Figuro

CineRace20 ANALOG PRO

Manual



1/ drone introduction

CineRace20 a new concept and more than a cinewhoop . Inspired by RaceWhoop designed by Free Zillion. This is a combinathion of CineWhoop and RaceWhoop! CineRace is double duct design , not a simple guard anymore. . It can fly as flexible as a racing drone, and as stable as Cinewhoop. Pilots can quietly enjoy the fun of shooting a video without jelly and up to 12 minutes Super long flight time with Flywoo's latest 4S HV 900mah Battery !

All in all, this is an all-round drone that can not only Racing , but also shooting a video stably , and at the same time achieve a super long flight time!



Features

- 1. Almost all parts are injection molded. ABS\PC material. More sturdy and durable.
- 2. Very easy to disassemble and install, only fixed by two aluminum columns.
- 3. Pilots can freely combine their favorite colors to be more individual
- 4. Efficient power configuration and reasonable structural design ensure CineRace20
- flight stability, low noise, and super long flight time up to 12mins
- 5. No Propellers in view, NO Jello flight Footage, stable flight picture
- 6. With its own power cable output to the SMO camera (If you are using a gopro 6/7/8 camera, you need to buy an adapter cable)
- 7. Add Flywoo Bt-nano Bluetooth Module
- You can use mobile devices to set the parameters of the flight controller.

Personalization Frame Kit

You can freely combine the color frame you like! (Please note : you need to replace the Ducts yourself, all Pre-build Drone colors are determined.) Link: CineRace Frame kit Parts





Specification

Item: CineRace20 Pro Analog w/ Caddx Baby Retal2 Weight: 94.7g (without battery) FC & ESC : GOKU GN 405S 20A AIO Frame: CineRace20 Frame Kit Motors: NIN V2 1203PRO 3400Kv Props: Gemfan D51 -5 VTX: HM850vtx Antenna: Flywoo Circular RHCP 5.8Ghz Ant (UFL-Length: 115mm \ Tube 45mm)



Highly recommended battery

Explorer 4S HV 300mah Battery (You will get good flight time and fly quite flexible) Explorer 4S HV 900mah Battery (You will get a super long flight time, and the flight will be more stable)

Includes

1x Prebuilt and tested CineRace20 Quadcopter4x D51-5 Props (Pairs)2x Battery Strap1x Hardware Set



2/ Configuration and wiring diagram description

Flight control wiring diagram





PID and filter settings

PID Profile Settings	Rat	eprofil	le Setti	ngs	Filter Settings								
CAUTION: Current sli	lder p	osition	is may	cause	flyaways, motor	dan	nage or unsafe cra	ift be	haviour. Pleas	se pi	oce	ed with caution.	
	Pro	portio	nal (2	Integral 🛛 🔞		D Max 🛛 🎯		D Min	0		Feedforward	0
Basic/Acro	1		/		- /								
ROLL			<mark>9</mark> 9	\$	119	\$	99	\$		66	\$	11	13
чтсн			109	\$	126	\$	109	\$		71	*	12	20
/AW			108	\$ [126	-	0	-		0	*	11	13
					Low		Default				Hig	ih	0
Master Multip	lier:	1.4							0				0
PD Bala	nce:	1.2						C					Ø
P and D G	iain:	1.7									0		0
Stick Response G	iain:	0.9											6

AUTION: Cu	irrent slide	r positions may cause flyaway	s, motor damage or unsafe craft beha	aviour. Please proceed with caut	lon.
		More Filtering	Default Filtering	Less Filtering	0
Gyro Filter Multiplier:	1.9			0	0
D Term Filter Multiplier:	1.9			0	0

Default serial port settings

Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	115200 🔻		Disabled v AUTO v	Disabled AUTO	Disabled • AUTO •
UART1	115200 •	-	Disabled AUTO	Disabled AUTO	Disabled • AUTO •
UART2	115200 🔻		Disabled V AUTO V	Disabled AUTO	Disabled • AUTO •
UART3	115200 •		Disabled • AUTO •	Disabled AUTO	Disabled • AUTO •
UART4	115200 •		Disabled	Disabled AUTO	VTX (IRC Tran • AUTO •
UART5	115200 •		Disabled	Disabled AUTO	Disabled • AUTO •
UART6	115200 •		Disabled V AUTO V	Disabled • AUTO •	Disabled • AUTO •

