TAIDEN®

TMX Series Professional Matrix Switchers

TMX-MV2SDI Multi-format Video & Audio Processor

Installation and Operation Manual

V 1.0

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- Contents may change without prior announcement.

- All technical specifications are guideline data and not guaranteed features.

- Taiden Co., Ltd. is not responsible for any damage caused by improper use of this manual.

- The equipment must be connected to earth!

- This product conforms to the rules of the European directive 2004/108/EC.

- If any detailed information needed, please contact your local agent or TAIDEN service center in your region.

  Any feedback, advice and suggestion about the products is appreciated.

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Important Safety Instruction

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.
6. The MAINS plug serving as a disconnection device, should be easy to operate.
7. The apparatus should be connected to the MAINS socket-outlet with protective earth.
8. Clean only with dry cloth.
9. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
10. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
11. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade and the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
12. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
13. Only use attachments/accessories specified by the manufacturer.
14. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
15. Unplug this apparatus during lightning storms or when unused for long periods of time.
16. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

17. Do not place the equipment on any uneven or unstable stand; original product package or appropriate package should be used to avoid damage caused by strong impacts during transportation.
18. Power supply cords:
    AC 90 V~250 V 50 Hz/60 Hz
19. For service, please contact the nearest TAIDEN Service Center.
20. All TAIDEN products are guaranteed for 3 years excluding the following cases:
    A. All damage or malfunction caused by human negligence;
    B. Damage or malfunction caused by improper operating by operator;
    C. Parts damage or loss caused by disassembling the product by non-authorized personnel.
21. Use ONLY specified connection cable to connect the system equipment.
22. Upon receipt of the product, please fill out the Warranty Card enclosed and post it to TAIDEN Service Center nearby in your region.

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

CAUTION: To reduce the risk of electric shock, DO NOT open covers, no user serviceable parts inside. Refer servicing to qualified service personnel only.

CAUTION: DO NOT use alcohol, ammonia or petroleum solvents or abrasive cleaners to clean the devices.

The lightning flash with an arrowhead symbol, with an equilateral triangle, is intended to alert the user to the presence of uninsulated 'dangerous voltage' within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

Important Safety Instruction

The exclamation mark within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: To reduce the risk of fire or electric shock, DO NOT expose units to rain or moisture.

Attention: Installation should be performed by qualified service personnel only in accordance with the National Electrical or applicable local codes.

Power Disconnect: Units with or without ON – OFF switch have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON – OFF switch is in the ON position. The power cord is the main power disconnect for all units

WARNING: The apparatus should be connected to a mains socket outlet with a protective earthing connection.

Contents

Installation & User Guide

About this manual

This manual is a comprehensive guide to the installation and operation of **TAIDEN** TMX-MV2SDI Multi-format Video & Audio Processor. It includes: operation and setup, installation and connection, technical data, etc.

The manual is divided into the following chapters:

Chapter 1: Function and indication

Descriptions in detail of the functions and indications of the TMX-MV2SDI Multi-format Video & Audio Processor.

Chapter 2: Installation and connection

Descriptions in detail of the installation and connection of the TMX-MV2SDI Multi-format Video & Audio Processor.

Chapter 3: Setup and operation

Descriptions in detail of the configuration and operation of the TMX-MV2SDI Multi-format Video & Audio Processor.

Chapter 4: Technical data

Mechanical and electrical details of the TMX-MV2SDI Multi-format Video & Audio Processor.

This manual is applicable to:

