

Edition 5c

Handheld Signal Generator

ODSG-02C

USER MANUAL



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1. Before You Start

WARNING: To prevent any risk from your workstation, please beware of important safety instruction as below;

AC POWER

Unplug the Power Cord of ODSG-02C, after turning off the power switch on the side panel. The power cord should be unplugged from the outlet, when left unused for a long period of time. The power cord should be routed so that they are not likely to be walked on or pinched by items placed upon or against them.

OBJECT AND LIQUID ENTRY

Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

WATER AND DUST

Do not use it near wet or dirty place.

SHOCK DAMAGE

Do not shock or heat.

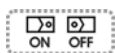
THE SETUP METHOD

Do not place it on an unstable cart or table etc.

TROUBLESHOOTING

Do not attempt to service this product yourself by opening or removing covers. It may expose you to dangerous voltage or other hazards. Refer all services to qualified service personnel.

REFERENCE: International Electrical Symbols



On / Off Switch



Conforms to European Union directives

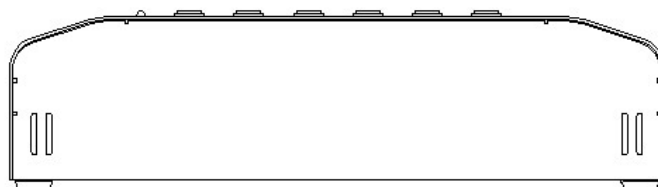
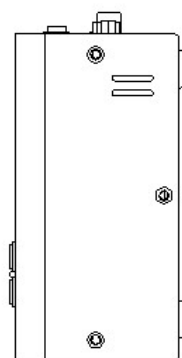
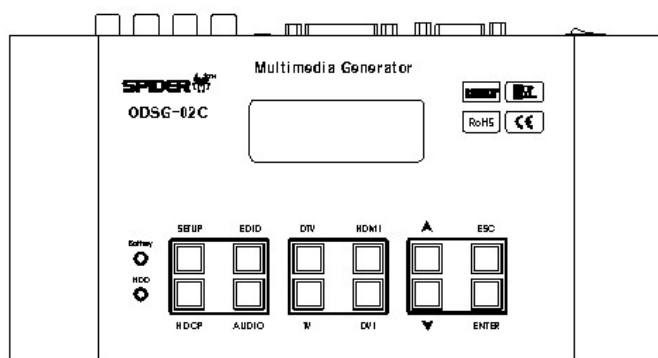
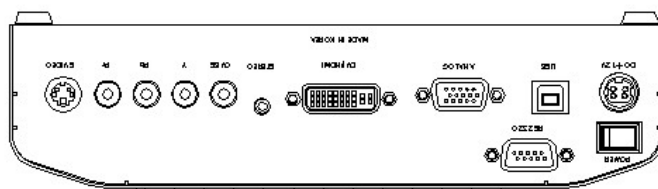


High Definition Multimedia Interface

2. Product's Composition

The signal pattern generator, ODSG-02C includes accessories as below.

- AC/DC Adapter (12V/5A)
- Power Cable
- USER MANUAL
- DVI CABLE
- USB CABLE



3. About ODSG-02C

3.1 The Definition

This ODSG-02C is a battery powered, portable multimedia generator that enables you to conduct quick, on-site verification test of your video systems. This product can output the Audio and Video stored in internal HDD through each output port as Digital/ Analog signal. ODSG-02C is the Multi-Media Test Device for display Inspection of various Projector, HDTV, PDP, TFT-LCD etc. Especially, it supports both ATSC and DVB Formats of the COMPONENT, Analog and high resolution HDMI, DVI up to 1080ip and WUXGA.

