

Switching Catalog and Selection Guide

Full Version





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Why Giga-tronics ASCOR?

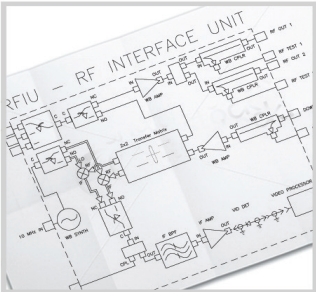
- ▣ All ASCOR brand products carry a standard **3-Year Warranty** (microwave relays excluded).
- ▣ **Triple Groundplanes**, chassis ground, digital ground and signal ground to preserve DUT signals, keep DUT signals isolated from communication and groundplane noise, preserving DUT signal.
- ▣ **Stripline design** techniques maintain a 50 ohm path from the connector to the relay in order to preserve DUT **Signal Integrity**.
- ▣ **Shielded Reed Relays** approximate a 50 ohm impedance which allows the 50 ohm path to be maintained completely through the board. Shielded Reed Relay also provide the highest reliability, rated in Billions of operations.
- ▣ All power switch cards use **Discrete Wires** between the front panel connector and the relay making short circuit issues Repairable.
- ▣ **Expertise in Custom Design** from mission critical military/aerospace test to high volume consumer device manufacturing.

SPACE SYSTEMS MILITARY COMMUNICATIONS A
LESS COMMUNICATIONS ADVANCED AVIONICS N
FROM SIMPLE TO MISSION CRITICAL APPLICATIO
MILITARY COMMUNICATIONS AND RADAR WIREL
TIONS ADVANCED AVIONICS MEDICAL DEVICES S



LET US TAILOR A SOLUTION FOR YOU THAT MEETS THE KEY REQUIREMENTS OF YOUR SPECIFIC APPLICATION.

DESIGN



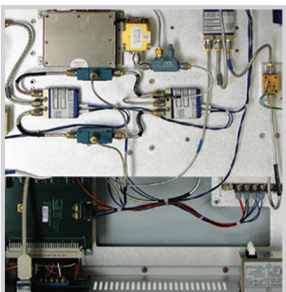
DOCUMENT



BUILD



TEST

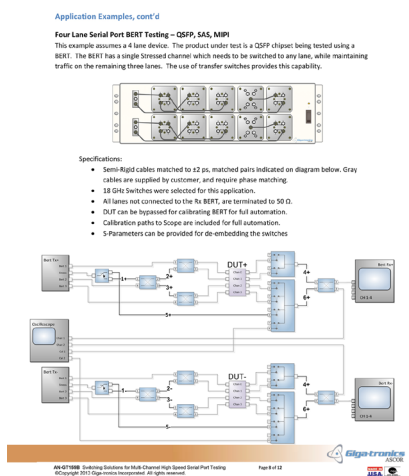


We offer a full spectrum of experience with a long history of success in Space Systems, Military Communications and Radar, Wireless Communications, Advanced Avionics, Medical Devices, and more.

Contact a Giga-tronics switching expert to help with your design.
email: applications@gigatronics.com

Application Notes / White Papers Resource Guide

Read our online application notes and learn more.



- Why Giga-tronics ASCOR is Better?
- Improved Switching Architectures for ATE Systems
- The Importance of Switching
- Practical Guide to Microwave Switch Selection
- The Impact of Switching on ATE Measurements
- Switching Solutions for Multi-Channel High Speed Serial Port Testing
- Understanding Star Switching
- Signal Switching for Medical Devices



“let’s build a smarter ATE switch system”



ask Jeff

<http://www.gigatronics.com/ASCOR-ask-Jeff>

A Practical Guide to Microwave Switch Selection for ATE Systems

We at Giga-tronics ASCOR frequently spend time with our switching solution customers discussing microwave relay selection, and verifying that we are in agreement with our customer on the definition of terms. There are a number of important selection criteria for Microwave relays and below are some suggestions:

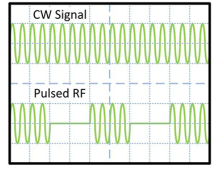
1. Frequency range
2. Power Level, CW or Pulsed
3. Relay reliability
4. Low PIM or passive intermodulation
5. Connector style
6. VSWR
7. Isolation
8. Insertion loss
9. Repeatability
10. Termination
11. Phase or path length matching
12. Latching vs. non-latching
13. Environmental shock and vibration
14. Pulsed digital signals

A Practical Guide to Microwave Switch Selection for ATE Systems

Application Note

by Robert Waldeck
VP Business Development, ASCOR Switching

We at Giga-tronics ASCOR frequently spend time with our switching solution customers discussing microwave relay selection, and verifying that we are in agreement with our customer on the definition of terms. There are a number of important selection criteria for Microwave relays and below are some suggestions for how to select one over another.

1. **Frequency Range** – This is probably the most simple and basic requirement. The microwave relays are going to be the most expensive element in your switching design, and the price increases with frequency, so you should select the relay which supports the frequency range you need and not overdesign. On the other hand, if your company is developing a new higher frequency product, it can be far more expensive to replace low frequency relays with new higher frequency relays, so having some idea of your company's direction could save money in the long run.
2. **Power Level, CW or Pulsed** – Power level for microwave switches is all about heat dissipation and how it affects the mechanical portions of the switch. There is more of an impact with higher Frequencies. For example, one popular switch will handle 100 Watts of power at 1 GHz, but is derated down to about 20 Watts at 18 GHz. The take away here is that if your Unit Under Test (UUT) puts out any significant amount of power, then you might be well served to take the signal through an attenuator first (if possible) so as not to overload the switches or to burden your design with a requirement for high power switches. High power microwave switches are available, but the price increases dramatically.
3. **Reliability** – this is another one of those criteria which increases along with price. There are microwave relays with life ratings ranging from 1 million cycles up to 10 million cycles. Clearly, the 10 million cycle relay will be priced higher. The real question is what do you need for your application? For customers in high volume production environments, the cost of downtime will easily justify the extra expense of the higher reliability relays. On the other hand, a recent customer purchased a switching system to automate a software validation



Download the full application note online:
<http://www.gigatronics.com/practical-guide-microwave-switch-selection>

Switching Product Guide

Solutions	Product	Benefits
Flexible, Low Cost Microwave Chassis	8900 Series 	Two chassis sizes Customer configured Solutions for multi-channel BERT testing
Fiber Optic Switch Chassis		SM & MM Products Adaptable to standard chassis above Customer configured
Modular Microwave Chassis	8800 Series 	Two chassis sizes Low MTTR Customer configured
Flexible Microwave Chassis / Custom Designed RF Interface Units	8000 Series 	Multiple chassis sizes Customer configured can contain any combination of switches and/or RF components
High Density Switching Chassis for 3000 Series Products, DC to Microwave	GT-8300A Series 	LAN or GPIB 3U chassis Over 60 unique switch designs Industry leading performance specifications
Scalable Switching Chassis for 4000 Series Products, DC to Microwave	GT-8400A 	LAN or GPIB 3U chassis 500 MHz analog Backplane Over 40 unique switch designs Industry leading performance specifications
High Density VXI Switch Modules	3000 Series	Over 60 unique switch designs Industry leading performance specifications
Scaleable, DC to Microwave, Switch Modules	4000 Series	500 MHz analog Backplane Over 40 unique switch designs Industry leading performance specifications
High Performance PXI Switch Modules	7000 Series	Industry leading performance specifications 20 standard models
Tektronix VXI Replacement	Tektronix Replacement	14 Models Drop in replacements, both hardware and software compatible

Flexible, Low-Cost Microwave Switch Chassis

8900 Series



The 8901 Half Rack, and the 8902 Full Rack solution provides a flexible, easily re-configurable Microwave Switching solution. These units can be ordered fully or partially configured as required. Additional Relays can be added by the user as needed depending on the application.



ASCOR Series 8901 Half Rack

Typical Applications

- **R&D Labs** – Simple front panel re-configurability allows the switching to be easily customized to suit a specific application.
- **Test Labs** – Whenever Microwave testing is repeated such as Qualification or Environmental Testing.
- **Production Test** – Especially in High Mix production environments where the Switching System needs to provide flexibility and re-configurability
- **Product Support** – Re-configurability allows various production test systems to be simulated in the Product Support shop on an “as needed” basis.
- **Incoming Inspection** – Easily re-configurable to allow for batch testing of incoming lots of parts. Reduces overall test time.

Capabilities

- Low cost
- High density up to 1x12
- Front cabling available
- Front replaceable relays
- LabWindows driver w/source
- Indicator lights (optional)



ASCOR Series 8902 Full Rack

Contact a Giga-tronics switching expert to help with your design.
email: applications@gigatronics.com

8900 Series Optical



A 2U (3.5" high), reconfigurable Switching chassis for Optical, Microwave or both, which comes with a LAN and IEEE-488 interface. The 8901 is the half rack unit pictured above, and the 8902 is the full size rack mount unit below.

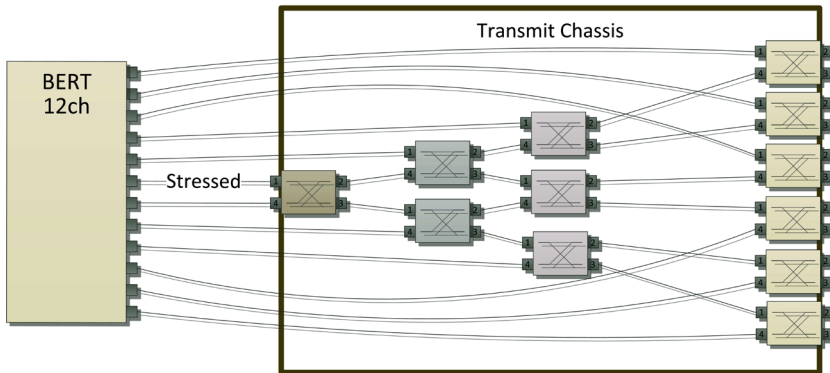
Recommended Use:

- ATE Applications - Complements any other ATE instrument technology, LXI, PXI, Rack and Stack.
- Non-ATE Applications - Great for repetitive testing tasks

Flexible, Low-Cost Microwave Switch Chassis

Solutions for Multi-Channel BERT Testing

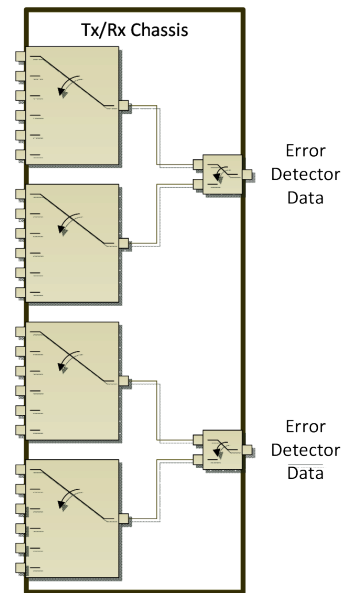
12 Channels loaded, any Channel Stressed, Single ended



Learn more:

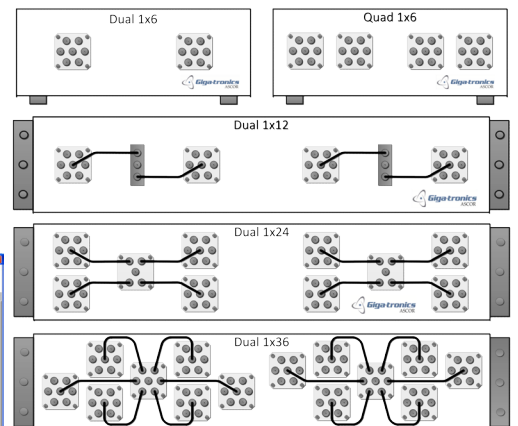
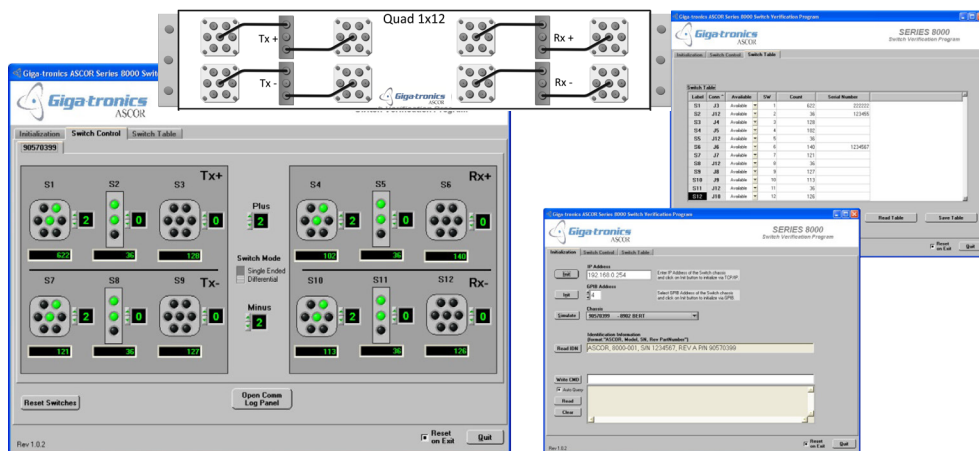
White paper - Switching Solutions for Multi-Channel BERT Testing
<http://www.gigatronics.com/ASCOR-Switching-BERT-Testing>

12 Channels, Single Lane , Differential



Sample Configuration

All cabling shown is phase matched Semi-Rigid Coax Cable. Path Lengths can easily be matched to $\pm 2\text{pS}$, closer matching can be achieved at additional cost. The user is encouraged to use high quality, phase stable flexible cables to connect between the switch, instrument and DUT.

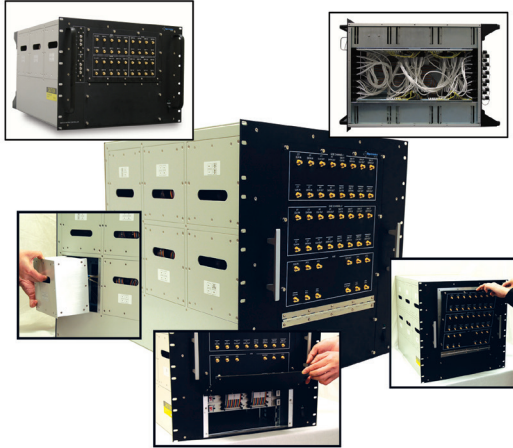


Modular Microwave Chassis

8800 Series



Giga-tronics Modular solutions are about Serviceability and Scalability. The modular boxes contain the replaceable components.



Key Features

- **Fold Down Doors**– Front and Rear doors fold down for replacement when re-tasking the box, or for access to internal RF Cabling.
- **Removable Top Cover** – Allows access to internal cabling.
- **Modular Boxes** – Once RF cabling is disconnected, the boxes can be replaced quickly to put the system back into service, and the defective component in the box can be repaired offline.
- **Control Modules** – The lower portion of the chassis contains a four slot chassis to hold Giga-tronics 3000 Series Switching cards. These are typically used to control internal Relays and components, but can be used for other Lower Frequency applications in the System.

RF Switches

Although the front panels can be modified to accommodate a variety of Switch Manufacturers, Giga-tronics recommends the highest quality relays with the following general specifications:

- 4, 8, 12, 18, 26, 40 GHz Freq Ranges
- Amplitude Repeatability 0.03 dB
- 10 Million Switching Cycles
- Insertion Loss 0.5 dB (18 GHz)
- Isolation 60 dB (18 GHz)
- VSWR 1.5 (18 GHz)
- Max Power 100W (18 GHz)



Contact a Giga-tronics switching expert to help with your design.
email: applications@gigatronics.com



Flexible Microwave Chassis

8000 Series



Contact a Giga-tronics switching expert to help with your design.
email: applications@gigatronics.com



The Giga-tronics ASCOR Series 8000 line of switch products are based on rugged electromechanical switches and microwave relays rated for use from DC to 40 GHz with low insertion loss and high isolation. Route signals under remote control to simplify and automate RF Testing.

