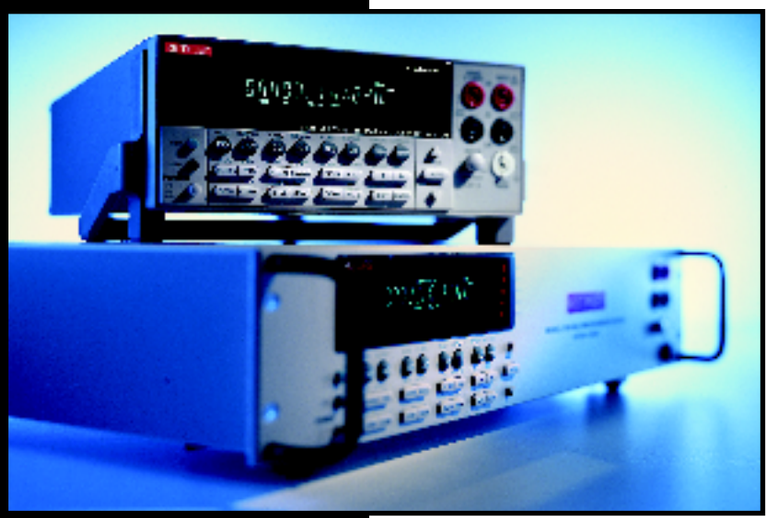
Integra Series integrated switching, measurement, and datalogging solutions

SWITCH/MEASURE SYSTEMS

2700
2750

Multimeter/Data Acquisition/ Switch Systems



- Combines functions of DMM, switch system, and datalogger
- True 6½-digit (22-bit) resolution
- Choice of 9 switch/control plug-in modules
- Up to 200 differential input channels (with 300V isolation) for measurement and control
- Convenient front panel inputs
- TestPoint™ start-up software
- LabVIEW™, LabWindows™/CVI, Visual Basic, C/C++, and TestPoint drivers
- Optional ExceLINX-1A datalogging software

Screw terminals use oversize connectors for easier, mistake-free wiring.

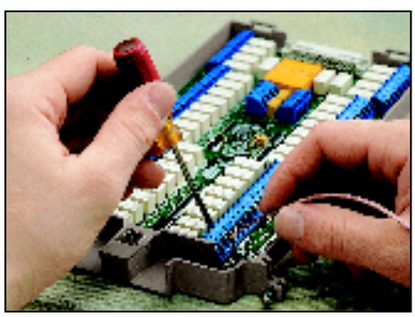
Integra Series products combine precision measurement, switching, and control in a single, tightly integrated enclosure for either rack-mounted or benchtop applications. These cost-effective, high performance test platforms offer affordable alternatives to separate DMMs and switch systems, dataloggers/recorders, plug-in card data acquisition equipment, and VXI/PXI systems. Integra Series plug-in switching and control modules offer unmatched flexibility and testing efficiency for a wide range of industries and applications. System builders can create test solutions with a combination of channel count, cost per channel, and system performance unmatched by any other single-box measurement system. The input modules provide the flexibility to vary the channel count from 20 to 200 (2-pole), apply a stimulus to the device under test, route signals, control system components, and make precision measurements with up to 14 functions. Robust digital I/O capabilities can be used for triggering, handshaking with other automation equipment, and alarm limit outputs. Scan rates of more than 200 channels/second (up to 2500 readings/second) increase test productivity.

Fast Setup and Operation

The Model 2700 and Model 2750 are fully integrated, off-the-shelf measurement and control systems. Their DMM-like interfaces make it easy for users to collect data and/or perform troubleshooting within minutes of installation and startup. Once sensor or DUT leads are hooked to the instrument's input, use the front panel controls to select the measurement function, range, filtering, scaling, trigger source, scanning sequence, alarms, and more. The TestPoint runtime start-up software included with both the Model 2700 and 2750 makes it easy to configure and use the system in a graphical "point-and-click" environment. This gives developers the basic tools needed to create a simple application without writing program code. If the application demands greater functionality, this free runtime can be modified with the TestPoint software application package (sold separately).