TMX-MV2SDI   Multi-format Video & Audio Processor
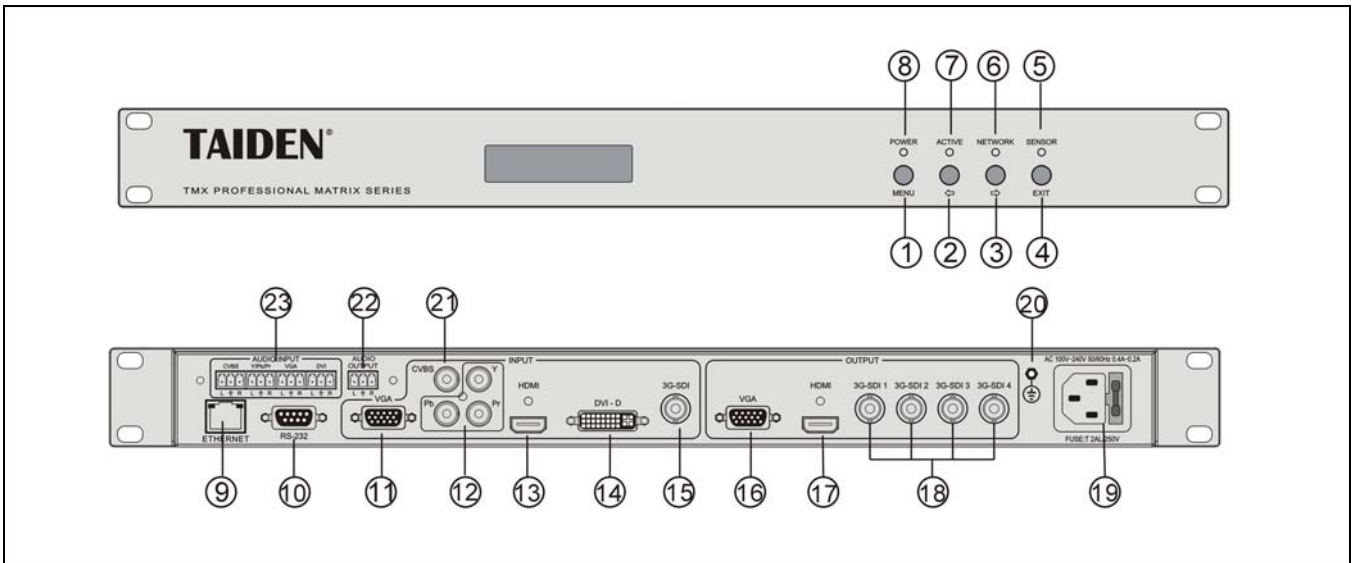
Chapter 1.   Functions and indications

Figure 1.1 Panel of TMX-MV2SDI

Front panel:

1. **"MENU" button**
    a) If in current state, press "MENU" to go to the main menu;
    b) If in menu state, press "MENU" to go to the sub menu;
    c) Select/Deselect in network configuration.

2. **"⇦" (Left) button**

3. **"⇨" (Right) button**

4. **"EXIT" button**

5. **"SENSOR" indicator (reserved)**

6. **"NETWORK" indicator**
    ♦ Indicator flashes when receiving data from central control system.

7. **"ACTIVE" indicator**
    ♦ Indicator will be turned on when video input signal is active.

8. **"POWER"** indicator

Rear panel:

9. **RJ45 interface**

10. **RS-232 communication interface**

11. **VGA input**

12. **YPbPr input**

13. **HDMI input**

14. **DVI-D input**

15. **3G-SDI input**

16. **VGA output**

17. **HDMI output**

18. **3G-SDI output**

19. **Power cable interface**

20. **Grounding point**

21. **CVBS input**

22. **Audio output**

23. **Audio input**

Chapter 2.   Installation and connection

2.1 Installation

Put the 1U Multi-format Video & Audio Processor into the cabinet and fix it by screws. As figure 1.2.
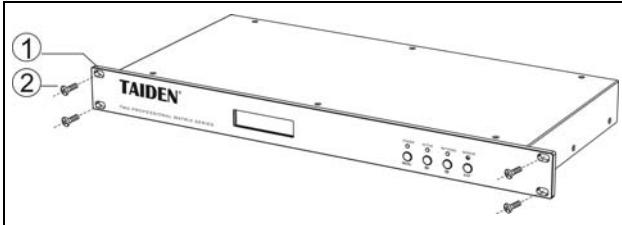

Figure 1.2   Installation

2.2 Connection between Processors and PC

Multi-format Video & Audio Processor can be controlled by Central Control System via TCP/IP or RS-232 interface and be software upgraded via RS-232 interface.

2.3 Connection with input, output devices

The number of input and output ports is differing, according to the type chosen. Every audio or video device with an AV port can be connected to the Multi-format Video & Audio Processor. Output ports can be connected to recorder, video or audio monitor, PA and so on, as shown in figure 1.3.

