

## Data Acquisition and Control Unit— HP 3852A

### Mainframe Supports

- 8 Function Module Slots
- Data Acquisition Operating System
- System Timer
- Measurement Pacer
- Full Alphanumeric Keyboard, Command and Result Displays

### Benefits

- Make real-time decisions and reduce data without burdening your computer:
  - Multitasking operating system prioritizes and timeslices tasks.
  - Powerful HP 3852A command statements simplify complex measurements.
  - Execution speed of command sequences are enhanced by executing subroutines stored in the HP 3852A memory.
  - Built-in, easy-to-use transducer conversions are supported for thermocouples, thermistors, RTDs, and strain gages.
  - Post-processing and data reduction before transferring results to a computer are achievable by first storing data to the HP 3852A internal memory.
  - Limit checking of analog measurements is performed in real time or after the measurements have been stored in mainframe memory.
- Optimize measurement timing and throughput to meet your needs:
  - Real-time interrupts allow higher priority tasks and external inputs to be serviced at any time.
  - Asynchronous communication with a computer is achieved through input and output buffering.
  - Control can be timed using built-in clock and alarm capabilities (can cause an interrupt).
  - A built-in pacer simplifies measurement timing and triggering.
  - Multiple voltmeters can be used. The high-speed voltmeter can control scanning, timing, and triggering of its own high-speed FET multiplexer subsystem via ribbon cable. Several of these subsystems can run simultaneously.

## Extender Chassis—HP 3853A

Extender supports: 10 Function Module Slots

Expand your system with no loss of functional capability:

- Up to seven extenders may be used with each HP 3852A mainframe.
- Any slot can be used for any function module and multiple voltmeters can be used with parallel triggering.
- All mainframe functions, including interrupts and triggering, are available through the extender control cable.

## 5½- to 3½-Digit Integrating Voltmeter

### HP 44701A

Directly measures: • dc voltage • ac voltage • Resistance

The HP 44701A lets you:

- Accurately measure small signal changes in noisy environments
- Choose the resolution, accuracy, and noise rejection needed while maximizing measurement speed
- Optimize resistance measurements to the accuracy you need

Best dc voltage accuracy:  $\pm(0.008\% + 8\mu\text{V})$  for 3 V range

## 13-Bit High-Speed A/D

### HP 44702B

Directly measures: • dc voltage • dc resistance

The HP 44702B will allow you to:

- Collect data quickly (100,000 readings/sec)
- Maximize your measurement throughput

Best dc voltage accuracy:  $\pm(0.05\% + 1.88\text{ mV})$  for 2.56 V range

## 16-Bit High-Speed A/D

### HP 44704A

Directly measures:

- dc voltage • Resistance • 100,000 readings/sec @ 16 bits

The HP 44704A will let you:

- Enjoy high accuracy at high speed
- Maximize your measurement throughput

Best dc voltage accuracy:  $\pm(0.015\% + 340\mu\text{V})$  for 2.56 V range

## Relay Multiplexers

### HP 44705A/44705H/44706A/44708A/ 44708H/44717A/44718A

Directly multiplexes:

- Voltage • Resistance • Thermocouples • Strain gages

Relay Multiplexers for the HP 3852A do the following:

- Reduce the effects of real-world measurement errors in a multichannel system
- Optimize thermocouple measurement accuracy
- Measure strain accurately

## Solid State Relay Multiplexers

### HP 44705F/44708F

Directly multiplexes:

- Voltage
- 4-wire  $\Omega$  resistance (44705F only)
- Thermocouples (44708F only)

Solid State Relay Multiplexers give you the following benefits:

- Solid state switching, free from wearout associated with electromechanical relays
- Precision measurements of real-world electrical systems
- Optimized thermocouple measurement accuracy (44708F)

## FET Multiplexers

### HP 44709A/44710A/44711A/44711B/44712A/ 44713A/44713B/44719A/44720A

Directly multiplexes:

- Voltage • Resistance • Thermocouples • Strain gages

HP's FET Multiplexers allow you to:

- Maximize your measurement throughput
- Increase your system reliability

## 20-Channel Low Resistance FET Multiplexers

### HP 44709A Opt H01/HP 44710A Opt H01

Directly multiplexes:

- Voltage • Resistance • Thermocouple • Strain gages

The low resistance of the FETs reduces the effects of injected current from scanning with high-speed guarded voltmeters (e.g. HP 3458A).

## Anti-Noise Filter Option

### HP 44713A/B Opt 003

Directly provides:

- Attenuation of 60 or 50 Hz noise
- Fast scanning; no need to average to get rid of unwanted noise
- One filter for each of the 24 channels

The anti-noise filter option allows you to:

- Scan lists quickly and accurately
- Reduce noise in a single measurement

## 12-Channel Isolated FET Multiplexer

### with Gain of 100

#### HP 44713A Opt H01

Directly multiplexes: • Voltage • Thermocouple

Amplify low level signals with built-in gain of 100 to reduce offset and noise effects.

Measure voltage and temperature with common mode voltages of up to 100 V.

## 12-Channel Isolated FET Multiplexer

### with Gain of 0.1

#### HP 44713A Opt H02

Measure voltages up to  $\pm 50$  V with the gain of 0.1

Measuring inputs with common mode voltages of up to 100 V.

## 4-Channel Track/Hold with Signal Conditioning

### HP 44730A

## 4-Channel Dynamic Strain Gage Multiplexers

### HP 44732A/44733A

Directly multiplexes:

- Transient dc voltages • Dynamic strain gages

HP's 4-Channel Track/Hold and Strain Gage Multiplexers let you:

- Enhance dynamic signal measurement accuracy
- Set gains of 1, 10, or 100 on each channel
- Use the analog peak detect/hold feature