

## Notes on E30 Electronic Motor Timers

by

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Both brushed and brushless motors are catered for by the Derek Knight KP Free Flight Timer <http://www.kpaero.com/ProductReport.aspx?Category1=electric>. This postage stamp size, 1.4 gram device allows you to set the motor speed and run time via small screwdriver adjustment potentiometers. A third control covers 'decay' – the power ramp down, but this is best set to zero. Three versions are available and for E30, the 120 second max run time is recommended, but please note that whether it is being used to control the timed run of a brushless, OR a brushed motor, it is always necessary to have a separate Electronic Speed Controller (ESC) between the timer and the motor. A modified version has been used extensively in Open Electric and F1Q models and has proved to be most effective. The instructions for use can be downloaded via the link above. The timer is available from the usual FF stockists such as FliteHook and SAMS, and also direct from K&P.

For those with a penchant for DIY, the Peterborough MFC MOSFET timer for brushed motors can be assembled from just three readily available components costing circa £1, and full instructions can be found here: [http://www.peterboroughmfc.org/technical-articles/web\\_site\\_FETtimer.htm](http://www.peterboroughmfc.org/technical-articles/web_site_FETtimer.htm)

Although it refers to 6/7mm pager motors, the components have been tested to a 4A current draw, which is more than double the likely current for E30 suitable brushed motors, and the max discharge capacity of 70mAH Lipo cells. Two methods of time selection are shown, either selecting a resistor value to match the 60 second motor run, or adjusting the 'zapper' voltage. The only potential disadvantage is that at the end of the motor run, the speed ramps down over a short time period (circa 5 secs) instead of giving full power for the whole run.

**Note: the ramp-down period must be included within the 60 second run allowed.**

Other timers available, which have not been tested by the FFTC Electric Sub Committee members, are:

Bob's Workshop - <http://www.bobsworkshop.co.uk/indoor-flying/ir-free-flight-timer>

offers Bob's Free Flight Timer, and the brushed and brushless Zappers. The latter two devices are programmed and started by a TV remote control and can accommodate motor runs of up to 64 seconds. The FF timer run time is set by holding down a push button switch for a set period of time, and may make the process of achieving an accurate 60 second run difficult.

Nick Leichty Timers - <http://www.microflierradio.com/index.html>

shows a number of timers for brushed and brushless motors, which appear to be suitable for E30.