



4x2 HDMI MATRIX SWITCH / MULTI-VIEWER, 4K/30Hz



Manual
DS-55345

Table of Contents

1. Introduction	3
2. Main features	3
3. Package content	4
4. Specification	4
5. Ports and interfaces	5
6. Special function description	8
7. Connection diagram.....	17
8. Rs-232 connection protocol.....	18
9. Command	20
Help command (h). Returns entire api in readable format:	20
System control setup commands:.....	22
Status commands (sta). Returns unit status and settings in readable format:	23
10. Troubleshooting	24

1. Introduction

The DIGITUS® 4x2 HDMI Matrix Switch / Quad Multi-Viewer enables you to switch conveniently between up to 4 HDMI sources and 2 playback devices and distribute your media content independently. Switch conveniently between the signal sources via remote control, on the device itself or via RS232 control. The multi-viewer function offers 6 modes for individual display of sources (split-screen, PIP) at output A or parallel at A & B. Audio signals can also be decoupled and separately reproduced via Toslink or 3.5 mm stereo connection. Supports resolutions of up to 4K/30Hz. The HDMI output resolution can be adjusted individually using a scaler.

2. Main Features

- Switch between up to 4 HDMI sources and 2 playback devices via remote control, on the device itself or via RS232 control
- Multi-viewer: 6 modes for individual display of sources at HDMI output A (primary) or at HDMI output A & B simultaneously (secondary) via remote control or on the device itself
- Audio extractor: Toslink / Stereo (3.5 mm)
 - Decoupling / Separate reproduction of the audio signal
- Max. resolution: 4K/30 Hz
- RS232 control via micro-USB
- Scaler (changeover switch) – Adjustment of HDMI output resolution (1080p, 1600p, 4K/30Hz)
- Separate on/off switch.

- Video bandwidth: 10.2 Gbps
- HDCP 1.4
- HDMI 1.4

3. Package content

- 1x 4x2 Matrix Switch / Multi-viewer
- 1x Remote control
- 1x Power adapter (5V/1A, 1.2 m) with screw connector
- 1x USB-A to Micro-USB cable (1m)
- 4x Rubber mat
- 1x QIG

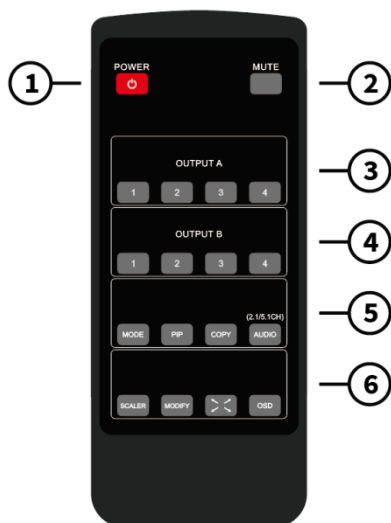
4. Specification

Connections	2x HDMI input (4K/30Hz)
	4x HDMI output (4K/30Hz)
	1x Toslink
	1x 3.5 mm audio
	1x Micro USB input – RS232 control / Service, remote maintenance update.
	1x DC jack with screw connector 5V/1A (power supply) – Connection power adapter
	9x Status LEDs
	1 x IR receiver

	5x Changeover switch
	1x ON/ Off switch
Operating temperature	0-70°
Power consumption	approx. 5W
Housing	Metal
Dimensions (housing)	L 21.4 x W 9.1 x H 1.85 cm
Weight	395 g
Color	Black

