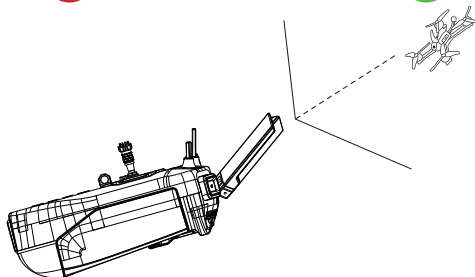
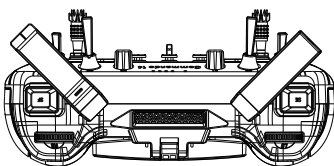
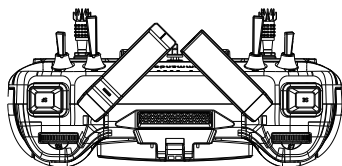


The black arrows in the diagram indicate strong signal directions, while the gray arrows indicate weak signal directions. When the antenna is placed horizontally, the signal is strongest in the front, back, top, and bottom, and weaker on the left and right sides. Make sure to unfold the antennas during flight to achieve the maximum signal range.



V. BUILT-IN RF MODULE SETTINGS

1.Built-in RF Module Compatibility

ExpressLRS

ExpressLRS Dualband Mode Compatibility Chart

Modulation Modes

FLRC LoRa FSK

Frequency Band

2.4G Band (2400-2480 MHz)

Low Band (868,900 MHz)

GemX Dual Band (2.4G + Low)

Compatibility between chip Types



2.4GHz Band(SX128x)

FLRC F1000

FLRC F500

FLRC D500

FLRC D250

LoRa 500Hz

LoRa 333Hz Full

LoRa 250Hz

LoRa 150Hz

LoRa 100Hz Full

LoRa 50Hz

Dual Band (LR1121)

LoRa 200 Low Band

LoRa 100 Full Low Band

LoRa 100 Low Band

LoRa 50 Low Band

LoRa 500 2.4G

LoRa 333 Full 2.4G

LoRa 250Hz 2.4G

LoRa 150Hz 2.4G

LoRa 100Hz Full 2.4G

LoRa 50Hz 2.4G

LoRa X150

LoRa X100 Full

LoRa 250Low Band

LoRa 200 Full Low Band

FSK DK500 2.4G

FSK K1000 Full Low Band

Low Band (SX127x)

LoRa 200Hz

LoRa 100Hz Full

LoRa 100Hz

LoRa 50Hz

LoRa 25Hz

LoRa D50Hz

Note:

The F in the name indicates FLRC mode.

The D in the name indicates DVDA mode.

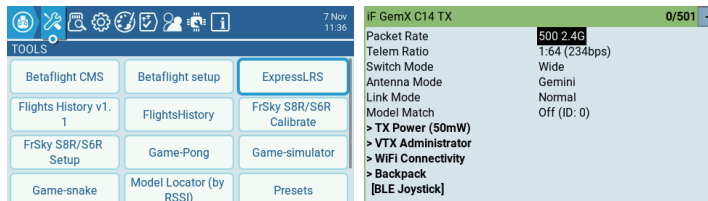
The Full in the name indicates Full Resolution mode.

The X in the name indicates GemX Dual Band mode.

The K in the name indicates FSK mode.

2. Packet Mode and Refresh Rate Settings

Short press the SYS button to enter the system menu and select the ExpressLRS LUA script.



On the LUA script page of the transmitter, users can choose the corresponding refresh rate and packet mode based on the type of receiver being used.

Select the desired mode according to the options shown below.

ELRS Mode Comparison

Modulation

Modulation	Use Case	Advantages	Disadvantages
LORA	General flight, anti-interference, and complex radio environments	Longest range and strongest interference resistance	Fast response speed supports 500-1000Hz high refresh rate, and low latency
FLRC	Racing flight, pursuing ultimate response speed	Fastest response speed, supports 250-1000Hz high refresh rate, and lowest latency	Shorter signal range compared to LoRa
FSK	Racing flight, pursuing ultimate response speed	Fast response speed, supports 500-1000Hz high refresh rate, and low latency	Shorter signal range compared to LoRa, FLRC

Packet Type

Packet Type	Use Case	Advantages	Disadvantages
FLRC Mode (2.4GHz) (F500/F1000)	Racing flight, pursuing ultimate response speed	Fastest response speed, supports 250-1000Hz high refresh rate, and lowest latency	Shorter signal range compared to LoRa
DVDA Mode (ID50/D250/D500)	Anti-interference, and complex radio environments	Multi-packet mode, when DVDA mode is enabled, the same data refresh is sent 2 or 4 times at the highest refresh rate to enhance signal stability	Shorter signal range compared to LoRa
Full Resolution Mode (100Hz Full/ 200Hz Full/333Hz Full)	Full Resolution mode for AUX channels	Supports up to 2048 levels of channel resolution for high-precision scenarios such as head tracking gimbals, and landing gears	Lower refresh rate
DK Mode (DK500 2.4GHz)	High refresh rate mode achieved with FSK modulation using the LR1121 chip	Supports 500Hz high refresh rate and multi-packet mode	Shorter signal range compared to LoRa, FLRC
K Mode (K1000)	High refresh rate mode achieved with FSK modulation using the LR1122 chip	Supports 1000Hz high refresh rate	Shorter signal range compared to LoRa, FLRC
X Dualband Mode (2.4GHz+900MHz) (X100 Full/X150)	Dualband mode using 2.4GHz + 900MHz simultaneously	Both frequency bands operate simultaneously, providing stronger anti-interference capability	Lower refresh rate (only supports X100FULL/X150Hz)

