



CINEBEE 4K MANUAL

Disclaimer

Please read the disclaimer carefully before using this product. By using this product, you hereby agree to this disclaimer and signify that you have read them carefully and completely. This product is not suitable for people under the age of 14. Adult supervision is highly recommended for kids under the age of 14. The CineBee 4K features open-source flight controller and ESC to meet the FPV enthusiasts' need to upgrade their quad.

Please read the instruction manual and warnings carefully. Before every flight, make sure the battery is fully charged and power connections are secure.

DO NOT fly around crowds, children, animals or objects. IFLIGHT ACCEPTS NO LIABILITY FOR DAMAGE(S) OR INJURIES INCURRED DIRECTLY OR INDIRECTLY FROM THE USE OF THIS PRODUCT.

Precautions

Please follow the instructions to assemble and to operate this product in a proper way. Pilots do not use this product if you have physical or mental illness, dizziness, fatigued, or use while under the influence of alcohol or drugs.

Please fly in a safe area away from people

Do not modify or use other parts and accessories not approved for the use of IFLIGHT.

Do not use this product in harsh environments (such as winds, rain, lightning, snow, etc.).

Do not use this product in a strong electromagnetic environment.

Product specification

Product name: Cinebee 4k

Wheelbase: 107mm

Flight controller: SucceX Micro F4 FC

ESC: SucceX Micro 12A 4-in-1

VTX: SucceX Micro VTX

(PIT/25/100/200mW)

FPV camera: Caddx tarsier 4K

Motor: BeeMotor1104

Propeller: HQ Prop T2X2.5X3

Weight: 106g (without battery)

Receiver(Options): FS-A8S V2、Frsky XM+、Frsky R-XSR、R9mini、FT4X、DSMX、TBS NANO



Product List



CINEBEE 4K * 1



USB adapter * 1



Battery strap 10*100mm * 2pcs



Battery strap 10*130mm * 2pcs



Antenna tube cap*2pcs



Antenna tube *2pcs



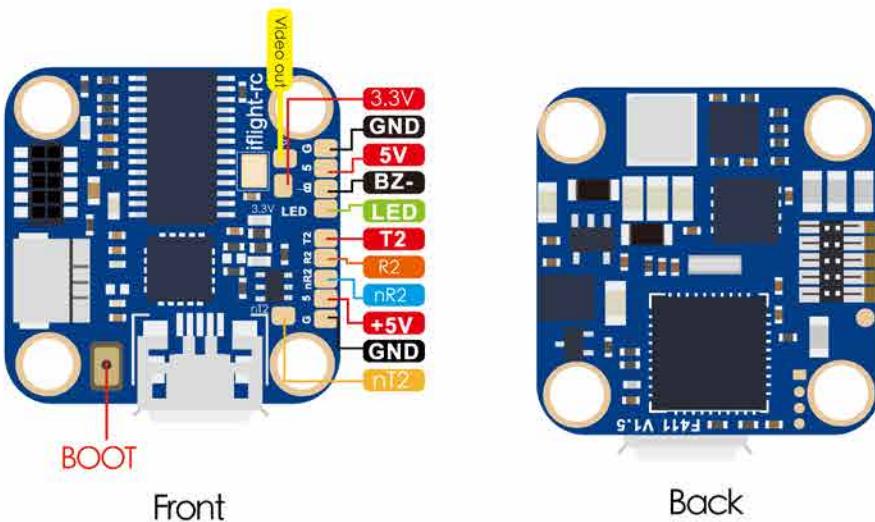
HQ Prop T2X2.5X3 * 2 pairs



Screw hardwares bag * 1

SucceX Micro F4 flight controller

FC Schematic and pinout Diagram



Stock Flight Controller Settings

CineBee is configured to take a channel map of the TAER1234 convention. That is the channel map is in the respective order: throttle, aileron, elevator, rudder, AUX Channels. The arm switch on CineBee is set on AUX 1 and armed with the highest value. AUX 3 is set to beeper with beeping on in a high state. AUX 4 is set to the VTX power switch: High value is VTX on and Low value is VTX off.

Caution: Make sure your control is set with a channel map described above, otherwise CineBee may not operate properly or even transmit video.

PID profiles: PID profile 1 is tuned and optimized for CineBee for ultimate control of flight indoors and outdoors. Please do not change these values. Change the rates to get the flight control characteristic desired.

