NOTE

An operandum-to-Osborne I interface

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A circuit that interfaces an Osborne I microcomputer to a capacitance-operated subject touch panel is described.

A procedure for using a microcomputer to control fixed-interval schedules and collect responses by human infants was described by Lowe, Beasty, and Bentall (1983). In an attempt to replicate and extend their work, we, together with many others,¹ have developed an inexpensive and functional interface. The software was written in BASIC to run on the Osborne I computer. Input to the computer is read via the IEEE-488 parallel port and is output to a floppy diskette for subsequent data analysis and cumulative record printing.

Figure 1 shows a capacitance-operated touch system that produces a 9-V signal read by the microcomputer. An input square wave is used as a clocking signal. Touching the panel increases the capacitance to the ground, which causes the "D" input to accept a new value. When the panel is untouched, the inverter delays the clocking, resulting in low output. When the panel is touched, however, the waveform reaching the "D" input is slowed down such that the clock signals arrive first, producing high output. The microcomputer constantly monitors the output condition, in anticipation of a change. When the shift from low to high output has been determined, a response is registered.

The system has been in operation for over 4 months and has operated well over 100,000 times without fault (Loftin & Cheney, Note 1). Parts for the interface are readily available and cost approximately \$7.00.

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Figure 1. Circuit diagram for an interface unit between an Osborne I microcomputer and a subject touch-sensitive panel.

REFERENCE NOTE

1. Loftin, C. R., & Cheney, C. D. *An analysis of the role of verbal mediation on fixed-interval performance*. Paper presented at the meeting of the Northern Rocky Mountain Educational Research Association, Jackson, Wyoming, October 1983.

REFERENCE

LOWE, C. F., BEASTY, A., & BENTALL, R. P. The role of verbal behavior on fixed-interval schedules. *Journal of the Experimental Analysis of Behavior*, 1983, 39, 157-164.

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1. The following individuals contributed toward the final interface: Lavelle Tippits, WESCOR, Inc., Logan, Utah; Robert Wood, Department of Chemistry, and Douglas Woodhead, Department of Computer Science, Utah State University, Logan, Utah.

(Manuscript accepted for publication December 9, 1983.)