EWRF e708 TM3 5.8G AV TX OSD Setting

EWRF e708TM3 , a power adjustable 5.8G Audio/Video transmitter, is the enhanced version of 7086TM3. It only adds OSD setting of AV TX compared to 7086TM3.It works well with several other commonly used Betaflight/Cleanflight FCs when using OSD setting. Almost all F3 and F4 targets (except for those with integrated VTX) are supported.

Below is the guide on how to use OSD setting to change your AV transmitter's parameters. e708TM3 only supports setting of bands, channels, power and Pitmode at the present.

1.Connecting and configuration

1.1 For F3/F4 with a integrated OSD

Wire three pins PWM/OSD, VIDEO IN and GND of e708TM3 to Tx of an Uart, VIDEO OUT and GND of the FC respectively. Then connect the FC to a PC with USB, running the Betaflight (Release 3.1 or later).

1.2 For F3/F4 without OSD

First, download MWOSD Release 1.6.5.0 or later which supports the CMS with CANVAS extension for the external OSD. Make sure that 'CANVAS_SUPPORT' and 'BETAFLIGHT' option in Config.h are enabled.

```
// latest release...
#define BETAFLIGHT          // Uncomment this if you are using latest BETAFLIGHT version 3.1 onwards
//#define BETAFLIGHT3         // Uncomment this if you are using BETAFLIGHT version 3.0.x
```

```
#define CANVAS_SUPPORT          // Enable CANVAS mode support for post betaflight 3.1.0 CMS
//#define INVERTED_CHAR_SUPPORT    // Enable inverted char support
```

Wire three pins PWM/OSD, VIDEO IN and GND of e708TM3 to Tx of an Uart port, VIDEO OUT of OSD and GND of the FC respectively. Then connect the FC to a PC with USB, running the Betaflight (Release 3.1 or later).

