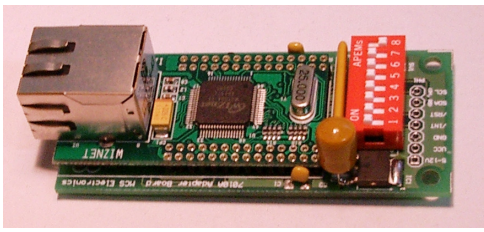
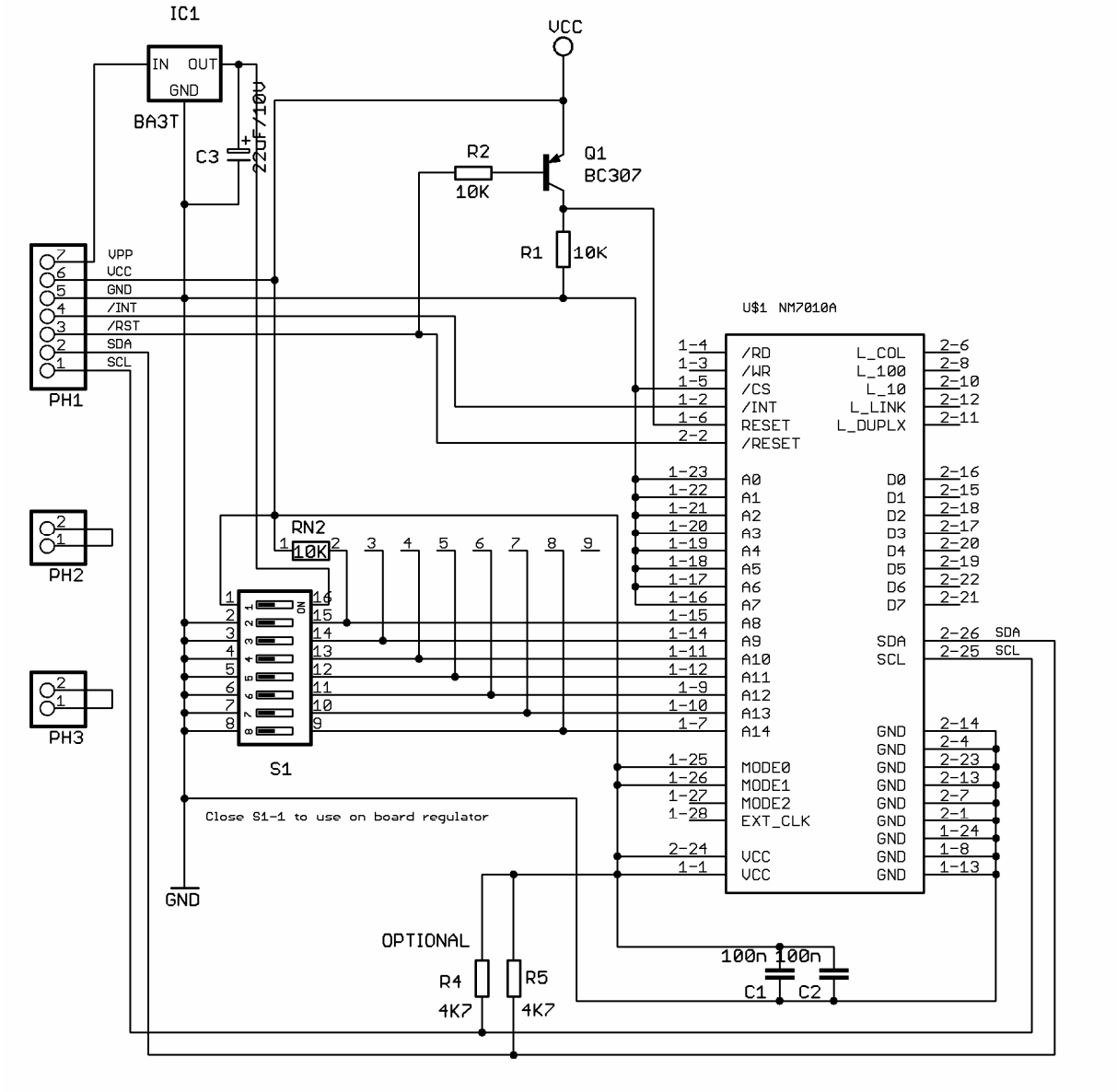
MCS ELECTRONICS
EMBEDDED SYSTEMS
BASIC COMPILERS
DEVELOPMENT

