

# FORTINI F4

## **Flight Controller**

## **USER MANUAL VERSION 1.2**



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## **Change Log**

### v1.1

- Add guideline configuration OSD with TRUE VISION CONFIGURATOR V1.0
- New OSD Menu Index
- How to set up CMS CANVAS mode on Betaflight
- Change information in diagrams

#### v1.2

- Add Tips setup Fortini F4 with Damper
- Connect with Lightning PDB
- Assambly with ESC 4 in 1
- Connect with TBS Crossfire micro receiver v2



## Introduction

After a full year of study & experience with the Radiance & KOMBINI Flight Controllers, we've gathered every aspect of customer feedback in an ultimate effort to produce the single most cutting edge Flight Controller the FPV market has ever seen. Hold on - you don't want to miss this.

Enter the all new Fortini F4 - the culmination of years of research and application as we push forward into the outer limits of FPV. With a new high performance, low noise 32kHz Invensense 20602 gyro that features ultra-high sensitivity, this FC is designed for outright performance, offering ultra-crisp flight characteristics that will be felt in every move you make. Want more? Don't worry - just look below.

With a massive array of (5) UARTS, the Fortini F4 allows simultaneous connection of SBUS, S.PORT, OSD, USB and either a TBS Smart Audio System or Immersion RC Tramp. Furthering this, the Fortini F4 is the very first Flight Controller that offers built in input & output Inrush Voltage Protection to protect the BEC and other electronic components in the case of extreme voltage spikes.

Soft mounted for the ultimate in vibration protection, the Fortini F4 features 16MB of integrated flash memory, allowing BlackBox functionality to review all data after your flight. The Fortini F4 is also the very first FC to allow S.PORT direct connection with the receiver without any aspect of receiver modification.

The Fortini F4 is the full up package, breaking new ground in true FC brilliance. Toss compromise out the window and open your FPV world to the most functional and feature packed FC you have ever seen before.

## **Features**

- Invensense 20602 gyro for high speed 32khz, lowest noise floor and highest sensitivity
- Separate power supply for gyro with LDO low noise and high accuracy
- Gyro located as close as possible to the center
- Integrated vibration dampening dummies
- Built in driver inverter for S-BUS
- Built in driver inverter for Smartport connection directly to FC
- MCU: STM32F405
- Voltage and current ADC pins, for full voltage and current monitoring
- 16MB of flash memory Blackbox
- 5x Serial UARTs for USB, OSD, SMART AUDIO or TRAMP, SPORT, SBUS
- RX powered via USB
- Selectable 3.3V or 5V for RX





- LED Driver for WS2812b programmable LED
- Integrated buzzer driver
- Built-in BEC 5V-2A supports direct 2-6S Lipo connection
- Inrush Voltage Protection Input and Output by Transient Voltage SuppressorBoard Layout
- Weight: 5.5gr



### **Dimensions**





## Connections

\*WARNING: Fortini F4 can support up to 6s Lipo battery but make sure other devices also

support it.

## **Connect with Receiver:**

## ✤ Using SPD15 Receiver:

\* <u>NOTE</u>: If you are using S.Port with firmware 3.1.7, please enter CLI mode and type the following commands:

set sport\_halfduplex = OFF save

Ports

Note: not all combinations are valid. When the flight controller firmware detects this the serial port configuration will be reset. Note: Do NOT disable MSP on the first serial port unless you know what you are doing. You may have to reflash and erase your configuration if you do. Port Id USB VCP MSP 115200 • Serial RX Disabled • AUTO • Disabled • AUTO • UART1 MSP 115200 • Serial RX Disabled • AUTO • Disabled • AUTO • UART3 MSP 115200 • O Serial RX Disabled • AUTO • Disabled V AUTO V UART4 MSP 115200 • Serial RX Disabled • AUTO • Disabled • AUTO • UART6 MSP 115200 • Serial RX SmartPort • AUTO • Disabled V AUTO V



You can buy SPD15 Receiver right here: <u>https://goo.gl/FTnrpR</u>



## Using LR1000D Receiver:

Ports

Note: not all combinations are valid. When the flight controller firmware detects this the serial port configuration will be reset. Note: Do NOT disable MSP on the first serial port unless you know what you are doing. You may have to reflash and erase your configuration if you do.

