

CRITERIA FOR THE SELECTION OF ATOMIC CLOCKS
IN SYSTEMS APPLICATIONS

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ABSTRACT

Increasing numbers of time ordered electronic systems envision the use of atomic clocks as their central or remote station time-frequency (T/F) reference. The selection of one of the commercially available devices is not often a clear and simple matter but requires a good compromise between performance (given as spectral purity of the output signal or as frequency stability in one of the accepted measures), environmental sensitivity (magnetic field, temperature, pressure, etc.), reliability, maintenance requirements and price. After a brief discussion of the fundamental concepts, as pertinent, the specifications of the different types of clocks will be reviewed and examples for actual selection and rationales discussed.

LITERATURE

Hellwig, H., "Frequency Standards and Clocks", NBS TN 616, March 1974.

Hellwig, H., "A Review of Precision Oscillators", NBS TN 662, February 1975.

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