

20-745 2GHz RF Multiplexer Module

- R.F. Multiplexer with up to 2GHz Bandwidth
- Configurable as 32 to 1, Dual 16 to 1 or Quad 8 to 1 Multiplexer
- Wide Choice of Connectors: SMB, BNC, BT Type 43/SMZ, SMA or 1.0/2.3
- Built-In Self Test
- Front Panel LED Indicators
- Suitable for Building Larger Switching Networks
- 75Ω Version Suitable for Telecoms and High Quality Video Switching



The 20-745 series are a range high density 2000MHz Multiplexers arranged as a Quad 8 to 1, Dual 16 to 1 or Single 32 to 1 configuration, all with excellent Insertion Loss, VSWR & Isolation, available in a choice of 50Ω or 75Ω versions with SMA, SMB, Type 43/SMZ, BNC or 1.0/2.3 Connectors.

This module may also be easily configured as a Single 32 to 1, Dual 16 to 1 or Quad 8 to 1 multiplexer, to ease the construction of large RF switching systems.

This module is a higher density version of type 20-740 with the automatic termination function removed, the RF performance specification is similar. It is an equivalent to the 20-730-902 balanced 120Ω multiplexer.

Applications for the 20-745 include routing high frequency signals to and from oscilloscopes, analysers, signal generators and synthesizers, telecoms tributary switching, video/audio switching and switching high frequency logic signals.

Programming

The Multiplexer module is simple to program:-

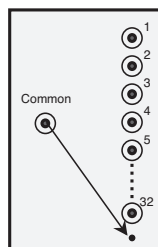
- ARESET a** Open all channels on device **a**
- DELAY t** Force a minimum delay of **t** milliseconds between two instructions
- DIAGNOSTIC?** Report any Self Test errors
- RESET** Open all switches on all modules
- VIEW? a** View status of device **a**
- CHAN a, b, c** Select channel **c** on multiplexer **a**, bank **b**

Self Test

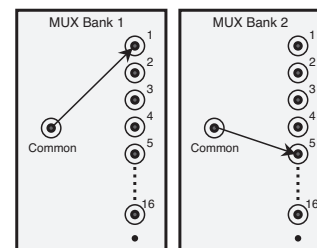
Self-Test is invoked at power on and may also be operated under software (*TST?) or via a recessed push button. Self-Test pass is indicated on a front panel LED with a full pass/fail description available using the DIAGNOSTIC? command. Self-Test comprises 2 levels:-

1. Logic Test
2. Relay Coil Test

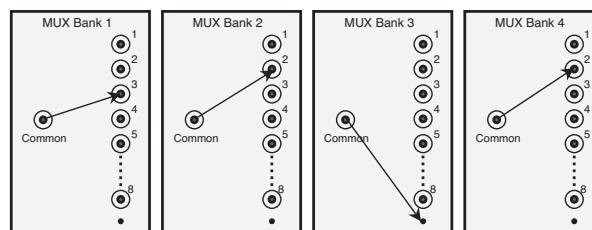
These two levels of testing will find the majority of failures, however please note that the relay contacts themselves are not tested.



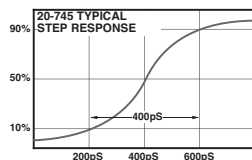
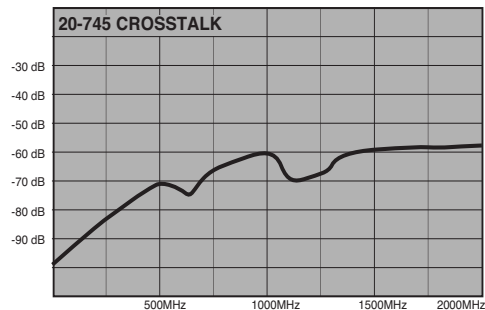
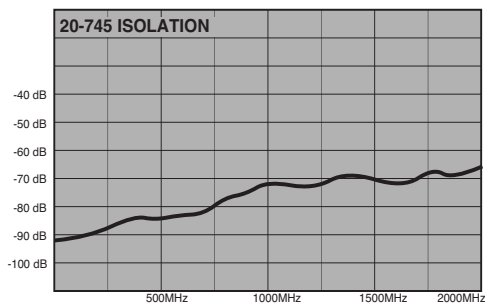
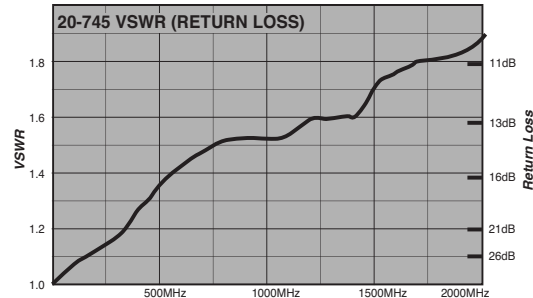
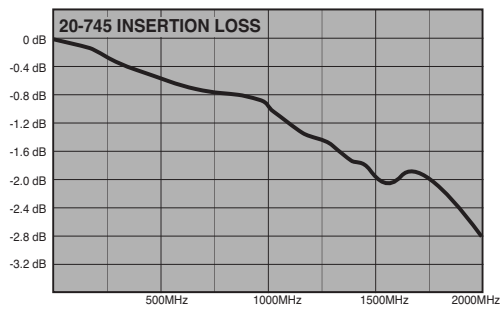
Single 32
Channel Mode