- **Semi-Custom Chassis** – A large variety of Standard Configurations are available from ½ Rack to Full Rack from 2U to 7U, minimizing the expense of having to design a custom Switching chassis.
- **Interface Options** – The standard 8000 Series control module supports GPIB, LAN and USB. Uses standard SCPI Control Commands
- **Relay Control Channels** – The Series 8000 has 256 channels built in to support future growth. Some other manufacturers provide as few as 64 Channels requiring additional Channels to be added before additional Relays can be added.
- **Relay Replacement** – Front panel removable, and rear Pluggable, a defective relay can be replaced in minutes

Typical Applications

- **R&D Labs** – Simple front panel re-configurability allows the switching to be easily customized to suit a specific application.
- **Test Labs** – Whenever Microwave testing is repeated such as Qualification or Environmental Testing.
- **Production Test** – Especially in High Mix production environments where the Switching System needs to provide flexibility and re-configurability
- **Product Support** – Re-configurability allows various production test systems to be simulated in the Product Support shop on an “as needed” basis.
- **Incoming Inspection** – Easily re-configurable to allow for batch testing of incoming lots of arts. Reduces overall test time.

Custom Designed RF Interface Units

Dedicated / Custom Solutions

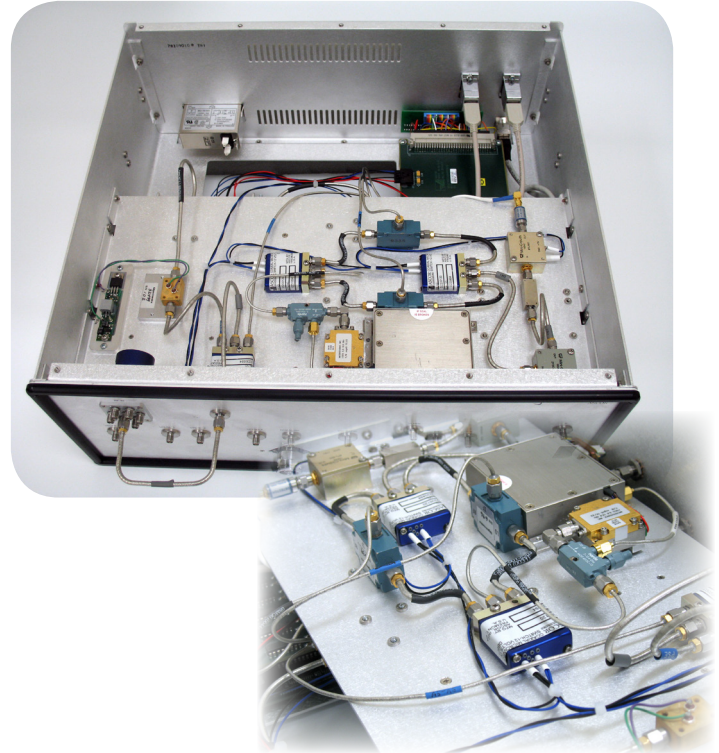


Giga-tronics Dedicated RF Interface Units or RFIU's can contain any combination of switches and/or RF components.

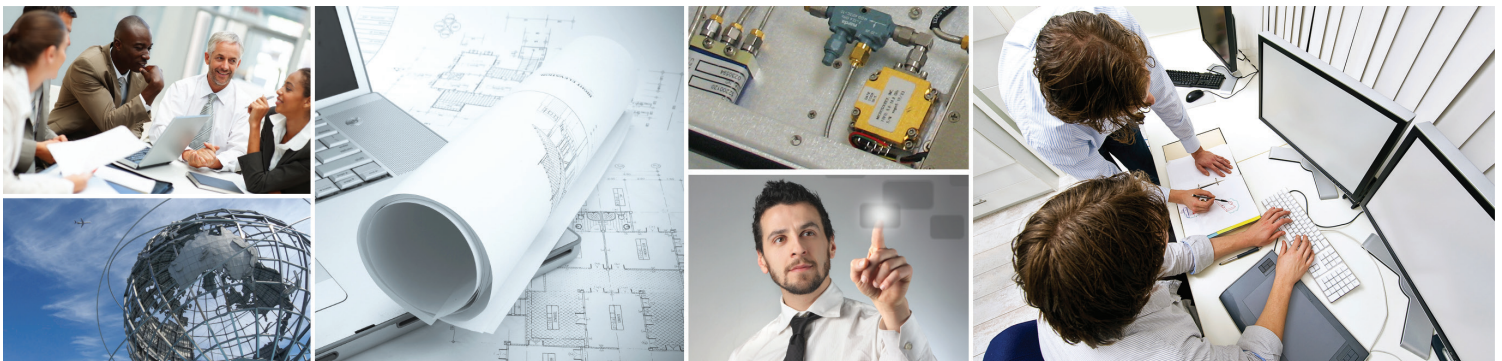
Typical Applications

- ❑ **Test Labs** – Whenever Microwave testing is repeated such as Qualification or Environmental Testing.
- ❑ **Production Test** – Custom solution can be fine-tuned to meet the customer's exact Test Requirements.
- ❑ **Product Support** – Customer Support can easily duplicate the testing being performed on the production line.
- ❑ **Incoming Inspection** – When specific tests must be performed on RF components at incoming inspection, and repeatability is essential.

Contact a Giga-tronics switching expert to help with your design.
email: applications@gigatronics.com



GIGA-TRONICS WILL DESIGN, BUILD, DOCUMENT, AND TEST AN RFIU

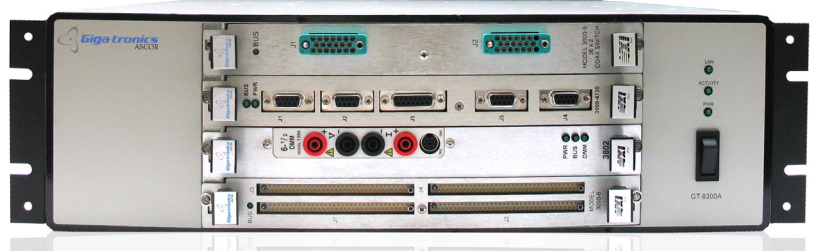


GPIB or LAN Switching Chassis, DC to Microwave

GT-8300A Series Chassis for 3000 Series Products



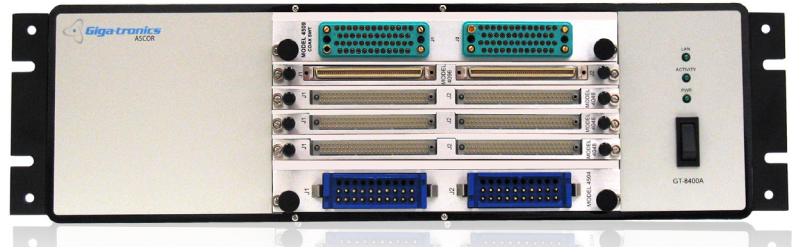
- **3U Tall 4 Slot Chassis** – Holds up to 4 single wide High Density switching modules.
- **6U Form Factor** – the 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards reducing Bandwidth.
- 3000 series switch modules selection guide (page)



3000 Series Switch Modules with GT-8300A Chassis

GT-8400A Series Chassis for 4000 Series Products

- **3U Tall 8 Slot Chassis** – Holds up to 8 single wide High Density switching modules.
- **Internal Analog Backplane** – The 4000 series switch cards can make use of the chassis' 32 channel 500 MHz backplane.
- **6U Form Factor** – the 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.
- 4000 series switch modules selection guide (page)



4000 Series Switch Modules with GT-8400A Chassis

Contact a Giga-tronics switching expert to help with your design.
email: applications@gigatronics.com

Capabilities:

- Built-in Resource Manager
- Low Noise and High Isolation
- Star Switching
- Ultra-High Density
- Point-to-Point Software GUI
- Ultra-Quiet Power Supply
- Power Supply Indicators
- Visual and Audio Alarms
- Lab Windows Driver w/Source



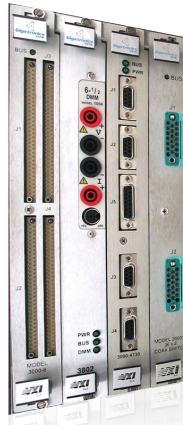
High Density VXI Switch Modules - DC to Microwave

3000 Series Switching

Overview:

- **3U Tall 4 Slot Chassis** – Holds up to 4 single wide High Density switching modules.
- **6U Form Factor** – the 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards reducing Bandwidth.

[Click here for 3000 Series Selection Guide](#)



Capabilities:

- Built-in Resource Manager
- Low Noise and High Isolation
- Star Switching
- Ultra-High Density
- Point-to-Point Software GUI
- Ultra-Quiet Power Supply
- Power Supply Indicators
- Visual and Audio Alarms
- Lab Windows Driver w/Source



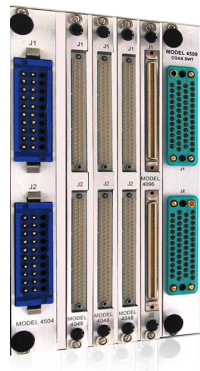
High Density VXI Switch Modules - DC to Microwave

4000 Series Switching

Overview:

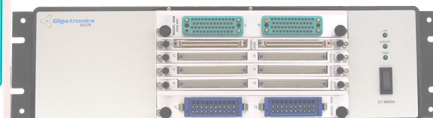
- **3U Tall 8 Slot Chassis** – Holds up to 8 single wide High Density switching modules.
- **Internal Analog Backplane** – The 4000 series switch cards can make use of the chassis' 32 channel 500 MHz backplane.
- **6U Form Factor** – the 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

[Click here for 4000 Series Selection Guide](#)



Capabilities:

- Built-in Resource Manager
- **High Signal Integrity Backplane**
- Low Noise and High Isolation
- Star Switching
- Ultra-High Density
- Point-to-Point Software GUI
- Ultra-Quiet Power Supply
- Power Supply Indicators
- Visual and Audio Alarms
- Lab Windows Driver w/Source



High Performance PXI Switch Modules

7000 Series Switching



Overview:

- **3U Tall** – Meets PXI 2.0 and cPCI specifications.
- **High Performance** – Industry leading Performance from the 3000 and 4000 Series products brought to PXI, Giga-tronics ASCOR's focus is performance over price.
 - Shielded Reed Relays – provide not only a shield over the entire Relay contact area, but also brings out the shield contacts at both ends so that a continuous shield can be maintained throughout the path.
 - Stripline PC Board design – creates a continuous 50Ω path from the connector, through the shielded relay, and back to the connector. In this way, the Switch Card becomes an extension of the Cable Harness.



[Click here for 7000 Series Selection Guide](#)

Tektronix Replacement - VXI



Overview:

Giga-tronics ASCOR offers a family of products to support Tektronix VXI users. Our Tektronix Replacement Card is a true drop-in replacement with full software and hardware compatibility for Tektronix VXI module. Truly compatible functions and specifications were achieved in the product development efforts. We are the only company able to offer you form-fit-function built on superior design architecture. There are no special cables or adapters required. Our Tektronix Replacement cards offer:

- Register-based VXI versions which use Plug&Play Software Drivers
- Message-based VXI versions (MPU Internal) which respond to standard SCPI commands
- Identical Front Panel Connectors, with the same signal on the same pin as the Tektronix module
- ASCOR Superior Design Architecture results in identical or Improved Specifications over the original Tektronix specifications
- The ASCOR provided Software Plug&Play Driver will drive a mixture of ASCOR replacements and original Tektronix cards in the same chassis at the same time



Model #	Description	Manufacturer Part #	
VXI 3000-4320*	Eight 1x4 Coaxial Switches (Replaces Tektronix VX4320)	90401351	Quote Request
VXI 3000-4350*	64 SPDT Switch (Replaces Tektronix VX4350)	90401340	Quote Request
VXI 3000-4351*	40 SPST Switch (Replaces Tektronix VX4351)	90401220	Quote Request
VXI 3000-4353*	32 SPST Switch (Replaces Tektronix VX4353)	90401310	Quote Request
VXI 3000-4356*	20 DPDT Switch (Replaces Tektronix VX4356)	90401290	Quote Request
VXI 3000-4357*	32 SPDT Switch (Replaces Tektronix VX4357)	90401200	Quote Request
VXI 3000-4380	256 Cross Point Matrix (Replaces Tektronix VX4380)	90401270	Quote Request
VXI 3000-4730*	12 Channel DAC, 16 BITS (Replaces Tektronix VX4730)	90401320	Quote Request
VXI 3000-4801	48 TTL/CMOS compatible Optically Isolated I/O line. 48 optically isolated TTL or CMOS compatible bidirectional digital I/O lines, organized as six 8-bit bytes. Define mask for I/O, latch data via software or external handshake.	90401250	Quote Request
VXI 3000-4802	80 TTL/CMOS compatible I/O lines. 80 TTL or CMOS compatible bidirectional digital I/O lines, organized as six 8-bit bytes. Define mask for I/O, latch data via software or external handshake.	90401260	Quote Request
VXI 3000-A308	Register based 80 Channel Driver (Replaces Tektronix 73A308). 80 open collector outputs	90401230	Quote Request

* Register based driver will control both Tektronics as well as the ASCOR version of this switch

** Message based driver will control both Tektronics as well as the ASCOR version of this switch

3000 Series Switch Module Selection Guide

Model	Part Number	Type	Form	Bandwidth	Max Voltage	Max Current	Comment	
3000-04	90400660	Digital/Driver	128 Channel Relay Driver		45V	500 mA	(+12V Terminations Std)	Quote Request
3000-04 Opt 1	90400660-001	Digital/Driver	128 Channel Relay Driver		45V	500 mA	with SCSI Connectors	Quote Request
3000-48	90400390	Digital/Driver	16 Channel High Power Source Driver		50V	4A		Quote Request
3000-49	90400400	Digital/Driver	16 Channel High Power Sink Driver		50V	4A		Quote Request
3000-61	90401390	Digital/Driver	128 Channel Digital I/O CMOS					Quote Request
3000-61 Opt 3	90401390-003	Digital/Driver	128 Channel Digital I/O CMOS with 64 Ch Differential					Quote Request
3000-62	90400840	Digital/Driver	128 Channel TTL I/O (1-slot Motherboard)		5V			Quote Request
3000-62 Opt 1	90400840-001	Digital/Driver	Additional 128 Channel TTL I/O 256 Total		5V		Specify Termination	Quote Request
3000-62 Opt 2	90400840-002	Digital/Driver	128 Channel TTL I/O (1-slot Motherboard) with 96Ch Daughterboard		5V		Specify Termination	Quote Request
3000-62 Opt 3	90400840-003	Digital/Driver	128 Channel TTL I/O (1-slot Motherboard) with 64 Differential Drivers Daughterboard		5V		Specify Termination	Quote Request
3000-62 Opt 4	90400840-004	Digital/Driver	128 Channel TTL I/O (1-slot Motherboard) with 128 Relay Driver Daughterboard		5V		Specify Termination	Quote Request
3000-63	90401400	Digital/Driver	128 Channel OC TTL Drivers		5V	64ma		Quote Request
3000-63 Opt 1	90401400-001	Digital/Driver	256 Channel OC TTL Drivers		5V	64ma		Quote Request
3000-12	90400570	General	32 DPDT Switch Module	55MHz	220VAC	2A	Component Mounting locations	Quote Request
3000-53	90400530	General	96 SPDT Switch Module	5MHz	220VAC, 250VDC	1A	(1-slot)	Quote Request
3000-53A	90400530-101	General	144 SPDT Switch Module	5MHz	220VAC, 250VDC	1A	(2-slot)	Quote Request
3000-53B		General	192 SPDT Switch Module	5MHz	220VAC, 250VDC	1A	(2-slot)	Quote Request
3000-56	90400870	General, Shielded	64 SPDT Switch Module	500MHz	200VDC, 200VACpk	1A		Quote Request
3000-60	90401190	General	32 DPDT Switch Module	180MHz	220VDC, 250VAC	2A	Component Mounting locations	Quote Request
3000-05	90400100-002	Matrix Coax	1(2x36) Coaxial Matrix	350MHz	200VDC	0.5A	Wired Construction	Quote Request
3000-06	90400260-001	Matrix Coax	2(2x18) Coaxial Matrix	350MHz	200VDC	0.5A	Wired Construction	Quote Request
3000-25	90400920	Matrix Coax	7(2x6) Coaxial Matrix	500MHz	200VDC	1A	Wired Construction	Quote Request

