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# Input mapping for 3rd party Gamepad on Mission Planner

## Introduction:

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

## What you will need:

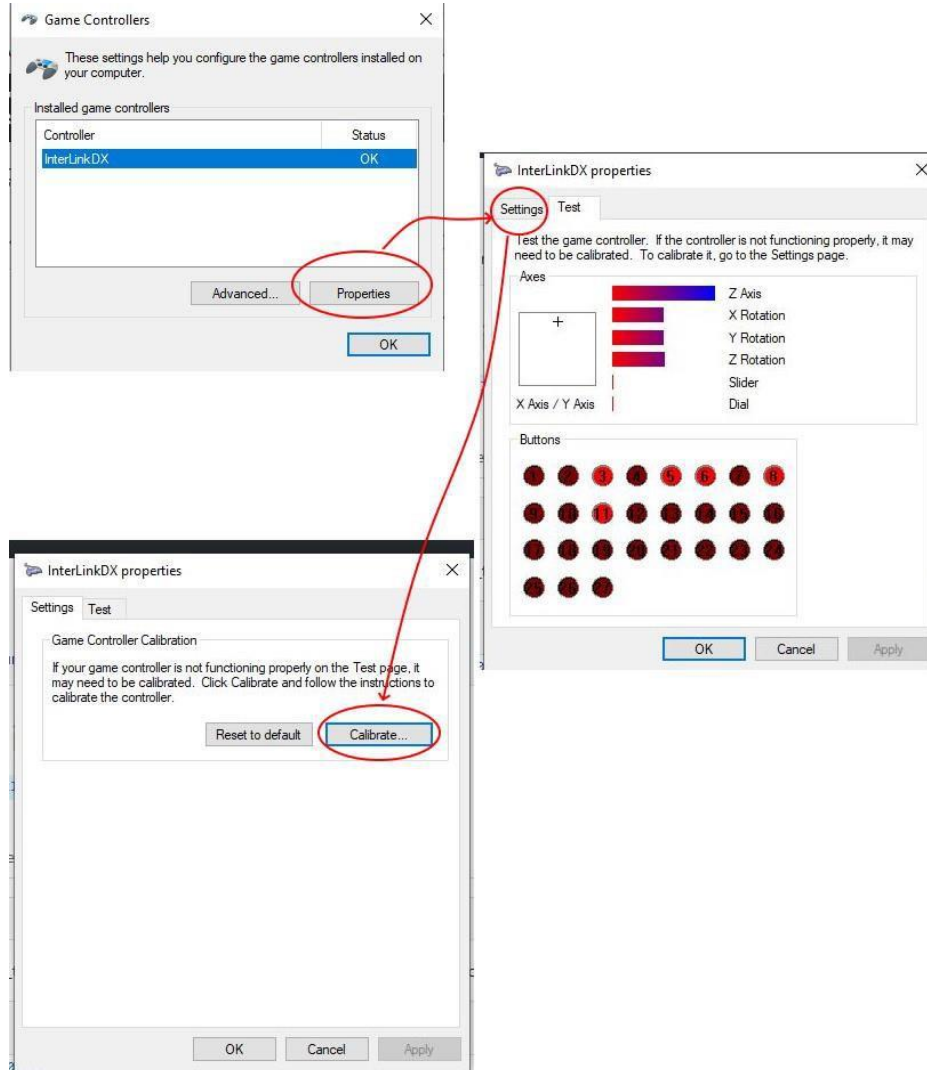To accomplish this goal these will be the required items:
1. A USB gamepad (Logitech F310 or InterLink DX controller)
2. A Telemetry radio and bound drone.
3. Laptop with Mission Planner capability.

## 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.**

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



- 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)

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## 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.