5. Ports and Interfaces

Remote Control

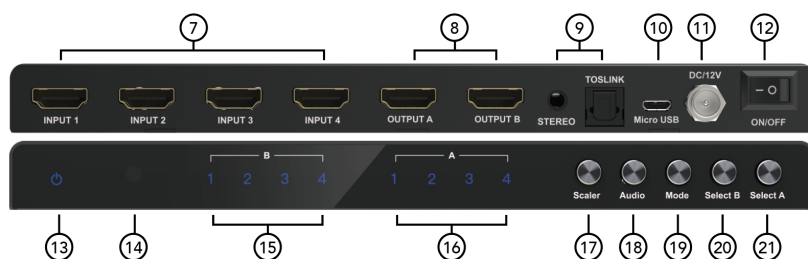


Remote Control Size: 51.5 x 124 x 9.5mm

1. POWER: Power standby/power on
2. MUTE: Audio output mute/2.0CH mode/5.1CH mode
3. OUTPUT A: Press IN1 ~ IN4 button will select the corresponding channel to output A as a seamless switcher.
4. OUTPUT B: Press IN1 ~ IN4 button will select the corresponding channel to output B as a seamless switcher.
5. MODE: Press the button to change 2x2 four equal picture-IN1/IN2 left/right picture – IN1/IN2 up/ down picture- one big three small up/ down picture mode 5
 - PIP MODE: In the PIP mode: press button to change PIP small picture location (cycle from right lower corner >left lower corner> left upper corner> right upper corner of the screen).
 - COPY: Press the button to copy the Output A display mode to Output B at the same time
 - AUDIO: Press the button will select the corresponding audio output from IN1-IN4. Long press the audio button for 3s to change the default audio mode between the 2.1CH and 5.1CH mode.
6. Scaler button: Press the button to switch between 1080p, 2560x1600p and 4K@30Hz.
 - MODIFY: Function button to change the different input source combination of display mode not the default status. Press the button with the mode which should be changed, and then press the Full Screen MODE 1-4 numerical key within 5s.

- FULL SCREEN: Press to select full screen mode or keep the original ratio.
- OSD: Press to show the OSD content and disappear for 3s later.

Ports and Interfaces



7. INPUT 1-4: HDMI Input1-4 port.
8. OUTPUT A-B: HDMI Output A/B port
9. STEREO: Stereo Audio Output
TOSLINK: Toslink Digital Audio Output
10. Micro USB: Firmware Update port for factory only and
Combo the RS232 Serial Control Function
11. DC/5V: DC 5V IN
12. ON/OFF: Power on/off button
13. Power: Power LED Indicator
14. IR: IR Receiver
15. B 1-4: Input1-4 LED Indicator for OUTPUT B
16. A 1-4: Input1-4 LED Indicator for OUTPUT A

17. Scaler: HDMI output resolution 1080p/1600P/4K@30Hz switch button
18. Audio: Audio channel output select button
19. MODE: Press the button to change display mode as 2x2 four equal picture-IN1/IN2 left/right picture – IN1/IN2 up/down picture-one big three small up/ down picture mode-PIP (one big one small picture)
20. OUTPUTB: Press IN1 ~ IN4 button will select the corresponding channel to output B as a seamless switcher.
21. OUTPUTA: Press IN1 ~ IN4 button will select the corresponding channel to output A as a seamless switcher.

6. Special Function Description

For 2x2 four equal picture mode, the four HDMI input sources are displayed in 2x2 on one screen, press mode key once and it will be displayed with the below in default:

IN1	IN2
IN3	IN4

Press  (modify key) + numerical key N (N=1, 2, 3, 4), these different numbers mean different modes (The user can choose the desired mode within 5s after pressing the 'modify' key, if no operation was made after 5s, the program will restore in default).

Note: If in current mode, please press  (modify key) + numerical key N (N=1, 2, 3, 4) and save pressing one key to change different modes. If the current mode is in other display mode, please firstly press the mode button to change to 2x2 four equal picture mode and press key combinations as below:

Press  (modify key) + numerical key 1, then the output pictures will be:	<table border="1"> <tr> <td>IN1</td><td>IN2</td></tr> <tr> <td>IN3</td><td>IN4</td></tr> </table>	IN1	IN2	IN3	IN4
IN1	IN2				
IN3	IN4				
Press  (modify key) + numerical key 2, then the output pictures will be:	<table border="1"> <tr> <td>IN2</td><td>IN1</td></tr> <tr> <td>IN4</td><td>IN3</td></tr> </table>	IN2	IN1	IN4	IN3
IN2	IN1				
IN4	IN3				
Press  (modify key) + numerical key 3, then the output pictures will be:	<table border="1"> <tr> <td>IN4</td><td>IN3</td></tr> <tr> <td>IN2</td><td>IN1</td></tr> </table>	IN4	IN3	IN2	IN1
IN4	IN3				
IN2	IN1				
Press  (modify key) + numerical key 4, then the output pictures will be:	<table border="1"> <tr> <td>IN4</td><td>IN3</td></tr> <tr> <td>IN2</td><td>IN1</td></tr> </table>	IN4	IN3	IN2	IN1
IN4	IN3				
IN2	IN1				
For left /right picture mode, press the mode key twice and it will display the below picture in default:	<table border="1"> <tr> <td>IN1</td><td>IN2</td></tr> </table>	IN1	IN2		
IN1	IN2				

Press  (modify key) + numerical key N (N=1, 2, 3, 4) + numerical key M (N=1, 2, 3, 4, $N \neq M$), these different numbers mean different input source, N means to choose the left output picture input source, M means to choose the right output picture input source (The user can choose the mode he desires within 5s after pressing the 'modify' key, if no operation was made after 5s, the program will restore in default).

