

- Four Separate 16 to 1 Multiplexers in a Single Module
- 120Ω Balanced Signal Paths
- 200MHz Bandwidth
- Suitable For Telecoms Data Switching
- Suitable For Switching Digital Signals From D.C. to Over 34Mbit/s
- May be Used For Building Larger Switching Networks
- Uses Ruthenium Contact Reed Relays for High Reliability
- Front Panel Status Indicators
- Built-in Self Test



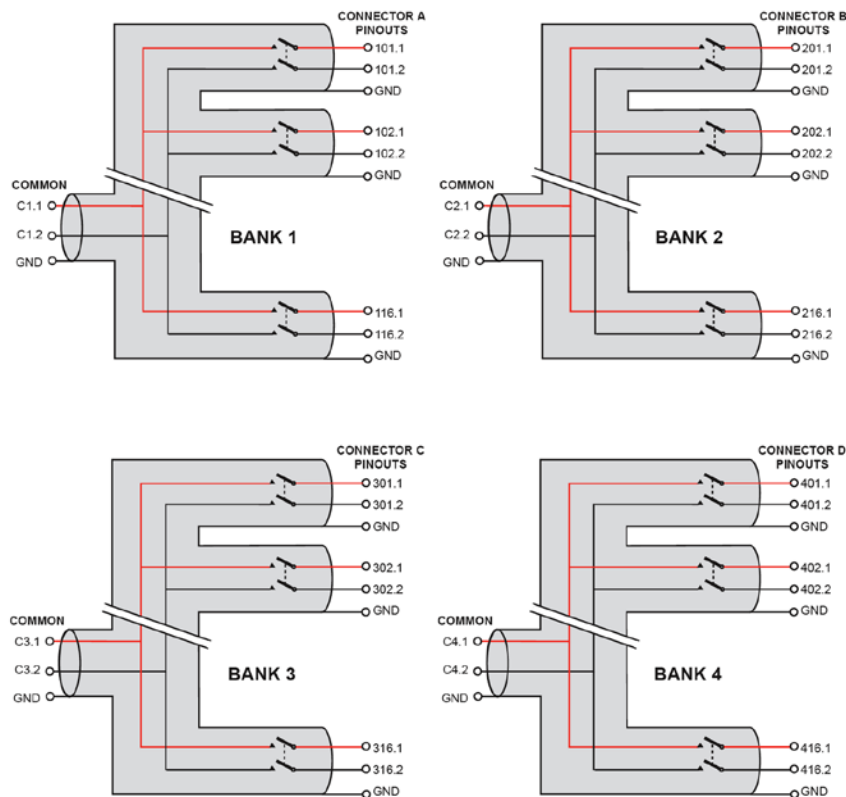
Not Recommended for New Designs*

***Please contact Pickering for alternative PXI/LXI/USB solutions**

The 20-731 Quad 16-Channel RF Multiplexer Module is primarily designed for the switching of 120Ω twisted-pair data signals with data rates up to 34Mbit/s. With its low insertion loss, low return loss and high isolation, the module is ideally suited for switching 2Mbit/s balanced data signals found in telecommunication systems.

The Module consists of four separate 16 to 1 multiplexers each with double-pole switching as required for balanced signalling systems, Signal connections to the module are made via four 50-pin D-type male connectors mounted on the front panel. High quality ruthenium reed relays are used throughout for long contact life and maximum reliability

The Module is programmed using a standard IEEE/488/RS232 message based interface via the System 20 backplane. The Module includes a built-in self test that checks functionality down to component level and reports test status on front panel LEDs.



Switching Block Diagram for the 20-731 Quad 16-Channel RF MUX

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Switching Specification

Switch Type:	Ruthenium Reed
Maximum Voltage:	100V DC
Maximum Power:	10W
Maximum Switch Current:	0.5A
Maximum Carry Current:	1.2A
Path Resistance	
On:	<500mΩ
Off:	>1x10 ¹⁰ Ω
Differential Thermal Offset:	<10μV
Total Switching Time:	10ms typical
Expected Life	
Low power load:	>1x10 ⁸ operations
Full power load:	>5x10 ⁶ operations

RF Specification

Characteristic Impedance:	120Ω balanced
Maximum Frequency:	200MHz
Rise Time:	<1ns
Insertion Loss:	<3dB
Return Loss:	<11dB (1:1.8)
Crosstalk (at max frequency):	>80dB
Isolation (at max frequency):	>60dB

Programming

The module uses a standard IEEE-488.2/RS-232 message based interface and is programmed via the System 20 backplane.

Self Test

The module has a built in self-test that is executed at power on or invoked by a software command. The test checks internal logic, checks power supply levels and tests the resistance of the relay coils. The result of the test is indicated on the front panel LEDs.

Mechanical Characteristics

The 20-731 module conforms to the 6U height (128mm) Eurocard standard and is 160mm deep. Panel width is 2.4 Inches.

Connectors

- System 20 bus: 64-pin DIN 41612 plug
- Signal In/Out: 4 x 50-pin D-type plugs on front panel

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

Safety & CE Compliance

All modules are fully CE compliant and meet applicable EU directives: Low-voltage safety EN61010-1:2010, EMC Immunity EN61326-1:2013, Emissions EN55011:2009+A1:2010.

Product Order Codes

**Quad 16-Channel Multiplexer Module
with 4 x 50-Pin D-type Connectors** **20-731-802**

Product Customization

Pickering System 20 modules are designed and manufactured on our own flexible manufacturing lines, giving complete product control and enabling simple customization to meet very specific requirements.

Customization can include:

- Alternative relay types
- Mixture of relay types
- Alternative number of relays
- Different performance specifications

All customized products are given a unique part number, fully documented and may be ordered at any time in the future. Please contact your local sales office to discuss.

Mating Connectors & Cabling

50-Pin D-type Socket with Pins & Shell **10-960-050**

For other connection accessories for this module please refer to the [90-005D](#) 50-Pin D-Type Connector Accessories data sheet where a complete list and documentation can be found for accessories, or refer to the Connection Solutions catalog.
