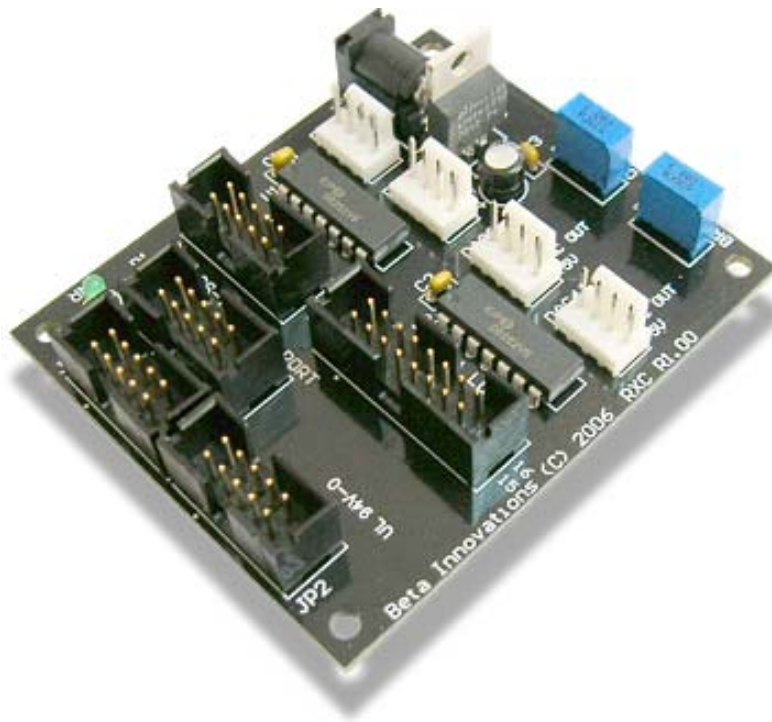


# RXC Expansion Card



**Product ID.** : RXC  
**Rev.** : 1.00  
**Date** : Nov 23, 2007  
**Firmware Rev.** : N/A

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## Connecting the RXC Card

**IMPORTANT:** DO NOT PLUG the RXC card into any port while the USB module is powered. Turn off power to the module before installing the RXC card.

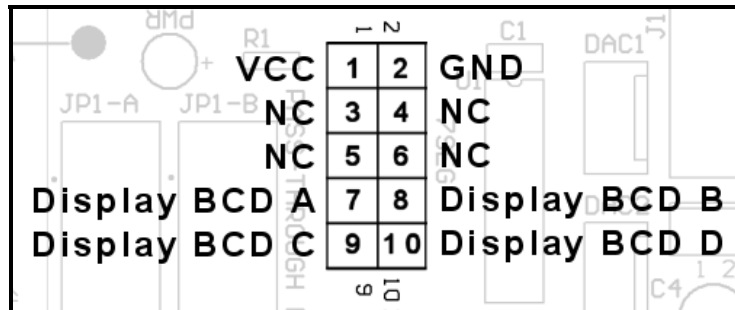
The ACE port of the RXC must be connected to the Plasma-Lite using the cable provided or the RXC card will not function. The RXC card is a passive device and will not be automatically detected by your USB module. You will need to activate the various ports of your module and set them to the desired modes in the Device Manager utility in order to use the RXC features.

Refer to the Device Manager utility help file for details on activating port features on your USB module.

1. Connect **JP2** on the RXC to the ACE port on the Plasma-Lite (**JP2**) using keyed ribbon cable.
2. **(Optional)** Connect **JP1A** on the RXC to the HAT port on the Plasma-Lite (**JP1**) using keyed ribbon cable only if you intend to connect a shifter display (SD9 or 7-Segment display) or gauges to the RXC card.

