



# Seconds away

*John Allen goes into the time and motion business*

Product: Stopwatches

Price: £49.50

Supplier: Racing Car Computers, 1 Mulberry Cottage, Tye Green, Elsenham, Bishops Stortford, Hertfordshire CM22 6102.

Tel: 0279 812496

**I**t can't be easy developing software for the Z88 because anything new must work alongside other applications already present. One of the first of these new packages – and one which fully exploits the portability of the machine – is Stopwatches. This is a 32k rom which, as its name suggests, allows you to keep track of competitors, say in athletics or motor racing.

It's like having 14 separately controlled stopwatches, collecting statistics along the way – things like position, shortest lap time and how far a competitor is behind the leader.

Like all Z88 roms, it is easy to install – select Index, open the flap and plug it in, then it's accessed either by the menu bar or  $\square$ Q.

Stopwatches assumes that there are 14 competitors and invites you to enter their names and numbers or use a pre-prepared file. Up to 14 characters are allowed for the name and three for the number – indeed you can have two competitors with the same number.

You have to have 14 competitors regardless – so if you want less you have to keep pressing Enter to make up the numbers. Plus you can give a minimum lap time so that accidental key presses are ignored – an excellent idea.

The screen then changes to a spreadsheet type display, showing the figures for the first seven – the others can be seen by pressing the cursor down key. A particular stopwatch is started by pressing a key from the top row on the Z88 or they can all be started by  $\Delta$ Sta. Every lap you press the appropriate key again and, at the end, press it with Shift to stop it.

The display has three different forms or modes: It starts in practice mode, the others being race and endurance. Don't be put off by the names – all three modes can be used during the same race with the statistics in the dormant modes still

being updated. The current lap time, time of last lap and number of laps are always shown and practice mode also has best lap time and a position based on the quickest lap.

In race mode statistics are related to the current leader so you are given the times behind him and the actual race positions. Endurance mode shows the gap between a competitor and the next one in front and the position in the race is also given.

At any time you can take a status snapshot which is saved as SNAPxx.xx where xx.xx is the Z88 clock time in hours and minutes. The file is in the text form of Pipedream internal format – all in column 1 – so it can be loaded into Pipedream or transferred to your BBC Micro for examination or printing – although proper multi-column format would have been better for Pipedream itself.

Where needed for long races the best time column can be reset each day, as can all of the clocks.

If you are timing races Stopwatches is pretty good and comprehensive. Its reaction time is fast but as the display is a little cramped you do need good eyesight to be able to glance at particular figures when you're outdoors.

When you do something wrong – like trying to load a competitor file that does not exist – it gives up rather easily, killing the entire application and placing you back in the Z88 Index. It does however follow the Z88 rules and goes into suspension, showing updated times when reselected. You can also have multiple copies running which the manual suggests can be used when there are more than 14 competitors, although you can't start the clocks at precisely the same time.

The manual deserves special commendation as it is both easy to read and comprehensive, although my copy was obviously the product of a dot matrix printer.

In short, if you have a serious use for the software I can recommend it. But if you just want to time simple things there are a number of good electronic devices around these days which, for single competitors, will do much of the same for less money.

## Points for

- Easy to use
- Very clear manual

## Against

- Fails easily on errors
- Not ideal file format

## The bottom line...

**If you regularly need to use multiple stopwatches it's a very good buy**