3.2 The Features

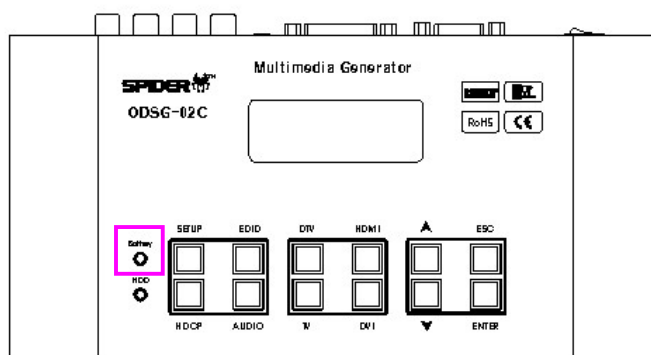
- Battery powered for portability. Device is powered via internal batteries or external AC/DC adapter.
- Handheld compact size 220 x 110 x 55mm(W/D/H) and easy operation.
- Offers analog and digital video signals including VESA, SMPTE and CEA international standards.
- Verify HDCP on sources and displays.
- Reads EDID data of connected display and scale a source to fit the display.
- Support the DVI (Single) & HDMI format (Ver 1.2) with DVI connector
- Supports all VESA resolutions up to WUXGA (1920x1200)/RB
- Provides various test patterns used by field technicians and engineer.
- Provides easy GUI on LCD panel for Resolution change, EDID, HDCP and Audio.
- Offers media player function to play movie, music and image.
- Includes 80GB HDD to store and play AV files.
- Includes 3.6V/2A x3cell battery for field usage, It lasts for 2 hours but it depends on operational condition.
- Provides video range function. (Full range for DVI and limited range for HDMI)
- Provides RS-232 port for remote control.
- Easy firmware updates by USB.

3.3 The Specification

- TV/ S-VHS : NTSC, PAL
- DTV (Y/Pb/Pr) : 480i/p, 576i/p, 720p, 1080i/p
- DVI format : VESA standard up to 1920 x 1200(RB)
- HDMI format : Ver 1.2 (480i/p, 576p, 720p, 1080i/p)
- Analog(15pin) : 8MHZ-250MHZ(± 25 ppm)
H: 10KHZ ~ 200KHZ(± 25 ppm)
V: 10KHZ ~ 200HZ(± 25 ppm)
Audio: Stereo
- Internal storage : 2.5' HDD (80GB)
- Video Format: MPG(MPEG1/2/4), AVI(MPEG1/2/4-V3, DivX3/4/5, XVID, VC-1, DX50), WMV(WMV9), ASF, TS(MPEG Layer), TS(MPEG Layer), TRP(MPEG Layer): Up to 1920x1080P/50, 60HZ
- Audio Format: MP3, WMA, AAC, PCM, AC3, WAV, BSAC, WMAPRO
- Image Format: JPEG, BMP, PNG, GIF, BMP, PNG
- Image Resolution: Up to 2048 x 2048
- HDCP Function: Receivable (Ver.1.1)
- Dimension(mm) / Weight(KGs): 220 x 110 x 55mm (WDH) / 1kgs
- IP CODE: IPXO

3.4 Power Considerations

The ODSG-02C is a portable battery powered test instrument. It can be used for about 2 hours without AC/DC power supplier. We recommend you set the screen brightness to the minimum level to extend the operation time. Turn the unit off if you do not use it for a long time.



Battery status LED

- ◇ **Red:** low battery, need to be charged.
- ◇ **Yellow:** charging
- ◇ **Green:** charged

※ *If there is any trouble with the battery, please contact your Distributor or Reseller.*

4. Environmental and Reliability Specifications

1. Operating Conditions

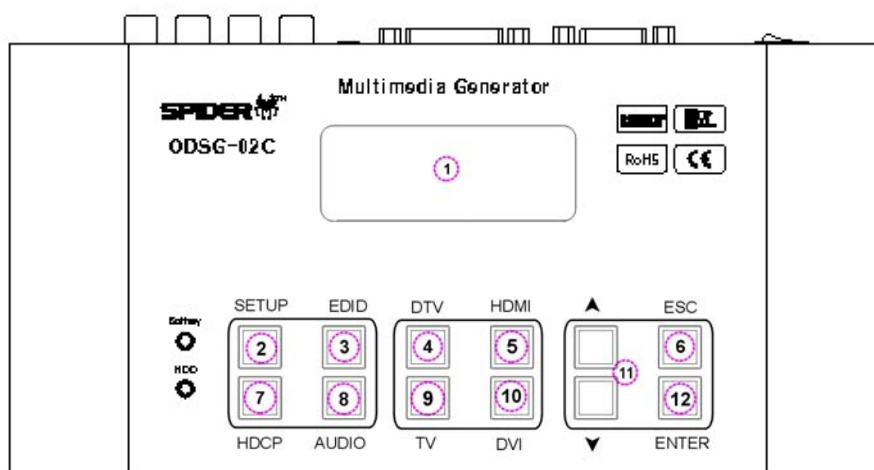
- **Temperature** : 10°C ~ 40°C
- **Humidity** : 10% - 80%, non-condensing
- **Altitude** : maximum 3,000m