Dual 16
Channel Mode



Quad 8 Channel Mode



Typical RF Performance Plots for 20-745 in Dual 16 to 1 Mode (SMB/Type 43 connector)

Operating/Storage Conditions

Operating Conditions

Operating Temperature: 0°C to 55°C
 Humidity: Up to 95% non-condensing
 Altitude: 5000m

Storage and Transport Conditions

Storage Temperature: -20°C to +75°C
 Humidity: Up to 95% non-condensing
 Altitude: 15000m

Latest Details

Please refer to our Web Site for Latest Product Details.
www.pickeringtest.com

Specification (16 to 1 Mode)

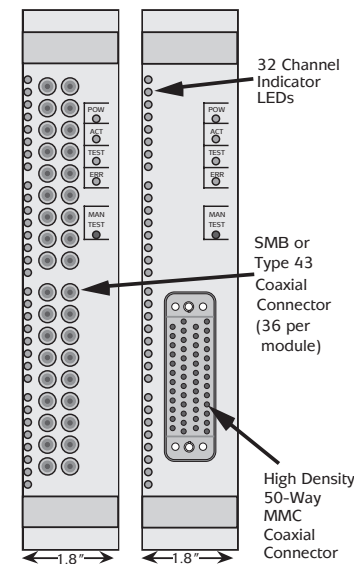
Characteristic Impedance:	50Ω or 75Ω
Maximum Frequency:	1500MHz
Rise Time:	<0.5ns
Maximum Insertion Loss:	<2dB
V.S.W.R. (at 1300MHz):	<1:1.6
Isolation (at 2000MHz):	>75dB
Crosstalk (at 2000MHz):	>55dB
Maximum Hot Switch Voltage:	30V DC
Maximum Power:	10W
Termination Resistor Max Power:	0.25W
Maximum Switch Current:	0.5A
Nominal Switching Capacity:	0.01A, 24Vdc, 10W@1.2GHz
On Path Resistance:	<250mΩ
Off Path Resistance:	>10 ⁸ Ω
Differential Thermal Offset:	<20μV
Switching Time:	10ms
Expected Life (Low power):	>2x10 ⁷ operations
Expected Life (Full power):	>3x10 ⁵ operations

Additional Specification (8 to 1 Mode)

Maximum Frequency:	2000MHz
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Additional Specification (32 to 1 Mode)

Maximum Frequency:	1000MHz
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Width and Dimensions

All modules conform to the 6U height (262mm) Eurocard standard and are 160mm deep, panel width is 1.8 Inches (45.7mm).

Connectors

The 20-745 RF Multiplexer Module is available with BNC, SMA, SMB, Type 43/SMZ or 1.0/2.3 connectors. Other connector types are available to order, please contact the sales office for details.

Product Order Codes

2000MHz RF Multiplexer, 50Ω, SMB	20-745-501
2000MHz RF Multiplexer, 50Ω, SMA	20-745-521
1300MHz RF Multiplexer, 50Ω, BNC	20-745-531
1500MHz RF Multiplexer, 75Ω, Type 43/SMZ	20-745-701
1000MHz RF Multiplexer, 75Ω, BNC	20-745-731
1500MHz RF Multiplexer, 75Ω, 1.0/2.3	20-745-741

The default configuration should be specified when ordering (Quad 1 to 8, Dual 16 to 1 or Single 32 to 1).

Mating Connectors & Cabling

50Ω SMB to SMB Lead, 1m length	10-987-510
50Ω SMA to SMA Lead, 1m length	10-981-510
50Ω BNC to BNC Lead, 1m length	10-980-510
75Ω 1.0/2.3 to 1.0/2.3 Lead, 1m length	40-977-731
75Ω SMZ to SMZ Lead, 0.5m length	10-988-705
MMC Co-ax crimp Pins, 50Ω	10-986-005
MMC Co-ax crimp Pins, 75Ω	10-986-007