

# MXT-5G8-S1 Manual



MXT-5G8-S1 is a 25mW analog video transmitter integrated with a 800TVL minimal illumination camera. It not only supports OSD signal input, but also supports MX-SmartVTX protocol(compatible with SmartAudio), moreover, it can switch automatically to video signal input source when MX-SmartVTX or SmartAudio is detected

## **VTX Features:**

- 1) Power supply: 3.5~5.0V;
- 2) Current consumption: 360mA/3.5V, 240mA/5.0V;
- 3) VTX output power: 25mW;
- 4) General used 40CH working frequencies globally;
- 5) Integrated with Low-pass LC filter;

- 6) Supporting OSD signal input;
- 7) Supporting MX-SmartVTX protocol (Note 1);
- 8) Switchable video signal input source;
- 9) Size: 22.5\*13.5\*40mm(L\*W\*H);

Note: 1) MX-SmartVTX is a protocol for connecting between VTX and flight control board, through which customer can set up working frequency and power graphically, besides, MX-SmartVTX is compatible with SmartAudio.

**MX-CAM01 features:**

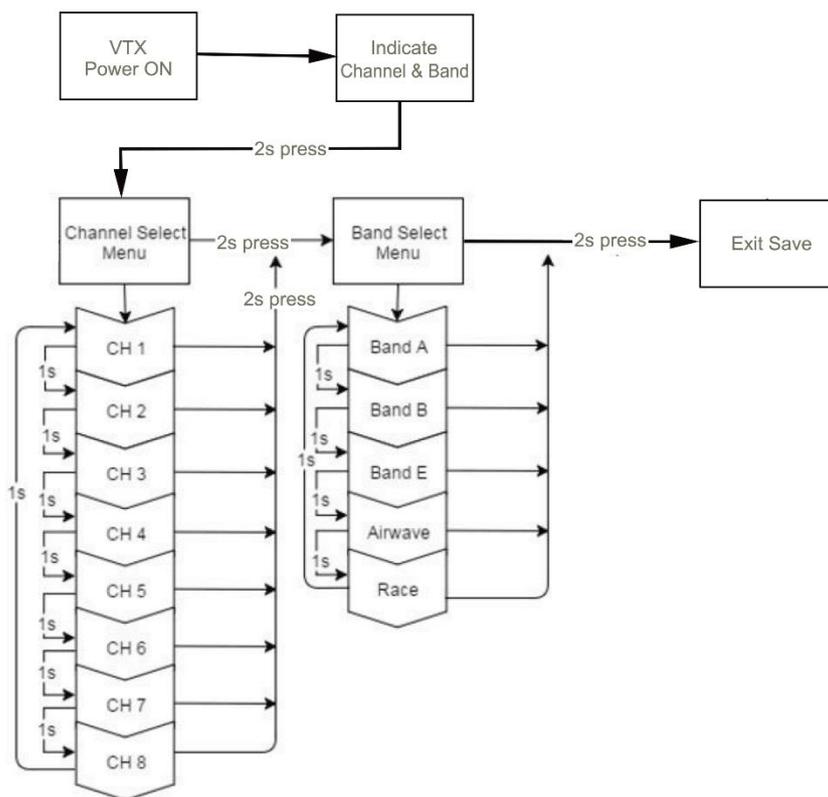
- 1) Resolution: 800TVL;
- 2) Min. illumination: 0.01LUM/F1.2;
- 3) Signal to Noise Ratio(S/N): >48dB;
- 4) Image Sensor: 1/4' COMS;
- 5) Video format: NTSC 60F/S;
- 6) Lens angle/FOV: 150 degree;
- 7) Auto Gain Control(AGC): YES;
- 8) Automatic White Balance(AWB): YES;
- 9) Backlight Compensation(BLC): Auto;
- 10) Electronic Shutter Speed: 1S - 1/1000S;

