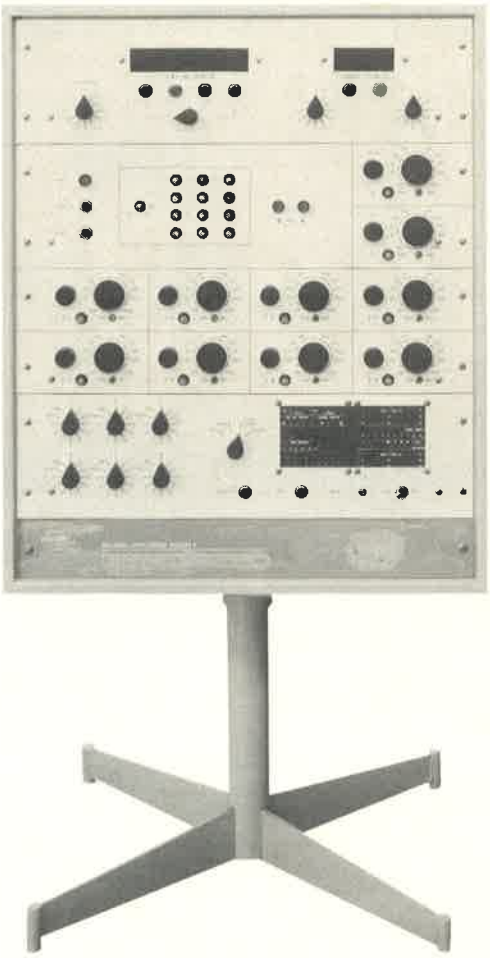
BROOMALL INDUSTRIES

DIGITIZING SYSTEMS

Model D CF

OUTSTANDING FEATURES OF THE DECIMAL CONVERTER MODEL F INCLUDE:

- Two channels are supplied with the basic Decimal Converter, each with independent scaling controls and select-omit switches.
- Three-decade ±999 capacity with a full scale accuracy of ±0.1 percent.
- An error detector which inhibits the readout if an error is balance occurs.
- Drift-free operation that depends on the ratio of the input resistance rather than a reference cell.
- Patchboard format control to provide greater versatility in the readout sequence.
- A single-scan balance circuit that reaches correct balance in a constant time period, regardless of the input value.
- Only two controls are required in each channel to set the scale sensitivity and origins; digital information is entered by "finger-tip" pushbuttons.
- Extensive use of solid state components in such circuits as the amplifier, phase detector, multivibrator, and error detector, with zener diode voltage regulation.
- Positive interlock circuit in the readout completely interlocks all output units to provide consistently reliable readout.



(Unit shown above includes time line and channel counter and eight additional Y data channels)

DESCRIPTION

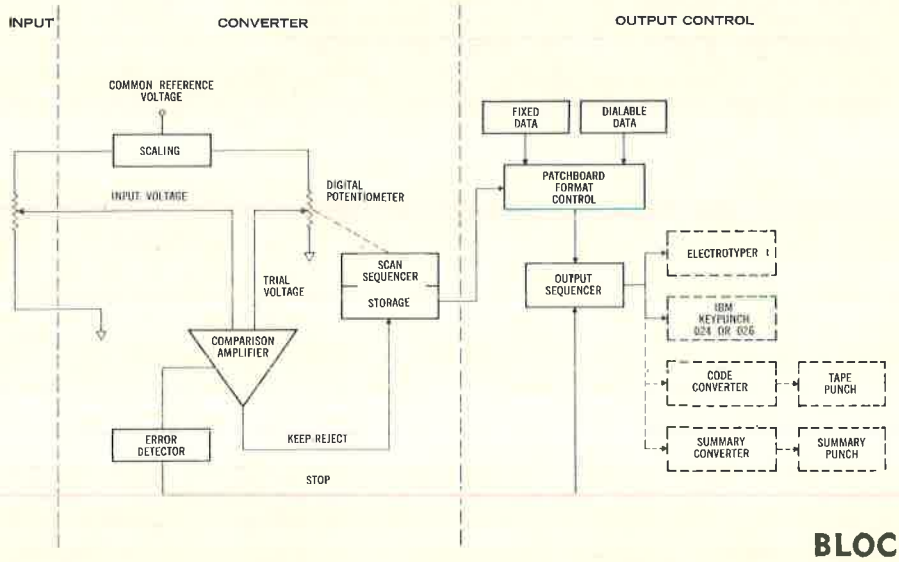
The Decimal Converter Model F is an analog-to-digital converter that converts potentiometer input resistances to decimal output. The basic circuit of the Decimal Converter F is a resistance ratio bridge designed to sense the position of an input potentiometer and convert it to decimal form. The input resistance potentiometer forms one arm of the bridge, and the balancing arm is composed of coded decimal resistances. Balance is obtained by a one-scan system, where the coded resistors are introduced, sampled by the balancing amplifier, and held in or dropped out, depending upon whether an overbalance is sensed. At the completion of a single scan, a null is reached. An error detector indicates an error and prevents readout if the converter balances incorrectly or if the input changes during the balancing operation.

TYPICAL APPLICATIONS:

• Digital readout of fractional shaft rotation. • Digital read out of lead screw rotation. • Digital readout of protentiometer settings. • Data reduction record readers. • Production testing. • Analog computers. • Process control systems.

BROOMALL INDUSTRIES, INC. • 515 Abbott Drive, Broomall, Pa. • (215) 328-9323

DECIMAL CONVERTER MODEL F



BLOCK DIAGRAM

OPERATING SPECIFICATIONS

accuracy:	±0.1% of full scale of each channel
digital range:	±999 (automatic polarity control)
balance time:	Less than 1.0 second
input:	5,000 ohms resistance potentiometer with automatic input switching between two separate inputs.
environment:	+40°F to +85°F.
power requirements:	115 volts ±10 volts, 60-cycle, approximately 300 watts
compatible outputs:	Electrotyper C and IBM 024/026/029 Keypunch.
optional outputs:	Paper Tape Punch or Flexowriter.
readout programming:	Format of the readout sequence is controlled by a patchboard to adapt the readout sequence to each problem.

MECHANICAL SPECIFICATIONS

size:	22" wide, 26" high, 18" deep, mounted on a stand approximately 16" high.
weight:	Approximately 125 pounds
construction:	High-quality commercial standards

OPTIONAL FEATURES

time line counter and channel counter:	four-decade with one-digit multiplier which allows the counter to advance in steps of one through nine (1-9) in any of the four decades. a pre-settable, two-decade counter has the ability to reset to 01 and emit an advance pulse to the time line counter and activate the alternate readout mode at the end of any pre-set channel counting cycle.
additional "Y" scaling channels:	Additional "Y" scaling channels with controls, in sets of eight (8).

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