Caution: Changing PID settings can cause poor flight behavior and worst case burning a motor or ESC. Departure from stock PIDs will void all warranty with the CineBee.

Adjusting Software Settings (Betaflight Configurator)

Betaflight Configurator can be used to changed programmed settings on CineBee and to flash new firmware if desired. Betaflight Configurator can be downloaded at <https://github.com/betaflight/>.

The hardware target for CineBee Flight Controller is STM32F411 and the correct firmware can be found on iflight-rc.com.

DISCLAIMER:

We do not suggest changing any PID settings on CineBee or upgrading the firmware to new or old versions. CineBee comes stock with an optimal tune for superior flight performance. Changing this can affect flight time, overall speed, control of the aircraft, or excessive heat within the motors.

Stock Flight Controller Settings

Install and Open BETAFLIGHT and click Update Firmware choose firmware STM32F411

The screenshot shows the Betaflight configuration software interface. The top bar displays the version as 7.0.3620.121, build date as 2019-05-01, and the target board as STM32F411. The main window has several tabs: 'Setup', 'Ports', 'Configuration', 'Receiver', and 'Dshot Beacon Configuration'. The 'Setup' tab is currently active, showing the 'Calibrate Accelerometer' section. The 'Ports' tab shows serial port configurations for USB, UART1, and UART2. The 'Configuration' tab displays a 'Mixer' diagram for a Quad X setup and 'ESC/Motor Features' settings. The 'Receiver' tab includes a note about configuring a serial port and selecting a receiver provider. The 'Dshot Beacon Configuration' tab shows options for 'Beacon Tone', 'RX_LOST', and 'RX_SET'.

1. Auto-Connect
2. STM32F411
3. Flash Firmware
4. Load Firmware [Online]

Setup

Calibrate Accelerometer

Place board or frame on **leveled** surface, proceed with calibration, ensure platform is not moving during calibration period.
Move instrument at least 360 degrees in all axis of rotation, you have 30 seconds to perform this task.

Reset Settings

Backup

Restore

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 USART on the first serial port unless you know what you are doing. You may have to reflect and erase your configuration if you do.

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

Configuration

Note: Not all combinations of features are valid. When the flight controller firmware detects invalid feature combinations conflicting features will be disabled.
Note: Configure serial ports before enabling the features that will use the ports.

Mixer

Quad X

Motor direction is reversed

ESC/Motor Features

DSHOT600 ESC/Motor protocol

MOTOR_STOP Don't spin the motors when armed

5.5 Motor idle Throttle value (percent)

Board and Sensor Alignment

System configuration

Receiver

Serial-based receiver (SPEKSAT S) Receiver Mode

Note: Remember to configure a Serial Port (via Ports tab) and choose a Serial Receiver Provider when using RX_SERIAL feature.

CRSF Serial Receiver Provider

RSSI (Signal Strength)

RSSI_ADC_Analog RSSI input

Please refer to the receiver section to set the receiver protocol

Dshot Beacon Configuration

1. Beacon Tone
RX_LOST
RX_SET

Beeps when TX is turned off or signal lost (repeat until TX is okay)
Beeps when aux channel is set for beep

Stock Flight Controller Settings

PID Tuning WIKI

Profile Rateprofile Copy profile values Copy rateprofile values Reset all profile values Show all PIDs

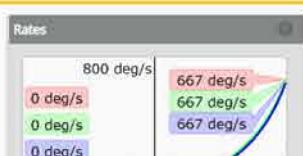
Profile 1 Rateprofile 1

PID Settings Filter Settings

	Proportional	Integral	Derivative	Feedforward	RC Rate	Super Rate	Max Vel (deg/s)	RC Expo
ROLL	49	38	35	70	1.00	0.70	667	0.00
PITCH	53	39	38	75	1.00	0.70	667	0.00
YAW	69	31	0	0	1.00	0.70	667	0.00

Rates

	800 deg/s	667 deg/s	667 deg/s	667 deg/s
0 deg/s	0 deg/s	0 deg/s	0 deg/s	0 deg/s



Modes

Configure modes here using a combination of ranges and/or links to other modes (links supported on BF 4.0 and later). Use **ranges** to define the switches on your transmitter and corresponding mode assignments. A receiver channel that gives a reading between a range min/max will activate the mode. Use a **link** to activate a mode when another mode is activated. **Exceptions:** ARM cannot be linked to or from another mode, modes cannot be linked to other modes that are configured with a link (chained links). Multiple ranges/links can be used to activate any mode. If there is more than one range/link defined for a mode, each of them can be set to **AND** or **OR**. A mode will be activated when:

- ALL AND ranges/links are active: OR
- at least one OR range/link is active.