**Button operation:**

The button on VTX board has three functions or use ways on MXT-5G8-S1: set up Channel, set up band; set up video signal input source. Connect power, press SW 2 seconds after LED working frequency indication is finished, VTX will enter set up menu, and two of the LEDs will indicate the present menu state. The operation way is as the following:

- 1) Set up Channel: Long press SW 2 seconds till blue LED is on then release SW, enters Channel set up mode (red LED flashes one time), short press SW selecting Channel----the number of the blue LED flashing times indicates the present Channel value;
- 2) Set up Band: Long press SW 2 seconds till the blue LED is on and then release it, enters Band set up mode (red LED flashes twice), selecting Band by short pressing SW---- the number of the blue LED flashing times indicates the present Band value;
- 3) Exit and save: Long press SW 2 seconds till the blue LED is on then release SW, red and blue LED blinks 5 times alternately, indicating set up mode of VTX exits and the changed parameters are saved.

**Menu structure for button pressing:**



**Set up video signal input source (for connecting an outside OSD):**

MXT-5G8-S1 supports two video signal input sources: one is from the internal analog camera MX-CAM01; The other is for outside video signal input source such as OSD signal, under this mode, the video signal from internal MX-CAM01 will be overlapped to the outside OSD and then input MXT-5G8-S1.

Press SW, connect power ( the blue LED light indicates internal MX-CAM01 video signal, the off-blue LED indicates the video signal from outside), then release SW, video input signal source will be exchanged alternately one time. Since then, when it is powered everytime, the blue LED light indicates the video signal from internal MX-CAM01 and the off-blue LED indicates video signal from outside.

Besides: As soon as MX-SmartVTX is detected by MXT-5G8-S1, MXT-5G8-S1 will change its video signal input source to outside. If customer wants to make the outside video signal as default input source, customer needs set up it manually.

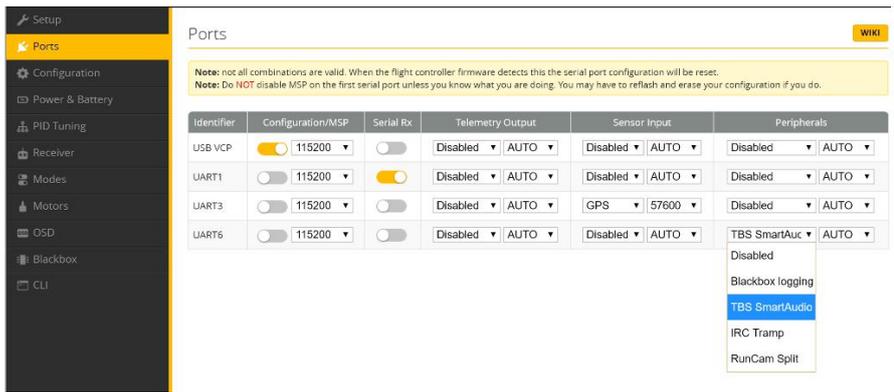
Note: 1) When the video signal from internal analog camera MX-CAM01 is as input video source, and also is connected video signal from outside at same time, the image would turn obscure, it is normal, do not worry.

2) When video signal from outside is as input source, if no image comes from the analog camera MX-CAM01, please check if the connection is correct or the OSD is NTSC.

