · Depending on the input signal, the available aspect ratio may differ.
- · When you adjust Vertical Zoom or All-Direction Zoom, the screen may flicker for some input signals.

### To use the Energy Saving function

### 

Reduces power consumption by adjusting peak screen brightness.

- · Auto: Adjusts the brightness of the monitor according to ambient light.
- · Off: Disables the Energy Saving mode.
- · Minimum/Medium/Maximum: Uses the Energy Saving according to the Energy Saving level specified for your monitor.
- Screen Off: Turns off the screen. You will only hear audio. You can turn on the screen again by pressing any button on the remote control except the power button.

### To use the Smart Energy Saving function

### 

According to picture brightness, the brightness of the monitor will be adjusted automatically to save energy.

- · Off: Disables the Smart Energy Saving function.
- · On: Enables the Smart Energy Saving function.

### **Sound Settings**

To sync audio with video

- · External Audio Device (Optical Digital/HDMI ARC):
  - Adjusts the sync between video and audio coming from external speakers, such as those connected to the digital audio output port, LG audio equipment, or headphones. From the default value, the closer the value is to -, the faster the sound output becomes, and the closer the value is to +, the slower the sound output becomes.
- **Bypass**: Audio coming from external devices without delay. Audio may be outputted earlier than video due to the processing time for video that is inputted into the monitor.

**Setting Digital Sound Out** 

### 

• Digital Sound Out: Configures related settings for the Digital Sound Out.

	Sound Input	Digital Sound Out
Auto	MPEG	PCM
	Dolby Digital	Dolby Digital
	Dolby Digital Plus	Dolby Digital
	HE-AAC	Dolby Digital
	DTS	DTS / PCM
	DTS Express	PCM
	DTS-HD MA	PCM / DTS
PCM	All	PCM

### **Network Settings**

### To Set a Signage Monitor Name

### 

You can set a name for Signage Monitor that will be used on the network by using the on-screen keyboard.

### To Set Your Wired Network

## 

Connecting to a wired network: Connect your monitor to a local area network (LAN) via the LAN port, and configure
the network settings. Only wired network connections are supported. After making
a physical connection, a small number of networks may require the display network
settings to be adjusted. For most networks, the display will automatically make a
connection without any adjustments. For detailed information, contact your Internet
provider or consult your router manual.

### Tips for Network Setting

- Use a standard LAN cable (Cat5 or higher with a RJ45 connector) with this display.
- Many network connection problems during set-up can often be fixed by re-setting the router or modem. After
  connecting the display to the home network, quickly power off and/or disconnect the power cable of the home
  network router or cable modem, then power on and/or connect the power cable again.
- Depending on the Internet Service Provider (ISP), the number of devices that can receive Internet service may be limited by the applicable terms of service. For details, contact your ISP.
- LG is not responsible for any malfunction of the display and/or the Internet connection feature due to communication errors/malfunctions associated with your Internet connection, or other connected equipment.
- LG is not responsible for problems with your Internet connection.
- You may experience undesired results if the network connection speed does not meet the requirements of the content being accessed.
- Some Internet connection operations may not be possible due to certain restrictions set by the Internet Service Provider (ISP) supplying your Internet connection.
- · Any fees charged by an ISP including, without limitation, connection charges are your responsibility.

## NOTE

- · If you want to access the Internet directly on your display, the Internet connection should always be on.
- If you cannot access the Internet, check the network conditions from a PC on your network.
- · When you use Network Setting, check the LAN cable or check if DHCP in the router is turned on.
- If you do not complete the network settings, the network may not function correctly.

## **!** CAUTION

- Do not connect a modular telephone cable to the LAN port.
- Since there are various connection methods, please follow the specifications of your telecommunication carrier or Internet Service Provider.
- Network Setting menu will not be available until the display is connected to a physical network.

### **General Settings**

### **Configuring Language Settings**

You can select the menu language to be displayed on the screen.

· Menu Language: Sets the Signage language.

### Configuring Keyboard Language

You can select the language to be displayed on the keyboard.

· Keyboard Language: Sets the keyboard language.

### Configuring the Time and Date

You can view and change the time and date.

- · Set Automatically: Sets the time and date.
- Daylight Savings Time (DST): Sets when daylight savings time will start and end. The DST start/end times function
  only when set at least one day apart.
- · Time Zone: Configures the continent, country/region and city.

### Turning the Monitor On or Off Automatically

## 

You can set the times the monitor will turn itself on or off.

- On Timer: Sets the time the monitor will turn on.
- Off Timer: Sets the time the monitor will turn off.
- No Signal Power Off (15 Min): The monitor will automatically turn off after 15 minutes if there is no input source.
   If you do not want the monitor to turn off automatically, set No Signal Power Off to Off
- · Auto Off: The monitor will turn off automatically if there is no key input.
- DPM
- Configures the DPM (Display Power Management).
- You can set DPM to Off, 15 sec. (15 seconds), 1 min. (1 minute), 5 min. (5 minute), 10 min. (10 minute).
- If this feature is not set to Off, the monitor will enter Power Saving Mode when there is no input signal.
- If set to Off, the **DPM** feature is disabled.

## **NOTE**

- Off/On Times can be saved in up to seven schedules, and the monitor will turn on or off at these preset times saved
  in the schedule list. If multiple preset times are saved in the schedule list, the schedule nearest to the current time will
  function first.
- The monitor will turn on or off at the On/Off Times every day once they are set.
- The scheduled power off function runs properly only when the correct current time is set for the device.
- When the scheduled power-on and power-off times are the same, the power-off feature has priority over the power-on feature if the monitor is on, and vice versa if it is off.

### **Configuring Overheating Prevention**

### 

This feature prevents module overheating.

- If the module's current temperature is 85°C or above and less than 95°C, the brightness is lowered to as much as 20% of the normal level so the module can be cooled.
- If the module's current temperature reaches 95°C or higher, it turns off.
- If the module's current temperature lowers to 75°C or lower, the module turns on and the brightness is restored to normal levels.

### Configuring the Set ID

### 

- Set ID (1 to 1000): Assigns a unique Set ID number to each product when several products are connected for display.
   Assign numbers ranging from 1 to 1000 and exit the option. You can control each product separately by using the Set ID you assigned to each product.
- Reset Set ID: Resets the Set ID of the product to 1.

### **Using Input Priority**

## 

The input source with the highest priority will automatically be selected.

- The input mode changes according to the order specified by the user. When several input signals are detected, the
  input source with the highest priority will be selected.
- · You can set priorities from Priority1 to Priority3.

### Using Input Switching Override

### 

This feature allows the user-selected input to be maintained when there are multiple input signals.

- If the user-selected input signal stops transmitting, the input with the highest priority is selected.
- · If a new signal is received, the input sending the signal is selected.
- · When the set is turned on, it switches to the highest priority input among those with signals.

### Changing the Password

## 

You can change the password to be used in the Installation menu.

You can change your password for security purposes. Enter a new 4-digit password. Then enter the same password again in the Confirm Password window for confirmation.

### Using Wake On LAN

Set whether to use the Wake On LAN feature.

- You can set it to On or Off
- Wired: When set to On, the Wake On LAN feature is enabled, letting you remotely turn on the product through a
  wired network.

### **Using Crestron**

### 

This function allows synchronization with an application provided by Crestron.

- Server: This menu sets the IP for the network connection with the server (equipment provided by Crestron).
- · Port: This menu sets the port for the network connection with the server. The default port number is 41794.
- · IP ID: This menu sets a unique ID for synchronizing with the application.

### **Using Lock Out Control**

### 

Set whether the password is required before changing the settings.

- On: Password required to change the settings.
- Off: Password not required to change the settings.

### Setting No Signal Image

### 

You can set whether to display a previously saved image when there is no input signal.