Remember to save your settings using the Save button.

Hide unused modes

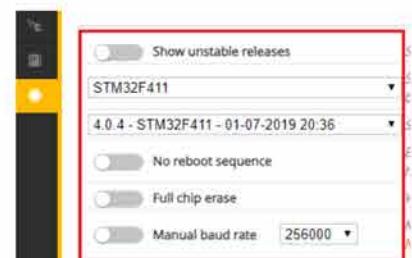
ARM AUX 1 Min: 1700 Max: 2100 900 1000 1200 1400 1500 1600 1800 2000 2100

ANGLE AUX 2 Min: 900 Max: 2100 900 1000 1200 1400 1500 1600 1800 2000 2100

BEEPER AUX 3 Min: 1600 Max: 2100 1000 1200 1400 1500 1600 1800 2000 2100

Reprogramming CineBee SucceX Micro F4 Flight Controller

1. Put the Flight Controller in DFU mode by pressing the Boot button while plugging in the micro USB cable to a computer.
2. Select STM32F411 as the target and then select the desired firmware (4.0.4 stock). Betaflight 4.0.4 firmware can also be downloaded from iflight-rc.com if it is not available in the drop down menu. Select Manual Baud Rate with 256000 in the drop down menu
3. Select Load Firmware(Online) to download the firmware or if the hex file was downloaded from iflight-rc.com select Load Firmware (Local) and select the path to the correct hex file.
4. Select Flash Firmware to program the flight controller



Set the Correct Settings

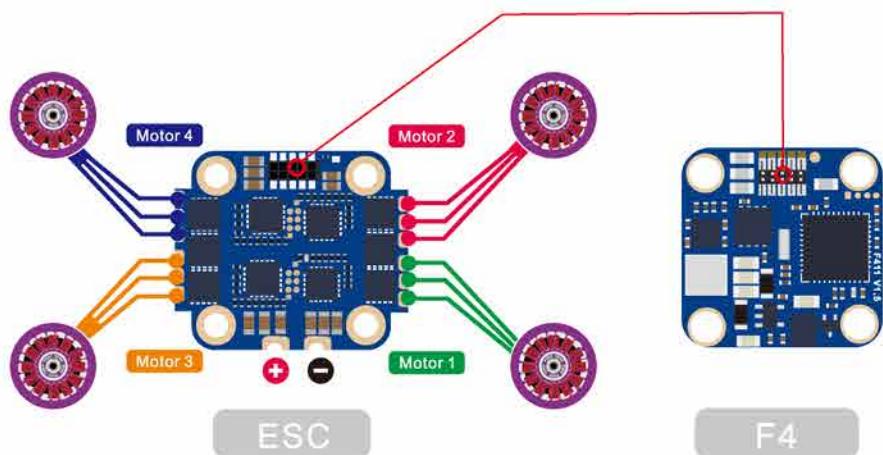
1. Download the latest CLI Dump File from <https://iflight-rc.com/>
2. Connect CineBee to Betaflight configurator and select the CLI tab
3. Open the CLI Dump File in a text editor and copy all the text.
4. Paste the settings into the command bar and press enter
5. CineBee will reconnect to Betaflight when completed



SucceX Micro ESC ESC Schematic and pinout Diagram

ESC firmware: BLHeli_S (G_H_30)

The CineBee is using 4-in-one 12A ESC. CineBee supports 2-4S Lipo. Recommended 350-650 mAh
Signal Wires: S1-S4 is the signal input of ESC1-ESC4. Tx is ESC telemetry output connected to UART 3
RX on the SucceX Micro F4 Flight Controller.