1.3 Port Configuration

Open Ports tab, selecting TBS SmartAudio from Peripherals drop down menu on the port which e708TM3 is connected to.Speed can be left at AUTO.
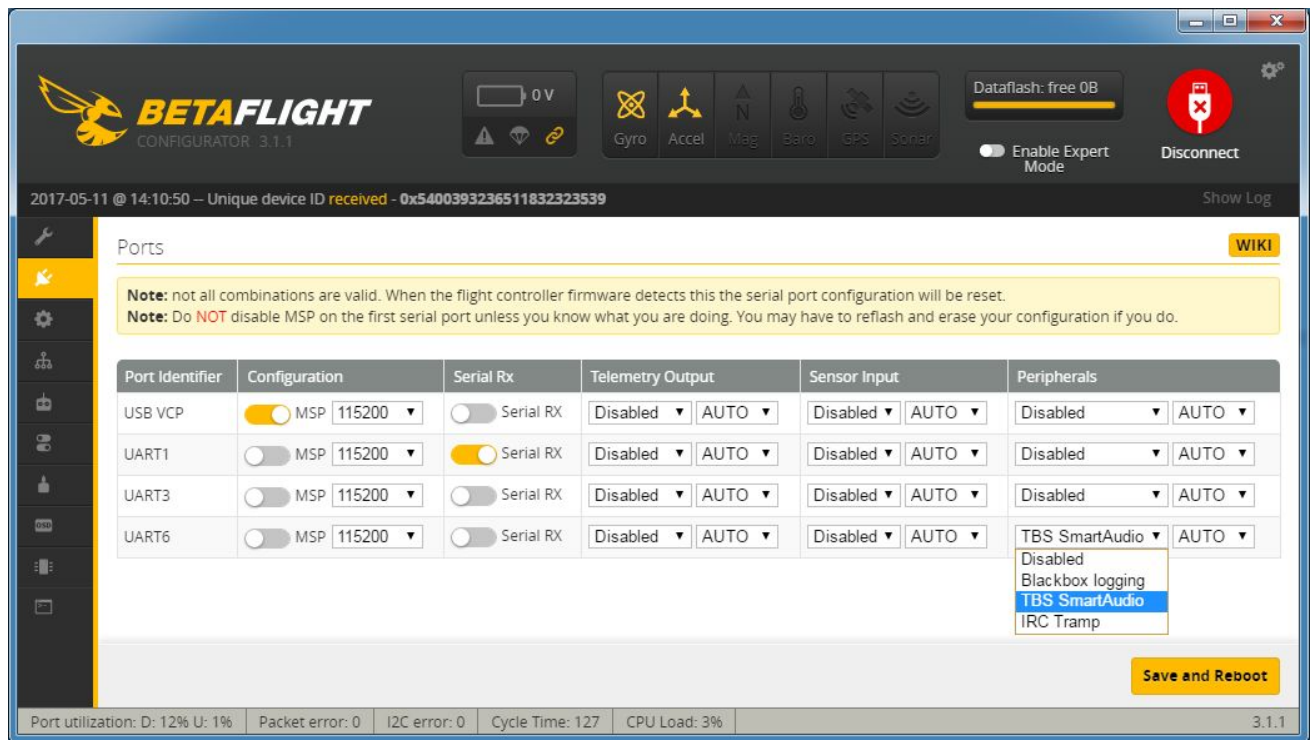
Picture 1 Port configuration
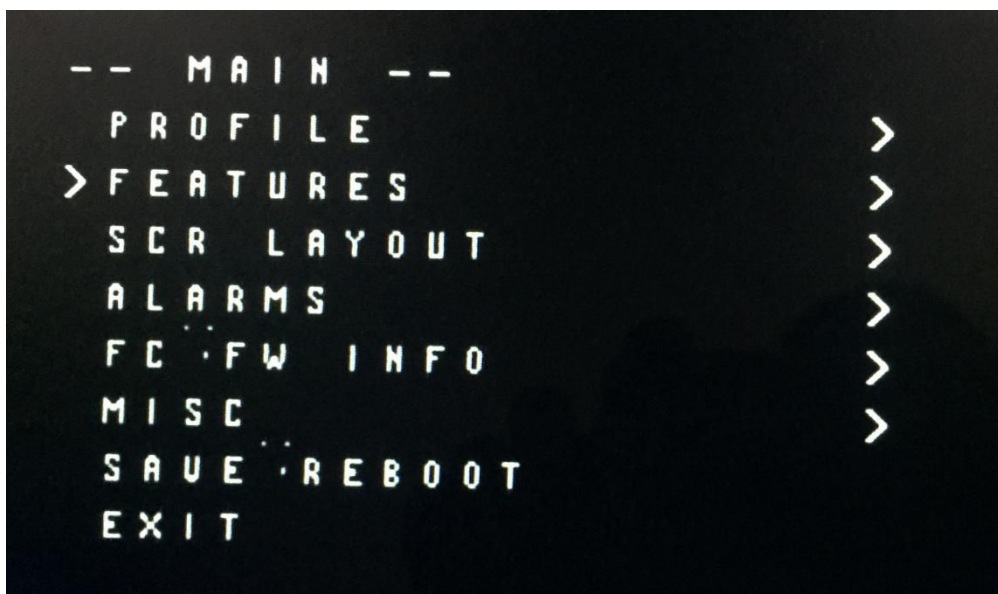
2. Selecting Band、Channel and Power

