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Electronic Chaos System

SE-8795

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Key Features:

- Nonlinear Chaotic Circuit
- Demonstration and Laboratory Modes
- Connect External Circuits for Analysis

The Electronic Chaos System consists of a nonlinear circuit, the output of which is controlled by setting a variable resistor. As the resistance value is changed, the oscillating output changes from a single period, to two periods, to four periods . . . to chaos. There are three output (BNC) connectors and an audio output jack. The system can be operated in three different modes:

Features:

- **Demonstration Mode** -- In this mode the internal chaotic circuit runs at frequencies within the audible range (around 300 Hz) and may be connected to a self-powered computer speaker using the speaker jack. The variable resistor is used to take the circuit in and out of chaos. The three BNC connectors can be connected to an oscilloscope or a ScienceWorkshop interface to display the waveforms and phase portraits in real-time. One BNC connector reads the voltage at a particular point in the circuit and the other two are proportional to the first and second derivatives of that voltage.
- **Internal Data-acquisition Mode** -- In this mode the circuit runs at a lower frequency (around 30 Hz) and the internal analog-to-digital system makes measurements of the voltages at a fixed frequency. The data are collected by a computer through the serial connection. The special software for data collection and analysis is provided with the

system. In this mode, the external variable resistor is replaced in the circuit with internal digital potentiometers (2000 steps over 80 kOhm) which are controlled by the computer.

- **External Data-acquisition Mode** -- In this mode, the user builds an external chaotic circuit and connects it to the Electronic Chaos System to use the system's internal digital potentiometers and A/D converter.

Includes:

- Electronic Chaos System Circuit Box
- Serial Cable for PC
- 9 VDC Adapter
- User's Guide with experiments

Additional Equipment Recommended:

-- Powered Speakers (PS-2538)

Either

-- ScienceWorkshop 750 Interface

-- DataStudio Software

Or

-- Oscilloscope (SB-9591A)

The Electronic Chaos System was originated and developed by Ken Kiers, his student David Simons, and other students at Taylor University, with original work by J.C. Sprott at the University of Wisconsin, Madison.

For more information or to contact a PASCO representative,
send e-mail to [Customer Support](#), or call 800-772-8700 (in US) or 916-786-3800.

Prices and specifications subject to change without notification.

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