2. Storage Conditions

- **Temperature** : -20°C - 45°C
- **Humidity** : 5% - 95%, non-condensing
- **Altitude** : maximum 3,000m

5. Each Part's Name and Function

5.1 Front View

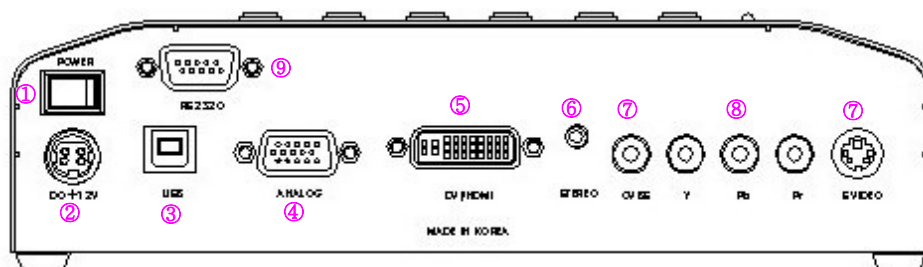


- ① **LCD** : Shows various information like resolution and timing
- ② **SETUP** : Setup menu
- ③ **EDID** : EDID on/off

※ If the display does not have EDID or has abnormal one, the signal is not transmitted when EDID on.

- ④ **DTV** : Changes the output as DTV.(Component)
- ⑤ **HDMI** : Changes the output as HDMI.
- ⑥ **ESC** : Exits or Cancels the current menu.
- ⑦ **HDCP** : Key for HDCP on/ off.(High-Bandwidth Digital Content Protection)
- ⑧ **AUDIO** : Turns on or turns off the audio output.
- ⑨ **TV** : Changes the output as TV.(NTSC, PAL)
- ⑩ **DVI** : Changes the output as DVI.
- ⑪ **▲▼** : Moves up or move down the files listed on.
- ⑫ **ENTER** : Executes the operation.
- ⑬ **BATTERY LED**: Shows the battery condition.

5.2 Side View



- ① Power 'On/Off' switch.
- ② DC 12V/5A Power receptacle.
- ③ USB B port. (Up-load or Download the firmware and Media files)
- ④ Analog output port. (15pin D-sub)
- ⑤ DVI port (DVI/HDMI format)
- ⑥ Audio output port. (Stereo)
- ⑦ TV format output port. (CVBS / S-Video).
- ⑧ D-TV format output port. (Component, YPbPr)
- ⑨ RS-232C port. (Remote control).

6. Initial Setting Menu

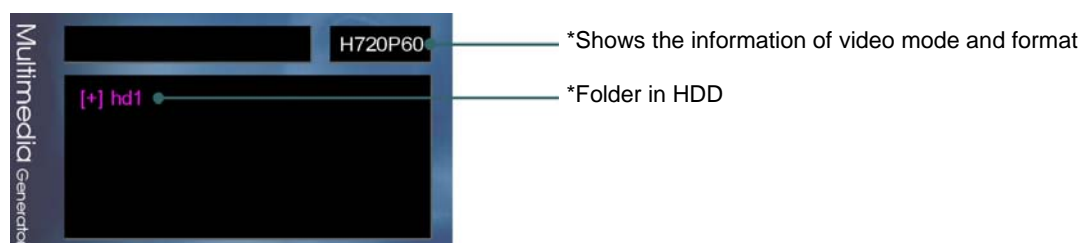
6.1 Using Initial Setting Menu

Turn on the power and press the 'setup' key.
It makes you control EDID, HDCP and audio as well as video type, resolution and timing.

6.2 Initial LCD Window, After Power On



6.3 Initial Display Screen, After Power On



6.4 Initial Menu Setup Screen

Initial setting Direction

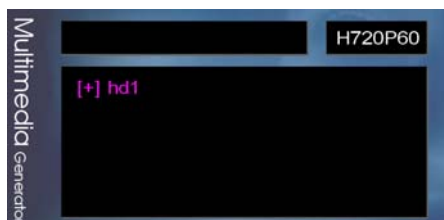


[Key directions] *Enter key: Select contents. *Up/Down key: Changing value.