Control Interface:

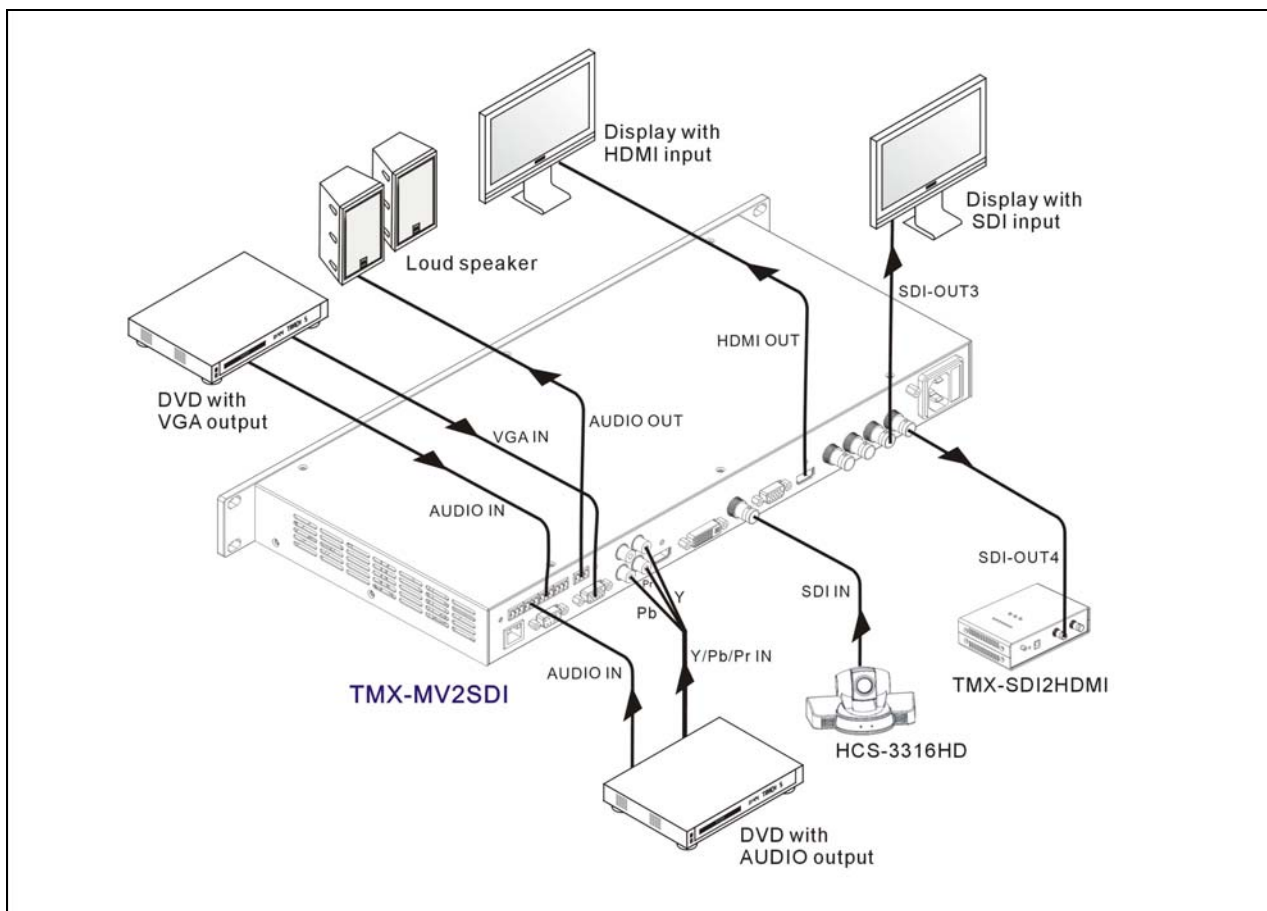| Control	
RS-232	9 pin female D connector
COM	Baud rate: adjustable, data: 8 bits, stop: 1 bit, no parity check bit
Interface	2=TX, 3=RX, 5=GND
Ethernet	RJ-45
Ethernet protocol	TCP/IP
Ethernet speed	10M/100M

Figure 1.3   Connection example for input and output devices to Multi-format Video & Audio Processor

Chapter 3.   Setup and Operatio

TMX-MV2SDI main interface:

| TMX-MV2SDI Initializing… | In:HDMI Out:VGA Res:800 × 600p60 |

Press "MENU" to go to the main menu, including:

1. Input type

2. Output type

3. Out resolution

4. Line in sens.

5. Line out vol.

6. Net setup

7. RTC setup

8. Picture setup

9. Factory Default

10. COM baudrate

11. VGA input Pos

12. About

Menu 1 to menu 12 is explained explicitly:

3.1 Input type

Select the type of input signal, including: YPbPr, CVBS, VGA, HDMI, DVI, SDI.

| In:YPbPr Out:VGA Res:800 × 600p60 |

⇩ 1. Press "MENU" to enter and press "⇦/⇨" until "Input type" prompts;

| 1. Input type YPbPr |

⇩ 2. Press "MENU" to enter setup;

| 1. Input type ∎ YPbPr |

⇩ 3. Press "⇦/⇨" to select parameter;

| 1. Input type ∎ CVBS |

⇩ 4. Press "MENU" to confirm.

| 1. Input type CVBS |

Different types of input support different resolutions:

SDI input:

HD 720p: 25, 30, 50, 60;

HD 1080i: 50, 60;

HD 1080p: 24, 25, 30, 50, 60

YPbPr input:

SD: 525i (720x480i60 of NTSC),

625i (720x576i50 of PAL);

HD 720p: 50, 60;

HD 1080i: 50, 60;

HD 1080p: 25, 30

CVBS input:

SD: 525i, 625i

VGA input: 640x480p60, 800x600p60, 800x600p75,

1024x768p60, 1024x768p75,

1280x720p60, 1280x1024p60,

1280x1024p75, 1440x900p60,

DVI input: 640x480p60, 800x600p60, 800x600p75,

1024x768p60, 1024x768p75, 1280x720p60,

1280x1024p60, 1280x1024p75,

1440x900p60, 1920x1080p60

HDMI input: 640x480p60, 720x480p60, 720x576p50,

1280x720p60, 1280x720p50,

1920x1080i60, 1920x1080i59,

1920x1080i50, 1920x1080p60,

1920x1080p59, 1920x1080p50,

1920x1080p30, 1920x1080p25,

1920x1080p24

> **Note:**
> ☞ When the type of the video input signal has been selected, the relevant type of audio input signal will been set up automatically.

3.2 Output type

Select the type of output signal, including: VGA, SDI, HDMI.

```
In:YPbPr Out:VGA
Res:800 × 600p60
```

⬇ 1. Press "MENU" to enter and press "⇦/⇨" until "Output type" prompts;

```
2. Output type
     VGA
```

⬇ 2. Press "MENU" to enter setup;

```
2. Output type
█    VGA
```

⬇ 3. Press "⇦/⇨" to select parameter;

```
2. Output type
█    SDI
```

⬇ 4. Press "MENU" to confirm.

```
2. Output type
     SDI
```

> **Note:**
> ☞ If "SDI" is selected, the HDMI output will export the same resolution and the VGA output will be turned off.
> ☞ If "HDMI" is selected, the SDI output will export the same resolution and the VGA output will be turned off.
> ☞ If "VGA" is selected, the SDI output and the HDMI output will be turned off.

3.3 Out resolution

Select the resolution of output. Different type of output has different selections of resolution:

When output type is VGA, the out resolution includes: 800x600p60, 800x600p75, 1024x768p60, 1024x768p75, 1280x1024p60, 1280x1024p75, 1360x768p60, 1600x1200p60, 1400x1050p60;

When output type is HDMI, the out resolution includes: 1280x720p60,   1280x720p50, 1280x720p30, 1280x720p25, 1920x1080i60, 1920x1080i50, 1920x1080p60, 1920x1080p50, 1920x1080p30, 1920x1080p25, AUTO (select the best resolution automatically according to EDID);

When output type is SDI, the out resolution includes: 1280x720p25, 1280x720p30, 1280x720p50,

1280x720p60, 1920x1080i50, 1920x1080i60, 1920x1080p25, 1920x1080p30, 1920x1080p50, 1920x1080p60.

```
In:YPbPr Out:VGA
Res:800 × 600p60
```

⬇ 1. Press "MENU" to enter and press "⇦/⇨" until "Out resolution" prompts;

```
3. Out resolution
   800 × 600p60
```

⬇ 2. Press "MENU" to enter setup;

```
3. Out resolution
█ 800 × 600p60
```

⬇ 3. Press "⇦/⇨" to select parameter;

```
3. Out resolution
█ 1024 × 768p75
```

⬇ 4. Press "MENU" to confirm.

```
3. Out resolution
   1024 × 768p75
```

> **Note:**
> ☞ 1920x1080p60, 1920x1080p50 and AUTO are nonsupport when the input type is CVBS.