3000 Series Switch Module Selection Guide

Model	Part Number	Type	Form	Bandwidth	Max Voltage	Max Current	Comment	
3000-30	90400280-001	Matrix Coax	2(2x6) & 2(2x12) Coaxial Matrix	500MHz	200VDC	1A	Wired Construction	Quote Request
3000-34	90400190	Matrix, Shielded	4(2x32) 1-wire Matrix or 2(2x64), or 1(1x128)	45MHz	200VDC, 200VACpk	1A	Factory Jumper Configurable	Quote Request
3000-39	90400300-002	Matrix	Universal I/O Card (1-slot)	500MHz	200VDC, 200VACpk	0.5A		Quote Request
3000-39A	90400300-003	Matrix	Universal IO Card (2-slot)	500MHz	200VDC, 200VACpk	0.5A		Quote Request
3000-39B	90400300-004	Matrix	Universal IO Card (2-slot)	500MHz	200VDC, 200VACpk	0.5A		Quote Request
3000-44	90400650	Matrix, Shielded	(2x128) 2-wire Matrix	70MHz	200VDC, 200VACpk	1.5A		Quote Request
3000-44 Opt 1	90400650-101	Matrix, Shielded	2(2x64) 2-wire Matrix	70MHz	200VDC, 200VACpk	1.5A		Quote Request
3000-45	90400320	Matrix, Shielded	(4x64) 2-wire Matrix (1-slot)	70MHz	200VDC, 200VACpk	1.5A	Unshielded Version = -57	Quote Request
3000-45B	90400790	Matrix, Shielded	(4x128) 2-wire Matrix (2-slot)	70MHz	200VDC, 200VACpk	1.5A		Quote Request
3000-47	90400800	Matrix, Shielded	(8x32) 2-wire Matrix	90MHz	200VDC, 200VACpk	1.5A	Unshielded Version = -52	Quote Request
3000-47 Opt 1	90400800-001	Matrix, Shielded	2(8x16) 2-wire Matrix	90MHz	200VDC, 200VACpk	1.5A		Quote Request
3000-52	90400810	Matrix	(8x32) 2-wire Matrix	70MHz	220VDC, 250VAC	2A	IDC, Shielded Version = -47	Quote Request
3000-52 opt 1	90400810-001	Matrix	2(8x16) 2-wire Matrix	70MHz	220VDC, 250VAC	2A	IDC connectors	Quote Request
3000-52 opt 2	90400810-002	Matrix	(8x32) 2-wire Matrix	70MHz	220VDC, 250VAC	2A	Airborn connectors	Quote Request
3000-52 opt 3	90400810-003	Matrix	2(8x16) 2-wire Matrix	70MHz	220VDC, 250VAC	2A	Airborn connectors	Quote Request
3000-52 opt 4	90400810-101	Matrix	2(8x16) 2-wire Matrix	70MHz	220VDC, 250VAC	2A	IDC conn w/latches	Quote Request
3000-57	90401010	Matrix	1(4x64) 2-wire Matrix	45MHz	220VDC, 250VAC	2A	Shielded Version = -45	Quote Request
3000-57 Opt 1	90401010-001	Matrix	2(4x32) 2-wire Matrix	45MHz	220VDC, 250VAC	2A		Quote Request
3000-80	90401160	Microwave	6(1x6) Coaxial Multiplexer	26.5GHz			SMA Rotary Switches	Quote Request
3000-2xxxx		Microwave	Custom Configured	26.5GHz			SMA Rotary Switches	Quote Request
3000-03	90400620-001	Multiplexer, Shielded	Prog 4(1x30) 1-wire Multiplexer	35MHz	200VDC, 200VACpk	0.5A		Quote Request
3000-03	90400620-100	Multiplexer, Shielded	Fixed 1(1x120) 1-wire Multiplexer	35MHz	200VDC, 200VACpk	0.5A		Quote Request
3000-08	90400490-100	Multiplexer, Shielded	Prog 2(1x120) or 4(1x60) 1-wire Multiplexer	40MHz	200VDC, 200VACpk	0.5A	3000-03 with Daughter Card	Quote Request
3000-08	90400490-102	Multiplexer, Shielded	Fixed 2(1x60) and 4(1x30) 1-wire Multiplexer	40MHz	200VDC, 200VACpk	0.5A		Quote Request

3000 Series Switch Module Selection Guide

Model	Part Number	Type	Form	Bandwidth	Max Voltage	Max Current	Comment	
3000-08	90400490-105	Multiplexer, Shielded	Prog 2(1x6) or 1(1x120) and Fixed 4(1x30) 1-wire Multiplexer	40MHz	200VDC, 200VACpk	0.5A		Quote Request
3000-08	90400490-106	Multiplexer, Shielded	Fixed 2(1x120) 1-wire Multiplexer	40MHz	200VDC, 200VACpk	0.5A		Quote Request
3000-09	90400230	Multiplexer, Shielded	Prog 4(1x120) 1-wire Multiplexer	40MHz	200VDC, 200VACpk	0.5A	3000-03 with 3 Daughter Cards	Quote Request
3000-32	90400290-001	Multiplexer, Coax	4 (1x8) & 8(1x4) & 8(1x2) Coaxial Multiplexer	900MHz	200VDC, 200VACpk	1A	Wired Construction	Quote Request
3000-32 Opt 5	90400290-005	Multiplexer, Coax	4(1x8) & 8(1x4) Coaxial Multiplexer	900MHz	200VDC, 200VACpk	1A	Wired Construction	Quote Request
3000-38	90401360	Multiplexer	16(1x8) 1-wire Multiplexer	40MHz	250VAC, 250VDC	1A		Quote Request
3000-46	90400750	Multiplexer, Shielded	64 DPDT & 16(1x8) 1-wire Multiplexer	100MHz	220VDC, 250VAC	1.5A	Digital/Analog Isolation	Quote Request
3000-66	90401180	Multiplexer, Shielded	16(1x4) 2-wire Multiplexer	350MHz	200VDC, 200VACpk	1A		Quote Request
3000-01	90400060	Power	8(1x8) 1-wire Power Multiplexer	n/a	250VAC, 150VDC	5A	Wired Construction	Quote Request
3000-02	90400120-002	Power	96 SPST Power Switch Module	n/a	250VAC, 250VDC	5A	Wired Construction	Quote Request
3000-42	90400710	Power	48 SPDT Power Switch Module	50MHz	277VAC, 110VDC	5A	Component Mounting locations	Quote Request
3000-43	90400830	Power	48 SPST Power Switch Module	n/a	250VAC, 110VDC	10A	Wired Construction	Quote Request
3000-51	90401460	Power	20 SPDT Power Switch Module	n/a	250VAC, 30VDC	20A	Wired Construction	Quote Request
3000-59	90401380	Power	32 SPDT	10MHz	250VAC, 150VDC	10A	Wired Construction	Quote Request
3000-27	90400250	Resistance	10 Channel Programmable Resistor (20-1.31M ohms)				0.25W	Quote Request
3000-27 Opt 2	90400250-002	Resistance	5 Resistor channels Motherboard Only				0.25W	Quote Request
3000-154	90401660	RF	12(1x4) Coaxial Multiplexers, SMB	1.3GHz	24VDC	1A	Wired Construction	Quote Request
3000-155	90401650	RF	1(4x4) Coaxial Matrix, SMB	1.5GHz	24VDC	1A	Wired Construction	Quote Request
3000-155A	90401650-001	RF	2(4x4) Coaxial Matrix, SMB	1.5GHz	24VDC	1A	Wired Construction	Quote Request
3000-155A	90401650-101	RF	2(4x4) Coaxial Matrix, SMC	1.5GHz	24VDC	1A	Wired Construction	Quote Request

4000 Series Switch Module Selection Guide

Model	Part Number	Type	Form	Bandwidth	Max Voltage	Max Current	Comment	
4050	90900340	Digital	128 Channel Digital IO Module (contact factory for driver options)				TTL, CMOS, OC, Diff	Quote Request
4032	90900230	General	32 SPDT (0.6" pitch)	55MHz	220VDC, 250VAC	2A	Component Mounting locations	Quote Request
4049	90900330	General	64 SPST (0.6" pitch)		220VDC, 250VAC	2A	Dual Contacts	Quote Request
4064	90900350	General, Shielded	64 SPST (0.6" pitch)	70MHz	200VDC, 200VACpk	1A	Dual Contacts	Quote Request
4096	90900280	General	96 SPST (0.6" pitch)	92MHz	220VDC, 250VAC	1A	Dual Contacts	Quote Request
4148	90900210	General	48 SPDT (0.6" pitch)	235MHz	220VDC, 250VAC	2A		Quote Request
4503	90900300	General	20 SPDT Relays (1" pitch)		200VDC, 250VAC	20A	Wired Construction	Quote Request
4504	90900270	General	20 SPST Relays (1" pitch)		200VDC, 250VAC	20A	Wired Construction	Quote Request
4507	90900170	General	36 SPDT Switch Module (0.6" pitch)	100MHz	200VDC, 250VAC	2A		Quote Request
4164	90900250	Matrix, Shielded	(2x64) 1-wire Matrix (0.6" pitch)	32MHz	200VDC, 200VACpk	1A		Quote Request
4216	90900370	Matrix	(8x16) 2-wire Matrix (0.6" pitch)		220VDC, 250VAC	2A		Quote Request
4264	90900410	Matrix	(1x64) 2-Wire Matrix (0.6" pitch)				New Design	Quote Request
4116	90900360	Matrix, Shielded	(4x16) 1-wire Matrix (0.6" pitch)	70MHz	200VDC, 200VACpk	1A		Quote Request
4132	90900020	Matrix, Shielded	(4x32) 1-wire Matrix (0.6" pitch)	50MHz	200VDC, 200VACpk	1A		Quote Request
4228	90900380	Matrix, Shielded	(2x64) 2-Wire Matrix (0.6" pitch)	50MHz	200VDC, 200VACpk	1A		Quote Request
4229	90900390	Matrix	(2x64) 2-Wire Matrix (0.6" pitch)	50MHz	220VDC, 250VAC	2A		Quote Request
4232	90900400	Matrix	(4x32) 2-Wire Matrix (0.6" pitch)	80MHz	220VDC, 250VAC	2A		Quote Request
4208	90900050	Multiplexer	6(1x8) 2-wire Multiplexers (0.6" pitch)	60MHz	220VDC, 250VAC	2A		Quote Request
4308	90900420	Multiplexer Coax	8(1x2), 6(1x8), 2(1x4) RF Mux (0.6" pitch)	900MHz	200VDC, 200VAC	1A	Wired Construction	Quote Request
4508	90900180	Multiplexer	22(1x4) 1-wire Multiplexer (0.6" pitch)	124 MHz	220VDC, 250VAC	2A		Quote Request
4515	90900080	Multiplexer	8(1x6) 2-wire Multiplexers (0.6" pitch)	50MHz	250VDC, 250VAC	5A		Quote Request
4516	90900090	Multiplexer	10(1x8) 1-wire Multiplexers (0.6" pitch)		250VDC, 250VAC	5A		Quote Request
4108	90900060	Multiplexer, Shielded	12(1x8) 1-wire Multiplexers (0.6" pitch)	100 MHz	200VDC, 200VACpk	1A		Quote Request

4000 Series Switch Module Selection Guide

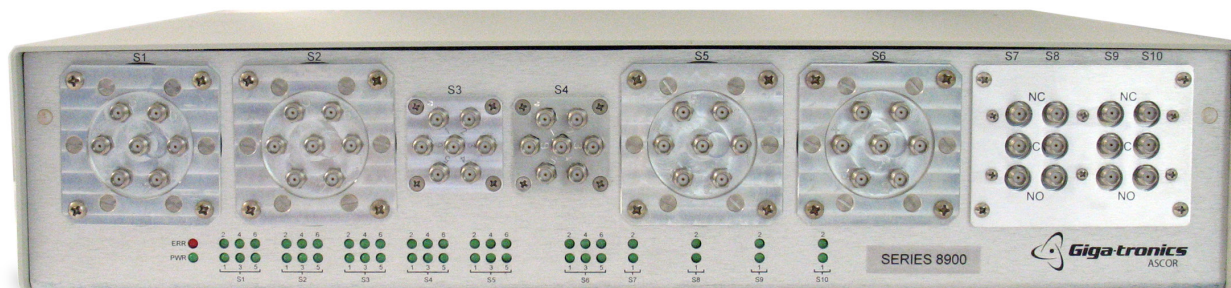
Model	Part Number	Type	Form	Bandwidth	Max Voltage	Max Current	Comment	
4512	90900070	Multiplexer, Shielded	2(1x32) 2-wire Multiplexers (0.6" pitch)	60MHz	200VDC, 200VACpk	1A	Backplane Access	Quote Request
4048	90900220	Power	48 SPDT (0.6" pitch)	50MHz	150VDC, 400VACpk	5A	Component Mounting Locations	Quote Request
4505	90900150	Power	5(1x4) & 5(1x2) Power Multiplexer (1" pitch)	1Khz	250VDC, 250VAC	20A	Wired Construction	Quote Request
4506	90900160	Power	12(1x4) Power Multiplexer (1" pitch)	1Khz	250VDC, 250VAC	20A	Wired Construction	Quote Request
4509	90900190	RF	17(1x4), 5(1x2), Coax Multiplexers	1.3GHz	30VDC	0.5A	Wired Construction	Quote Request
4518	90900130	Special, Shielded	Analog Backplane Output Isolation (0.6" pitch)	50MHz	200VDC, 200VACpk	0.5A	Backplane Access	Quote Request
4513	90900110	Star, Shielded	(8x8) 1-wire Matrix & 8(4-pole) Star Switches (0.6" pitch)	50MHz	200VDC, 200VACpk	0.5A	Backplane Access	Quote Request
4332	90900120	Star, Shielded	8(8-pole) 1-wire, Star Switches (0.6" pitch)	50MHz	200VDC, 200VACpk	0.5A	Backplane Access	Quote Request
4517	90900100	Star, Shielded	8(10-pole) 2-wire, Star Switches (0.6" pitch)		200VDC, 200VACpk	1A	Backplane Access	Quote Request

Model	Part Number	Type	Form	Bandwidth	Max Voltage	Max Current	Comment	
4501	90900030	Matrix	Coaxial Star and (9x10) Matrix	800MHz	200VDC, 200VACpk	1A	Built in Series 80 Funnel	Quote Request
4502	90900040	Matrix	16(3-P) & 16(4-P STAR), (4x6) 2-wire Matrix	200MHz	200VDC, 200VACpk	1A	Built in Series 80 Funnel	Quote Request
4510	90900460	Matrix	16(4x8) 2-wire Matrix	25MHz	200VDC, 200VACpk	1A	Built in Series 80 Funnel	Quote Request
4524	90900470	Matrix	DUAL(8X8) 1-wire Shielded Matrix	900MHz	200VDC, 200VACpk	1A	Built in Series 80 Funnel	Quote Request
4525	90900440	Matrix	(16X48) 1-wire Matrix	450MHz	200VDC, 200VACpk	1A	Built in Series 80 Funnel	Quote Request
4526	90900430	Coax	6(1X4) Coaxial Switches	1.5GHz	200VDC, 200VACpk	1A	Built in Series 80 Funnel	Quote Request

Model #	Manufacturer #	Description		
4003A-6	90401170	3 VXI Wide Multi-Slot Module	5 slots (.6 pitch), M-Module ready	Quote Request
4004B-6	90401590	4 VXI Wide Multi-Slot Module	7 slots (.6 pitch)	Quote Request
4004B-12	90401520	4 VXI Wide Multi-Slot Module	4 slots (1.2 pitch)	Quote Request
4005A-12	90401440	5 VXI Wide Multi-Slot Module	5 slots (1.2 pitch)	Quote Request
4005B-6	90401600	5 VXI Wide Multi-Slot Module	9 slots (.6 pitch)	Quote Request
4006B-6	90401610	6 VXI Wide Multi-Slot Module	11 slots (.6 pitch)	Quote Request
4007B-6	90401620	7 VXI Wide Multi-Slot Module	13 slots (.6 pitch)	Quote Request
4008B-6	90401630	8 VXI Wide Multi-Slot Module	15 slots (.6 pitch)	Quote Request
4008B-2	90401540	8 VXI Wide Multi-Slot Module	8 slots (1.2 pitch)	Quote Request