Motor & Propeller

There are 2 versions motor for CineBee 4K, 1104 8300KV for 2-3S , 1104 5000KV for 4S



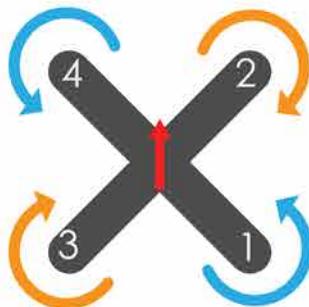
BEEMOTOR-1104 8300KV



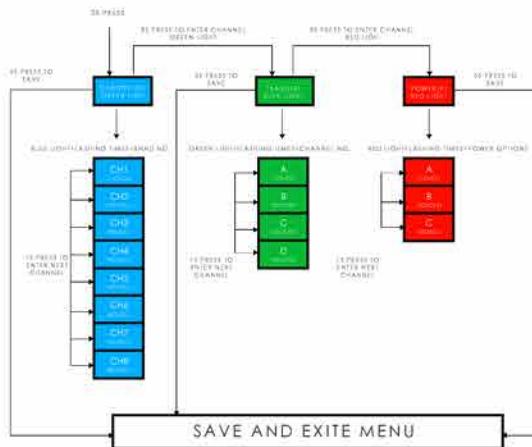
BEEMOTOR-1104 5000KV

Propeller Direction and Mounting

There are 2 spinning directions for the propellers, Clockwise (CW) and Counter-Clockwise (CCW). When Buying a set of propellers, 2 CW and 2 CCW will be given. The blunt leading edge indicates the direction the propeller is supposed to rotate as compared to the sharp trailing edge. When mounting propellers please make sure the correct orientation shown in the diagram below.



VTX Operation Vtx Schematic and Button Diagram



VTX Channel Settings with the Button

1. Menu Entry / Exit

- (1) Press the button and hold for 3s to enter the menu
- (2) Press the button and hold for 3s again to save parameters and exit the menu.

2. Band, Channel, and Power parameter change

After entering menu, short click button to switch frequency group band(b)/frequency channel (C)/power (P).

3. Enter/Exit Parameters

(1) After choosing menu, press the button and hold for 2s to enter parameter option.

(2) Press and hold for 2s to exit the parameter selection and to move back a menu option

4. Select Parameter

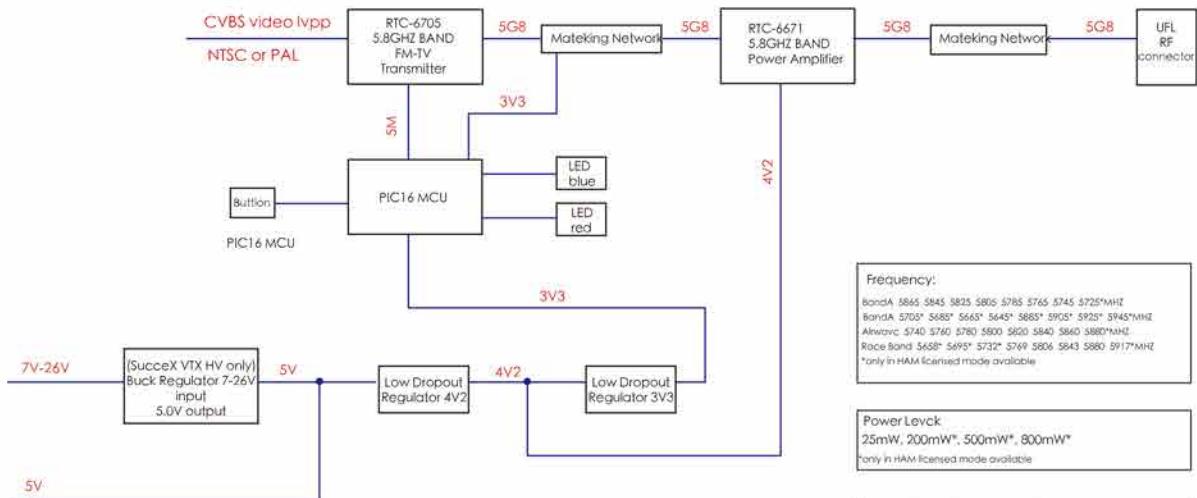
After entering desired menu, press the button to cycle through the parameters.

5. Save Selections

Press and hold for 3s.