### Checking the product description

You can download the manual from the specified website.

### Resetting to Initial Information

Allows all settings to be reset.

## **ENTERTAINMENT**

## **Using Multimedia Features**

### Connecting USB/SD Storage Devices

Connect a USB storage device such as a USB flash memory, SD storage devices or an external hard drive to the display and use multimedia features.



- · Do not turn the monitor off or remove the USB storage device while Photo & Video or Music is playing.
- Back up files you have saved on a USB storage device frequently, as loss or damage to the files may be not covered by the warranty.

### Tips for using USB/SD storage devices

- · Only a USB storage device can be recognized.
- · A USB device does not work effectively when it is connected via a USB hub.
- A USB storage device using an automatic recognition program may not be recognized.
- · A USB storage device using its own driver may not be recognized.
- The recognition speed of a USB storage device may depend on each device.
- Please do not turn off the display or unplug the USB storage device when the connected device is working. If the USB storage device is suddenly disconnected, the stored files or the device itself may be damaged.
- Please do not connect a USB storage device which was modified to work on a PC. The device may cause the monitor
  to malfunction or the content fail to be played. Use only a USB storage device which contains normal music, image or
  video files.
- A USB storage device formatted as a utility program not supported by Windows may not be recognized.
- A USB storage device (over 0.5 A) which requires an external power supply must be connected to a power supply separately. If it is not, the device may not be recognized.
- Please connect the USB storage device using the cable provided by the device manufacturer.
- · Some USB storage devices may not be supported or operate smoothly.
- File alignment method of USB storage devices is similar to that of Window XP and filenames can recognize up to 100 English characters.
- Back up important files regularly as data stored on a USB storage device may be damaged. We will not be responsible
  for any data loss.
- If the USB HDD does not have an external power source, the USB device may not be detected. To ensure the device is detected, connect the external power source.
  - Please use a power adapter for an external power source. We do not provide a USB cable for an external power source.

- If your USB storage device has multiple partitions, or if you use a USB multi-card reader, you can use up to four partitions or USB storage devices.
- · If a USB storage device is connected to a USB multi-card reader, its volume data may not be detected.
- · If the USB storage device does not work properly, disconnect and reconnect it.
- Detection speed differs from device to device.
- If the USB storage device is connected in Standby Mode, the specific hard disk will automatically be loaded when the display is turned on.
- The recommended capacity is 1 TB or less for a USB external hard drive and 32 GB or less for USB memory stick.
- · Any device with more than the recommended capacity may not work properly.
- If a USB external hard drive with an "Energy Saving" function does not work, try turning the hard drive off and on again.
- USB storage devices below USB 2.0 are also supported but may not function correctly in the Videos.
- · A maximum of 20000 sub-folders or files can be recognized under one folder.
- The SDHC type for SD cards is supported. To use an SDXC card, format it to the NTFS file system first.
- The exFAT file system is not supported for SD cards and USB storage devices.

## **Photo & Video**

## Supported Photo & Video Files

### Supported External Subtitle Format

\*.smi, \*.srt, \*.sub (MicroDVD, SubViewer 1.0/2.0), \*.ass, \*.ssa, \*.txt (TMPlayer), \*.psb (PowerDivX),
 \*.dcs (DLP Cinema)

## NOTE

· Embedded subtitles are not supported.

### **Supported Video Codecs**

Extension	Codec		
.asf	Video	VC-1 Advanced Profile (excluding WMVA), VC-1 Simple and Main Profiles	
.wmv	Audio	WMA Standard (excluding WMA v1 / WMA Speech)	
.avi	Video	Xvid (excluding 3 warp-point GMC), H.264/AVC, Motion Jpeg, MPEG-4	
	Audio	MPEG-1 Layer I, II, MPEG-1 Layer III (MP3), Dolby Digital, LPCM, ADPCM, DTS	
.mp4	Video	H.264/AVC, MPEG-4, HEVC	
.m4v	Audio	Dolby Digital, Dolby Digital Plus, AAC, MPEG-1 Layer III (MP3)	
.3qp	Video	H.264/AVC, MPEG-4	
.3g2	Audio	AAC, AMR-NB, AMR-WB	
.mkv	Video	MPEG-2, MPEG-4, H.264/AVC, VP8, VP9, HEVC	
	Audio	Dolby Digital, Dolby Digital Plus, AAC, PCM, DTS, MPEG-1 Layer I, II, MPEG-1 Layer III (MP3)	
.ts	Video	H.264/AVC, MPEG-2, HEVC	
.trp	Audio	MPEG-1 Layer I, II, MPEG-1 Layer III (MP3), Dolby Digital, Dolby Digital Plus,	
.tp		AAC, PCM	
.mts			
.mpg	Video	MPEG-1, MPEG-2	
.mpeg	Audio	MPEG-1 Layer I, II, MPEG-1 Layer III (MP3)	
.dat			
.vob	Video	MPEG-1, MPEG-2	
	Audio	Dolby Digital, MPEG-1 Layer I, II, DVD-LPCM	

### Supported Photo File

File Format	Format	ltem			
.jpeg, .jpg, .jpe	JPEG	• Minimum: 64 x 64			
		Maximum			
		- Normal Type: 15360 (W) x 8640 (H)			
		- Progressive Type: 1920 (W) x 1440 (H)			
.png	PNG	• Minimum: 64 x 64			
		• Maximum: 5760 (W) x 5760 (H)			
.bmp	BMP	• Minimum: 64 x 64			
		• Maximum: 1920 (W) x 1080 (H)			

### Viewing Photos and Videos

### 



- Select your desired storage device.
- 2 Select and view your desired photo or video.

### Tips for Playing Video Files

- · Some user-created subtitles may not work properly.
- · Some special characters in subtitles are not rendered.
- · HTML tags are not supported in subtitles.
- · Subtitles in languages other than the supported languages are not available.
- The screen may suffer temporary interruptions (image stoppage, faster playback, etc.) when the audio language is changed.
- A damaged video file may not play correctly, or some player functions may not be usable.
- · Video files produced with some encoders may not be played correctly.
- · If the video and audio structure of a recorded file is not interleaved, either video or audio is outputted.
- Video files other than the specified types and formats may not play correctly.
- Maximum bit rate of playable video file is 20 Mbps. (Motion JPEG: 10 Mbps only)
- We cannot guarantee smooth playback of files encoded level 4.1 or higher in H.264 / AVC.
- · Video files more than 30 GB in file size are not supported.
- A video file and its subtitle file must be located in the same folder. A video file name and its subtitle file name must be identical in order to display the subtitle properly.
- · Playing a video via a USB connection that does not support high-speed connection may not function correctly.
- Subtitles on a Network Attached Storage (NAS) device may not be supported depending on the manufacturer and model.
- Streaming of files encoded by GMC (Global Motion Compensation) or Qpel (Quarterpel Motion Estimation) is not supported.
- Ultra HD image: 3840 X 2160

Some HEVC-encoded Ultra HD videos other than the content officially provided by LG Electronics may not be played. Some codecs can be used after upgrading software.

Extension	Codec		
.mkv	Video	H.264/AVC, HEVC	
.mp4 Audio		Dolby Digital, Dolby Digital Plus, AAC, HE-AAC	

- Playable file sizes may vary depending on the encoding condition.
- The AAC Main profile is not supported.
- · Video files created by some encoders may not play.

### Delete

## $HOME( \frac{}{}) \rightarrow \boxed{}$

- 1 Select your desired storage device.
- 2 Enter the path to the file you wish to delete.
- 3 Click the Delete button.
- 4 Select the file you wish to delete.
- 5 Click the Delete button at the top right.
- 6 Check that the file has been deleted from the list.

