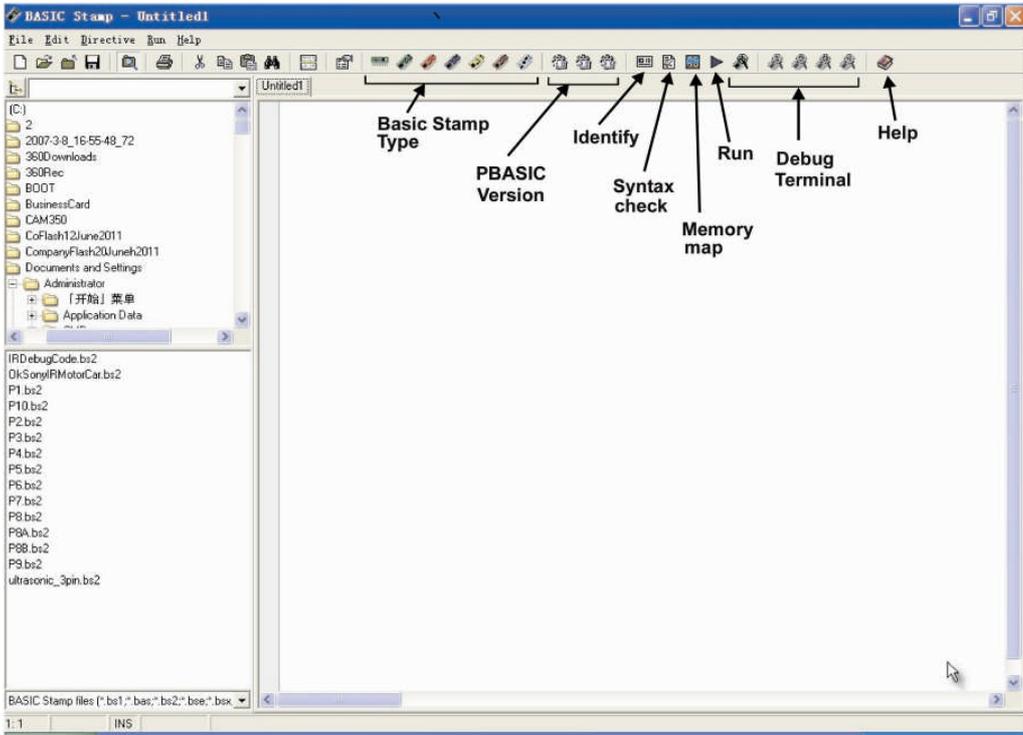


## BASIC Stamp Program Editor: write program and download program to BASIC Stamp

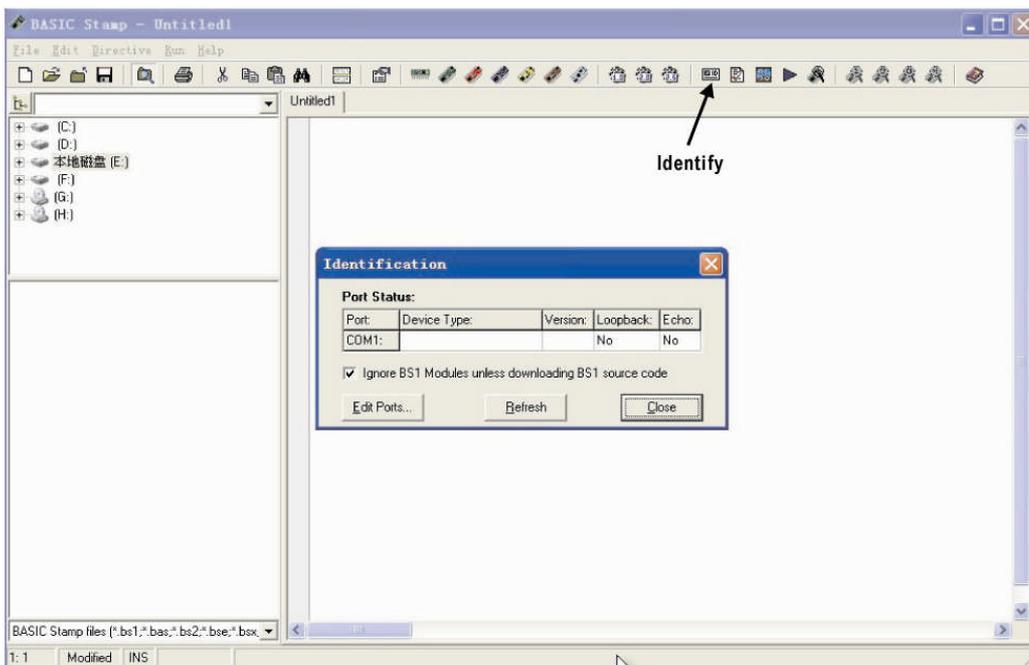
1. Connect the PC with the StampBot through the RS232 port.