UART1: ELRS/TBS/R9M/XM+/DSMX/SBUS receiver

UART2: Bluetooth module, the default baud rate is 115200

UART3: NULL

UART4: VTX IRX TX

Frequency table:

UART5: NUL

UART6: NUL

FR/CH	СН1	CH2	СНЗ	CH4	CH5	CH6	CH7	CH8
A	5865	5845	5825	5805	5785	5765	5745	5725
b	5733	5752	5771	5790	5809	5828	5847	5866
E	5705	5685	5665	5645	5885	5905	5925	5945
F	5740	5760	5780	5800	5820	5840	5860	5880
r	5658	5695	5732	5769	5806	58 <mark>4</mark> 3	5880	5917

The selections in xxxx requires HAM license to operate .legally. xxxx Selections are only available on special request.

Button function

• FR (blue light), short press the button, the blue light flashing times represent CH1-CH8

• CH (yellow light), long press the button 2S until the yellow light flashes, and then press the button shortly, the number of flashes of the yellow light represents A-r

PW (power), long press the button 6S until the red light flashes, and then press the button shortly, the number of flashes of the red light represents 5 levels of power

• Long press 10S to unlock 40 channels. (three color led flashes)

3/ Receiver binding

TBS NANO 915:

When the USB is connected, the green light of the receiver flashes, and then bind



according to the picture operation.

https://www.youtube.com/watch?v=-iNkVcOLITM&ab_channel=Danimal3D



ELRS 2.4G RX:



Bind procedure:

- Supply power to the EL24E/EL24P rx, wait until the LED on the RX is off, immediately turn off the power, and then repeat again the above steps. When the RX is powered on for the third time, the LED light will start to double-flash, which means that the RX enters the binding mode

- Insert the 2.4G ELRS TX to Radio transmitter, and choose External RF mode to CRSF protocol, then you can find ELRS menu from the Radio systems(Need to copy the ELRS.LUA file to the SD-Card tools first), Enter into ELRS and press [Bind], the LED on the RX module will getting to be solid if bind successfully.

- Receiver LED status meanings:

EL24E/EL24P RX: LED solid means bind successful or Connection established; LED double-flash means in bind mode; LED flash slowly means no signal connection from the TX module; LED flash fast means in WIFI hotspot mode, you can connect the WIFI of the RX and upgrade firmware of the RX via visit 10.0.0.1 from the web browser(password: expresslrs)

R9MM FCC ACCESS OTA:

Make sure your remote control supports ACCESS protocol, then follow the link to register and bind

https://www.youtube.com/watch?v=az5hDdNBcjg&t=9s&ab_channel=FrSkyRC

If the remote control is ACCST protocol, please bind as follows:

1/ Put these two files into the firmware directory of the SD card of the remote control. R9MM firmware: FW-R9MM-ACCST_v20190201 R9M TX module: FW-R9M-ACCST-20190117



2/ Insert the R9M TX module and write the firmware you need



3/ To write the firmware of the R9MM receiver, you need to remove the R9MM receiver, and then write the firmware by connecting to the S.PORT port.



4/ After both R9M TX and R9MM RX are written into the ACCST firmware. Binding method:

1/ Press and hold the button of RX, power on, the red and green lights are always on.

2/ Then after R9MM selects binding, RX red light flashes, and then exit

3/ RX is powered on again, and only a green light is displayed, indicating that the binding is successful.



XM+ receiver:

1/ Press the XM+ receiver button, USB power supply, the red and green lights are always on

2/ The remote control turns on the binding mode, the green light flashes to indicate successful binding, turn off and restart

aama	2/13
Mode Ch, Ran9e	XJT D16 CH1-16 (18ms)
RxNum Anțenna	Internal
External	RF

3-1/ Then set the corresponding serial port and receiver protocol to ensure the normal output of each channel of the receiver.

