



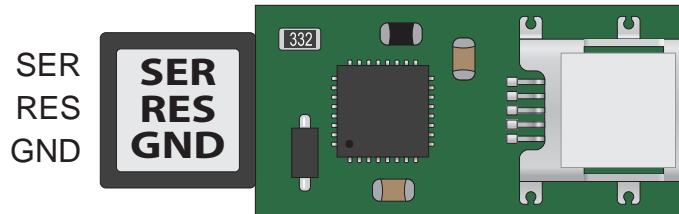
# BASIC MICRO

TECHNOLOGY AT WORK

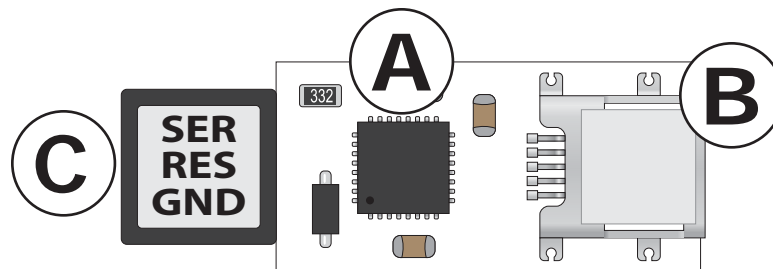
BasicATOM Nano USB2Serial  
Data Sheet

**Feature Overview:**

- FTDI USB to Serial Chip
- Bus Powered
- USB 2.0 Full Speed (12mb)
- Compact
- Solderless Breadboard Friendly

**Basic Description**

The Nano USB2Serial adapter can be used to program the BasicATOM Nano series of micros. It is based on the FTDI USB to serial micro. The 3 pin header is solderless breadboard friendly with the included 3-pin male header installed. The USB programmer is bus powered. It is recommended the programmer be connected directly to your PC and not through a hub. The Nano USB2Serial adapter is a simple USB-to-RS232 device. It can be replaced with almost any USB-to-Serial adapter.

**Hardware Overview:**

**A:** FTDI microcontroller, FT232RL.

**B:** USB connector, miniUSB Type B.

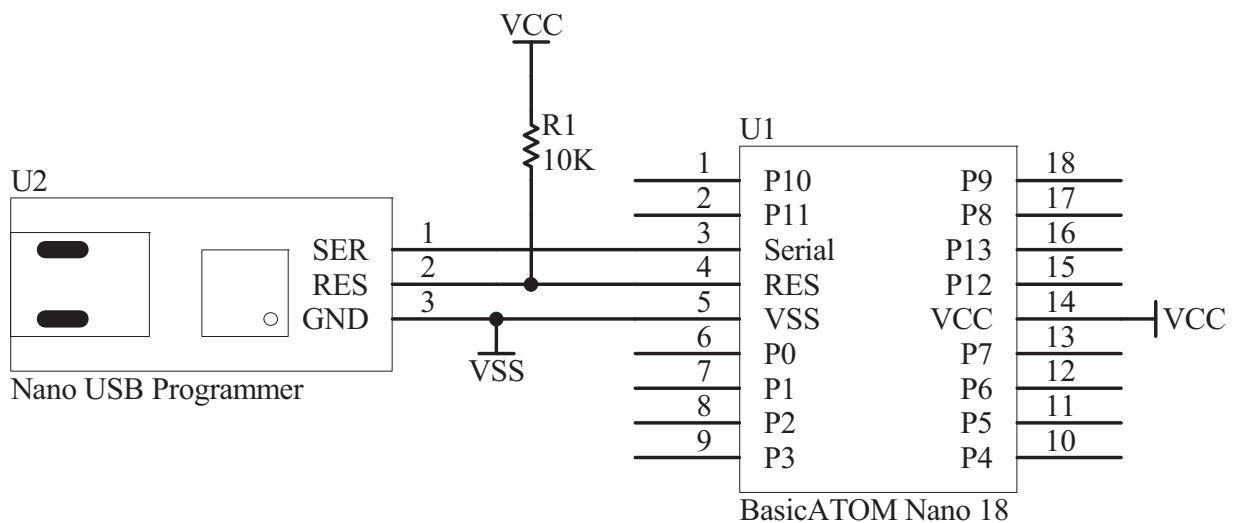
**C:** 3 pin header (.100 Centers), solderless breadboard friendly.

Pin Assignment Overview

Pin	Description
SER	<ul style="list-style-type: none"> <li>• Transmit bidirectional serial data</li> <li>• CMOS drive output 5VDC</li> <li>• TTL input 5VDC</li> </ul>
RES	<ul style="list-style-type: none"> <li>• Controls target RESET pin</li> <li>• 5VDC output</li> </ul>
GND	<ul style="list-style-type: none"> <li>• Common (GND)</li> </ul>

Programming The Nano

The BasicATOM Nano USB2Serial adapter is setup to program the BasicATOM Nano with relative ease. Only 3 connections are needed. The SER pin is a bidirectional serial I/O, RES is the reset control pin and GND is the common (VSS). The schematic illustrates how to connect the programmer to the Nano.