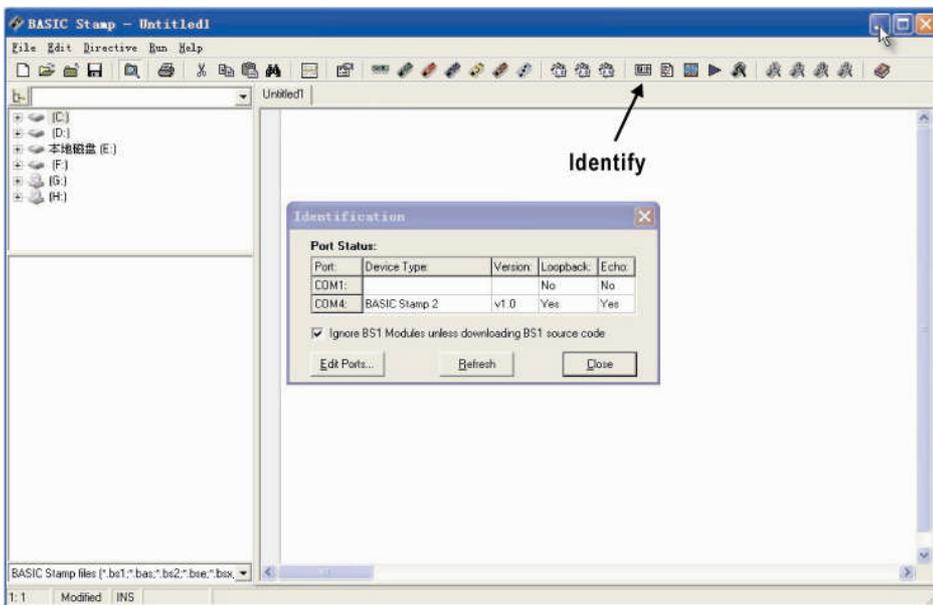
2. Double click the BASIC Stamp icon.
3. A program called the "Stamp Editor" will be running as shown. This is a program that allow you to write and download PBASIC programs to the BASIC Stamp microcontroller.



4. Click Identify icon to check the connection between PC and the BASIC stamp. (Make sure the BASIC Stamp is inserted on the StampBot and the StampBot is switched on, ie. power LED is lit.)



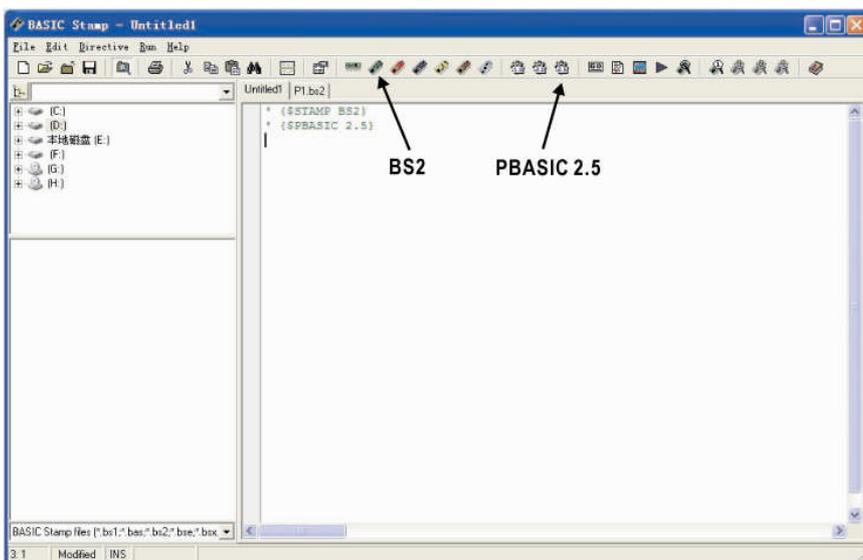
No BASIC Stamp is connected.



