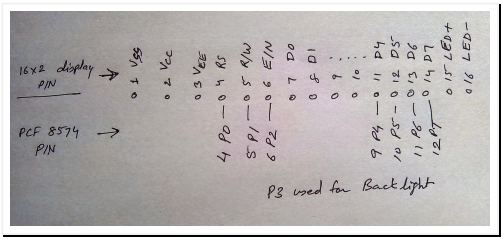
brainstormABC

This Blog is for the Hobbyist and Students who are interested to make some interesting projects by there own. I also keep doing experiments with Electronic projects and Micro-controller based projects. It is a way of shearing the idea and enjoy learning new things. I have also made few projects for school going kids. This Blog is for education related projects ...

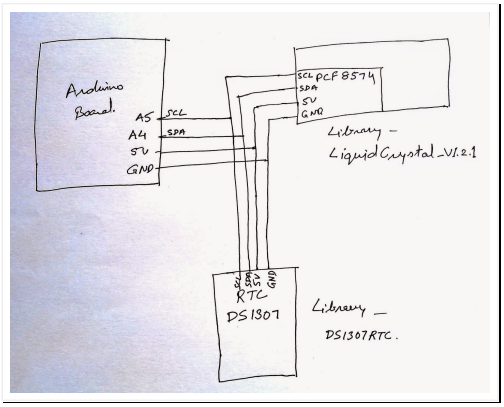
Wednesday, October 29, 2014



Clock Based on Arduino I2C by Using RTC DS1307 and 16x2 LCD display Based on PCF8574

It is a very simple project based on Arduino board and the communication between the Arduino board and RTC and LCD is based on I2C Bus. Two Library are used in this project and are available on line named as DS1307RTC and another is LiquidCrystal_V1.2.1

The Schematic of the connection is as under



The video is also uploaded on youtube

About Me

brainstorm ABC

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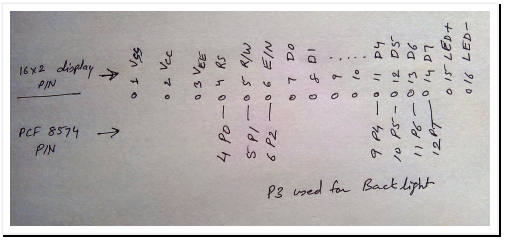
It is to be take care while connecting the LCD display and PCF8574 based board. it is to be verified that what pin is going to connect whit what.



The Sketch is also online. Please Click here to download my sketch to run this clock.

Posted by brainstorm ABC at 5:14 AM No comments:

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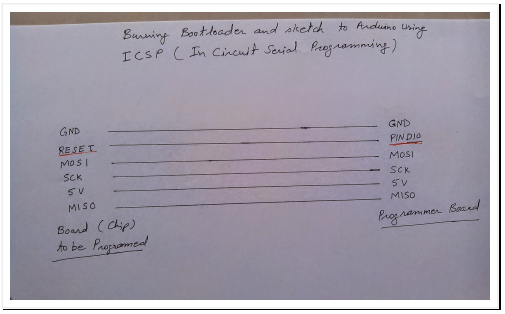
Tuesday, October 28, 2014

How to Burn Arduino Bootloader and Sketch using ICSP

It is always a riddle for the New Arduino user that how to burn the bootloader to the Microcontroller chip. when did started working with the Arduino it was also a riddle. Then after studying different articles and doing some practical work finally i cracked the riddle.

I have made a video to show how we can burn the Arduino bootloader to the Micro-controller Chip in three simple steps. It require One working Arduino board a Minimal Arduino configuration board on Bread board or an another Arduino Board and connector which we have to make ourself. The steps are

1, Make the Arduino Board as a ISP Programmer by loading a Sketch available with the Arduino IDE Example
2. Make the Connecter Cable to connect the board with ICSP
3, Burn the Arduino Bootloadder on the Micro-controller Chip



We can also Burn the Sketch using ICSP to the Chip in last porten of the video it is also demonstrated. So see the video and your ingestion and queries are always welcome.

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Posted by brainstorm ABC at 5:43 PM No comments:

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Wednesday, September 24, 2014

HOME MADE DOUBLE SIDED PCB

If you are interested to make any electronic circuit the PCB is required and if the circuit is a bit complex the single sided PCB doesn't works so it require the Double Sided PCB. I have made the Double sided PCB at Home the steps are very simple and easy to do. steps are

1. Get the printout of the PCB mirror image on the "Photo Glossy" paper by a Laser Printer in Best Quality since we are going to transfer the toner printout must to in the Best quality and the paper is to be Photo Glossy. Photo Glossy Paper easily allow the Toner to be transfer on the PCB coper clad.

2. Clean the copper clad properly using fine emery paper.

3. Fold the Printout paper in a precise way so the drill hole matches exactly for both top and bottom layer of the PCB. then put the coper clad with-it. Press with the hot Iron for about 10 Minutes for both sides.

4, Peel off the Glossy Paper from the PCB and we can see the toner transfer on the copper clad.

5. Now take the concentrated Ferric Chloride Solution and put this copper clad within it for about 20 minutes. stair the solution if you feel so. and observer in between. if you find the all extra copper is removed from the plat take it out from the solution.

6. wash the clad with the water and when it dry remove the toner (Black Ink) from the surface of the clad with a help of any paint thinner.