Refresh Rate

Refresh Rate	Use Case	Advantages	Disadvantages
High refresh rate (500-1000Hz)	Racing flight, pursuing ultimate response speed	High refresh rate, fastest response speed	Low sensitivity results in relatively shorter signal range
Normal refresh rate (100-250Hz)	General flight anti-interference, and complex radio environments	Fast response speed, long signal range	/
Low refresh rate	Long range flight, anti-interference, and complex radio environments	The lower the refresh rate, the higher the system sensitivity, allowing it to receive weaker signals and achieve the longest signal range	Low refresh rate, slower response speed

Frequency Band

Frequency Band	Use Case	Advantages	Disadvantages
2.4GHz Band (2400-2480 MHz)	Racing, freestyle, indoor	Lightweight, compact antenna, ultra-high refresh rate	Weaker penetration ability, shorter signal range
Low Band (868/900 MHz)	Long range, cinematic mountainous areas	Long range, strong penetration ability	Larger antenna size, low refresh rate
GemX Dual Band (2.4GHz +Low Band)	Urban, complex interference environments, Long range, cinematic, mountainous areas	2.4GHz+900MHz dual frequency bands operate simultaneously, providing stronger anti-interference capability	Larger antenna size, low refresh rate

3. Telemetry Ratio Setting

iF GemX C14 TX		0/501	-
Packet Rate	500	2.4G	
Telem Ratio	Std	(1:128)	
Switch Mode	Wide		
Antenna Mode	Gemini		
Link Mode	Normal		
Model Match	Off	(ID: 0)	
> TX Power (50mW)			
> VTX Administrator			
> WIFI Connectivity			
> Backpack			
[BLE Joystick]			

The Telemetry Ratio determines the frequency at which telemetry data is transmitted. A larger number indicates slower telemetry updates. For example, 1:8 means telemetry data is sent once every 8 frames, while 1:128 means it is sent once every 128 frames. More frequent telemetry updates may cause higher latency in the control link, while less frequent telemetry increases the likelihood of telemetry loss warnings.

The choice depends on the user's needs. If more frequent telemetry updates are required, a smaller number should be set. It is recommended to set it to STD, where the ELRS system will automatically adjust the telemetry ratio based on the refresh rate.

4. Channel Mode Setting

iF GemX C14 TX 0/501 -

Packet Rate	500 2.4G
Telem Ratio	Std (1:128)
Switch Mode	Wide
Antenna Mode	Gemini
Link Mode	Normal
Model Match	Off (ID: 0)
> TX Power (50mW)	
> VTX Administrator	
> WiFi Connectivity	
> Backpack	
[BLE Joystick]	

Commando 14 supports Wide and Hybrid two channel modes. For specific differences, please refer to the ELRS official website.



<https://www.expresslrs.org/software/switch-config/>

5. Antenna Mode Setting

iF GemX C14 TX 0/501 -

Packet Rate	500 2.4G
Telem Ratio	Std (1:128)
Switch Mode	Wide
Antenna Mode	Gemini
Link Mode	Normal
Model Match	Off (ID: 0)
> TX Power (50mW)	
> VTX Administrator	
> WiFi Connectivity	
> Backpack	
[BLE Joystick]	

ELRS Antenna Mode	
Mode	Meaning
Switch	Switch Mode: Both RF module channels work simultaneously and automatically switch between Ant1 or Ant2, depending on signal quality, with the ELRS system selecting the better signal.
Ant1	Single Antenna Mode: Only Ant1 is used for both transmission and reception.
Ant2	Single Antenna Mode: Only Ant1 is used for both transmission and reception.
Gemini	Single Antenna Mode: Only Ant1 is used for both transmission and reception. Note: 1. Gemini mode can only be enabled if both the receiver and transmitter module support Gemini mode. 2. The 2.4GHz band has a 40MHz frequency interval, while the 900MHz band has a 13MHz frequency interval.

6. MAVLink Mode Setting

iF GemX C14 TX		0/501	-
Packet Rate	500 2.4G		
Telem Ratio	1:2 (9921bps)		
Switch Mode	Hybrid		
Antenna Mode	Switch		
Link Mode	MAVLink		
Model Match	Off (ID: 0)		
> TX Power (50mW)			
> VTX Administrator			
> WIFI Connectivity			
> Backpack			
[BLE Joystick]			

Users can enable MAVLink mode to transmit flight controller data to Betaflight. MAVLink mode must be enabled before binding the transmitter and receiver.



For detailed usage instructions, please refer to the ELRS official website.

<https://www.expresslrs.org/software/mavlink/#hand-set-telemetry>

Note: Commando 14 currently supports MAVLink data transfer to Betaflight via WiFi only and does not support USB connection.

7. Model Number

iF GemX C14 TX		0/501	-
Packet Rate	500 2.4G		
Telem Ratio	Std (1:128)		
Switch Mode	Wide		
Antenna Mode	Gemini		
Link Mode	Normal		
Model Match	Off (ID: 0)		
> TX Power (50mW)			
> VTX Administrator			
> WIFI Connectivity			
> Backpack			
[BLE Joystick]			

MODEL SETUP

Internal RF

Mode

▼ CRSF

Status

200 Hz

Channel Range

CH1

CH16

ID is unique

Receiver

1

Bind

When the "Model Number" function is enabled, the receiver will only output control signals if the receiver's number matches the model number. This helps prevent mistakenly controlling other aircraft.

