

Easy RS232 Assembly and Hookup

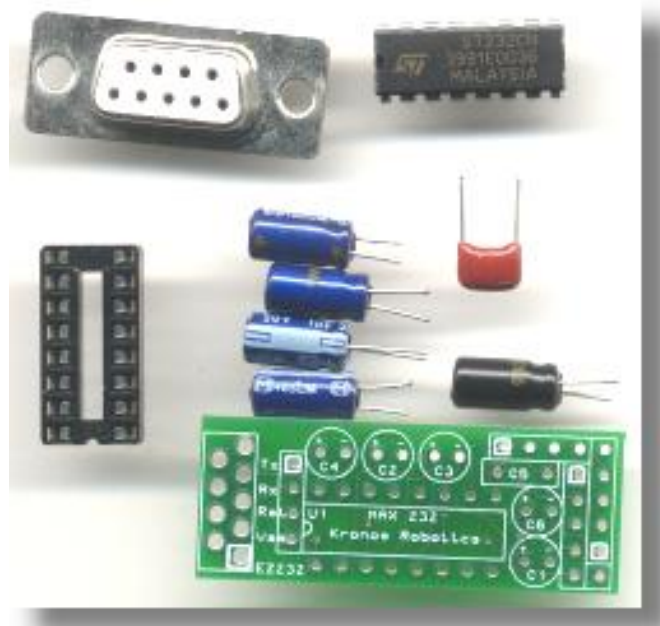
EZ232

Manual Version 1.5



Your Kit will include the following parts

- Printed Circuit Board
- Assembly and Hookup Manual
- 16 pin Socket
- 5 pin Header
- 10uf Capacitor
- 4 1uf Capacitors
- .1uf Capacitor
- RS232 Driver Chip
- 9 pin Female Connector
- LED



Kronos Robotics
and Electronics



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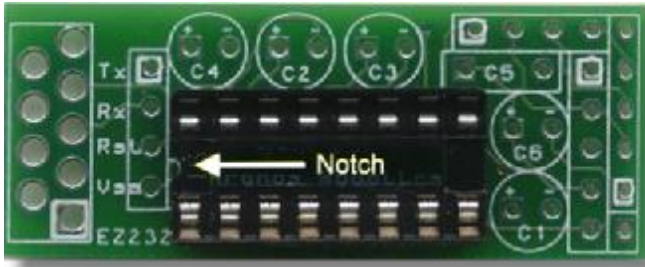
Table of Contents

Assembly	4
Hookup	6
Testing the Easy RS232	9
Links	10

Assembly

Each kit will take you about 30 minutes to build

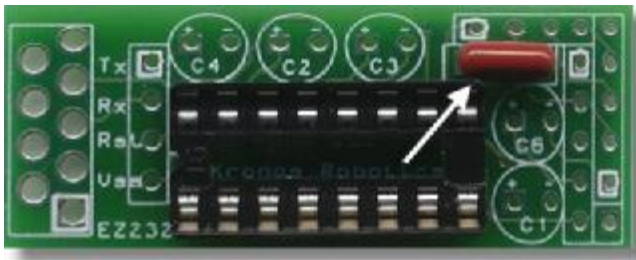
You will need a soldering iron, solder, and wire cutters.



Step 1

Insert the 16 pin socket into the locations marked U1. Carefully flip the board over so that the board rests on the socket. Make sure the notches are facing the left side of the board as shown.

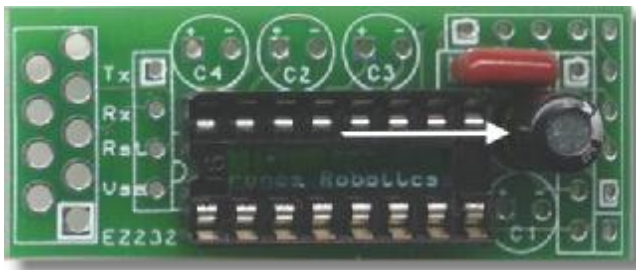
Solder in place.