## Music

### **Supported Music Files**

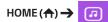
File Format	Item	Information		
.mp3	Bit rate	32 Kbps to 320 Kbps		
Sample freq.		16 KHz to 48 KHz		
	Support	MPEG1, MPEG2		
	Channels	Mono, Stereo		
.wav	Bit rate	-		
	Sample freq.	8 kHz to 48 kHz		
	Support	PCM		
	Channels	Mono, Stereo		
.ogg	Bit rate	64 Kbps to 320 Kbps		
	Sample freq.	8 kHz to 48 kHz		
	Support	Vorbis		
	Channels	Mono, Stereo		
.wma	Bit rate	128 Kbps to 320 Kbps		
	Sample freq.	8 kHz to 48 kHz		
	WMA			
	Channels	Up to 6 channels		

### **Playing Music**



- 1 Select your desired storage device. You can select the songs you would like to play across all storage devices in My playlist.
- 2 Select the desired music content and enjoy.

### Delete



- 1 Select your desired storage device.
- 2 Enter the path to the file you wish to delete.
- 3 Click the Delete button.
- 4 Select the file you wish to delete.
- 5 Click the Delete button at the top right.
- 6 Check that the file has been deleted from the list.

### Information

To check the basic information of Signage Monitor





You can see the basic information on Signage Monitor.

You can also switch to Smart Energy Saving Mode. (You can switch to Smart Energy Saving Mode only when Energy Saving Mode is set to Off.)

## **PICTURE ID Settings**

If you assign the PICTURE ID using the remote control, only displays with matching PICTURE ID and Set ID can be controlled remotely.

- 1 Press the red **ON** button on the remote control to assign the **PICTURE ID**.
- 2 Assign the **Set ID** to the selection of your choice.
- A set with a different **Set ID** from the **PICTURE ID** cannot be controlled by IR signals.

## **NOTE**

- If PICTURE ID is set to 2, only the upper right monitor, which has a Set ID of 2, can be controlled by IR signals.
- · If you press the green OFF button for PICTURE ID, the PICTURE IDs for all monitors are turned off. If you then press any button on the remote control, all monitors can be controlled by IR signals regardless of Set ID.

# **IR CODES**

Code (Hex)	Function	Remarks
08	ტ (POWER)	Remote control button
C4	MONITOR ON Remote contr	
5 MONITOR OFF		Remote control button
95	(Energy Saving)	Remote control button
OB		Remote control button
10	Number Key 0	Remote control button
11	Number Key 1	Remote control button
12	Number Key 2	Remote control button
13	Number Key 3	Remote control button
14	Number Key 4	Remote control button
15	Number Key 5	Remote control button
16	Number Key 6	Remote control button
17	Number Key 7	Remote control button
18	Number Key 8	Remote control button
19	Number Key 9	Remote control button
02	✓ 루 (Volume Up)	Remote control button
03	✓ □ (Volume Down)	Remote control button
EO	BRIGHTNESS ← (Page Up)	Remote control button
E1	BRIGHTNESS ❤ (Page Down)	Remote control button
DC	<b>3</b> D (3D)	Remote control button
32	1/a/A	Remote control button
2F	CLEAR	Remote control button
7E	SMPLINK	Remote control button
79	ARC(MARK) (Aspect Ratio)	Remote control button
4D	PSM (Picture Mode)	Remote control button
09	★ (MUTE)	Remote control button
43	<b>☆</b> (SETTINGS (Menu))	Remote control button
99	Auto Config.	Remote control button
40	<b>~</b> (Up)	Remote control button
41	✓ (Down)	Remote control button
06	> (Right)	Remote control button
07	<b>∢</b> (Left)	Remote control button
44	OK (OK)	Remote control button
28	◆ (BACK)	Remote control button

Code (Hex)	Function	Remarks
7B	TILE	Remote control button
5B	EXIT	Remote control button
72	PICTURE ID ON (RED)	Remote control button
71	PICTURE ID OFF (GREEN)	Remote control button
63	YELLOW	Remote control Button
61	BLUE	Remote control button
B1		Remote control button
В0	<b>&gt;</b>	Remote control button
BA	II	Remote control button
8F	*	Remote control button
8E	₩	Remote control button
5F	W.BAL	Remote control button
3F	¶ (S.MENU)	Remote control button
7C	♠ (HOME)	Remote control button

## TO CONTROL MULTIPLE PRODUCTS

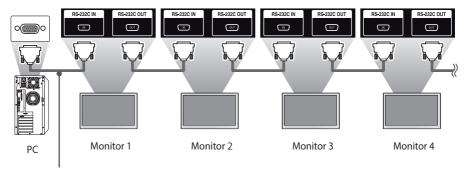
Use this method to connect several products to a single PC. You can control several products at a time by connecting them to a single PC.

In the Option menu, the Set ID must be between 1 and 1000 without being duplicated.

## Connecting the Cable

Connect the RS-232C cable as shown in the picture.

The RS-232C protocol is used for communication between the PC and product. You can turn the product on or off, select an input source or adjust the OSD menu from your PC.



RS-232C Cable (not included)

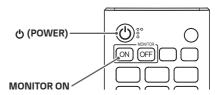
### **Communication Parameter**

Baud Rate: 9600 BPS Data Length: 8 bit Parity Bit: None Stop Bit: 1 bit Flow Control: None

Communication Code: ASCII code

## **NOTE**

- When using three-wire connections (non-standard), an IR daisy chain cannot be used.
- Be sure to only use the provided gender to connect properly.
- When monitors connected via Daisy Chain (that controls multiple monitors) are turned off and on successively, some monitors may not turn on. In this case, you can turn those monitors on by pressing the MONITOR ON button, not the POWER button.



