

# ACT LABS FLY N RACE USB ADAPTER USER MANUAL

## Introduction

Thank you for your purchase of the ACT LABS Fly N Race USB Adapter. The Fly N Race USB Adapter allows you to combine the ACT Labs racing gear or your own custom wheel, shifter, pedals as one USB device to be compatible with most PC racing games. Providing racing simulation versatility, the Fly N Race USB Adapter enables a new level of reality to the PC game racing. In addition, the Fly N Race USB adaptor also has a feature that allows your 2 out of the 3 pedals system to be compatible with most PC flight simulator games. Two selectable pedals can be combined to report as one axis. Having the right pedal control the positive value and the left pedal to control the negative value.

## Package Contents

- 1- ACT LABS Fly N Race USB Adapter
- 2- Mini Din adapters
- 3- Optional mini Din Cables (Labeled: Wheel, Pedals or Shifter, separate purchase)
- 1 – User Manual

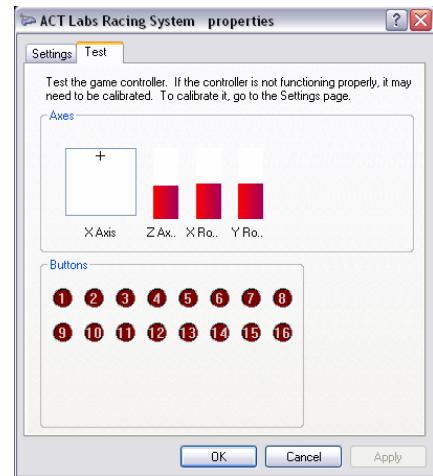
## Installation

The ACT LABS Fly N Race USB Adapter connects to your PC through the USB port. It is a plug and play device, to setup your racings and flight simulator system:

- 1.) Connect the available wheel, shifter and pedals to the appropriate DIN connections on the adaptor box as labeled.
- 2.) Switch the 4 position slider switch located on the USB adaptor unit to the appropriate pedal settings:
  - i. Position 1 = Race Mode (3 independent axis will be used, clutch – brake - throttle)
  - ii. Position 2 = Combine Axis Mode 1 (Clutch and Throttle pedals will be combined on the Z-Axis)
  - iii. Position 3 = Combine Axis Mode 2 (Brake and Throttle pedals will be combined on the Z-Axis)
  - iv. Position 4 = Combine Axis Mode 3 (Clutch and Brake pedals will be combined on the Z-Axis)

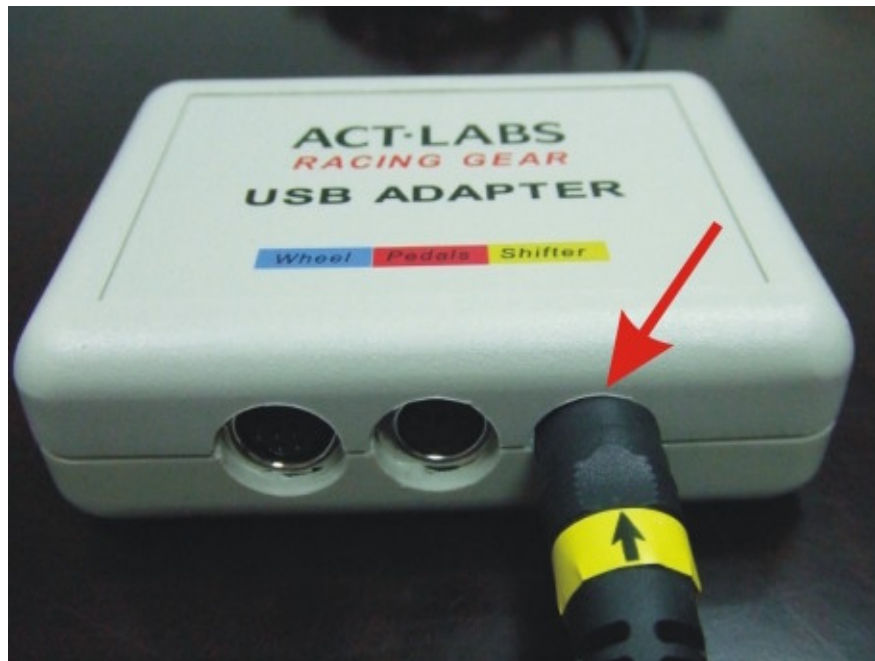
Note: When Combine Axis Mode 1-3 is used, the third pedal will be not used and the remaining axis, except for the wheel axis, will remain inactive).