7000 Series Switch Module Selection Guide

Model	Part Number	Type	Form	Bandwidth	Max Voltage	Max Current	Comment	
7016	91000030	Digital	32 Channel TTL I/O					Quote Request
7010	91000010	General	8 SPDT	100MHz	150VDC, 380VAC	10A	Wired Construction	Quote Request
7017	91000120	General	32 Channel OC Relay Drivers		50VDC	500ma/ch	Wired Construction	Quote Request
7018	91000150	General	32 SPST	153MHz	220VDC, 250VAC	2A		Quote Request
7019	91000090	General	16 SPDT	67MHz	110VDC, 277VAC	5A		Quote Request
7020	91000060	General	16 SPDT	67MHz	220VDC, 250VAC	2A		Quote Request
7020T	91000061	General	16 SPDT	67MHz	220VDC, 250VAC	2A		Quote Request
7023	91000110	General, Shielded	32 SPST	103MHz	200VDC, 200VACpk	1A		Quote Request
7011	91000140	Matrix	(2x16) 2-Wire Matrix	50MHz	220VDC, 250VAC	2A		Quote Request
7012	91000020	Matrix, Shielded	(2x16) 1-Wire Matrix	113MHz	200VDC, 200VACpk	1A		Quote Request
7013	91000070	Matrix	(4x8) 2-wire Matrix	178MHz	220VDC, 250VAC	2A		Quote Request
7015	91000040	Matrix, Shielded	(2x16) 1-wire Matrix	90 MHz	200VDC, 200VACpk	1A	Digital/Analog Isolation	Quote Request
7021	91000080	Matrix, Shielded	(2x16) 2-wire Matrix	90MHz	200VDC, 200VACpk	1A		Quote Request
7022	91000100	Matrix, Shielded	(4x16) 1-wire Matrix	90MHz	200VDC, 200VACpk	1A		Quote Request
7024	91000130	Matrix, Shielded	(4x8) 2-wire Matrix	90MHz	200VDC, 200VACpk	1A		Quote Request
7027	91000210	Matrix	4(1x8) 2-wire Matrix or 2(1x16), or 1(1x24) & 1 (1x8), or 1(1x32)	73MHz	220VDC, 250VAC	2A	Software Configurable	Quote Request
720x		Microwave	Microwave Switching Platform 1x2, 1x4, 1x6, DPDT DC-40GHz	40GHz			Custom Configured	Quote Request
7014	91000050	Multiplexer, Shielded	4(1x4) 1-wire Multiplexers or 2(1x8), or 1(1x16)	150MHz	200VDC, 200VACpk	1A	Multiple Connection Points	Quote Request
7026	91000200	Multiplexer	(1x32) 2-wire Multiplexer	26MHz	220VDC, 250VAC	2A		Quote Request



Capabilities:

- ▣ Low cost
- ▣ High density up to 1x12
- ▣ Front cabling available
- ▣ Front replaceable relays
- ▣ LabWindows driver w/source
- ▣ Indicator lights (optional)

A 2U (3.5" high), reconfigurable Microwave Switching chassis which comes with a LAN or IEEE-488 interface. The 8901 is the half rack unit pictured below, and the 8902 is the full size rack mount unit above.

- ▣ **RF Relays** – configurable in a wide assortment of relay form factors, 1x2 to 1x12 with or without internal terminations.
- ▣ **Reliability** – 10 Million operations
- ▣ **Repeatability** – Amplitude 0.03dB typical
- ▣ **Interface** – LAN or IEEE-488
- ▣ **Odometer** – keeps track of relay cycles
- ▣ **Custom Front Panels** – Available upon request
- ▣ **Software** – Soft Front panel

Typical 1x6 Performance

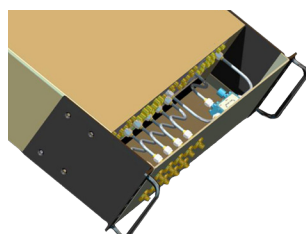
Freq GHz	Ins Loss dB Max	Isolation dB min	VSWR max	Repeatability dB	Power W max
3	0.2	80	1.20	0.03	240
8	0.3	70	1.30	0.03	150
18	0.5	60	1.50	0.03	100
26.5	0.6	55	1.60	0.05	40

Reliability 10M Cycles / Repeatability 0.03dB



Recommended Uses:

- ▣ **ATE Applications** – Complements any other ATE instrument technology, LXI, PXI, Rack and Stack.
- ▣ **Non-ATE Applications** – Great for repetitive testing tasks that will be performed on a limited basis. Ideal productivity tool for an RF Development bench. Incoming Inspection test. Easily reconfigured.

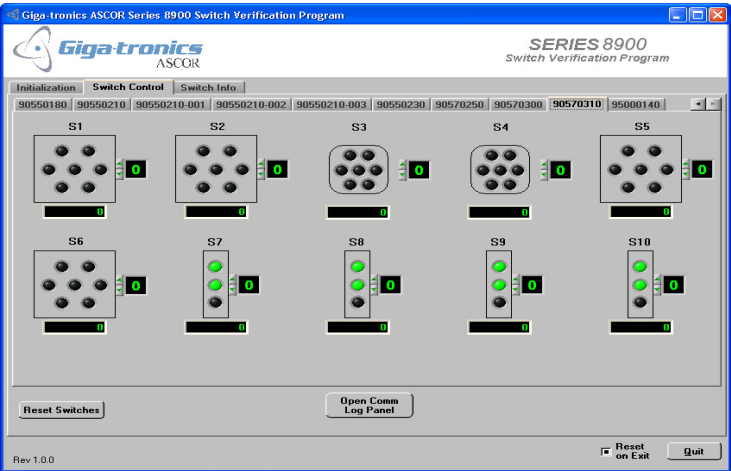


Optional Rackmount Kit



www.gigatronics.com | inquiries@gigatronics.com
800.726.4442 (USA) | +1 925.328.4650 (International)





Model 8902 switch control sample

GIGA-TRONICS POINT-TO-POINT SOFTWARE

- Just point and click and the software closes the appropriate relays
- Relay closure counter for preventative maintenance
- Path storage and recall to simplify test development
- Manual control with position indicator lights for troubleshooting

Configuration Guides

Chassis
8901
8902

Interface
G = GPIB
L = Ethernet

Type 1
↓

Type 2
Qty

Type #

Form code
see chart below

Termination
T=Term
S=un-term

Reliability
P=10M
R=2-5M

Frequency
03=3GHz
06=6GHz
18=18GHz
26=26.5GHz
40=40GHz

(as needed, same order as front panel)

Form	1x2	1x3	1x4	1x4 Mini	1x5	1x6	1x6 Min	1x7	1x8	1x9	1x10	1x11	1x12	Transfer
Form Code	2	3	4	4M	5	6	6M	7	8	9	10	11	12	TX
Width (8" or 17" max)	0.6	2.25	2.25	1.4	2.25	2.25	1.4	2.25	2.25	2.5	2.5	2.7	2.7	1.3

(please sum up the widths to ensure the relays will fit in the selected enclosure)

Examples



8902-L-26TP18-26MSP18-26TP18-42SP18



8901-G-26TP26



Capabilities

- Built-in Resource Manager
- High Signal Integrity Backplane
- Low Noise and High Isolation
- Ultra-High Density
- Point-to-Point Software GUI
- Ultra-Quiet Power Supply
- Power Supply Indicators
- Visual and Audio Alarms
- Lab Windows Driver w/Source

Recommended Uses

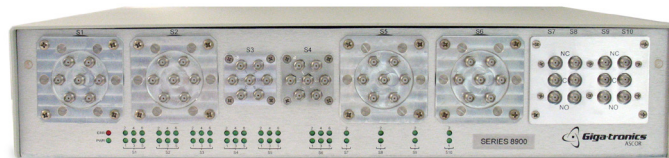
- **ATE Applications** – Complements any other ATE instrument technology, LXI, PXI, Rack and Stack.
- **Non-ATE Applications** – Great for repetitive testing tasks



Product Description

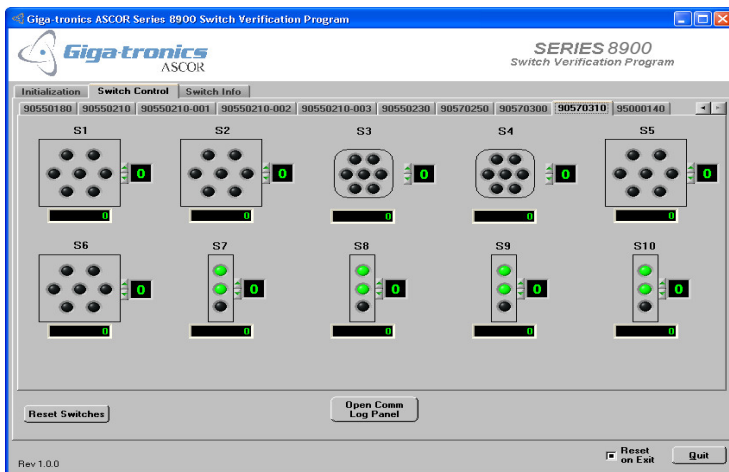
A 2U (3.5" high), reconfigurable Switching chassis for Optical, Microwave or both, which comes with a LAN and IEEE-488 interface. The 8901 is the half rack unit pictured above, and the 8902 is the full size rack mount unit below.

- ▣ **RF Relays** – configurable in a wide assortment of relay form factors, 1x2 to 1x12 with or without internal terminations.
- ▣ **Optical Relays** – configurable in a wide variety of Form Factors and Connector styles, 1x2 up to 1x50 with one or two input ports, SM or MM.
- ▣ **Reliability** – 10 Million operations, RF or Fiber
- ▣ **Repeatability** – Amplitude 0.03dB typical, RF or Fiber
- ▣ **Interface** – LAN or IEEE-488
- ▣ **Odometer** – keeps track of relay cycles
- ▣ **Custom Front Panels** – Available upon request
- ▣ **Software** – Soft Front panel



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Model 8902 switch control sample

GIGA-TRONICS POINT-TO-POINT SOFTWARE

- Just point and click and the software closes the appropriate relays
- Relay closure counter for preventative maintenance
- Path storage and recall to simplify test development
- Manual control with position indicator lights for troubleshooting

Specifications

Electrical

- 90-250 VAC input
- 47-63 Hz
- 40 Control Channel Standard

Indicators

- Power
- Relay Position Status
- Error

Environmental

Temperature

- Operating 0° to 50°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

EMC

- EU Directive 2004/108/EC

Safety

- EU Directive 2006/95/EC

Mechanical

- 8901 = 3.5"h x 8.5"w x 14"d
- 8902 = 3.5"h x 17"w x 14"d

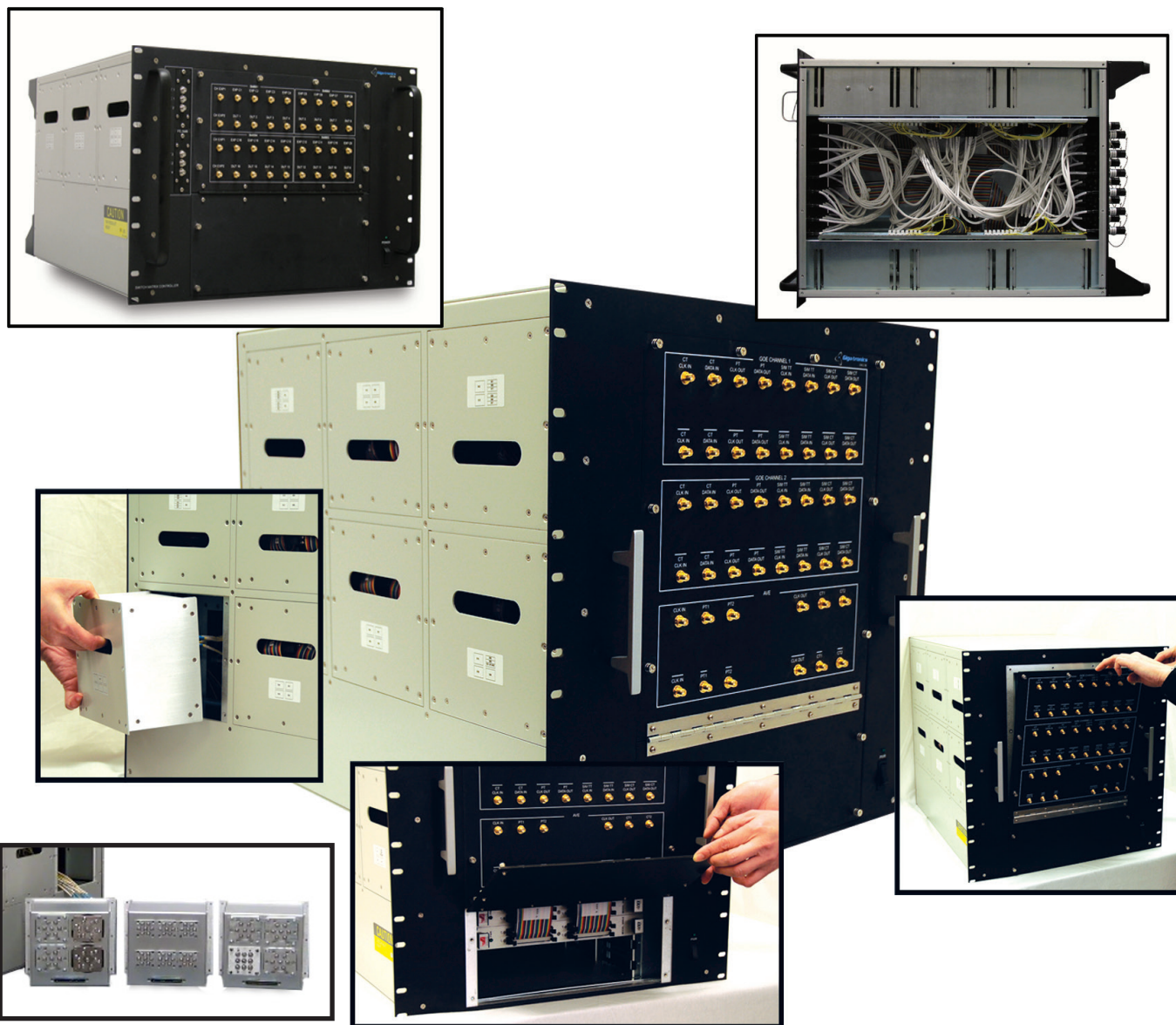
Contact the factory for your custom configuration



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Modular Solutions

Giga-tronics Modular solutions are about Serviceability and Scalability. The modular boxes contain the replaceable components. This solution provides the lowest Mean Time to Repair on the Market.



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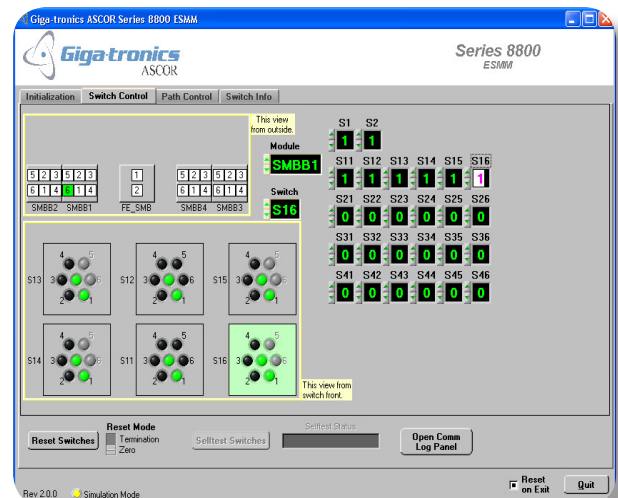
Key Features

- **Front/Rear Doors**– fold down for easy access to internal RF Cabling, easily replaced when re-tasking the box.
- **Removable Top Cover** – Allows access to internal cabling. (photo to the right)
- **Center Section** – Intended for running RF cabling with minimal bends to reduce insertion loss, but also provides ample space for RF Components such as Directional Couplers, Mixers, etc.
- **Modular Boxes** – Once RF cabling is disconnected, the boxes can be replaced quickly to put the system back into service, and the defective component in the box can be repaired offline.
- **Control Modules** – The lower portion of the chassis contains a four slot chassis to hold Giga-tronics 3000 Series Switching cards. These are typically used to control internal Relays and components, but can be used for other Lower Frequency applications in the System.



