Racal Instruments™
1260-167A/B
High-Performance Microwave Switch Plug-In

The Racal Instruments™ 1260-167A/B is a 2-slot microwave switch plug-in for use in either the Racal Instruments™ 1260-100 Adapt-A-Switch™ VXI carrier or the Racal Instruments™ 1256 GPIB/RS-232 switching mainframe. It's optimized for high-performance, high-density, microwave switching applications. The 1260-167A/B uses high quality sealed Narda relays for the ultimate in signal integrity.

Key Features

- **Ideal for switching cellular, PCS, and military communications signals**
- **Self-cleaning relays for high repeatability and accurate system calibration**
- **18 GHz bandwidth (26 GHz typical)**
- **Relays replaceable in under 5 minutes**
- **High-reliability relays: >10⁶ operations**

Product Information

The microwave plug-in is designed to switch signals used in modern communications systems including Cellular, PCS, and Satcom applications. It is also ideal for ATE systems designed for testing military telecommunications, surveillance, and related equipment.

The 1260-167A/B provides highly reliable and repeatable operation over a conservatively specified lifetime of >1,000,000 operations. Narda's special microwave relay design includes a self-cleaning wiper that cleans the contacts every time the relay closes, which ensures the specifications are met over the lifetime of the switch.

If replacement is required, relays are replaceable in under 5 minutes. This maximizes system uptime and facilitates field upgrades. For the part number of the spare Single-Pole 6-Throw (SP6T) microwave relay, see the Ordering Information included on this data sheet.

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 1260-167A/B is available in two standard configurations with either one or two relays, each being 1-pole, 6-throw. Custom configurations are available; contact the factory for details.

The 1260-167A/B 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.

If the 1260-167A/B is used with the 1260-100 Adapt-a-Switch™ platform, 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 Adapt-a-Switch™ line provides VXI*plug&play* support for frameworks based on Microsoft Win32® application programming interface, including drivers for LabWindows™/CVI and LabVIEW™.

EADS
NORTH AMERICA

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.

Microwave Performance

Bandwidth (-3 dB)
• >18 GHz

Impedance
• 50 Ω

Maximum Power
• 100 MHz: 490 W
• 1 GHz: 180 W
• 10 GHz: 60 W
• 18 GHz: 50 W

Frequency Range (GHz)	Insertion Loss (max dB)	Isolation (min dB)	VSWR (max)
DC-3	0.2	85	1.25:1
3-8	0.3	75	1.3:1
8-12.4	0.4	60	1.4:1
12.4-18	0.5	60	1.5:1
18-26*	1.0	45	2.0:1

* Typical specs; not guaranteed or measured

Switching Sequence
• Break Before Make

Operating Mode
• Normally Open

Interface

Front Panel I/O Interface Connector
• SMA male (not supplied)

Power Requirements
• +5 VDC at 0.4 A
• Plus 1 A per energized relay

Environmental

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

Relative Humidity
• 90% 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 3

Immunity
• EN61326, Class A, Table 1

Safety
• CE, EN61010-1

Switching Time
• <15 ms (includes settling time)

Rated Switch Operations
• Electrical: 1,000,000 operation at full rated load

MTBF
• 1260-167A: 860,000 hrs
• 1260-167B: 560,000 hrs

MTTR
• <5 min

Mechanical

Weight
• 1260-167A: 7.4 oz
• 1260-167B: 10.6 oz

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

Cooling (in 1260-100 Adapt-A-Switch® carrier)
• Airflow: 4.75 l/s
• Backpressure: 0.5 mm H_2O

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

Note: When the 1260-167A/B 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.

407773-001 : Racal Instruments™ 1260-167A
   1 SP6T Microwave Switch, 18 GHz

407773-002 : Racal Instruments™ 1260-167B
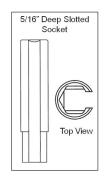   2 SP6T Microwave Switches, 18 GHz

Accessories:

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

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

310284 : Spare SP6T Microwave Switch, >18 GHz

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

5/16" Deep Slotted Socket

Top View