## Connecting a Shifter Display

1. Configure the HAT port (channel 2) on the Plasma-Lite for *Shifter Display* support. Refer to device manger help file for details.
2. If you have purchased an SD9 display, simply plug it into the **7SEG** port on the RXC card using a keyed ribbon cable. For standard 7-segment displays, use the following pinout:



## Connecting an LCD Display

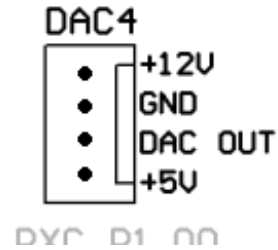
1. Configure the ACE port on the Plasma-Lite for *Character LCD 20 x 4* support. Refer to device manger help file for details.
2. If you have purchased an LCD with attached ribbon cable, simply plug it into the **20x4 LCD** port on the RXC card using a keyed ribbon cable. For standard 7-segment displays, use the following pinout:

	1	2	
Vss			VCC
VLc			RS
R/W			EN
NC			NC
NC			NC
D4			D5
D6			D7
VB+			VB-

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## Connecting Air-Core Movements

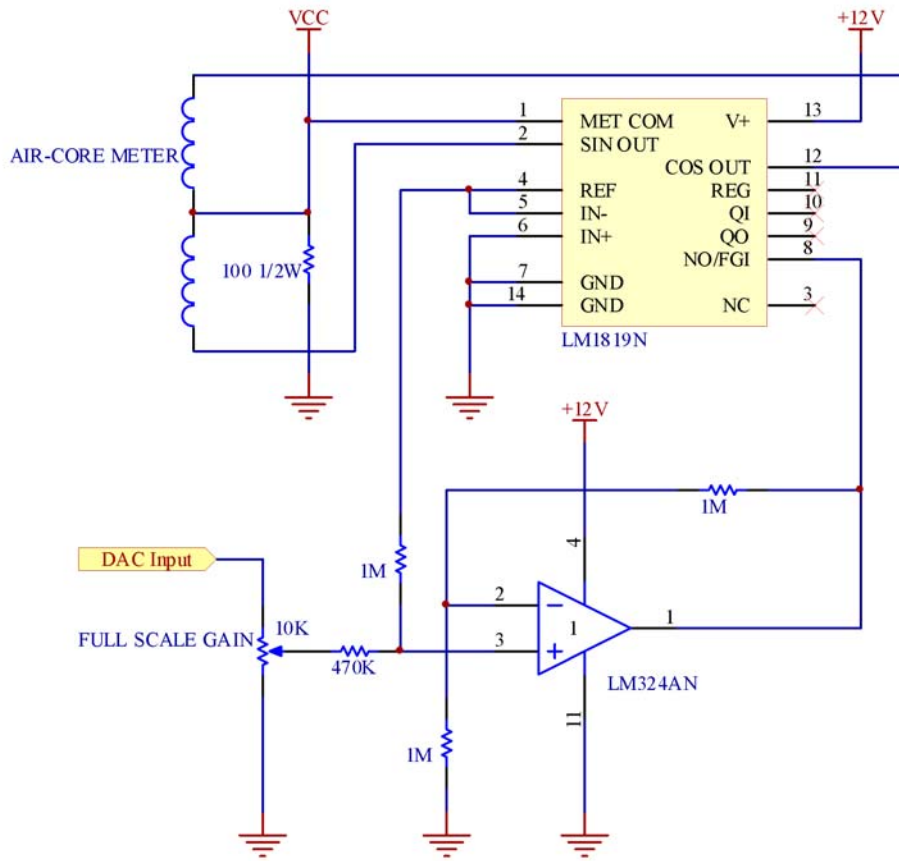
1. Configure the HAT port (channel 1) on the Plasma-Lite for *12-Bit DACs* support. Refer to device manger help file for details.
2. Connect a suitable 12VDC @ 1A adapter (2.1mm plug) to **J1** on the RXC card.
3. If you have purchased the AC305A or AC305B air-core movements, plug them into any of the DAC output connectors on the RXC card using the cables provided or use the following pinout for your connections:



Follow the air-core calibration procedures as defined in the documentation provided with your air-core movement circuits.

### 305 Degree Air-Core Movement

The schematic below may be used to control the meter movement through 305 degrees from a 0V–5V analog input source.