Port Identifier	Configuration	Serial Rx	Telemetry Output	Sensor Input
USB VCP	──── MSP 115200 ▼	Serial RX	Disabled <b>v</b> AUTO <b>v</b>	Disabled <b>v</b> AUTO <b>v</b>
UART1	MSP 115200 V	Serial RX	Disabled V AUTO V	Disabled <b>v</b> AUTO <b>v</b>
JART3	MSP 115200 V	Serial RX	Disabled <b>v</b> AUTO <b>v</b>	Disabled <b>v</b> AUTO <b>v</b>
JART4	MSP 115200 V	Serial RX	Disabled V AUTO V	Disabled V AUTO V
UART6	MSP 115200 T	Serial RX	FrSky 🔻 AUTO 🔻	Disabled <b>▼</b> AUTO <b>▼</b>



You can buy LR1000D Receiver right here: <u>https://goo.gl/4Cr0Hl</u>

\* **NOTE:** If you use **LR1000D** Receiver please go to **CLI** and type the following commands:

<mark>set sbus\_inversion = OFF</mark>

<mark>save</mark>



## Using XSR FrSky Receiver:

\* NOTE: If you are using S.Port with firmware 3.1.7, please enter CLI mode and type the following commands:

set sport_	_halfduplex	<mark>= OFF</mark>
save		

Port Identifier	Configuration	Serial Rx	Telemetry Output	Sensor Input
USB VCP	MSP 115200 🔻	Serial RX	Disabled • AUTO •	Disabled • AUTO •
UART1	MSP 115200 •	Serial RX	Disabled • AUTO •	Disabled • AUTO •
UART3	MSP 115200 V	Serial RX	Disabled • AUTO •	Disabled • AUTO •
UART4	MSP 115200 V	Serial RX	Disabled V AUTO V	Disabled • AUTO •
UART6	MSP 115200 T	Serial RX	SmartPort . AUTO .	Disabled • AUTO •



**<u>\*NOTE</u>** If telemetry of XSR is not working with FORTINI F4, please update firmware for XSR receiver

Download firmware at here: <a href="https://goo.gl/t1LMT5">https://goo.gl/t1LMT5</a>



## Using Spektrum Satellite Receiver:

Ports							
Note: not all combinations are valid. When the flight controller firmware detects this the serial port configuration will be reset. Note: Do NOT disable MSP on the first serial port unless you know what you are doing. You may have to reflact and erase your configuration if you do.							
Port Identifier	Configuration	Serial Rx	Telemetry Output	Sensor Input			
USB VCP	────────────────────────────────────	Serial RX	Disabled • AUTO •	Disabled • AUTO •			
UARTI	MSP 115200 •	Serial RX	Disabled • AUTO •	Disabled • AUTO •			
UART3	MSP 115200 •	Serial RX	Disabled • AUTO •	Disabled • AUTO •			
UART4	MSP 115200 •	Serial RX	Disabled • AUTO •	Disabled • AUTO •			
UART6	MSP 115200 *	Serial RX	Disabled * AUTO *	Disabled • AUTO •			

## NOTE: When use Spektrum Satellite for Fortini F4, you must use battery for FC's power





## **\*** Using TBS Crossfire Receiver:

Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	● 115200 ▼		Disabled • AUTO •	Disabled V AUTO V	Disabled • AUTO •
UART1	115200 🔻		Disabled V AUTO V	Disabled  AUTO	Disabled • AUTO •
UART3	115200 •		Disabled V AUTO V	Disabled V AUTO V	Disabled • AUTO •
UART4	115200 🔻		Disabled V AUTO V	Disabled  AUTO	Disabled • AUTO •
UART6	115200 🔻		Disabled V AUTO V	Disabled  AUTO	Disabled • AUTO •





