

TX401-B TX402-B QUAD SPLIT

User Manual

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OSEE OSEE TECHNOLOGY LTD.

OSEE TECHNOLOGY LTD.

Address: No.22 Building, No.68 zone, Beiqing Road, Haidian District,
Beijing, China

Post Code: 100094

Tel: (+86) 010-62434168

Fax: (+86) 010-62434169

Web: <http://www.osee-dig.com/>

E-mail: sales@osee-dig.com

Chapter 1 Product Overview

TX401-B/TX402-B is a professional quad split instrument. It supports high quality quad split displays for multiple environment with high quality display and swift switch for various display modes.

TX401-B/TX402-B has compact and beautiful structure design, offering local control buttons and embedded web configuration functionality, and supports Ethernet loop out functionality, which is convenient for multiple TX401-B/TX402-B integration controlled by only one control computer.

TX401-B/TX402-B is suitable in office work environment and cabinet mounting environment, it is widely used in the following fields: command and dispatch center, video conference center, broadcast master control, studio, broadcasting vehicle and so on.

Model	Inputs	Outputs
TX401-B	4CH HDMI Video Input 4CH GPI Input	1CH SDI Video Output 1CH HDMI Video Output
TX402-B	4CH SD/HD/3G-SDI Video Input 4CH GPI Input	1CH SDI Video Output 1CH HDMI Video Output

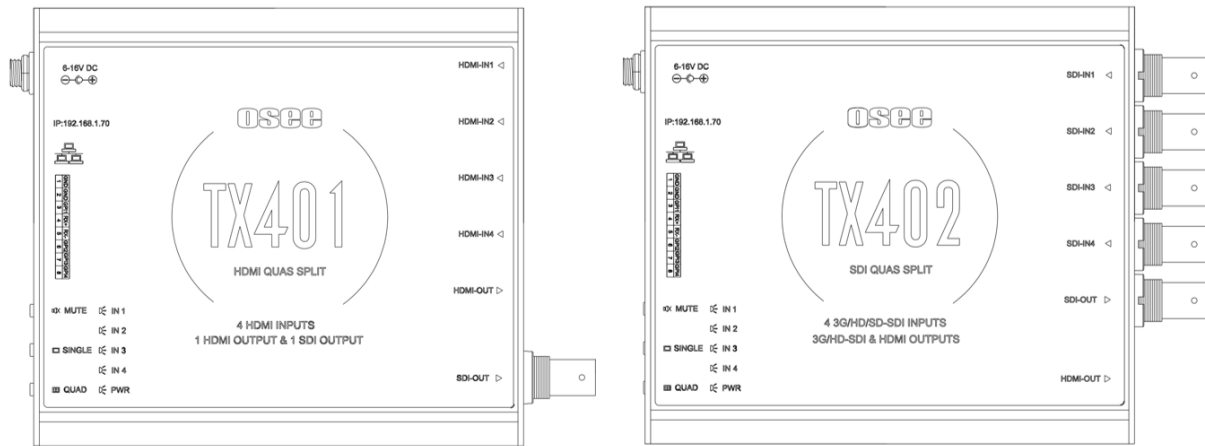
Features

- Supports 4 channels of signal inputs with LED indicators and one power input indicator
- Supports four kinds of output formats: 1080P50, 1080P59.94, 1080I50, 1080I59.94
- Supports four kinds of screen display modes: four uniform size screens, one big left with three right small, one big right with three left small, one big top with three bottom small
- Supports TSL3.1/4.0, TSL5.0 protocol
- 4ch GPI interfaces, one RS-422 interface, one ETHERNET interface
- Embedded Web Server, supports web interview

Chapter 2 TX401-B/TX402-B Features

2.1 Control Buttons and Interfaces

There are a series of control buttons, interfaces and indicators at the left side of the device, besides, a series of interfaces at the right side of the device.



