5 GHz 4x1 and Quad 4x1 Multiplexers

NI PXI-2595, NI SCXI-1195

- 5 GHz bandwidth
- 50 Ω characteristic impedance
- SMA direct connectivity
- Excellent insertion loss, VSWR, and isolation specifications
- Onboard relay counting
- Fully software programmable

NI PXI-2595
- 4x1 multiplexer configuration
- 1-slot 3U PXI module

NI SCXI-1195
- Quad 4x1 multiplexer configuration
- 1-slot 4U SCXI module

Operating Systems
- Windows 2000/NT/XP
- Linux®

Recommended Software
- NI Switch Executive
- LabVIEW
- LabVIEW Real-Time
- LabWindows/CVI
- Measurement Studio

Other Compatible Software
- Visual Basic
- C/C++

Driver/Services Software (included)
- NI-SWITCH
- NI-DAQmx

Overview

The National Instruments PXI-2595 and SCXI-1195 are 4x1 high-frequency, unterminated multiplexing switches. The NI SCXI-1195 performs the same functions as the PXI-2595 but in a higher density, quad 4x1 multiplexing configuration. The PXI-2595 and SCXI-1195 are capable of switching signals from DC to 5 GHz. The characteristic impedance of these modules is 50 Ω.

The PXI-2595 and SCXI-1195 have a maximum voltage rating of 30 V_{rms} with a maximum switching current of 500 mA. They are well-suited for applications that require the routing of high-frequency signals inside automated test equipment (ATE) systems because they can switch signals with very low insertion loss. In addition, the excellent voltage standing-wave ratio (VSWR) and isolation parameters make these modules the perfect choice in any system that is geared toward high-frequency applications

Relay Count Tracking

The PXI-2595 and SCXI-1195 count relay closures on each of their RF relays. Relay counts are incremented each time a relay is actuated. The counts, stored on board the module, are retrievable programmatically, and you can use them for predictive maintenance to reduce unexpected system downtime.

Software

All National Instruments PXI and SCXI switch modules are shipped with NI-SWITCH, an IVI-compliant driver offering complete functionality for all switch modules. For additional assistance in configuring, programming, and managing higher-channel-count switching systems, NI Switch Executive software offers an easy-to-use, intelligent switch management and visual routing environment. Use the NI-SWITCH soft front panel for simple relay operations or debugging switch code/execution.

Ordering Information

NI PXI-2595 778572-95
NI SCXI-1195 776572-95
Includes NI-SWITCH and NI-DAQmx driver software.

Accessories

SMA male-male cable (semirigid)
0.15 cm 763443-01
0.45 cm 763444-01

NI Switch Executive

Development System 778546-01
Deployment Engine 778548-00

BUY NOW!

For complete product specifications, pricing, and accessory information, call (800) 813 3693 (U.S.) or go to **ni.com/switches**.

NATIONAL INSTRUMENTS™

Specifications

All specifications are subject to change without notice.
Visit **ni.com/manuals** for the most current specifications.

Configuration

PXI-2595	4x1 multiplexer
SCXI-1195	Quad 4x1 multiplexer

Input Characteristics

All input characteristics are DC, AC_{rms}, or a combination unless otherwise specified.

Maximum switching voltage	30 V
Maximum switching current	0.5 A
Maximum carry current	0.5 A
Maximum RF power	10 W

Note: When operating the SCXI-1195 at ambient temperatures >30 °C, a load derating may apply to the total power that the module can handle.

DC path resistance	
Initial	<0.25 Ω
End of life	1.0 Ω

RF Performance Characteristics

Values in parentheses are typical.

Characteristic impedance (Z_0)	50 Ω, nominal
Insertion loss	
1 GHz	<0.7 dB (<0.4 dB)
3 GHz	<1.7 dB (<1.0 dB)
5 GHz	<2.8 dB (<2.0 dB)
Voltage Standing-Wave Ratio (VSWR)	
1 GHz	<1.25 (<1.1)
3 GHz	<1.50 (<1.3)
5 GHz	<1.85 (<1.5)
Isolation	
1 GHz	>70 dB (>78 dB)
3 GHz	>55 dB (>69 dB)
5 GHz	>30 dB (>38 dB)
Typical bank-to-bank crosstalk (SCXI-1195 only)	
3 GHz	<-90 dB
5 GHz	<-60 dB

Dynamic Characteristics

Maximum scan rate	45 channels/s
Maximum relay operate time	10.4 ms
Expected relay life	
Mechanical	10^6 cycles
Electrical	3 x 10^5 cycles (30 V, 10 mA, DC resistive)

Physical Characteristics

Relay type	electromechanical, latching
I/O connectors	
PXI-2595	5 SMA jacks
SCXI-1195	20 SMA jacks
Dimensions (W by H by D)	
PXI-2595	3U, one slot, PXI/cPCI module 2.0 by 13.0 by 21.6 cm (0.8 by 5.1 by 8.5 in.)
SCXI-1195	3.0 by 17.3 by 19.8 cm (1.2 by 6.8 by 7.8 in.)