The Advantage of Integrated Design

The Model 2700 and 2750 offer a variety of advantages over existing solutions for ATE and data acquisition applications. For example, their flexible modular architecture and integrated measurement, switching, and control capabilities save rack space by reducing the number of separate instruments needed. This design also simplifies expanding the system as the number of channels grows or re-purposing it as new test requirements evolve. Integrated signal conditioning, scaling, stimulus, filtering and I/O capabilities eliminate the need for external circuitry when designing and building data acquisition systems. This architecture also makes it unnecessary to open the computer to install plug-in boards. The Model 2700 and 2750 offer accuracy and repeatability superior to plug-in data acquisition boards and VXI/PXI systems, while providing faster test times than typical DMM/switch systems. This makes it possible to combine higher test yields with higher test throughput.



ACCESSORIES AVAILABLE

ExceLINX-1A	Excel Add-In Software for 2700 and 2750 Instruments
7788	50-Pin D-Shell Connector Kit (2 each)(for Models 7703, 7705 Modules w/D-sub Connectors)
7789	50-Pin/25-Pin D-Shell Kit (1 each)
7790	50-Pin Male, 50-Pin Female and 25-Pin Male IDC D-Shell Connector Kit (1 each) (Ribbon Cable not Included)
7797	Calibration Extender Board (for Model 2750)
7705-MTC-2	50-Pin Male to Female D-Sub Cable, 2m
7707-MTC-2	25-Pin Male to Female D-Sub Cable, 2m

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Multimeter/Data Acquisition/ Switch Systems

Ordering Information

2700 DMM, Data Acquisition, Datalogging System w/2 Slots

2750 DMM, Data Acquisition, Switching, Datalogging System w/5 Slots

7700 20-Channel Differential Multiplexer Module w/Automatic CJC and Screw Terminals

7701 32-Channel Differential Multiplexer Module with a 25- and 50-Pin Female D Connector. Supplied with Male IDC Ribbon Cable Connectors

7702 40-Channel Differential Multiplexer Module w/Screw Terminals

7703 32-Channel High Speed, Differential Multiplexer Module with 2 50-Pin Female D Connectors. Includes 2 Mating Connectors

7705 40-Channel Single-Pole Control Module with 2 50-Pin Female D Connectors. Includes 2 Mating Connectors.

7706 All-in-One I/O Module: 20-Channel Differential Multiplexer w/Automatic CJC, 16 Digital Outputs, 2 Analog Outputs, a Counter/Totalizer, and Screw Terminals

7707 32-Channel Digital I/O w/10-Channel Differential Multiplexer Module with a 25-Pin Female and 50-Pin Male D Connectors. Supplied with Mating IDC Ribbon Cable Connectors

7708 40-Channel Differential Multiplexer Module w/Automatic CJC and Screw Terminals

7709 6x9 Matrix Module with 25- and 50-Pin Female D Connectors. Supplied with Male IDC Ribbon Cable Connectors

These products are available with an Extended Warranty.

Accessories Supplied

TestPoint runtime start-up software; LabVIEW, LabWindows™/CVI, Visual Basic, C/C++, and TestPoint drivers; manual; and Model 1751 Safety Test Leads.

Rugged 50-pin D-sub connectors ensure dependability and quick setup/teardown in production test racks.