Name	Position	Quantity		Description
		TX401-B	TX402-B	
Interfaces				
HDMI Input	Right Side	4	--	Input formats: HDMI, DVI-D, Labeled as HDMI IN1, HDMI IN2, HDMI IN3, HDMI IN4
HDMI Output	Right Side	1	1	Output formats: 1080P50/P59.94, 1080I50/I59.94, Labeled as HDMI OUT
SDI Input	Right Side	--	4	Input formats: HD/SD/3G-SDI, Labeled as SDI IN1, SDI IN2, SDI IN3, SDI IN4
SDI Output	Right Side	1	1	Output formats: 1080P50/P59.94, 1080I50/I59.94, Labeled as SDI OUT
Power Input	Right Side	1	1	DC6~16V External Power(12V/1A)
Configuration Ethernet	Left Side	1	1	RJ45
GPI/Serial Communication	Left Side	1	1	RJ45, RS422 Standard, only received; TTL level
Operating Buttons				
Reset	Left Side	1	1	Restore the factory settings
Controls	Left Side	3	3	Mute, Single, Quad
Indicators				
Power	Left Side	1	1	Labeled as PWR
Input Signal	Left Side	4	4	Labeled as IN1, IN2, IN3, IN4

Operating Buttons

- **MUTE:** Mute button, click this button to enable or disable the audio play.
- **SINGLE:** Single mode button, click this button to switch to display only one picture for one signal source on whole screen in SINGLE mode.
- **QUAD:** Quad mode button, click this button to switch to display quad split windows, including four uniform size screens display, one big with three small screens display. The latter including one big left with three right small, one big

right with three left small, one big top with three bottom small.

- **RESET:** used to restore the factory settings. Insert a needle tool into the reset hole to trigger the reset operation.

2.2 Network Control

1. Device Connect

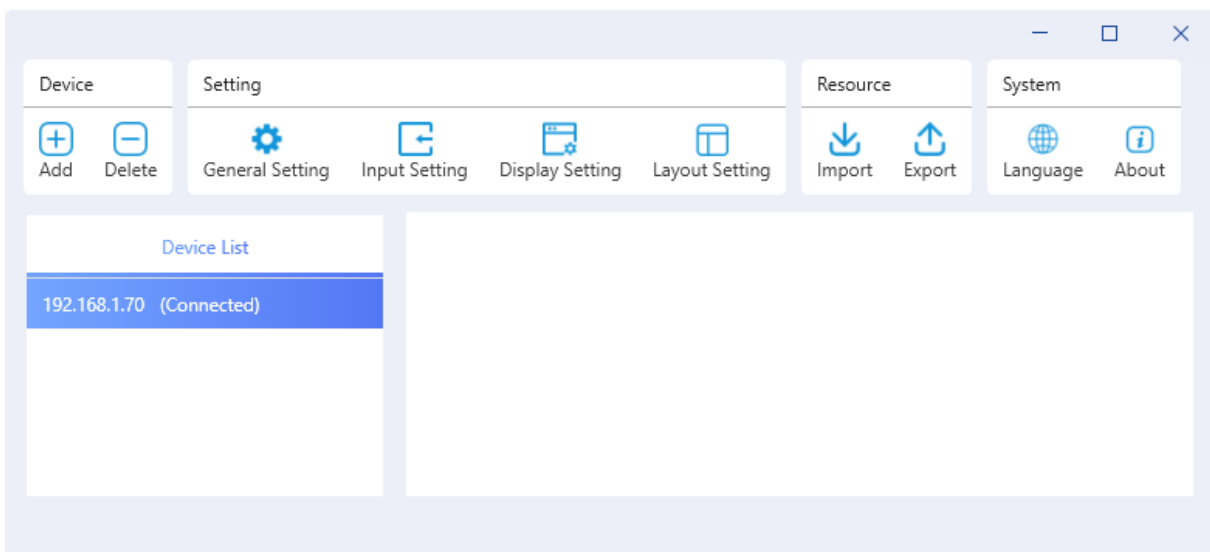
Connect TX401-B or TX402-B with your control computer through Ethernet. Double click the Osee.Tx401.Client application to display the management interface, as shown below.

Tips

- The IP address of the local computer and TX401/TX402 must be in the same network segment. The default IP for TX401/TX402 is 192.168.1.70. You should select the device type to be “BOX” or “EU” according to your actual device during the software installation process.

Add a TX401-B for example: click Add button in the tool bar to pop up the device connect dialog box, and input 192.168.1.70 in the IP address, click **OK** to connect with this device, and you will see the device in the Device List after successful connection.

Click to select the device in the Device List, and you can configure it for general, input, display and layout settings. Besides, you can add multiple devices into the device list, import and export to share the same settings between devices.



2. General Setting

Click **General Setting** button to set the following parameters, including device IP address and its corresponding parameters, TSL address, output format, volume

and mute switch.

