TRC USB 6 Analog Input Controller

Functional description

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The TRC USB 6 Analog Input Controller is a so-called HID device and is recognized under Windows as a standard input device.
Up to 4 of the same boards can be connected to your PC.
Therefore you need no special drivers or setup software.

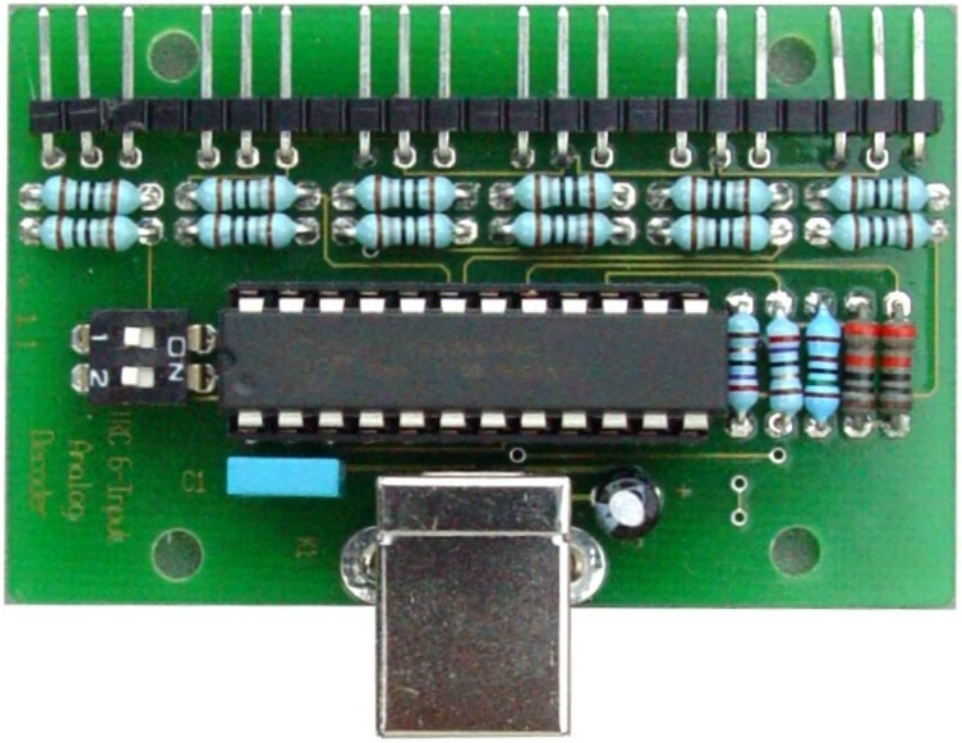
Once recognized by Windows, you will find the TRC USB 6 Analog Input Controller in the section “Game Controllers” in your Windows area.

You need to calibrate the different analog inputs as if it was a Joystick. Therefore follow the standard Windows instructions for calibration.
The first two analog inputs are treated as the X and Y inputs of a Joystick.
When calibrating, Windows expect these inputs to come back into the middle position prior to the next step of calibration.
When the Windows calibration asks for “press any switch on the game device” just hit Enter on your keyboard.

The 6 different inputs (consisting of 3 pins per input) can be assigned to any analog function within Microsoft Flight Simulator, via the menu option “Options/Controls/Assignments”.

Setting the identification
The TRC USB 32-Input Controller has a 2 position DIL Switch.
Using a certain combination of this switch, you can give the USB 32-Input Controller a unique Identification (ID) which allows you to connect up to 4 TRC USB 6 Analog Input Controllers, with each their own DIL switch setting.

The ID will change from 00 to 04 depending on the setting of the DIL switch.
For Windows to recognize a change in the DIL switch setting, the device must be shortly removed from the USB connection.



The table for the DIL switch is easy. De count is digital. This means that each of the switches is represending a certain value when set.

These values are 1and 2,
This means that when the first and the second DIL switch is “ON”, the read out value is 03.
When all switches are “OFF” the read out value is 00 (a valid number).
To set the DIL switches to a certain value (for example 2), just switch on 2.
See the explaining figure “how to connect the inputs”.