Output Mode	Selects the resolution and timing
Range Setup Level	Sets the level of range (3 mode) ① AUTO: Automatic range set up per output mode. ② Full range: 0 - 255 for DVI format ③ Limit range: 16 - 235 for HDMI format
HDCP	Set the HDCP (On/Off)
EDID	Set the EDID (On/Off)
Ratio	Select ratio (16:9 or 4:3)
Real Image	Real image size ① On: Shows real size ② Off: Shows the resolution size
Slide show	Automatic test pattern scroll (On/Off)
Slide Time	Sets the interval of slide show

7. How to play each function

7.1 How to Play The Images



1) Press **Enter** key to select the [+] hd1.

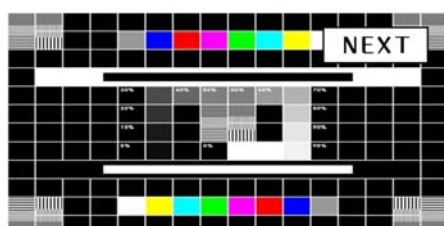


2) Press **Enter** key again to select [+] images folder.

3) Select the one of Image files, and then press **ENTER** key to show the Image on the display.



Press **▲** key to show the previous image listed in the image folder.
(If the shown image file is the first pattern file in the image folder, it makes you go to previous menu.)



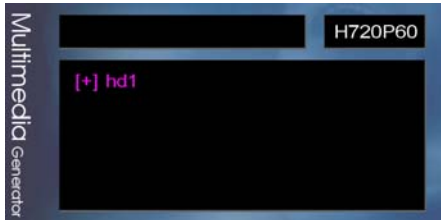
Press **▼** key to show the next image listed in the image folder.
(If the shown image file is the last pattern file in the image folder, it makes you go to previous menu.)



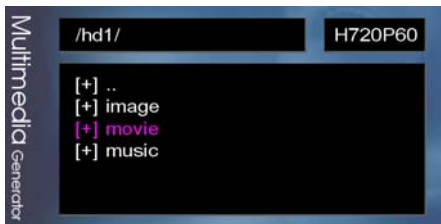
If you run slide show, the display will show PAUSE message. By pressing **Enter** key once, you can pause the slide show and pressing it once again, you can restart the slide show.

4) Press **ESC** key to go to previous menu.

7.2 How to Play The Video



1) Press **Enter** key to select the [+] hd1.



2) Press **Enter** key again to select the [+] movies.

3) Select the one of Video files, and then press **ENTER** key to play the Video on the display.



Press **▲** key to run the previous video file listed in the movie folder.
(If the running file is the first video file in the video folder, it makes you go to previous menu.)



Press **▼** key to run the next video file listed in the movie folder.
(If the running file is the last video file in the video folder, it makes you go to previous menu.)

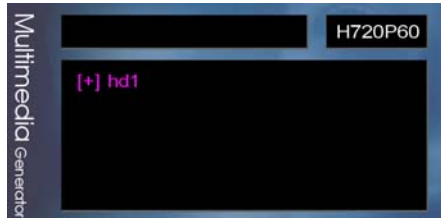


If you run the video file, the display will show PAUSE message. By pressing **Enter** key once, you can pause the video file and pressing it once again, you can restart the video file.

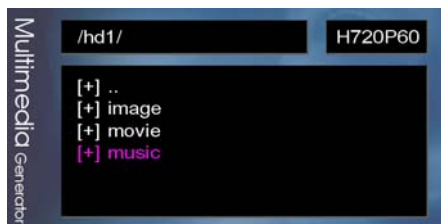
4) When the last video file comes to end, the first file will be played automatically

5) Press **ESC** key to stop the video file and go to previous menu.

7.3 How To Play The Audio



1) Press **Enter** key to select the [+] hd1.



2) Press **Enter** key again to select the [+] music.

3) Select one of Audio files, and then press **ENTER** key to run the audio file.



Press **▲** key to run the previous audio file listed in the music folder.
(If the running file is the first audio file in the music folder, it makes you go to previous menu.)



Press **▼** key to run the next audio file listed in the music folder.
(If the running file is the last audio file in the music folder, it makes you go to previous menu.)



If you run the audio file, the display will show PAUSE message. By pressing **Enter** key once, you can pause the audio file and pressing it once again, you can restart the audio file.