## Calibration Procedure

The DACs produce a 0 to 5V output. In order to calibrate the driver circuit, use the USBDACs.exe test utility provided with the toolkit for the following procedure:

1. Set the output to 0V. Press the needle onto the Air-Core shaft at the minimum position on the gauge.

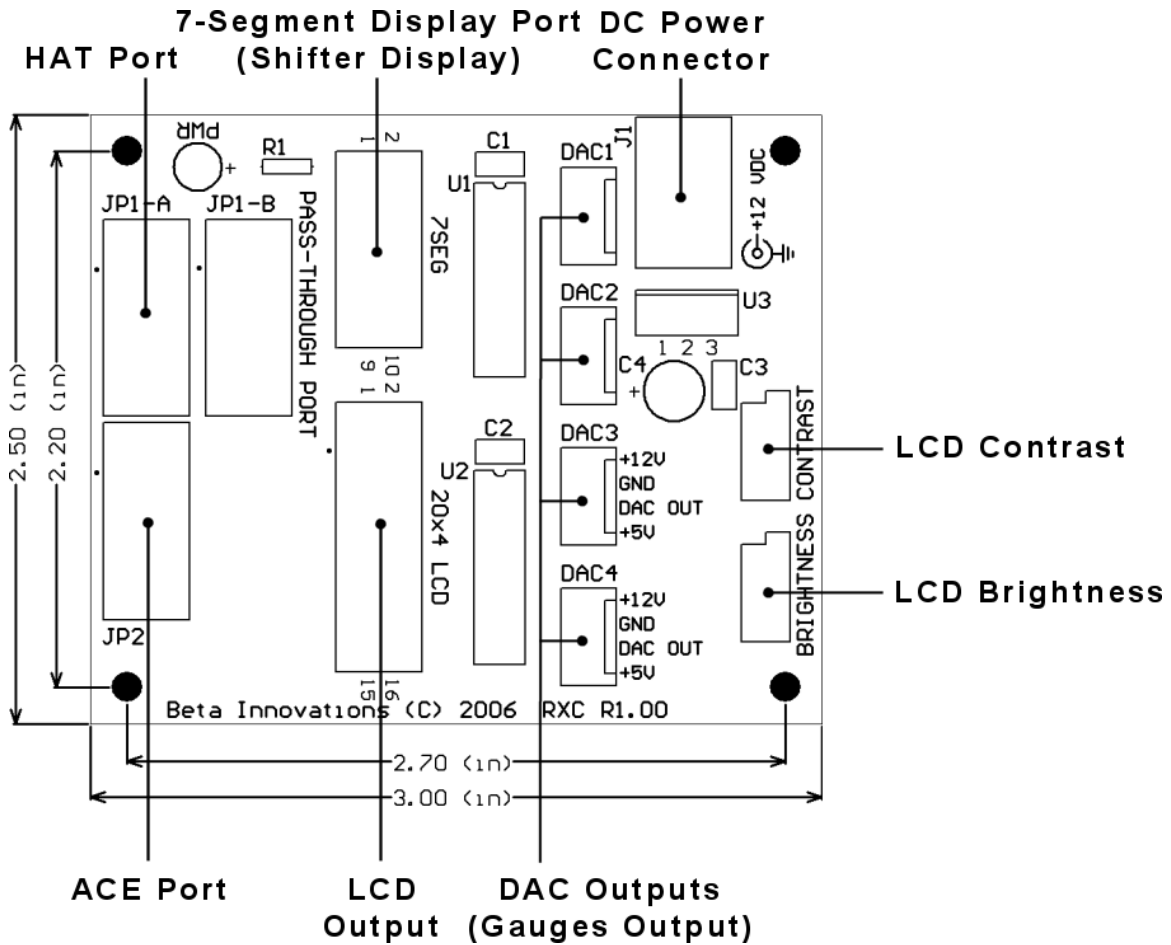


2. Set the output to 5V. Adjust the FULL SCALE GAIN trimpot so that the needle moves to the maximum position on the gauge.



The Air Core driver circuit is now calibrated and will not need to be adjusted unless the physical meter range is changed. Additional in software calibration may be required depending on the intended application. Refer to accompanying software help file for details.

## Mechanical Specifications



Visit [www.betainnovations.com](http://www.betainnovations.com) for the availability of expansion modules and accessories.