

# Input mapping for 3<sup>rd</sup> party Gamepad on Mission Planner

#### Introduction:

The purpose of this document is to allow anyone to tune and customize button inputs for a 3<sup>rd</sup> party controller used for Mission Planner. This document will provide instruction and information on relevant information to accomplish this task.

### What you will need:

To accomplish this goal these will be the required items:

- 1. A USB gamepad (Logitech F310 or InterLink DX controller)
- 2. A Telemetry radio and bound drone.
- 3. Laptop with Mission Planner capability.

#### Step 1:

It is recommended that if it is the first time using the gamepad or laptop that calibration is done through windows on the laptop. If this has not been the first time then skip this step and proceed to step 2.

- Plug the Gamepad into the laptop via USB.
- In the search bar on your computer type in **USB game controller**.



• Select the option that says "set up USB game controller.". A small window will appear.

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- Select the gamepad connected and push the properties button.
- Push the settings tab.
- Push the calibrate button and follow the instructions provided in the window. (The Logitech controller cannot be calibrated as it is plug and play. There are no drivers and only third-party programs dictate controls)



## Step 2:

This step includes basic instructions on mapping and calibrating the selected gamepad for use with the drone.

- Open mission planner.
- Connect telemetry bound radio to the laptop
- Connect through telemetry radio on mission planner.
- Once connected, go to the mission planner flight data screen.
- Below on the actions tab select Joystick. (see below)



- Ensure in the next window on the drop down up at the top that the gamepad used is selected.
- The **Enable** button, once pushed, will tell the mission planner to start sending commands to the vehicle, so for the initial setup, do not push it.
- On each of the rows individually hit the auto detect buttons and input the stick commands to associate the axis with its correct control.



🚽 Joystick

Joystick	InterLinkDX		•	Disable	Save Loaded Config	for ArduCo	opter2				
	Controller Axis		Output	Ехро	Reverse 📃 Manual	Control					
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RC 2	Rx 🔻 🚺	Auto Detect		0		But 2	11 •	Detect	Disarm	·	Settings
RC 3	Ry 🔻 📘	Auto Detect		0	✓ ◄	But 3	10 🔻	Detect	ChangeMode	·	Settings
RC 4	X -	Auto Detect	1492	0		But 4	-1 •	Detect	ChangeMode	·	Settings
RC 5	None 🔻	Auto Detect		0		But 5	-1 •	Detect	ChangeMode	·	Settings
RC 6	None 🔻	Auto Detect		0		But 6	-1 •	Detect	ChangeMode	·	Settings
RC 7	None 🔻 📘	Auto Detect		0		But 7	-1 •	Detect	ChangeMode	•	Settings
RC 8	None 🔻	Auto Detect		0		But 8	-1 •	Detect	ChangeMode	·	Settings
RC 9	None 🔻	Auto Detect		0		But 9	-1 •	Detect	ChangeMode	·	Settings
RC 10	None 🔻	Auto Detect		0		But 10	-1 •	Detect	ChangeMode	·	Settings
RC 11	None 🔻	Auto Detect		0		But 11	-1 •	Detect	ChangeMode	·	Settings
RC 12	None 🔻	Auto Detect		0		But 12	-1 •	Detect	ChangeMode	·	Settings
RC 13	None 🔻	Auto Detect		0		But 13	-1 •	Detect	ChangeMode	·	Settings
RC 14	None 🚽	Auto Detect		0		But 14	-1 •	Detect	ChangeMode	•	Settings
RC 15	None 🚽	Auto Detect		0		But 15	-1 •	Detect	ChangeMode	•	Settings
RC 16	None 🔻	Auto Detect		0		But 16	-1 •	Detect	ChangeMode	·	Settings

Below is a chart providing channel association with analog direction and what axis it is recognized as. This was for the interlink controller but channel and analog association will always be the same with our flight controller.

Channel	Analog stick	Button input
RC1	Throttle	Y
RC2	Roll	RX
RC3	Pitch	RY
RC4	Yaw	X



- In the reverse column check the box for Pitch (row for RX3)
- Hit the **save** button to save the edited configurations.
- Push the enable button.

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- Up at the top bar of mission planner select **Setup** and under **mandatory hardware** on the left go to **Radio Calibration**.
- Move the analog sticks on the gamepad and confirm on the green moving sliders that direction is correct.
- The correct setup on the controller should show these values on the slider when moving along the correct direction.





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- At the bottom right of the screen push the calibrate radio button.
- Follow the instructions provided and finish the calibration.
- Return back to the joystick window and disable the controller by pushing the **disable** button.
- On the right of the screen hit the **detect** button for the button column and assign a switch or button.
- On the same line use the drop-down menu and select Arm.
- Do the same for another button column but select **disarm** in the drop down.

🖳 Joysticl	c										
Joystick	InterLinkDX		· · ·	Enable	Save Loaded Config	g for ArduC	opter2				
	Controller Axi	is	Output	Ехро	Reverse 📃 Manua	al Control					
RC 1	Y -	Auto Detect		0	Elevena	But 1	0 -	Detect	Am	·	Settings
RC 2	Rx 🝷	Auto Detect		0	Lievons	But 2	11 -	Detect	Disarm	·	Settings
RC 3	Ry 🝷	Auto		0	$\checkmark$	But 3	10 -	Detect	ChangeMode	•	Settings
RC 4	X -	Auto		0		But 4	-1 •	Detect	ChangeMode	•	Settings
RC 5	None 🔻	Auto		0		But 5	-1 •	Detect	ChangeMode	•	Settings
RC 6	None 🔻	Auto		0		But 6	-1 •	Detect	ChangeMode	•	Settings
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RC 8	None 🔻	Auto		0		But 8	-1 -1	Detect	ChangeMode	•	Settings
RC 9	None 🔻	Auto		0		But 9	-1 -1	Detect	ChangeMode	•	Settings
RC 10	None 🔻	Auto		0		But 10	-1 -1	Detect	ChangeMode	•	Settings
RC 11	None 🔻	Auto		0		But 11	-1 -1	Detect	ChangeMode	•	Settings
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RC 13	None 🔻	Auto		0		But 13	-1 •	Detect	ChangeMode	•	Settings
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RC 16	None 🔻	Auto		0		But 16	-1 -1	Detect	ChangeMode	-	Settings
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• **SAVE** the settings.

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- Push the **enable** button and enable the gamepad.
- Arm the drone using the mapped button and test the drone normally.
- Disarm the drone using the mapped button.

If the drone does not disarm, in the actions tab (where joystick button was found) push the arm/disarm button. This should safely disarm the drone.

### Kairos Standard button config

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Click https://www.kairos82nd.com/downloads to download the pre saved gamepad configurations to make selected gamepads to behave in the same expected way stated in this document. select the correct pre saved configurations and copy them to the intended laptop. A more detailed explanation will be provided below.

- Open the downloaded folder
- Copy files associated with any supported controllers

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