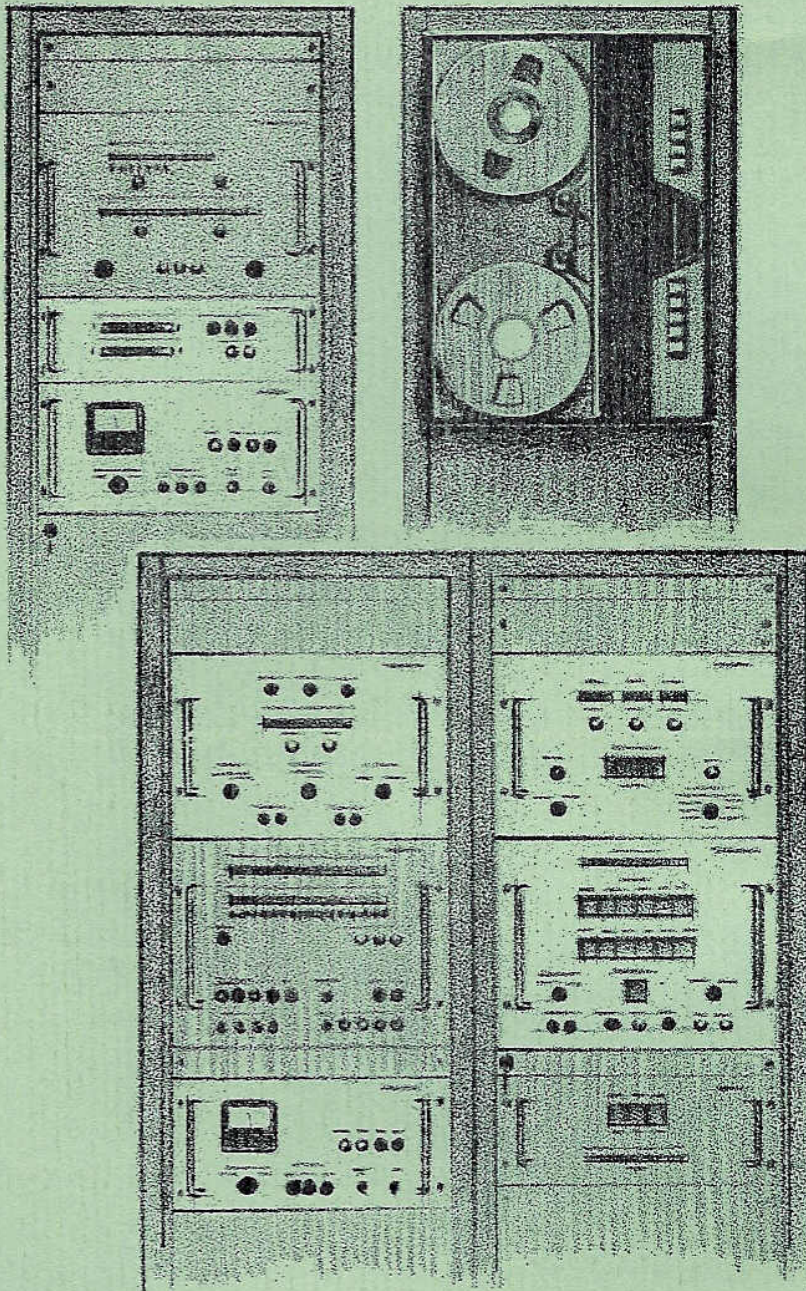


# SPECIFICATION

**GIER**  
ELECTRONICS

**HARDWARE**



## DATA LOGGING SYSTEM

The RC Data Logging System for high-speed acquisition, handling, and recording of data enables off-line collection of analog and digital data with recording on magnetic tape in standard computer format.

Analog input voltages are converted to digital numbers and recorded along with digital input data and time records from a digital clock. The analog inputs are divided into a fast-scan group with a scanning speed of 10,000 ch/sec and a slow-scan group with a scanning speed of 20 ch/sec. The average scanning speed including time between scans is 500 ch/sec maximum.



The System accepts a maximum of 500 input channels. A scan program may consist of several or all channels from one, two, or all three of the following groups: fast-scan, slow-scan, or digital scan.

The data recorded on magnetic tape may be processed in the GIER Computer using the same tape station used for logging. The computer can read or write on magnetic tape in a character-by-character manner using the same core store used during logging.

The System is composed of a number of system modules from the RC Data Logging Modules Series. The Modules are mechanically independent units constructed for 19-inch standard racks.

The circuits used are from the RC Logic Modules Series 500 and 1000, constructed from professional components and designed to meet the need for high reliability and effective noise immunity.

The System is furnished with the following built-in, automatic checking facilities: high temperature, power drop-out, parity (throughout the system including core store), over-range of input signal, and error in analog to digital conversion (special check voltage).

## CHARACTERISTICS

### Analog Inputs

<b>Fast-Scan Group</b>	ranges:	+ 10 V to - 10 V or + 1 V to - 1 V, single ended inputs
	input resistance:	2.5 k $\Omega$ or 10 M $\Omega$
	scanning speed:	10,000 ch/sec, peak 500 ch/sec, maximum average
	accuracy: program:	$\pm$ 0.1% of full scale, long term set from control panel

<b>Slow-Scan Group</b>	ranges:	+ 25 mV to - 25 V and + 5 V to - 5 V
	input resistance:	1 M $\Omega$ minimum floating differential input terminals
	common mode noise rejection:	100 dB
	scanning speed:	20 ch/sec
	accuracy: program:	$\pm$ 0.1% of full scale, long term group of consecutive channels

<b>Digital Inputs</b>	scanning speed:	10,000 ch/sec, peak 500 ch/sec, maximum average
	bits/channel:	10

<b>Control</b>	complete scan repetition rate from 0.01 sec to 4 hours facilities for a number of manual operations available automatic stop of scanning at selected time
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<b>Output</b>	magnetic tape, 20,000 ch/sec, recorded in internationally compatible format in blocks of a maximum of 511 characters record of time at beginning and end of each scan channel number and measured value recorded decimal display of time in hours, minutes, and seconds
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The data logger cabinet may be placed at a distance from the computer. Computer programs for testing the buffer and the tape station and for print-out of collected data are available.

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