Step 2

Insert the .1uF capacitor into the position labeled C5. (It's the dark red one)

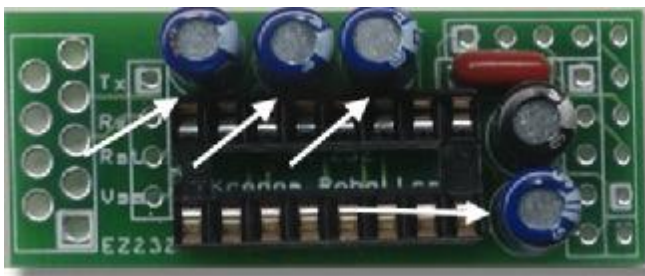
Solder in place and clip the excess leads.



Step 3

Insert the 10uF capacitor into the holes labeled C6. Make sure the negative side is facing the right side of the board as shown. (It's the side with the band and has a shorter lead)

Solder in place and clip excess leads.

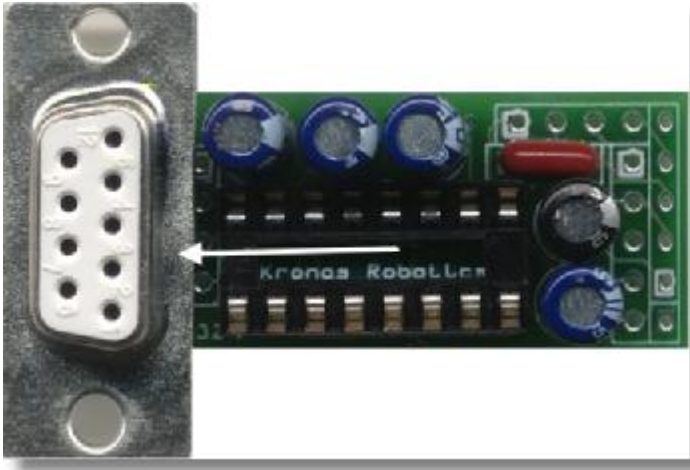


Step 4

Insert the 4 remaining 1uF capacitors into the holes labeled C1-C5. Make sure the negative side is facing the right side of the board as shown. (It's the side with the band and has a shorter lead)

You can do these one at a time or all at once

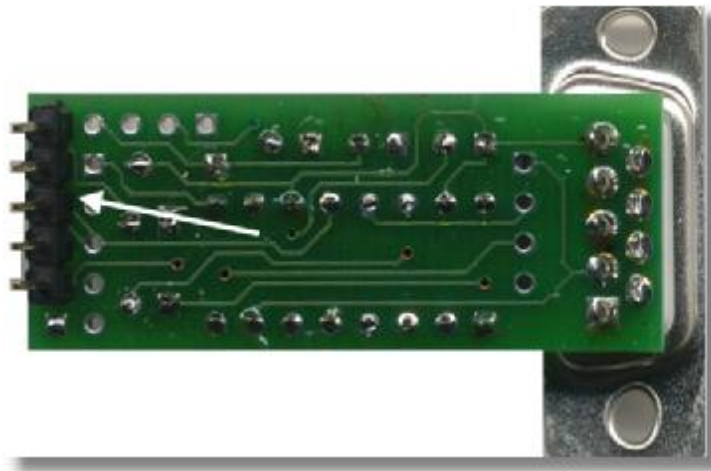
Solder in place and clip the excess leads.



Step 5

Insert the 9 pin connector as shown. It will only fit into the holes one way. Make sure it is nice and snug up against the board. You may have to wiggle it into place, as it is a tight fit.

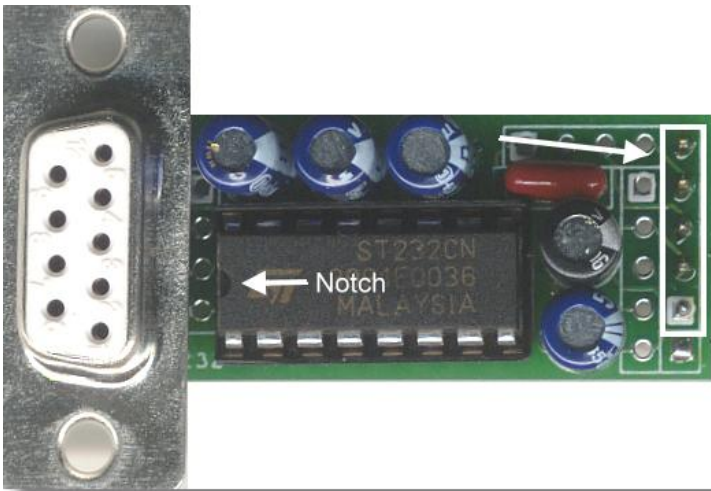
Solder in place.