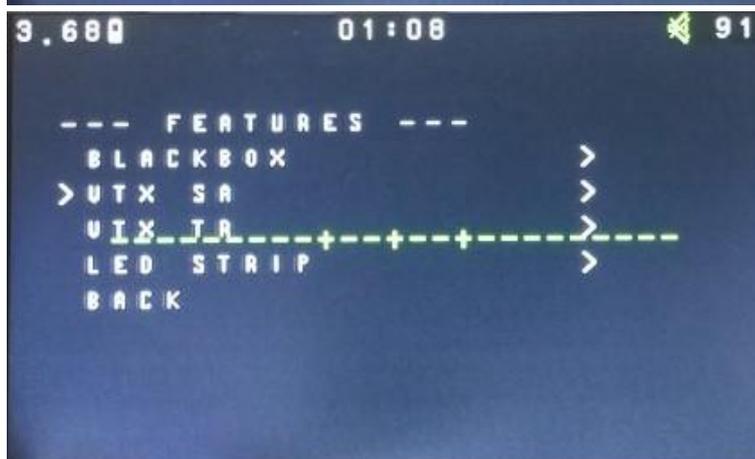
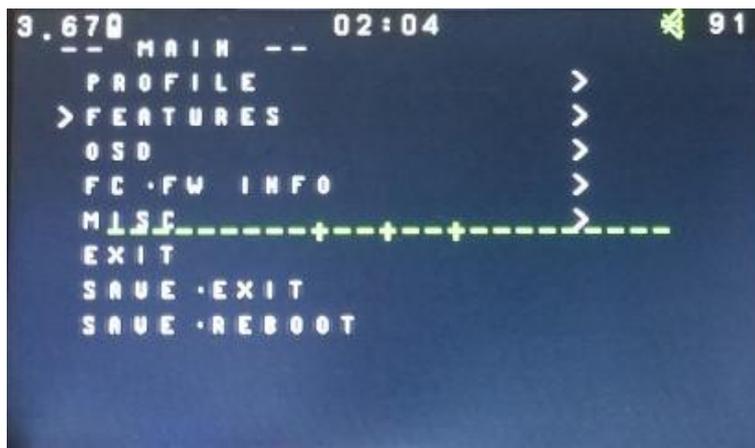
#### **MX-SmartVTX Protocol:**

MX-SmartVTX protocol is a convenient operation for setting up VTX working frequency and power on OSD display through radio, it is a solution for connection between VTX and flight control board., which is very simple and direct way.

For using this function, please connect RXD on VTX to TXD on UART3 or UART6 of flight control board first, turn on SmartAudio function on flight control board as the following(Note: MX-SmartTX is compatible with SmartAudio):



Then enter set up mode according to guided message on OSD, and enter set up menu for VTX, VTX will save the data automatically as soon as the setup is effective (red and blue LED flashes 6 times in turn).





### Indication for MXT-5G8-S1 VTX working frequency

LED flashing state indicates current working frequency when VTX is powered.

#### LED Indication function:

MXT-5G8-S1 indicates different working state through two color LED lights which is simple and efficiency. Flashing times of red LED indicates different option, flashing one time indicates Channel, flashing two times indicates Band, Flashing times of blue LED indicates the value of the option.

Red LED	Option: (Channel) , (Band) , VTX power
Blue LED	value of the option

Example: Channel 5, Band B, the LED flashes like the following:

- 1x Red & 5x Blue = Channel, 5
- 2x Red & 2x Blue = Band, 2 (=B)

#### Menu table

Red LED		Blue LED							
		1*	2*	3*	4*	5*	6*	7*	8*
1*	Chann el	1	2	3	4	5	6	7	8
2*	Band	A	B	E	Airwave	Race			

Frequency table

Chann el	1	2	3	4	5	6	7	8	
Band A	5865	5845	5825	5805	5785	5765	5745	5725	MHz
Band B	5733	5752	5771	5790	5809	5828	5847	5866	MHz
Band E	5705	5685	5665	5645	5885	5905	5925	5945	MHz
Airwave	5740	5760	5780	5800	5820	5840	5860	5880	MHz
Race	5658	5695	5732	5769	5806	5843	5880	5917	MHz

(The selections in yellow requires HAM license to operate legally. The video transmitter ensures that you cannot select illegal channels or power levels by accident:)

*Ports description:*

*Note: Video Out is signal output from internal analog cam MX-CAM01, RXD is MX-SmartVTX protocol or SmartAudio protocol signal cable, EX video IN is Video signal input from outside (normally is for OSD input), GND is for ground cable.*