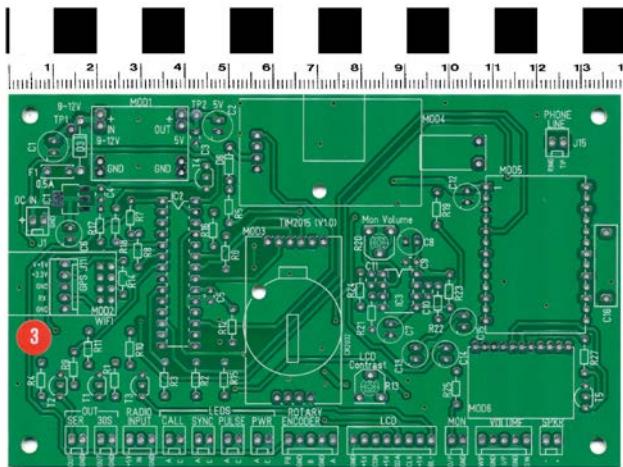


## TIM 2015 Parts and Modules

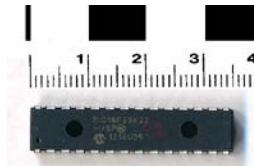
### Circuit board

Supplied as part of the kit



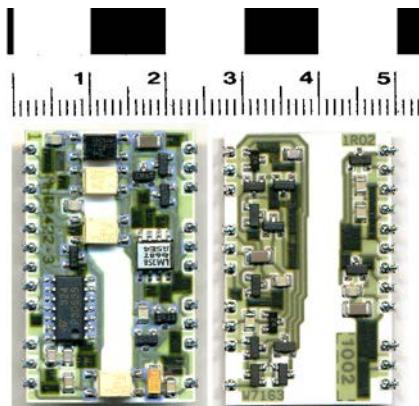
### PIC Processor

Pre-programmed with TIM2015 firmware. Supplied as part of the kit



### Mitel telephone interface module

I'm told these are now rare. It was supplied as part of the kit.

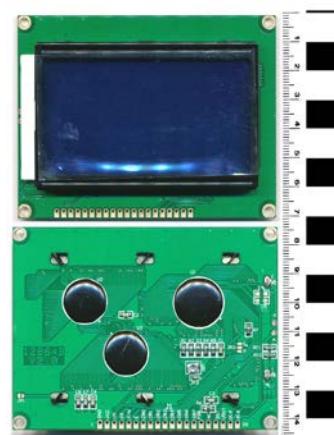


### 12864 LCD Display

Important to get the right model as many have a similar description. The required type uses the ST7920 display.

The original 12854B described in the assembly manual requires modifying to use its serial input. The one I purchased is version 2.0. It has an input pin to control the parallel/ serial setting, so only requires a jumper.

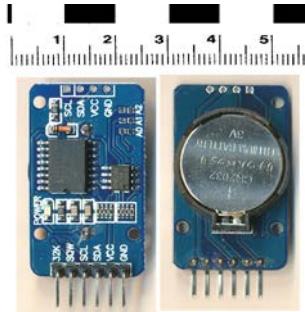
eBay Item 121878139374



## Real-time Clock Module

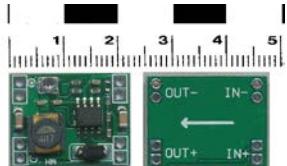
Controls the day-to-day timekeeping. Mine came with the coin-type cell already fitted.

eBay Item 1248694465014



## 5 Volt regulator module

eBay Item 141911461676

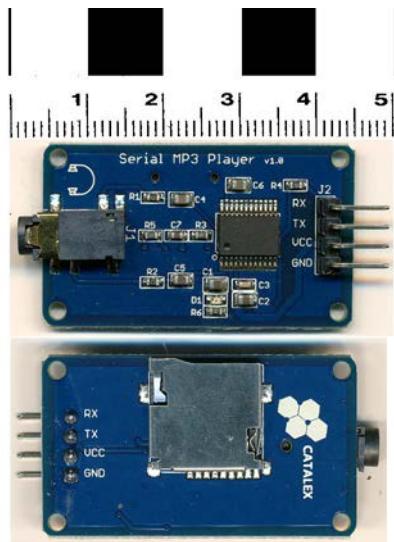


## Catalex MP3/ WAV player

This was one of the few items that I had to source from China or Hong Kong. It arrived within a couple of weeks.

The eBay description was "UART Control Serial MP3 Music Player New Module For Arduino/AVR/ARM/PIC". Catalex didn't get a mention.

eBay Item 391240021625



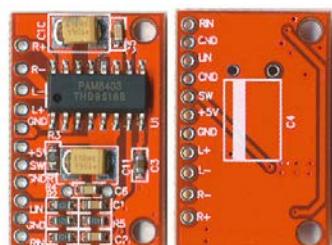
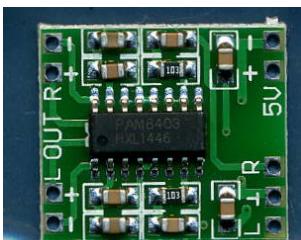
## PAM 8403 Amplifier Module

This is the one I bought, but it turned out not to be the one specified. The difference was that this model doesn't have the shut down option to run on reduced power. That feature could be simulated by switching the power lead.

eBay Item 131606031884

This is the one that was specified. I found a source and ordered one. It was very cheap and free postage. Amazon item: "SODIAL(R) High-Power 2-Channel 3W PAM8403 Audio Super Mini Digital Red Amplifier Board"

However, because the solder pads are on a tighter pitch, it's awkward to mount and connect.



So instead I went for this one with the integral volume control and switch

eBay item: 321674178484



### AMS 117 3.3V regulator

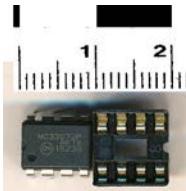
This is the only surface mount component. I had to stick it down with adhesive tape while I soldered the large tab. Then I could solder the three smaller connections.

eBay Item 1238323639004



### MC33072 Operational amplifier

eBay Item 1511785780007



I found the socket in my spares drawer.

### Shaft encoder

I found that I had to order 5 of these, but the price was so low I didn't mind. I've given some of the spares away to other TIM2015 builders.

eBay Item 391019851294



### GPS Module

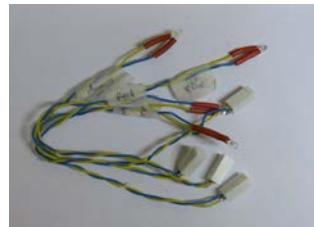
This is the module I ordered as suggested on Unusual electronics web site,  
<http://unusualelectronics.co.uk/projects/proj1/?v=79cba1185463>  
“GPS Module for Car DVR GPS Tracking Device Recording for VIOFO A118 A118C ”

eBay item: 222758395311



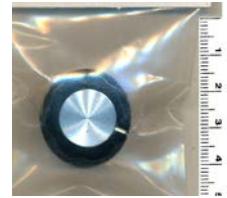
### LEDs

Maplin part numbers:  
Green N68KG, Orange N71KG (yellow is not in that range), Red N67KG, Blue N69KG  
LED clip YY39



## Knobs

Maplin YX02



# Plugs & Sockets

DIN locking 3-pin, RS Components Plug 491-005,  
socket 490-961

Power connector, Maplin Plug HH60, socket FT96

Stereo 3.5mm socket (for GPS receiver) Maplin

FK03

## DIN Speaker socket RS 491-128



Case

Sloped Front Case, Grey, ABS, Aluminium, 97 x 161.5 x 57 RS Components 508-481



## Speaker

1½" loudspeaker, RS Components 512-819