## **Connect with Video Transmitter:**

## **Solution** Using Tramp HV:

• With Piggy V2 OSD

Ports					WIKI
Note: not all combin Note: Do NOT disab	ations are valid. When the flight controller fi le MSP on the first serial port unless you kno	rmware detects this the serial po w what you are doing. You may h	rt configuration will be reset. lave to reflash and erase your configuration if y	ou do.	
Port Identifier	Configuration	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	MSP 115200 V	Serial RX	Disabled • AUTO •	Disabled V AUTO V	Disabled • AUTO •
UART1	MSP 115200 V	Serial RX	Disabled • AUTO •	Disabled V AUTO V	Disabled • AUTO •
UART3	MSP 115200 V	Serial RX	Disabled <b>v</b> AUTO <b>v</b>	Disabled V AUTO V	Disabled • AUTO •
UART4	MSP 115200 •	Serial RX	Disabled • AUTO •	Disabled • AUTO •	IRC Tramp V AUTO V
UART6	MSP 115200 •	Serial RX	Disabled • AUTO •	Disabled • AUTO •	Disabled • AUTO •







## • With Only Camera

Ports	orts							
Note: not all combin Note: Do NOT disab	Note: not all combinations are valid. When the flight controller firmware detects this the serial port configuration will be reset. Note: Do NOT disable MSP on the first serial port unless you know what you are doing. You may have to reflesh and erase your configuration if you do.							
Port Identifier	Configuration	Serial Rx	Telemetry Output	Sensor Input	Peripherals			
USB VCP	──── MSP 115200 ▼	Serial RX	Disabled <b>v</b> AUTO <b>v</b>	Disabled • AUTO •	Disabled • AUTO •			
UART1	MSP 115200 V	Serial RX	Disabled • AUTO •	Disabled V AUTO V	Disabled • AUTO •			
UART3	MSP 115200 V	Serial RX	Disabled • AUTO •	Disabled V AUTO V	Disabled • AUTO •			
UART4	MSP 115200 •	Serial RX	Disabled • AUTO •	Disabled V AUTO V	IRC Tramp V AUTO V			
UART6	MSP 115200 •	Serial RX	Disabled V AUTO V	Disabled V AUTO V	Disabled • AUTO •			





## Using TBS Unify Pro:

• With Piggy V2 OSD

JRIC

Ports					WIK		
Note: not all combinations are valid. When the flight controller firmware detects this the serial port configuration will be reset. Note: Do NOT disable MSP on the first serial port unless you know what you are doing. You may have to reflash and erase your configuration if you do.							
Port Identifier	Configuration	Serial Rx	Telemetry Output	Sensor Input	Peripherals		
USB VCP	──── MSP 115200 ▼	Serial RX	Disabled V AUTO V	Disabled • AUTO •	Disabled • AUTO •		
UART1	MSP 115200 V	Serial RX	Disabled • AUTO •	Disabled • AUTO •	Disabled • AUTO •		
UART3	MSP 115200 V	Serial RX	Disabled • AUTO •	Disabled • AUTO •	Disabled • AUTO •		
UART4	MSP 115200 •	Serial RX	Disabled • AUTO •	Disabled • AUTO •	TBS SmartAudio V AUTO V		
UART6	MSP 115200 T	Serial RX	Disabled • AUTO •	Disabled • AUTO •	Disabled • AUTO •		





## • With Only Camera

Ports					w	
Note: not all combinations are valid. When the flight controller firmware detects this the serial port configuration will be reset. Note: Do NOT disable MSP on the first serial port unless you know what you are doing. You may have to reflash and erase your configuration if you do.						
Port Identifier	Configuration	Serial Rx	Telemetry Output	Sensor Input	Peripherals	
USB VCP	──── MSP 115200 ▼	Serial RX	Disabled • AUTO •	Disabled V AUTO V	Disabled • AUTO •	
UART1	MSP 115200 •	Serial RX	Disabled • AUTO •	Disabled • AUTO •	Disabled • AUTO •	
UART3	MSP 115200 V	Serial RX	Disabled <b>v</b> AUTO <b>v</b>	Disabled • AUTO •	Disabled • AUTO •	
UART4	MSP 115200 V	Serial RX	Disabled • AUTO •	Disabled • AUTO •	TBS SmartAudio V AUTO V	
UART6	MSP 115200 V	Serial RX	Disabled V AUTO V	Disabled • AUTO •	Disabled   AUTO	





Using FX FX799T:

• With Piggy V2 OSD

orts							
Note: not all combinations are valid. When the flight controller firmware detects this the serial port configuration will be reset. Note: Do NOT disable MSP on the first serial port unless you know what you are doing. You may have to reflash and erase your configuration if you do.							
Port Identifier	Configuration	Serial Rx	Telemetry Output	Sensor Input	Peripherals		
USB VCP	──── MSP 115200 •	Serial RX	Disabled <b>v</b> AUTO <b>v</b>	Disabled • AUTO •	Disabled • AUTO •		
JART1	MSP 115200 V	Serial RX	Disabled • AUTO •	Disabled V AUTO V	Disabled • AUTO •		
JART3	MSP 115200 •	Serial RX	Disabled V AUTO V	Disabled V AUTO V	Disabled • AUTO •		
JART4	MSP 115200 •	Serial RX	Disabled • AUTO •	Disabled • AUTO •	Disabled • AUTO •		
		Carded DV	District a AUTO a				





## • With Only Camera

Ports							
Note: not all combinations are valid. When the flight controller firmware detects this the serial port configuration will be reset. Note: Do NOT disable MSP on the first serial port unless you know what you are doing. You may have to reflash and ersse your configuration if you do.							
Port Identifier	Configuration	Serial Rx	Telemetry Output	Sensor Input	Peripherals		
USB VCP	MSP 115200 •	Serial RX	Disabled • AUTO •	Disabled • AUTO •	Disabled • AUTO •		
UART1	MSP 115200 V	Serial RX	Disabled • AUTO •	Disabled V AUTO V	Disabled • AUTO •		
UART3	MSP 115200 •	Serial RX	Disabled • AUTO •	Disabled V AUTO V	Disabled • AUTO •		
UART4	MSP 115200 •	Serial RX	Disabled • AUTO •	Disabled • AUTO •	Disabled • AUTO •		
UART6	MSP 115200 V	Serial RX	Disabled V AUTO V	Disabled V AUTO V	Disabled V AUTO V		





## **Connect with stack Mnova and Runcam:**

Note: not all combin Note: Do NOT disabl	ations are valid. When the flight contr e MSP on the first serial port unless y
Port Identifier	Configuration
JSB VCP	───── MSP 115200 ▼
JART1	──── MSP 115200 ▼
JART3	MSP 115200 V
JART4	MSP 115200 V
JART6	MSP 115200 T

\* WARNING: Mnova is only compatible with 5V. Please solder only to 5V pad if using Mnova



You can buy Mnova right here: <u>https://goo.gl/JyQnds</u>



## **Connect with Lightning PDB:**





## **Connect with other devices:**



You can buy LED STRIP right here: <u>https://goo.gl/TXwSwl</u>



**Connect with ESC 4 in 1:** 

## **\*** Using Aikon SEFM 30A:

\*NOTE: Fortini F4 can support up to 6s Lipo battery but make sure other devices also support it.



You can buy ESC Aikon SEFM 30 4 in 1 right here: <u>https://goo.gl/IOYBEr</u>



## Using Cicada 35x4 35A:



You can buy ESC Sunrise Cicada 35x4 35A right here: <u>https://goo.gl/s080al</u>



## **Using T-Motor F 35A 4IN1-4S:**



You can buy ESC F 35A 4in1-4S right here: <u>https://goo.gl/QyM3eh</u>



Using Hobbywing XRotor Micro 40A 4in1:



You can buy Hobbywing XRotor Micro 40A 4in1right here: <u>https://goo.gl/G2E9dU</u>



## **Basic setup**

Please, follow carefully these next steps, and always **remove** your propellers when you're configuring your quad

STEP 1: Connect Fortini F4 with computer via USB cable and then open BetaFlight

STEP 2: Configure Ports.