TCP-ADBV3



The TCP-Adapter board V3 is pin compatible with the TCP-Adapter board. It has one more pin and a 3V regulator.
The voltage regulator can be used to power the motherboard too.
The Input voltage can be as low as 5V. By closing DIP-switch S1-1, the output of the regulator is connected to VCC. You should not use both an external 3V power supply and the on board regulator.
The regulator can provide 500 mA current.



The 4K7 pull up resistors are optional and not mounted.

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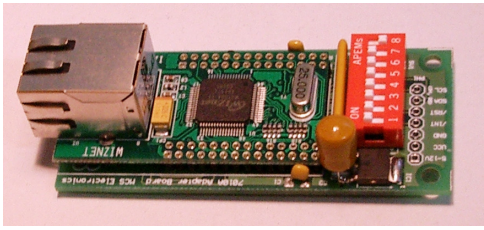
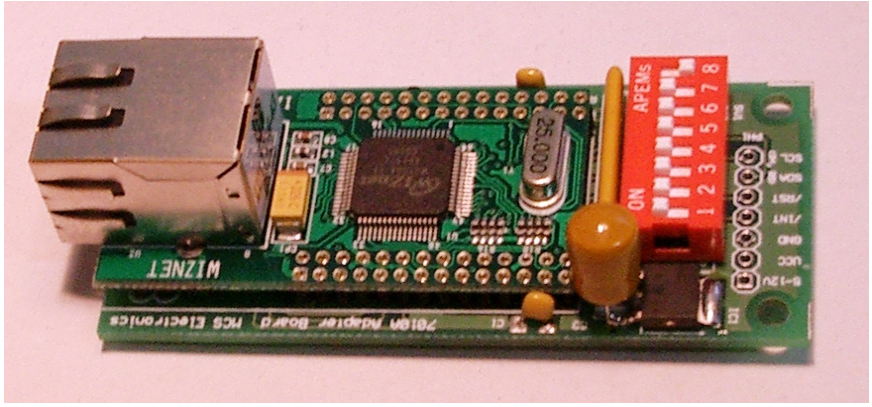


Pin	Description
1	SCL- The I2C/TWI clock line
2	SDA- The I2C/TWI data line
3	/RST – Inverted reset, make it low for a reset.
4	/INT – Interrupt. A low pulse will trigger the interrupt
5	GND – ground
6	VCC – 3V power, either from an external circuit, with the switch S1-1 open, or you can power your external circuit with 3V when you close S1-1
7	VPP – 5V-12V power supply. Do not exceed 12V.

The DIP-switch S1 has 7 switches to choose the slave address.
When a switch is closed, it is connected to ground.
When a switch is open, the pull up resistor will set it to logic 1.

Pin	Description
S1-1	Internal/external 3V power. Close for usage of on board regulator. Keep open when using an external 3V power.
S1-2	Slave select A1
S1-3	Slave select A2
S1-4	Slave select A3
S1-5	Slave select A4
S1-6	Slave select A5
S1-7	Slave select A6
S1-8	Slave select A7

The BASCOM examples have S1-2 to S1-7 closed so only A7 is '1' which results in a slave address of 128(dec).