## **Command Reference List**

Power			COMMAND		DATA
02         Select input         x         b         See 'Input Select'           03         Aspect Ratio         k         c         See 'Aspect ratio'           04         Energy saving         j         q         See 'Energy saving'           05         Picture Mode         d         x         See 'Picture Mode'           06         Contrast         k         g         00 to 64           07         Brightness         k         h         00 to 64           08         Sharpness         k         k         00 to 64           09         Color         k         i         00 to 64           10         Tint         k         j         00 to 64           11         Color Temperature         x         u         00 to 64           12         Time 1 (year/month/day)         f         a         See Time 1'           13         Time 2 (hour/minute/second)         f         x         See Time 2'           14         Off time schedule         f         c         00 to 01           15         On time schedule         f         c         00 to 01           16         Off Timer (repeat mode/time)         f         e			1	2	(Hexadecimal)
03         Aspect Ratio         k         c         See 'Aspect ratio'           04         Energy saving         j         q         See 'Energy saving'           05         Picture Mode         d         x         See 'Picture Mode'           06         Contrast         k         g         00 to 64           07         Brightness         k         h         00 to 64           08         Sharpness         k         k         00 to 32           09         Color         k         j         00 to 64           10         Tint         k         j         00 to 64           11         Color Temperature         x         u         00 to 64           12         Time 1 (year/month/day)         f         a         See 'Time 1'           13         Time 2 (hour/minute/second)         f         x         See 'Time 2'           14         Off time schedule         f         c         00 to 01           15         On time schedule         f         b         00 to 01           16         Off Timer (repeat mode/time)         f         e         See 'Off Timer'           17         On Timer (repeat mode/time)         f <t< td=""><td>01</td><td>Power</td><td>k</td><td>a</td><td>00 to 01</td></t<>	01	Power	k	a	00 to 01
04         Energy saving         j         q         See 'Energy saving'           05         Picture Mode         d         x         See 'Picture Mode'           06         Contrast         k         g         00 to 64           07         Brightness         k         h         00 to 64           08         Sharpness         k         k         00 to 32           09         Color         k         i         00 to 64           10         Tint         k         j         00 to 64           11         Color Temperature         x         u         00 to 64           12         Time 1 (year/month/day)         f         a         See 'Time 1'           13         Time 2 (hour/minute/second)         f         x         See 'Time 2'           14         Off time schedule         f         c         00 to 01           15         On time schedule         f         b         00 to 01           16         Off Timer (repeat mode/time)         f         e         See 'Off Timer'           17         On Timer (repeat mode/time)         f         u         See 'On Timer Input'           18         On Timer (repeat mode/time)	02	Select input	х	Ь	See 'Input Select'
05         Picture Mode         d         x         See 'Picture Mode'           06         Contrast         k         g         00 to 64           07         Brightness         k         h         00 to 64           08         Sharpness         k         k         00 to 64           10         Tint         k         j         00 to 64           11         Color Temperature         x         u         00 to 64           11         Color Temperature         x         u         00 to 64           12         Time 1 (year/month/day)         f         a         See 'Time 1'           13         Time 2 (hour/minute/second)         f         x         See 'Time 1'           14         Off time schedule         f         c         00 to 01           15         On time schedule         f         c         00 to 01           16         Off Timer (repeat mode/time)         f         e         See 'On Timer'           17         On Timer (repeat mode/time)         f         d         See 'On Timer Input'           18         On Timer (repeat mode/time)         f         g         00 to 01           20         Auto Off         m <td>03</td> <td>Aspect Ratio</td> <td>k</td> <td>С</td> <td>See 'Aspect ratio'</td>	03	Aspect Ratio	k	С	See 'Aspect ratio'
06         Contrast         k         g         00 to 64           07         Brightness         k         h         00 to 64           08         Sharpness         k         k         00 to 64           09         Color         k         i         00 to 64           10         Tint         k         j         00 to 64           11         Color Temperature         x         u         00 to 64           12         Time 1 (year/month/day)         f         a         See 'Time 1'           13         Time 2 (hour/minute/second)         f         x         See 'Time 1'           13         Time 2 (hour/minute/second)         f         x         See 'Time 1'           14         Off time schedule         f         c         00 to 01           15         On time schedule         f         b         00 to 01           16         Off Timer (repeat mode/time)         f         e         See 'On Timer'           17         On Timer (repeat mode/time)         f         d         See 'On Timer Input'           19         No Signal Power Off (15 Min)         f         g         00 to 01           20         Auto Off         m	04	Energy saving	j	q	See 'Energy saving'
07         Brightness         k         h         00 to 64           08         Sharpness         k         k         00 to 64           09         Color         k         i         00 to 64           10         Tint         k         j         00 to 64           11         Color Temperature         x         u         00 to 64           12         Time 1 (year/month/day)         f         a         See Time 1'           13         Time 2 (hour/minute/second)         f         x         See Time 1'           14         Off time schedule         f         c         00 to 01           15         On time schedule         f         b         00 to 01           16         Off Timer (repeat mode/time)         f         e         See 'On Timer'           17         On Timer (repeat mode/time)         f         d         See 'On Timer'           18         On Timer (repeat mode/time)         f         u         See 'On Timer Input'           19         No Signal Power Off (15 Min)         f         g         00 to 01           20         Auto Off         m         n         00 to 01           21         Language         f	05	Picture Mode	d	Х	See 'Picture Mode'
08         Sharpness         k         k         00 to 32           09         Color         k         i         00 to 64           10         Tint         k         j         00 to 64           11         Color Temperature         x         u         00 to 64           12         Time 1 (year/month/day)         f         a         See 'Time 1'           13         Time 2 (hour/minute/second)         f         x         See 'Time 2'           14         Off time schedule         f         c         00 to 01           15         On time schedule         f         b         00 to 01           16         Off Timer (repeat mode/time)         f         e         See 'Off Timer'           17         On Timer (repeat mode/time)         f         d         See 'On Timer'           18         On Timer (repeat mode/time)         f         d         See 'On Timer'           18         On Timer (repeat mode/time)         f         d         See 'On Timer'           19         No Signal Power Off (15 Min)         f         g         00 to 01           20         Auto Off         m         n         00 to 01           21         Language	06	Contrast	k	g	00 to 64
09         Color         k         i         00 to 64           10         Tint         k         j         00 to 64           11         Color Temperature         x         u         00 to 64           12         Time 1 (year/month/day)         f         a         See 'Time 1'           13         Time 2 (hour/minute/second)         f         x         See 'Time 2'           14         Off time schedule         f         c         00 to 01           15         On time schedule         f         b         00 to 01           16         Off Timer (repeat mode/time)         f         e         See 'Off Timer'           17         On Timer (repeat mode/time)         f         d         See 'On Timer'           18         On Timer (repeat mode/time)         f         u         See 'On Timer'           18         On Timer (repeat mode/time)         f         u         See 'On Timer'           19         No Signal Power Off (15 Min)         f         g         00 to 01           20         Auto Off         m         n         00 to 01           21         Language         f         i         See 'Language'           22         Reset <td>07</td> <td>Brightness</td> <td>k</td> <td>h</td> <td>00 to 64</td>	07	Brightness	k	h	00 to 64
10         Tint         k         j         00 to 64           11         Color Temperature         x         u         00 to 64           12         Time 1 (year/month/day)         f         a         See 'Time 1'           13         Time 2 (hour/minute/second)         f         x         See 'Time 2'           14         Off time schedule         f         c         00 to 01           15         On time schedule         f         b         00 to 01           16         Off Timer (repeat mode/time)         f         e         See 'Off Timer'           17         On Timer (repeat mode/time)         f         d         See 'On Timer'           18         On Timer (repeat mode/time)         f         u         See 'On Timer'           18         On Timer (repeat mode/time)         f         u         See 'On Timer'           19         No Signal Power Off (15 Min)         f         g         00 to 01           20         Auto Off         m         n         00 to 01           21         Language         f         i         See 'Language'           22         Reset         f         k         00 to 02           23         Current	08	Sharpness	k	k	00 to 32
11         Color Temperature         x         u         00 to 64           12         Time 1 (year/month/day)         f         a         See 'Time 1'           13         Time 2 (hour/minute/second)         f         x         See 'Time 2'           14         Off time schedule         f         c         00 to 01           15         On time schedule         f         b         00 to 01           16         Off Timer (repeat mode/time)         f         e         See 'Off Timer'           17         On Timer (repeat mode/time)         f         d         See 'On Timer'           18         On Timer (repeat mode/time)         f         u         See 'On Timer'           18         On Timer (repeat mode/time)         f         u         See 'On Timer'           18         On Timer (repeat mode/time)         f         u         See 'On Timer'           19         No Signal Power Off (15 Min)         f         g         00 to 01           20         Auto Off         m         n         00 to 01           21         Language         f         i         See 'Language'           22         Reset         f         k         00 to 02 <td< td=""><td>09</td><td>Color</td><td>k</td><td>i</td><td>00 to 64</td></td<>	09	Color	k	i	00 to 64
12         Time 1 (year/month/day)         f         a         See 'Time 1'           13         Time 2 (hour/minute/second)         f         x         See 'Time 2'           14         Off time schedule         f         c         00 to 01           15         On time schedule         f         b         00 to 01           16         Off Timer (repeat mode/time)         f         e         See 'Off Timer'           17         On Timer (repeat mode/time)         f         d         See 'On Timer'           18         On Timer (repeat mode/time)         f         u         See 'On Timer'           18         On Timer (repeat mode/time)         f         u         See 'On Timer'           18         On Timer (repeat mode/time)         f         u         See 'On Timer'           19         No Signal Power Off (15 Min)         f         g         00 to 01           20         Auto Off         m         n         00 to 01           21         Language         f         i         See 'Language'           22         Reset         f         k         00 to 02           23         Current temperature         d         n         FF           24<	10	Tint	k	j	00 to 64