Step 6

From the underside of the board insert 5 pin headers as shown.

Solder in place from the top of the board as shown in the picture of step 7. Make sure it is in the hole indicated.



Step 7

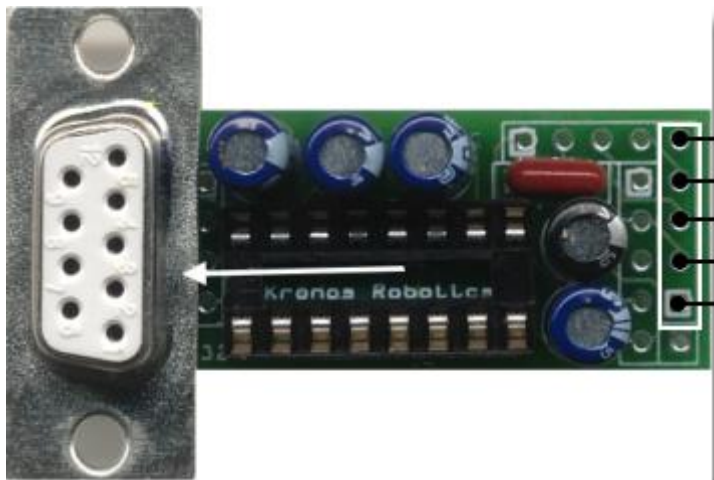
Insert the RS232 driver chip as shown. The notch points towards the 9 pin connector.

Tip

Make sure the pad with the square Silk screen gets connected properly. A tad bit more solder helps when making this connection.

Hookup

There are three headers on the Easy RS232. Use the one that suits your needs.

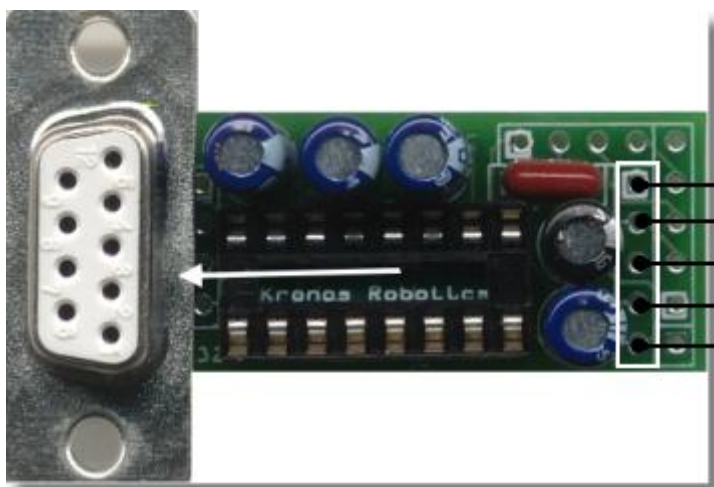


- Gnd/Vss
- +5v / vdd
- Device Rx / PC Tx
- Device Tx / PC Rx
- Atn

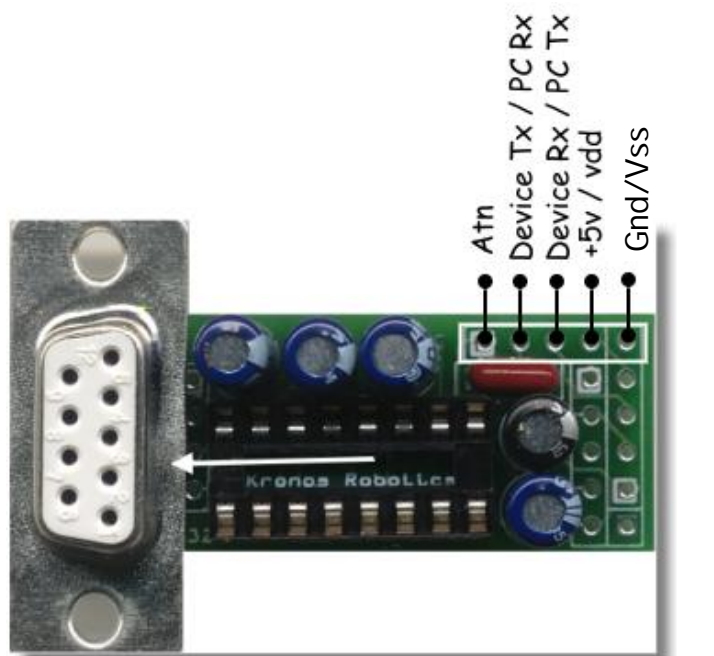
This is the primary connection point for the Smart Module and breadboard use. The Header is placed into the bottom of the board and soldered from the top.