2.1 Getting into the OSD CMS(Configuration Menu System）

When Powering up the e708TM3,FC and the screen with a video receiver,there will be information on the screen shown in the picture 2 below:
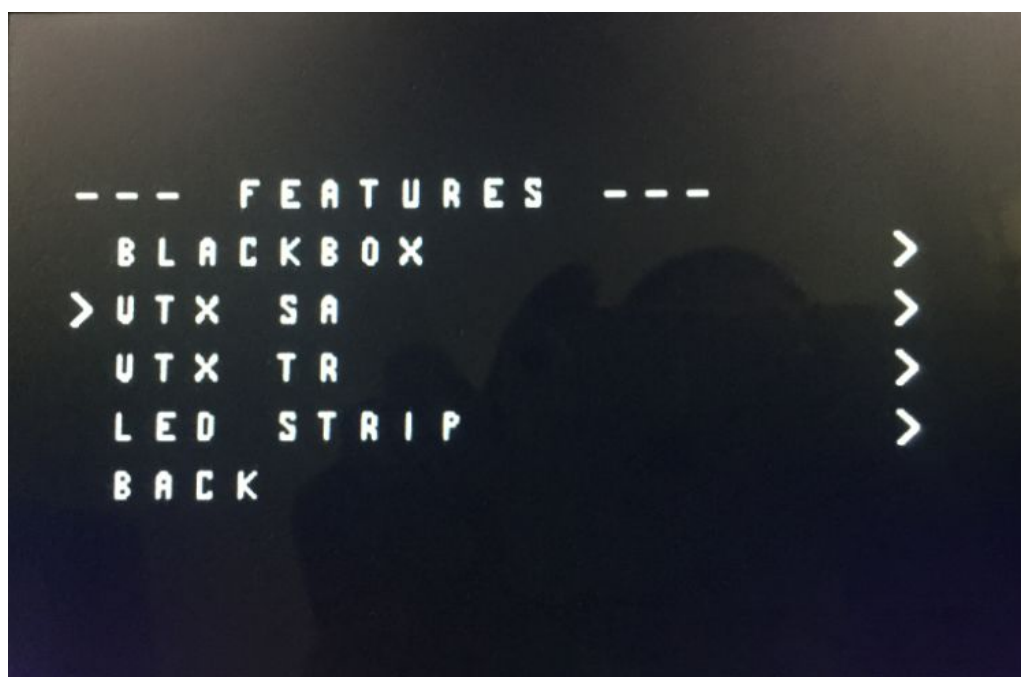

Picture 2 Betaflight Menu

Operate Throttle middle, Yaw left and Pitch up getting into the OSD CMS(see picture 3 below).
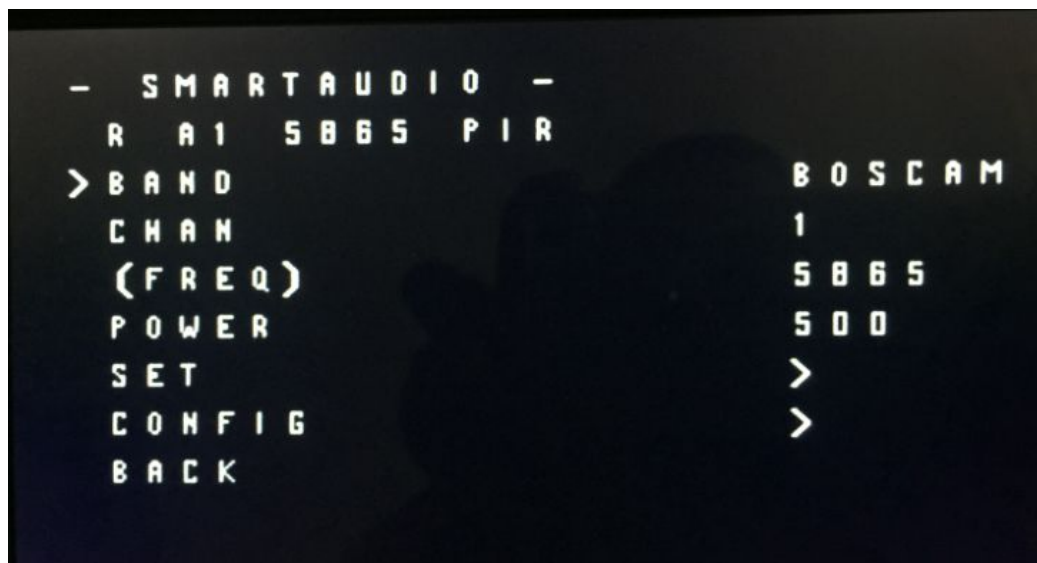

Picture 3   OSD CMS menu

2.2 Selecting Band and Channel

Using up and down the Pitch stick to move the cursor to FETURES and selecting it by Roll right, getting into the FEATURE Menu shown as picture 4 below:

Picture 4   FEATURES menu

Select VTX SA the same way to get into VTX setting menu shown below:

Picture 5   Band and channel   setting

On the menu in Picture 5,use left and right Roll stick to choose the band and the channel.