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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 |

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- 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.**
- 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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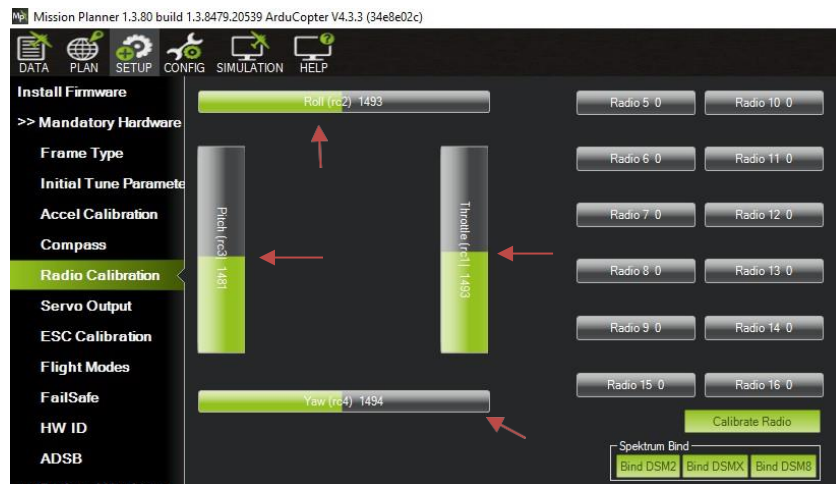
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- At the bottom right of the screen push the **calibrate radio** button.
- Follow the instructions provided and finish the calibration.
- Return back to the joystick window and disable the controller by pushing the **disable** button.
- On the right 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.
- **SAVE** the settings.
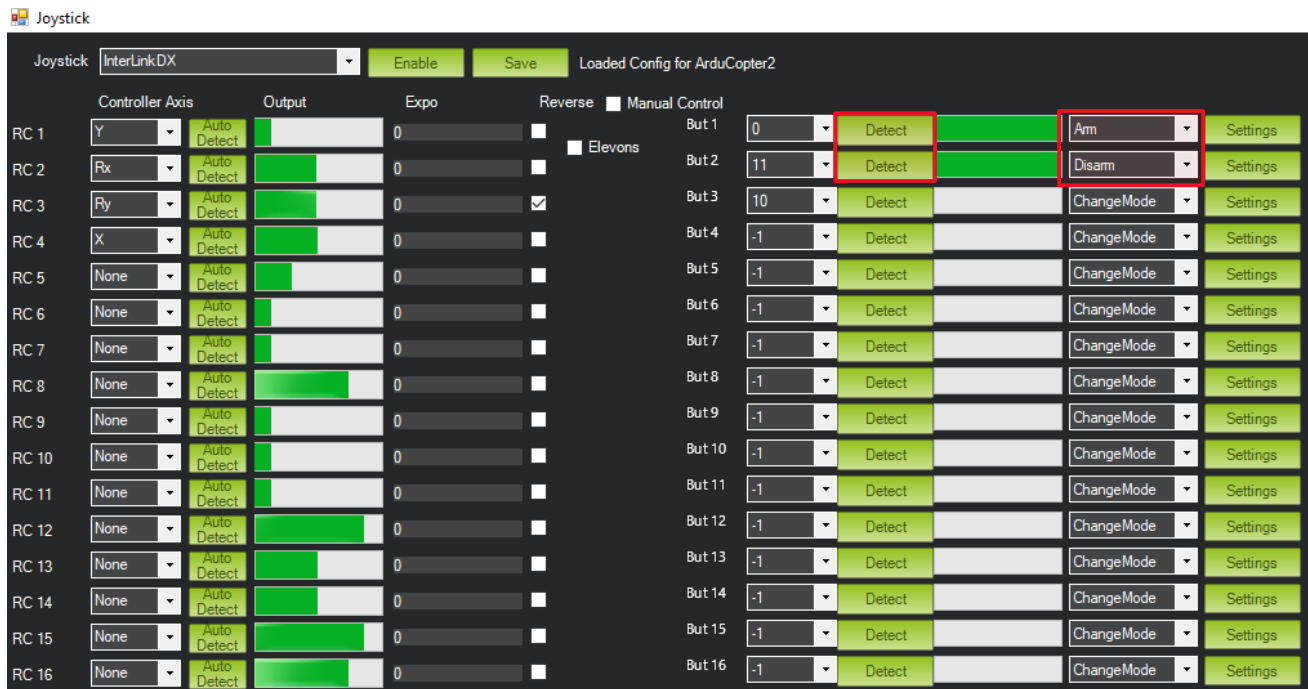
- Push the **enable** button and enable the gamepad.
- Arm the drone using the mapped button and test the drone normally.
- Disarm the drone using the mapped button.