- 3.) Connect the ACT LABS Fly N Race USB adapter to the USB port or your PC before you start your game.
- 4.) After plugging the device to the USB port, Windows should automatically detect “ACT Labs Fly N Race USB adaptor”.
- 5.) Access the Windows game controllers applet through the Windows Start menu under Setting/Control Panel/Game Controllers. The game controllers’ applet should display “ACT Labs Fly N Race USB adaptor” as shown on the figure below.



- 6.) Finally, the ACT Labs Fly N Race USB adaptor is ready to be used. There is no need to perform any software calibrations of the pedals. When the USB adaptor is first plugged in or powered on, you simply press each pedal gently (to avoid bounce back by the strong spring) to its full extent and it will self calibrate on its own. Please refer to your game manual for instructions on setting up USB compliant game controllers.
- Note: In combined axis mode, the Z-Axis bar will display a 50% reading when both combine pedals are not pressed. Pressing the right pedal will increase the Z-Axis to the full extent while the left pedal will decrease the Z-Axis to the opposite extent.

IMPORTANT: FOR USERS WHO ONLY USE THE "SHIFTER" CONNECTION OF THE USB ADAPTER



WHEEL PEDALS SHIFTER

IF YOU EXPERIENCE JUMPING ON EITHER THE WHEEL OR PEDALS AXIS



WHEEL PEDALS SHIFTER

SIMPLY CONNECT THE TWO INCLUDED MINI-DIN ADAPTERS\* ALONG WITH YOUR ACT LABS USB SHIFTER

Note: When connecting the wheel or pedals to the USB adapter, please remove its mini-din adapter first.