Built-in measurement functions include:

- DCV • ACV • DCI • ACI
- Resistance (2- or 4-wire, offset compensation selectable)
- Dry circuit ohms (20mV clamp) 2750 only
- Temperature (with thermocouples, RTDs, or thermistors)
- Frequency/Period
- Continuity

Install up to five input modules in the 2750 mainframe. All switch/control modules are fully enclosed in impact-resistant plastic for exceptional ruggedness. Three connector alternatives simplify connecting the modules to DUTs. Rugged D-sub connectors allow quick, secure connections and are especially convenient when performing routine maintenance or when the system is installed in a rack. IDC ribbon cable adapters are supplied with the Model 7701, 7707, and 7709 modules for fast, uncomplicated hookups in production test and process monitoring applications. Oversize screw-terminal connectors simplify setup in applications that require the greatest connection flexibility. Additional D-sub and IDC ribbon cable connector kits and pre-wired cable assemblies are sold separately.

All modules are compatible with the two-slot Model 2700 Multimeter/Data Acquisition System and the five-slot Model 2750 Multimeter/Switch System. When the application's needs change, simply change modules. Integra systems reconfigure themselves automatically.

Module	7700	7701	7702	7703	7705	7706	7707	7708	7709
AC and DC Volts	•	•	•	•		•	•	•	•
AC and DC Current	•		•						
Temperature:									
T/C w/Automatic CJC	•					•		•	
T/C w/External CJC	•	•	•	•		•	•	•	•
RTD	•	•	•	•		•	•	•	•
Thermistor	•	•	•	•		•	•	•	•
Resistance (2- or 4-wire)	•	•	•	•		•	•	•	•
Frequency	•	•	•	•		•	•	•	•
Event/Counter/Totalizer						•			
Signal Routing/Control	•	•	•	•	•	•	•	•	•
Digital Input							•		
Digital Output						•	•		
Analog Output						•			
Analog Input Channels	20	32	40	32	40	20	10	40	6×8

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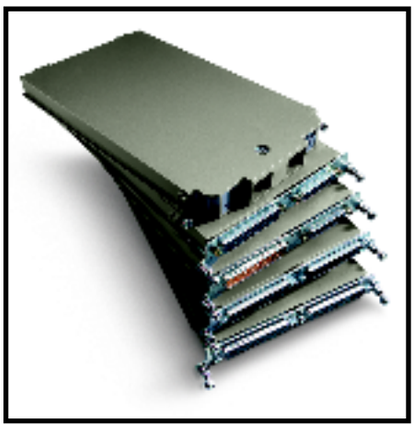


Integra Series Module Selector Guide

This selector guide may prove helpful in identifying the best module for a specific application. Install up to two modules at a time in the Model 2700 mainframe or five at a time in the Model 2750 mainframe.

Keithley's Integra Systems provide precision measurement and control in a single, tightly integrated enclosure for either rack-mounted or benchtop use. These cost-effective, high-performance test platforms are affordable alternatives to separate DMMs and switch systems, dataloggers/recorders, and plug-in card data acquisition equipment. Integra Series plug-in modules offer unmatched flexibility and testing efficiency for a wide range of industries and applications. Users can create test systems with a combination of channel count, cost per channel, and system performance unmatched by any other single-box measurement system. The modules provide the flexibility to vary channel count from 20 to 200 (2-pole), apply a stimulus to devices under test, route signals, control system components, and make precision measurements with up to 14 functions. Robust digital I/O capabilities can be used for triggering, handshaking with other automation equipment, and alarm limit outputs. Scan rates of more than 200 channels/second (up to 2500 readings/second) increase test productivity.