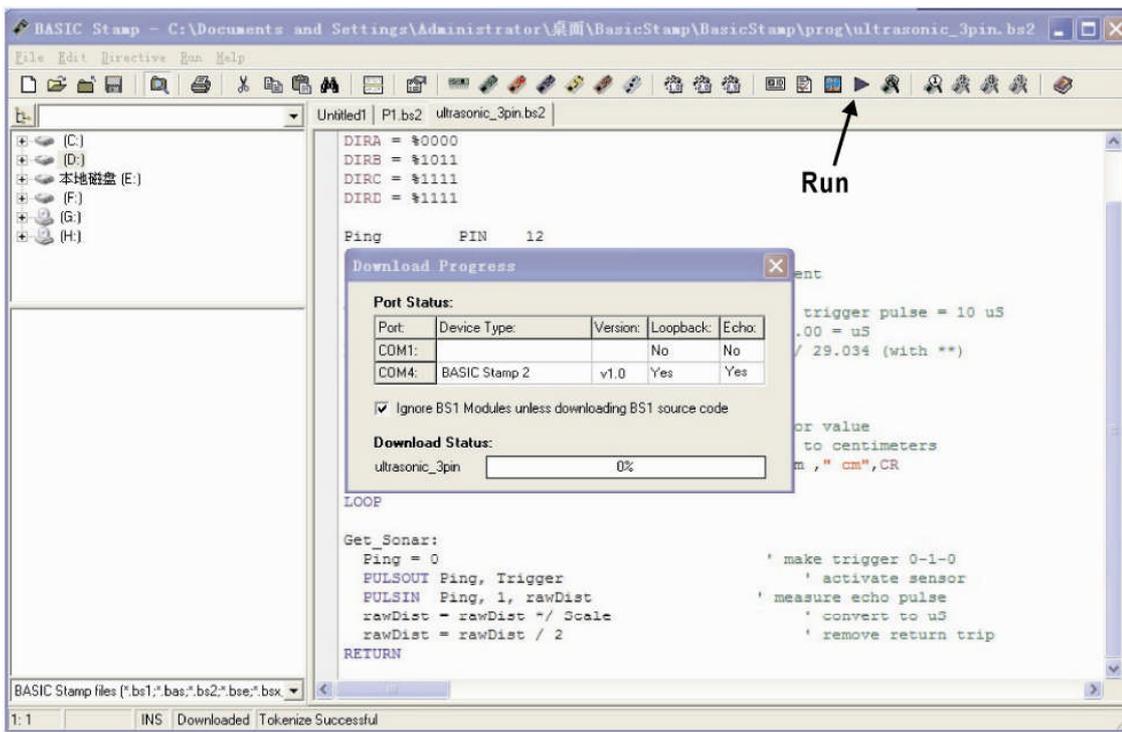
BASIC Stamp is connected.

### Program writing

1. Click the BASIC stamp type icon to select suitable type of BASIC stamp. Suitable type BASIC stamp directive will be created at the top of the program.
2. Click the PBASIC version icon to select suitable version PBASIC programming language. Suitable PBASIC directive will be created at the top of the program.