For detailed usage instructions, please refer to the ELRS official website.



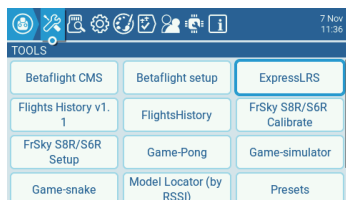
<https://www.expresslrs.org/software/model-config-match/>

8. Built-in RF Module Transmit Power and Fan Startup Power Setting

iF GemX C14 TX		0/500	-
Max Power	50 mW		
Dynamic	Off		
Fan Thresh	10mW		
[---BACK---			

ELRS Transmit Power, Dynamic Power, and Transmit Startup Power Settings		
Option	Meaning	Usage
Max Power	Transmit Power / Max Power	Sets the RF power of the RF module. When dynamic power is off, this value represents the real-time power. When dynamic power is on, this value represents the upper limit for dynamic power.
Dynamic	Dynamic Power	Dynamic RF Power: The ELRS system dynamically selects the appropriate transmit power based on current signal quality. When the signal is strong, transmit power is reduced; when the signal is weak or the distance increases, transmit power is increased, up to the Max Power limit.
Fan Thresh	Fan Startup Power	Fan Startup Power: The fan is activated when the Fan Thresh value exceeds the Max Power. For example, if Fan Thresh is set to 100mW and Max Power is set to 500mW, the fan will turn on.

9. Binding



(1) Traditional Binding Method

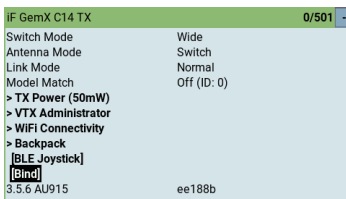
Using single-band 2.4GHz as an example, other frequencies should be selected according to the dual-band compatibility chart.

Short press the SYS button to enter the system menu and select ExpressLRS LUA script.



Power the aircraft or receiver on continuously three times. When the receiver LED blinks twice, it indicates the receiver has entered the binding mode.

In the LUA script, select BIND.



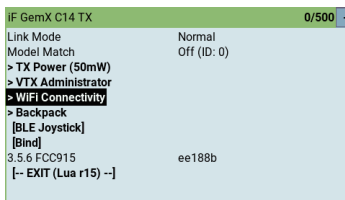
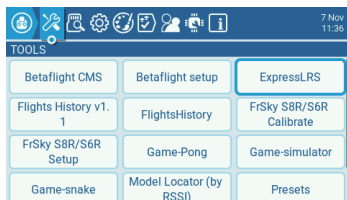
When the receiver LED stays solid, the binding is complete.

(2) Binding Phrase Binding

RF Module Setting:

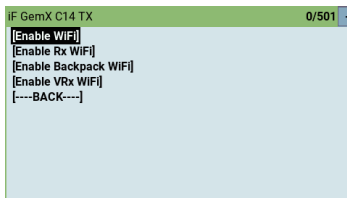
Short press the SYS button to enter the system menu and select ExpressLRS LUA script.

In the LUA script, select WiFi Connectivity.



Select Enable WiFi.

When the WiFi Running...[/] page appears, it means the internal RF module has activated the WiFi functionality.



Use your phone, computer, or tablet to connect to the WiFi network named ExpressLRS TX, with the password expresslrs.



After connecting to the WiFi, the webpage will automatically open. If it doesn't, you can manually input the URL: <http://10.0.0.1/>

In the Binding Phrase field, enter a custom number or phrase.

Note: When setting the binding phrase, avoid using simple or common phrases, as devices with the same binding phrase within the signal range may connect together, which could result in connecting to another user's ELRS device.

Click SAVE to save the settings.

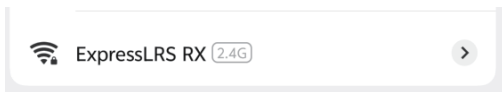
The left screenshot shows the 'Runtime Options' page. It has tabs for 'OPTIONS', 'WIFI', and 'UPDATE'. The 'OPTIONS' tab is selected. The page title is 'Runtime Options'. Below the title, there is a paragraph: 'This form overrides the options provided when the firmware was flashed. These changes will persist across reboots, but will be reset when the firmware is reflashed. Note: The Binding phrase is not remembered, it is a temporary field used to generate the binding UID.' Below this paragraph is a 'Binding Phrase' field with the value '159357'. Below the field is a 'Modified' button. Below the button, it says 'The binding UID has been modified, but not yet saved' and '68.199.2.168.94.173'. The right screenshot shows a settings page with various options: 'Regulatory domain' (AU915), 'WiFi "auto on" interval in seconds (leave blank to disable)' (60), 'TLM report interval (ms)' (240), 'Fan runtime (s)' (30), 'Use as AirPort Serial device' (checkbox), and 'AirPort UART baud' (460800). A 'SAVE' button is highlighted in a red box at the bottom.

Receiver Setting:

Power on the aircraft or receiver, then long press the BOOT button for 2 seconds, or leave the receiver idle for 60 seconds. The receiver LED will blink quickly, indicating it has entered Wi-Fi mode.



Use your phone, computer, or tablet to connect to the WiFi network named ExpressLRS RX, with the password expresslrs.



After connecting to the WiFi, the webpage will automatically open. If it doesn't, manually input the URL: <http://10.0.0.1/>

In the Binding Phrase field, enter the same binding phrase used in the RF module, then click SAVE.