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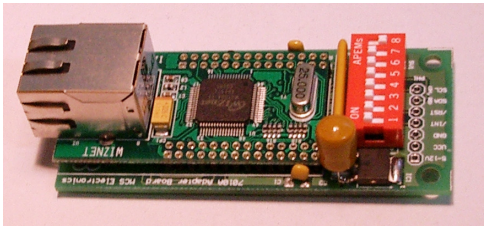
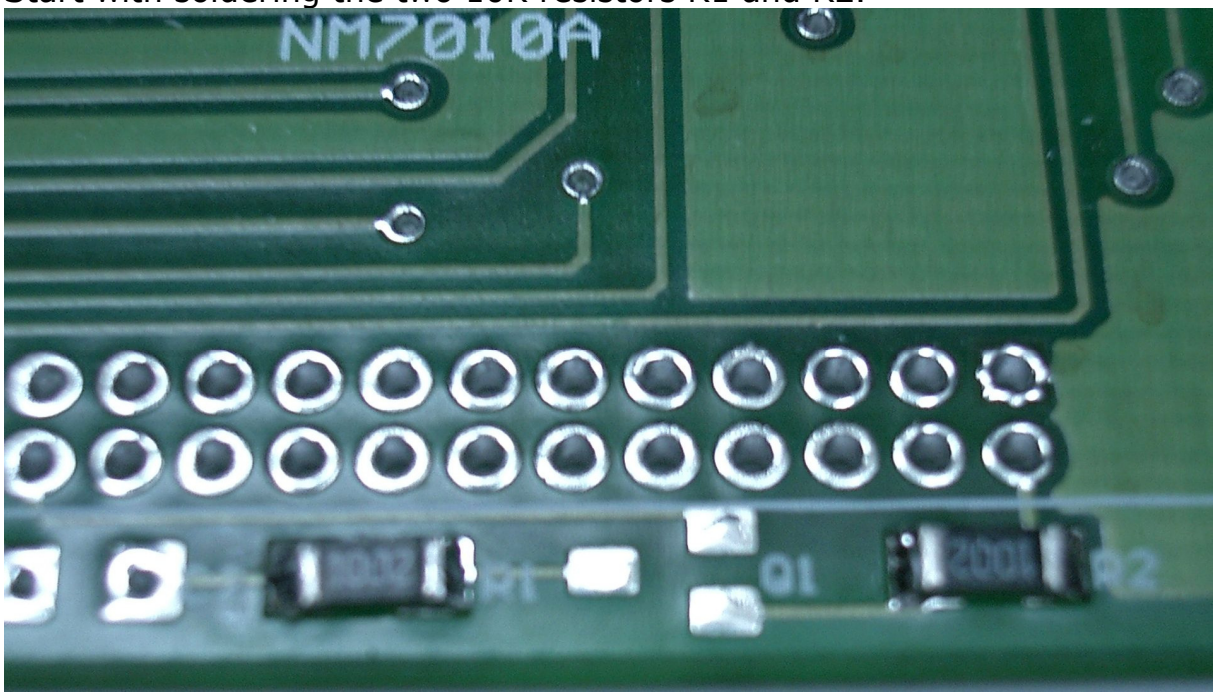


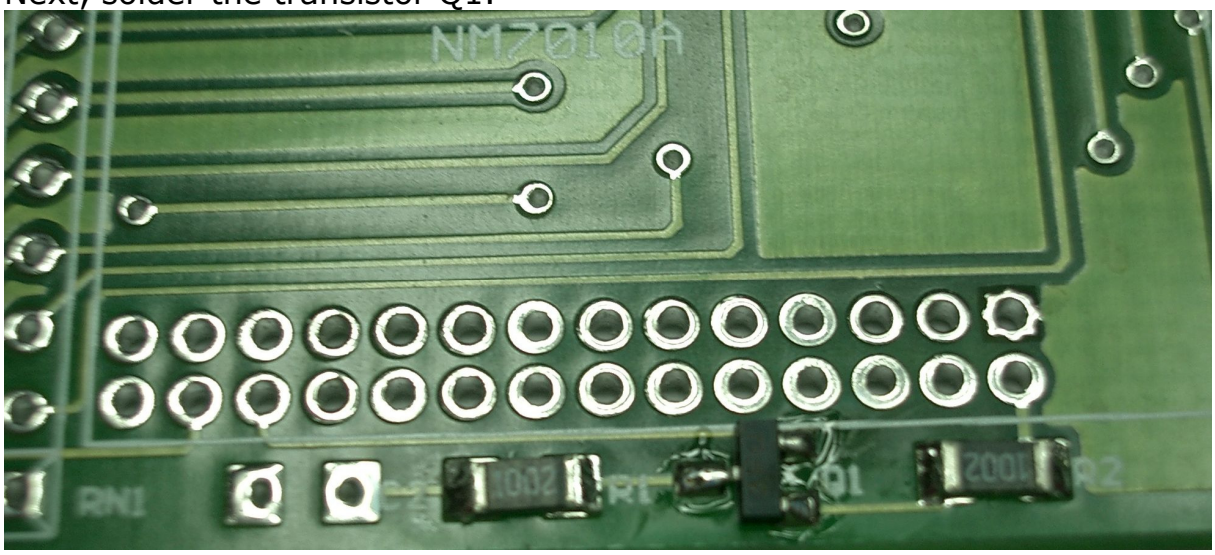
Construction

The board uses a few SMD parts. With a small solder iron these parts are simple to solder.

