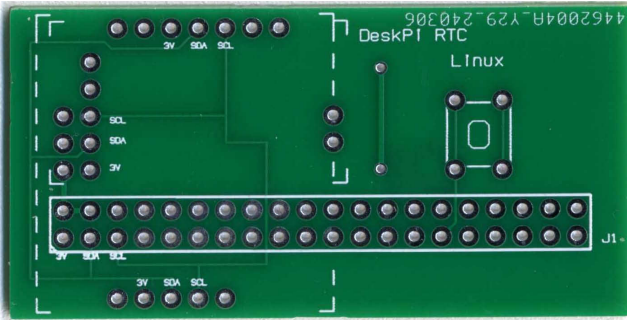


# RTC kit for DeskPi

## Assembly Instructions

The DeskPi does have an internal real time clock (RTC) but it is inaccessible to RISC OS (as it is on a separate IIC bus, used by the camera module). So here's a custom-built circuit board on which a RTC can be mounted.



The kit is supplied with all components required as listed above right.

The first step is to solder the 40-pin header to the circuit board. The header has extended pins to lift it clear of the rear of the DeskPi. I found it easiest to use a DeskPi as a solid base, plug in the header and place a 3mm balsa wood strip between the circuit board and the DeskPi:

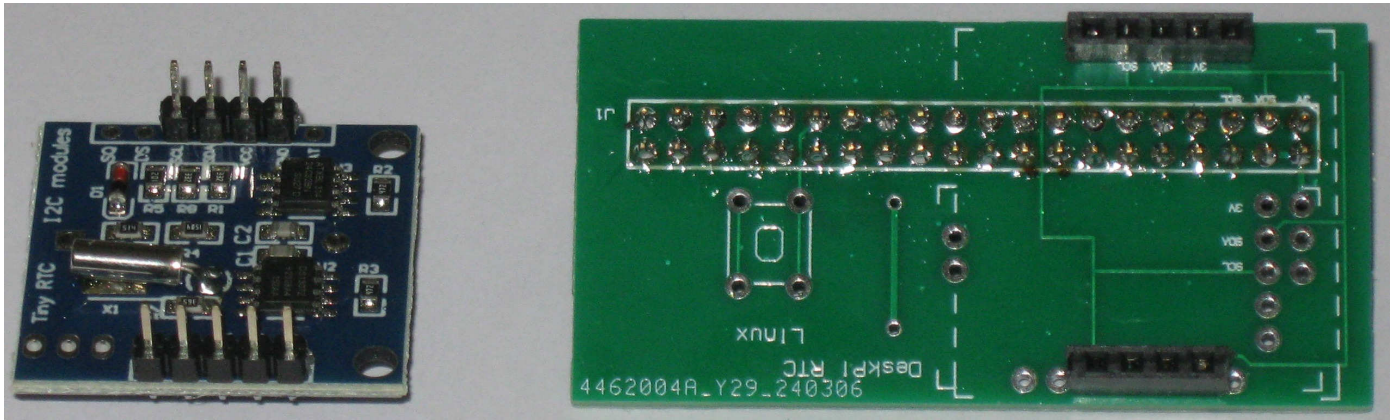


Component	Source
Circuit board	JLC China
40-pin riser header	Pi Hut
Short feather skts	Pimoroni
Short feather plug	Pimoroni
DS1307 RTC board	Ebay
PCB push button	Pi Hut
LIR2032 battery	Amazon

Now place a 5-pin female header into the five pin header and a 4-pin female header into the GND, 3V, SDA, SCL pins of the 7-pin header. Into the sockets place the corresponding male headers and then drop the RTC module onto these:



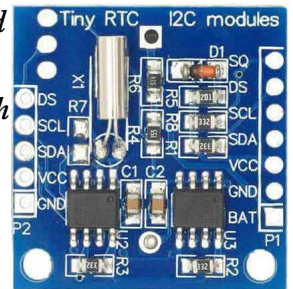
Now solder the male headers to the RTC module, remove the 40-pin socket from the DeskPi and solder the female headers to the circuit board. Now press the push button into position and solder it in place. Finally plug in the rechargeable battery.



*Above: the circuit board and RTC module after soldering.*

*Right: the RTC module with pin-outs clearly marked.*

*Left: the completed unit plugged into the DeskPi.*



If your DeskPi is set up to boot into either RISC OS or Linux, then Linux should use the on-board RTC on the DeskPi itself. RISC OS will use the new RTC module. You can set RISC OS to ‘get time from the network’ as this will still use the RTC module until and unless an internet connection is established.

The ‘epoch problem’ where RISC OS and Linux use different ways of interpreting the contents of a RTC chip (Linux counts from 1970, RISC OS counts from cc00 where cc is the century, obtained from CMOS settings).

I’ll have some assembled boards on sale at Wakefield for £20, including rechargeable battery and RTC module.