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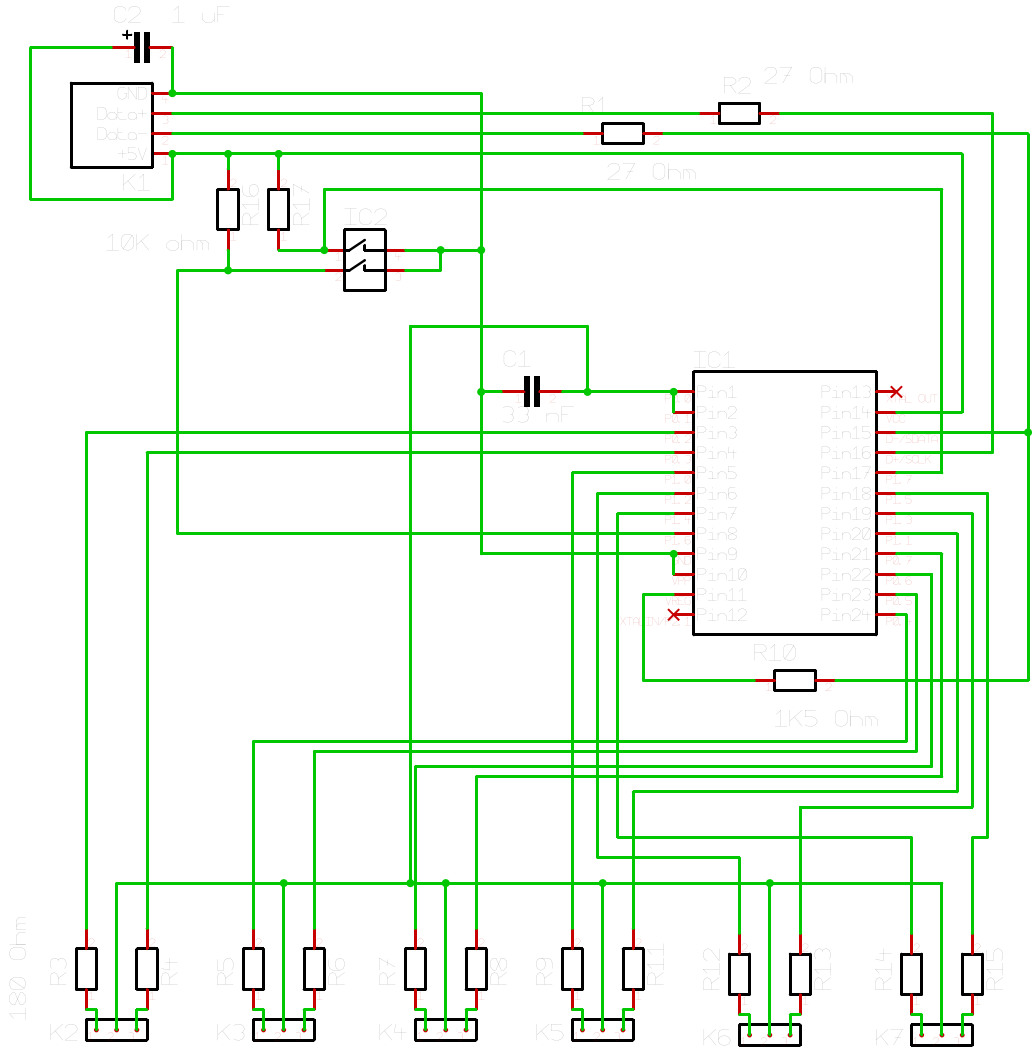
The schematics

Parts list

R1/R2 = 27 Ohm
R3 to R9 = 180 Ohm
R10 = 1K5 Ohm
R11 to R15 = 180 Ohm
R16/R17 = 10K Ohm
C1 = 33nF (0,033uF)
C2 = 1 uF (polarity!)
IC1 = CY63743
IC2 = 2 position DIL Switch
K1 = USB Connector (B)
K2 to K7 = 3 position pin header connectors



All potentiometers 10K Ohm, Linear!