Notice: When SmartAudio function is on, if the video receiver can't display image such as showing only white noise, that is because flight controller set the VTX frequency to an illegal one. While battery is connected you can press vtx button to adjust the frequency to the legal one to display an image and after wards you can set the frequency to legal one in OSD menu.

iFlight SucceX VTX VIDEO TRANSMITTER



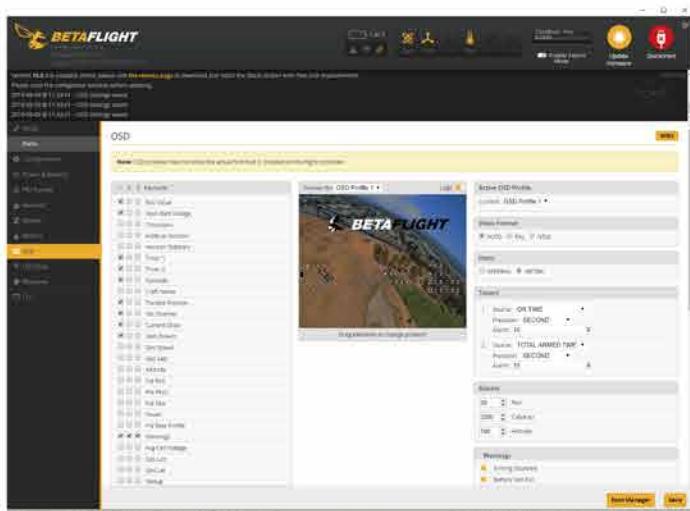
VTX Operation

Changing VTX setting via Betaflight OSD

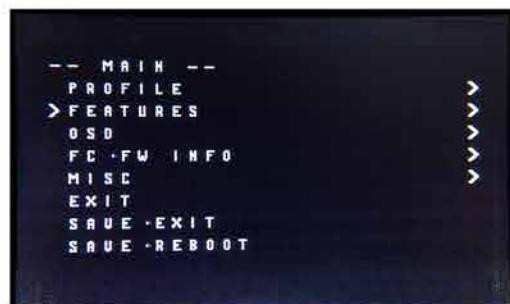
Changing VTX setting via Betaflight OSD

CineBee is equipped with IRC Tramp and is already configured with stock settings. The IRC Tramp line is operated on UART 1 TX1.

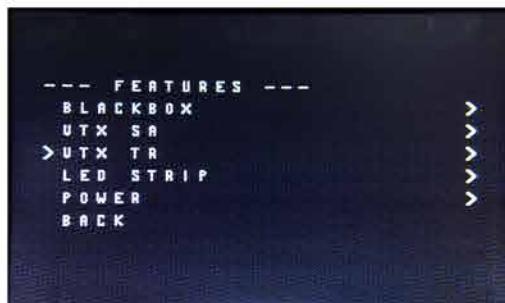
1. Power on CineBee, Goggles, and Controller.
2. Follow the tips on screen to enter the main settings menu: THR MID+ YAW LEFT+ PITCH UP to enter OSD parameter adjustment menu. as shown in Figure 2.
3. In the menu interface, switching PITCH up/down to choose menu option. Move the cursor to “FEATURES” and stir Roll stick right to enter next menu. Using PITCH stick to move cursor to “VTX TR”, as shown in Figure 3.Then pull ROLL stick right to enter VTX configuration menu, as shown in Figure 4..



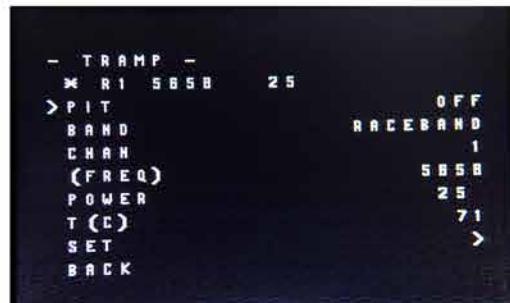
1



2



3



4

4. In the menu of VTX IRC Tramp, we can configure the PIT,BAND, CHANNEL and POWER. Pulling the PITCH stick to move cursor up and down to choose VTX options that need setting. While pulling ROLL stick left and right to change the corresponding parameters. Once the parameters is set, moving the cursor to “SET” , then turn ROLL stick right to enter “SET” and choose “YES” and turn ROLL stick right to save setting parameters, as shown in Figure 5.



(5)



(6)

Caddx Taisier 4K Camera



The top one is FPV cam
the bottom one is Record
cam



Button 1: Short press the button1 to switch resolution option
Long press the button1 to turn on/turn off recording
Button 2: Short press the button2 to record / stop recording;
Long press the button 2 to connect and close WI-FI
During recording,WI-FI operation is enable to work.