13         Time 2 (hour/minute/second)         f         x         See 'Time 2'           14         Off time schedule         f         c         00 to 01           15         On time schedule         f         b         00 to 01           16         Off Timer (repeat mode/time)         f         e         See 'Off Timer'           17         On Timer (repeat mode/time)         f         d         See 'On Timer'           18         On Timer (repeat mode/time)         f         u         See 'On Timer'           18         On Timer (repeat mode/time)         f         u         See 'On Timer'           18         On Timer (repeat mode/time)         f         u         See 'On Timer'           18         On Timer (repeat mode/time)         f         u         See 'On Timer'           19         No Signal Power Off (15 Min)         f         g         00 to 01           20         Auto Off         m         n         00 to 01           21         Language         f         i         See 'Language'           22         Reset         f         k         00 to 02           23         Current temperature         d         n         FF           <	11	Color Temperature	х	u	00 to 64
14         Off time schedule         f         c         00 to 01           15         On time schedule         f         b         00 to 01           16         Off Timer (repeat mode/time)         f         e         See 'Off Timer'           17         On Timer (repeat mode/time)         f         d         See 'On Timer'           18         On Timer Input         f         u         See 'On Timer Input'           19         No Signal Power Off (15 Min)         f         g         00 to 01           20         Auto Off         m         n         00 to 01           21         Language         f         i         See 'Language'           22         Reset         f         k         00 to 02           23         Current temperature         d         n         FF           24         Key         m         c         See 'Key'           25         Time elapsed         d         l         FF           26         Product serial number         f         y         FF           27         Software version         f         z         FF           28         White balance red gain         j         m         0	12	Time 1 (year/month/day)	f	a	See 'Time 1'
15         On time schedule         f         b         00 to 01           16         Off Timer (repeat mode/time)         f         e         See 'Off Timer'           17         On Timer (repeat mode/time)         f         d         See 'On Timer'           18         On Timer Input         f         u         See 'On Timer Input'           19         No Signal Power Off (15 Min)         f         g         00 to 01           20         Auto Off         m         n         00 to 01           21         Language         f         i         See 'Language'           22         Reset         f         k         00 to 02           23         Current temperature         d         n         FF           24         Key         m         c         See 'Key'           25         Time elapsed         d         l         l         FF           26         Product serial number         f         y         FF           27         Software version         f         z         FF           28         White balance red gain         j         m         00 to FE           29         White balance green gain         j	13	Time 2 (hour/minute/second)	f	Х	See 'Time 2'
16         Off Timer (repeat mode/time)         f         e         See 'Off Timer'           17         On Timer (repeat mode/time)         f         d         See 'On Timer'           18         On Timer Input         f         u         See 'On Timer Input'           19         No Signal Power Off (15 Min)         f         g         00 to 01           20         Auto Off         m         n         00 to 01           21         Language         f         i         See 'Language'           22         Reset         f         k         00 to 02           23         Current temperature         d         n         FF           24         Key         m         c         See 'Key'           25         Time elapsed         d         l         FF           26         Product serial number         f         y         FF           27         Software version         f         z         FF           28         White balance red gain         j         m         00 to FE           29         White balance green gain         j         n         00 to FE           30         White Balance Red Offset         s         x <td>14</td> <td>Off time schedule</td> <td>f</td> <td>С</td> <td>00 to 01</td>	14	Off time schedule	f	С	00 to 01
17         On Timer (repeat mode/time)         f         d         See 'On Timer'           18         On Timer Input         f         u         See 'On Timer Input'           19         No Signal Power Off (15 Min)         f         g         00 to 01           20         Auto Off         m         n         00 to 01           21         Language         f         i         See 'Language'           22         Reset         f         k         00 to 02           23         Current temperature         d         n         FF           24         Key         m         c         See 'Key'           25         Time elapsed         d         l         FF           26         Product serial number         f         y         FF           27         Software version         f         z         FF           28         White balance red gain         j         m         00 to FE           29         White balance green gain         j         n         00 to FE           30         White Balance Red Offset         s         x         00 to 7F	15	On time schedule	f	b	00 to 01
18         On Timer Input         f         u         See 'On Timer Input'           19         No Signal Power Off (15 Min)         f         g         00 to 01           20         Auto Off         m         n         00 to 01           21         Language         f         i         See 'Language'           22         Reset         f         k         00 to 02           23         Current temperature         d         n         FF           24         Key         m         c         See 'Key'           25         Time elapsed         d         l         FF           26         Product serial number         f         y         FF           27         Software version         f         z         FF           28         White balance red gain         j         m         00 to FE           29         White balance green gain         j         n         00 to FE           30         White Balance Red Offset         s         x         00 to 7F	16	Off Timer (repeat mode/time)	f	е	See 'Off Timer'
19         No Signal Power Off (15 Min)         f         g         00 to 01           20         Auto Off         m         n         00 to 01           21         Language         f         i         See 'Language'           22         Reset         f         k         00 to 02           23         Current temperature         d         n         FF           24         Key         m         c         See 'Key'           25         Time elapsed         d         l         FF           26         Product serial number         f         y         FF           27         Software version         f         z         FF           28         White balance red gain         j         m         00 to FE           29         White balance green gain         j         n         00 to FE           30         White balance Red Offset         s         x         00 to 7F	17	On Timer (repeat mode/time)	f	d	See 'On Timer'
20         Auto Off         m         n         00 to 01           21         Language         f         i         See 'Language'           22         Reset         f         k         00 to 02           23         Current temperature         d         n         FF           24         Key         m         c         See 'Key'           25         Time elapsed         d         l         FF           26         Product serial number         f         y         FF           27         Software version         f         z         FF           28         White balance red gain         j         m         00 to FE           29         White balance green gain         j         n         00 to FE           30         White balance Red Offset         s         x         00 to 7F	18	On Timer Input	f	u	See 'On Timer Input'
21         Language         f         i         See 'Language'           22         Reset         f         k         00 to 02           23         Current temperature         d         n         FF           24         Key         m         c         See 'Key'           25         Time elapsed         d         l         FF           26         Product serial number         f         y         FF           27         Software version         f         z         FF           28         White balance red gain         j         m         00 to FE           29         White balance green gain         j         n         00 to FE           30         White balance Red Offset         s         x         00 to 7F	19	No Signal Power Off (15 Min)	f	g	00 to 01
22         Reset         f         k         00 to 02           23         Current temperature         d         n         FF           24         Key         m         c         See 'Key'           25         Time elapsed         d         l         FF           26         Product serial number         f         y         FF           27         Software version         f         z         FF           28         White balance red gain         j         m         00 to FE           29         White balance green gain         j         n         00 to FE           30         White balance Blue gain         j         o         00 to FE           31         White Balance Red Offset         s         x         00 to 7F	20	Auto Off	m	n	00 to 01
23         Current temperature         d         n         FF           24         Key         m         c         See 'Key'           25         Time elapsed         d         l         FF           26         Product serial number         f         y         FF           27         Software version         f         z         FF           28         White balance red gain         j         m         00 to FE           29         White balance green gain         j         n         00 to FE           30         White balance Blue gain         j         o         00 to FE           31         White Balance Red Offset         s         x         00 to 7F	21	Language	f	i	See 'Language'
24 Key m c See 'Key' 25 Time elapsed d l FF 26 Product serial number f y FF 27 Software version f z FF 28 White balance red gain j m 00 to FE 29 White balance green gain j n 00 to FE 30 White balance Blue gain j o 00 to FE 31 White Balance Red Offset s x 00 to 7F	22	Reset	f	k	00 to 02
25 Time elapsed d l FF 26 Product serial number f y FF 27 Software version f z FF 28 White balance red gain j m 00 to FE 29 White balance green gain j n 00 to FE 30 White balance Blue gain j o 00 to FE 31 White Balance Red Offset s x 00 to 7F	23	Current temperature	d	n	FF
26Product serial numberfyFF27Software versionfzFF28White balance red gainjm00 to FE29White balance green gainjn00 to FE30White balance blue gainjo00 to FE31White Balance Red Offsetsx00 to 7F	24	Key	m	С	See 'Key'
27 Software version f z FF 28 White balance red gain j m 00 to FE 29 White balance green gain j n 00 to FE 30 White balance blue gain j o 00 to FE 31 White Balance Red Offset s x 00 to 7F	25	Time elapsed	d	l	FF
28     White balance red gain     j     m     00 to FE       29     White balance green gain     j     n     00 to FE       30     White balance blue gain     j     o     00 to FE       31     White Balance Red Offset     s     x     00 to 7F	26	Product serial number	f	у	FF
29         White balance green gain         j         n         00 to FE           30         White balance blue gain         j         o         00 to FE           31         White Balance Red Offset         s         x         00 to 7F	27	Software version	f	Z	FF
30 White balance blue gain j o 00 to FE 31 White Balance Red Offset s x 00 to 7F	28	White balance red gain	j	m	00 to FE
31 White Balance Red Offset s x 00 to 7F	29	White balance green gain	j	n	00 to FE
	30	White balance blue gain	j	0	00 to FE
32 White Balance Green Offset s y 00 to 7F	31	White Balance Red Offset	S	х	00 to 7F
	32	White Balance Green Offset	S	у	00 to 7F