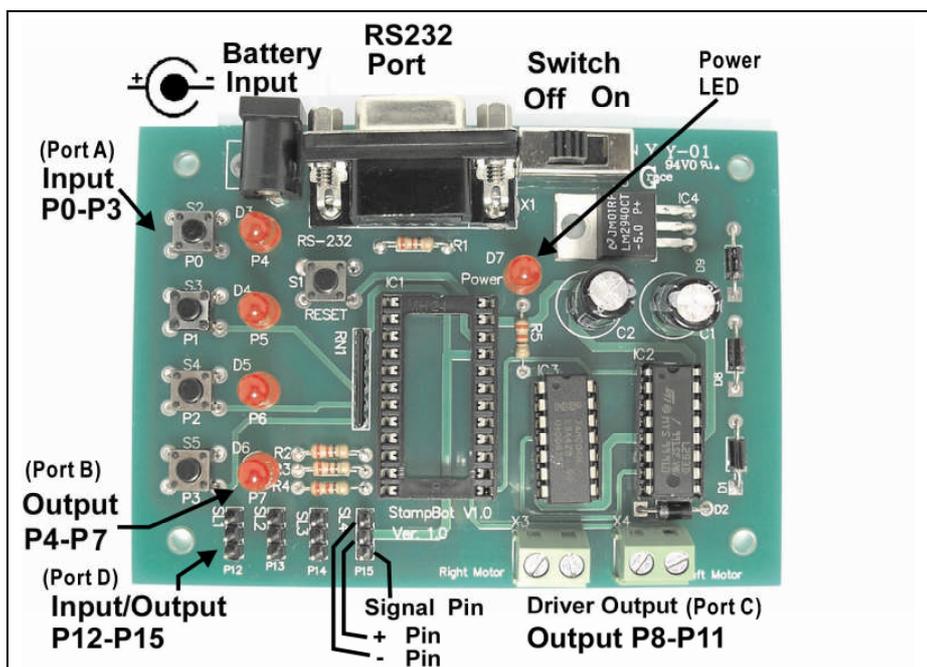
3. Write the program according to the sequence of required processes.
4. Click the syntax check icon, if any error found correct it first.
5. Click the run icon, the program will be downloaded to the BASIC stamp. (Ensure the StampBot power is turned on.) A green bar can be observed during downloading.



A program is a list of instructions that a computer/microcontroller can be executed according to the instructions sequence. We create a program for the microcontroller by typing it into a PC and download this “code” through the RS232 cable to the microcontroller. This program then executes inside the microcontroller (BASIC Stamp).

### StampBot developed by IVE-Tsing Yi Engineering Department

IVE StampBot is a double side PCB requires 9 volts to operate. It consists of 16 I/O pins which are assigned as:  
 PORTA connected to 4 Push-Buttons, (I/O Pin 0 – Pin 3, when any button is pressed, input 0 to the corresponding pin.)  
 PORTB connected to 4 LEDs, (I/O Pin 4 – Pin 7, when any LED lit, output 1 to the corresponding pin.)  
 PORTC connected to 4 terminals, (for motor or other large current devices),  
 PORTD connected to 4 optional I/O pins,  
 a BASIC stamp 24 pin socket,  
 and a RS232 port.



Identification on components of StampBot

## Pin assignment of IVE StampBot

Pin	Port Name	Nibble Name	Description	Assigned I/O
P0 to P3	PORTA	INA	4 PushButtons	Input
P4 to P7	PORTB	OUTB	4 LEDS	Output
P8 to P11	PORTC	OUTC	2 nos of motor control	Output
P12 to P15	PORTD	IND or OUTD	4 optional I/O	Input or Output

In programming the BASIC Stamp, it is more convenient to deal with bytes (8 bits), nibbles (4 bits) or individual bits rather than the entire word (16 bits) . PBASIC has built-in names for these elements. The IVE StampBot adopted the Nibble Names and PBASIC I/O commands INA, OUTB, OUTC and DIRD can be used.

Examples:    Input from PortA (P0 – P3),                    INA  
                  Input from P0 of PortA,                        IN0  
                  Output from PortB (P4 – P7),                    OUTB  
                  Output from P4 of PortB,                        OUT4  
                  Define the I/O status of PortD (P12 - P15)        DIRD  
                  Define the I/O P12 status of PortD                DIR12