

# System 41

## RF/Microwave Signal Routing Systems



- **Integrated solution, including both controller and microwave components in 4U (7") package**
- **Three standard microwave switch modules**
  - 10×10 unterminated matrix
  - 6×6 unterminated matrix
  - 1×72/dual 1×36 unterminated multiplexer
- **Unique front panel enables interactive control as well as real-time status display**
- **DC to 18GHz frequency range**
- **Pre-programmed, turnkey solutions**
- **Phase matching**

### Ordering Information

Contact a Keithley representative for pricing.

**Accessories Supplied**  
Programming light pen

signal routing system, complete with an optimized Keithley controller, system power supply, all power and control cables, rack mount assembly, and low-loss microwave cables in one integrated chassis.

### Superior RF/Microwave Performance

The System 41 integrates relays from the leading suppliers in the industry, enabling us to offer the lowest insertion loss, VSWR, and crosstalk performance specifications available. All internal connections between the components are implemented using semi-flex or semi-rigid RF cables for high signal integrity.

### Standard Microwave Switching Modules

Keithley provides three standard microwave switching modules: an 18GHz 1010 non-blocking matrix, an 18GHz 66 non-blocking matrix, and an 18GHz 172 multiplexer that can be configured as two independent 136 multiplexers.

### Get Up and Running Quickly

To begin using the System 41, simply install it in a rack and connect the input and output lines. All RF input/output connections are easily accessible, making system setup and maintenance fast and uncomplicated.

The control unit's front panel display provides continuous, real-time information on the status of all controlled components. This makes it possible to operate the system manually, not just automatically, speeding and simplifying test verification and troubleshooting. Both start-up time and downtime are minimized, which helps maximize production time.

### Phase Matching Option

The System 41 offers a phase match option for the 172 multiplexer. This solution provides equal length, phase matched paths of both the RF cabling and the switching topology. Only high performance switches are used to ensure contact resistance reliability over time.

### Light Pen Programming

A light pen provides point-and-click programming from the front panel. By selecting the desired channels or range of channels, the scan list can be built, matrix patterns created, channels opened or closed, and patterns stored in memory.

### Mainframe Optimized for Controlling RF/Microwave Switches

The System 41 is optimized solely for microwave signal routing applications. We've integrated the ability to control up to 240 RF/microwave channels within the chassis that houses the switches to provide an optimum combination of price and performance in just seven inches of rack space. The System 41 can be configured with one of the three standard switch modules.

### Fully Integrated, Turnkey Solutions

Keithley can provide a standard turnkey signal routing system, complete with an optimized Keithley controller, system power supply, all power and control cables, rack mount assembly, and low-loss microwave cables in one integrated chassis.

### APPLICATIONS

- Cellular and cordless phones
- Specialized mobile radios
- Base stations
- Specialized antenna systems
- RF components, including RFICs
- Wireless peripherals, including Bluetooth devices
- Broadband wireless transceivers
- High speed digital communications, including SONET speeds 3Gbps and 10Gbps

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## S41/RF 6×6 System Specifications

FREQUENCY	DC–8 GHz	8–18 GHz
INSERTION LOSS	2.5 dB max.	4.0 dB max.
VSWR	1.5:1	2.0:1
ISOLATION	70 dB min.	60 dB min.

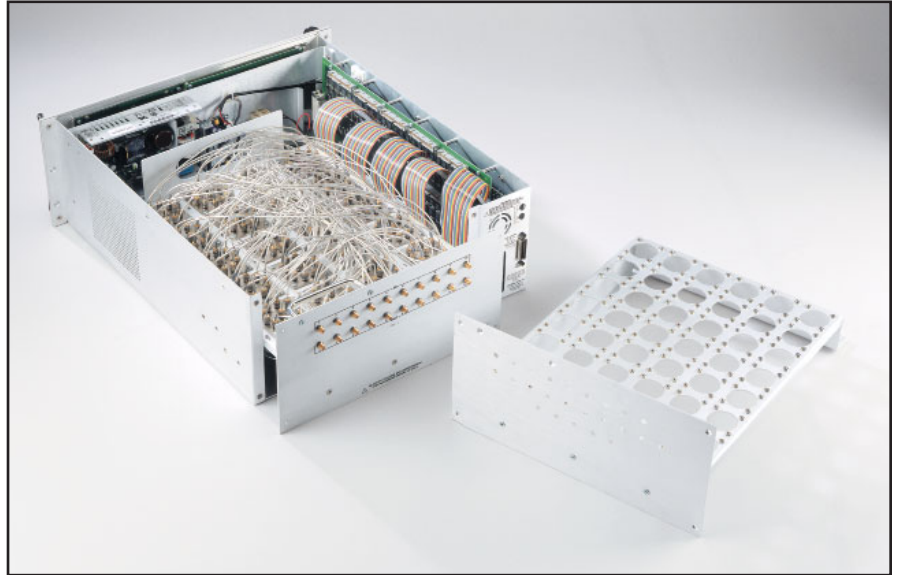
## S41/RF 10×10 System Specifications

FREQUENCY	DC–8 GHz	8–18 GHz
INSERTION LOSS	3.5 dB max.	5.5 dB max.
VSWR	1.5:1	2.0:1
ISOLATION	70 dB min.	60 dB min.

## S41/RF 1×72 System Specifications

FREQUENCY	DC–8 GHz	8–18 GHz
INSERTION LOSS	1.0 dB max.	2.5 dB max.
VSWR	1.5:1	2.0:1
ISOLATION	70 dB min.	60 dB min.

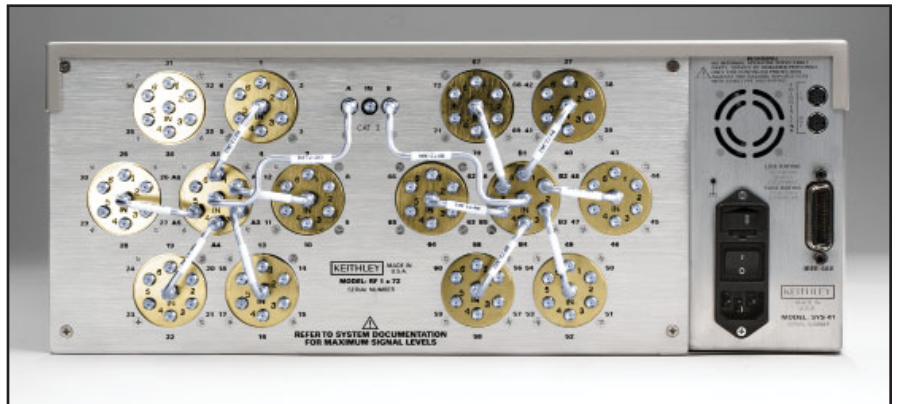
NOTE: This system is also configurable as two individual 1×36 multiplexers.



S41/RF 10×10 Non-Blocking Matrix

### ACCESSORIES AVAILABLE

7007-1	Shielded GPIB Cable, 1m (3.3 ft)
7007-2	Shielded GPIB Cable, 2m (6.6 ft)
KPCI-488LPA	IEEE-488 Interface/Controller for the PCI Bus
KUSB-488B	IEEE-488 USB-to-GPIB Interface Adapter
S41-RMK-1	Fixed Rack Mounting Kit



S41/RF 1×72 Multiplexer