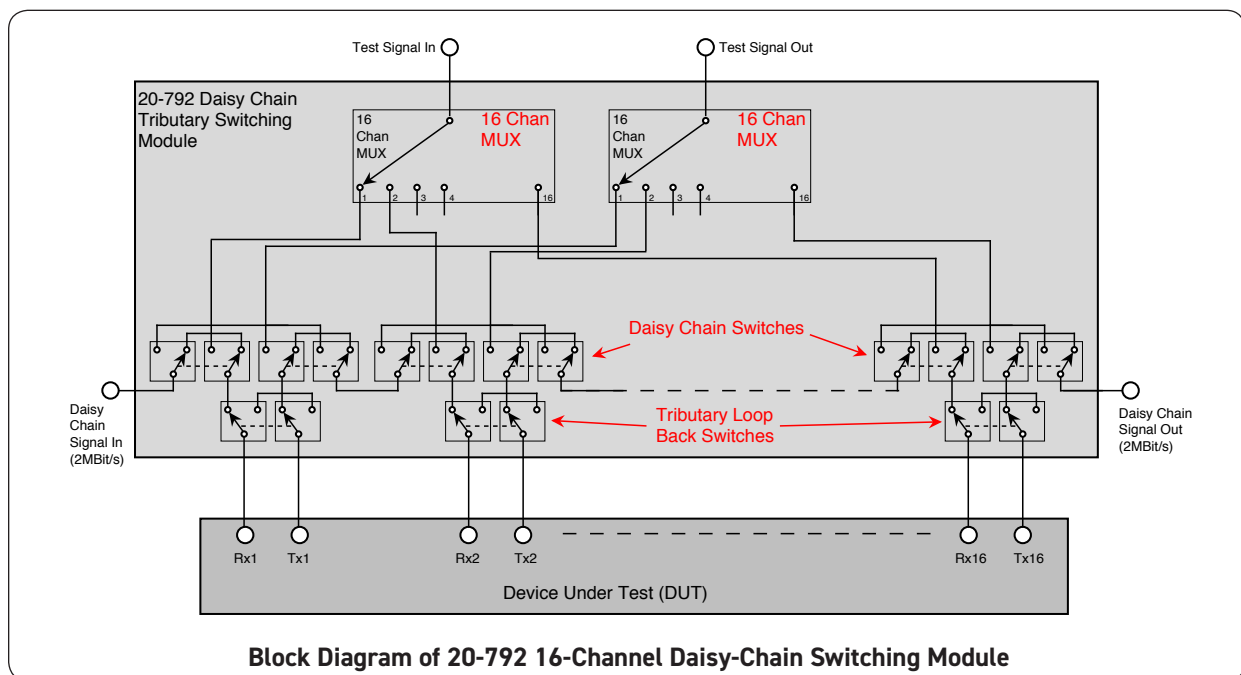


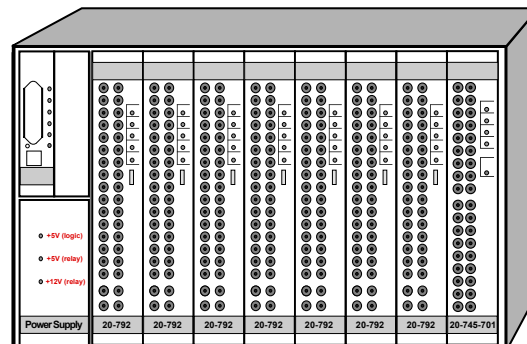
- Suitable For Testing SONET/SDH Transmission Multiplexers
- 16 Tributaries Per Module
- Up To 112 Tributaries Per Mainframe
- Expandable To Any Size: 32, 64, 96, 128, 256...
- 75Ω Impedance With Choice of Connector Types SMZ/BT Type 43 and 1.0/2.3
- All Tributaries Can Be Daisy-Chained to One Signal
- Integrated Multiplexer Allows Selection of One Tributary For Analogue Testing



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



The 20-792 Daisy Chain Switching Module is designed for telecom test applications. It allows production or verification testing of SONET/SDH transmission multiplexers. Traffic is sequentially Daisy-Chained through all tributaries (or any selection of tributaries), modules can be cascaded to test any number of tributaries. Using built in Loop Back switches any selected Tributary can have its transmit port fed back directly to its receive port. A built in break-out multiplexer allows separate testing of individual ports. Refer to graphic above.



