

TM 500 / 5000

MODULAR TEST INSTRUMENTS

- Fully Programmable
- IEEE-488 1978 Compatible
- Software Configurable as:
 - 1 Group of 16 Channels
 - 2 Groups of 8 Channels
 - 4 Groups of 4 Channels
- 350-MHz Bandwidth in 4-Channel Configuration
- External Handshake Lines
- Built-in Time-of-Day and Pacing Clock
- Command Buffer for Controller-Free Operation

SI 5010 Programmable Scanner

For scanning, channel grouping is always done in groups of four with each individual channel exhibiting a characteristic impedance of 50 Ω s and providing minimum signal degradation when configured for one or more groups of four individual channels. Channel rise time for groups of four channels is approximately 1 nanosecond and degrades to about 4.0 ns for 1 group of 16.

It is possible, under program control, to build a matrix using any of the 16 input channels while leaving the normal output

channels disconnected. The possible number of combinations precludes characterization, and it is recommended that any such matrix established be characterized if degradation of signal quality is a consideration.

The SI 5010 has its own intelligence and a built-in buffer capable of storing from 80 to 300 commands (depending on command length). The buffered commands are sequenced in order and can be paced with a built-in real time clock, built-in wait timer, external trigger or software trigger from the system controller.

SI 5010 Programmable Scanner

The SI 5010 Scanner is a two-wide, TM 5000 plug-in capable of scanning and switching 16 different signal channels in a combination of signal channels, under program control. Optimum frequency response is 350 MHz.

Of the 20 front-panel BNC connectors used for channel switching, 16 are connected internally to 16 R.F. reed relays and 4 are connected to common points. The common points act as output connectors to an external system. The 16 relays can be programmed to connect to the common points in various combinations. Three possible combinations are:

- 4 groups of 4 channels
- 2 groups of 8 channels
- 1 group of 16 channels



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Characteristics

RF Connectors — Twenty BNC connectors, 16 channels and four commons.

Control Input (Ext Trig) — External trigger; TTL compatible.

Control Output Data Accepted (READY) — TTL compatible. Output goes high when relays have settled.

Channel Configuration (Software Selectable) — 1, 2, 3, or 4 groups of 4 channels, 2 groups of 8 channels, 1 group of 16 channels.

Frequency Response — Any 1 group of 4; -3 dB at 350 MHz, decreasing to -6 dB at 500 MHz or greater. Any 1 group of 8; -3 dB at 175 MHz or greater. Any 1 group of 16; -3 dB at 80 MHz or greater.

Port (Channel) Isolation — 40 dB at 100 MHz.

Characteristic Impedance (Each Channel) — 50 Ω. See VSWR specification.

Risetime (Each Channel) — < 1 ns.

Voltage Standing Wave Ratio (VSWR) — Any 4 channel group: 1.25:1 at 100 MHz, increasing to 1.8:1 at 350 MHz. Any other combination: 1.5:1 at 100 MHz; 2:1 at 225 MHz.

Insertion Loss — < 1 dB at 100 MHz.

Channel Delay Matching — Any group of 4: 50 picoseconds. Any group of 8: 110 picoseconds. Group of 16: 310 picoseconds.

Type of Relays — 16 Form A, EAC 05Y21A1 40 BAB, or equivalent. 4 Form “C”, TO-5, Teledyne 712-6, or equivalent. Pull in Time: 3 milliseconds. Release Time: 3 milliseconds. Breakdown Voltage: 350V (dc + peak ac). Series Path Resistance (End of Life): 0.5 Ω.

Peak Carry Voltage — Unterminated: 40 V maximum. 50 Ω terminated; 12.5 V maximum.

Peak Contact Current — 0.25 A maximum.

Peak Switching Voltages — Unterminated: 15 V maximum. 50 Ω ; 3.73 V maximum.

Peak Switching Current — 0.01 A maximum.

IEEE-488 — 1978 Interface Function

Subsets Implemented

SH1, AH1, T6, L4, SR1, RL0, PP0, DC1, DT1, C0

Ordering Information

SI 5010 Programmable Scanner

Includes: Instruction Manual (070-3721-00), Interface Guide (070-4615-00), Reference Guide (070-3881-00).

TM 5003	3 Wide Power Module Mainframe, GPIB
TM 5003/RI	TM 5003 w/Rear Interface
TM 5006A	6 Wide Power Module Mainframe, GPIB
TM 5006A/R	TM 5006A w/Rack Mount
TM 5006A/RI	TM 5006A w/Rear Interface
TM 5006A/R/RI	TM 5006A w/Rack Mt & Rear Interface
TM 5006A/EMC	TM 5006A w/EMC Shielding

Mainframe Power Plug Options

Standard	120V North American
UE220	220V Universal Euro & Switzerland
UK240	240V United Kingdom
A240	240V Australian
NA240	240V North American
S220	220V Switzerland

Warranty

One year on materials and workmanship.

Calibration Documentation

Contact TEGAM for OPTION Z540 NIST Traceable Compliance Certificate and Test Data.

Calibration & Technical Services

For warranty and remedial repair, calibration services and spare parts, or for additional information on TEGAM sales and service offices around the world, contact us at 440-466-6100 (ph) or 440-466-6110 (fx).



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