

# SCULLCOM HOBBY ELECTRONICS - ELECTRONIC DC LOAD

## Parts List

- 1 of Arduino Nano V3.0 ATmega328P CH340 5V 16MHz
- 1 of MCP3426A0-E/SN 2 Channel Analogue to Digital Converter (SOIC)  
(Farnell order code 1825012) (rsonline stock no. 703-7958)
- 1 of MCP4725A0T-E/CH Digital to Analogue Converter (SOT-23, 6 Pins)  
(Farnell order code 1578449) (rsonline stock no. 669-6290)
- 1 of AD8630ARZ Quad OP Amp (SOIC, 14 Pins) (Farnell order code 1078275)
- 1 of LM35DT/NOPB Temperature Sensor IC (TO-220, 3 Pins) (Farnell order code 1469235) (rsonline stock no. 535-9458)
- 1 of LM7812ACT 12 volt Linear Regulator (TO-220) (Farnell order code 2451064) (rsonline stock no. 704-4029)
- 1 of LM7805ACT 5 volt Linear Voltage Regulator (TO-220) (Farnell order code 2296047)
- 1 of NXP BUK956R1-100E MOSFET Transistor, N Channel (Farnell order code 2254218)
- 1 of TIP122 Darlington Transistor , NPN (Farnell order code 1467910) (rsonline stock no. 903-4437)
- 1 of 20x4 LCD Display Module (Blue) with I2C serial interface for Arduino
- 1 of 20 kohm, 500 mW,  $\pm 10\%$ , Trimpot, 25 Turns (BOURNS 3296W-1-203LF) (Farnell order code 9353240)(rsonline stock no. 521-9710)
- 1 of 10 kohm, 500 mW,  $\pm 10\%$ , Trimpot 25 Turns (BOURNS 3296W-1-103LF) (Farnell order code 9353186) (rsonline stock no. 521-9647)
- 1 of 12mm Shaft Rotary Encoder with push Switch  
BOURNS PEC11R-4225F-S0024 Incremental Rotary Encoder, Pro Audio, Continuous. 24 Detents, 24 Pulses, Quadrature Output (Farnell order code 2381866) or similar
- 1 of 1N4007 Diode
- 3 of 100 $\Omega$   $\pm 1\%$  0.6W metal film resistor
- 4 of 1K $\Omega$   $\pm 1\%$  0.6W metal film resistor
- 1 of 2K $\Omega$   $\pm 1\%$  0.6W metal film resistor
- 1 of 4.7K $\Omega$   $\pm 1\%$  0.6W metal film resistor
- 1 of 8.2K $\Omega$   $\pm 1\%$  0.6W metal film resistor
- 1 of 9.1K $\Omega$   $\pm 1\%$  0.6W metal film resistor
- 5 of 10K $\Omega$   $\pm 1\%$  0.6W metal film resistor
- 1 of 91K $\Omega$   $\pm 1\%$  0.6W metal film resistor
- 1 of 9.09K $\Omega$   $\pm 0.1\%$  250mW, (TE CONNECTIVITY / HOLSWORTHY H89K09BYA) (Farnell order code 1751546) (rsonline 701-7698)
- 1 of 909 $\Omega$   $\pm 0.1\%$  250mW (TE CONNECTIVITY / HOLSWORTHY H8909RBYA)(Farnell order code 1751439) (rsonline 701-7373)

1 of 0.1 ohm, TO-220, 35 W,  $\pm 1\%$  Current Sense Resistor (BOURNS PWR220T-35-R100F) (Farnell order code 2101746) (rsonline 796-2595)

1 of 1nf 100V 5mm Polyester Box Capacitor (Kemet R82EC1100AA50K}

10 of 100nF 63V 5mm Polyester Box Capacitor (Kemet R82DC3100AA50K)

5 of 10 $\mu$ F 16V or 25V

1 of 100 $\mu$ F 16V or 25V

1 of 470 $\mu$ F 25V or 35V

5 of Diptronics DTS-644K Square Button Through Hole 6 x 6mm Tactile Switch (Size 6 x 6 x 7.3mm)

From Rapid Electronics Ltd. (order code 78-1150). Direct link below:

<https://www.rapidonline.com/diptronics-dts-644k-square-button-through-hole-6-x-6mm-tactile-switch-100gf-78-1150>

1 of Diptronics KTSC-62R Red Round Button for Tactile Switches (Order Code: 78-1162)

1 of Diptronics KTSC-62G Green Round Button for Tactile Switches (Order Code: 78-1178)

1 of Diptronics KTSC-62B Blue Round Button for Tactile Switches (Order Code: 78-1176)

1 of Diptronics KTSC-62Y Yellow Round Button for Tactile Switches (Order Code: 78-1175)

1 of Diptronics KTSC-62K Black Round Button for Tactile Switches (Order Code: 78-1160)

<https://www.rapidonline.com/Catalogue/Searches?query=Diptronics%20KTSC-62&filterSearchScope=1>

1 of JST XH 2.54mm 0.1" - 2 Pin PCB Plug and Socket

[http://www.ebay.co.uk/itm/272253345370?\\_trksid=p2057872.m2749.l2649&ssPageName=STRK%3AMEBIDX%3AIT](http://www.ebay.co.uk/itm/272253345370?_trksid=p2057872.m2749.l2649&ssPageName=STRK%3AMEBIDX%3AIT)

1 of Fischer BL LP 1 36 S female header 2.54mm pitch vertical, low profile - cut to size for Arduino socket

<https://www.rapidonline.com/fischer-bl-lp-1-36-s-low-profile-fork-cont-female-header-1x36-vertical-2-54-au-54-4555>

1 of Single Row Header 36-Way 2.54mm pitch (PCB) Plug from TruConnect (Cut a 10 and 3 pin headers from)

<https://www.rapidonline.com/truconnect-single-row-header-36-way-pcb-plug-22-0545>

## **Additional Parts for Real Time Clock Add-On**

1 of MCP79410-I/SN I2C Real Time with EEPROM (SOIC-8) (Farnell order code 1823155) (rsonline 726-3949)

1 of 32.768KHZ Crystal Cylinder Radial 6pF 20ppm, 6.2mm x 2.0mm (Farnell order code 1641085)

2 of 10pF 5% 50V NPO 2.5mm Ceramic Disc Capacitor

1 of 100nF 63V 5mm Polyester Box Capacitor (Kemet R82DC3100AA50K)

1 of SOIC8 SMD to DIP8 Adapter PCB Board Converter (required is using matrix project board for RTC assembly)

1 of 4 pin SIP PCB socket connector in a single row format with 2.54mm pitch

<https://www.rapidonline.com/truconnect-ds1023-1-4-s01-4-way-single-row-pcb-socket-2-54mm-pitch-19-0083>

1 of BKL 10120522 1 x 5 Pin Header 2.54mm Pitch 3A Gold Plated (cut to use as 4 pin)

<https://www.rapidonline.com/bkl-10120522-1-x-5-pin-header-2-54mm-pitch-3a-gold-plated-50-8026>