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.
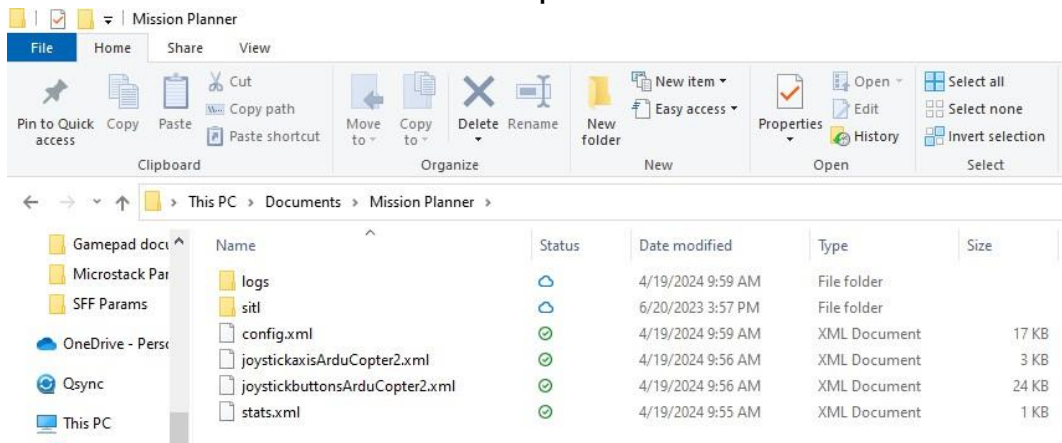
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## *Kairos Standard button config*

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
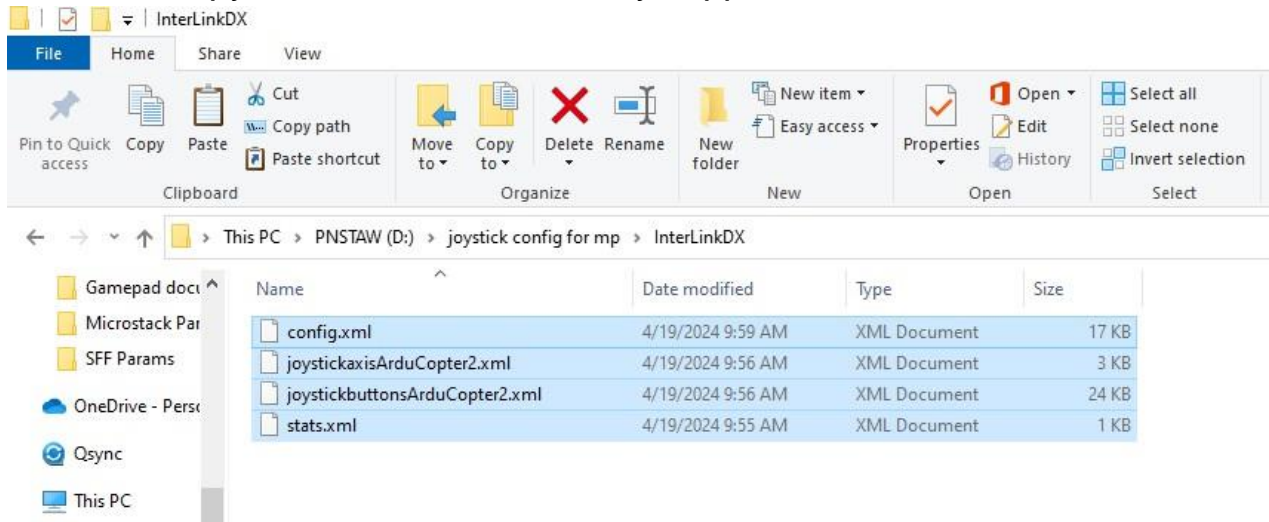


- Save them in mission planner documents directory.
- Close and run mission planner.