General Setting

Firmware Version	FPGA: 0.0.0.1	ARM: 0.0.0.6		
Output Format	<input type="radio"/> 1080P60	<input type="radio"/> 1080P50	<input type="radio"/> 1080I60	<input checked="" type="radio"/> 1080I50
Network Setting	IP Address: 192.168.1.70	Gateway: 192.168.1.1	Mask: 255.255.255.0	SET
RS485	Baud Rate: 38400	Data Rate: 8	Stop bits: 1	Parity bit: Even
TSL	TSL Version: TSL3.1	TSL5.0 port: 8900		
Volume	<input type="checkbox"/> Mute	Audio Level: 24		
Reset To Default	Factory Reset			

Menu items	Default	Value Range	Description
General Setting			
Firmware Version	--	--	Display FPGA/ARM version
Output Format	1080I50	1080I50/1080I60/ 1080P50/1080P60	Set the signal output format
Network Setting	IP Address	192.168.1.70	Set the network address of the device
	Gateway	192.168.1.1	Set the gateway of the device
	Mask	255.255.255.0	Set the mask of the device
RS485	Baud Rate	38400	Set baud rate
	Data bits	8	Set data bits
	Stop bits	1	Set stop bits
	Parity bit	Even	Display the version number of FPGA/MCU
TSL	TSL Version	v3.1/v4.0/v5.0	Set the version of TSL
	TSL 5.0 Port	0~65535	Set the port for the device below TSLv5.0
Volume	Mute	OFF	Enable/disable mute
	Audio Level	24	0~31
Reset to Default	Restore factory defaults		Click this button to restore the factory defaults.

3. Input Setting

Click **Input Setting** button to set characters for each input signals IN1~IN4: designate audio channels for each of the four audio meters, TSL3.1/4.0 address, TSL5.0 address, UMD type, UMD character, left Tally source, right Tally source.

Input Setting

InputSetting	In1	In2	In3	In4
InputName	SIGNAL1	SIGNAL2	SIGNAL3	SIGNAL4
AudioMeter:1	Emb 1-2	Emb 1-2	Emb 1-2	Emb 1-2
2	Emb 3-4	Emb 3-4	Emb 3-4	Emb 3-4
3	Emb 5-6	Emb 5-6	Emb 5-6	Emb 5-6
4	Emb 7-8	Emb 7-8	Emb 7-8	Emb 7-8
ID: TSL3.1/4.0	128	129	130	131
TSL5.0	0	0	0	0
UMD Type	Static	Static	Static	Static
UMD Text	VIDEO_INPUT1	VIDEO_INPUT2	VIDEO_INPUT3	VIDEO_INPUT4
Tally Source: L	TSL	TSL	TSL	TSL
R	TSL	TSL	TSL	TSL

Menu items	Default	Value Range	Description
InputName	SIGNAL*	SIGNAL*	Set name for the input signal, the default name is SIGNAL*.
Audio Meter1~4	Emb 1-2	Emb 1-2 Emb 3-4 Emb 5-6 Emb 7-8 Emb 9-10 Emb 11-12 Emb 13-14 Emb 15-16	Set an audio channel group of two audio channels to the designated audio meter.
ID:TSL3.1/4.0	129	--	Set the address ID for this TSL 3.1/4.0 protocol (128~255)
ID:TSL5.0	0	--	Set the address ID for this TSL 5.0 protocol (0~65535)
UMD Type	Static	Static/Dynamic	Set the type for UMD source as static or dynamic. If it is static, the UMD content will be the value set in UMD text; If it is dynamic, the UMD content will be the value received from the TSL
UMD Text	VIDEO_INPUT*	--	Set static UMD characters
Tally Source: L	TSL	TSL/GPI	Set the left TALLY source as GPI or TSL
Tally Source: R	TSL	TSL/GPI	Set the right TALLY source as GPI or TSL

4. Display Setting

Click **Display Setting** button to set the following display parameters: UMD and Audio Meter display position, set whether to display format, marker, border, UMD or tally lamp on the monitor window and so on.

Display Setting

DisplaySetting	In1	In2	In3	In4
UMD & AM Pos	<input checked="" type="radio"/> Inside Video		<input type="radio"/> Outside Video	
Video Aspect	<input checked="" type="radio"/> Keep the original		<input type="radio"/> Follow window	
Display:Format	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marker	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Board	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
UMD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tally Lamp Show	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tally on Board	None	None	None	None
Tally on UMD Back	None	None	None	None
Audio Meter: L	0	0	0	0
R	0	0	0	0
UMD : Character	White	White	White	White
Tally Color: L	Red	Red	Red	Red
R	Green	Green	Green	Green

