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Find the *Pickering 20-785-524* at our website: ***Click HERE***

20-785/785A
18GHz Microwave Multiplexer Module

- Dual or Quad 6 Channel Multiplexer
- 18GHz Bandwidth With Options for 26.5 and 40GHz
- Self Terminating Option Available
- 50Ω SMA Connectors
- Microwave Relays Are Quickly Replacable For Minimum Downtime
- Pickering Interfaces Can Construct and Test Custom Microwave Switching Networks



System 20 Microwave multiplexer modules are suitable for switching 50Ω signals up to 18GHz, optionally to 26.5 or 40GHz. Available in a choice of formats as dual or quad 6 channel Multiplexer, they are suitable for constructing complex microwave switching networks.

The 20-785 microwave multiplexer modules provide a range of switching configurations to suit most applications, they will switch up to 18GHz, or optionally to 40GHz, using high performance front panel mounted SMA connectors.

These modules give you the highest RF & Microwave switching performance available within a Pickering Switching System. Applications are mainly in the Microwave region, however there are many uses in the RF spectrum where extremely low insertion loss and ultra high isolation are critical.

Model 20-785 has either dual or quad six channel multiplexers, this model is particularly suitable for constructing large switching networks (please refer to diagram overleaf).

The 20-785 now features “hot” replacable relays. These may be replaced without removing the module from the mainframe, while the other relays are still operating.

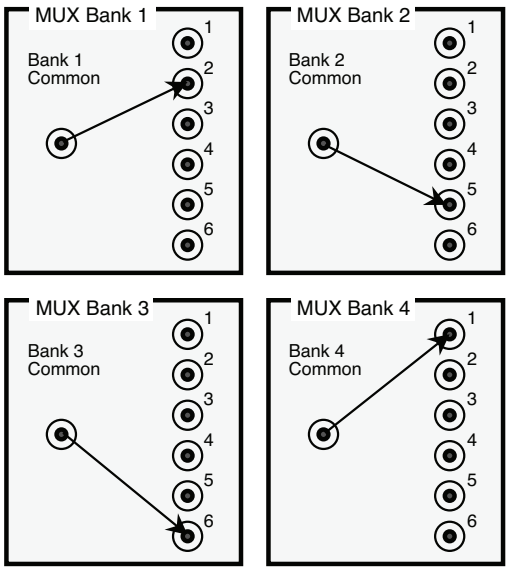
Automatic Termination Option

Automatic termination into a built-in 50Ω matched load (for non-selected channels) is available for 50Ω multiplexers, please specify option -T. There is a maximum power rating of 1W per channel or 3W per 6 channel multiplexer.

20-785 (6 Channel Multiplexer) Programming

Microwave Multiplexer modules are 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. The address is prefixed by bank number b by 1, 2, 3 or 4 to indicate the bank number



Model 20-785-524 Features 4 Separate 6 Channel RF Multiplexers (model 20-785-522 has 2 multiplexer banks)

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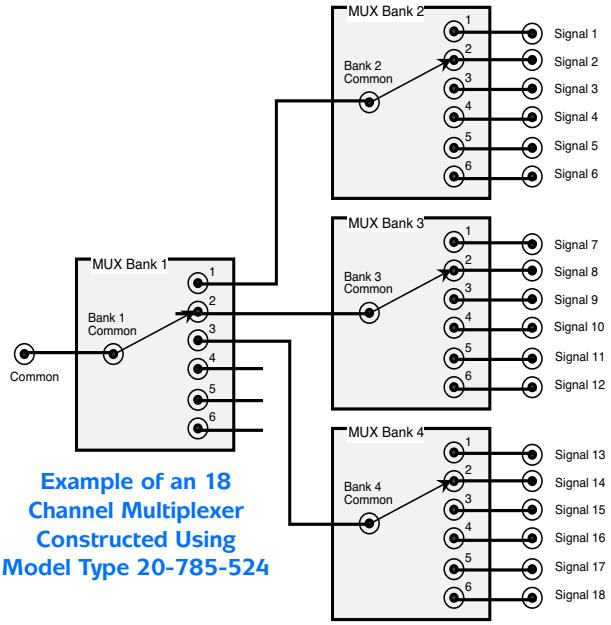
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Specification (18GHz Version)

