



# J-TECH DIGITAL<sup>®</sup>

## User Manual



### 4K@30Hz HDMI 4x1 Multi-Viewer with Seamless Switching and Audio Extraction

JTD-3185 | JTECH-MV41AE

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Scan the QR code below or visit  
<https://resource.jtechdigital.com/products/3185>  
to view and access detailed digital  
resources regarding this unit.



## **Safety Instructions:**

Before using this product, please carefully read the following safety instructions to ensure its proper use and keep this manual for future reference:

- To prevent electric shock, do not attempt to open the product.
- Only qualified personnel should perform any repairs or maintenance.
- Always place the product on a stable, flat surface to prevent it from falling.
- Do not expose the product to water, moisture, or high-humidity environments to avoid the risk of damage.
- To prevent damage from direct sunlight or high temperatures, do not expose the product to such environments.
- Do not place the product near heat sources like radiators, heat registers, stove, or other heat-producing apparatus.
- Do not place any objects on top of the product to avoid damage.
- Use only the attachments and accessories specified by the manufacturer.
- During lightning storms or prolonged periods of disuse, unplug the power supply to prevent damage.

## Table of Contents

1. Introduction	5
2. Package Contents	5
3. Remote Control Function and Panel Overview	6
4. Special Function Description	8
5. Specifications	15
6. Connection Diagram	16
7. Features	17
8. RS-232 Connection Protocol	18
9. Troubleshooting Common Issues	23
10. Maintenance	24
11. Warranty	24
12. Mail-In Service	24
13. Limited Warranty Limits and Exclusions	25

## 1. Introduction

The HDMI™ 4x1 Quad Multi-Viewer with Seamless Switcher is a high performance 4 by 1 Quad Multi-Viewer with seamless switcher. It supports four HDMI™ input sources to be displayed on one screen with three multi-view modes. As a switcher, it can also seamlessly switch the four HDMI™ input freely. The product can be controlled by various ways, through the front panel button, IR control and RS232 control etc.

## 2. Package Contents

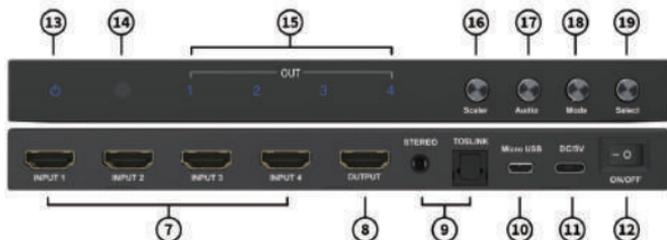
- Main Unit
- Remote Control
- USB-A to Micro-USB Data Cable(connect to Micro-USB for RS232 Control)
- USB Power Charger x 1pcs
- USB-A to USB-C Power Cable x 1pcs

### 3. Remote Control Function and Panel Overview



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: Press IN1 ~ IN4 button will select the corresponding channel to output as a seamless switcher.  
AUDIO: Press IN1 ~ IN4 button will select the corresponding audio channel to output in multiviewer mode.
4. 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).  
2.1CH: Press the button to select the default 2.1ch audio mode  
5.1CH: Press the button to select the default 5.1ch audio mode  
Scaler button: press the button switch 1080p, 2560x1600p and 4K@30Hz  
MODIFY: Function button when customer wants to change the different input source combination of
6. display mode not the default status, customer just need press the button at the mode which want to change, 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.



- 7. INPUT 1-4: HDMI Input1-4 port
- 8. OUTPUT: HDMI Output 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 via USB-C Port
- 12. ON/OFF: Power on/off button
- 13. Power: Power LED Indicator
- 14. IR: IR Receiver
- 15. 1-4: Input1-4 LED Indicator for OUTPUT
- 16. Scaler: HDMI output resolution 1080p/1600P/4K@30Hz switch button
- 17. Audio: Audio channel output select button
- 18. 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)
- 19. Select: Press IN1 ~ IN4 button will select the corresponding channel to output as a seamless switcher.

## 4. 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 means different mode (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, customer only need to 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, customers need press mode button to change to 2x2 four equal picture mode firstly and press key combinations as below.

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

IN1	IN2
IN3	IN4

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

IN2	IN1
IN4	IN3

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

IN3	IN4
IN1	IN2

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

IN4	IN3
IN2	IN1

For left /right picture mode, press the mode key twice and it will display the below picture in default:

IN1	IN2
-----	-----

Press  (modify key) + numerical key N (N=1, 2, 3, 4) + numerical key M (N=1, 2, 3, 4, N≠M), these different numbers means 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, customer only need to 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, customers need press mode button to change to left /right picture mode firstly and press key combinations as below.

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

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

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



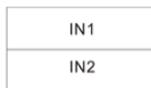
Press  (modify key) + numerical key 3+ numerical key 1/2/4, then the output pictures will be:



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



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



Press  (modify key) + numerical key N+ numerical key M (N, M=1, 2, 3, 4, N≠M), these different numbers means different input source, 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).

If in current mode, customer only need to 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, customers need press mode button to change to up /down picture mode firstly and press key combinations as below.

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



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



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



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



For one big three small up/down picture mode, the mode key four times 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 means different mode, 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, customer only need to 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, customers need 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:

IN1		
IN2	IN3	IN4

Press  (modify key) + numerical key 2, the output picture will be:

IN2		
IN1	IN3	IN4

Press  (modify key) + numerical key 3, the output picture will be:

IN3		
IN1	IN2	IN4

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≠M), these different numbers means different input source, 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).

If in current mode, customer only need to 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 customers need 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.