Note: If in current mode, to press  (modify key) + numerical key N (N=1, 2, 3, 4) + numerical key M (N=1, 2, 3, 4, $N \neq M$) and save pressing one key to change different modes. If the current mode is in other display mode, please firstly press mode button to change to left /right picture mode and press key combinations as below.

Press  (modify key) + numerical key 1+ numerical key 2/3/4, then the output pictures will be:



Press  (modify key) + numerical key 2+ numerical key 1/3/4, then the output pictures will be:



Press  (modify key) + numerical key 3+ numerical key 1/2/4, then the output pictures will be:

IN3	IN1	/	IN3	IN2	/	IN3	IN4
-----	-----	---	-----	-----	---	-----	-----

Press  (modify key) + numerical key 4+ numerical key 1/2/3, then the output pictures will be:

IN4	IN1	/	IN4	IN2	/	IN4	IN3
-----	-----	---	-----	-----	---	-----	-----

For up /down picture mode, press the mode key three times and it will display the below picture in default:

IN1
IN2

Press  (modify key) + numerical key N+ numerical key M (N, M=1, 2, 3, 4, $N \neq M$), these different numbers mean different input sources, N means to choose the up output picture input source, M means to choose the down output picture input source (The user can choose the mode he desires within 5s after pressing the 'modify' key, if no operation was made after 5s, the program will restore in default).

Note: If in current mode, press  (modify key) + numerical key N (N=1, 2, 3, 4) + numerical key M (N=1, 2, 3, 4, N≠M) and save pressing one key to change different mode. If the current mode is in other display mode, please firstly press mode button to change to up /down picture mode and press key combinations as below.

Press  (modify key) + numerical key 1 and numerical key 2/3/4, then the output pictures will be:

IN1	IN1	IN1
IN2	IN3	IN4

Press  (modify key) + numerical key 2 and numerical key 1/3/4, then the output pictures will be:

IN2	IN2	IN2
IN1	IN3	IN4

Press  (modify key) + numerical key 3 and numerical key 1/2/4, then the output pictures will be:

IN3	IN3	IN3
IN1	IN2	IN4

Press  (modify key) + numerical key 4 and numerical key 1/2/3, then the output pictures will be:

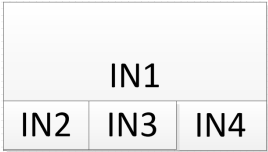
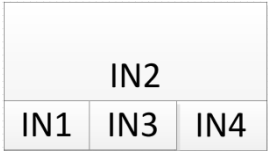
IN4	IN4	IN4
IN1	IN2	IN3

For one big and three small up/down picture mode, press the mode key four times and it will be displayed as below:

IN1		
IN2	IN3	IN4

Press  (modify key) + numerical key N (N=1, 2, 3, 4), these different numbers mean different modes, N means to choose the up-output picture, M means to choose the down output picture (The user can choose the mode he desires within 5s after pressing the 'modify' key, if no operation was made after 5s, the program will restore in default).

Note: If in current mode, press  (modify key) + numerical key N (N=1, 2, 3, 4) and save pressing one key to change different mode. If the current mode is in other display mode, please press mode button to change to one big three small up/down picture mode firstly and press key combinations as below:

Press  (modify key) + numerical key 1, the output picture will be:	
Press  (modify key) + numerical key 2, the output picture will be:	
Press  (modify key) + numerical key 3, the output picture will be:	
Press  (modify key) + numerical key 4, the output picture will be:	
For PIP mode, press PIP and it will be displayed with the below pictures in default:	

Press PIP+  (modify key) + numerical key N+ numerical key M (N, M=1, 2, 3, 4, $N \neq M$), these different numbers means different input sources, N means to choose the main output picture input source, M means to choose the small output picture input source (The user can choose the mode he desires within 5s after pressing the 'modify' key, if no operation was made after 5s, the program will restore in default).

Note: If in current mode, press  (modify key) + numerical key N (N=1, 2, 3, 4) + numerical key M (N=1, 2, 3, 4, N≠M), and save pressing one key to change different mode. If the current mode is in other display mode, please press full key button combination as below.