		COMMAND		DATA
		1	2	(Hexadecimal)
33	White Balance Blue Offset	S	z	00 to 7F
34	Backlight	m	g	00 to 64
35	Screen Off	k	d	00 to 01
36	Energy Saving Setting	f	j	00 to 07
37	Fail Over Input Select	m	j	See 'Fail Over Input Select'
38	Remote Control Lock	t	р	00 to 02
39	Daylight Savings Time	S	d	See 'Daylight Savings Time'
40	Network Settings	S	n, 80 (81) (82)	See 'Network Settings'
41	Wake On LAN	f	w	00 to 01
42	JustScan Toggle	S	N, 91	00 to 01
43	Password Change	S	N, 94	See 'Password Change'

<sup>\*</sup>Note: Commands may not work when the external input is not used.

## **Transmission/Reception Protocol**

### Transmission

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

- \* [Command 1]: Identifies between the factory setting and the user setting modes.
- \* [Command2]: Controls monitor sets.
- \* [Set ID]: Used for selecting a set you want to control. A unique Set ID can be assigned to each set ranging from 1 to 1000 (01H to 3E8H) in Settings on the OSD menu.

Selecting '00H' for set ID allows the simultaneous control of all connected monitor sets.

- \* [Data]: Transmits command data. Data count may increase depending on the command.
- \* [Cr]: Carriage Return. Corresponds to '0x0D' in ASCII code.
- \* [ ]: White Space. Corresponds to '0x20' in ASCII code.

### Acknowledgment

[Command2][ ][Set ID][ ][OK/NG][Data][x]

- \* The Product transmits an ACK (acknowledgment) based on this format when receiving normal data. At this time, if the data is FF, it indicates the present status data. If the data is in data write mode, it returns the data of the PC computer.
- \* If a command is sent with Set ID '00' (=0x00), the data is reflected to all monitors and they do not send an acknowledgment (ACK).
- \* If the data value 'FF' is sent in control mode via RS-232C, the current setting value of a function can be checked (only for some functions).

#### 01. Power (Command: k a)

Controls the power on/off of the set.

### Transmission

### [k][a][ ][Set ID][ ][Data][Cr]

Data 00: Off

01: On

Acknowledgment

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

- \* The acknowledgment signal is returned properly only when the monitor is fully powered on.
- \* There may be a delay between the transmission and acknowledgment signals.

### 04. Energy saving (Command: j q)

Sets the energy saving function.

Transmission

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

Data 00: Off

Acknowledgment

01: Minimum

02: Medium

03: Maximum

04: Automatic 05: Screen off

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

### 02. Select input signal (Command: x b)

Selects an input signal.

#### Transmission

### [x][b][ ][Set ID][ ][Data][Cr]

Data 90: HDMI1

91: HDMI2 C5: USB-C

Acknowledgment

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

#### 05. Picture mode (Command: d x)

Selects a picture mode.

Transmission

### [d][x][ ][Set ID][ ][Data][Cr]

Data 00: Vivid

01: Standard

02: Cinema

03: Sports

04: Game

08: APS 09: Photo

Acknowledgment

[x][ ][Set ID][ ][OK/NG][Data][x]

### 03. Aspect ratio (Command: k c)

Adjusts the aspect ratio.

### Transmission

### [k][c][ ][Set ID][ ][Data][Cr]

Data 01: 4:3

02: 16:9

04: Zoom

06: Set by Program

09: Original (≥ 720p)

10 to 1F: Cinema zoom 1 to 16

21: 58:9

30: Vertical Zoom

31: All-Direction Zoom

\* Available data types differ depending on the input signal. For more information, see the aspect ratio section of the owner's manual.

#### Acknowledgment

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

### 06. Contrast (Command: kg)

Adjusts the screen contrast.

Transmission

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

Data 00 to 64: Contrast 0 to 100

Acknowledgment

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

#### 07. Brightness (Command: k h)

Adjusts screen brightness.

Transmission

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

ata 00 to 64: Brightness 0 to 100

Acknowledament

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

### 08. Sharpness (Command: k k)

Adjusts the screen sharpness.

Transmission

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

Data 00 to 32: Sharpness 0 to 50

Acknowledgment

[k][ ][Set ID][ ][OK/NG][Data][x]

### 09. Color (Command: ki)

Adjusts the screen color.

Transmission

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

Data 00 to 64: Color 0 to 100

Acknowledgment

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

### 10. Tint (Command: k j)

Adjusts the screen tint.

Transmission

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

Data 00 to 64: Tint red 50 to green 50

Acknowledgment

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

#### 11. Color Temperature (Command: x u)

Adjusts the screen color temperature.

Transmission

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

Data 00 to 64: Warm 50 to cool 50

Acknowledgment

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

### 12. Time 1 (year/month/day) (Command: f a)

Sets the values of the Time 1 (year/month/day), or sets the Auto time.

Transmission

1. [f][a][ ][Set ID][ ][Data1][ ][Data2][ ]

[Data3][Cr]

2. [f][a][ ][Set ID][ ][0][0][ ][Data1][ ][Cr]

1. Setting the Time 1 (year/month/day)

Data1 06-1B: Years 2016-2037

Data2 01 to 0C: January to December

Data3 01 to 1F: 1st to 31st

\* Enter "fa [Set ID] ff" to view the Time 1 (year/month/day) settings.

2. Setting the Auto time

Data1 00: Auto

01: Manual

\* To view the set value of the Auto time, enter "fa [Set ID] 00 ff".

Acknowledgment

1. [a][ ][Set ID][ ][OK/NG][Data1][Data2]

[Data3][x]

2. [a][ ][Set ID][ ][OK/NG][0][0][Data1][x]

### 13. Time 2 (hour/minute/second) (Command: fx)

Adjusts the Time 2 (hour/minute/second) value.

Transmission

[f][x][ ][Set ID][ ][Data1][ ][Data2][ ]

[Data3][Cr]

Data1 00 to 17: 00 to 23 hours

Data2 00 to 3B: 00 to 59 minutes

Data3 00 to 3B: 00 to 59 seconds

\* Enter "fx [Set ID] ff" to view the Time 2 (hour/minute/second) settings.