Software Features

- **Point and click and the software closes the appropriate relays.**
- **Relay closure counter for preventative maintenance.**
- **Path storage and recall to simplify test development.**
- **Manual control with position indicator lights for troubleshooting.**



RF Switches

Although the front panels can be modified to accommodate a variety of Switch Manufacturers, Giga-tronics recommends the highest quality relays with the following general specifications:

- 4, 8, 12, 18, 26, 40 GHz Freq Ranges
- Amplitude Repeatability 0.03 dB
- 10 Million Switching Cycles
- Insertion Loss 0.5 dB (18 GHz)
- Isolation 60 dB (18 GHz)
- VSWR 1.5 (18 GHz)
- Max Power 100W (18 GHz)





Recommended Uses

- **R&D Labs** – Simple front panel re-configurability allows the switching to be easily customized to suit a specific application.
- **Test Labs** – Whenever Microwave testing is repeated such as Qualification or Environmental Testing.
- **Production Test** – Especially in High Mix production environments where the Switching System needs to provide flexibility and re-configurability
- **Product Support** – Re-configurability allows various production test systems to be simulated in the Product Support shop on an “as needed” basis.
- **Incoming Inspection** – Easily re-configurable to allow for batch testing of incoming lots of parts. Reduces overall test time.

Product Description

The Giga-tronics ASCOR Series 8000 line of switch products are based on rugged electromechanical switches and microwave relays rated for use from DC to 40 GHz with low insertion loss and high isolation. Route signals under remote control to simplify and automate RF Testing.

- **Semi-Custom Chassis** – A large variety of Standard Configurations are available from ½ Rack to Full Rack from 2U to 7U, minimizing the expense of having to design a custom Switching chassis.
- **Interface Options** – The standard 8000 Series control module supports GPIB, LAN and USB. Uses standard SCPI Control Commands
- **Relay Control Channels** – The Series 8000 has 256 channels built in to support future growth. Some other manufacturers provide as few as 64 Channels requiring additional Channels to be added before additional Relays can be added.
- **Relay Replacement** – Front panel removable, and rear Pluggable, a defective relay can be replaced in minutes

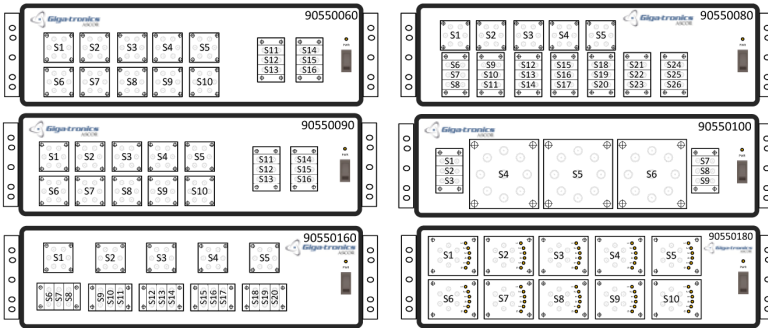


Standard Configurations

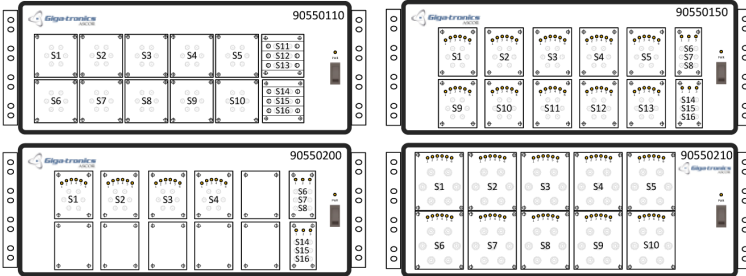
2U Half Rack Solutions



3U Full Rack Solutions



4U Full Rack Solutions



Specifications

Electrical

- Input 115/250VAC, 6A/4A rms
- 50/60 Hz
- Control Channels = 256

Mechanical

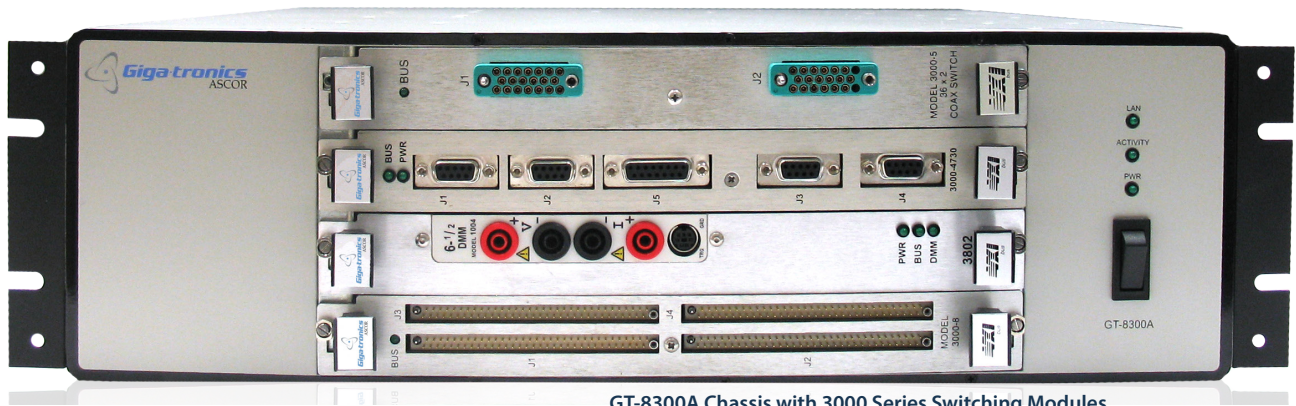
- Height: 2U – 7U
- Width: 8.5" (half rack)
- 19" (full rack)
- Depth: 12" (half rack), 17" (full rack)

Typical 1x6 Performance

Freq GHz	Ins Loss dB Max	Isolation dB min	VSWR max	Repeatability dB	Power W max
3	0.2	80	1.20	0.03	120
8	0.3	70	1.30	0.03	80
18	0.5	60	1.50	0.03	50
26.5	0.6	55	1.60	0.05	30

Reliability 10M Cycles





GT-8300A Chassis with 3000 Series Switching Modules

Capabilities:

- Built-in Resource Manager
- High Signal Integrity Backplane
- Low Noise and High Isolation
- Star Switching
- Ultra-High Density
- Point-to-Point Software GUI
- Ultra-Quiet Power Supply
- Power Supply Indicators
- Visual and Audio Alarms
- Lab Windows Driver w/Source

Product Description:

The GT-8300A chassis comes with a LAN and IEEE-488 interface with a built-in resource manager. It is available in either 3U with four slots, or 6U with eight slots. These are capable of supporting any of the Giga-tronics ASCOR line of 3000 Series switch modules. There is a wide variety of modules from DC to 40GHz, and Power switching up to 20 Amps.

- **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

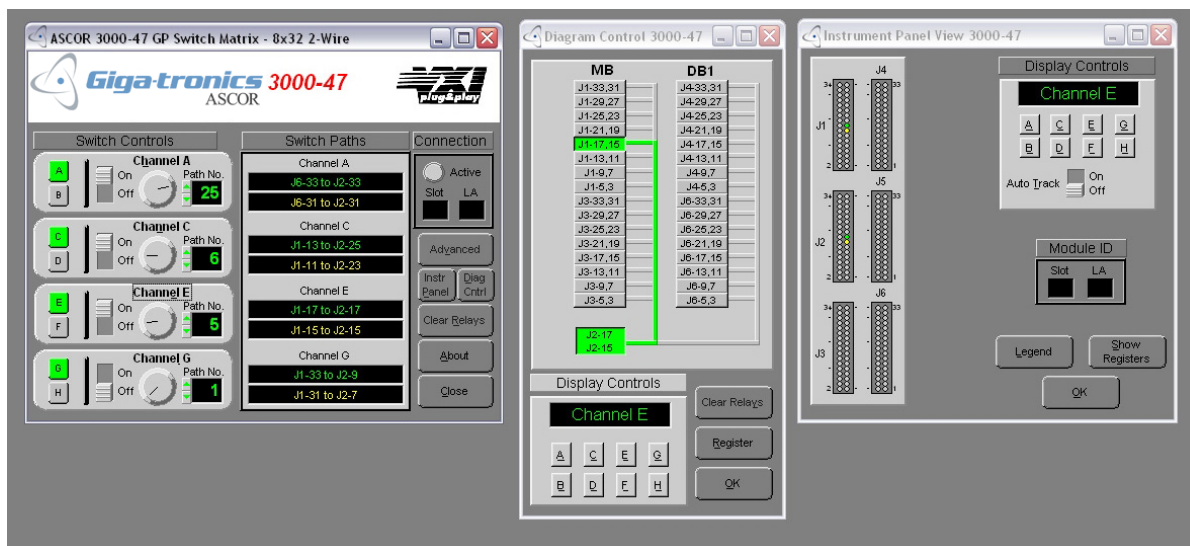
Recommended uses:

ATE Applications – Complements any other ATE instrument technology, LXI, PXI, Rack and Stack.



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GIGA-TRONICS POINT-TO-POINT SOFTWARE

- Just point and click and the software closes the appropriate relays
- Relay closure counter for preventative maintenance
- Path storage and recall to simplify test development
- Manual control with position indicator lights for troubleshooting

Giga-tronics provides mix of capabilities and manufactures high performance RF & microwave test instrumentation products for ATE applications



microwave signal generators, microwave power amplifiers, power meters and power sensors

Ordering Information

Model #	Description	Manufacturer #	
GT-8300A	3U Chassis with LAN and IEEE-488 control, 4 Slot Interface with a Built-in Resource Manager	95000110	Quote Request
GT-8308A	6U Chassis with LAN and IEEE-488 control, 8 Slot Interface with a Built-in Resource Manager	95000110-001	Quote Request

Specifications

Electrical

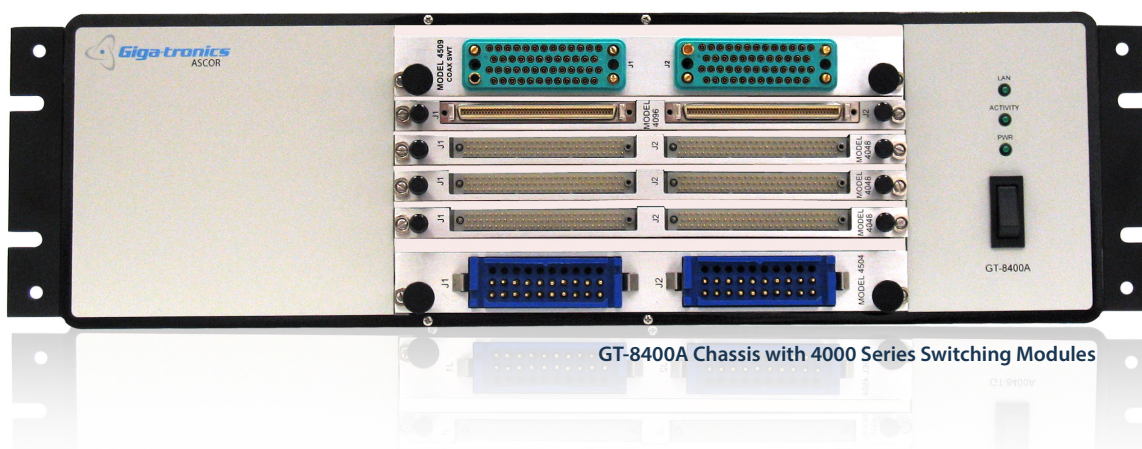
- 250W Power Supply
 - +5VDC at 30 amps
 - +12VDC at 16.7 amps
 - 90-132, 180-264 VAC input
 - 47-63 Hz

Environmental

- Temperature
 - Operating 0° to 60°C
 - Storage -40° to 70°C
- Humidity (non-condensing)
 - Operating 10 to 90%
 - Storage 0 to 95%
- Acoustic 50dBA max
- MIL-T-28800 Type III Class 5, Style F

Mechanical

- Four "C" size VXI Slots
- Weight 14 lbs
- 5.25"h x 19"w x 17.5"d



GT-8400A Chassis with 4000 Series Switching Modules

Capabilities:

- Built-in Resource Manager
- High Signal Integrity Backplane
- Low Noise and High Isolation
- Star Switching
- Ultra-High Density
- Point-to-Point Software GUI
- Ultra-Quiet Power Supply
- Power Supply Indicators
- Visual and Audio Alarms
- Lab Windows Driver w/Source

Product Description:

A 3U (5.25" high), chassis which comes with a LAN and IEEE-488 interface with a built-in Resource Manager. It has eight slots which will support any of Giga-tronics ASCOR line of 4000 series switch modules. There are a wide variety of switch modules from DC to 40 GHz and power switching up to 20 AMPS .

- **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.
- **Analog Signal Bus** – Allows Switching cards to be connected together to create larger high Performance Switching structures without using external cabling. The backplane provides a 32 channel Analog signal bus (16 Channel Differential) rated at over 500MHz.

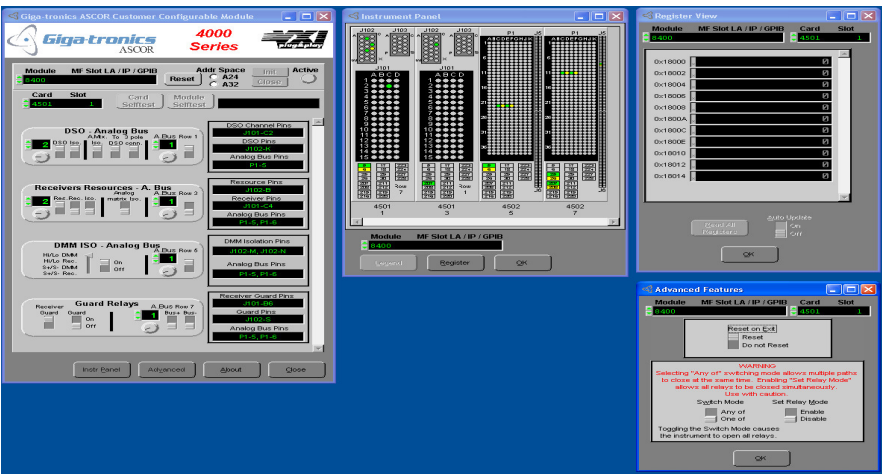
Recommended uses:

ATE Applications – Complements any other ATE instrument technology, LXI, PXI, Rack and Stack.



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GIGA-TRONICS POINT-TO-POINT SOFTWARE

- Just point and click and the software closes the appropriate relays
- Relay closure counter for preventative maintenance
- Path storage and recall to simplify test development
- Manual control with position indicator lights for troubleshooting

Giga-tronics provides mix of capabilities and manufactures high performance RF & microwave test instrumentation products for ATE applications



microwave signal generators, microwave power amplifiers, power meters and power sensors

Ordering Information

Model #	Description	Manufacturer #	
GT-8400A	3U Chassis with LAN and IEEE-488 control, 8 Slot interface with 500 MHz analog backplane	95000120	Quote Request

Specifications

Electrical

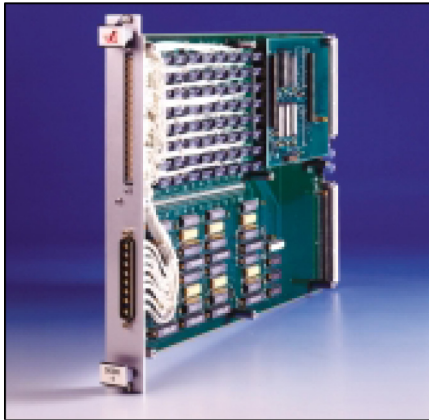
- 250W Power Supply
 - +5VDC at 30 amps
 - +12VDC at 16.7 amps
 - 90-132, 180-264 VAC input
 - 47-63 Hz
- Analog Bus
 - 32 Channels (16 Differential)
 - Bandwidth > 500MHz

Environmental

- Temperature
 - Operating 0° to 60°C
 - Storage -40° to 70°C
- Humidity (non-condensing)
 - Operating 10 to 90%
 - Storage 0 to 95%
- Acoustic 50dBA max
- MIL-T-28800 Type III Class 5, Style F

Mechanical

- Eight (0.5") 4000 Series Card Slots
- Weight 15 lbs
- 5.25"h x 19"w x 17.5"d



Product Description

The 3000-01 provides 8(1x8) single wire multiplexers. These multiplexers can be used in parallel to create 2-8 wire switches. This module was designed specifically with power distribution applications in mind, such that the input side of the Multiplexer is able to handle 15A, and the output side is designed to handle 5A. The 3000-01 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 8(1x8) 1-wire
- Voltage Max = 150VDC, 250VAC
- Current Max = 15A
- Power = 150 Watts

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Wired Construction** - This method of construction provides maximum current carrying capacity, and allows for internal re-configuration for specific applications. This method also protects the Circuit board from User Induced damage, allowing an overheated wire to be replaced where an entire PC board might have to be replaced otherwise.