3.4 Line in sens.

Adjust the line in sensitivity of analog-audio. Range: -12dB to 6dB, step: 3dB. If the input type is SDI or HDMI and that without video input, the line in sensitivity can not be adjusted.

```
In:YPbPr Out:VGA
Res:800 × 600p60
```

⬇ 1. Press "MENU" to enter and press "⇦/⇨" until "Line in sens." prompts;

```
4. Line in sens.
   -12dB
```

⬇ 2. Press "MENU" to enter setup;

```
4. Line in sens.
█ -12dB
```

⬇ 3. Press "⇦/⇨" to select parameter;

```
4. Line in sens.
█ -6dB
```

⬇ 4. Press "MENU" to confirm.

```
4. Line in sens.
   -6dB
```

3.5 Line out vol.

Adjust the volume of audio output. Range: Mute, -30dB to 0dB, step: 1dB. If the input type is SDI or HDMI and that without video input, the line out volume can not be adjusted.

```
In:YPbPr Out:VGA
Res:800 × 600p60
```

⇩ 1. Press "MENU" to enter and press "⇦/⇨" until "Line out vol." prompts;

```
5. Line out vol.
   0dB
```

⇩ 2. Press "MENU" to enter setup;

```
5. Line out vol.
▉ 0dB
```

⇩ 3. Press "⇦/⇨" to select parameter;

```
5. Line out vol.
▉ -3dB
```

⇩ 4. Press "MENU" to confirm.

```
5. Line out vol.
   -3dB
```

3.6 Net setup

An IP address, Subnet mask and Gateway must be assigned to the matrix if connected to a TCP/IP Ethernet interface.

Example: IP address setup.

```
In:YPbPr Out:VGA
Res:800 × 600p60
```

⇩ 1. Press "MENU" and press "⇦/⇨" until "Net setup" prompts;

```
6. Net setup
```

⇩ 2. Press "MENU" and press "⇦/⇨" until "a. IP address" prompts;

```
6. Net setup
   a. IP address
```

⇩ 3. Press "MENU" to enter setup;

```
a. IP address
192.168.1  .22
```

⇩ 4. Press "⇦/⇨" to select field, press "MENU" to enter setup and press "⇦/⇨" to adjust parameter;

```
a. IP address
192.168.17▉.22
```

⇩ 5. Press "MENU" to confirm, and adjust others in file, press "EXIT" to return to the upper level menu.

```
6. Net setup
   a. IP address
```

For setup of "Subnet mask" and "Gate way" proceed such as described in "IP address".

3.7 RTC setup

Set up the Real Time Clock parameter, include: RTC enable, Date style, Time style, Date setup and Time setup.

Example 1: RTC enable.

```
In:YPbPr Out:VGA
Res:800 × 600p60
```

⇵ 1. Press "MENU" and press "⇦/⇨" until "RTC setup" prompts;

```
7. RTC setup
```

⇵ 2. Press "MENU" and press "⇦/⇨" until "a. RTC enable" prompts;

```
7. RTC setup
 a. RTC enable
```

⇵ 3. Press "MENU" to enter setup;

```
a. RTC enable
▌Yes
```

⇵ 4. Press "⇦/⇨" to adjust parameter; press "MENU" to confirm.

```
7. RTC setup
 a. RTC enable
```

For setup of "Date style" and "Time style" proceed such as described in "RTC enable".

The date style include: Y-M-D, D-M-Y and M-D-Y. The time style include: 24-hour and 12-hour.