OPTIONS

WIFI

MODEL

UPDATE

Runtime Options

This form **overrides** the options provided when the firmware was flashed. These changes will persist across reboots, but **will be reset** when the firmware is reflashed. Note: The Binding phrase is **not** remembered, it is a temporary field used to generate the binding UID.

Binding Phrase

159357

Traditional The binding UID has been set using traditional binding method i.e. button or 3-times power cycle and bound via the Lua script

68,199,2,188,94,173

WIFI "auto on" interval (s)

60

UART baud

420000

☒ Lock on first connection☐ Use as AirPort Serial device

SAVE

After saving, power on the receiver again after saving to finish binding.

Note:

1. Due to the fast binding speed of ELRS, first put the receiver into binding mode, and then place the transmitter into binding mode.
2. After binding is complete, it is recommended to re-power the receiver.
3. During binding, ensure the receiver and transmitter are at least 1 meter apart.
4. The receiver firmware version must match the RF module firmware version. If binding fails, try updating the receiver and RF module firmware to the latest versions before attempting to bind again.
5. If binding fails, try to reboot both the transmitter and receiver.
6. Some flight controllers with onboard SPI receivers only support up to 250Hz by default.

VI. BASIC FLIGHT OPERATION INSTRUCTIONS

Left



Up

Down

Right

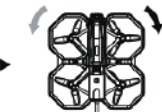
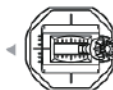


Head tilts down,
aircraft pans forward



Rear tilts down,
aircraft pans back

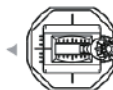
Left



Turn left

Turn right

Right



Left side tilted
down Aircraft
pans to the left



Right side tilted
down Aircraft
pans to the right

Note: The joystick deflection diagrams are for illustrative purposes only. When operating the joysticks, avoid quickly maxing out the stick positions. You should move the joysticks slowly and effectively for smooth control.

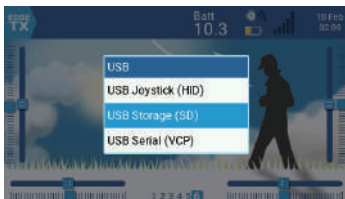
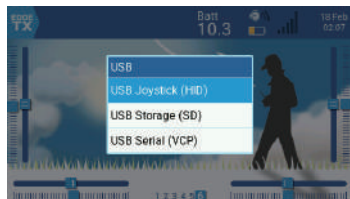
VII. USB FUNCTIONS

1. Wired Simulator Mode:

- ① Power on the transmitter.
- ② Connect the transmitter to the computer using a Type-C data cable.
- ③ After inserting the Type-C cable, a selection prompt will appear, indicating that the device has entered USB mode.
- ④ Select USB Joystick (HID) mode to connect to the simulator.

2. SD Card Mode:

- ① Power on.
- ② Connect the radio transmitter to the computer using a Type-C data cable.
- ③ After inserting the Type-C cable, a selection prompt will appear, indicating that the device has entered USB mode.
- ④ Select USB Storage (SD) mode, and the computer will recognize the SD card.

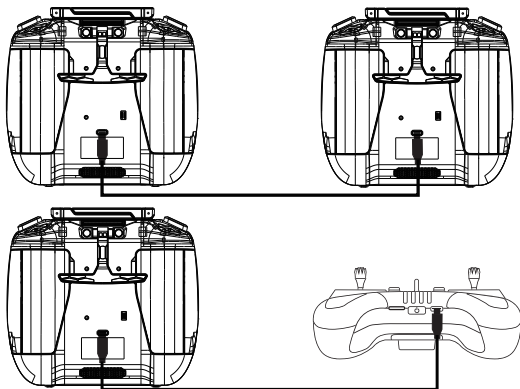


- ⑤ To exit simulator mode, simply unplug the Type-C data cable.

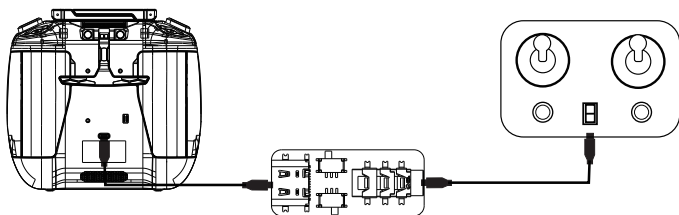
- ⑤ Unplug the Type-C data cable to exit.

VIII. TRAINER MODE

1. Connect the Commando 14 or Commando 8.



2.Connect the other remote controller.

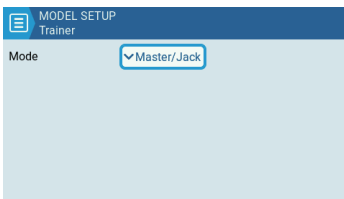
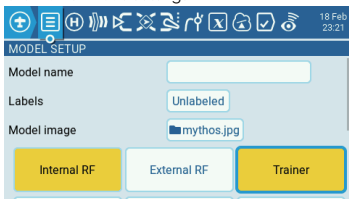


EDGE TX System Settings:

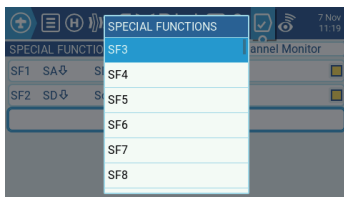
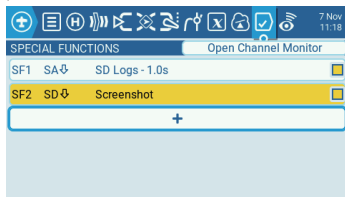
Master Mode:

Short press MDL to enter the Model Setup page. In MODEL SETUP, select Trainer to enter the Trainer Mode settings.