Recommended Uses

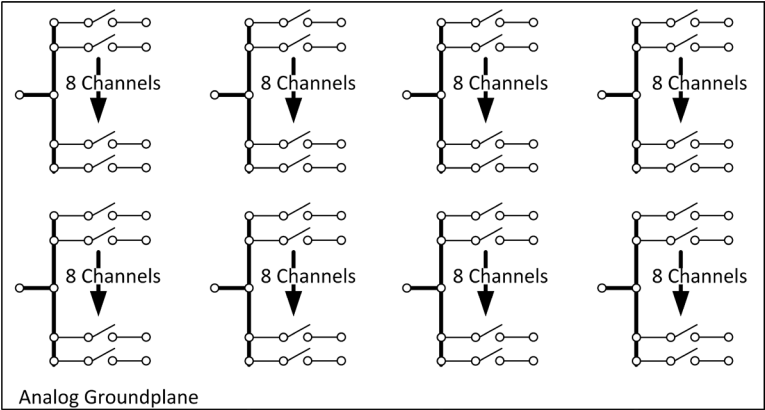
- **UUT Power control and distribution** – Ideal for testing multiple UUTs where input power must be distributed to multiple UUTs. The eight Multiplexers allow up to eight power supplies to be switched.

Low Cost GT-8300A 3U chassis with LAN and IEEE-488 Control



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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 150VDC, 250VAC
 - Current Max
 - Input = 15A (switched)
 - Output = 5A (switched)
 - Power Max = 150W
 - Non-inductive load
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI

Ordering Information

Model #		Description	Manufacturer #	
3000-01	8 (1X8), 5A		90400060	Quote Request



Product Description

The 3000-02 provides a 96 SPST Switches in a small space. This module provides the highest density general purpose switch, ideal for switching UUT Power as well as other current carrying signals. The 3000-02 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Discrete Wired Construction** – This method of construction provides maximum current carrying capacity, and allows for internal re-configuration for specific applications. This method also protects the Circuit board from User Induced damage, allowing an overheated wire to be replaced where an entire PC board might have to be replaced otherwise.

■ **Dual Row Connectors** – Selected for reduced cost allowing the use of inexpensive Ribbon Cables.

Capabilities

- 96 SPST
- Voltage Max = 250VAC
- Current Max = 5A (unswitched)

Recommended Uses

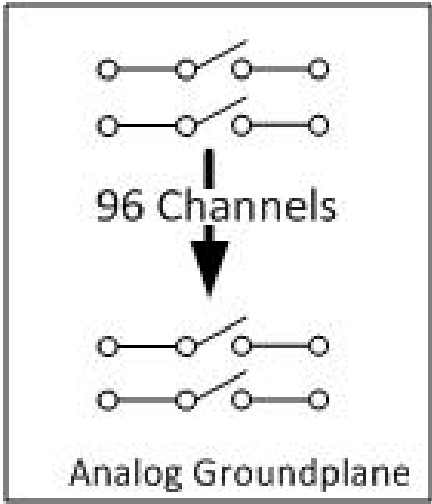
- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all Low Frequency switching applications.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 250VAC
 - Current Max = 5A (carry)
- **Environmental**

Temperature

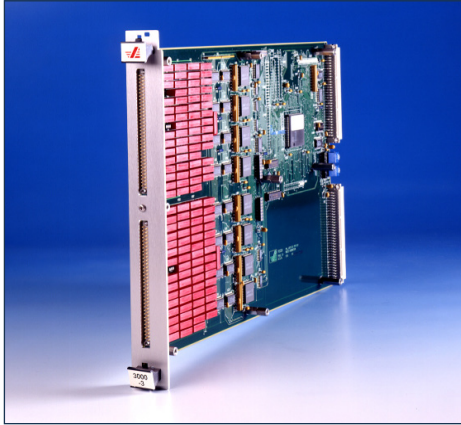
 - Operating 0° to 50°C
 - Storage -40° to 75°C

Humidity (non-condensing)

 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI
 - Weight 2.6 lbs

Ordering Information

Model #		Description	Manufacturer #	
3000-02		96 SPST, 5A	90400120-002	Quote Request
3000-02		Set of Mating Connectors for one Module	89800110	Quote Request



Product Description

The 3000-03 provides 4(1x30) Switch Multiplexers. This module provides high Bandwidth and high Density as well as Flexibility. Model 3000-03 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 3000-03 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 4(1x30) Reconfigurable
- Voltage Max = 200VDC, 200VACpk
- Current Max = 0.5A
- Power = 10 Watts
- Bandwidth = 35MHz
- For even Higher Density see
3000-08 = 8(1x30)
3000-09 = 16(1x30)

Recommended Uses

- **System Test and Burn-in Switching** – Low Crosstalk High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

▣ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

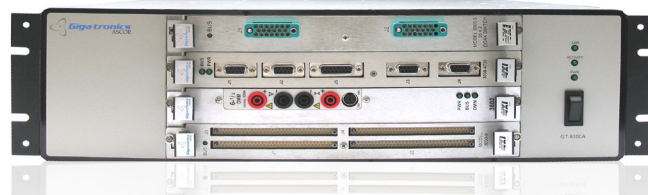
▣ Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

▣ **Factory Configurable** – The module is available in several different configurations.

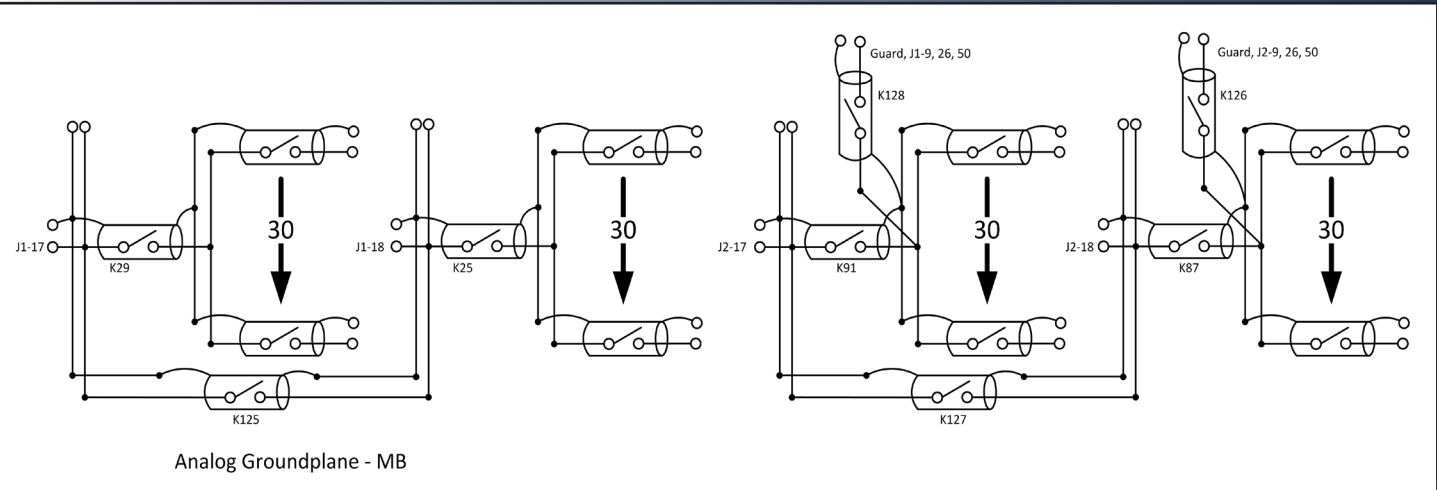
▣ **Airborn Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely.

**Low Cost GT-8300A 3U chassis
with LAN and IEEE-488 Control**

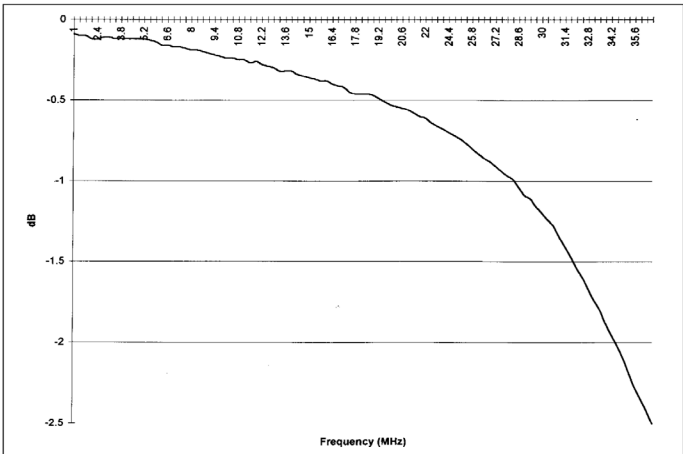


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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

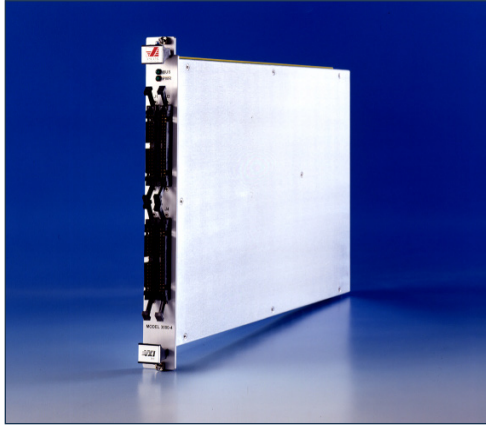


Ordering Information

Model #		Description	Manufacturer #	
3000-03		Prog 4(1x30) 1-wire, Multiplexer, 35MHz	90400620-001	Quote Request
3000-03		Fixed 1(1x120)1-wire, Multiplexer, 35MHz	90400620-100	Quote Request
3000-03		Set of Mating connectors for one Module	89800050	Quote Request

Specifications

- **Electrical**
 - Voltage Max = 200VDC, 200VACpk
 - Current Max = 0.5A (switched)
 - Power Max = 10W
 - Path Impedance 0.75Ω
 - Bandwidth = 35MHz
 - Crosstalk <-50dB at 10MHz
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI



Product Description

The 3000-04 provides a 128 Relay Driver Channels with Diode protection built-in. Optional Pull-up or Pull-down resistor networks are available. The Pull-up voltages can either be supplied from the Switching Chassis backplane, or provided by the user. The Voltages can be specified in groups of eight so that one Switching Module can support devices with different operating voltages. The 3000-04 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 128 Driver Channels
- Drive Voltage (groups of 8)
- +5, +12, +24VDC
- User Supplied up to +45VDC
- Current Max = 0.5A

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Drive Voltage** – Selectable in groups of 8 pins, allowing one card to drive various devices requiring different drive voltages.

■ **Dual Row Connectors** – Selected for reduced cost allowing use of inexpensive Ribbon cables.

Recommended Uses

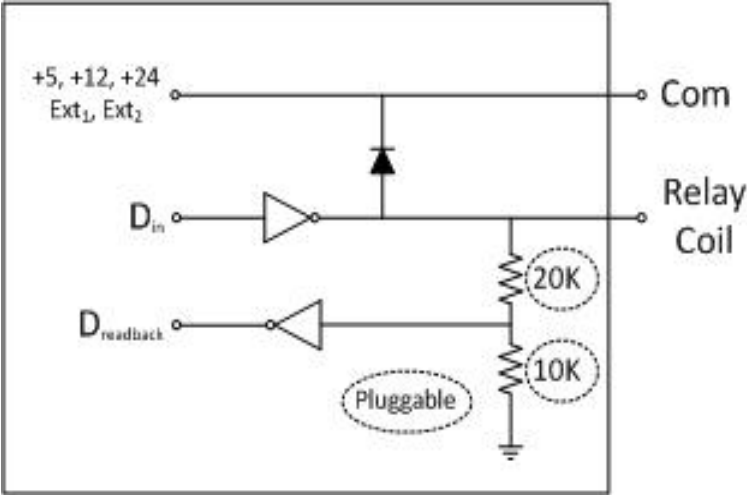
- **RF/Microwave Switching** – Ideal product for controlling a large bank of Microwave relays and/or other components such as Digital Attenuators, etc.
- **General Avionic Control Signals** – Simple Open Collector outputs can be setup to control Avionic inputs requiring special drive levels such as 28VDC.

Low Cost GT-8300A 3U chassis with LAN and IEEE-488 Control



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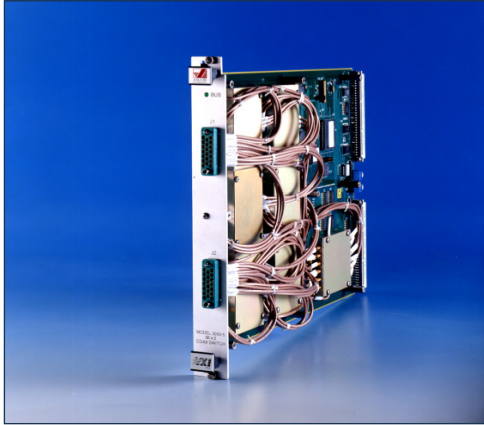
- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 45VDC
 - Internal Drive Voltages available
 - +5, +12, +24 (12V Standard)
 - Current Max = 0.5A per Channel
 - Diode Protection on each pin
 - 128 Channels, 16 Switches, 8 bits each
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI
- **Ordering Options**
 - Pull-up options:
 - +12VDC Standard
 - Groups of 8 as specified by Customer
 - Terminations – Contact Factory
 - Coil Feedback – Contact Factory

Ordering Information

Model #		Description	Manufacturer #	
3000-04		128 Channel Relay Driver, 45V, 500 mA (+12V Terminations std)	90400660	Quote Request
3000-04		Set of Mating Connectors for one Module (std)	89800420	Quote Request
3000-04		Set of Pigtail Cables for one Module 3' (std)	89800420-003	Quote Request
3000-04 Opt 1		128 Channel Relay Driver, 45V, 500 mA with SCSI Connectors	90400660-001	Quote Request



Product Description

The 3000-05 provides a Coaxial 2x36 Switching Matrix. This module provides both high Bandwidth and high density in its 2x36 switching configuration. Model 3000-05 can be used with both source and measurement instruments such as Oscilloscopes, Function Generators, Pulse Counters or Arbitrary Waveform Generators. The 3000-05 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 2x36 Matrix (Coaxial)
- Voltage Max = 200VDC
- Current Max = 0.5A
- Power = 10 Watts
- Path Impedance 50Ω
- Bandwidth >350MHz
- For 2(2x18)'s see (3000-06)

▣ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

▣ **Coax Wired Construction** – This method of construction provides maximum bandwidth, and allows for internal re-configuration for specific applications.

▣ **Coaxial Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely using individual Coaxial Contacts.

Recommended Uses

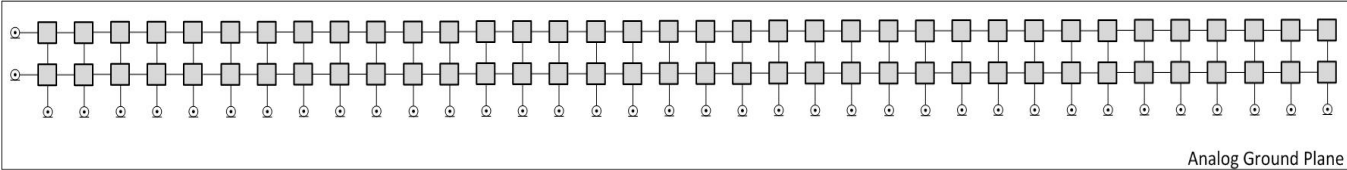
- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all Low Frequency switching applications.