Start with soldering the two 10K resistors R1 and R2.



Next, solder the transistor Q1.



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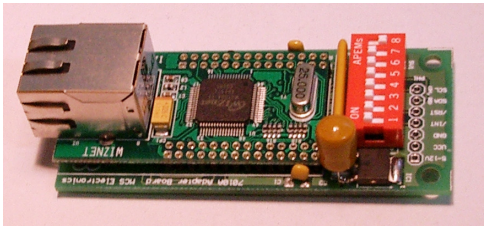
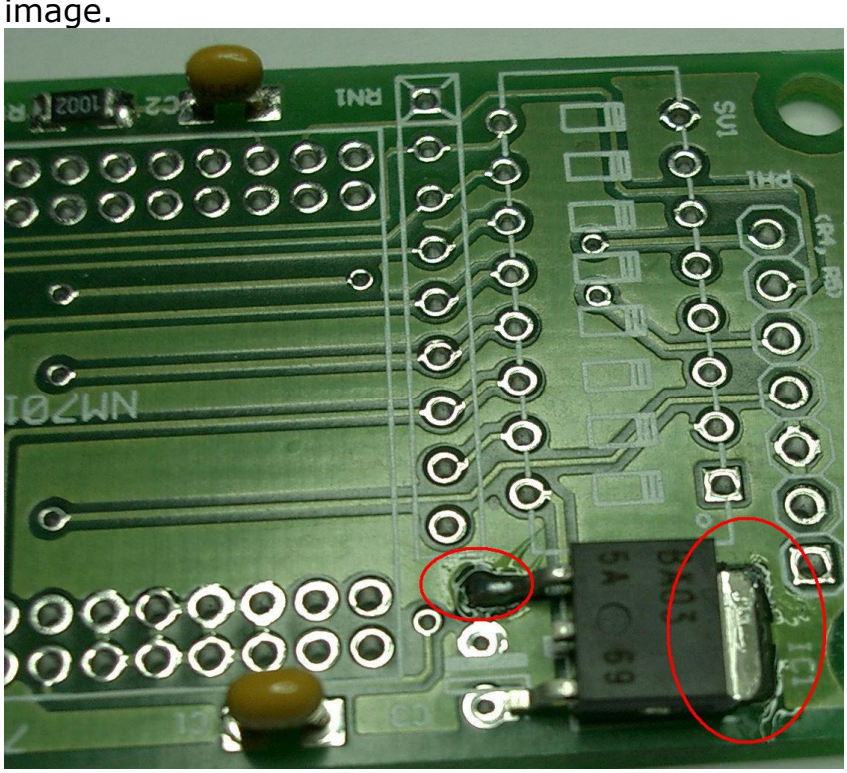
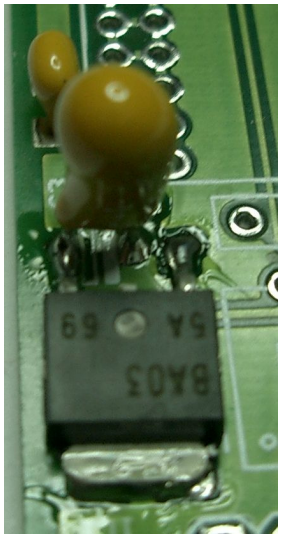


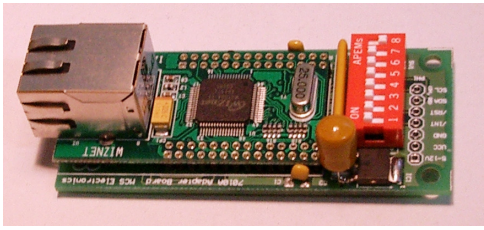
Now solder the two capacitors C1 and C2 and the voltage regulator IC1. Take care that you solder IC1 only on 2 points as shown in the following image.



