TIM 2015 Speaking Clock
INFORMATION SHEET

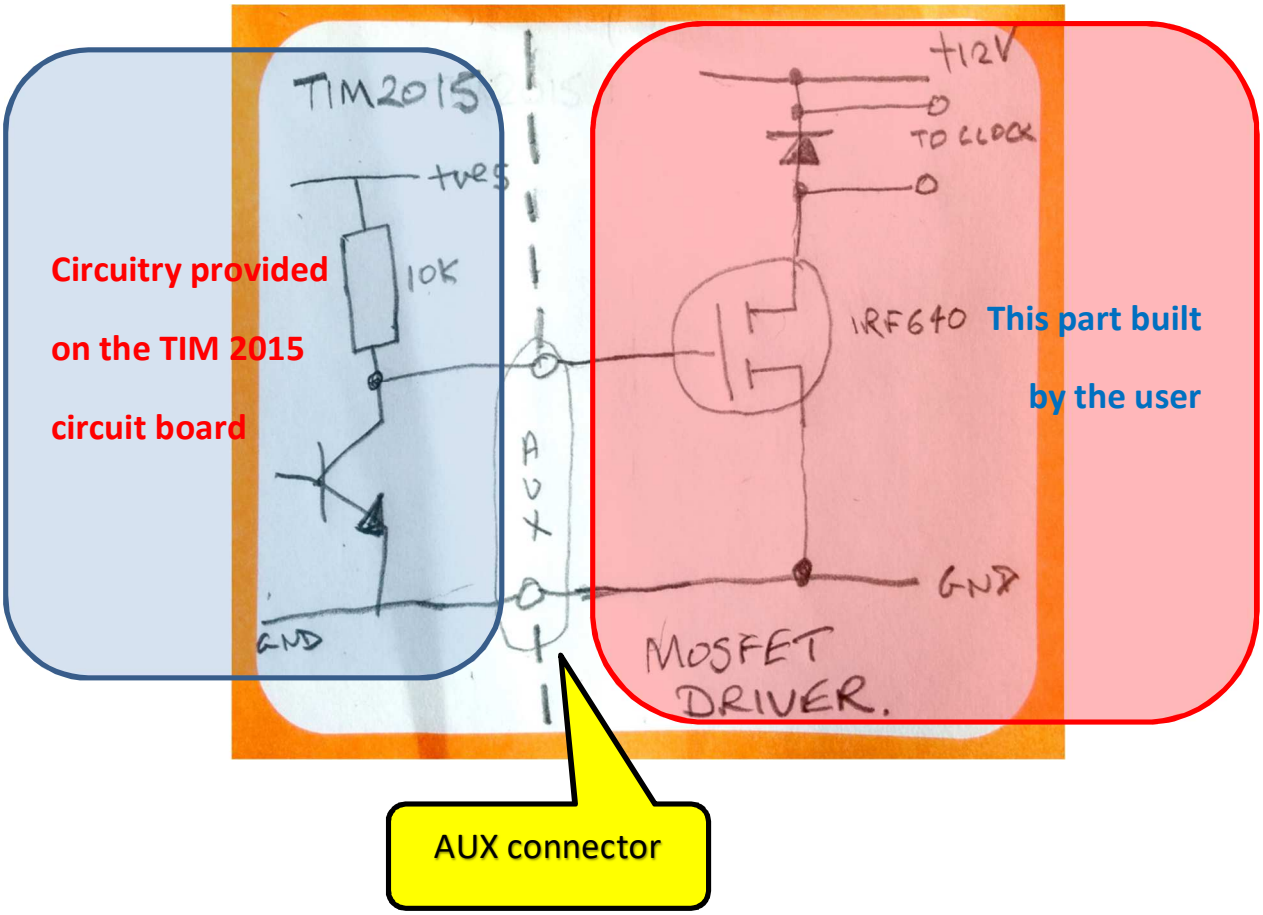
TIM 2015 is part-funded by the Telecommunications Heritage Group (THG) and designed by

Using TIM 2015 to drive slave clocks (slave dials)

TIM 2015 provides continuous 30-second time pulses, buffered by transistor T1, at output connector J4 of the printed circuit board. These pulses are intended for operating slave clock dials but it must be understood that they are used to control a separate output driver device provided by the user. The pulses are generated at 5-volt logic level and cannot drive slave dials directly.