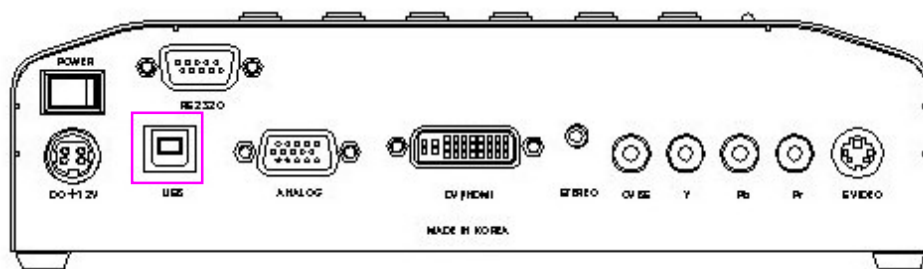
4) When the last audio file comes to end, the first audio file will be played automatically.

5) Press **ESC** key to stop the audio file and go to previous menu.

8. PC Download

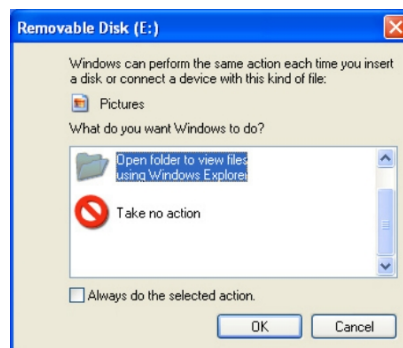
8.1 USB (Firmware download / copy the media files)

1) If you connect ODSG-02C to PC or laptop by supplied USB cable, you can transfer image, video and audio files as well as firmware file between them as you do with USB memory or USB hard disk.



2) To do this

- ① Turn off the main power of ODSG-02C
- ② Connect ODSG-02C to PC or laptop by supplied USB cable.
- ③ Turn on the main power of ODSG-02C.
- ④ PC or laptop will detect hard disk in ODSG-02C and the pop-up message will be shown as below.



▷ Firmware Download

Opticis may release new firmware of ODSG-02C to upgrade the system or to debug the system, if any. In that case, by replace all files in **Wongane** folder, you can upgrade the firmware of ODSG-02C. But please do not replace files in other folders.

9. A/S Service

9.1 Customer's Right

(One) Year Warranty

OPTICIS warrants ODSG-02C, Multimedia Player to be free from defects in workmanship and materials, under normal use and service, for a period of one (1) year from the date of purchase from OPTICIS or its authorized resellers.

If a product does not work as warranted during the applicable warranty period, OPTICIS shall, at its option and expense, repair the defective product or part, deliver to customer an equivalent product or part to replace the defective item, or refund to customer the purchase price paid for the defective product.

All products that are replaced will become the property of OPTICIS.

Replacement products may be new or reconditioned.

Any replaced or repaired product or part has a ninety (90) day warranty or the remainder of the initial warranty period, whichever is longer.

OPTICIS shall not be responsible for any software, firmware, information, or memory data of customer stored in, or integrated with any products returned to OPTICIS for repair under warranty or not.

9.2 Warranty Limitations and Exclusion

OPTICIS shall have no further obligation under the foregoing limited warranty if the product has been damaged due to abuse, misuse, neglect, accident, unusual physical or electrical stress, unauthorized modifications, tampering, alterations, or service other than by OPTICIS or its authorized agents, causes other than from ordinary use or failure to properly use the Product in the application for which said Product is intended.

9.3 Contact

If you need any help for ODSG-02C, please contact opticis.

Opticis Co., Ltd.