Example 2: Date setup.

```
In:YPbPr Out:VGA
Res:800 × 600p60
```

⇵ 1. Press "MENU" and press "⇦/⇨" until "RTC setup" prompts;

```
7. RTC setup
```

⇵ 2. Press "MENU" and press "⇦/⇨" until "d. Date setup" prompts;

```
7. RTC setup
 d. Date setup
```

⇵ 3. Press "MENU" to enter setup;

```
d. Date setup
2013-Jan-1
```

⇵ 4. Press "⇦/⇨" to adjust parameter; press "MENU" to confirm, and adjust others in file;

```
d. Date setup
2013-Jan-8
```

⇵ 5. Press "EXIT" to return to the upper level menu.

```
7. RTC setup
 d. Date setup
```

For setup of "Time setup" proceed such as described in "Date setup".

3.8 Picture setup

Set up the picture parameters of video. Include: Brightness, Contrast, Saturation and Hue. The range of them is 0 to 255 and the default is 128.

```
In:YPbPr Out:VGA
Res:800 × 600p60
```

1. Press "MENU" to enter and press "⇦/⇨"
⇵ until "Picture setup" prompts;

```
8. Picture setup
```

2. Press "MENU" to enter and press "⇦/⇨"
⇵ until "a. Brightness" prompts;

```
8. Picture setup
 a. Brightness
```

⇵ 3. Press "MENU" to enter;

```
8. Picture setup
▌128
```

⇵ 4. Press "⇦/⇨" to adjust parameters;

```
8. Picture setup
▌168
```

⇵ 5. Press "MENU" to confirm and press "EXIT" to return to the upper level menu;

```
8. Factory default
 a. Brightness
```

For setup of "Contrast", "Saturation" and "Hue" proceed such as described in "Brightness".

3.9 Factory Default

Enable/disable to reset the TMX-MV2SDI to the factory default setting. Factory default parameter as follows: input signal is HDMI; SDI/ HDMI output resolution is 1280 × 720p60; line in sensitivity is 0dB; line out volume is 0dB; RTC is close.

```
In:YPbPr Out:VGA
Res:800 × 600p60
```

⇩ 1. Press "MENU" to enter and press "⇦/⇨" until "Factory Default" prompts;

```
9. Factory Default
```

⇩ 2. Press "MENU" to enter setup;

```
9. Factory Default
▉ Yes
```

⇩ 3. Press "⇦/⇨" to select parameter;

```
9. Factory Default
▉ No
```

⇩ 4. Press "MENU" to confirm.

```
9. Factory Default
```

3.10 COM baudrate

Set up the COM baudrate. Include 9600、19200、38400、57600、115200.

```
In:YPbPr Out:VGA
Res:800 × 600p60
```

⇩ 1. Press "MENU" to enter and press "⇦/⇨" until "COM baudrate" prompts;

```
10. COM baudrate
```

⇩ 2. Press "MENU" to enter setup;

```
10. COM baudrate
▉ 115200
```

⇩ 3. Press "⇦/⇨" to select parameter;

```
10. COM baudrate
▉ 9600
```

⇩ 4. Press "MENU" to confirm.

```
10. COM baudrate
```

3.11 VGA input Pos

Set up the picture position of VGA input. Include: "Left or Right" and "Up or Down". The range of any direction is 0 to 128, step is one pixel.

```
In:VGA Out:HDMI
Res:AUTO
```

⇩ 1. Press "MENU" to enter and press "⇦/⇨" until "VGA input Pos" prompts;

```
11. VGA input Pos
```

⇩ 2. Press "MENU" to enter and press "⇦/⇨" until "a. Left or Right" prompts;

```
11. VGA input Pos
 a. Left or Right
```

⇩ 3. Press "MENU" to enter;

```
a. Left or Right
 0
```

⇩ 4. Press "⇦/⇨" to adjust parameters;

```
a. Left or Right
 L: 6
```

⇩ 5. Press "MENU" to confirm.

```
11. VGA input Pos
 a. Left or Right
```

For setup of "Up or Down" proceed such as described in "Left or Right".

> **Note:**
> ☞ This menu can only adjust when the input type is VGA.

