

UAS Radio Systems Guide

Setting and verifying telemetry radio connection

- Connect one of the radios to your computer using the micro-USB cable.
- Power the radio attached to the UAS by plugging in the UAS battery.
- Open the Mission Planner and go to the **Optional Hardware | SiK Radio** page.
- Select the correct COM port and set the baud rate to 57600. Ensure the "Connect" button is in a disconnected state as shown in the image below
- Press the **Load Settings** button and both the *Local* and *Remote* areas should fill in with values including the firmware Version
- If the *Remote* area does not fill in then it means that the radios are not talking to each other and likely means the NET ID is different (default is 25)
- If net ID's do not match for both radios physically plug into both radios and load the settings. Change both IDs to match and save the settings. Retry loading both settings and see that both local and remote areas fill in.

Mission Planner 1.3.80 build 1.	3.8479.20539 ArduCopter V4.3.3 (3	4e8e02c)					-	o ×
				l	IRDUP		✓ 57600 COM123-1-QUADR	
Install Firmware		Load Sav	re Upload Firmware	Reset to Defaults Upload P	irmware	Status Leds		
Install Firmware Legacy	- 003	Jeangs	igs (Local)	belauits				i i
Secure	Version SiK 2.2 on HM-TRP	FREQ_915 DEVICE_ID _HM_TRP	Vers	ion SiK 2.2 on HB1060		DEVICE_ID _HB1060		į –
Frame Type	L/R RSSI: 190/184 L/F RSSI txe=0 rxe=0 stx=0 srx=0	R noise: 47/19 pkts: 536 ecc=0/0 temp=-276 dco=0						
>> Optional Hardware	Format 26	Min Freq 915000 -	Form	nat 26	Min Freq	915000 -		į
RTK/GPS Inject	Baud 57600 -	Max Freq 928000 -	Bauc	57600 -	Max Freq	928000 -		i i
Sik Radio	Air Speed 64 🗸	# of Channels 50 -	Air S	ipeed 64 🗸	# of Channels	50 👻		i i
DroneCAN/UAVCAN	Net ID 30 🗸	Duty Cycle 100 -	Net I	D 30 🔻	Duty Cycle	100 -		į
Joystick	Tx Power 20 -	LBT Rssi 0 🗸	Tx P	ower 20 🗸	LBT Rssi	0 -		i i
PX4Flow	ECC	RTSCTS	ECC		RTS CTS	-		į
Bluetooth Setup	Mavlink Mavlink 🗸	Max Window (ms) 131 -	Mavl	ink Mavlink 🗸	Max Window (ms	131 -		i i
Antenna Tracker	Op Resend	AES Encryption	Op F	Resend 🗹	AES Encryption			į
>> Advanced	GPI1_1R/CIN	AES Key Random	GPI1	_1R/CIN	AES Key			į
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Binding a Controller to a Drone:

Turn on the controller by pressing and holding the power button in the middle of the controller. Press the big circular knob on the bottom right to move past any pop ups

With the Taranis powered on and already on the home screen

- 1. Briefly press the 3 horizontal line button once. In the top right of the screen "1/12" should be displayed
- 2. Next, briefly press the "page" button. The top right should now display "2/12"
- 3. Spin the circular button and find the row labeled "RxNum". Move the selection reticle (Black Blinking Rectangle) until it is covering "[BND]" and press the circular button down once.
- 4. Scroll down on the newly appeared menu and select the current setting shown and select it by pushing the circular button down.
- 5. Verify that the menu disappears and the controller begins to beep.

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	Tar	สกเร Q		
PAGE	Ch. Range RxNum Failsafe	2/12 CH1-16 (18ms) 40 (Bhc) (Rn9) Not set	(P	
EXIT	External R Mode Trainer	OFF	(Cele	
	Mode	Master/Jack	ACCST	

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6. On the Drone resides the SBUS receiver board. This should be a red board with 2 antennae sticking out on opposite sides. Find the bind button on the board as shown. This button will need to be held down the entire time the drone is being powered up to pair successfully.

- Optionally if you have a UxV/35 bind tool board, attach the **Bind** Tool on top of the stack then press and hold down the **Bind Tool** button and the drone's **Power** button at the same time for at least 10 seconds.
- 8. Power on the drone using the power button while holding the bind button on the receiver board. A successful binding will have a flashing red light with a solid green light. If this does not happen then power cycle the drone and try again.
- 9. When you see the correct lights, you may release the button and power cycle the drone without holding the bind button on the receiver board.
- 10. Press the exit button on the Taranis 3 times and you should now see a signal strength indicator next to the battery level like shown.
- 11. The drone is now successfully paired to the Taranis and is ready for flight

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Green LED	Red LED	Status	
ON	Flashing	Binding	
Flashing	OFF	Normal	
OFF	Flashing	Signal Lost	
Flash Twice	OFF	Failsafe Set	





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