EACHINE

Eachine US65/DE65 PRO 1-2S 65mm Brushless FPV whoop Tbs crsf version

Features

24gram 1-2s brushless 65mm whoop
New AIO 4in1 CrazybeeX flight controller
Smooth and powerful
CADDX ANT Camera
High performance 2.0 plug

Specifications

Brand Name: Eachine
Item Name: US65 PRO/DE65 PRO
Wheelbase: 65mm
Size: 81mmx81mmx39mm
Weight: 24g(without battery)

Receiver option

Internal SPI Frsky version (Compatible with ACCST D8/D16, Recommend D8 mode)
Internal SPI Flysky version(Compatible with AFHDS and AFHDS-2A Flysky transmitter)
External Frsky RXSR receiver version(ACCST D16 sbus output)
External TBS Crossfire Nano receiver version

Package includes

Item Name	Qty
US65 PRO or DE65 PRO Frame and canopy	1
Option1: CrazybeeX FR V1.0 built-in internal Frsky SPI D8/D16 receiver	1
Option2: CrazybeeX FS V1.0 built-in internal Flysky SPI receiver	
Option3:CrazybeeX PNP V1.0 with External Frsky RXSR receiver	
Option4:CrazybeeX PNP V1.0 with External TBS crossfire nano receiver	
Eachine NX0802 KV14000 brushless motor	1
Gemfan 1219-3 Propellers(4cw+4ccw)	1
Caddx Ant 1200TVL Global WDR with OSD 2g Ultra Light Nano FPV Camera	1
5.8G 25mw 40ch vtx (Flight controller built-in)	1
1S 250mah 30C LiHV Battery	4
Multi port LIPO/LIHV Battery Charger with 12V adapter	1
Screw Driver	1
Propeller disassemble tool	1
Eachine Handbag	1

Flight controller connection diagram

Receiver configuration

1. Connect CH1(TX) of the XF Nano receiver to RX1 pad of the CrazybeeX , Connect CH2(RX) of the XF Nano receiver to TX1 pad of the CrazybeeX. Enable Serial RX for Uart1 and Smart audio for UART2

Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	115200		Disabled AUTO	Disabled AUTO	Disabled AUTO
UART1	115200		Disabled AUTO	Disabled AUTO	Disabled AUTO
UART2	115200		Disabled AUTO	Disabled AUTO	TBS SmartAuc AUTO

2. Choose the receiver mode to Serial-Based receiver and the Serial Receiver Provider is CRSF. Enable telemetry in the Betaflight configurator and set AUX8 for RSSI

TBS Micro TX configuration

Some TBS TX and RX setting screen shot

TBS CRSF NANO Bind and Setup video https://www.youtube.com/watch?v=ioDzyV2vGb0

Binding procedure

Binding the transmitter and receiver is super simple.
1. Just power up the TBS CROSSFIRE transmitter
2. On the standard transmitter, enter the configuration menu by pressing and holding the joystick for 3 seconds, select "General" and "Binding" - a message "Binding" will start blinking, waiting for the receiver. On the micro transmitter, a short press on the button will initiate binding mode.
3. Now, power up the receiver (without pressing the Bind button!), if your receiver has not been previously bound, it will automatically bind. Otherwise, press and release the "BIND" button on the receiver to initiate binding. On the receiver is a timeout of one minute for after power up to enter bind mode. If the status LED will start blinking slowly the receiver has switched successfully to bind mode.
4. Within a few seconds the process will finish with a "Binding complete" message on the standard transmitter, or a solid green LED on the micro transmitter. The receiver has now stored the unique serial number of that particular CROSSFIRE transmitter. If it doesn't bind, please verify that your firmware is to the newest version on both the receiver and the transmitter.

Arm/Disarm the Motor Use frsky x9d as an example

1. The Default Arm/Disarm switch for Us65 PRO/DE65 PRO is AUX1(Channel 5),and you can also customize it with Betaflight Configurator.

2.Turn on the transmitter radio which with TBS Micro TX module(Use Frsky x9d as a example) and move to the MIXER interface, Set "SA" or "SB" switch etc. for Ch5 to ARM/DISARM the motor.

3.The default channel map for US65 PRO/DE65 PRO Crossfire version is TAER1234, please make sure your transmitter is matched, otherwise it will can't be armed. Toggle the AUX1 Switch ,the Green LED on the flight controller will getting to be solid, this indicates the motor was armed . And also you can found "Armed" displayed on your FPV Goggles or the FPV Monitor. Please make sure keep the US65 PRO/DE65 PRO level before arming .Be careful and enjoy your flight now !

VTX Bands and Channels setup

Frequency and channel frequency table:

FR \ CH	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Band1(A)	5865M	5845M	5825M	5805M	5785M	5765M	5745M	5725M
Band2(B)	5733M	5752M	5771M	5790M	5809M	5828M	5847M	5866M
Band3(E)	5705M	5685M	5665M	5665M	5885M	5905M	5905M	5905M
Band4(F)	5740M	5760M	5780M	5800M	5820M	5840M	5860M	5880M
Band5(R)	5658M	5695M	5732M	5769M	5806M	5843M	5880M	5917M

There are 2 ways to switch the vtx channels:

1.If we need to use Channel 5705 then we should Go to Betaflight CLI,type the command:
Set VTX_band=3
Set VTX_channel=1
save

2.Disarm the US65 PRO/DE65 PRO and then move the stick of the transmitter (THR MID+YAW LEFT+PITCH UP)to enter OSD Menu,Enter to Features,then enter to VTX SA to set VTX Band and channel

Mixer type and ESC/motor protocol

⚠ Ports are numbered 1-6. Do not put more than one battery on a single port. For example: do not insert one battery on the Picoblade 1.25 plug and another on the same port with the PH 2.0 plug.

Default PID setting

ESC Check and Flash firmware

1.Download New release Blhelisuite from:
https://www.mediafire.com/folder/dx6kfaasyo24l/BLHeliSuite
2.Plug the usb and connect the flight controller to computer

3.Open the Device Manager of your computer, find the Ports, please make sure the Com port Serial Number is under 255, otherwise it will can't connect to the BLHELISUITE. You can change the port serial number like the bellowing step :

4.Open the BLHELISUITE, Select SILABS BLHeli Bootloader (Cleanflight) from the third tab on the top side. Then Select the right Serial com port and Click connect. You can also Flash the new release BLHeli_s firmware via the BLHEILISUITE, the firmware Target is "S-H-50"

Flight controller firmware update

1.Install latest STM32 Virtual COM Port Driver
http://www.st.com/web/en/catalog/tools/PF257938
2.Install STM BOOTLOAD Driver (STM Device in DFU MODE)
3.Open Betaflight configurator and choose firmware target "CRAZYBEEF4DX(LEGACY)",then select the firmware version.
4.There are 2 ways to get in DFU Mode: 1). solder the boot pad and then plug USB to computer 2). loading betaflight firmware and hit "flash", then it will getting into DFU Mode automatically.
5.Open Zadig tools to replace the drivers from STM32 Bootloader to WINUSB Driver.
6.Reconnect the flight controller to the computer after replace driver done , and open Betaflight Configurator, loading firmware and flash.

"Flip over after crash" procedure

Set one channel of your radio transmitter to activate the Flip over function in the Mode tab of Betaflight configurator.
The default Switch for Activate "Flip" is AUX3(Channel7)