Module	# Analog Inputs	Configuration	Differential*	4-pole	Type of Connector	Max. Voltage	Max. Switched Current	Current Measurement Channels	Digital I/O	Switch Speed	Other
7700	20	Multiplexer w/CJC	1 × 20 or two 1 × 10	1 × 10	Screw terminals	300V	1A	2 channels @ 3A	N/A	< 3 ms	Automatic thermocouple linearization
7701	32	Multiplexer	1 × 32 or two 1 × 16	1 × 16	D-sub (IDC)	150V	1A	N/A	N/A	< 3 ms	32 channels of common-side 4-wire ohms
7702	40	Multiplexer	1 × 40 or two 1 × 20	1 × 20	Screw terminals	300V	1A	2 channels @ 3A	N/A	< 3 ms	Maximum power = 125VA
7703	32	Multiplexer	1 × 32 or two 1 × 16	1 × 16	D-sub (solder or crimp)	300V	500mA	N/A	N/A	< 1 ms	Reed relays
7705	40	Independent SPST	N/A	N/A	D-sub (solder or crimp)	300V	2A	N/A	N/A	< 3 ms	Software programmable for SPDT (Form C)
7706	20	Multiplexer w/CJC	1 × 20 or two 1 × 10	1 × 10	Screw terminals	300V	1A	N/A	16 Digital Out Only	< 3 ms	Two ±12V analog output channels & 100kHz event counter/totalizer
7707	10	Digital I/O	1 × 10 or two 1 × 5	1 × 5	D-sub (IDC)	300V	1A	N/A	32 Digital I/O	< 3 ms	Four 8-bit I/O ports (33V, 100mA)
7708	40	Multiplexer w/CJC	1 × 40 or two 1 × 20	1 × 20	Screw terminals	300V	1A	N/A	N/A	< 3 ms	Automatic thermocouple linearization
7709	48	6 × 8 Matrix	Yes	Yes	D-sub (IDC)	300V	1A	N/A	N/A	< 3 ms	Connects to internal DMM. Daisy chain multiple cards to create larger matrix

* Can be disconnected from internal DMM for routing external signals • Refer to the Model 2750 or Model 2700 brochure for additional information.

2700
2750

Multimeter/Data Acquisition/ Switch Systems

Important Features and Benefits

- **Full per-channel configurability**—Each channel can be independently configured for making measurements. The parameters that can be chosen for each channel include speed, range, resolution, number of power line cycles (NPLC), filtering type, offset compensation, math functions to be displayed, CJC type, RTD type, frequency gate time, "m" and "b" values in mX + b format, HI/LO limits, low Ω (Model 2750 only), ratio calculation, and thermistor type.
- **Channel monitor feature**—Monitor any specific input channel on the front panel display during a scan. This feature can also serve as an analog trigger to initiate a scan sequence based on some external factor, such as a temperature rising above a pre-set limit. Only the data of interest is acquired, so there's no need to spend hours searching through reams of normal readings to find anomalous data.
- **Front/rear switch**—Switching between the front and rear panel measurement inputs is as easy as pressing a button. Users can select the front panel inputs for tasks such as system set-up and verification, manual probing, troubleshooting, and calibration, while the rear panel inputs through the modules allow fast, automated multiplexing and control.
- **Battery-backed set-up memory**—Up to four different set-up configurations can be stored in onboard memory. If the line power fails during a scan, the system will resume scanning where it stopped once power is restored.
- **110K reading data buffer**—The mainframe's nonvolatile wrap-around reading memory allows continuous, unattended datalogging over long periods—data in the buffer can be transferred to a PC controller automatically as new data is acquired. The real-time clock can be used to time- and date-stamp readings for later review and interpretation.
- **2 TTL-level digital inputs**—For implementing external triggers to initiate a scan sequence.
- **5 "per-channel" HI/LO alarm limit TTL outputs** — Trigger external alarms or perform other control functions without a PC controller.
- **Dry circuit ohms (20mV clamp)**—Protects sensitive devices from damage and prevents self-heating errors during testing (Model 2750 only).
- **Virtual channel**—Stores the results of channel-to channel ratio and average math operations.
- **Onboard statistical analysis**—Mathematical functions available at the push of a button are channel average, mX+b scaling, minimum, maximum, average, and standard deviation.
- **GPIB and RS-232 interfaces**
- **3-year warranty**