Receiver: Frsky X9D

The following steps are the actual binding procedures for the OpenTX Taranis series of radios:

- 1.Power off your quadcopter (RX) and power on your Taranis.
- 2.Press the Menu button on the Taranis to activate the Model Selection page.
- 3.Select an un-used model and press Page.
- 4.Optional select and enter a name for your new quadcopter.
- 5.Using the +/- buttons, scroll to the bottom of the menu to Internal RF | Mode.
Select D16 for all miniquad receivers (which includes X4R-SB, XSR, XM+).
- 6.Scroll down to [Bind] using the – button. Press the ENT button on your TX to enable binding mode.
Your Taranis should begin making an intermittent chirping noise.
- 7.Find the physical push button on your RX. It is most often next to the LED that turns on when it is powered up.
On the XM+ it is very small and near the antenna. This is the Failsafe button.
- 8.Press and hold the Failsafe button while powering up your receiver/quadcopter.
This can take more than two hands, so you may need to have some help.
- 9.When the receiver powers up, you should see a solid green light and a blinking red light.
This indicates success.
Any other light scheme means you likely have a problem, you should try the process again or consult the FrSky manual.
- 10.On the Taranis, press ENT to exit bind mode. Press EXIT several times to go back to the home page.
- 11.Power your receiver/quadcopter back on. Verify that it is showing a solid green light, indicating that it is successfully communicating with the radio. If your RX supports telemetry, you should see radio signal telemetry show up on your

MODEL SETUP 2/13
Internal RF
Mode D16
Channel Range CH1-16
Receiver No. 01 [Bind] [Range]
Failsafe mode Hold
External RF Module OFF

Receiver
Serial-based receiver (SPEKSAT, S ▾) Receiver Mode
Note: Remember to configure a Serial Port (via Ports tab) and choose a Serial Receiver Provider when using RX_SERIAL feature.
SBUS ▾ Serial Receiver Provider

FLYSKY FS-i6

- 1.Turn your radio on while holding the bind button, once started the screen should read RX binding.
- 2.hold the bind button in while powering your RX on to start the bind process
- 3.Once complete you should see the message RXBind OK display for a second.
- 4.Turn off both the radio and receiver, and turn them both on again.



Receiver
Serial-based receiver (SPEKSAT, S ▾) Receiver Mode
Note: Remember to configure a Serial Port (via Ports tab) and choose a Serial Receiver Provider when using RX_SERIAL feature.
IBUS ▾ Serial Receiver Provider

Receiver: Futaba 14SG

As a quick note, the place to type is at the bottom of the screen, not on the grey screen itself.

*Within the CLI type:

*set spektrum_sat_bind = 9 - for DSMX

*set spektrum_sat_bind = 5 - for DSM2

*Type save, your flight controller will now reboot. Once it has rebooted, remove the USB cable to power off the flight controller.

*After a second, reconnect the USB cable and your receiver should flash (indicating it is in bind mode)

*Turn on your R/C controller while holding the bind button (on the controller).

*Once the binding is complete, the LED on the receiver should stop blinking.

*Now connect back to BetaFlight and you can confirm it is bound by going to the receiver tab, and you should see the bars

moving when you move your R/C controller sticks.

*Now you need to turn off bind mode on your receiver.

*To do this go back to the CLI and type set spektrum_sat_bind = 0

*Type save to apply the settings. The board will reboot and now have completed the binding process!



TBS NANO

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 it means 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.



Receiver: Spektrum DX6e

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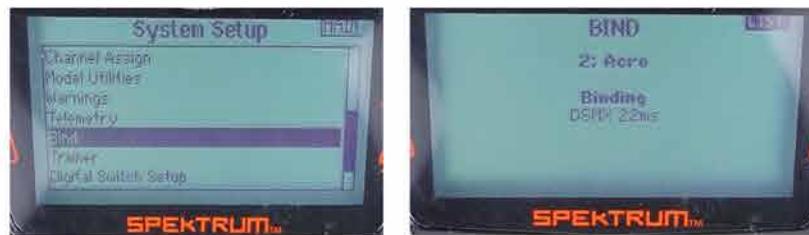
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Receiver

Serial-based receiver (SPEKSAT, S ▾) Receiver Mode

Note: Remember to configure a Serial Port (via Ports tab) and choose a Serial Receiver Provider when using RX_SERIAL feature.

SPEKTRUM2048 ▾ Serial Receiver Provider



Thank you for purchasing our product! Enjoy Flying CineBee.

Please visit iflight-rc.com for any updates or support needs.