Notes: e708TM3 AV transmitter supports 48 channels ,so you can choose any channel among them to work using the button or PWM setting. But at present, the OSD setting of Betaflight/Cleanflight only supports 40 channels. That means you cannot choose additional 8 channels by the OSD setting.

After choosing the band and channel, please move the cursor to the SET and select YES to confirm your setting(see picture 6) .


Picture 6   Confirm the setting of band and channel

3、Selecting   transmitting power

Follow the same directions as that in the previous section to POWER item. Use left and right Roll stick to choose the power.

e708TM3 supports only three transmitting powers of 25mw,200mw and 600mw so far, but there are four power options of 25mw,200mw,600mw and 800mw in the menu of OSD setting. When you make power selection , please note that the selecting of 500mw or 800mw all means that e708TM3's power is set to 600mw .

Notes: Power setting is effective immediately which is different from the setting of the band and channel.
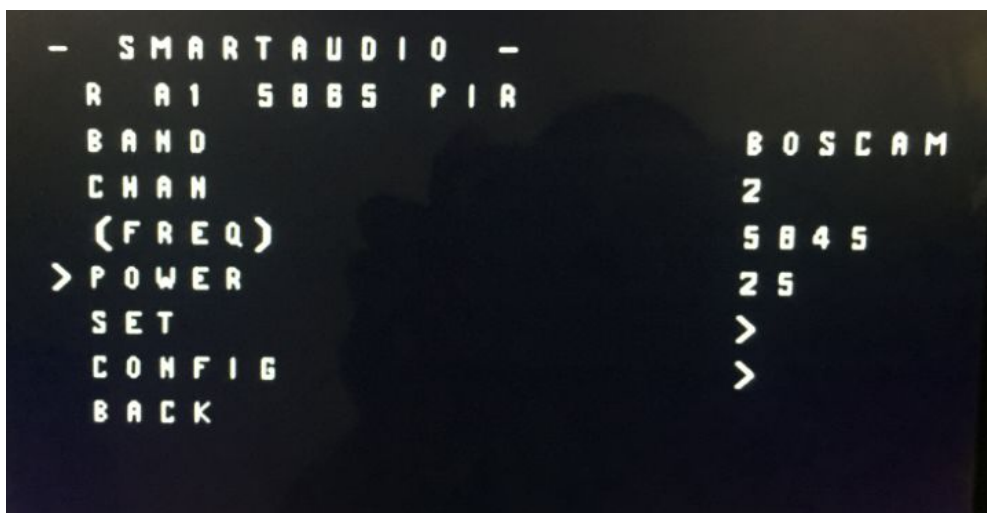

Picture 7 Power setting

4. Pitmode Setting

Pitmode is a new feature which means that the transmitter   is working at the very low amplitude of power, it allows the user to power up the video transmitter to change the setting or do some testing without interfering with others. When working in Pitmode, the AV transmitting distance is only within 1-2 meters .

First, move the cursor to CONFIG in the menu shown in the picture 7 , then select to enter the menu of   PITMODE setting shown in picture 8.
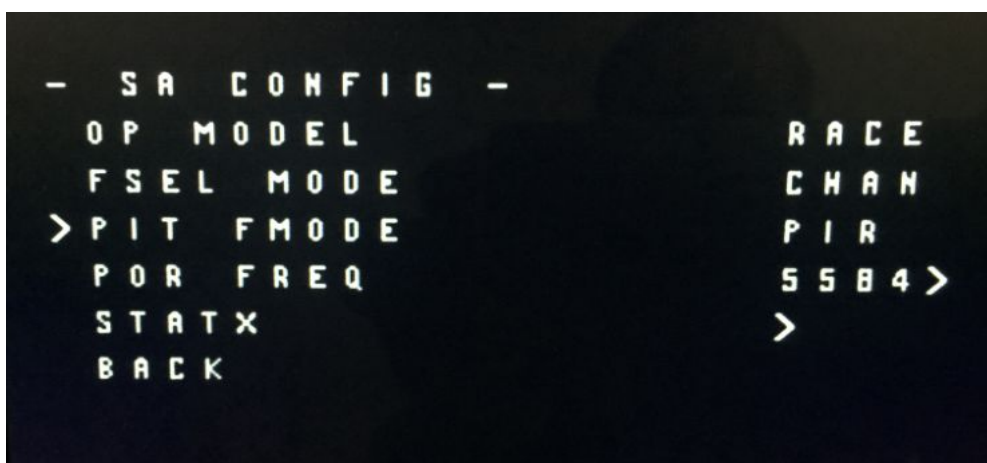
Picture 8   Pitmode   setting