- (1) Turn on MSP of UART 1 to use OSD.
- (2) Turn on Serial Rx of UART 3 to use Receiver Mode
- (3) Select SmartPort of UART 6 to use S.Port UART 6

			-		
Note: Do NOT disab	ations are valid. When the flight controller fi le MSP on the first serial port unless you kno	rmware detects this the serial por w what you are doing. You may h	t configuration will be reset. ave to reflash and erase your configuration if you do	i.	
Port Identifier	Configuration	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	MSP 115200 V	Serial RX	Disabled V AUTO V	Disabled • AUTO •	Disabled • AUTO •
UART1	MSP 115200 •	Serial RX	Disabled V AUTO V	Disabled • AUTO •	Disabled • AUTO •
UART3	MSP 115200 V	Serial RX	Disabled V AUTO V	Disabled • AUTO •	Disabled • AUTO •
UART4	MSP 115200 V	Serial RX	Disabled V AUTO V	Disabled • AUTO •	Disabled • AUTO •

#### (4) In Peripherals of UART 4:

• Select IRC Tramp for Tramp HV VTX

Ports					WIK
Note: not all combine Note: Do NOT disable	ations are valid. When the flight controller f e MSP on the first serial port unless you kn	irmware detects this the serial por ow what you are doing. You may h	t configuration will be reset. ave to reflash and erase your configuration if v	ou do.	
Port Identifier	Configuration	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	── MSP 115200 ▼	Serial RX	Disabled V AUTO V	Disabled V AUTO V	Disabled V AUTO V
UART1	● MSP 115200 ▼	Serial RX	Disabled V AUTO V	Disabled V AUTO V	Disabled • AUTO •
UART3	MSP 115200 V	Serial RX	Disabled V AUTO V	Disabled • AUTO •	Disabled V AUTO V
UART4	MSP 115200 V	Serial RX	Disabled V AUTO V	Disabled V AUTO V	IRC Tramp V AUTO V
LIARTS	MSP 115200 V	Serial RX	SmartPort V AUTO V	Disabled V AUTO V	Disabled V AUTO V

• Select TBS Smartaudio for TBS Unify Pro VTX

orts					
Note: not all combin	ations are valid. When the flight controller fi	rmware detects this the serial por	t configuration will be reset.	u do	
	e mar en die macaena pare ameas you me	n mat job are doing. I do mej m			1 mag white the
Port Identifier Configuration		Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	──── MSP 115200 ▼	Serial RX	Disabled V AUTO V	Disabled • AUTO •	Disabled V AUTO V
UART1	MSP 115200 V	Serial RX	Disabled 🔻 AUTO 🔻	Disabled • AUTO •	Disabled • AUTO •
UART3	MSP 115200 V	C Serial RX	Disabled • AUTO •	Disabled • AUTO •	Disabled • AUTO •
UART4	MSP 115200 •	Serial RX	Disabled 🔻 AUTO 🔻	Disabled • AUTO •	TBS SmartAudio V AUTO V
			0.00		

\* **NOTE:** Please make sure that all the connections are correct.



late: Not all combinations of features are valid. When the flight controller firmware detects invalid feature combina late: Configure serial ports before enabling the features that will use the ports.	ions conflicting features will be disabled.	
Mixer	ESC/Motor Features	
Qued X •	DSHOTE00  ESCIM for protocol With Constraints of the motors when armed ONESHOT125 ONESHOT42 VOID Store arming via AUX channel) VOID Store arming via AUX channel)	0
	DSHOTSCO DSHOTSO DSHOTSO USHOTSO	6

STEP 3: Go to Configuration tab and choose ESC/Motor protocol in ESC/Motor Features

#### STEP 4: Select Serial- based receiver in Receiver Mode

🖌 Ports	Board and Sensor Alignment		0	Accele	rometer Trim
Configuration	0 C Roll Degrees	GYRO Alignment	Default	0	Accelerometer Roll
	0 C Pitch Degrees	ACCEL Alignment	Default	0	Accelerometer Pitch
	0 🗘 🛱 Yaw Degrees	MAG Alignment	Default •		
de Receiver					
😰 Modes	Receiver			Batter	y Voltage
	Serial-based receiver (SPEKSAT, S *	Receiver Mode		-	VBAT Battery voltag
🖢 Servos	Note: Remember to configure a Serial Port (via	a Ports tab) and choose a Serial Receive	r Provider when using RX_SERIAL	Onboa	ard ADC . Ba
Motors	feature.			3,3	Cell Volta
	SBUS	Serial Receiver Provider		4,3	Aaximum Cell Volta
Tethered Logging	DCGI (Ginnal Strangth)		0	3,5	Warning Cell Voltag
	(our organis so engol)		0	110	Voltage Scale
	RSSLADC Analog RSSI input			0.0	Battery Voltage

If you are using SBus, iBus or a Spektrum Satellite, you will need to pick your Serial Receiver Provider. Follow below table:

RX Туре	Serial Receiver Provider
DSM2 1024bit/22ms	SPEKTRUM1024
DSM2 2048bit/11ms	SPEKTRUM2048
DSMX 1024bit/22ms	SPEKTRUM1024
DSMX 2048bit/11ms	SPEKTRUM2048
FrSky RX	SBUS
Futaba RX	SBUS
FlySky RX	IBUS
Turnigy RX	IBUS

Click "Save and Reboot".



