



# Racal Instruments™

# 1260-164AH/BH

## High-Performance SP4T Microwave Switch Plug-In

The Racal Instruments™ 1260-164AH/BH is a 2-slot microwave switch plug-in for use in either the Racal Instruments™ 1256 switching mainframe or the Racal Instruments™ 1260-100 Adapt-a-Switch™ VXI carrier. It's optimized for high-performance, high-density, microwave switching applications. The 1260-164AH/BH uses high-quality Radiall relays with a frictionless design that minimizes particle deposits on the contacts.

### Key Features

- DC - 26.5 GHz bandwidth
- High-repeatability design
- 10 million cycle life span (25 million typical)
- Single or dual SP4T switch
- Field maintainable

### Product Information

The Racal Instruments™ 1260-164AH/BH is a DC - 26.5 GHz electro-mechanical coaxial switch card that can be configured as a single or dual SP4T switch. The relays used in this card have highly reliable and repeatable operations with a 10 million cycle life span (25 million typical). This is due to the frictionless design that minimizes the particle deposits on the contacts that affect repeatable transmission line operation and system calibration.

The 1260-164AH/BH is part of the microwave switch card family within our modular Adapt-a-Switch™ series. These cards can be installed into an LXI switch chassis or VXI carrier for larger switch requirements. This modular plug-in card approach provides a scalable system architecture that can easily scale for expanding system requirements by adding additional cards. These cards can be mixed and matched with other Adapt-a-Switch series switch cards for a complete ATE switch system solution.

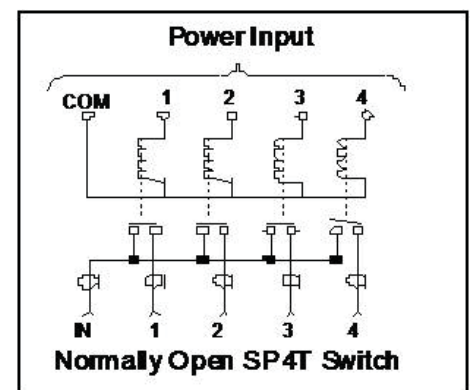
If replacement is required, relays are replaceable in under 5 minutes. This maximizes system uptime and facilitates field upgrades. User connections are made directly to the relay SMA connectors at the front panel of the plug-in, eliminating cumulative losses and induced noise. A specially designed, deep-slotted socket for a ¼" socket drive is available to connect/disconnect the SMA interface connectors quickly and easily.

The 1260-164AH/BH is available in two standard configurations with either one or two relays, each being SP4T, 1-pole, 4-throw.

If the 1260-164AH/BH is used with the 1260-100 Adapt-a-Switch carrier, a Racal Instruments Option 01T is required to communicate with the switch cards, and to provide message-based operation for ease of use and register-based operation for maximum speeds. If the switch plug-in is used with the 1256 mainframe, no additional controller is required.

The 1260-164AH/BH occupies two slots; therefore, when using it in an Adapt-a-Switch carrier, the inter-module shield must be removed to allow room for the switch card.

The Adapt-a-Switch line provides VXIplug&play support for frameworks based on Microsoft Win32® application programming interface, including drivers for LabWindows™/CVI and LabVIEW™.



1x4 Block Diagram

## Specifications

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

### Microwave Performance

#### Frequency Range

- DC to 26.5 GHz

#### Impedance

- 50 Ω

Freq. Range (GHz)	DC-3	3-8	8-12.4	12.4-18	18-26.5
Insertion Loss (max) dB	0.20	0.30	0.40	0.50	0.60
Isolation (min) dB	80	70	60	60	55
VSWR (max)	1.20	1.30	1.40	1.50	1.60
Max Avg Power (W)	250	150	120	100	40

#### Switching Sequence

- Break Before Make (standard)
- May be set up for Make Before Break

#### Operating Mode

- Normally Open

### Interface

#### Power Requirements

- +5 VDC
- 1260-164AH: 1.00 A max
- 1260-164BH: 1.95 A max

#### Front Panel I/O Interface Connector

- SMA male (not supplied)

### Environmental

#### Temperature

- Operating: 0° C to 60° C
- Storage: -40° C to 75° C

#### Relative Humidity

- 95% ±5% non-condensing at <30° C

#### Altitude

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

#### Shock

- 30 g, 11 ms, 1/2 sine wave

#### Vibration

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

#### Bench Handling

- 4-inch drop at 45°

#### Emissions

- EN61326, Class A, Table 3

### Immunity

- EN61326, Class A, Table 1

### Safety

- CE, EN61010-1

### Switching Time

- <15 ms (includes settling time)

### Rated Switch Operations

- Electrical: 10,000,000 operations

### MTBF (MIL-HBK-217E, excluding switches)

- 1260-164AH: 860,000 hrs
- 1260-164BH: 560,000 hrs

### MTTR

- <5 min

### Mechanical

#### Weight

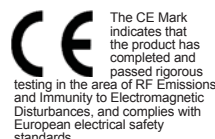
- 1260-164AH: 5.8 oz. (160 g)
- 1260-164BH: 8.0 oz. (230 g)

#### Dimensions

- 4.5" H x 1.5" W x 9.5" D (Dual-Slot Plug-In)

### Cooling (1260-100 Adapt-a-Switch® Carrier)

- Airflow: 3.0 l/s
- Backpressure: 0.5 mm H<sub>2</sub>O



## Ordering Information

Note: When the 1260-164AH/BH is used in a VXI mainframe other than a 1256, a Racal Instruments™ Option 01T Smart Control Module must be installed in the mainframe's left-most slot.

### 408598-001 : Racal Instruments™ 1260-164AH

One SP4T Microwave Switch, 26.5 GHz

### 408598-002 : Racal Instruments™ 1260-164BH

Two SP4T Microwave Switches, 26.5 GHz

### Accessories:

OPT-405108-001 : Racal Instruments™ Option 01T Smart Card Module installed (manual must be ordered separately)

407531-001 : Racal Instruments™ Option 01T Smart Card Module (not installed) with manual

456890 : 5/16" Deep Slotted Socket for 1/4" ratchet; to service SMA cables (see illustration)



All trademarks and service marks used in this document are the property of their respective owners.

- Racal Instruments and Adapt-a-Switch are trademarks of Astronics Test Systems Inc. in the United States and/or other countries

- Microsoft and Win32 are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries

- LabVIEW and LabWindows are trademarks of National Instruments in the United States and/or other countries