Menu items	Default	Value Range	Description
UMD & AM Pos	Outside Video	Outside Video Inside Video	Set the positions of UMD and audio meter relatively to the monitor frame.
Video Aspect	Keep the original	Keep the original: keep the signal source originally. Follow window: the aspect ratio of the signal source will be consistent with the value of monitor window.	Set the display area ratio of the signal source in the monitor window.
Display: Format	OFF	ON/OFF	Enable/Disable format display
Marker	OFF	ON/OFF	Enable/Disable Marker
Board	OFF	ON/OFF	Enable/Disable video frame
UMD	OFF	ON/OFF	Enable/Disable UMD
Tally Lamp Show	OFF	ON/OFF	Enable/Disable Tally light
Tally on Board	None	None Correlate Left-Tally Correlate Right-Tally	Correlate Left-Tally or Right-Tally to border display
Tally on UMD Back	None	None Correlate Left-Tally Correlate Right-Tally	Correlate Left-Tally or Right-Tally to UMD background display
Audio Meter: L	4	0/2/4	Set the audio channels displayed as left audio meter.
Audio Meter: R	4	0/2/4	Set the audio channels displayed as right audio meter.
UMD Character	White	White/Red/Green/Yellow	Set the color of UMD characters

Menu items	Default	Value Range	Description
Tally Color: L	Red	Red/Green/Yellow	Set the color of left Tally light
Tally Color: R	Green	Red/Green/Yellow	Set the color of right Tally light

5. Layout Setting

Click **Layout Setting** button to set the display mode to be More or Single.

Layout Setting

Single	<input checked="" type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4															
More	<input type="radio"/> 1 2	<input type="radio"/> 3 4	<input type="radio"/> <table border="1"><tr><td>1</td><td>1</td></tr><tr><td>2</td><td>3</td></tr></table>	1	1	2	3	<input type="radio"/> <table border="1"><tr><td>1</td><td>1</td></tr><tr><td>2</td><td>3</td></tr></table>	1	1	2	3							
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Menu items	Default	Value Range	Description
Single	1	1/2/3/4	Switch to Single display mode
More	1-2	1-2/ 3-4/1-2-3/ Four uniform size screens display; One big left with three right small; One big right with three left small; One big top with three bottom small(including another four types)	Switch to More display mode, you can set to display two, three or four screens.

2.3 Supported Signal Format

The supported signal format for this device is as shown in Table 2.3-1:

Table 2.3-1 Supported Signal Format

Input	HDMI	SDI	DVI-D	Input	HDMI	SDI	DVI-D
480/59.94i,60i	√	√		1080/59.94p,60p	√	√	
576/50i	√	√		640x480(60Hz)			√
720/23.98p,24p	√	√		800x600(60Hz)			√
720/25p	√	√		1024x768(60Hz)			√
720/29.97p,30p	√	√		1280x1024(60Hz)			√
720/50p	√	√		1366x768(60Hz)			√
720/59.94p,60p	√	√		1440x900(60Hz)			√
1080/23.98PsF,24Ps	√	√		1400x1050(60Hz)			√
1080/50i	√	√		1600x1200(60Hz)			√
1080/59.94i,60i	√	√		1680x1050(60Hz)			√
1080/23.98p,24p	√	√		1920x1080(60Hz)			√
1080/25p	√	√		1920x1200(60Hz)			√

Input	HDMI	SDI	DVI-D	Input	HDMI	SDI	DVI-D
1080/29.97p,30p	√	√		2048x1152(60Hz)			√
1080/50p	√	√					

Chapter 3 Specifications

Specification	Values		
Model	TX401-B		TX402-B
Video Input Interface	Digital Video: 4*HDMI		Digital Video: 4*SDI
Video Standard	HDMI1.4		SMPTE-259M;270Mbps
	VESA		SMPTE-292M;1.485Gps
			SMPTE-425M;2.97Gps
Video Output Interface	1*HDMI, 1*SDI		1*HDMI, 1*SDI
Video Output Format	1080P50/P59.94、1080I50/I59.94		
Dimension(WxHxD)	128.4*113*27.9mm		128.4*113*27.9mm
Power Consumption	5.7W		5.7W
Power Supply	DC6~16VExternal Power (12V/1A)		
Control Interface	2* RJ45 Ethernet(10/100M adaptive RJ45)		
Work Temperature(° C)	0~50	Storage Temperature(° C)	-20~60
Work Humidity(%RH)	10~90	Storage Humidity(%RH)	10~90

Tips

- Specifications are subject to change without notice.