USB2Serial Adapter Bus Power

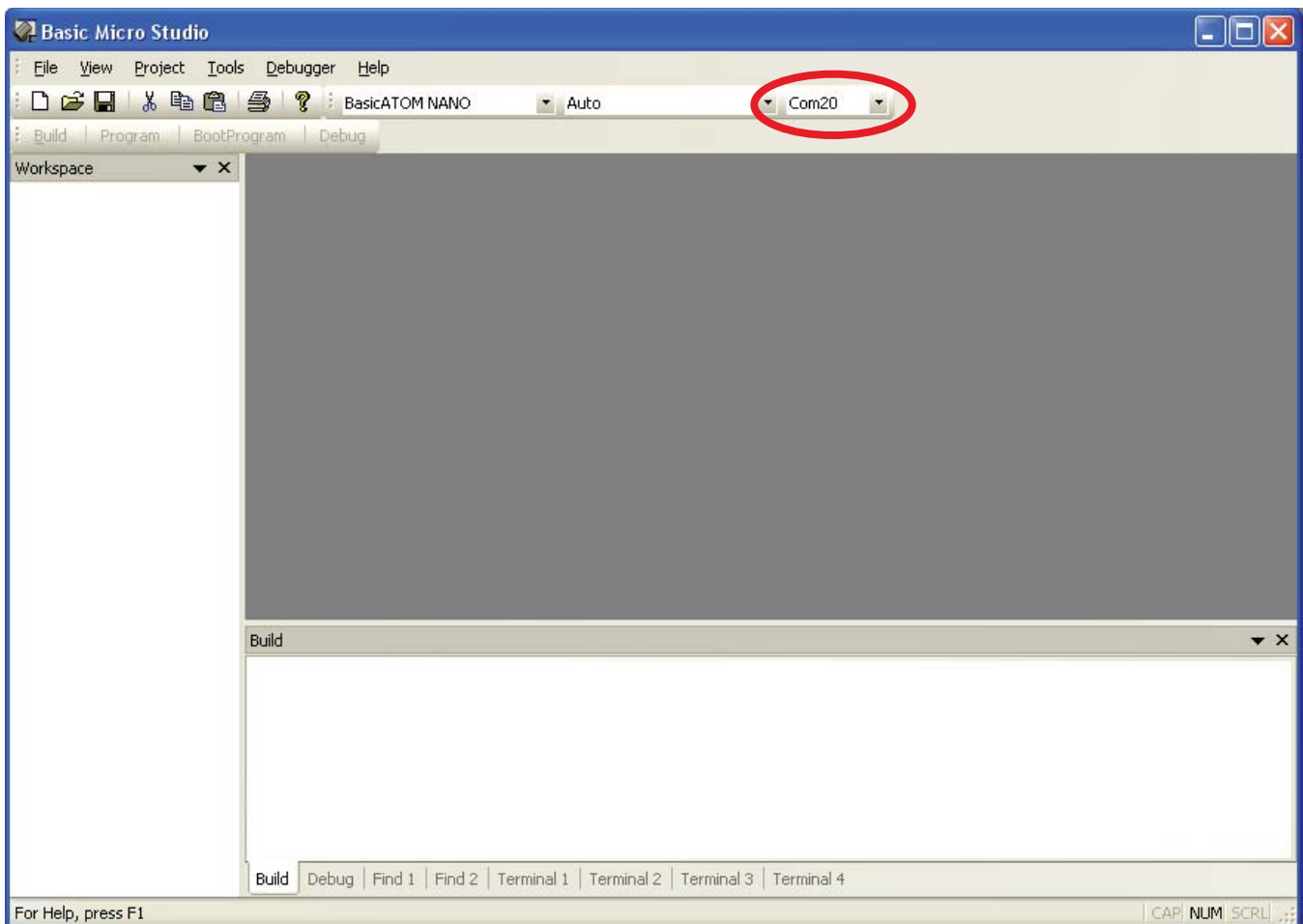
The USB2Serial adapter is BUS powered and does not require an external voltage. However once connected to an external device like the Nano Simon voltage is leaked from the I/O pins of the USB2Serial adapter. To prevent this, power the target device before connecting the USB2Serial adapter.

## USB2Serial Setup

Download and install Basic Micro Studio 1.0.0.14. Studio will automatically install the drivers for the USB2Serial programmer. Once you plug in the USB2Serial it will ask to setup the hardware. This is a two step process. The first part of the installation is setting up the FTDI BUS. The second part is the actual installation of the COM port.