Temperature Capabilities

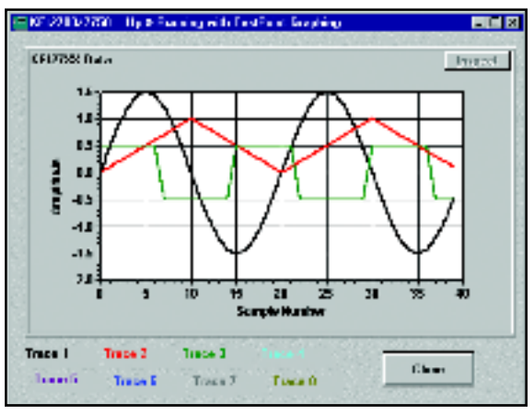
Integra Series mainframes support three major types of temperature sensors with built-in signal conditioning and 300V isolation: thermocouples, RTDs, and thermistors. To begin using a sensor, simply hook it up and the instrument does the rest. If a thermocouple is broken or disconnected, the instrument will alert the operator. The mainframes also support three methods for cold-junction compensation (CJC): automatic (built-in), external (built-in), and simulated.

Software Solutions

Whether the task calls for a simple start-up package to acquire several channels of data or the tools to create a fully custom acquisition and analysis solution, Keithley has the software needed to get the most performance from a Model 2700 or 2750 Multimeter/Switch System. Our broad range of software solutions makes it easy to get applications "Up & Running" quickly and economically.

up & running software

Our free start-up software package provides basic datalogging capabilities, so a system can be up and running almost immediately. It also can be used to configure instrument functions. Data from multiple channels from a single instrument can be saved to disk; up to eight channels of data can be graphed automatically and multiple configurations can be saved to disk.



The new version of ExceLINX is an economical, easy-to-use, add-in utility for Microsoft Excel. Within minutes of installing ExceLINX-1A on a PC, users can acquire data directly from the Model 2700 or 2750, then employ Excel's graphics, charting, and analysis capabilities to turn that data into useful information. No programming is required to use it—a few mouse clicks are all it takes to configure channels, set parameters, and get your measurements into Excel.

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Instrument Drivers

For experienced programmers who prefer to build fully custom systems from scratch, Keithley provides a Series 2700/2750 instrument driver for use with Application Development Environments such as LabVIEW™, LabWindows™/CVI, Visual Basic, C/C++, and TestPoint. This IVI-style driver (VISA based) supports all of the functionality of the Model 2700 and 2750. Numerous examples and an on-line help utility are provided to help programmers get their applications up and running.

TYPICAL APPLICATIONS

- **Production test of electronic products and devices**
- **Accelerated stress testing (AST)**
- **Process monitor and control**
- **Device characterization/R&D**
- **Low ohms, multichannel measurements**

Which Integra Mainframe is the Best Choice for the Application?

Use this selector guide to decide which Integra Series mainframe offers the combination of features and capacity that's right for a specific application. If testing requirements change in the future, switch/control modules and test code can be easily re-used.

	2700	2750
No. of different input channels	80	200
Matrix crosspoints	96	240
Ohms resolution	100mΩ	1mΩ
Dry circuit ohms (20mV clamp)	No	Yes
No. of slots	2	5
Memory buffer	55,000 rdgs	110,000 rdgs
Size (2U height)	Half-rack width	Full-rack width (19″)