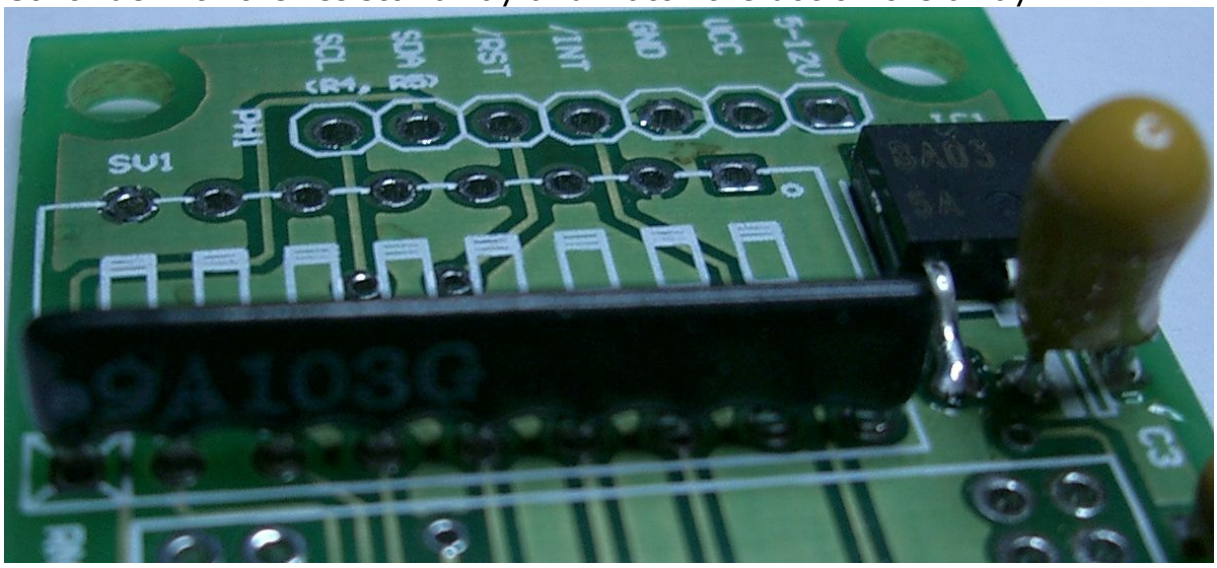
Next solder the capacitor C3. Now also solder the third part of the regulator.



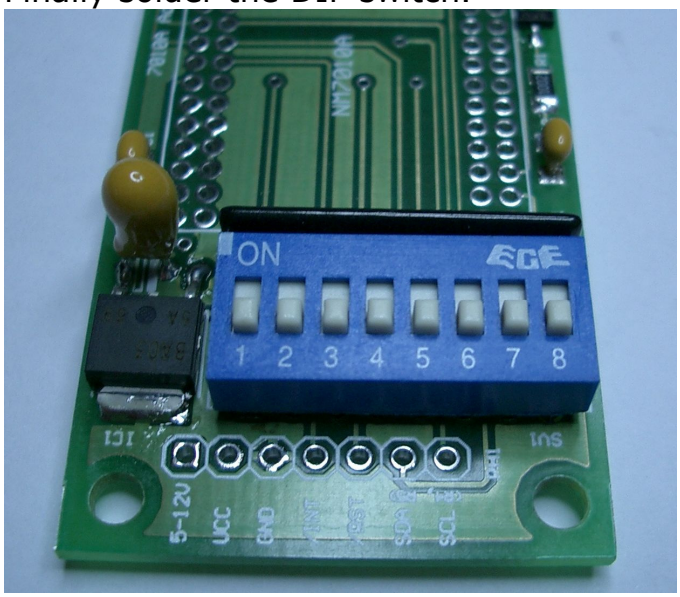
TCP-ADBV3



Continue with the resistor array and watch the dot on the array.



Finally solder the DIP switch.



Finish with soldering the NM7010A module.
The header pins are optional.