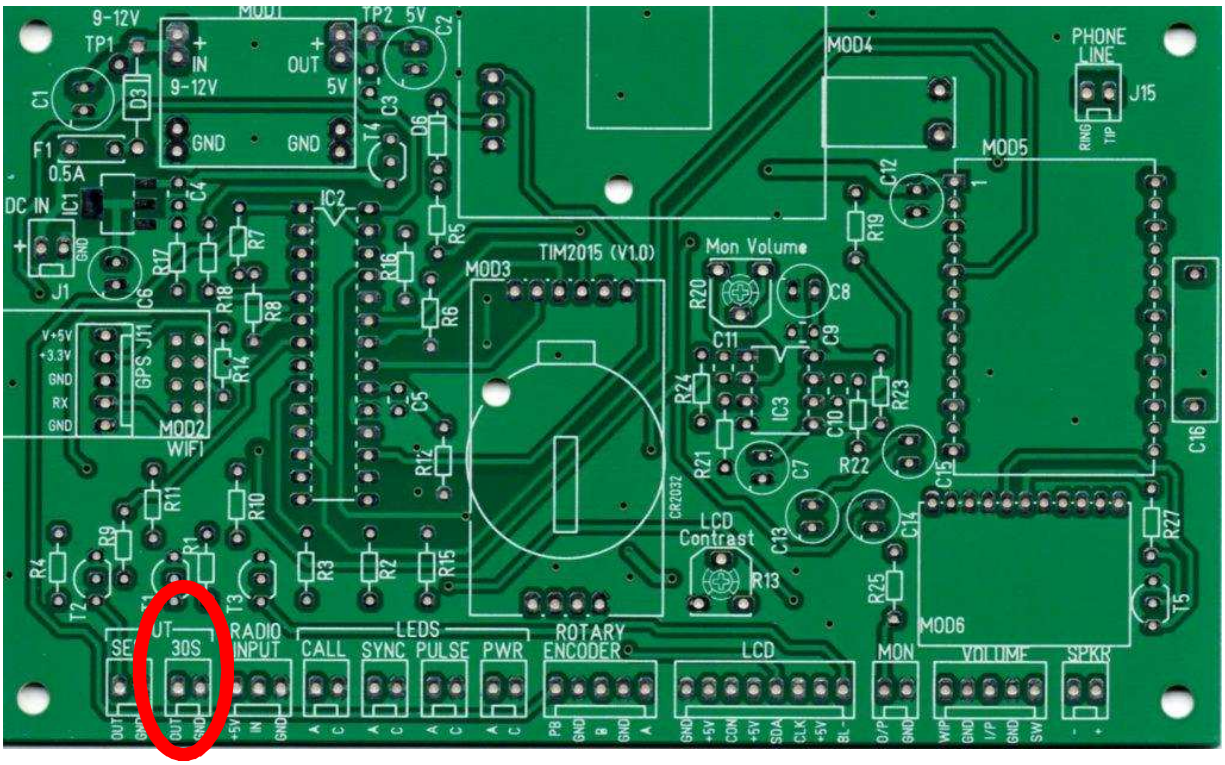
Because individuals' user needs may vary, provision is made to configure the polarity and width of these pulses in software, using the Menu Settings described in Section 2 of the **User Manual**. If you examine the Masterpulse description in subsection 2.11 you will discover that there are options to adjust the pulse width and polarity (low to high or *vice versa*), also facilities to send step pulses manually to advance the time on the dials when setting up. If daylight-saving time (DST) has been configured, the Masterpulse facility also advances or retards the slave clock hour by sending rapid (1 second) pulses or stopping pulses for one hour at DST changeover.

One of our users, Kevin Marriott, has provided the following circuit as a starting point. It requires an independent 12V power supply of its own.



The MOSFET is an **IRF640**. The recommended diode is either a **1N4004** or **1N9004**.

Connector J4 on the printed circuit board is shown below, circled in red.



You can fix a pair of wires fitted with a Molex or Dupont plug on the pins of J4 and connect them to two pins of the auxiliary (AUX) connector on the back panel of the case. All pins on the AUX connector are 'user-assignable', so you are free to choose any two pins as you please.

- *If you have any problems or questions please contact* ***andrew_emmerson@btinternet.com****. Thanks.*