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# Racal Instruments™ 1256

## GPIB and Ethernet Switching System

The Racal Instruments™ 1256 switching system is a high-performance switching and control system in a compact 2U rack-mountable package.

The unit draws upon our decades of experience as a major automated test equipment (ATE) switching supplier to set a new standard in switching systems.

With the addition of an Ethernet 10/100 interface, the 1256 easily connects to computers at remote locations.

### Key Features

- **Ethernet/GPIB/RS-232 remote interface**
- **Front-panel controls**
- **Wide range of switching and digital I/O plug-ins**
- **High throughput and advanced features for reduced test time**
- **SCPI command set**
- **LabVIEW™ and LabWindows™/CVI drivers**

## Product Information

### Wide Range of Plug-Ins

The 1256 controls up to eight Adapt-a-Switch™ plug-ins for switching and digital I/O. These plug-ins provide a wide range of switching capability: high current to 13 A, high voltage to 1 kV, RF/microwave to 18 GHz, and even digital I/O with 96 channels per plug-in. You can easily configure these plug-ins into a high-performance, low-cost solution to satisfy any switch application. A single 1256 can virtually accommodate any one of the following configurations, and countless others:

- 1152-point matrix
- 512-channel scanner/multiplexer
- 640 SPST switches
- 768 channels of TTL, CMOS, or open-collector digital I/O

### High-Speed Switching

The 1256 switching system reduces test times with its high throughput and timesaving advanced features. It scans more than 100 channels per second.

### Non-Volatile Memory

The non-volatile memory stores up to 100 complete switch states and includes a separate automatic power-up state.

In addition, the 1256 can store all user-designated preferences such as RS-232 baud rates, GPIB address, and display settings and have these automatically restored at power-up.

In addition, users employing the remote interfaces can store and recall both module and path names.

### Advanced Triggering

The 1256 synchronizes with other equipment using the external trigger in/out signals. Coupled with the advanced scan list features, the triggering facilitates rapid automated measurements with minimal intervention from the user of the system controller.

### Intuitive Front Panel Control

The highly intuitive menu-driven interface consists of a display, four soft-keys, and a knob. This powerful interface provides easy access to all relay and digital I/O states, system preferences, and non-volatile memory features of the 1256 switching system.

### Ethernet, GPIB, and RS-232 Remote Interfaces

The Ethernet, GPIB, and RS-232 remote interfaces provide any terminal or computer with access to all standard features. The remote interfaces are IEEE 488.2 and SCPI compliant. In addition, interfaces can access advanced features:

- ***Path Level Switching*** – Assign names to relay paths for ease of reference
- ***Include Lists*** – Automatically close multiple relays with a single command
- ***Exclude Lists*** – Build large scanners using mutually-exclusive relay groups
- ***Scan List*** – Define sequentially-closed relay groups

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# Product Information
continued

- ***Trigger Delays*** – Time relay closures to coincide with external events
- ***Switch Mode*** – Select make-before-break, break-before-make, or immediate relay
- ***Confidence Mode*** – Automatically verify relay response

# Specifications

Note: The EADS North America Test and Services policy is one of continuous development and improvement. Consequently, the equipment may vary in detail from the description and specifications in this publication.

## General

**Front Panel:**
- Vacuum Fluorescent display
- Menu soft keys
- Optically-encoded knob

**Rear panel Connectors:**
- Ethernet (RJ-34): GPIB (IEEE-488); RS-232 (9-pin D-Sub); Two BNCs for External Trigger In/Out

## System

**Slot Capacity**
- 8 slots

**Analog Backplane**
- Four two-wire buses

**Memory**
- 101 non-volatile locations

**Switching settling time**
- Automatically selected by the mainframe for each module

**Remote Interface**
- Ethernet 10 Base-T, 100 Base-TX
- GPIB (IEEE 488.2)
- RS-232
- SCPI command language

## Electrical

**AC Input Voltage**
- 90 to 250 VAC

**AC Line Frequency**
- 47 to 63 Hz

**Input Power**
- 150 VA Max

## Environmental

**Temperature**
- Operating: -20° C to 60° C
- Storage: -40° C to 75° C

**Relative Humidity**
- 95% RH non-condensing at <30° C

**Altitude**
- Operating: 10,000 ft
- Non-Operating: 15,000 ft

**Shock**
- 30 g, 11 ms, ½ sine wave

**Vibration**
- 0.013 in: (pk-pk), 5 to 55 Hz

**Bench Handling**
- 4-inch drop at 45°

**Emissions**
- EN61326, Class A, Table 1

**Immunity**
- EN61326, Class A, Table 3

**Safety**
- CE, EN61010-1

**MTBF (MIL-STD-217E)**
- 42,390 hrs

**MTTR**
- ≤5 min

## Mechanical

**Weight**
- 7 lbs 11 oz (3.5 kg)

**Dimensions**
- 3.5” H x 16.6” W x 11.3” D

CE The CE Mark indicates that the product has completed and passed rigorous testing in the area of RF Emissions and Immunity to Electromagnetic Disturbances, and complies with European electrical safety standards.

# Ordering Information

**407838 : Racal Instruments™ 1256**
GPIB and Ethernet Switching System

**Accessories**

602269-003 : European Power Cord
407731 : Option 60, Chassis Ears
602248 : RS-232 Cable, 10 ft. (3.05 m)
500310-001 : IEEE-488/GPIB Cable (1 m)
500310-002 : IEEE-488/GPIB Cable (2 m)

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