Low Cost GT-8300A 3U chassis with LAN and IEEE-488 Control

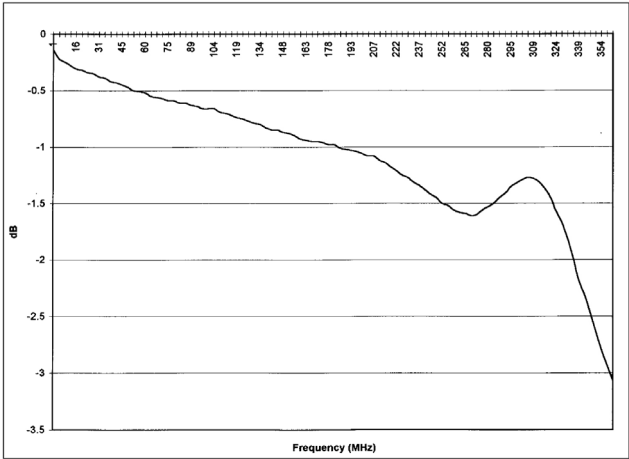


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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty



Specifications

- **Electrical**
 - Voltage Max = 200VDC
 - Current Max = 0.5A (carry)
 - Power Max = 10W
 - Path Impedance 50Ω
 - Bandwidth >350MHz
 - Crosstalk < -50dB (at 100MHz)
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI
 - Weight 2.6 lbs

Ordering Information

Model #		Description	Manufacturer #	
3000-05		1(2x36), 350MHz	90400100-002	Quote Request
3000-05		Set of Mating Connectors for one Module	89800020	Quote Request



Product Description

The 3000-06 provides two Coaxial (2x18) Switching Matrices. This module provides both high Bandwidth and high density in its dual 2x18 switching configuration. Model 3000-06 can be used with both source and measurement instruments such as Oscilloscopes, Function Generators, Pulse Counters or Arbitrary Waveform Generators. The 3000-06 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 2(2x18) Matrix (Coaxial)
- Voltage Max = 200VDC
- Current Max = 0.5A
- Power = 10 Watts
- Path Impedance 50Ω
- Bandwidth >350MHz
- For 1(2x36) Matrix see (3000-05)

▣ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

▣ **Coax Wired Construction** – This method of construction provides maximum bandwidth, and allows for internal re-configuration for specific applications.

▣ **Coaxial Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely using individual Coaxial Contacts.

Recommended Uses

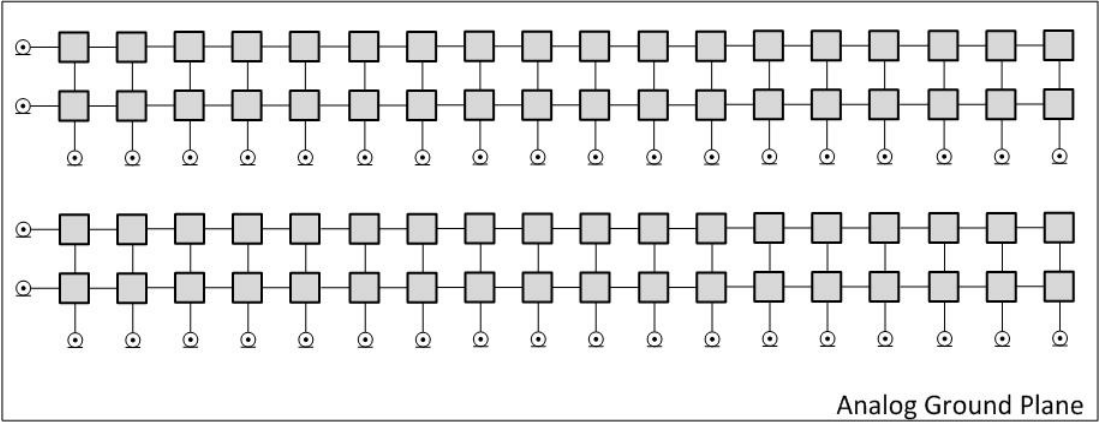
- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all Low Frequency switching applications.

**Low Cost GT-8300A 3U chassis
with LAN and IEEE-488 Control**

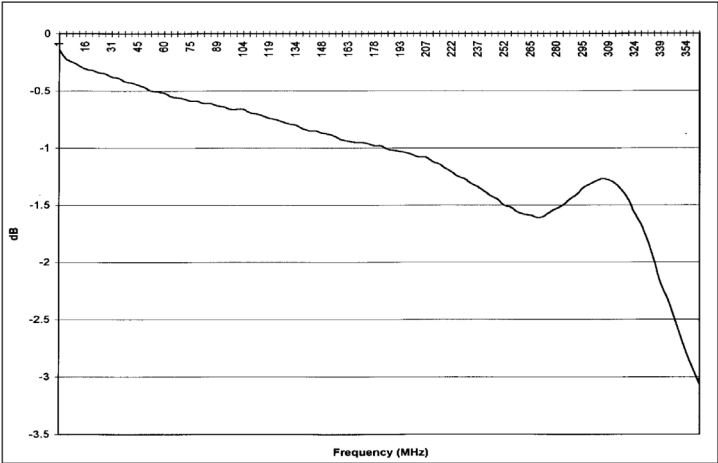


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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty



Specifications

Electrical

- Voltage Max = 200VAC
- Current Max = 0.5A (carry)
- Power Max = 10 W
- Path Impedence 50Ω
- Bandwidth >350MHz
- Crosstalk < -50dB (at 100MHz)

Environmental

Temperature

- Operating 0° to 50°C
- Storage -40° to 75°C

Humidity (non-condensing)

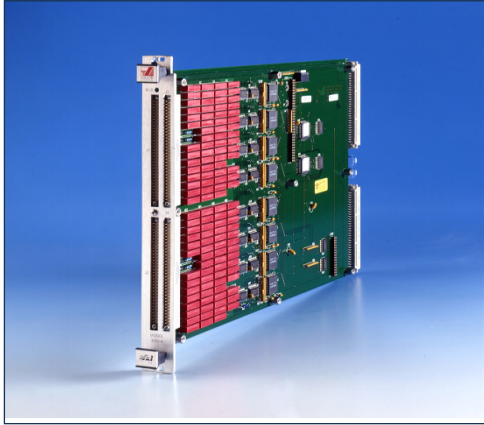
- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- "C" size VXI

Ordering Information

Model #		Description	Manufacturer #	
3000-06		2(2x18), 350MHz	90400260-001	Quote Request
3000-06		Set of Mating Connectors for one Module	89800020	Quote Request



Product Description

The 3000-08 provides 8(1x30) Switch Multiplexers. This module provides high Bandwidth and high Density as well as Flexibility. Model 3000-08 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 3000-08 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 8(1x30) Reconfigurable
- Voltage Max = 200VDC, 200VACpk
- Current Max = 0.5A
- Power = 10 Watts
- Bandwidth = 40MHz
- For other Densities see
3000-03 = 4(1x30)
3000-09 = 16(1x30)

Recommended Uses

- **System Test and Burn-in Switching**
– Low Crosstalk High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

▣ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

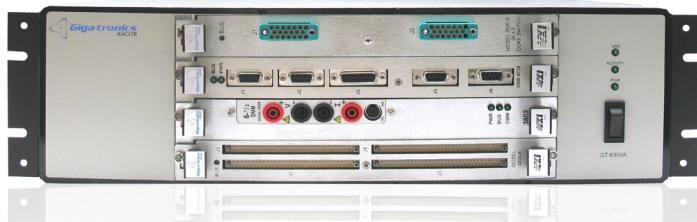
▣ Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

▣ **Factory Configurable – The module is available in several different configurations.**

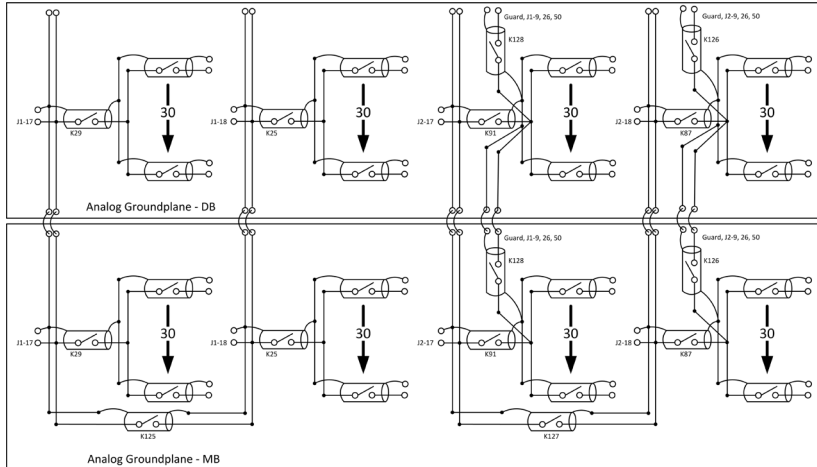
▣ **Airborn Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- Voltage Max = 200VDC, 200VAC
- Current Max = 0.5A (switched)
- Power Max = 10W
- Path Impedance 0.53Ω
- Bandwidth = 40MHz
- Crosstalk <-50dB at 10MHz
- Thermal EMF = 60uV

Environmental Temperature

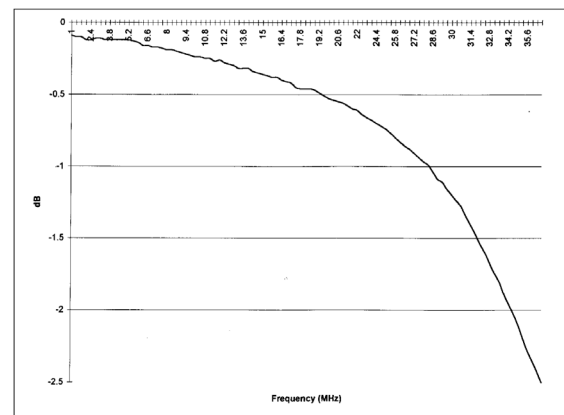
- Operating 0° to 50°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- "C" size VXI



Ordering Information

Model #	Description	Manufacturer #	
3000-08	Prog 2(1x120) or 4(1x60) , 1-wire Multiplexer, 40MHz	90400490-100	Quote Request
3000-08	Fixed 2(1x60) and 4(1x30), 1-wire Multiplexer, 40MHz	90400490-102	Quote Request
3000-08	Prog 2(1x6) or 1(1x120) and Fixed 4(1x30) , 1-wire Multiplexer, 40MHz	90400490-105	Quote Request
3000-08	Fixed 2(1x120) , 1-wire Multiplexer, 40MHz	90400490-106	Quote Request
	Set of Mating connectors for one Module	89800050-001	Quote Request

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Capabilities

- Reconfigurable
- Voltage Max = 200VDC, 200VACpk
- Current Max = 0.5A
- Power = 10 Watts
- Bandwidth = 40MHz
- For other Densities see
 - 3000-03 = 4(1x30)
 - 3000-08 = 8(1x30)

Recommended Uses

- **System Test and Burn-in Switching**
 - Low Crosstalk High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.

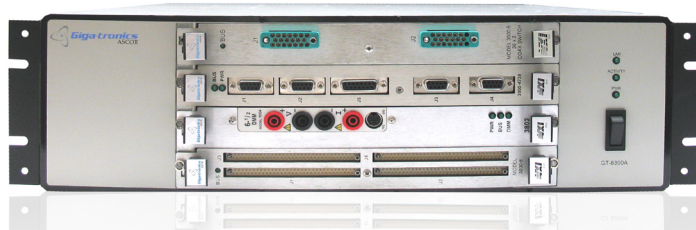
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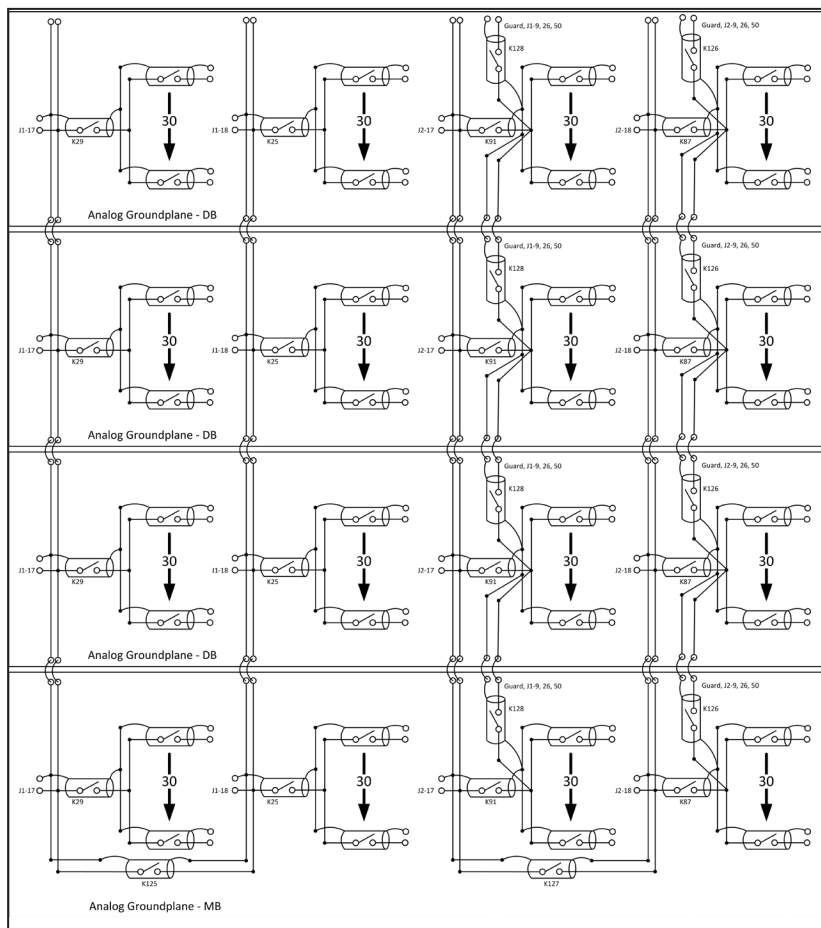
Product Description

The 3000-09 provides 16(1x30) Switch Multiplexers. This module provides high Bandwidth and high Density as well as Flexibility. Model 3000-09 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 3000-09 has been designed with several exceptional features that make it stand out from competitive products.

- ▣ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.
- ▣ **Coaxially Shielded Reed Relays** –
 - Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
 - Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
 - These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.
- ▣ **Factory Configurable – The module is available in several different configurations.**
- ▣ **Airborn Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely.



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Specifications

Electrical

- Voltage Max = 200VDC, 200VAC
- Current Max = 0.5A (switched)
- Power Max = 10W
- Path Impedance 0.53Ω
- Bandwidth = 40MHz
- Crosstalk <-50dB at 10MHz
- Thermal EMF = 60uV

Environmental Temperature

- Operating 0° to 50°C
- Storage -40° to 75°C

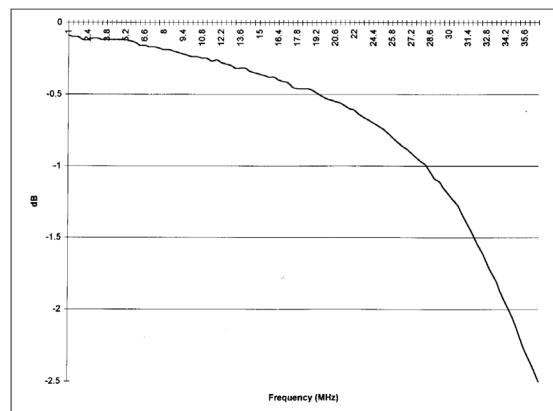
Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- "C" size VXI

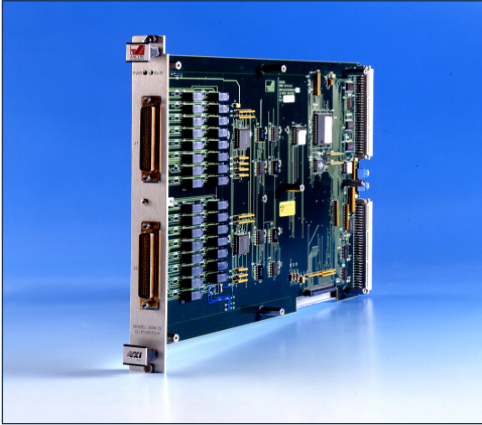
- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty



Ordering Information

Model #	Description	Manufacturer #	
3000-09	16(1x30) 1-wire Multiplexer, 40MHz	90400230	Quote Request
	Set of Mating connectors for one Module	89800050-002	Quote Request

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Product Description

The 3000-12 provides 32 Channels of DPDT switches. These Dual Form "C" relays are able to deliver 2 Amps continuously. The 3000-12 has been designed with several exceptional features that make it stand out from competitive products.

▣ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

▣ **Analog Ground Plane** – A separate ground plane beneath the switches eliminates stray emissions, and since the Digital portion of the board has a separate ground plane, test signals will not affect the control circuitry.