🗲 Setup	Posoivor		
🖌 Ports	Receiver		
Configuration	Please read receiver chapter	of the documentation. Configure serial por	t (if required), receiver r
🖘 Power & Battery	when TX is off or out of range	/range on 1X so that all channels go from ~ e.	1000 to ~2000. Set midg
🗇 Failsafe	IMPORTANT. Before Hying re	ad raisare chapter of documentation and i	configure failsafe.
4. DID Tuning	Roll [A]	1500	Ch
m ran runnig	Pitch [E]	1200	A
Receiver	Yaw [R]	1500	
	Throttle [T]	885	'Sti
😸 Modes	AUX 1	1500	
41 Adjustments	AUX 2	1350	
	AUX 3	1500	RC
👉 Servas	AUX 4	2000	
the cost	AUX 5	1500	
er ara	AUX 6	1500	97
A Motors	AUX 7	100	NC
-	AUX 8	1500	
105D	AUX 9	1 00	10
%Ø Video Transmitter	AUX 10	1500	
	AUX 11	1500	
	AUX 12	1500	
4- Sensors	100.12	00	1
Tethered Logging			

4/ Mode setting:

Set the ARM switch and flight mode switch, AUX* corresponds to the remote control switch, and the yellow area mark is turned

🎤 Setup	Remember to save your settings using the Save button.	
🖌 Ports	Hide unused modes	
Configuration	ARM ALLY 2	
Power & Battery	Min: 1375	a a <mark>n</mark> a na na ka na a a na <mark>n</mark> a m
🗇 Failsafe	Max: 2100 900 1000 1200	1400 1500 1600 1800 2000 2100
ஃ PID Tuning	ANGLE	
📥 Racaivar	Add Link	
😸 Modes	Add Range	
👫 Adjustments	HORIZON AUX 2 V	
🚖 Servos	Add Link Max: 2100	a a s factor f
🚴 GPS	Add Range 900 1000 1200	1400 1500 1600 1800 2000 2100
🛔 Motors	HEADFREE	
📼 OSD	Add Link	
ቀም Video Transmitter	Add Range	
🗍 LED Strip	FAILSAFE	
-/- Sensors	Add Link	
📾 Tethered Logging	Add Range	
: Blackbox	GPS RESCUE AUX 4	
m cu	Add Link Max: 2100	a a a la la la cala a a 🖡 a l

5/ Motor test:

Unload the propeller, test the rotation direction of the motor, turn on the safety switch, and test the rotation of the motors one by one.



6/ Bluetooth function







7/ Flight firmware upgrade and write default CLI

1/ Activate DFU mode





2/ BF Configurator will display to enter DFU mode. If it does not enter DFU mode, it may be that the driver is not installed. The driver can be installed using IMPULSE RC software

🍾 BETAFL	іднт			LEVU = Constant	H ImpulseRC Driver Fixer	× v1
19-12-18 @ 03-24.13 - Ruming 19-12-18 @ 03-24.14 - Using cath 0-12-18 @ 03-24.15 - Using cath 0-12-18 @ 03-24.15 - Loaded rei 19-12-18 @ 03-24.21 - Faled rei to	OI: Mindows, Chrone 88.8.3883,114, Configuration hed initiase information for configuration initiases, not builds information for pits, sease information for firmware from Grilub load minore entry for https://www.github.sectoresets	: 93.7.0				
Welcone						
Changelog	Show unstable releases		Show whence constitutes in addition to acable integrates			
Privacy Policy	Contain Expert Mode		Show servicesed and potentially unstable builds			
Bocumentation & Support	Release		Select by Hild type to see constitute bounds			
Bernaue Pacher	FLYWOOF411	*	Solid your bland to see annihilite aniver freeware reseases - Solid the current freeware appropriate for your based.		0	
	Loading	•	Solist firmware version for your board.			
	No report sequence		Example of your PE is in book mode. 14. 6 your powerest on your PE with the doctionder pins purpose or white history your PE's BEEO tasken.			
	Firsh on cannect		Attempt to fish the board outconotically triggered by newly descard series parts.			
	Full stylp enage		Wepen ad configuration dato convertly atored on the board.			
	Menual baud rate 255000 V		Monival selection of based men for boosts then don't suggrow the default speed or for flowing we bluetooth. Nexus: hor user when flowing we GBD IP/U			
			Victory			
	Prese to next the local of a set of participation to the to not disconnext the local of a set off your disconnext the local of a set off your hours shall a contained on set of the local set of the set of the set of the local set of the set of the set of the local set of the set of the set of the local set of local set	sare with this formuse to computer while fracting resolution to bindled. So, are inside formware if ordepideomycates with a necting all calles fram connected USB socket i e for your target. Fochar	de serve te se verd ander en		Impulser	
	F you have lock communication with your base F house off 5 that the network requesters, instable that 9 sumper ms BOOT pairs or hout BOOT bases 9 Prever on seating LLD avaired them if day 10 regard at CRMD2 drivers and Zadig Timoury 10 close or contextus (LLD avairs) universed 10 states and BOOT buston F your FC havares	I follow These steps to re drup enasel on w connecty() read lase USB Flashing to me instances, Close all C	Banaday (Say Association)		Installing DFU driver	

