Micro-DYNAMO

Mini-DYNAMO has been adapted for the Apple II® computer operating under Apple's PASCAL system. Working within the constraints of a micro-computer, Micro-DYNAMO offers surprising capacity and speed. Models with up to 25 active equations will run in tolerable lengths of time, and models with up to 100 active equations can be run, although the time required to simulate them is rather long.

Micro-DYNAMO takes advantage of the Apple high-resolution graphics to produce plotted output in color on color monitors. Hard copies can be made (in black-and-white) on printers that support high-resolution graphics. Standard DYNAMO PRINTed and PLOTed output will also be available, on either black-and-white or color monitors, or printers.

As in Mini-DYNAMO, run-time errors are handled by DYNAMO rather than the operating system, so that error messages are stated in terms of the model being simulated. Thus, division by zero is reported with the name of the quantity being computed and the TIME at which the error occurred, rather than without any guidance as to where or when it occurred.

Micro-DYNAMO supports basic DYNAMO as does Mini-DYNAMO. All the features of DYNAMO II except user-defined macros are available. Auxiliary, rate, and supplementary equations are all recognized, but treated as though all were auxiliaries. Consequently, rates on the right of auxiliary, rate, and supplementary equations are entered into the computation using the .KL value rather than the customary .JK value. As such usage has been frowned upon for years this difference should cause little difficulty. Only those who break simultaneous auxiliaries by introducing a rate equation will notice the difference.

The DELAY and SMOOTH macros are available except for DELAYP, which can be easily constructed from DELAY3 plus one level.

Like all other DYNAMO's models may be rerun without recompiling, to permit rapid exploration of different parameters.

Models are created using the standard PASCAL editor, which is a powerful, full-screen editor. Twenty-three lines of a model are displayed so the user has a much better understanding of what he or she is doing than would be true if typical line-at-a-time editor were used.

Micro-DYNAMO has been developed with two types of user in mind -- the student and the professional working at home or at least without easy access to a larger computer. For the student, the system will be distributed with Dr. Nancy Roberts' instructional materials. The professional version will be offered with George Richardson's and Alexander Pugh's new book, Introduction to System Dynamics Modeling with DYNAMO. Both packages are being published by Addison-Wesley and will probably be ready for distribution in the Spring of 1982.

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