2700
2750

Multimeter/Data Acquisition/ Switch Systems

DC CHARACTERISTICS

CONDITIONS: MED (1 PLC) or 10 PLC or MED (1 PLC) with Digital Filter of 10

FUNCTION	RANGE	RESOLUTION	TEST CURRENT ±5% OR BURDEN VOLTAGE	INPUT RESISTANCE OR OPEN CKT. VOLTAGE	ACCURACY: ±(ppm of reading + ppm of range) (ppm = parts per million) (e.g., 10ppm = 0.001%) 24 Hour 23°C±1°	90 Day 23°C±5°	1 Year 23°C±5°	TEMPERATURE COEFFICIENT 0°–18°C & 28°–50°C
VOLTAGE	100.0000 mV	0.1 µV		>10 GΩ	15 + 30	25 + 35	30 + 35	(1 + 5)/°C
	1.000000 V	1.0 µV		>10 GΩ	15 + 6	25 + 7	30 + 7	(1 + 1)/°C
	10.00000 V	10 µV		>10 GΩ	10 + 4	20 + 5	30 + 5	(1 + 1)/°C
	100.0000 V	100 µV		10 MΩ ± 1%	15 + 6	35 + 9	45 + 9	(5 + 1)/°C
	1000.000 V	1 mV		10 MΩ ± 1%	20 + 6	35 + 9	50 + 9	(5 + 1)/°C
RESISTANCE	1.000000 Ω	1 µΩ	10 mA	5.9 V	80 + 40	80 + 40	100 + 40	(8 + 1)/°C
2750 Only	10.00000 Ω	10 µΩ	10 mA	5.9 V	20 + 20	80 + 20	100 + 20	(8 + 1)/°C
2700 and 2750	100.0000 Ω	100 µΩ	1 mA	12.2 V	20 + 20	80 + 20	100 + 20	(8 + 1)/°C
	1.000000 kΩ	1 mΩ	1 mA	12.2 V	20 + 6	80 + 6	100 + 6	(8 + 1)/°C
	10.00000 kΩ	10 mΩ	100 µA	6.8 V	20 + 6	80 + 6	100 + 6	(8 + 1)/°C
	100.0000 kΩ	100 mΩ	10 µA	12.8 V	20 + 6	80 + 10	100 + 10	(8 + 1)/°C
	1.000000 MΩ	1.0 Ω	10 µA	12.8 V	20 + 6	80 + 10	100 + 10	(8 + 1)/°C
	10.00000 MΩ	10 Ω	0.7 µA // 10M Ω	7.0 V	150 + 6	200 + 10	400 + 10	(70 + 1)/°C
	100.0000 MΩ	100 Ω	0.7 µA // 10M Ω	7.0 V	800 + 30	2000 + 30	2000 + 30	(385 + 1)/°C
DRY CIRCUIT	1.000000 Ω	1 µΩ	10 mA	20 mV	80 + 40	80 + 40	100 + 40	(8 + 1)/°C
RESISTANCE	10.00000 Ω	10 µΩ	1 mA	20 mV	25 + 40	80 + 40	100 + 40	(8 + 1)/°C
2750 Only	100.0000 Ω	100 µΩ	100 µA	20 mV	25 + 40	90 + 40	140 + 40	(8 + 1)/°C
	1.000000 kΩ	1 mΩ	10 µA	20 mV	25 + 90	180 + 90	400 + 90	(8 + 1)/°C
CONTINUITY (2W)	1.000 kΩ	100 mΩ	1 mA	12.2 V	40 + 100	100 + 100	100 + 100	(8 + 1)/°C
CURRENT	20.00000 mA	10 nA	< 0.2 V		60 + 30	300 + 80	500 + 80	(50 + 5)/°C
	100.0000 mA	100 nA	< 0.1 V		100 + 300	300 + 800	500 + 800	(50 + 50)/°C
	1.000000 A	1.0 µA	< 0.5 V		200 + 30	500 + 80	800 + 80	(50 + 5)/°C
	3.000000 A	10 µA	< 1.5 V		1000 + 15	1200 + 40	1200 + 40	(50 + 5)/°C
CHANNEL (RATIO) [10]	Ratio Accuracy = Accuracy of selected Channel Range + Accuracy of Paired Channel Range							
CHANNEL (AVERAGE) [10]	Average Accuracy = Accuracy of selected Channel Range + Accuracy of Paired Channel Range							

TEMPERATURE

(Displayed in °C, °F, or K. Exclusive of probe errors.)

THERMOCOUPLES (ACCURACY BASED ON ITS-90.)