\*\* This function is only available when Time 1 (year/month/day) is set.

Acknowledgment

[x][ ][Set ID][ ][OK/NG][Data1][Data2]

[Data3][x]

#### 14. Off time schedule (Command: f c)

Enables/disables the Off Time schedule.

Transmission

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

Data 00: Off

01: On

Acknowledgment

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

#### 15. On time schedule (Command: f b)

Enables/disables the On time schedule.

Transmission

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

Data 00: Off

01: On

Acknowledgment

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

#### 16. Off Timer (repeat mode/time) (Command: f e)

Configures the off timer (repeat mode/time) settings.

Transmission

[f][e][ ][Set ID][ ][Data1][ ][Data2][ ]

[Data3][Cr]

Data1

1. f1h to f7h (reading data)

F1: Reads the 1st Off Timer data

F2: Reads the 2nd Off Timer data

F3: Reads the 3rd Off Timer data F4: Reads the 4th Off Timer data

F5: Reads the 5th Off Timer data

F6: Reads the 6th Off Timer data

F7: Reads the 7th Off Timer data

### 2. e1h-e7h (Deletes one index), e0h (Deletes all indexes)

E0: Erases all Off Timer settings

E1: Erases the 1st Off Timer setting

E2: Erases the 2nd Off Timer setting

E3: Erases the 3rd Off Timer setting

E4: Erases the 4th Off Timer setting

E5: Erases the 5th Off Timer setting E6: Erases the 6th Off Timer setting

E7: Erases the 7th Off Timer setting

#### 3. 01h to 0ch (Sets weekday for Off Timer)

01: Once

02. Daily

03: Mon-Fri

04: Mon-Sat

05: Sat-Sun

06. Every Sunday 07. Every Monday

08. Every Tuesday

09. Every Wednesday

OA. Every Thursday

OB. Every Friday

Ob. Every Frida

OC. Every Saturday
Data2 00 to 17: 00 to 23 hours

Data3 00 to 3B: 00 to 59 minutes

\* To read or delete the Off Timer list you set, [Data2][Data3] must be set to FF

set to FF.

(ex1: fe 01 f1 ff ff - Reads the 1st index data from Off Timer.

ex2: fe 01 e1 ff ff - Deletes the 1st index data from Off Timer.

ex3: fe 01 04 02 03 - Sets Off Timer to 02:03 for Monday-Saturday.

\*\* This function is only available when Time 1 (year/month/day) and Time 2 (hour/minute/second) are set.

#### Acknowledgment

[e][ ][Set ID][ ][OK/NG][Data1][Data2]

[Data3][x]

#### 17. On Timer (repeat mode/time) (Command: f d)

Configures the on timer (repeat mode/time) settings.

### Transmission

[f][d][ ][Set ID][ ][Data1][ ][Data2][ ]

[Data3][Cr]

Data

1. f1h to f7h (reading data)

F1: Reads the 1st On Timer data

F2: Reads the 2nd On Timer data

F3: Reads the 3rd On Timer data

F4: Reads the 4th On Timer data

F5: Reads the 5th On Timer data

F6: Reads the 6th On Timer data

F7: Reads the 7th On Timer data

2. e1h-e7h (Deletes one index), e0h (Deletes all indexes)

E0: Erases all On Timer settings

E1: Erases the 1st On Timer settings

E2: Erases the 2nd On Timer settings

E3: Erases the 3rd On Timer settings

E4: Erases the 4th On Timer settings

E5: Erases the 5th On Timer settings

E6: Erases the 6th On Timer settings

E7: Erases the 7th On Timer settings

3. 01h to 0Ch (sets weekday for On Timer)

01: Once

02. Daily

03: Mon-Fri

04: Mon-Sat 05: Sat-Sun

06. Every Sunday

07. Every Monday

08. Every Tuesday

09. Every Wednesday

OA. Every Thursday

0B. Every Friday

OC. Every Saturday

Data2 00 to 17: 00 to 23 hours

Data3 00 to 3B: 00 to 59 minutes

\* To read or delete an On Timer list you have set, [Data2][Data3] must be set to FF.

Example 1: fd 01 f1 ff ff - Reads the 1st index data from On Timer.

Example 2: fd 01 e1 ff ff - Deletes the 1st index data from On Timer.

Example 3: fd 01 04 02 03 - Sets On Timer to 02:03 for Monday–Saturday.

- \*\* This function is only available when Time 1 (year/month/day) and Time 2 (hour/minute/second) are set.
- \*\*\* This feature works properly when the values for 22. On Timer inputs

### Acknowledgment

[d][ ][Set ID][ ][OK/NG][Data1][Data2]

[Data3][x]

#### 18. On Timer input (Command: f u)

Adds a new schedule entry by selecting input for the current On Timer setting.

#### Transmission

[f][u][ ][Set ID][ ][Data1][Cr]

[f][u][ ][Set ID][ ][Data1][ ][Data2][Cr]

Data (adding schedule)

90: HDMI1

91: HDMI2

C5: USB-C

### Data1 (reading schedule)

1. f1h to f7h (reading data)

F1: Select the 1st schedule input source

F2: Select the 2nd schedule input source

1 2. Sciece the 2nd schedule input source

F3: Select the 3rd schedule input source F4: Select the 4th schedule input source

14. Select the 4th schedule input source

F5: Select the 5th schedule input source

F6: Select the 6th schedule input source F7: Select the 7th schedule input source

Data2 (reading schedule)

FF

- \* To read the schedule input, enter FFH for [Data2].
- \*\* If no schedule is available for [Data1] when attempting to read the schedule data, the text 'NG' will be displayed and the operation will fail. (Example 1: fu 01 90 Move existing schedule entries down one row each and save HDMI as input source for the 1st schedule entry.) (Example 2: fu 01 f1 ff Read the 1st schedule input data.)
- \*\*\* This function is only supported when Time 1 (year/month/date), Time 2 (hour/minute/second) and On Time (repeat mode/time) are set.
- \*\*\*\* When in DTV input mode, the input is switched to PC mode.

### Acknowledgment

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

[u][ ][Set ID][ ][OK/NG][Data1][Data2][x]

### 19. No Signal Power Off (15 Min) (Command:f g)

Sets the monitor to enter Automatic Standby mode if there is no signal for 15 minutes.

Transmission

[f][g][ ][Set ID][ ][Data][Cr]

Data 00: Off

01: On

Acknowledgment

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

#### 22. Reset (Command: fk)

Performs the reset function.

Transmission

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

Data 00: Picture Reset

02: Reset to Initial information

Acknowledgment

[k][ ][Set ID][ ][OK/NG][Data][x]

### 20. Auto Off (Command: m n)

Sets the monitor to enter Auto Off after 4 hours

Transmission

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

Data 00: Off

01: 4 hours

Acknowledgment

[n][ ][Set ID][ ][OK/NG][Data][x]

### 23. Current Temperature (Command: d n)

Checks the current temperature of the product.

Transmission

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

Data FF: Check status
Acknowledgment

[n][ ][Set ID][ ][OK/NG][Data][x]

\*The temperature is displayed in hexadecimal values.

### 21. Language (Command: fi)

Sets the OSD language.

Transmission

#### [f][i][ ][Set ID][ ][Data][Cr]

Data 00: Czech

01: Danish

02: German

03: English

04: Spanish (Europe)

05: Greek

06: French

07: Italian

08: Dutch

09: Norwegian

0A: Portuguese

0B: Portuguese (Brazil)

OC: Russian

0D: Finnish

0E: Swedish

0F: Korean

10: Chinese (Mandarin)

11: Japanese

12: Chinese (Cantonese)

Acknowledgment

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

#### 24. Key (Command: m c)

Sends a key code for the IR remote control.