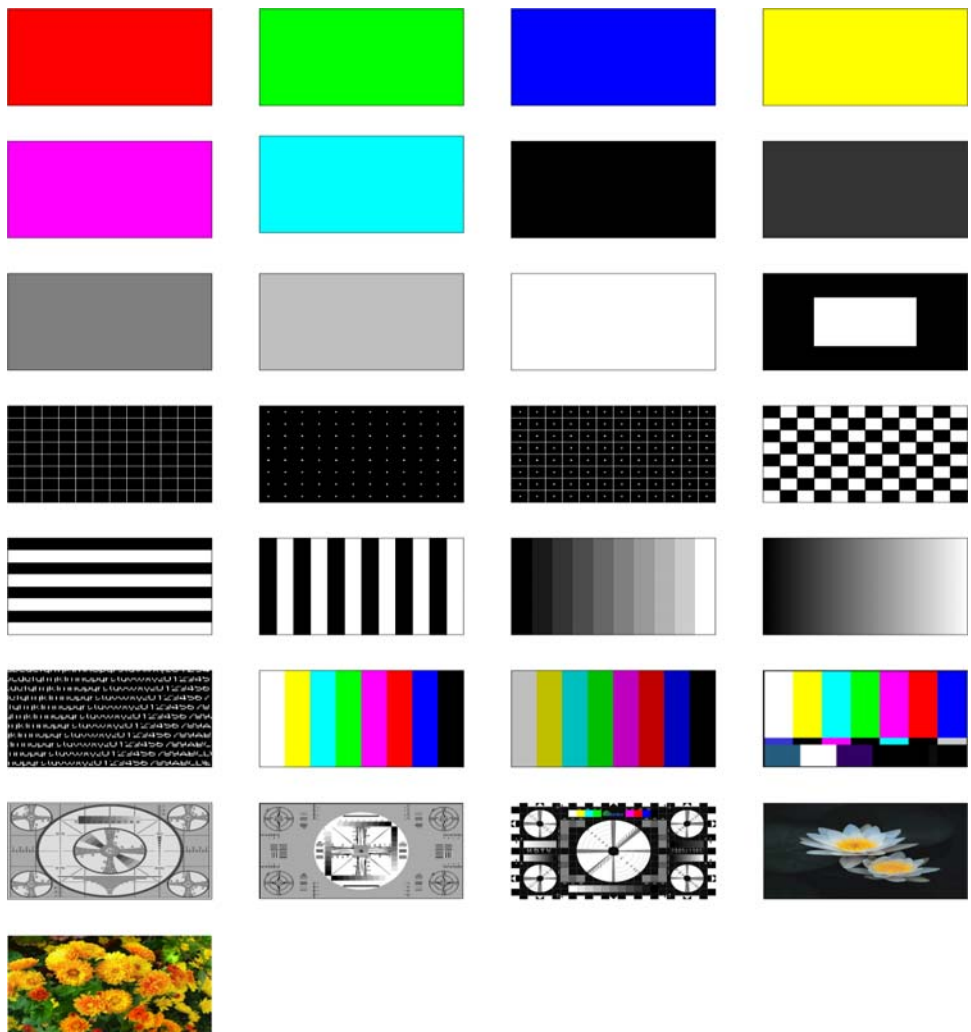
#501 Byucksan Technopia, 434-6,
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10. Appendix

10.1 Pattern Images



10.2 Fixed default time data (Default)

Time No.	DVI MODE
1	VESA – 640x480 / 60hz
2	VESA – 800x600 / 60hz
3	VESA – 1024x768 / 60hz
4	VESA – 1024x768 / 75hz
5	VESA – 1152x864 / 75hz
6	VESA – 1280x960 / 60hz
7	VESA – 1280x1024 / 60hz
8	VESA – 1280x1024 / 75hz
9	VESA – 1600x1200 / 60hz
10	VESA – 1920x1200 / 60hz
11	VESA – 1280x720 / 50hz
12	VESA – 1280x720 / 60hz
13	VESA – 1280x800 / 60hz
14	VESA – 1280x800 / 75hz
15	VESA – 1360x768 / 60hz
16	VESA – 1440x900 / 60hz
17	VESA – 1440x900 / 75hz
18	VESA – 1680x1050 / 60hz
19	VESA – 1920x1080 / 50hz
20	VESA – 1920x1080 / 60hz

Time No.	TV MODE
11	NTSC
12	PAL

Time No.	DTV MODE
13	480i/60
14	480P/59
15	720p/60
16	1080i/60
17	1080p/60
18	576i/50
19	576p/50
20	720p/50
21	1080i/50
22	1080p/50

Time No.	HDMI MODE
23	480i/60
24	480P/60
25	720p/60
26	1080i/60
27	1080p/60
28	576i/50
29	576p/50
30	720p/50
31	1080i/50
31	1080p/50