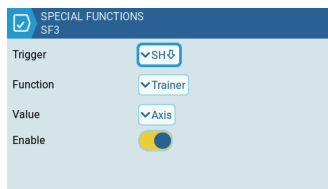
Set the Mode to Master/Jack.



In the SPECIAL FUNCTIONS page, create a new logical switch. Move the cursor to the + sign, then press ENT.



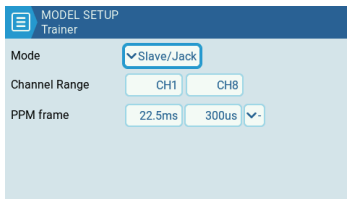
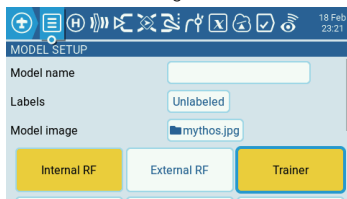
Set the Function to Trainer, the Value to Axis, and enable it by turning on Enable.



Slave Mode:

Short press MDL to enter the Model Setup page. In MODEL SETUP, select Trainer to enter the Trainer Mode settings.

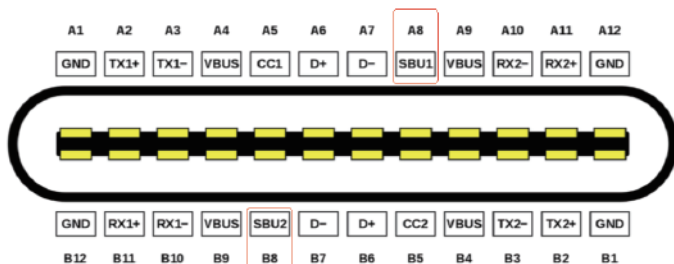
Set the Mode to Slave/Jack.



After the trainer mode presses the corresponding switch, the function will be enabled.

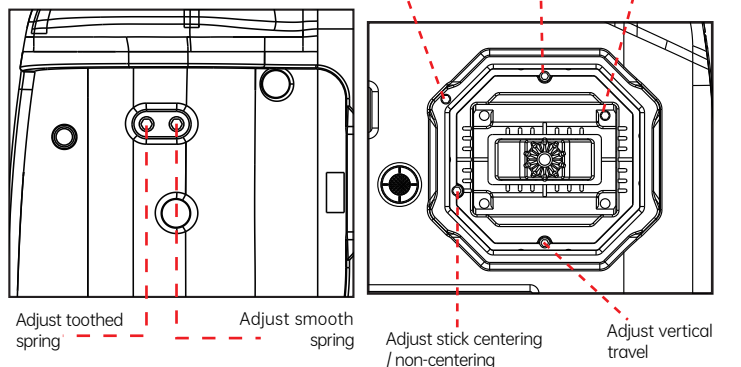
Notes:

1. The Type-C port must have SBU1 and SBU2 pins connected. It is recommended to purchase the optional data cable. Please contact customer service for more information.
2. Currently, wired connection to Commando 8 Lite or Commando 8 Nano is not supported. Only radio transmitters with EDGE TX or OPEN TX systems are supported.



IX. JOYSTICK FOLDING & ADJUSTMENT

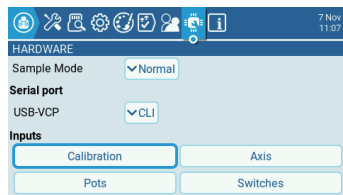
Joystick Adjustment:



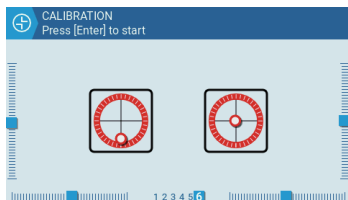
1. Throttle Switching: When switching the throttle from the left stick to the right stick, loosen the centering-switch screw on the left joystick until the left stick can return to center. Adjust the tension screw for the left joystick's spring plate to the desired strength. Then tighten the centering-switch screw on the right joystick until the right stick no longer returns to center. Adjust the tension screw for the right joystick's spring plate to the desired strength.

2. Joystick Mode Switching: Commando 14 is set to Mode 2 by default. Users may switch to other modes according to their personal preference. Short press the SYS button to enter the system menu, then use the PAGE button to navigate to the RADIO SETUP page. Under the Mode option, select the desired joystick mode.

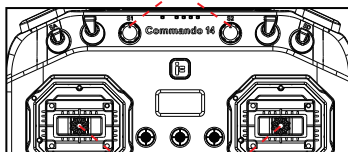
3. Calibration: Press the SYS button briefly to enter the system menu, then use the PAGE button to navigate to the HARDWARE page. In the Inputs section, select Calibration to start the calibration process. The detailed procedure is shown in the illustration below.



1. On the Calibration page, press the Right button (Enter) to begin.

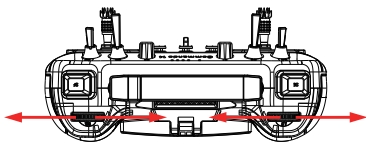


Rotate the scroll wheel to its physical center position.

