

**I would really be grateful if you start to build the Digital Display, that you go to the Photrio thread and say hi. Also please post photos of your completed tester.**

Please refer to Photrio for further build help & to let us know you are building the digital Display.  
[Build a B&W film developing timer & twiddler - Cheap, Easy & it Works | Photrio.com Photography Forums](#)

(There is no separate thread for the Trigger-Timer digital Display)

GitHub repository where all documentation & code can be found. [billbill100 \(github.com\)](#)

## **MultiTrigger 3 Digital Parts V1.0      28/02 2024**

Below are links to the parts required to make the MultiTrigger 3 Digital Display.

Links are valid now, but of course could become dead in the future.

Links are a guide only. Use a supplier that ships your country.

Ordering from China either from eBay sellers or AliExpress, the parts will be much cheaper.

Note, often if buying from AliExpress, there is a free express shipping option, if buying parts over a set value.

From the links below, total cost was £9.57 (11.61 inc UK tax). This includes £1.99 shipping. Find something else for £2.60 or more & save the £1.99 :o)

### **1. Arduino Nano Development Board.**

They can be purchased with mini/micro/c USB connector & with or without soldered header-pins. Pick which one suits your needs. (Soldered type C is a safe choice)

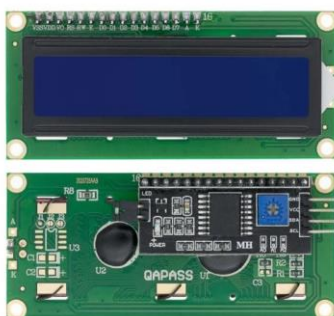


**328P-Welded-TYPE-C USB**

[Mini / Type-C / Micro USB Nano 3.0 With the bootloader compatible Nano controller for arduino CH340 USB driver 16Mhz ATMEGA328P - AliExpress](#)

### **2. LCD**

Choose Green or Blue, but ensure you pick the one that includes the I2C module



[LCD1602 I2C Display Module Blue Green Screen 5V PCF8574 IIC Adapter Llate for Arduino - AliExpress](#)

### 3. Case for LCD

This is a nice case for the LCD. It can be fitted to the back of the Trigger-Timer using a wooden block. The Arduino Nano board can be hot-glued to the inner bottom shelf. Note the photo shows the two sides reversed. The side with the cut-out aligns with the header-pins of the I2C module.



### 4. Dupont wires.

Get female to female Dupont Wires.

If placing the Nano in the case next to the LCD, 10cm wires are fine. If placing the Nano inside the Trigger-Timer box, then get 20cm wires.

(A small length of 2 core cable is also required to run to the AstroSplash box but not detailed in this parts list)



[Dupont Line 10cm/20CM/30CM Male to Male+Female to Male + Female to Female Jumper Wire Dupont Cable for arduino DIY KIT - AliExpress](#)

## 5. Resistors

The Trigger-Timer outputs around 8 volts on the test sockets. As the Arduino pin input voltage is max 5V, two resistors are used on each input to drop the voltage. **10k resistors** are required.



[100PCS/lot 1/4W Metal film resistor 1R~22M 1% 100R 220R 1K 1.5K 2.2K 4.7K 10K 22K 47K 100K 100 220 1K5 2K2 4K7 ohm resistance - AliExpress](#)

### Additional useful parts

#### **Glue Gun.**

Cheap glue gun, but surprisingly it works ok.

[20W Hot Melt Glue Gun DIY Mini Household Industrial Guns Heat Temperature Thermo EU Electric Repair Tool Use 7mm Glue Sticks - AliExpress](#)

#### **Soldering Iron Kit.**

Cheap soldering iron kit that has everything to get started. Works fine.

[Adjustable Temperature 80W Soldering Iron Internal Heating Type Household Electronic Welding Repair Tool and Tin Wire Bracket - AliExpress](#)

### Change Log

V 1.0