10.3 RS-232C communication command

*Baud rate 19200

1) 1-byte Command

HEX	ODSG-02C	HEX	ODSG-02C	HEX	ODSG-02C
0x40	SCAN On	0x50	EDID Info	0x60	DTV50
0x41	SCAN Off	0x51	Size check	0x61	DTV60
0x42	P-DTV	0x52	DTV	0x62	HDMI50
0x43	I-DTV	0x53	HDMI	0x63	HDMI60
0x44	TIME	0x55	RATIO	0x64	720P
0x45	TV (CVBS)	0x57	MENU	0x65	1080I
0x46	COPY	0x59	HDCP	0x66	1080P
0x47	HDCP ON	0x5B	AUDIO ON	0x67	PC1
0x48	HDCP OFF	0x5D	AUDIO OFF	0x68	PC2
0x49	SCAN	0XF2	DOWN	0x69	PC3
0x4A	EDID	0XF5	UP	0x6A	PC4
0x4B	EDID ON	0X0D	ENTER	0x6B	PC5
0x4C	EDID OFF	0X90	S2 Ratio 4:3	0x94	D5 Ratio4:3LT
0x4D	RATIO 16:9	0X91	S2 Ratio4:3LT	0x95	D5 Ratio 16:9
0x4E	RATIO 4:3	0X92	S2 Ratio 16:9		
0x4F	ESC	0X93	D5 Ratio 4:3		

2) Many-byte Command: PC Control Command

HEX	ODSG-02C	HEX	ODSG-02C
0x07	Resolution Change	0x08	Mode Change (file name)
0x09	File Select	0x0A	Slideshow (Image file)

*Example command

1) Mode Change Example: Select the **NTSC** mode.

Command: **0208084E54534303**

Start code

0x02

Data Length 1 byte

Data Length

0x08

Command Flag

0x08

Resolution Number

0x4E

0x54

0x53

0x43

End code

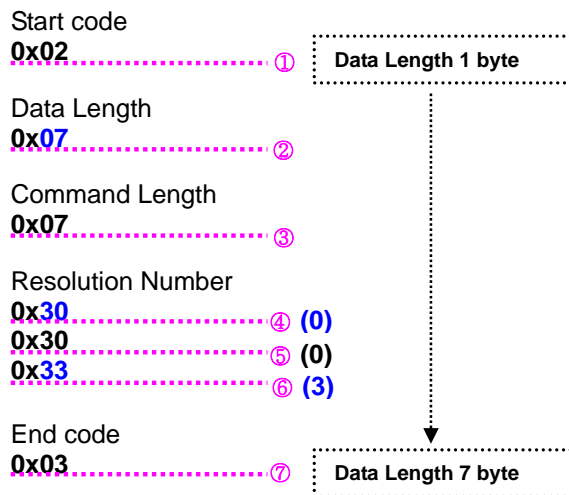
0x03

Data Length 8 byte

2) Resolution Change Example: Select time number (3) three. [VESA – 1024x768 / 60hz](#)

Time (Resolution number): Please go to page 16.

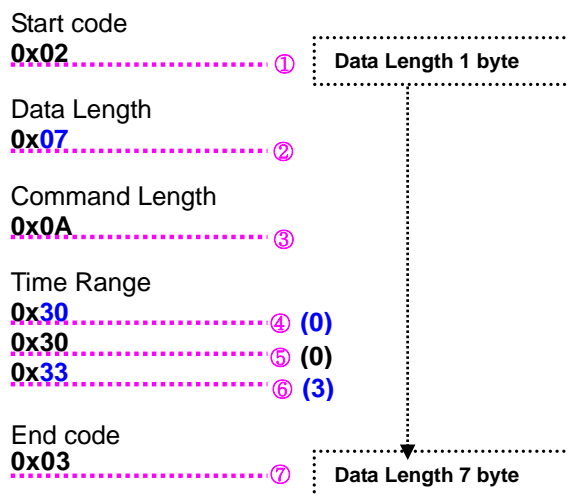
Command: **02070730303303**



3) Image Slide Show Example (Time Range: 1~60sec.)

[Time Range 3sec.](#)

Command: **02070A30303303**



4) File Select Example

File directory: hd2/movie/king.avi

Command: **02 22 09 68 64 02 2F 6D 6F 76 69 65 2F 6B 69 6E 67 60 61 76 69 03**

Start code

0x02

Data Length 1 byte

Data Length

0x22

Command Flag

0x09

File directory

0x68

0x64

0x02

0x2F

0x6D

0x6F

0x76

0x69

0x65

0x2F

0x6B

0x69

0x6E

0x67

0x60

0x61

0x76

0x69

End code

0x03

Data Length 22 byte



Opticis Locations

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