## **Tips**

4 Tips to setting up Fortini F4 FC with Damper



## How to configure your Spektrum RX with your Flight Controller

In Betaflight Configurator:

- Go to the Ports tab
- Enable "Serial RX" on the UART 3

orts					
lote: not all combine lote: Do NOT disable	ations are valid. When the flight controller f e MSP on the first serial port unless you kno	irmware detects this the serial por www.at you are doing. You may h	t configuration will be reset. ave to reflash and erase your configuration if y	ou do.	
ort Identifier	Configuration Serial Rx		Telemetry Output	Sensor Input	Peripherals
JSB VCP	MSP 115200 V	Serial RX	Disabled • AUTO •	Disabled • AUTO •	Disabled V AUTO V
ART1	MSP 115200 •	Serial RX	Disabled <b>v</b> AUTO <b>v</b>	Disabled V AUTO V	Disabled • AUTO •
RT3	MSP 115200 •	Serial RX	Disabled • AUTO •	Disabled • AUTO •	Disabled • AUTO •
RT4	MSP 115200 V	Serial RX	Disabled • AUTO •	Disabled V AUTO V	Disabled • AUTO •
ART6	MSP 115200 V	Serial RX	Disabled V AUTO V	Disabled V AUTO V	Disabled • AUTO •

Click "Save".



Then go to the **Configuration** tab. Under the section labeled "**Receiver**", pick **Serial Receiver Provider** compare with your **RX Type**.

RX Туре	Serial Receiver Provider
DSM2 1024bit/22ms	SPEKTRUM1024
DSM2 2048bit/11ms	SPEKTRUM2048
DSMX 1024bit/22ms	SPEKTRUM1024
DSMX 2048bit/11ms	SPEKTRUM2048

	Board and Sensor Alignment			0					
Configuration	0 CRoll Degrees	GYRO Alignment	Default	•					
	0 C Pitch Degrees	ACCEL Alignment	Default	•					
B Receiver	0 🗘 🕽 Yaw Degrees	MAG Alignment	Default	•					
🖹 Modes									
Motors	Receiver								
	Serial-based receiver (SPEKSAT, S V	Serial-based receiver (SPEKSAT, S  Receiver Mode							
	Note: Remember to configure a Serial Port (via feature.	Ports tab) and choose a Serial Receive	er Provider when using RX_	SERIAL					
	SPEKTRUM2048 • s	erial Receiver Provider							
	RSSI (Signal Strength)			G					
	RSSI_ADC Analog RSSI input								

Click "Save".

Finally, go to the **Receiver** tab. Pull down the drop down that says "**Channel Map**" and select the "**JR / Spektrum / Graupner**" option.

Receiver		wa
Please read receiver chapter of the to ~2000. Set midpoint (default 15/ IMPORTANT: Before flying read fail	e documentation. Configure serial port (if required), receiver mode D0), trim channels to 1500, configure stick deadband, venfy behav safe chapter of documentation and configure failsafe.	e (serial/ppm/pwm), provider (for serial receivers), bind receiver, set channel map, configure channel endpoints/range on TX so that all channels go from ~1000 Jour when TX is off or out of range.
Roll	1500	Channel Map SSI Channel
Pitch	1500	TAER1234 Disabled
Yaw	1500	Default
Throttle	885	Futaba / Hitec
AUX 1	1500	JR7 Spektrum / Graupner
AUX 2	1500	1000
AUX 3	100	0 0
AUX 4	1500	
AUX 5	1500	RC Interpolation
AUX 6	1500	Auto V RC Internolation
AUX 7	1500	
AUX 8	1500	
AUX 9	1500	Preview
AUX 10	1500	

Once again, click "Save".