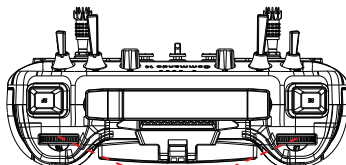
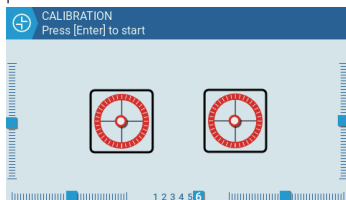


Place the sticks at their physical center positions.

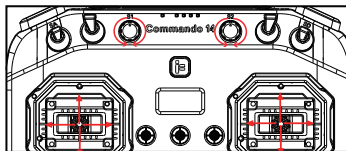
3. Move all sticks, knobs, and scroll wheel through their full range to both the maximum and minimum positions. Once completed, press the button to confirm. Calibration is now finished.



2. Center all sticks, pots, and sliders, then press the Right button (Enter) to calibrate the center points.

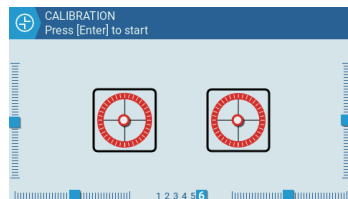


Rotate the scroll wheel to its physical center position.



Move the sticks to their maximum positions up, down, left, and right, using a cross calibration pattern.

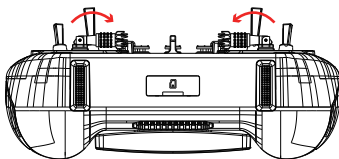
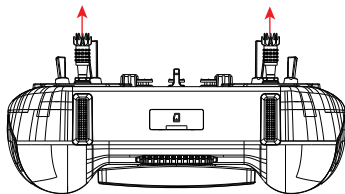
Note: Do not move the sticks to the corners and avoid circular movements during calibration.



Joystick Folding:

1. Pull the stick end outward.

2. Fold it inward.



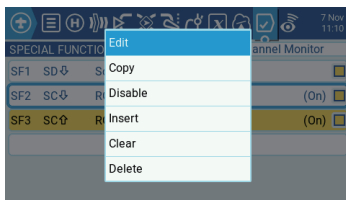
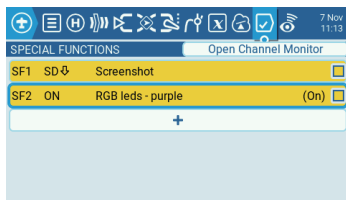
X. JOYSTICK LED STRIP ADJUSTMENT

Commando 14 joystick LED strips are controlled by the EdgeTX system. By default, the LEDs are always on. Users can adjust the LED color, status, or turn off the LEDs according to their preference.

Adjustment Procedure:

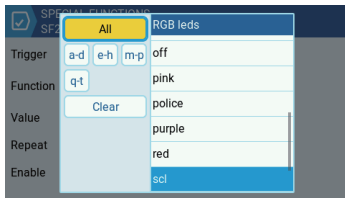
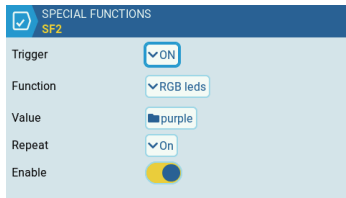
1. Short press the MDL button to enter the system menu, then use the PAGE button to navigate to the SPECIAL FUNCTIONS page.

2. Select RGB LED Strip, press ENT, then choose Edit.



3. Enter the LED status adjustment page.

4. Users can adjust the LED strip color, status, or turn it off on the Value page.

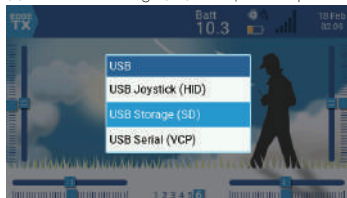


XI. FIRMWARE FLASHING

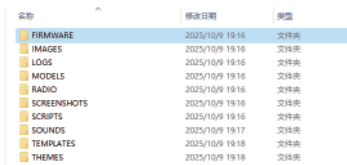
EdgeTX System Firmware Flashing:

1. SD Card Flashing Mode

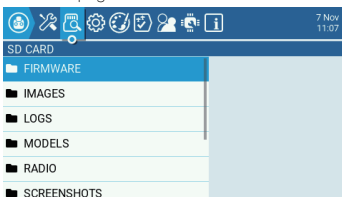
- (1) Power on transmitter.
- (2) Connect the transmitter to your computer using a Type-C data cable.
- (3) After connecting the Type-C cable, a prompt will appear, indicating it has entered USB mode.
- (4) Select USB Storage (SD) mode, the computer will then recognize the SD card.



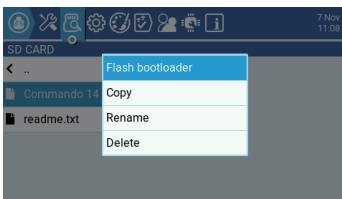
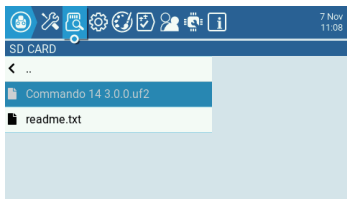
- (5) Copy the firmware file (in .uf2 format) into the FIRMWARE folder on the SD card.



- (6) Press the SYS button briefly to go to the SD CARD page.