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The PCB Components

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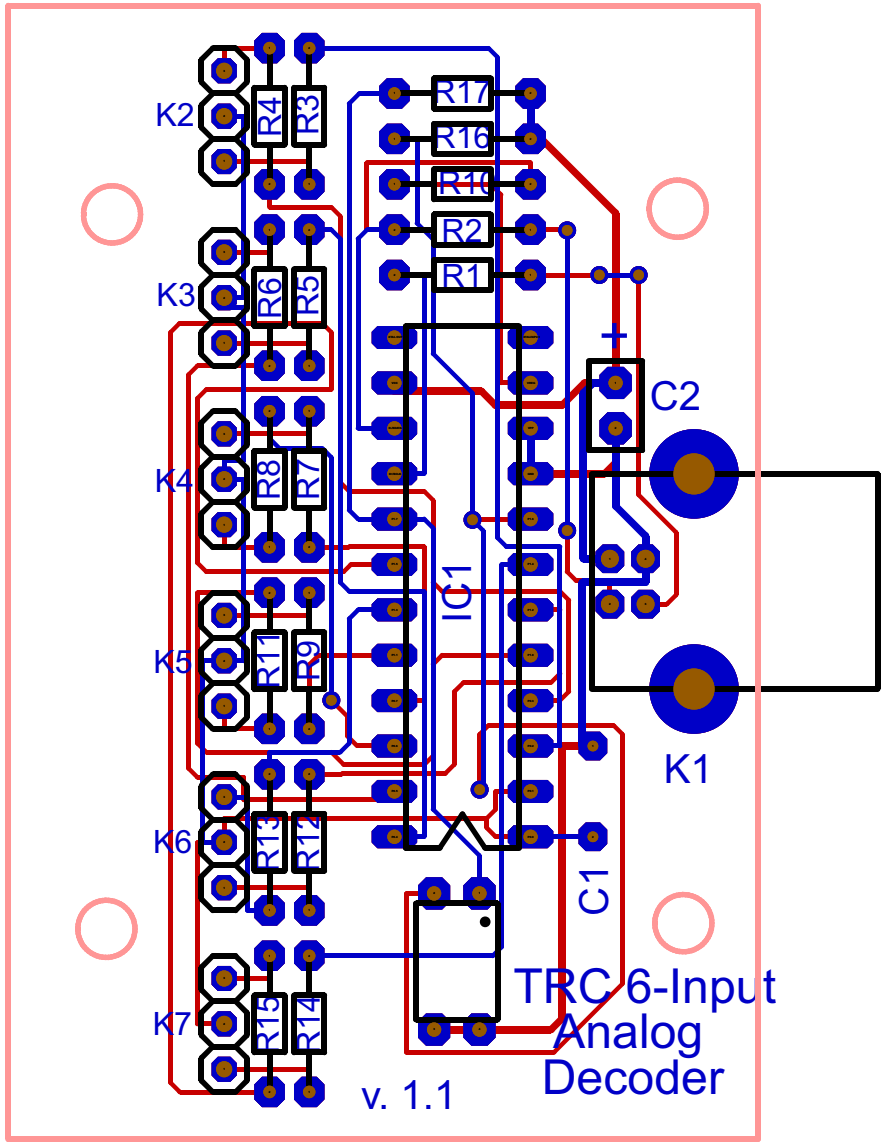

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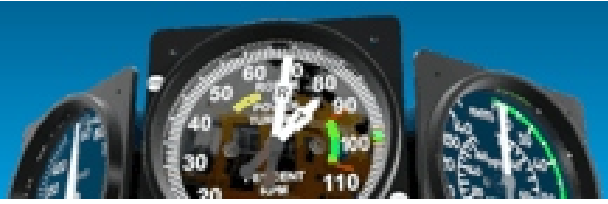
Connecting the potentiometers



Use 10 k Ohm linear potentiometers only!