THE USE OF SOFTWARE FOR THE BBC MICROCOMPUTER TO FACILITATE BEHAVIOURAL SCREENING TESTS

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Three programmes have been written for the BBC microcomputer for use in behavioural screening experiments to allow ease of data capture and analysis. Two of these programmes are used in specific routine tests; a rat paw pressure test (RPT) and a mouse analgesia screen (MAT) involving rota-rod, hot plate and acetylcholine writhing tests. The third programme (AST) is adaptable to any test for which the user wishes to define the test parameters.

The software runs on a BBC model B microcomputer with 6502 second processor, a DFS based floppy disc system with two drives, a colour monitor, an Epson FX80 dot matrix printer and a Hewlett Packard (HP7470) digital graph plotter. The machine is also fitted with a Softlife numeric key pad. The second processor is only required for the data analysis sections for the MAT and AST.

The programmes are menu driven and the first routine selected initialises the data files. The number of cages and the treatments to be used in the test are entered. The computer then randomises the drug treatments, details of which are displayed, printed and saved. The next routine runs the experiment. This gives prompts in colour to indicate which colour coded animal is to receive which numerically coded drug, moving on to the next cage only when the operator presses the 'next cage' key. The computer records the time at which this button is pressed and gives an audible signal at 30 mins (subcutaneous) or 60 mins (oral), according to the dosage route used, for the tester to start testing that cage. The results are entered via the keypad in real time where a single set of data is involved or alternatively are recorded on cards and entered at the end of the test for multiple data sets.

The computer then decodes, tabulates and graphs the results which are printed out on the FX80 printer. Cumulative files can be kept for individual drugs and data from these can be plotted out on the HP7470 plotter.