## Guideline configuration OSD with TRUE VISION CONFIGURATOR V1.0

## Serial Pass Through don't need CLI in Betaflight

DOWNLOAD: Guideline install and configuration TRUE VISION CONFIGURATOR

- **STEP 1: Connect** Fortini F4 (**connected** with VTX/OSD) with PC via USB cable. Then plug battery for FC.
- STEP 2: Open True Vision Configurator on google chrome.
- STEP 3: Please select Port COM (1) correlative with your device, then select UART 1 (2) using for OSD.



**STEP 4:** Plug Battery for Fortini F4, then click **Connect icon** on True Vision interface to connect and configuration OSD layout and setting.



STEP 5: After configuration device please click WRITE to save your configuration.



## How to open Piggy OSD menu by Transmitter

To access the in-built OSD menu in MW-OSD, disarm your quadcopter first.

- THROTTLE MIDDLE
- YAW RIGHT
- PITCH FULL

**OSD Menu Index:** 

#### To navigate through menu in the OSD:

- PITCH/ROLL sticks are used to
   navigate
- YAW stick is used to adjust / change values

P	1	D		С	0	N	F	I	G	1	P	R	0	F	I.	L	Ε		1			
							P						1						D			
RO	L	L					4	4					4	0					3	0		
ΡI	Т	C	H				5	8					5	0					3	5		
YA	W						7	0					4	5					2	0		
V	Т	×		С	0	N	F	I	G													
ΡI	т		м	0	D	Ε													0	N		
VΤ	×		P	0	W	Ε	R												2	5		
VΤ	×		s	H	U	Т	D	0	W	N									N	0	N	E
VΤ	×		в	A	N	D													A			
VΤ	×		С	H	A	N	N	Ε	L										1			
EΧ	I	T			s	A	V	Ε	+	Ε	×	1	T	>	<	P	A	G	Ε	>		

- PID Config/Profile 1/2 or 3:
  - Roll/Pitch/Yaw PID for many flight modes
- VTx Config:
  - Pit mode: On/Off
  - VTx Power: 25/200
  - VTx Shutdown: None/AUX1/AUX2/AUX3/AUX4
  - VTx Band: A/B/E/F/C/U/O/L/H
  - VTx Channel: 1/2/3/4/5/6/7/8
- RC Tuning (RC Rate, RC Expo, Pitch/Roll Rate, Yaw Rate, TPA (Throttle PID Att), Throttle Mid, Throttle Expo, TPA Breakpoint, Yaw RC Expo)
- OSD Config (Display Main Volts, Display Amps, Display mAH, Display RSSI, Horizon, Main Volts Alarm, mAH X100, Callsign)
- Statsistics (Fly Time, mAH Used, Max Amps, Voltage)



## How to set up CMS CANVAS mode on BetaFlight

#### CMS activation:

- Stick command to activate the BetaFlight CMS is **THROTTLE MIDDLE + YAW LEFT + PITCH FULL.**
- (Notice that MWOSD menu activation is **THROTTLE MIDDLE** + **YAW RIGHT** + **PITCH FULL**).



#### OOS (Out-Of-Sync):

MWOSD is very stable, and so is the canvas mode support.

However, since the canvas mode protocol is simplex from FC to MWOSD, CMS on FC and MWOSD may get out-of-sync in a rare case, such as resetting or power cycling the MWOSD while the CMS is active. You can tell the out-of-sync state by:

×	
MAIN >PROFILE FEATURES FC ·FW INFO MISC SAUE ·REROOT	> > > >
EXIT	

- 1. If you power cycle or reset MWOSD while in CMS, then MWOSD may not get out of opening screen.
- 2. You may see an asterisk character ('\*') at upper left corner of your screen when this happens.
- 3. You may also see cursor character move as you input navigational stick commands.
- 4. Other erratic text displayed (not a screen full of random characters).

There are numbers of ways to get out of this state.

- 1. Enter a stick command that causes page redraw, such as menu back. (It is not a wise move to enter a stick command that causes item selection.)
- 2. Blindly navigate to BACK or EXIT menu item and select it. Reset or power cycle your flight controller.





## Thank you for using our product