Type	Range	Resolution	90 Day/1 Year (23°C ± 5°C) Relative to Simulated Reference Junction	Using Plug-In Module	Temperature Coefficient 0°–18°C & 28°–50°C
J	–200 to +760 °C	0.001 °C	0.2°C	1.0°C	0.03°C/°C
K	–200 to +1372°C	0.001 °C	0.2°C	1.0°C	0.03°C/°C
N	–200 to +1300°C	0.001 °C	0.2°C	1.0°C	0.03°C/°C
T	–200 to +400°C	0.001 °C	0.2°C	1.0°C	0.03°C/°C
E	–200 to +1000°C	0.001 °C	0.2°C	1.0°C	0.03°C/°C
R	0 to +1768°C	0.1 °C	0.6°C	1.8°C	0.03°C/°C
S	0 to +1768°C	0.1 °C	0.6°C	1.8°C	0.03°C/°C
B	+350 to +1820°C	0.1 °C	0.6°C	1.8°C	0.03°C/°C

4-Wire RTD:
(100Ω platinum [PT100], D100, F100, PT385, PT3916, or user type. Offset Compensation On)

–200° to 630°C	0.01 °C	0.06°C		0.003°C/°C

Thermistor: (2.2kΩ, 5kΩ, and 10kΩ)[20]

–80° to 150°C	0.01 °C	0.08°C		0.002°C/°C

DC SYSTEM SPEEDS

RANGE CHANGES: 50/s (42/s).
FUNCTION CHANGES: 50/s (42/s).
AUTORANGE TIME: <30ms.
ASCII READINGS TO RS-232 (19.2K BAUD): 55/s.
MAX. INTERNAL TRIGGER RATE: 2000/s.
MAX. EXTERNAL TRIGGER RATE: 375/s.

DC MEASUREMENT SPEEDS

Single Channel, 60Hz (50Hz) Operation

FUNCTION	DIGITS	READINGS/s		PLCs
DCV, DCI, Ω (<10M),	6.5	5	(4)	10
THERMOCOUPLE,	6.5	35	(28)	1
THERMISTOR	6.5	45	(36)	1
	5.5	150	(120)	0.1
	5.5	300	(240)	0.1
	5.5	500	(400)	0.1
	4.5	2500	(2000)	0.01
4WΩ (<10M)	6.5	1.4	(1.1)	10
	6.5	15	(12)	1
	5.5	33	(25)	0.1
4WΩ OCOMP, RTD	6.5	0.9	(0.7)	10
	6.5	8	(6.4)	1
	5.5	18	(14.4)	0.1
CHANNEL (RATIO),	6.5	2.5	(2)	10
CHANNEL (AVG)	6.5	15	(12)	1
	5.5	25	(20)	0.1

MULTIPLE CHANNELS, INTO AND OUT OF MEMORY TO GPIB

	Channels/s
7703 Scanning DCV	200/s
7703 Scanning DCV with Limits or Time Stamp On	180/s
7703 Scanning DCV alternating 2W	58/s
7702 Scanning DCV	65/s
7700 and 7708 Scanning Temperature (T/C)	50/s