You can also place this directly over the Backlit Serial LCD for a Permanent PC to LCD connection.

Please Note that the Atn pin is used for Programming the Smart Module. For other uses it is DTR.



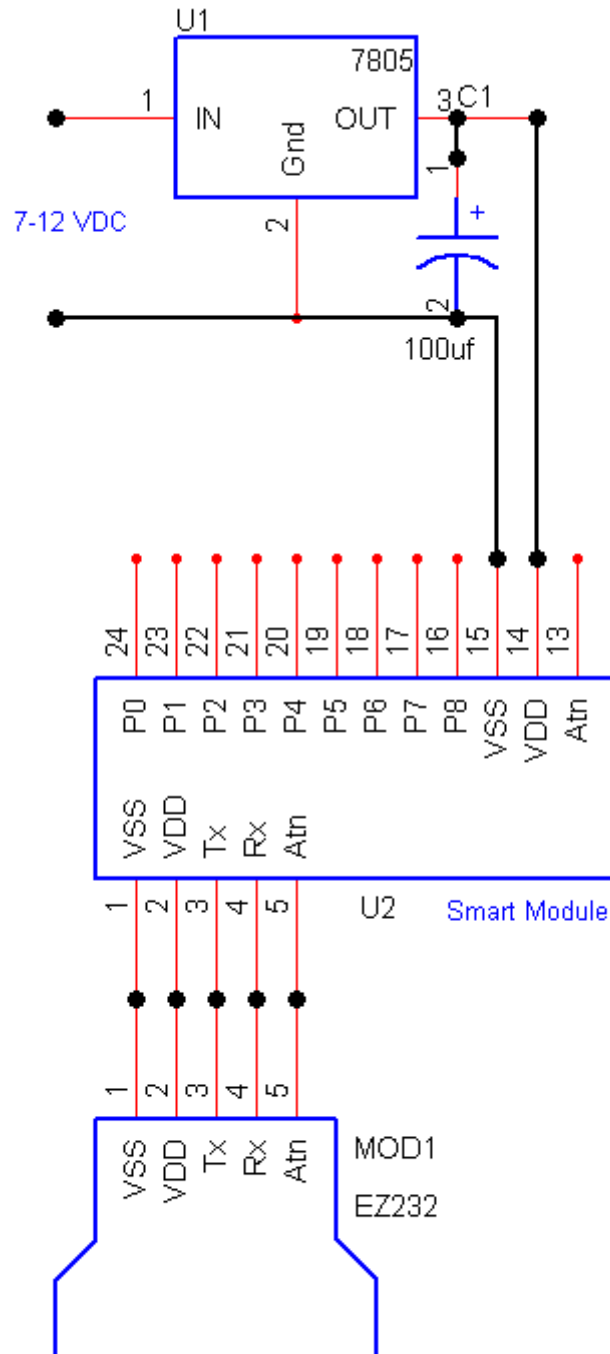
- Atn
- Device Tx / PC Rx
- Device Rx / PC Tx
- +5v / vdd
- Gnd/Vss