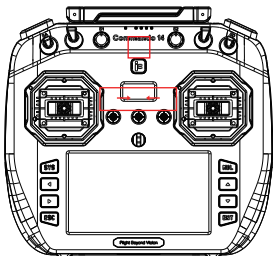
- (7) On the SD CARD page, select the corresponding firmware and click Flash bootloader to complete the firmware upgrade.



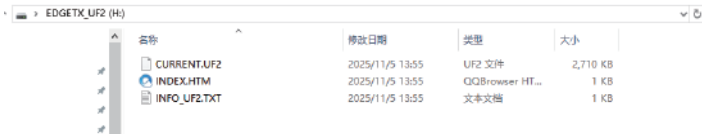
2. Bootloader Mode

(1) With the transmitter powered off, press the left stick trim button to the right and the right stick trim button to the left, then short press and long press the power button to enter Bootloader mode.

(2) Connect the transmitter to computer using a Type-C data cable.



(3) After connecting the Type-C cable, a prompt will appear, indicating that the transmitter has entered USB mode.



3. DFU Mode

(1) Connect to a computer via USB cable.

(2) Hold the left stick trim button, then short press and hold the power button to enter DFU mode.

Built-in ELRS RF Module Firmware Flashing:

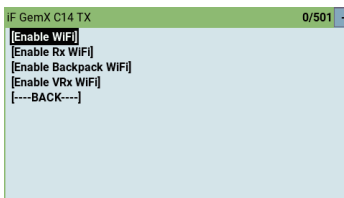
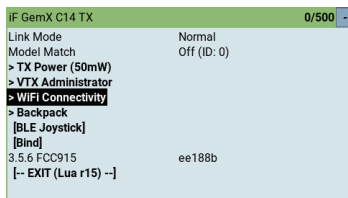
WiFi Mode Flashing:

Short press the SYS button to enter the system menu and select the ExpressLRS LUA script.



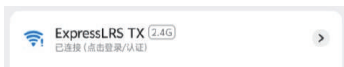
In the LUA script, select WiFi Connectivity.

Select Enable WiFi.



When the WiFi Running...[/] page appears, the internal RF module WiFi is active.

Connect your phone, computer, or tablet to the WiFi named ExpressLRS TX, password: expresslrs.



For detailed usage, please refer to the ELRS Web Flasher official website.

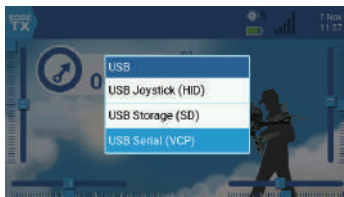
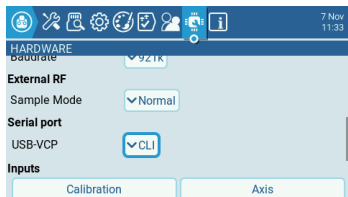


<https://expresslrs.github.io/web-flasher/>

EdgeTX Direct Flashing Mode:

Press the SYS button to enter the system menu. In the HARDWARE page, set Serial Port USB-VCP to CLI.

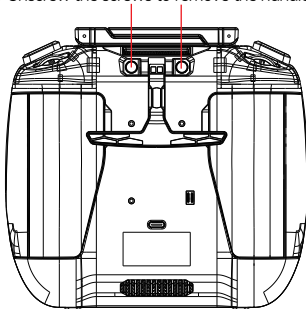
Connect the Commando 14 to a computer via USB cable. When the prompt appears, select USB Serial (VCP).



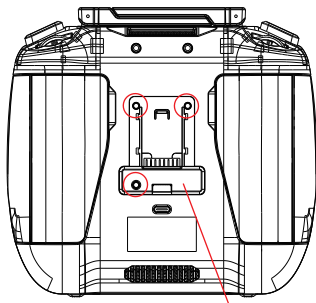
XII. EXTERNAL RF MODULE BRACKET INSTALLATION

(1) Some RF module antennas may interfere with the transmitter handle. Users can choose to remove the handle based on actual needs.

① Unscrew the screws to remove the handle



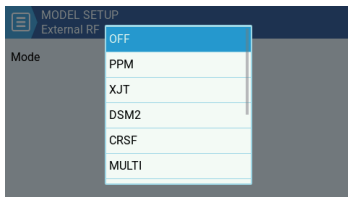
① Remove the protective sticker from the connector.



② Align the external RF module bracket with the screw holes and tighten the screws.

③ Install the external RF module onto the bracket.

④ RF Module Switching: Commando 14 is set to Mode 2 by default. After connecting an external RF module, switching is required. Press the MDL button to enter Model Setup. On the MODEL SETUP page, disable Internal RF and enable External RF, then select the corresponding protocol to use the external module.



XIII. USAGE TIPS

	Recommendations	Operation
ELRS Settings Tips	Select Appropriate RF Power	In the ELRS LUA script, choose the power based on flight distance and environment. For short-range flights (e.g., practice at a field), use 50-100 mW to reduce interference and save power. For long-range flights, use 500-1000 mW.
	Understand and Set Packet Rate	High packet rates (e.g., 500 Hz) reduce control latency, suitable for racing or freestyle flights. Low packet rates (e.g., 25/50/100 Hz) can provide longer signal range. Choose based on the type of aircraft and flight requirements.
	Enable Dynamic Power	When enabled, the transmitter automatically adjusts RF power based on signal quality (SNR). This ensures a stable link while saving energy and extending transmitter battery life.
	Synchronize AUX1 High Position with Arm Switch	When using ELRS devices, AUX1 must be assigned as the arm switch. The high position (2000us) should correspond to the armed state to ensure proper ELRS system operation.
SDLOG Function Application	Enable Logging	Go to Model Setup → SD Logs and enable logging. This records all transmitter actions (sticks, switch positions, ELRS telemetry, etc.) as CSV files on the SD card. It is recommended to assign the same channel as the arm switch, so that SDLOG records automatically when arming, facilitating data analysis.
Extend Battery Life	1. Enable Auto Power-Off 2. Adjust RF Power or Enable Auto Power	1. In System Settings → RADIO SETUP → Power Auto Off, set the auto-off time. When transmitter channels are idle and no receiver is connected, the transmitter will automatically power off after the set time. 2. Set the appropriate transmit power in the ELRS LUA script, or enable auto power.