Press PIP+  (modify key) + numerical key 1+ number 2/3/4, the output picture will be:



Press PIP+  (modify key) + numerical key 2+ number 1/3/4, the output picture will be:



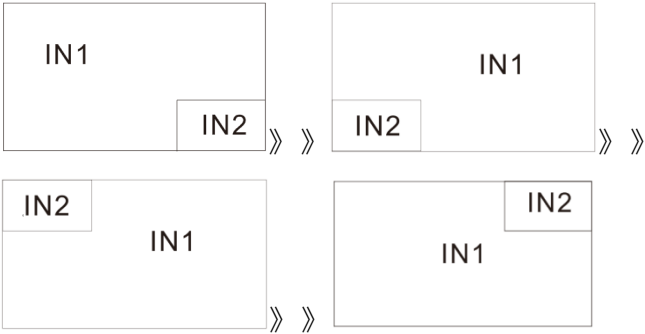
Press PIP +  (modify key) + numerical key 3+ number 1/2/4, the output picture will be:



Press PIP +  (modify key) + numerical key 4+ number 1/2/3, the output picture will be:



Note: Press the key PIP to cycle control the location of the PIP small windows shown as below:



When the PIP small picture location is changed, the modify input function is remain working as upon combination key control.

7. Connection Diagram



1	Blu-ray DVD	4	Amplifier	7	UHD TV
2	PS4 PRO	5	PC	8	Earphone
3	UHD TV	6	DVD	9	Adapter

8. RS-232 Connection Protocol

Baud Rate = 57,600 bits per second as default

Data Bits = 8

Stop Bits = 1

Parity = None

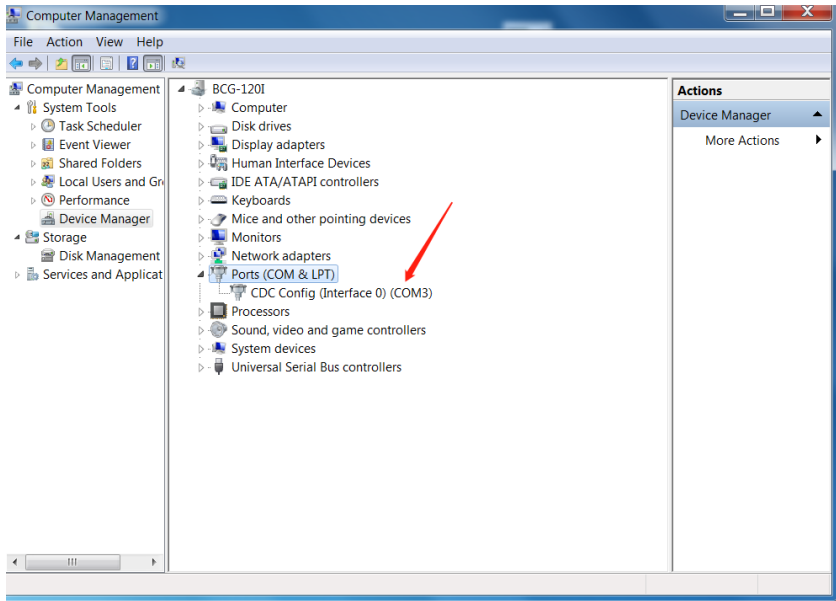
Flow Control = None

Notes:

1. Carriage Return is required at end of each string.
2. Commands are not case-sensitive Spaces are shown for clarity: commands should NOT have any spaces.
3. After a new command is received, a prompt should be sent back.
4. HDMI Input selections via front button, IR remote, serial IR In, USB service port, trigger in, or RS-232 respond with the following message ox = the currently selected input (1-4)
5. The response terminates with a carriage return followed by a line feed.
6. Micro USB port used for configuration and control from third-party control terminals.
7. Used for firmware updates.
8. Supports USB driver for Windows 8.1/10/11, Mac OS 10.10 above Will register as CDC Config Series Port in Device Manager. If the operation system of the PC is too old, please install the driver for CDC manually.

9. Can be used as RS-232 control port.

10. Baud rate is 57600.



9. Command

Help Command (H). Returns entire API in readable format:

4PET0402QMS

F/W Version: 1.00

H: Help

PF: Power Off

PN: Power ON

STA: Show Global System Status

- Video Output Setup Commands:
yy = [01-04, U, D], x = [A, B]
- SPO x SI yy:
Set Output x to Video Input yy
- SPO SI yy:
Set Output A/B to Video Input yy
- SPO ON/OFF:
Set Output ON/OFF
- Set the Four Same Size Picture Mode for Four Combinations, x= [1,2,3,4]
- SPOA 2x2 x:
Set Output A to Four Video Input 2x2 mode x.