2700
2750

Multimeter/Data Acquisition/ Switch Systems

AC SPECIFICATIONS

FUNCTION	RANGE	RESOLUTION	CALIBRATION CYCLE	ACCURACY: ±(% of reading + % of range), 23°C ± 5°C 3 Hz–10 Hz	10 Hz–20 kHz	20 kHz–50 kHz	50 kHz–100 kHz	100 kHz–300 kHz
VOLTAGE	100.0000 mV	0.1 µV	90 Days	0.35 + 0.03	0.05 + 0.03	0.11 + 0.05	0.6 + 0.08	4.0 + 0.5
	1.000000 V	1.0 µV						
	10.00000 V	10 µV	1 Year	0.35 + 0.03	0.06 + 0.03	0.12 + 0.05	0.6 + 0.08	4.0 + 0.5
	100.0000 V	100 µV						
	750.000 V	1.0 µV						
			(TEMP. COEFE.)/°C	0.035 + .003	0.005 + .003	0.006 + .005	0.01 + .006	0.03 + .01
				3 Hz–10 Hz	10 Hz–5 kHz			
CURRENT	1.000000 A	1.0 µA	90 Day/1 Yr.	0.30 + 0.04	0.10 + 0.04			
	3.00000 A	10 µA		0.35 + 0.06	0.15 + 0.06			
			(TEMP. COEFE.)/°C	0.035 + 0.006	0.015 + 0.006			
				(3 Hz–500 kHz) (333 ms–2 µs)				
FREQUENCY AND PERIOD	100 mV to 750 V	0.333 ppm to 33.3 ppm	90 Day/ 1 Yr.	100 ppm + 0.333 ppm (SLOW, 1 s gate) 100 ppm + 3.33 ppm (MED, 100 ms gate) 100 ppm + 33.3 ppm (FAST, 10 ms gate)				

AC MEASUREMENT SPEEDS

SINGLE CHANNEL, 60Hz (50Hz) Operation

Function	Digits	Readings/s	Rate	Bandwidth
ACV, ACI	6.5	2s/Reading	SLOW	3 Hz–300 kHz
	6.5	1.4 (1.1)	MED	30 Hz–300 kHz
	6.5	4.8 (4)	MED	30 Hz–300 kHz
	6.5	40 (32)	FAST	300 Hz–300 kHz
FREQUENCY, PERIOD	6.5	1 (1)	SLOW	3 Hz–300 kHz
	5.5	9 (9)	MED	30 Hz–300 kHz
	4.5	35 (35)	FAST	300 Hz–300 kHz
	4.5	65 (65)	FAST	300 Hz–300 kHz

MULTIPLE CHANNEL

7703 SCANNING ACV: 180/s.

AC SYSTEM SPEEDS

RANGE CHANGES: 4/s (3/s).
FUNCTION CHANGES: 4/s (3/s).
AUTORANGE TIME: < 3s.
ASCII READINGS TO RS-232 (19.2K baud): 50/s.
MAX. INTERNAL TRIGGER RATE: 300/s.
MAX. EXTERNAL TRIGGER RATE: 250/s.

GENERAL

EXPANSION SLOTS: 5 (Model 2750); 2 (Model 2700).
MEMORY SIZE: 110,000 readings (Model 2750); 55,000 readings (Model 2700).
POWER SUPPLY: 100V / 120V / 220V / 240V ±10%.
LINE FREQUENCY: 45Hz to 66Hz and 360Hz to 440Hz, automatically sensed at power-up.
POWER CONSUMPTION: 80VA (Model 2750); 28VA (Model 2700).
OPERATING ENVIRONMENT: Specified for 0°C to 50°C. Specified to 80% RH at 35°C.
BATTERY: Lithium battery-backed memory, 3 years @ 23°C.
WARRANTY: 3 years.
EMC: Conforms to European Union Directive 89/336/EEC EN61326-1.
SAFETY: Conforms to European Union Directive 73/23/EEC EN61010-1, CAT I.
DIMENSIONS (Model 2700): 89mm high × 213mm wide × 370mm deep (3.5 in × 8.39 in × 14.563 in).
DIMENSIONS (Model 2750):
RACK MOUNTING: 89mm high × 485mm wide × 370mm deep (3.5 in × 19 in × 14.563 in).
BENCH CONFIGURATION (WITH HANDLE AND FEET): 104mm high × 485mm wide × 370mm deep (4.125 in × 19 in × 14.563 in).
SHIPPING WEIGHT: 13kg (28 lbs.) (Model 2750); 6.5 kg (14 lbs) (Model 2700).

For more detailed specifications, see Keithley's Web site, www.keithley.com.