XIV. TROUBLESHOOTING GUIDE

Issue	Possible Cause	Solution
Transmitter will not power on	1. Battery is depleted. 2. Internal power circuit failure.	1. Connect a PD charger via Type-C cable and charge for 30 minutes, then try powering on again. 2. Contact after-sales service for inspection and repair.
Sticks unresponsive or respond abnormally	1. Sticks not calibrated. 2. Channel mapping incorrect. 3. Stick hardware loose or damaged.	1. Perform stick calibration in EdgeTX system settings. 2. Check channel mapping in Model Setup and ensure correct correspondence to controls. 3. Contact after-sales service for inspection and repair.
Screen not displaying or abnormal display	1. Screen brightness too low. 2. LCD damage.	1. Adjust screen brightness in system settings. 2. Contact after-sales service for inspection and repair.
ELRS signal fails or short range	1. RF module not bound to receiver. 2. RF power set too low. 3. Antenna not installed or damaged. 4. Firmware mismatch.	1. Follow ELRS binding procedure to bind RF module and receiver. 2. Set appropriate RF power in ELRS LUA script. 3. Ensure antennas are properly installed and undamaged. 4. Update internal RF module and receiver firmware to the same version using ExpressLRS Configurator. 5. Keep antennas away from carbon fiber, metal, or other conductive materials.
Bound but flight controller does not receive signal	1. Wiring error or flight controller serial port damaged. 2. Model Match enabled but used incorrectly. 3. Flight controller protocol mismatch.	1. Check wiring between receiver and flight controller, replace for testing if necessary. 2. Use Model Match correctly or disable it. 3. Check receiver output protocol in LUA script and select the correct protocol in the flight controller.

Transmitter cannot charge or charges slowly	1. Charger does not support PD protocol. 2. Type-C cable only supports data. 3. Charging port or battery malfunction.	1. Use a PD-compatible charger (recommended 60 W or above). 2. Use a Type-C cable that supports high-current charging. 3. Contact after-sales service for inspection and repair.
Weak signal	1. Antenna damaged or frequency mismatch. 2. RF module or receiver damaged. 3. Transmitter RF power too low. 4. Environmental interference. 5. Receiver antenna installed incorrectly.	1. Inspect or replace antennas, ensure correct frequency and performance. 2. Inspect receiver for damaged components. 3. Check and adjust transmitter RF power. 4. Measure RSSI dBm at 30cm from transmitter, typical values below -25 dBm. Values above -30 dBm indicate abnormal performance. 5. Replace transmitter or receiver if necessary and monitor RSSI and LQ values. 6. Install antennas away from carbon fiber, metal, and other conductive materials.
External RF module not working	1. External RF module not enabled in Model Setup. 2. Protocol selection incorrect. 3. Module pins not making contact.	1. Enable and configure the External RF module in Model Setup. 2. Select the correct protocol according to the module type (e.g., CRSF). 3. Check module pins for debris or bending.
Transmitter gets hot during operation	1. RF module operating at high power continuously. 2. Fan or vents blocked.	1. Ensure fan is working and vents are clean. 2. Prolonged high-power operation is normal, monitor for safety.
Repeated Telemetry Loss warnings	1. Telemetry ratio too low, causing slow data packet refresh. 2. Receiver or internal RF module damaged.	1. Increase telemetry ratio (e.g., from 1:16 to 1:32). 2. Replace receiver or transmitter, monitor RSSI and LQ values.

XV. SPECIFICATIONS

Commando 14 Specifications

Model: Commando 14

Product Type: Model Aircraft RC Transmitter

Channel: 14 CH (4 stick channels, 4 three-position switch channels, 2 button switch channels, 2 knob channels, 2 wheel channels)

Transmitter System: EdgeTX 3.0.0

RF Power: ELRS GemX Dual Band (2.4GHz / 900MHz) 1W

Antenna: Linearly polarized omnidirectional dual-band dual-antenna (2.4GHz + 900MHz)

Battery: 10.95V, 5000mAh, 54.75Wh (3S1P)

Charging Power: Supports 5–20V 3A, PD 60W MAX

Transmitter Screen: 4.3-inch IPS full-view 1000-nit high-brightness

TX Module Screen: 0.96-inch color display

Folded Dimensions: 180*168.2* 81.4mm ±5mm (sticks and antennas folded)

Unfolded Dimensions: 180*217.4*85.3mm ±5mm (sticks and antennas extended)

Weight: 950g ±10



Warning

The Commando14 is pre-installed with stable firmware. Unless you are experienced and confident in updating the system firmware, incorrect updates may lead to radio inoperable. For instructions on updating the main controller firmware and TX module firmware, please refer to the tutorial video.

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FCC Requirement

changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.