**\*Mini-Din adapters may not be exactly as pictured above**

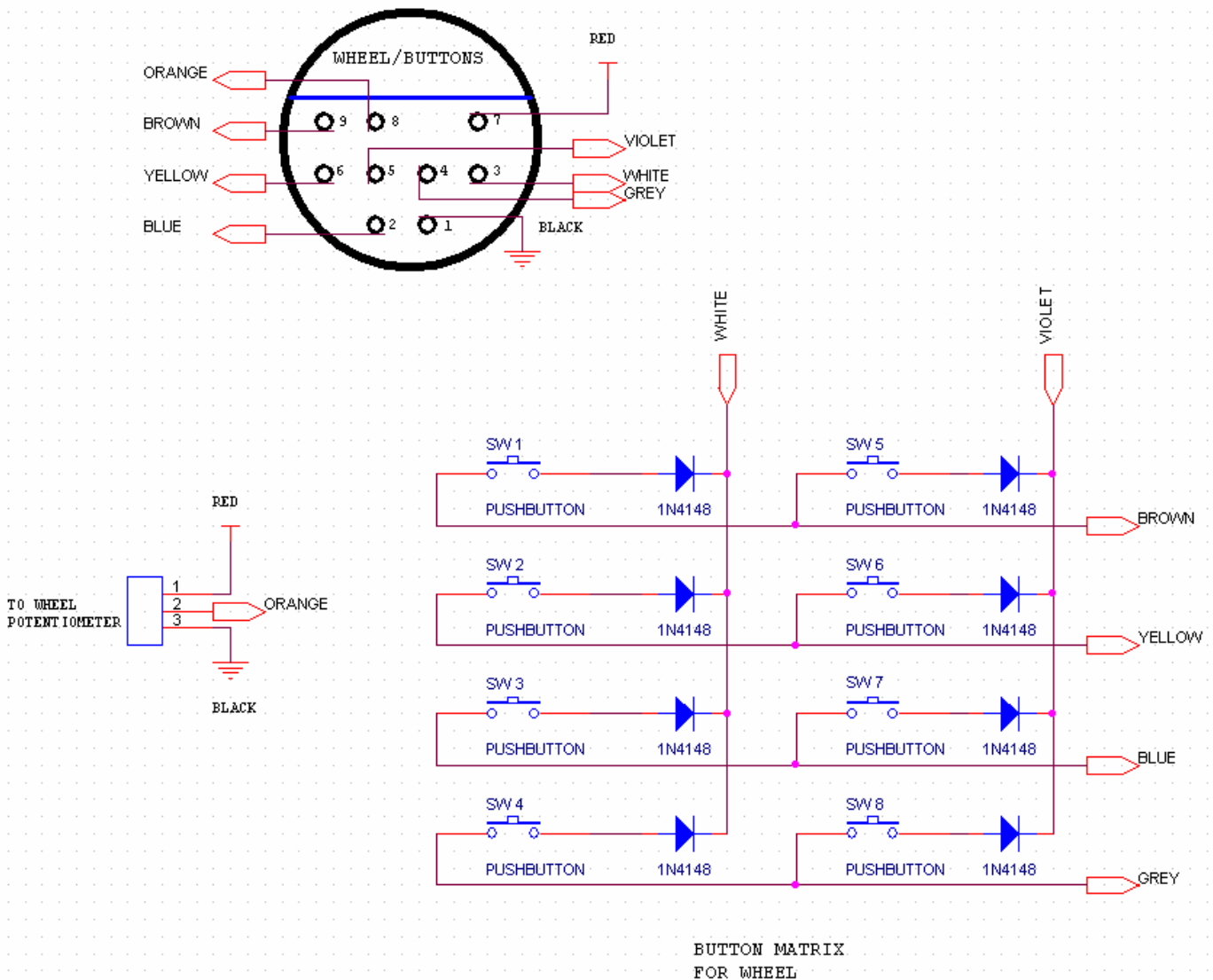
## Customization

*This section is only for users that are electronically and mechanically inclined. Only advanced users are to proceed, damage can be caused to the ACT LABS Racing System USB Adapter if improper installation is performed which **VOIDS** warranty.*

You can build your own custom wheel, pedals and shifter with the following schematics and wiring diagrams. Note you will need to be electronically inclined to solder cables, wires together and be able to read schematics. This manual will not explain how to read the electronic schematics or how to solder or mount your custom hardware.

### Custom Wheel/Button Connections

The following schematic shows all the connections that are required from the DIN connections on the USB adapter to your wheel potentiometer and button matrix. The button matrix consists of 8 push buttons along with 8 diodes as shown on the schematic. All connections are to be connected as shown on the schematic below. The color labeling reflects the color of the wires that are on the included Mini DIN connector labeled "wheel".