## 5. Specifications

Input Ports	HDMI x 4
Output Ports	HDMI x 1, Stereo x 1, SPDIF x 1
Vertical Frequency Range	24/25/30/50/60Hz
Video Amplifier Bandwidth	3.4Gbps/340MHz per channel(10.2Gbps all channel)
Interlaced(50&60Hz)	480i,576i,1080i
Progressive(50&60Hz)	480p,576p,720p,1080p,4K@24/25/30
Limited Warranty	1 Year Parts and Labor
Operating Temperature	0 C to 70 C
Storage Humidity	5% to 90% RH non-condensation
Power Supply	5V DC @1A
Power Consumption (Max)	2W
Matrix Switcher Unit Cert	CE, FCC, RoHS
Power Supply Cert	CE, FCC, RoHS
Dimension(LxWxH)	197.5x 91x18.5mm
Net Weight	361g
Material	Metal
User Manual	English and Chinese Version

## 6. Connection Diagram



Note:

Input source device: Xbox one, Panasonic DVD, Sony DVD, PS3, PS4, PS4 Pro, Apple TV, ROKU TV, SKY TV and so on.

## 7. Features

- Compliant with HDCP1.4
- Supports modify the input sources combination as needed at multi-viewer mode
- Supports change the output picture ratio to full screen or keep the original ratio at multi-viewer mode
- Supports change the PIP small picture location to any one of the four corner of the screen
- Supports power-off memory function which can keep the last setup status when power on
- Supports multiplexed HDMI 4-input and one output
- Supports up to 4K@30Hz high definition resolution
- Supports 4 by 1 quad multi-viewer and seamless switch (with same resolution)
- Supports scaler up, scaler down function
- Supports multi output resolution 1080p/1600P/4K@30Hz
- Supports digital audio format LPCM/AC3/DTS
- Supports manual control, IR remote control and RS232 control

## 8. RS-232 Connection Protocol

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-232respond with the following message  
x = the currently selected input ( 1-4 )
- 5.The response terminates with a carriage return followed by a line feed

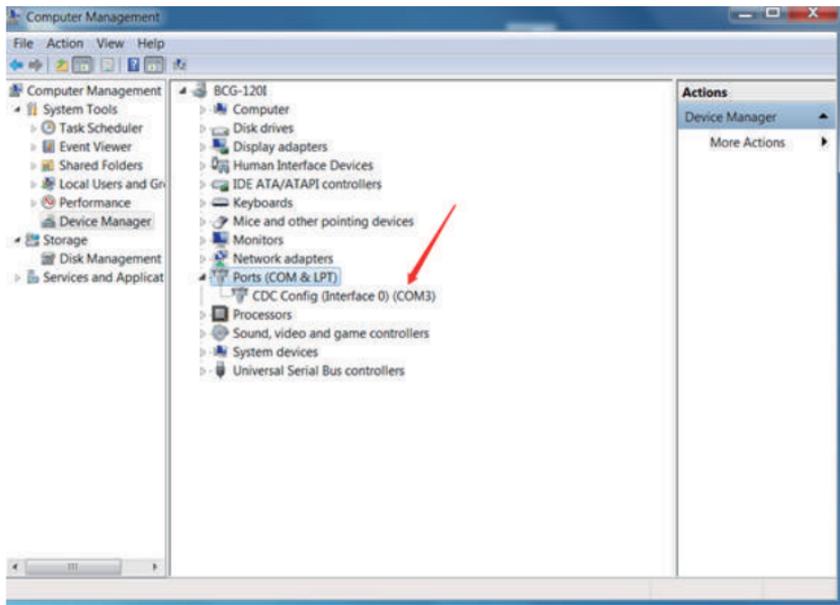
Micro USB port used for configuration and control from third-party control terminals

Used for firmware updates

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, the customer need to install the driver for CDC manually

Can be used as RS-232 control port

Baud rate is 57600



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

---

Systems HELP

---

- 4PET0401QMS 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]  
- SPO SI yy: Set Output 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 OutputA Resolution from -
  - 4K30/2560x1600p/1080p circularly -
  - SPOA RATIO ROTATE: Set the OutputA RATIO Between Full Screen and --
  - Keep the Original -
  - -
  - 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 Multi Picture Mode Audio Channel Selected Input x, -
  - x={1,2,3,4} -
  - SPOA x: Set the Output 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 Command (STA). Returns unit status and settings in readable format:

#if HDMI input 2 is disconnected.

```
-----  
-                               Systems STATUS                               -  
-----  
- 4PET0401QMS,                               Device Name: 4PET0401QMS_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 Video Mode: 2x2 1 , RES = 4K30         --  
-                                               --  
- Audio Output: Enabled                           --  
- Audio Mode: 2.1CH                               --  
- Audio Input Channel: Input 1                   --  
-----
```

## 9. Connection Diagram

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 on turn on state? Maybe the input and output is connected in the wrong way; or the HDMI cable quality issue cause the HDMI signal can't 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 player, product, 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

## 10. Maintenance

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner, or benzene to clean.

## 11. Warranty

If your product does not work properly because of a defect in materials or workmanship, our company (referred to as "the warrantor") will, for the length of the period indicated as below, "Parts and Labor (1) Year", which starts with the date of original purchase ("Limited Warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor.

During the "Labor" limited warranty period, there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty is extended only to the original purchaser and only covers products purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

## 12. Mail-In Service

When shipping the unit, carefully pack and send it prepaid, adequately insured, and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone and/or email address where you can be reached.

### **13. Limited Warranty Limits and Exclusions**

This Limited Warranty ONLY COVERS failures due to defects in material or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, mis-adjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or service by anyone other than a Factory Service center or other Authorized Servicer, or damage that is attributed to acts of God.



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