**One Mainframe Has The Capacity for 112 x 2MBit/s Tributaries.
(Multiple cases can support: 224, 336, 448, etc...)**

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General Specification (All Versions)

Maximum Voltage:	100V DC/100V
Maximum Power:	30W
Maximum Switch Current:	1.0A
On Path Resistance:	<500mΩ
Off Path Resistance:	>1x10 ⁸ Ω
Total Switching Time:	10ms
Relay Mechanical Settling Time:	<3ms
Expected Life (Low power):	>1x10 ⁸ operations
Expected Life (Max power):	>2x10 ⁵ operations

RF Specification (Multiplexer)

Characteristic Impedance:	75Ω
Maximum Frequency:	100MHz
Rise Time:	<1nS
Insertion Loss (<10MHz)	<0.3dB
Return Loss (<10MHz)	>21dB
VSWR (<10MHz)	<1:1.20
Isolation (at 2GHz):	>50dB

Programming Information

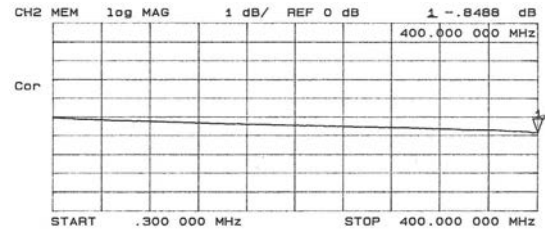
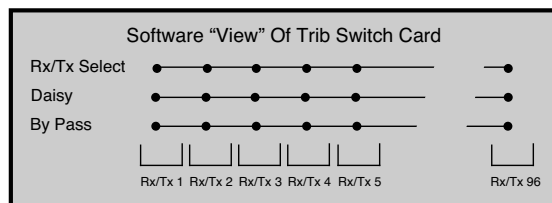
The 20-792 comprises 2 sections:

- 1. Daisy-Chain & Trib Loop Back Pass switches.** These are used to feed 2M signals into and out of the DUT (device under test), any selection of tributaries may be routed (e.g. all even, all odd, etc).
- 2. Breakout multiplexer.** This is used to test a specific tributary.

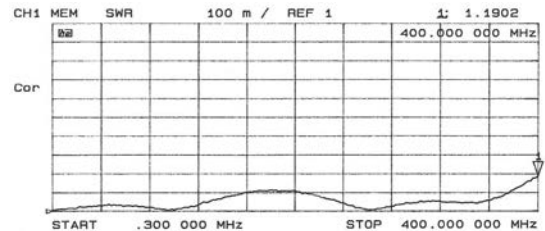
The 20-792 is programmed as a triple 16 channel multiplexer (see diagram):

- **1st multiplexer (bank 3)** is used to feed back any specific tributary from its transmission port to its receive port. The default setting is for all tributaries to be connected to the external device under test.
- **2nd multiplexer (bank 1)** is used to route the Daisy-Chain switches. The default setting is for all tributaries to be selected.
- **3rd multiplexer (bank 2)** Daisy-Chain Tributary Switch Multiplexer.

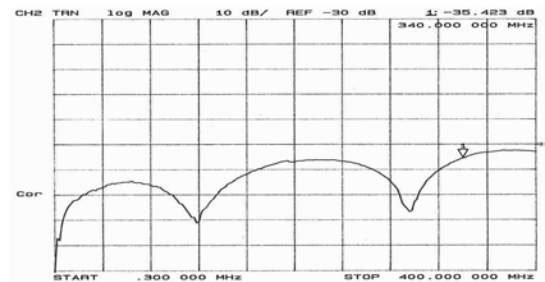
Multiple modules are still programmed as Xx4, making expansion easy. For example a 96 tributary system would be programmed as a triple 96 channel multiplexer (see diagram).



20-792 Insertion Loss



20-792 Return Loss



20-792 Crosstalk

Typical RF Performance Plots for 20-792-711 (1 Tributary Switched To The Test Multiplexer)

Programming

Typical programming instructions:

- CHAN a , b , c** Select channel **c** on bank **b** of multiplexer **a**.
- CHAN 1 , 1 , 13** Sets Daisy Chain switches (bank **1**) on trib **13** of module with address **1**.
- CHAN 1 , 1 , 13** Clears Daisy Chain switch on trib **13** of module with address **1**.
- CHAN 1 , 3 , 10** Sets Loop Back switches (bank **3**) on trib **10** of module with address **1**.
- VIEW? a** View status of device **a**.

Mechanical Characteristics

All modules conform to the 6U height (128mm) Eurocard standard and are 160mm deep. Panel width for all versions is 1.8 Inches , with up to 8 modules per mainframe.

Product Order Codes

Daisy-Chain Tributary Switch:	
SMZ/Type 43 Version, 75Ω	20-792-711
1.0/2.3 Version, 75Ω	20-792-741

Options:

Alternative connectors are available on many modules, e.g. 75Ω mini SMB. Please consult the factory **-C**

SDH/SONET Tributary Testing is a specialised area, please contact Pickering Interfaces for additional application information and to discuss your exact requirements.

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

75Ω 1.0/2.3 to 1.0/2.3 Lead, 1m Length	40-977-731
75Ω SMZ to SMZ Lead, 1m Length	10-988-705

For other connection accessories for this series of modules please refer to the [90-011D](#) RF Cable Assemblies data sheet where a complete list and documentation can be found for accessories, or refer to the Connection Solutions catalog.

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.