Driver software:

https://impulserc.blob.core.windows.net/utilities/ImpulseRC_Driver_Fixer.exe

3/ Then load the local HEX firmware and wait for the flashing to complete. A green progress bar is displayed to indicate completion, and DFU will become a COM port





and a sector					- 0
BETAFLIGHT		Normania 2 INSIN 2 Main Connect		o o	 Conset
25 JD KI - USB BONK INCOMENTAL REPORTED 1 15 20 ID Connect Alexan and source frank law 12 KB 25 20 ID 7 Hard personation from active 20 20 ID KI - Frank III Al of Talkin Machineling 26 21 ID - USB BONK INCOMENTAL USBAR			яĝ	oll	
Control of the second sec	encode and a second secon	100 101		0	0
D DLU DA Bacetarror II (20 arror II) Cole Terre II		an and a second second second second	Carlprent II	7.0.0964534	

4/ After the connection is entered, it is a blank interface, you need to write CLI commands, Factory CLI LINK: <u>https://flywoo.net/pages/manual</u>



5/ If the command is not restarted after writing the command, please write SAVE and press Enter to save, and the FC will restart



6/ Then all functions of FC return to normal.

	Betaflight Configurator							- 0 ×
Bit Id & Marker Binder Privater Binder Bit Id & Marke Binder Bit Id & Marker Bit Id & Marker Bit Id & Marker Binder Bit Id & Marker Bit & Marker Bit & Marker Bit & Marker Bit Id & Marker Bit		LIGHT			0.01V (USB)	😹 🙏 🦾 🌡 Syro Accel 🖘 Suro	Dataflash: free BOMB	Update Firmware
Proc Sept Color Color black Accessent III Proceeding and the set of a first in set in set in set in set of a first in set in	20-12-18 @ 05:34:22 - Running f 30-12-18 @ 05:34:22 - Board: FL 30-12-18 @ 05:34:22 - Unique d 30-12-18 @ 05:34:22 - Craft nam 20-12-18 @ 05:34:22 - Arming C	firmwire released on: Jun 14 2020 03:04:43 LWO/FLYWOOF411(STM32F411), vensen: 0 Beske: D: bui40001d30300510731333433 me: FLYWOO Disabled						Scroll
Output Output Output Proceeding of theme is nevered surface, proceed with carbonation entering oung subtractor protect Name Alcong Carbonation When machine and and and projects with and induction, when and a block on protect Name Alcong Name Machine House proceeding and and machine and	Setup	Setup						WIKI
Add Address Collapse is all all dispess on all and includin you have 30 isocradit typefrom that table Stande Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address	Configuration	Calibrate Accelerometer	Place board or frame on leveled surface, proceed with calibration, er	ensure platform is not moving during	g calibration period			
Index Index storing Rates storing to adult ROB or interest in the store in th	Power & Battery	Calibraty Magnatometay	Move multirotor at least 360 degrees on all axis of rotation, you have	e 30 seconds to perform this task				
ND met issue issue issue issue issue issue Blank - Nore local take (yn) Nore local take (yn) Nore local take (yn) Nore local take (yn) Nome - Nore local take (yn) Nore local take (yn) Nore local take (yn) Nore local take (yn) Nome - Nore local take (yn) Nore local take (yn) Nore local take (yn) Nore local take (yn) Nome - Nore local take (yn) - Nore local take (yn) Nore local take (yn) Nore local take (yn) Nome - Nore local take (yn) - Nore local take (yn) Nore local take (yn) Nore local take (yn) Nome - Nore local take (yn) - Nore local take (yn) Nore local take (yn) Nore local take (yn) Nome - Nore local take (yn) - Nore local take (yn) Nore local take (yn) Nore local take (yn) Nome - Nore local take (yn) - Nore local take (yn) Nore local take (yn) Nore local take (yn) Nome - Nore local take (yn) - Nore local take (yn) Nore local take (yn) Nore local take (yn) Nome - Nore local take (yn) - Nore local take (yn) Nore local take (yn) Nore local take (yn) Nome - Nore local take (yn) - Nore local take (yn) Nore local take (yn) Nore local take (yn) <td>Failsafe</td> <td>Reset Settings</td> <td>Restore settings to default</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Failsafe	Reset Settings	Restore settings to default					
Ander See Ander See Laser (20) Rotation (20) State Image (20) Image (20) State Image (20) I	PID Tuning	Backup Restore	Backup your configuration in case of an accident, CLI settings are no	ot included - use the command 'diff	all' in CU for this.			
Note Index Index Index Agamana Part 17 dg Index Index	Receiver	Activate Boot Loader / DFU	Rebost into boot loader / DFU mode.					
	Modes - Serves - OPS - O	Houseng Gog Poth 1794 Rot 339g		2		Reset 2 anis, offset 0 deg	Info Armsp Davies Pags. Battery vitage Capacity Hann. Capacity Hann. Correct Gale 30 Pr. C. Sans. Landard. Langladot. Enstruments	RLAALSHE MSP REC 0.01 V 0.09 A 30 %