3.12 About

Display the type and the firmware version of the switcher.

```
In:YPbPr Out:VGA
Res:800 × 600p60
```

⇩ 1. Press "MENU" and press "⇦/⇨" until "About" prompts;

```
12. About
```

⇩ 2. Press "MENU" enter and press "⇦/⇨" to see the information.

```
Ver:1.00.00.04
Ser:746500000144
```

Chapter 4. Technical data

Type Spec.	TMX-MV2SDI					
Video						
Gain	0 dB					
Bandwidth	CVBS, YPbPr: 6 MHz VGA: 250 MHz DVI: 165 MHz HDMI: 165 MHz SDI: 270 Mbps, 1.485 Gbps, 2.97 Gbps					
Bandwidth flatness	0.2 dB, 100 MHz					
Differential phase error	0.04°, @RL=150 Ω					
Differential gain error	0.03%, @RL=150 Ω					
Signal type	VGA, SDI, DVI-D, HDMI, Component Video YPbPr and Composite Video CVBS					
Video input	CVBS	YPbPr,	VGA	SDI	DVI	HDMI
Interface	RCA Connectors	RCA Connectors	15-pin HD female Connectors	BNC Connectors	DVI-D	HDMI type A female Connectors
Analog video signal level	Y signal of Component Video, Composite Video signal: 1 Vp-p RGB of VGA: 0.7 Vp-p PbPr signal of Component Video: 0.3 Vp-p					
Impedance	Analog signals: 75 Ω HDMI/DVI signal: difference 100 Ω					
Return loss	-30 dB@5 MHz					
Frequency response	Horizontal: 30 - 200 KHz Vertical: 20 - 240 Hz					
VGA Video input						
Interface	15-pin HD female Connectors					
Min./Max. level	-2 Vp-p / +2 Vp-p					
Impedance	75 Ω					
Return loss	<-40 dB@5 MHz					
Max. DC offset	± 5 mV					
VGA Sync.						
Input level	2.3 Vp-p - 5.0 Vp-p, 3.3 Vp-p, normal					
Output level	5.0 Vp-p					
Input impedance	3.3 KΩ					
Output impedance	75 Ω					
SDI output						
Interface	BNC female Connectors					
Signal level	800 mV, standard					
Return loss	<-15 dB, DC@1 MHz to 1.5 GHz					
Impedance	75 Ω					

Type Spec.	TMX-MV2SDI
HDMI output	
Interface	HDMI type A female Connectors
Min./ Max. level	T.M.D.S. 400 mVp-p
Impedance	Difference 100 Ω
Audio	
Interface	Four 3.8 mm phoenix stereo inputs, a 3.8 mm phoenix stereo output
Gain	-30 dB - 0 dB
Frequency response	30 Hz – 20 KHz
THD+N	0.05% @1 KHz
SNR	>80 dB
Stereo channel separation	>70 dB@1 KHz
CMRR	>75 dB@30 Hz - 20 KHz
Impedance	Input: >10 KΩ Output: <10 Ω
Max. input level	$\leqslant$ 16 dBu
Max. output level	+12 dBu
Control	
RS-232	9 pin female D connector
COM	Baud rate: adjustable, data: 8 bits, stop: 1 bit, no parity check bit
Interface	2=TX, 3=RX, 5=GND
General spec.	
Power supply	100 V AC - 240 V AC, 50/60 Hz
Temperature	Operating: 0°C - +40°C Storage: -40°C - +80°C
Humidity	Storage: 10% - 90% Operating: 10% - 70%
Dimensions w × d × h (mm)	483×208×43 (1U high)
Color	gray
Weight	3.3 kg
Mean time between failures	30,000 hours

Appendix：Commendatory assignation

Select the suited input and output resolutions should advance the quality of video image. The following table will list the assignation of input/output resolutions for TMX-MV2SDI, and who with "√" mark is the better assignation.

1. VGA input and VGA output

Input \ Output	800x600p60	1024x768p60	1280x1024p60
800x600p60	√	√	√
1024x768p60	√	√	√
1280x1024p60	√	√	√

2. VGA input and HDMI output

Input \ Output	AUTO	1280x720p60	1280x720p50	1920x1080p60	1920x1080p50
800x600p60	√	√		√	
1024x768p60	√	√		√	
1280x1024p60	√	√		√	

3. VGA input and SDI output

Input \ Output	1280x720p60	1280x720p50	1280x720p30	1920x1080p60	1920x1080p50	1920x1080p30
800x600p60	√			√		
1024x768p60	√			√		
1280x1024p60	√			√		

4. HDMI input and VGA output

Input \ Output	800x600p60	1024x768p60	1280x1024p60
1280x720p60	√	√	√
1280x720p50			
1920x1080i60	√	√	√
1920x1080i50			
1920x1080p60	√	√	√
1920x1080p50			
1920x1080p30			

