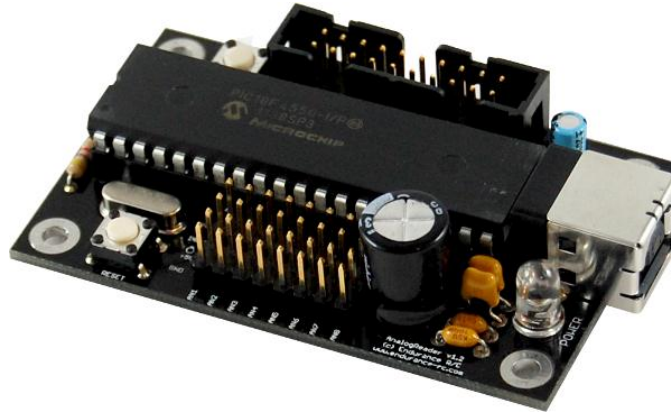


# Endurance R/C Analog Reader 2 Instructions

www.endurance-rc.com



## System Configuration

The Analog Reader 2 was designed with ease of use in mind. Please follow the steps below when setting up the Analog Reader 2 on your PC.

1. Plug the Analog Reader 2 into an open USB port on your PC. Windows will recognize the device and automatically recognize and configure the device as a Windows joystick. Once the Analog Reader 2 is installed you will notice a dialog appear stating that the hardware is now ready to use. You can verify this by going into your game controller settings.

**Note:** To view the Game Controller settings in Windows 7 open the start menu and in the "Search for programs and files" section type "Game Controllers".

2. Open the game controller settings and choose the Analog Reader 2 item from the available game controllers list. Click on properties.
3. Under the settings tab, choose calibrate.
4. Follow the on screen instructions to calibrate the Analog Reader 2.

**Note:** When calibrating the Analog Reader 2 you will notice that channel 1 and channel 2 will show up as an X/Y grid during calibration. Normally these 2 axes would be the X/Y movement of a joystick which usually centers by default. In order to properly configure the Analog Reader 2 choose "Display Raw Data". Move the axis completely from one end to the other to detect the full range of motion.

## Software

Sample software requires no installation; just download the executable and run. When developing your

own software be sure to use the examples posted on the Analog Reader 2 page or the Microsoft Direct X development kit.

## Connecting Sensors and Peripherals

Please refer to Figure 1 when connecting sensors or peripheral devices to the Analog Reader 2. When not using one of the ports a jumper can either be placed on input pin to tie the input to ground or +5V. Pulling the line to ground is the equivalent of the lowest reading while +5V the highest. False readings on other channels may occur if unused lines are not tied to ground or +5V.



Figure 1. Analog Reader Top View

**USB** – The Analog Reader 2 requires a USB A-B cable for operation. Connect the B end of the cable to the port marked USB.

**Power** – The blue indicator marked Power will display when the Analog Reader 2 has sufficient power for operation. If the indicator does not show you may be using a USB hub that is not powered. Move the Analog Reader 2 to a port that has sufficient power.

**Reset** – This button will reset the Analog Reader 2. This button will act the same as unplugging the device from the PC.

**Program** – Firmware for the Analog Reader 2 can be upgraded if available. In order to put the Analog Reader 2 into loader mode this button should be held down while resetting the device. Once reset release this button.

**AN1-AN8 Columns** – AN1 – AN8 indicate the 8 analog ports on the Analog Reader 2. Analog devices should be connected from AN1 on up. Unused ports should be grounded or set to +5V.

**GND, Input, +5V** – Each analog port will have 4 available pins. The pins are laid out in the order GND, +5V, Input to match standard servo connector leads. An extra ground row is located at the top which allows the user to choose the option for jumpering an unused channel. Be careful to only connect analog devices to be measured to the GND, +5V, and Input lines.

**Button Pad** – A 16 button pad (sold separately) can be connected to the Analog Reader 2 to allow up to 16 channels of additional on/off input to be read.

You can also create your own using the following pinout diagrams.