Transmission

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

Data IR\_KEY\_CODE

Acknowledgment

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

### 25. Time elapsed (Command: d l)

Checks the elapsed time.

Transmission

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

Data FF: Read status

Acknowledgment

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

\* The data received is shown as a hexadecimal value.

<sup>\*</sup> For key codes, see IR Codes.

#### 26. Product serial number (Command: f y)

Checks the serial number of the product.

Transmission

[f][y][ ][Set ID][ ][Data][Cr]

Data FF: Check product serial number

Acknowledgment

[y][ ][Set ID][ ][OK/NG][Data][x]

\* Data is in ASCII code.

#### 30. White balance blue gain (Command: j o)

Adjusts the white balance blue gain value.

Transmission

[j][o][ ][Set ID][ ][Data][Cr]

Data 00 to FE: Blue gain 0 to 254

FF: Confirms blue gain value

Acknowledgment

[o][ ][Set ID][ ][OK/NG][Data][x]

#### 27. Software version (Command: f z)

Checks the software version of the product.

Transmission

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

Data FF: Check software version

Acknowledgment

[z][ ][Set ID][ ][OK/NG][Data][x]

#### 31. White balance red offset (Command: s x)

Adjusts the white balance red offset value.

Transmission

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

Data 00 to 7F: Red offset 0 to 127

FF: Confirms red offset value

Acknowledgment

[x][ ][Set ID][ ][OK/NG][Data][x]

### 28. White balance red gain (Command: j m)

Adjusts the white balance red gain value.

Transmission

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

Data 00 to FE: Red gain 0 to 254

FF: Confirms red gain value

Acknowledgment

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

### 32. White balance green offset (Command: s y)

Adjusts the white balance green offset value.

Transmission

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

Data 00 to 7F: Green offset 0 to 127

FF: Confirms green offset value

Acknowledgment

[y][ ][Set ID][ ][OK/NG][Data][x]

### 29. White balance green gain (Command: j n)

Adjusts the white balance green gain value.

Transmission

[j][n][ ][Set ID][ ][Data][Cr]

Data 00 to FE: Green gain 0 to 254

FF: Confirms green gain value

Acknowledgment

[n][ ][Set ID][ ][OK/NG][Data][x]

### 33. White balance blue offset (Command: s z)

Adjusts the white balance blue offset value.

Transmission

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

Data 00 to 7F: Blue offset 0 to 127

FF: Confirms blue offset value

Acknowledgment

[z][ ][Set ID][ ][OK/NG][Data][x]

### 34. Backlight (Command: m g)

Adjusts the backlight brightness.

Transmission

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

Data 00 to 64: Backlight brightness 0 to 100

Acknowledgment

[g][ ][set ID][ ][OK/NG][Data][x]

### 35. Screen Off (Command: k d)

Turns the screen on or off.

Transmission

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

ata 00: Turns the screen on

01: Turns the screen off

Acknowledgment

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

#### 36. Energy Saving Setting (Command: fj)

To set the Display Power Management function.

Transmission

[f][j][ ][Set ID][ ][Data][Cr]

Data 00: Off

03: 15 seconds

04: 1 minute

06: 5 minutes

07: 10 minutes

Acknowledgment

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

### 37. Fail Over Input Select (Command: m j)

Selects the input for fail over.

Transmission

[m][ j][ ][Set ID][ ][Data1][ ][Data2][ ][Data3][ ]

[Data4][ ][Cr]

Data 1 to 3 (Input priority 1 to 3)

90: HDMI1

91: HDMI2

C5: USB-C Data 4: E1: USB

Acknowledgment
[i][ ][SetID][ ][OK/NG]

[Data1][Data2][Data3][Data4][x]

### 38. Remote Control Lock (Command: t p)

Configures the settings of the product's remote control key.

Transmission

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

Data 00: All keys lock off

01: Locks on all keys except Power key

02: Locks on all keys

Acknowledgment

[p][ ][Set ID][ ][OK/NG][Data][x]

\* When the monitor is turned off, the power key works even in the locks on all of the keys (02) mode.

### 39. Daylight Savings Time (Command: s d)

Sets Daylight Savings Time feature.

Transmission

[s][d][ ][Set ID] [ ][Data1] [ ][Data2] [ ]
[Data3] [ ][Data4] [ ][Data5] [ ][Cr]

Data1 00: Off (Data2-5: FF)

01: Start time

02: End time

Data2 01 to 0C: January to December

Data3 01 to 06: Weeks 1 to 6

\* The maximum value of [Data3] may vary depending on the date.

Data4 00 to 06 (Sunday to Saturday)

Data5 00 to 17: 00 to 23rd hour

\*\* To read the start/end times, enter FF in [Data2] through [Data5].

(Ex. 1: sd 01 01 ff ff ff ff - Checks the start time. Ex. 2: sd 01 02 ff ff ff ff - Checks the end time.)

\*\*\* This function is only available when Time 1 (year/month/day) and Time 2 (hour/minute/second) are set.

Acknowledgment

[d][ ][Set ID][ ][OK/NG] [Data1][Data2]

[Data3][Data3][Data4][Data5][x]

### 40. Network settings (Command: s n, 80 or 81 or 82)

Sets network and DNS.

Transmission

[s][n][ ][Set ID][ ][Data1][ ][Data2][ ]

[Data3][ ][Data4][ ][Data5][Cr]

Data1 80: Configures/views the temporary IP mode (Auto/ Manual), subnet mask and gateway.

81: Configures/views the temporary DNS address.

82: Saves temporary settings and views information about the current network.

\* If Data1 is 80.

Data2 00: Auto

01: Manual

FF: Views the temporary IP mode (Auto/Manual), subnet mask and qateway.

\*\* If Data2 is 01 (Manual),

Data3 : Manual IP address
Data4 : Subnet mask address

Data5 : Gateway address

\* If Data1 is 81,

Data2 : DNS address

FF: Views the temporary DNS address.

\* If Data1 is 82,

Data2 80: Applies the temporarily saved IP mode (Auto/Manual), subnet mask and gateway.

81: Applies the temporary DNS address

FF: Information on the current network (IP, subnet gateway, DNS)

\*\*\* Examples of settings

1. Auto: sn 01 80 00

2. Manual: sn 01 80 01 010177223241 255255254000 010177222001 (IP: 10.177.223.241, subnet:

255.255.254.0,

gateway: 10.177.222.1)

3. Network read: sn 01 80 ff

4. DNS setting: sn 01 81 156147035018 (DNS: 156.147.35.18)

 Applying the settings: sn 01 82 80 (applies the saved IP mode (auto/manual), subnet mask and gateway) sn 01 82 81 (applies the saved DSN)

\*\*\*\* Each IP address contains 12 decimal digits.

Acknowledgment

[n][ ][Set ID][ ][OK/NG][Data1][Data][x]

\*\*\*\*\* This feature is available only for wired networks.

### 41. Wake On LAN (Command: f w)

Selects the desired Wake On LAN option.

Transmission

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

Data 00: Off

01: On

Acknowledgment

[w][ ][Set ID][ ][OK/NG][Data][x]

### 42. JustScan Toggle (Command: s n, 91)

Sets JustScan.

Transmission

[s][n][ ][Set ID][ ][9][1][ ][Data][Cr]

Data 00: Off

01: On

Acknowledgment

[n][ ][Set ID][ ][OK/NG][9][1][Data][x]

### 43. Password Change (Command: s n, 94)

Changes password.

Transmission

[s][n][ ][Set ID][ ][9][4][ ][Data1] [Data2]

[Data3][Data4][Cr]

Data1 to 4: 0 to 9

Acknowledgment

[n][ ][Set ID][ ][OK/NG][Data1] [Data2]

[Data3][Data4][x]

