

# SEISMIC STRATIGRAPHY ON A MICRO BUDGET

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## ABSTRACT

Formerly, computer-aided stratigraphic analysis of seismic data was available only to those with access to large mainframe computers. Now, microcomputers are capable of performing many of the necessary operations at a cost within the means of most earth scientists. The critical restraints beyond the standard micro are graphics input and display devices, and software designed to operate within the capacity of the microcomputer.

For a brief period Tandy Corporation marketed an inexpensive digitizer under its Radio Shack trademark. A seismic stratigraphic analysis system has been developed using this device and a 48K Radio Shack microcomputer. This system has the capacity to enter well log curves and seismic traces at the digitizer, convert log curves to time dimension by integration or interpolation, compute synthetic seismograms and time logs, and do synthetic modeling, wavelet estimation, and inversion of seismic and synthetic traces.

The system allows great flexibility, as each process is designed as a stand-alone, interactive program, and data files are in identical format. Thus almost any order of operation may be chosen, and modeling may be in either depth or time. Display is to a pen plotter or dot-matrix printer-plotter. The plot routines allow flexibility in the number, order, spacing, and scale of the curves displayed.

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