Characteristic Impedance:	50Ω
Maximum Frequency: Rise Time:	18GHz <3ps
Insertion Loss (<18GHz): V.S.W.R. (<18GHz): Isolation (<18GHz):	<0.5dB <1:1.5 >60dB
Maximum Power (<3GHz): Maximum Power (3-12GHz): Maximum Power (12-18GHz):	100W 60W 30W
Maximum Voltage: Maximum Switch Current:	100V DC 1A
On Path Resistance: Off Path Resistance:	<200mΩ $>1x10^{10}$Ω
Vibration:	Sine 1mm, 5-60Hz Sine 10g, 60-2000Hz
Switching Time:	15ms
Expected Life (Low power): Expected Life (Full power):	$>2x10^{7}$ operations $>3x10^{5}$ operations

Additional Specification (26.5GHz & 40GHz Version)

Insertion Loss (<26.5GHz): V.S.W.R. (<26.5GHz): Isolation (<26.5GHz):	<0.7dB <1:1.7 >55dB
Expected Life:	$>2x10^{6}$ operations
Insertion Loss (<40GHz): V.S.W.R. (<40GHz): Isolation (<40GHz):	<1.1dB <1:2.2 >50dB
Expected Life:	$>2x10^{6}$ operations



Example of an 18 Channel Multiplexer Constructed Using Model Type 20-785-524

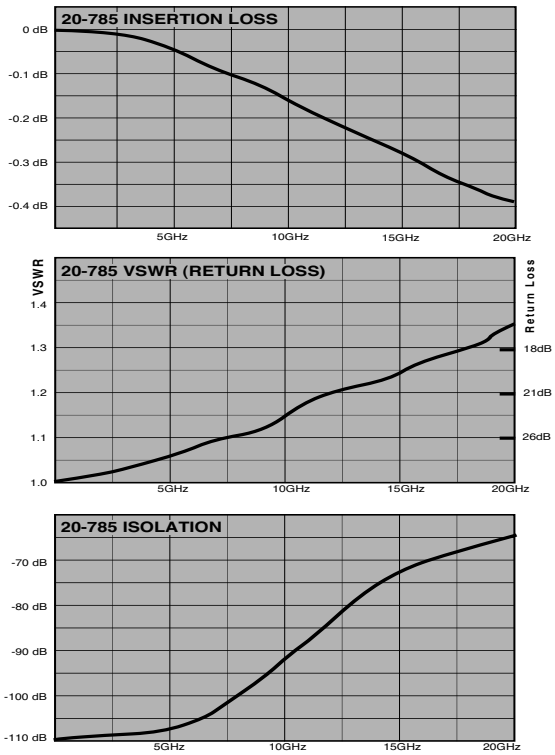
Operating/Storage Conditions

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



Typical RF Performance Plots for 20-785

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**

Please note that the relay contacts themselves are not tested.

Easy Repair

To allow fast in field repair all relays may be individually replaced without removing the module from the switching system case.

Width and Dimensions

All modules conform to the 6U height (262mm) Eurocard standard and are 160mm deep, panel width is 2.4 Inches (60.9mm), except the -T version which is 3.6" (91.5mm).

Product Order Codes

†Dual 6-chan MUX, 18GHz, SMA, 50Ω	**20-785A-522**
Quad 6-chan MUX, 18GHz, SMA, 50Ω	**20-785A-524**
†Dual 6-chan MUX, 26.5GHz, SMA, 50Ω	**20-785-532**
Optional Terminating Version (50Ω) (only available for the 3 codes shown above)	**-T**
Quad 6-chan MUX, 26.5GHz, SMA, 50Ω	**20-785-534**
†Dual 6-chan MUX, 40GHz, SMA-2.9, 50Ω	**20-785-542**
Quad 6-chan MUX, 26.5GHz, SMA-2.9, 50Ω	**20-785-544**
†Dual 6-chan MUX, 1GHz, 1.6/5.6, 75Ω	**20-785-752**
Quad 6-chan MUX, 1GHz, 1.6/5.6, 75Ω	**20-785-754**

† Dual versions are upgradable to the Quad version.

Mating Connectors & Cabling

50Ω SMA to SMA Lead, 1m length	**10-981-510**
Other cables are available - please consult sales office.	

Latest Details

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

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