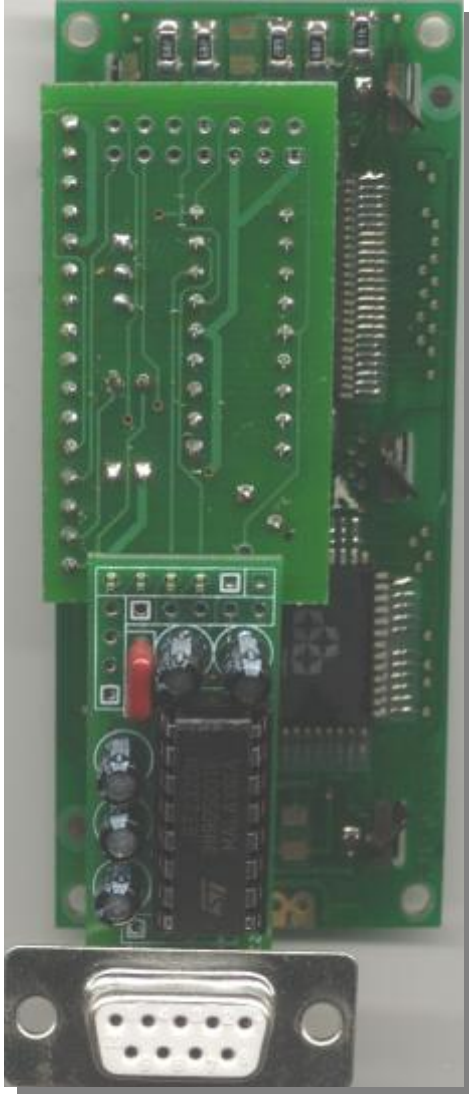
- Atn
- Device Tx / PC Rx
- Device Rx / PC Tx
- +5v / vdd
- Gnd/Vss

- 9 Pin Connector**
- 2 - PC Rx
 - 3 - PC Tx
 - 4 - PC Dtr
 - 5 - PC Gnd

Typical hookup using Kronos Robotics Easy RS232



Hookup



Here is one way of permanently connecting the Easy RS232 to the Backlit Serial LCD.

If you don't want to make the connection permanent there are a few other options available to you.

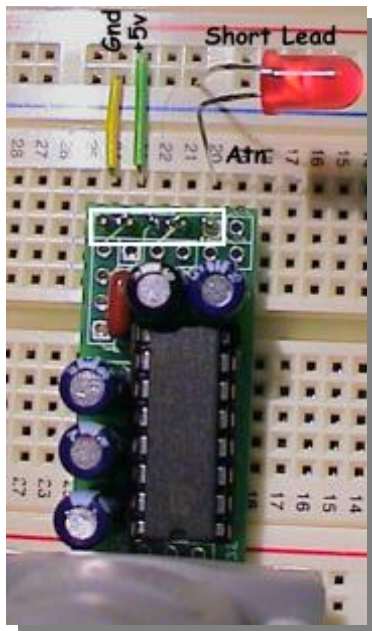
You can use one of my 12 pin female headers (cut it down to 3 or 4 pins) and use it for a removable connection.

Here is a cable that I made with a 5 pin male header and a 5 pin female header.

Also I have a female to female 5 pin cable. Between the two I can connect my Easy RS232 to any thing.



Testing the Easy RS232



Step 1

If you just built the RS232 Driver you may want to perform the following test.

If you know the driver is working properly you may want to skip this section and proceed to the next section testing the connection to the Smart Module.

Connect the Driver as shown.

- A. Plug the PC cable into the PC and the Driver
- B. Plug the Driver into a Bread Board
- C. Apply power as shown in this manual.
- D. Connect a LED/Resistor to the Atn lead and Gnd. Note that the short lead connects to Gnd. Note that the LED shown has an internal resistor. If yours does not you need to connect a 100-390 ohm resistor in series with one of the leads.

Step 2

With power applied the LED should glow. This is the idle state of the driver. Select the Test LED button. Watch the LED. It should go out for about 100ms then come back on.

If it does not blink check the following.

- A. Be sure you have the correct com port selected.
- B. Double check your soldering on the RS232 Driver.
- C. Check to make sure all the negative side of the capacitors are facing the header pins. (right side)
- D. You have power to the driver.
- E. You have the proper 9 pin male to female straight through cable
- F. That you cable is properly connected.
- G. Make sure that the Driver chip is inserted properly into its socket.



Note

If you purchased the Easy RS232 for use other than the Smart Module Programming you can perform the same test by raising DTR.

Links

Be sure to visit the Kronos Robotics web site for more information and updates and example code.

Web Site

<http://www.kronosrobotics.com>

Full color assembly instructions

<http://www.kronosrobotics.com/products/pdfs/pdfs.htm>