8/ Configuration table

Cin	eRace20 Analog	CineRa	ace20 Analog Pro	CineR	ace20 Polar Nano
Color	Grey	Color	Yellow	Color	Black
FC\ESC	GOKU 413SAIO 13A AIO	FC\ESC	GOKU 405S 20A AIO	FC\ESC	GOKU 405S 20A AIO
Camera	Caddx Ant	Camera	Caddx Baby Ratel V2	Camera	Polar Nano
νтх	VTX625 450mw	νтх	HM850 850mw	νтх	Vista
Antenna	Flywoo circular RHCP 5.8Ghz Antenna (UFLLength: 115mm \ Tube 45mm)	Antenna	Flywoo circular RHCP 5.8Ghz Antenna (UFL Length: 115mm \ Tube 45mm)	Antenna	Flywoo circular LHCP 5.8Ghz Antenna (UFLLength: 115mm \ Tube 45mm)
Motor	Nin V2 1203PRO 3400kv	Motor	Nin V2 1203PRO 3400kv	Motor	Nin V2 1203PRO 3400kv
Propller	Gemfan D51-5 blade	Propller	Gemfan D51-5 blade	Propller	Gemfan D51-5 blade
Bluetooth, module	١	Bluetooth, module	YES	Bluetooth, module	YES
Microphone module	١	Microphone module	YES	Microphone module	١
Battery	Explorer 4S 300mah HV Explorer 4S 900mah HV	Battery	Explorer 4S 300mah HV Explorer 4S 900mah HV	Battery	Explorer 4S 300mah HV Explorer 4S 900mah HV
Flight Time (Without Caddx Peanut)	300mAh\7mins 900mAh\15mins 30s	Flight Time (Without Caddx Peanut)	300mAh\7mins 900mAh\15mins 30s	Flight Time (Without Caddx Peanut)	300mAh\6mins 900mAh\12mins 30s
Flight Time (With CaddxPeanut	300mAh\4mins 30s 900mAh\12mins	Flight Time (With CaddxPeanut)	300mAh\4mins 30s 900mAh\12mins	Flight Time (With CaddxPeanut)	300mAh\3mins 30s 900mAh\10mins
Weight	93.2g (Without Battery)	Weight	94.7g (Without Battery)	Weight	111.7g (Without Battery)