- Set the Two Picture Left/right Mode to x for Left Picture and y for Right Picture:
x= [1,2,3,4], y= [1,2,3,4]
- SPOA 2PLR x y:
Set Output A to two Video Input Left x/ right y mode.
- Set the Two Picture Up/ down Mode to x for Up Picture and y for Down Picture:
x= [1,2,3,4], y= [1,2,3,4]
- SPOA 2PUD x y:
Set Output A to two Video Input Up x/ down y mode.
- Set the One Big Up Three Small Down Picture Mode for Four Combinations, x= [1,2,3,4]
- SPOA 1B3S x:
Set Output A to Four Video Input 1B3S mode x.
- Set the Two Picture PIP Mode to x for Main Picture and y for Small Picture:
x= [1,2,3,4], y= [1,2,3,4]
- SPOA PIP x y:
Set Output A to two Video Input Main x/ small y PIP mode.
- SPOA PIP ROTATE:
Set the PIP Mode Small Picture Location from Right Down Corner-Left Down corner- Left Up Corner-Right Up Corner
- SPOA SCALER ROTATE:
Set the Output A Resolution from 4K30/ 2560x1600p/ 1080p circularly.
- SPOA RATIO ROTATE:
Set the Output A RATIO Between Full Screen and Keep the Original

- SPOB COPY OUTA ON/OFF:
Set the Output B COPY the Output A mode ON/Off
- Audio Output Setup Commands:
[E=Enable, D=Disable]
- SPO A E/D:
Enable/Disable External Optical and Analog Audio Output
- SPO AM 2.1/5.1:
Set the Output Default Audio Mode to 2.1CH/ 5.1CH Mode.
- Set the Output A Multi Picture Mode Audio Channel
Selected Input x, x= [1,2,3,4]
- SPOA A x:
Set the Output A Audio Channel to Input x

System Control Setup Commands:

- SHOW OSD:
Show the OSD Information and Disappear after 5s.
- SPC FB E/D:
Enable/Disable Front Panel Buttons
- SPC RSB z:
Set RS232 Baud Rate to z bps, z= [0-4]
[0:57600, 1:38400, 2:19200, 3:9600, 4:4800]
- SPC DF: Reset to Factory Defaults

Status commands (STA). Returns unit status and settings in readable format:

If HDMI input 2 is disconnected.

Systems STATUS

Device Name: 4PET0402QMS_0001

F/W Version: 1.00

- Power: ON
- Front Panel Button: Enabled
- RS232:
Baud Rate=57600bps, Data=8bit, Parity=None, Stop=1bit
- Video Input 01: LINK = ON
- Video Input 02: LINK = OFF
- Video Input 03: LINK = ON
- Video Input 04: LINK = OFF
- Video Output: Output = ON, DBG = OFF
- Output A Video Mode: 2x2 1, RES = 4K30
- Output B Video Mode:
2x2 1, RES = 4K30, COPY OUTA MODE = ON
- Audio Output: Enabled
- Audio Mode: 2.1CH
- Audio Input Channel: Input 1

10. Troubleshooting

Problems	Causes	Solutions
Power light is off, and product is not working; Signal light is off and no picture output, black screen.	Is the power adapter properly connected and the power on/off button is turned on? Maybe the input and output are connected in the wrong way; or the HDMI cable quality issue cause the HDMI signal to not transmit to the product or output display normally.	Please check if the power adapter is connected properly and turn on the power on/off button; Please connect the source, the DS-55345, and display devices according to the instructions; if not, please replace the input and output connections with new HDMI cables.
Screen splash or pink screen.	HDMI cable may not be good quality, or the cable is too long.	Please use the standard HDMI cable, the input/output cable length at 1080p can't exceed 10M to 10M, 4K@30Hz can't exceed 5M to 5M.

Hereby ASSMANN Electronic GmbH declares that the Declaration of Conformity is part of the shipping content. If the Declaration of Conformity is missing, you can request it by post under the below mentioned manufacturer address.

info@assmann.com

Assmann Electronic GmbH
Auf dem Schüffel 3
58513 Lüdenscheid
Germany