Use up and down the Pitch stick to move the cursor to PIT FMODE, toggle the Roll to the left

to exit the Pitmode. PIR will display on the screen.Toggle to the right to enter the Pitmode. POR will display correspondingly.

Notes: After powering up the e708TM3 and FC again, Pitmode status   will be saved even if the default PIR will display on the screen after powering up.Ignore "POR or PIR" if it appears on the screen.. The best way to judge the Pitmode status is to see the LED   indication on the e708TM3. Keep it in the mind that Pitmode is in effect only when TX LED twinkles(on and off alternatively), TX LED on or off constantly indicates that the AV transmitter is in normal mode.

5. e7086TM3's indicator

There are two types of indicators on the e7086TM3 for indicating the working status: one mini digital 8 display and 3 LED lights marking TX,200mw and 600mw respectively.

5.1 Band and channel display

The digital 8 display indicates the band and channel which the transmitter is working on.Refer to the chart below for frequencies of band and channel:

BAND	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
A（BOSCAM）	5865M	5845M	5825M	5805 M	5785 M	5765 M	5745 M	5725 M
b（BOSCAM）	5733 M	5752 M	5771 M	5790 M	5809 M	5828 M	5847 M	5866 M
C（BOSCAM）	5705 M	5685 M	5665 M	5645 M	5885 M	5905 M	5925 M	5945 M
d（FATSHAR）	5740 M	5760 M	5780 M	5800 M	5820 M	5840 M	5860 M	5880 M
E（RACEBAN)	5658 M	5695 M	5732 M	5769 M	5806 M	5843 M	5880 M	5917 M
F	*5362M*	*5399M*	*5436M*	*5473M*	*5510M*	*5547M*	*5584M*	*5621M*

Notes: Channel in the F band(in italics) aren't supported by Betaflight/Cleanflight OSD setting at present.

5.2 Working status indicator

■ TX LED flashes (on and off alternatively) to indicate the PITMODE is in effect. TX LED constantly on or off, indicates that the AV transmitter is in normal mode .

■ When 25mw is selected,only TX LED is on.When 200mw is selected,two lights of TX and 200mw LED are on. When 600mw is selected, all the three lights of TX,200mw and 600mw LED are on.

6. Button and PWM setting

6.1 Power setting

■ Press and hold the button P to choose the power of 25mW/200mW/600mW.

■ Use two short press to turn on/off the transmitting(PITMODE   setting) and then the TX LED will be twinkles or not respectively. When power is set to OFF(PITMODE is effective), you can set bands and channels without interference to others.The AV transmitting distance is only within 1-2 meters when it is in Pitmode.

■ Only the TX LED is on when the power is set to 25mW,both two lights of TX and 200mW LED are on when set to 200mW, All three lights TX,200mW and

600mW are on when set to 600mW.

2. Band and channel setting

- Presss and hold the button C to choose the band A-b-c-d-E-F(circle).
- Press the button repeatedly to choose the channel 1-8(circle).
- When PWM port is connected with a RC receiver, it can been used to change AV channels 1-8 and to shut transmitting by a RC(PITMODE in effect). Make sure that there is a PWM signal from receiver within 3 seconds after powering up ,otherwise the transmitter is back to button-press setting mode . When in the setting mode of PWM, the dot on the digital display will glow