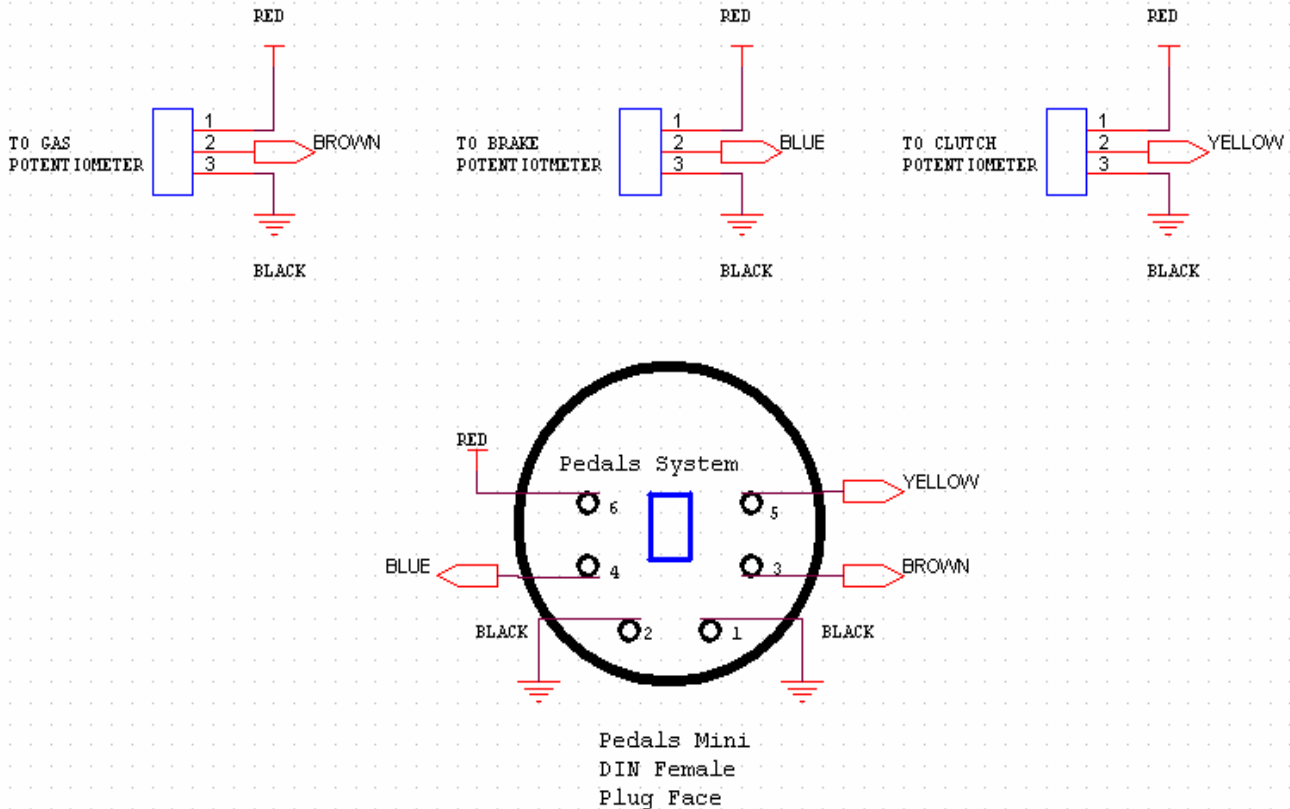


The buttons labeled SW1 to SW9 are mapped to the Windows game controller applets' digital buttons as follows:

SW1 = Button 9	SW2 = Button 10	SW3 = Button 11
SW4 = Button 12	SW5 = Button 13	SW6 = Button 14
SW7 = Button 15	SW8 = Button 16	