7. now drill the hole for the component.

8. it is double sided PCB so through hole is required. to do that i have used a very thin wire passed through the hole and soldered it both the side of PCB. it is tedious job but it is the only way i find to do the through hole at home.

9. Now your PCB is ready for populating the components.

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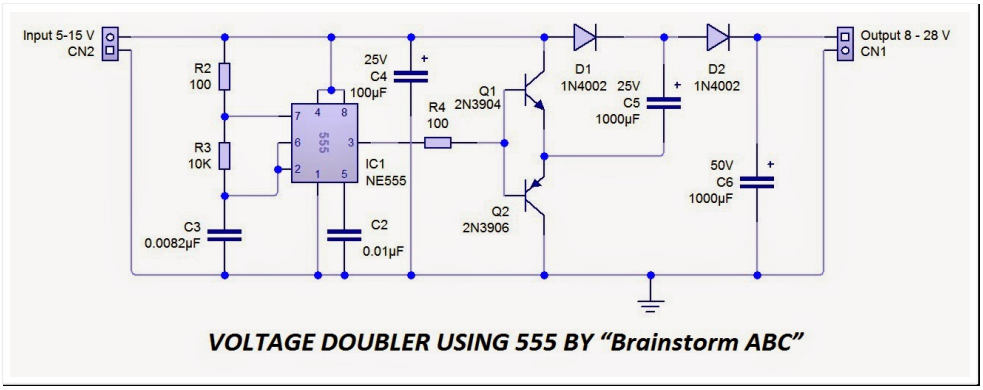
Posted by brainstorm ABC at 1:05 AM No comments:

Tuesday, September 23, 2014

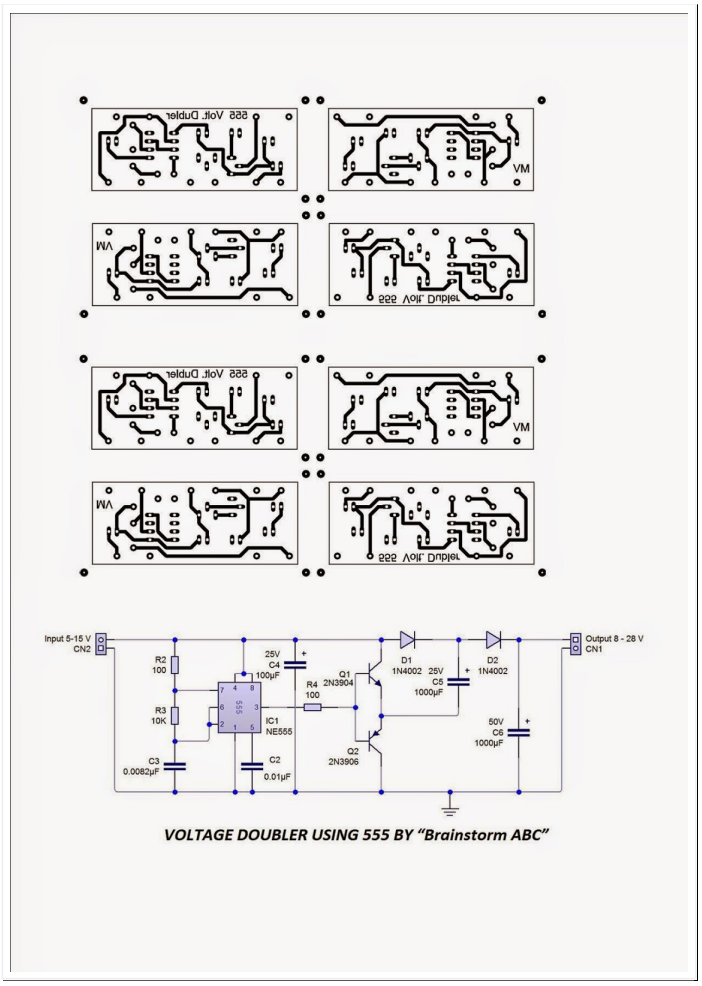
Voltage Doubler using 555 Timer

This dc voltage doubler circuit produces a voltage that is about double its input voltage supply. This is useful when a higher voltage level is needed out of a single lower voltage power supply.



The electronic circuit is a square wave generator using the LM555 timer IC. It is followed by a stage made of transistors Q1 and Q2. The actual doubler circuit is made of diode D1, D2 and Electrolytic Capacitor C5 and C6.
The 555 timer IC works as an astable multivibrator and generates a frequency of about 8 kHz.
you may use C3 0.01uF also, it will generate about 7kHz. if you want to use the input vltage up to 12 volt then the electrolytic capacitor raring should be 50V.

The square wave output drives the final stage made of Q1 and Q2. This is how the doubler works: by a low amplitude of the signal, transistor Q1 blocks while Q2 conducts. The minus electrode of the capacitor C5 is grounded and charges through D1. By a high amplitude of the signal, transistor Q1 conducts while Q2 blocks. However, capacitor C5 cannot discharge because it is blocked by D1. The following capacitor C6 is therefore charged with a combined voltage from C5 and the power supply.
To Download the Schematic and PCB layout click here . it is a double sided PCB layout.



On standby, the circuit delivers around 20 volts. The maximum load must not exceed 100 mA.
On lower current ratings, the voltage is higher.

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