Environment

Operating temperature	0 to 55 °C (0 to 50 °C for SCXI)
Storage temperature	-20 to 70 °C
Relative humidity	5 to 85% noncondensing
Pollution degree	2

Approved at altitudes up to 2,000 m.
Indoor use only.

Compliance and Certifications

Safety

This product meets the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 61010-1
- CAN/CSA-C22.2 No. 61010-1

Note: For UL and other safety certifications, refer to the product label, or visit **ni.com/certification**, search by model number or product line, and click the appropriate link in the Certification column.

Electromagnetic Compatibility

Emissions	EN 55011 Class A at 10 m FCC Part 15A above 1 GHz
Immunity	EN 61326:1997 +A2:2001, Table 1
EMC/EMI	CE, C-Tick, and FCC Part 15 (Class A) Compliant

CE Compliance

This product meets the essential requirements of applicable European Directives, as amended for CE marking, as follows:

Low-Voltage Directive (safety)	73/23/EEC
Electromagnetic Compatibility Directive (EMC)	89/336/EEC

Note: Refer to the Declaration of Conformity (DoC) for this product for any additional regulatory compliance information. To obtain the DoC for this product, visit **ni.com/certification**, search by model number or product line, and click the appropriate link in the Certification column.

NI Services and Support

NI has the services and support to meet your needs around the globe and through the application life cycle – from planning and development through deployment and ongoing maintenance. We offer services and service levels to meet customer requirements in research, design, validation, and manufacturing. Visit **ni.com/services**.

Training and Certification

NI training is the fastest, most certain route to productivity with our products. NI training can shorten your learning curve, save development time, and reduce maintenance costs over the application life cycle. We schedule instructor-led courses in cities worldwide, or we can hold a course at your facility. We also offer a professional certification program that identifies individuals who have high levels of skill and knowledge on using NI products. Visit **ni.com/training**.

Professional Services

Our Professional Services Team is comprised of NI applications engineers, NI Consulting Services, and a worldwide National Instruments Alliance Partner program of more than 600 independent consultants and integrators. Services range from start-up assistance to turnkey system integration. Visit **ni.com/alliance**.

NATIONAL INSTRUMENTS™
Certified Alliance Partner

OEM Support

We offer design-in consulting and product integration assistance if you want to use our products for OEM applications. For information about special pricing and services for OEM customers, visit **ni.com/oem**.

Local Sales and Technical Support

In offices worldwide, our staff is local to the country, giving you access to engineers who speak your language. NI delivers industry-leading technical support through online knowledge bases, our applications engineers, and access to 14,000 measurement and automation professionals within NI Developer Exchange forums. Find immediate answers to your questions at **ni.com/support**.

We also offer service programs that provide automatic upgrades to your application development environment and higher levels of technical support. Visit **ni.com/ssp**.

Hardware Services

NI Factory Installation Services

NI Factory Installation Services (FIS) is the fastest and easiest way to use your PXI or PXI/SCXI combination systems right out of the box. Trained NI technicians install the software and hardware and configure the system to your specifications. NI extends the standard warranty by one year on hardware components (controllers, chassis, modules) purchased with FIS. To use FIS, simply configure your system online with **ni.com/pxiadvisor**.

Calibration Services

NI recognizes the need to maintain properly calibrated devices for high-accuracy measurements. We provide manual calibration procedures, services to recalibrate your products, and automated calibration software specifically designed for use by metrology laboratories. Visit **ni.com/calibration**.

Repair and Extended Warranty

NI provides complete repair services for our products. Express repair and advance replacement services are also available. We offer extended warranties to help you meet project life-cycle requirements. Visit **ni.com/services**.

NATIONAL INSTRUMENTS™

ni.com • (800) 813 3693

National Instruments • info@ni.com

342597A-01 2006-6726-101-D