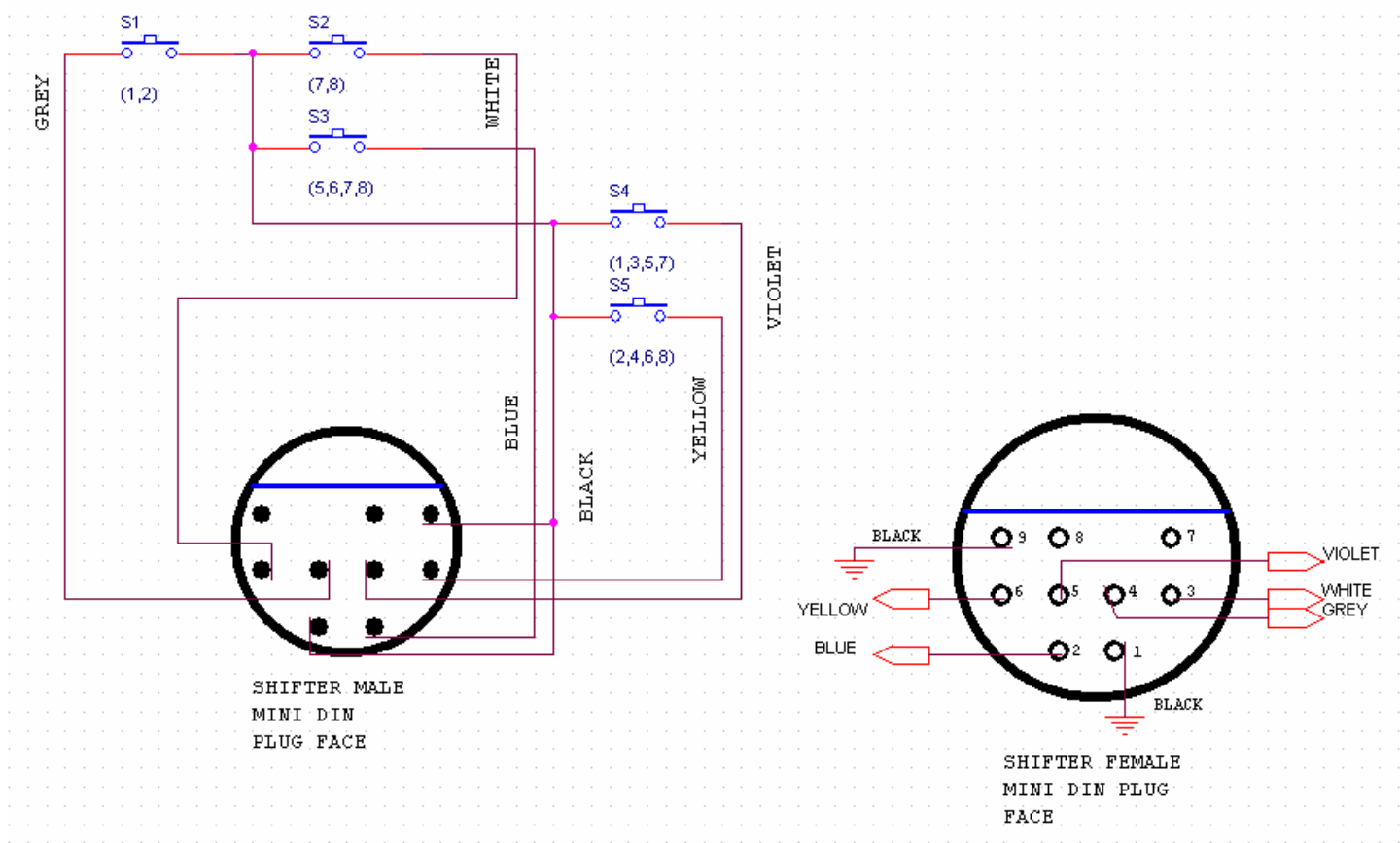
### Custom Pedal Connections

The following schematic shows all the connections that are required from the DIN connections on the USB adapter to your gas, brake and clutch potentiometer for your custom pedal system. There are 3 potentiometers with 3 pins. A 100 kilo-ohm potentiometer with a small turn ratio (turn movement of your pedal play) is recommended. All connections are to be connected as shown on the schematic below. The color labeling reflects the color of the wires that are on the included Mini DIN connector labeled "pedals".



### Custom Shifter Connections

The following schematic shows all the connections that are required from the DIN connections on the USB adapter to your custom Shifter button matrix. There are total of 5 push buttons that report 8 digital buttons on the game controllers applet. The 5 push buttons are configured in a way that it reports 8 independent shifts. All connections are to be connected as shown on the schematic below. The color labeling reflects the color of the wires that are on the included Mini DIN connector labeled "shifter".



The labeled buttons S1 to S5 that are pressed are mapped to the Windows game controller applets' digital buttons as follows:

- S1 & S4 = Button 1
- S1 & S5 = Button 2
- S4 = Button 3
- S5 = Button 4
- S3 & S4 = Button 5
- S3 & S5 = Button 6
- S2 & S3 & S4 = Button 7
- S3 & S3 & S5 = Button 8