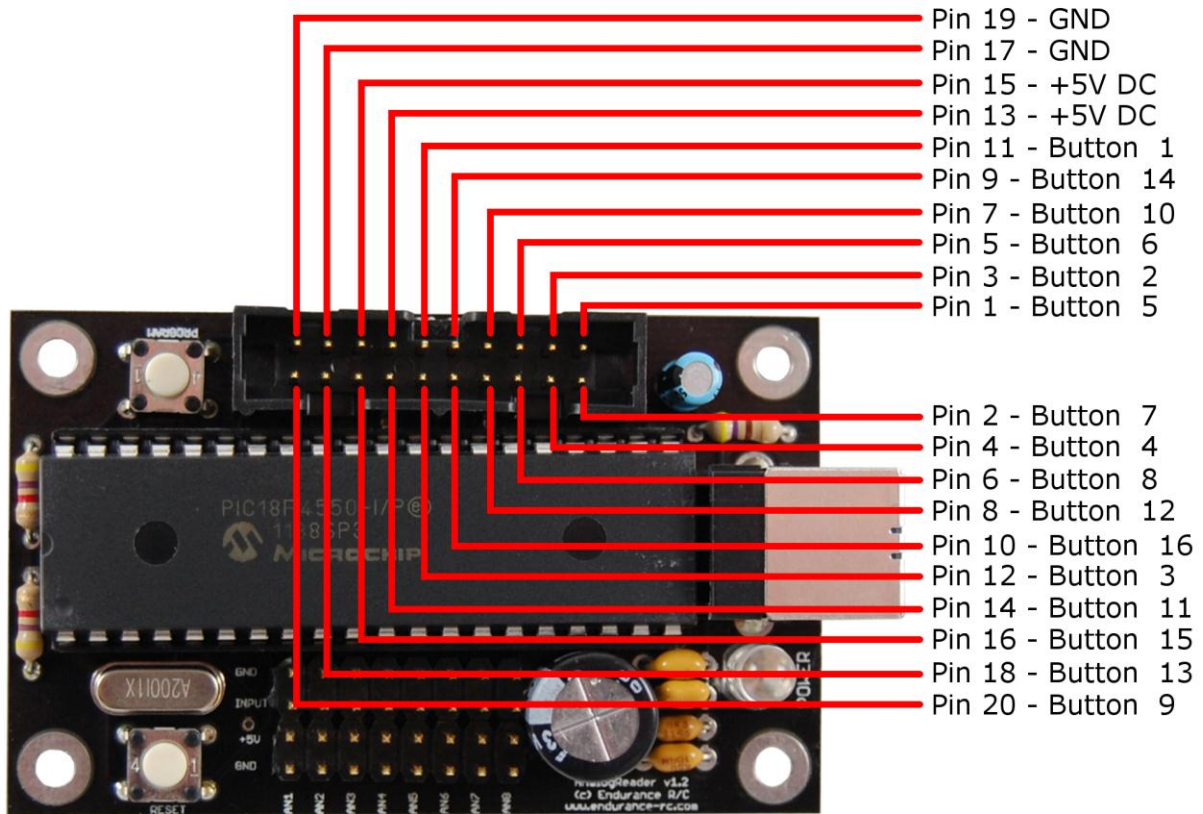


Figure 2. Analog Reader Top View with Pinouts

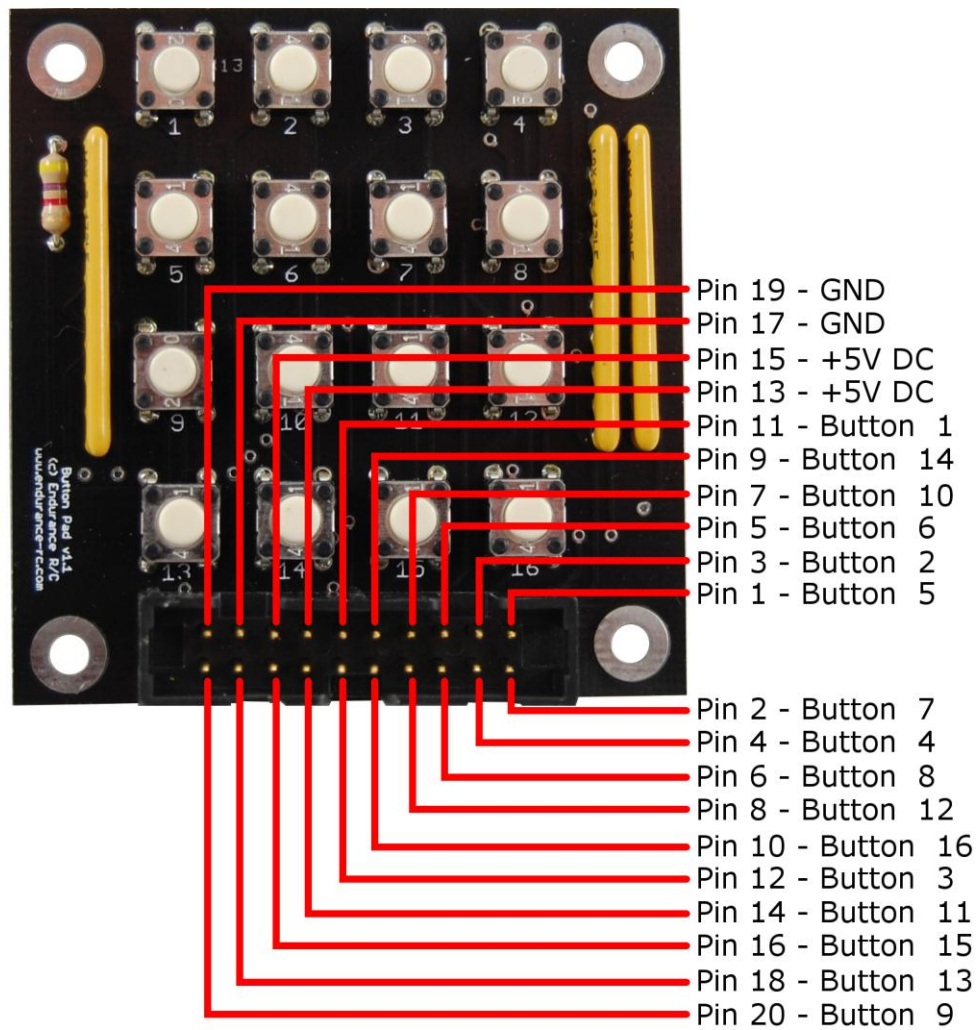


Figure 3. Button Pad Top View with Pinouts

### Problems

If the software crashes or windows disconnects, press the reset button on the controller.

*\*This device has been tested on Windows XP, Vista, and Windows 7*