5. HDMI input and HDMI output

Input \ Output	AUTO	1280x720p60	1280x720p50	1920x1080p60	1920x1080p50
1280x720p60	√	√		√	
1280x720p50	√		√		√
1920x1080i60	√	√		√	
1920x1080i50	√		√		√
1920x1080p60	√	√		√	
1920x1080p50	√		√		√
1920x1080p30	√				

6. HDMI input and SDI output

Input \ Output	1280x720p50	1280x720p60	1920x1080p50	1920x1080p60
1280x720p60		√		
1280x720p50	√		√	
1920x1080i60		√		√
1920x1080i50	√		√	
1920x1080p60		√		√
1920x1080p50	√		√	
1920x1080p30				

7. DVI input and VGA output

Input \ Output	800x600p60	1024x768p60	1280x1024p60
1280x720p60	√	√	√
1280x720p50			
1920x1080p60	√	√	√
1920x1080p50			
800x600p60			
1024x768p60	√	√	√
1280x1024p60	√	√	√

8. DVI input and HDMI output

Input \ Output	AUTO	1280x720p60	1280x720p50	1920x1080p60	1920x1080p50
1280x720p60	√	√		√	
1280x720p50	√		√		√
1920x1080p60	√	√		√	
1920x1080p50	√		√		√
1024x768p60	√	√		√	
1280x1024p60	√	√		√	

9. DVI input and SDI output

Input \ Output	1280x720p50	1280x720p60	1920x1080p30	1920x1080p50	1920x1080p60
1280x720p60		√			√
1920x1080p60		√			√
1024x768p60		√			√
1280x1024p60		√			√

10. SDI input and VGA output

Input \ Output	1024x768p60	1280x1024p60
1280x720p60	√	√
1280x720p50		
1920x1080p30		
1920x1080i60	√	√
1920x1080i50		
1920x1080p50		
1920x1080p60	√	√

11. SDI input and HDMI output

Input \ Output	AUTO	1280x720p60	1280x720p50	1920x1080i60	1920x1080i50	1920x1080p60	1920x1080p50
1280x720p60	√	√		√		√	
1280x720p50	√		√		√		√
1920x1080p30	√						
1920x1080i60	√	√		√		√	
1920x1080i50	√		√		√		√
1920x1080p50	√		√		√		√
1920x1080p60	√	√		√		√	

12. SDI input and SDI output

Input \ Output	1280x720p50	1280x720p60	1920x1080p30	1920x1080p50	1920x1080p60	1920x1080i50	1920x1080i60
1280x720p60		√			√		√
1280x720p50	√			√		√	
1280x720p30			√				
1920x1080p30			√				
1920x1080i60		√			√		√
1920x1080i50	√			√		√	
1920x1080p50	√			√		√	
1920x1080p60		√			√		√

13. YPbPr input and VGA output

Input \ Output	800x600p60	1024x768p60	1280x1024p60
1280x720p60	√	√	√
1280x720p50			

14. YPbPr input and HDMI output

Input \ Output	AUTO	1280x720p60	1280x720p50	1920x1080p60	1920x1080p50
1280x720p60	√	√		√	
1280x720p50	√		√		√
1920x1080p30	√				
1920x1080i60	√	√		√	
1920x1080i50	√		√		√

15. YPbPr input and SDI output

Input \ Output	1280x720p50	1280x720p60	1920x1080p50	1920x1080p60
1280x720p60		√		√
1280x720p50	√		√	
1920x1080i60		√		√
1920x1080i50	√		√	

16. CVBS input and VGA output, not recommend

Output Input	800x600p60	1024x768p60	1280x1024p60
720x480i60(NTSC)	√	√	√
720x576i50(PAL)			

17. CVBS input and HDMI output, not recommend

Output Input	1280x720p60	1280x720p50	1920x1080i60	1920x1080i50
720x480i60(NTSC)	√		√	
720x576i50(PAL)		√		√

18. CVBS input and SDI output, not recommend

Output Input	1280x720p50	1280x720p60	1920x1080i50	1920x1080i60
720x480i60(NTSC)		√		√
720x576i50(PAL)	√		√	