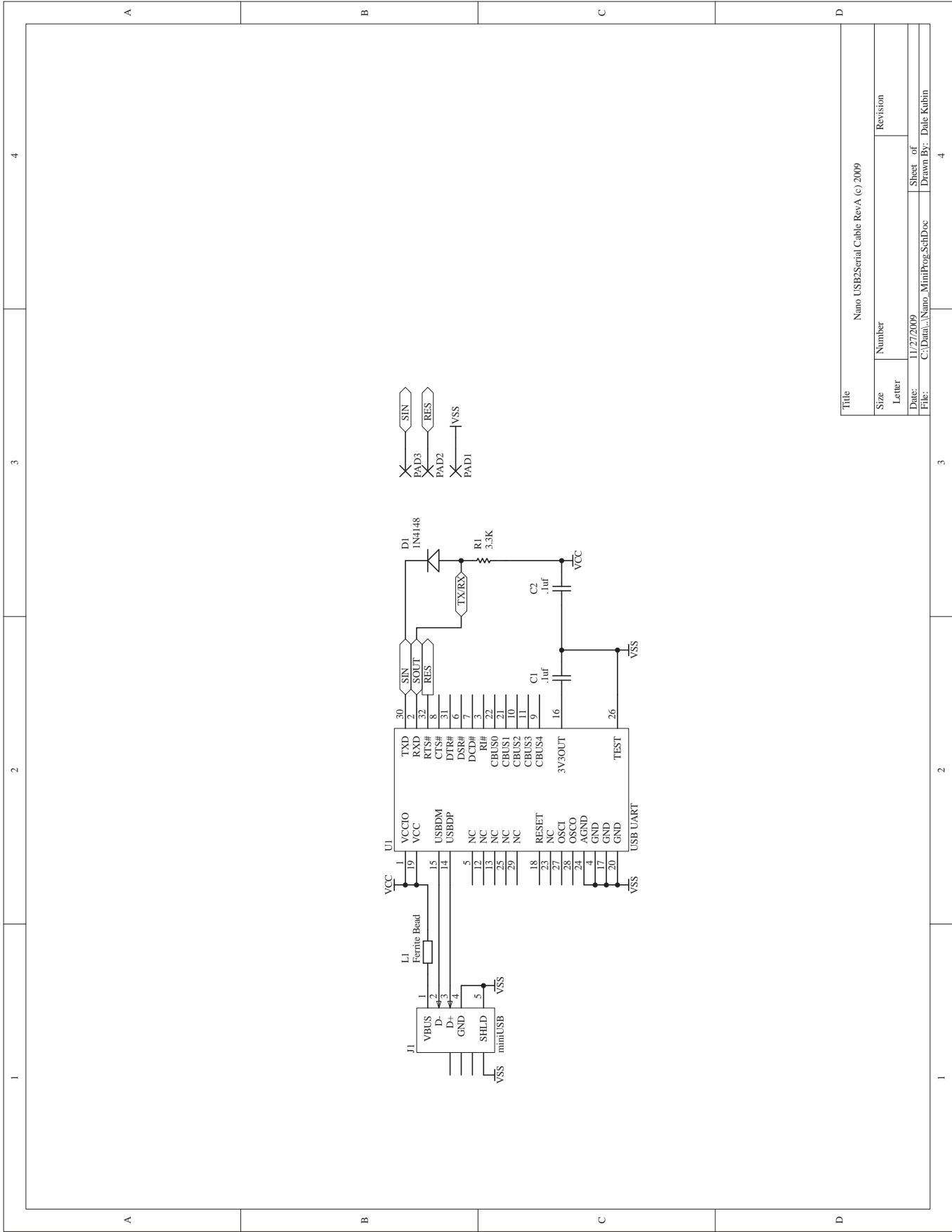
## Selecting the USB2Serial Adapter

Once you open Basic Micro Studio, you will need to select the correct COM port for your USB2Serial adapter. Select the drop down box shown below by clicking on it. Select the COM port the USB2Serial adapter was installed on. If multiple COM ports are installed and you are unsure of which com port to choose, you will need to select each one and attempt to connect to your Nano until you find the correct COM port.



## Electrical Characteristics

Characteristic	Value (Units)
VCC Range (min - max)	5VDC USB BUS PWR
Current Draw (Idle)	20 mA
Current Draw (maximum)	50 mA
I/O Voltages (Low / High)	0.0V / 5.0V
I/O Logic	TTL / CMOS
I/O Maximum Current	6 mA sink, 6 mA source
Temperature Range	-40 to +85 C



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**Discussion List**

A web based discussion board is maintained at <http://www.basicmicro.com>.

**Technical Support**

Technical support is made available by sending an email to [support@basicmicro.com](mailto:support@basicmicro.com). All email will be answered within 48 hours. All general syntax and programming questions, unless deemed to be a software issue, will be referred to the on-line discussion forums.