▣ **Component Mounting Holes** – There are additional positions for through hole component mounting surrounding each relay so that the board can be reconfigured (as a tree for example) or so that components can be added (making it a programmable device).

Capabilities

- 32 DPDT Relays
- Voltage Max = 220VAC
- Current Max = 2A
- Power = 60 Watts
- Path Resistance <150m Ω
- Bandwidth >55MHz

Recommended Uses

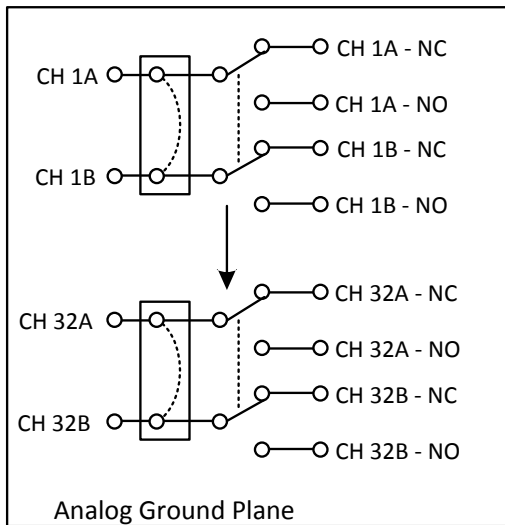
- **Power Switching** – Control and distribute power to the UUT
- **Programmable Components** – the relays can be connected together internally, and components can be added to make the board behave like a programmable resistor or capacitor as an example.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (carry)
- Power Max = 60W, 125VA
- Path Resistance < 150mΩ
- Bandwidth >55MHz
- Crosstalk < -80dB (at 300KHz)
- Insulation Resistance >107Ω

Environmental Temperature

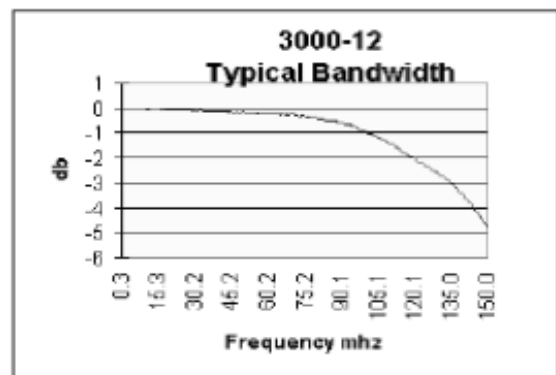
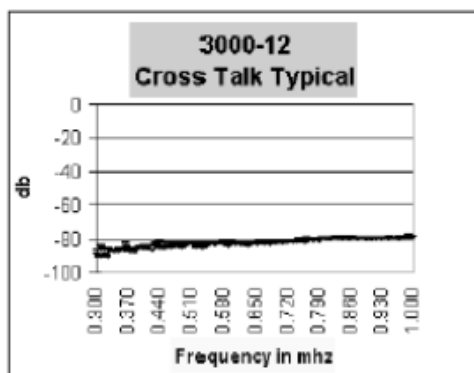
- Operating 0° to 50°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

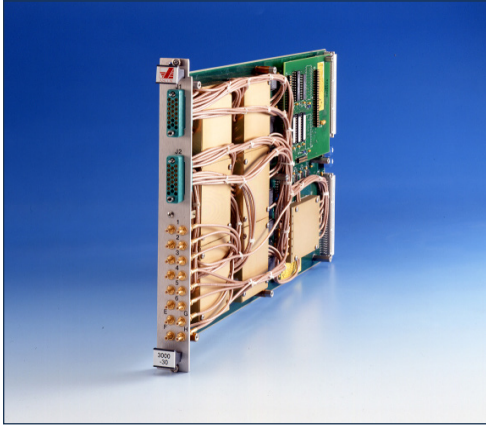
Mechanical

- "C" size VXI



Ordering Information

Model #	Description	Manufacturer #	
3000-12	32 DPDT, 2A, 55MHz	90400570	Quote Request
	Set of Mating Connectors for one Module (std)	89800350	Quote Request



Product Description

The 3000-25 provides 7(2x6) Coaxial Switching Matrices. This module provides high Bandwidth and high Density as well as Flexibility. Model 3000-25 can be used with both source and measurement instruments such as Oscilloscopes, Function Generators, Pulse Counters or Arbitrary Waveform Generators. The 3000-25 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 7(2x6) at 500MHz
- Voltage Max = 200VDC
- Current Max = 1A
- Power = 10 Watts
- Path Impedance 50Ω

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Coax Wired Construction** – This method of construction provides maximum bandwidth, and allows for internal re-configuration for specific applications.

■ **Coaxial Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely using individual Coaxial Contacts.

Recommended Uses

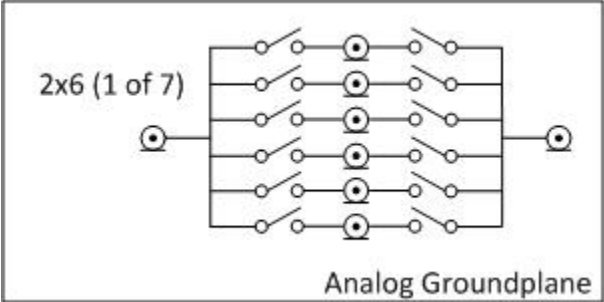
- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching applications requiring bandwidth up to 500 MHz.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 200VDC, 200VACpk
 - Current Max = 1A (carry)
 - Power Max = 10W
 - Path Impedance 50Ω
 - Bandwidth >500MHz (2x6)
 - Crosstalk < -50dB (at 100MHz)
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXL

Ordering Information

Model #	Description	Manufacturer #	
3000-25	7(2x6) Coaxial Matrix, 500MHz	90400280-001	Quote Request
	Set of Mating connectors for one Module	89800540	Quote Request



Product Description

The 3000-27 provides 10 Programmable Resistors. Each Resistor Channel has its own individually connected Ground Plane as well as an on-board location for mounting an "offset" resistor. This allows the user to create programmable resistances well above the original planned range. The 3000-27 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 10 Channels, 65K steps
- Range = 20-1.3M Ω
- Power = 0.25 Watts
- For Higher Power requirements (See 3000-42)

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Offset Resistor** – This allows the user to add additional series resistance to any channel, changing the total available resistance of that channel to meet a specific UUT Requirement.

■ **Scalable number of Channels** – Available in either 5 or 10 Channel configurations

Recommended Uses

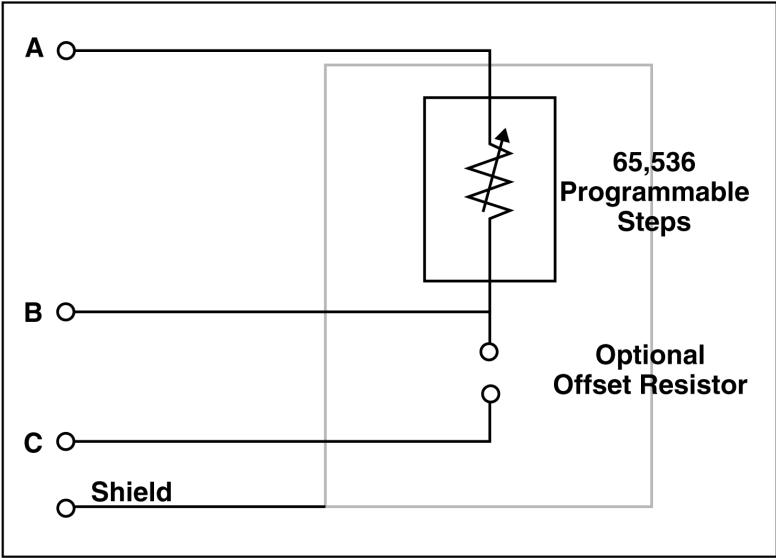
- **UUT Termination** – Many UUT's have resistance sensitive inputs such as alarm panels. A Programmable resistance allows the user to simulate different loads or operating conditions.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - 10 Independent Channels
 - Power Max = 0.25W
 - Resistance 20-1.31MΩ
 - 16 bit resolution
 - Resistance Accy ±1%
- **Environmental**

Temperature

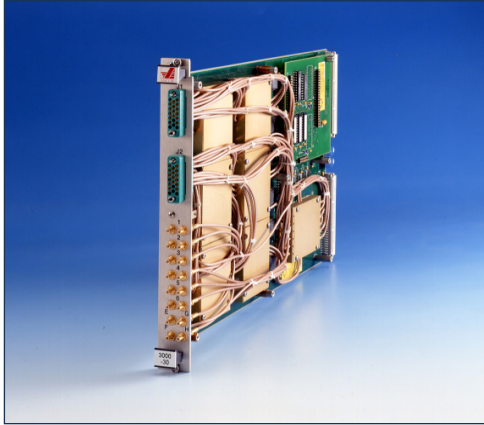
 - Operating 0° to 50°C
 - Storage -40° to 75°C

Humidity (non-condensing)

 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI

Ordering Information

Model #		Description	Manufacturer #	
3000-27		10 Channel Programmable Resistor (20-1.31M ohms)	90400250	Quote Request
3000-27		Set of Mating Connectors for one Module	89800200	Quote Request
3000-27 Opt 2		5 Channel Programmable Resistor (20-1.31M ohms)	90400250-002	Quote Request



Product Description

The 3000-30 provides a 2x6 and a 2x12 Coaxial Switching Matrix. This module provides high Bandwidth and high Density as well as Flexibility. Model 3000-30 can be used with both source and measurement instruments such as Oscilloscopes, Function Generators, Pulse Counters or Arbitrary Waveform Generators. The 3000-30 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 2(2x6) at 500MHz
- 2(2x12) at 400MHz
- Voltage Max = 200VDC
- Current Max = 1A
- Power = 10 Watts
- Path Impedance 50Ω

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Coax Wired Construction** – This method of construction provides maximum bandwidth, and allows for internal re-configuration for specific applications.

■ **Coaxial Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely using individual Coaxial Contacts.

Recommended Uses

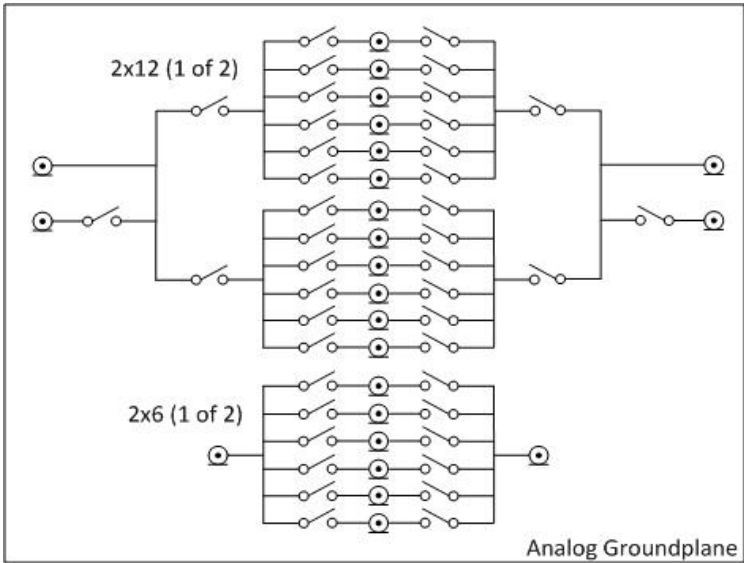
- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching applications requiring bandwidth up to 500 MHz.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 200VDC, 200VACpk
 - Current Max = 1A (carry)
 - Power Max = 10W
 - Path Impedance 50Ω
 - Bandwidth >400MHz (2x12)
>750MHz (Pri to Sec Input)
>500MHz (2x6)
 - Crosstalk < -50dB (at 100MHz)
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI

Ordering Information

Model #	Description	Manufacturer #	
3000-30	2(2x6) & 2(2x12) Coaxial Matrix, 500MHz	90400280-001	Quote Request
	Set of Mating Connectors for one Module	8980020-001	Quote Request



Product Description

The 3000-31 provides 128 Channel of Bi-Directional TTL I/O. This module can also be expanded in 128 Channel increments to 256 in a 1-slot module, and up to 512 channels in a 2-slot module. The 3000-31 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Scale-able Construction** – This module can be expanded in 128 Channel Increments up to 256 channel in a 1-slot module or 256 channels in a 2-slot module.

■ **Termination Options** – Various termination options are available for different applications. Each 128 Channel Module can be setup with different Terminations as required.

Capabilities

- Configurable in 128ch bi-directional increments up to 256 in a 1-slot module or 512 in a 2-slot module
- Terminations available
330/680Ω
1KΩ Pull up
High Current (32ma Source, 64ma Sink)

Recommended Uses

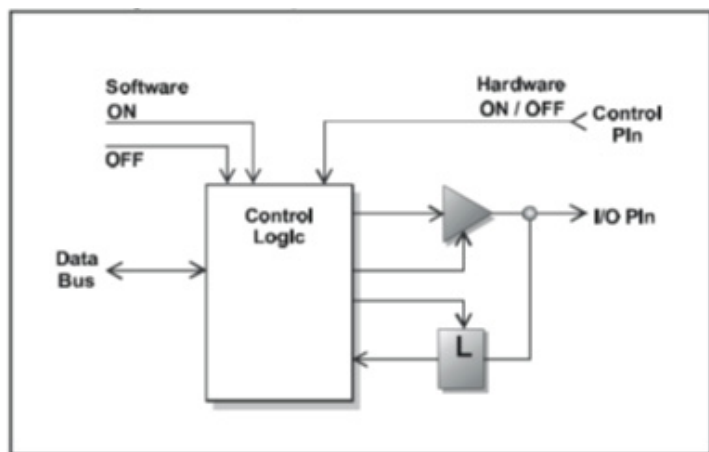
- **UUT Interfacing and Control** – Terminations can be customized to meet UUT requirements.
- **External Switching Control** – High Current option can be used to control external Coaxial Switches.

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Typical Drive Channel

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- 128 Channels Bi-Directional I/O Tri-State, Latching, Expandable in 128 Ch Increments
- Standard Terminations
330/680Ω
1KΩ Pull up
High Current (32ma Source, 64ma Sink)

Environmental

Temperature

- Operating 0° to 50°C
- Storage -40° to 75°C

Humidity (non-condensing)

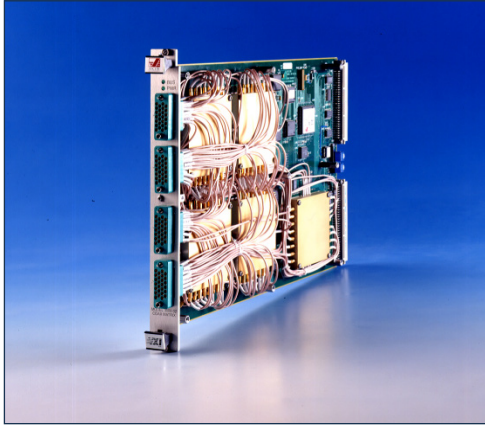
- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- "C" size VXI

Ordering Information

Model #	Description	Manufacturer #	
3000-31	128 Channel TTL I/O (1-slot), Terminations: 330/680Ω, 1KΩ, High Current	90400050	Quote Request
3000-31 Opt 1	Additional 128 Ch 256 total, specify Term, (1-slot)	85001140	Quote Request
3000-31	Additional 128 Ch 384 total, specify Term, (2-slot)	Contact Factory	Quote Request
3000-31	Additional 128 Ch 512 total, specify Term, (2-slot)	Contact Factory	Quote Request



Product Description

The 3000-32 provides groups of Coax Multiplexers in a convenient assortment of sizes. This module provides high Bandwidth and high Density as well as Flexibility. Model 3000-32 can be used with both source and measurement instruments such as Oscilloscopes, Function Generators, Pulse Counters or Arbitrary Waveform Generators. The 3000-32 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- **Configuration**
4(1x8) at 500MHz
8(1x4) at 700MHz
8(1x2) at 900MHz
- **Voltage Max** = 200VDC, 200VAC
- **Current Max** = 1A
- **Power** = 10 Watts
- **Path Impedance** 50Ω

▣ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

▣ **Coax Wired Construction** – This method of construction provides maximum bandwidth, and allows for internal re-configuration for specific applications.

▣ **Coaxial Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely using individual Coaxial Contacts.

Recommended Uses

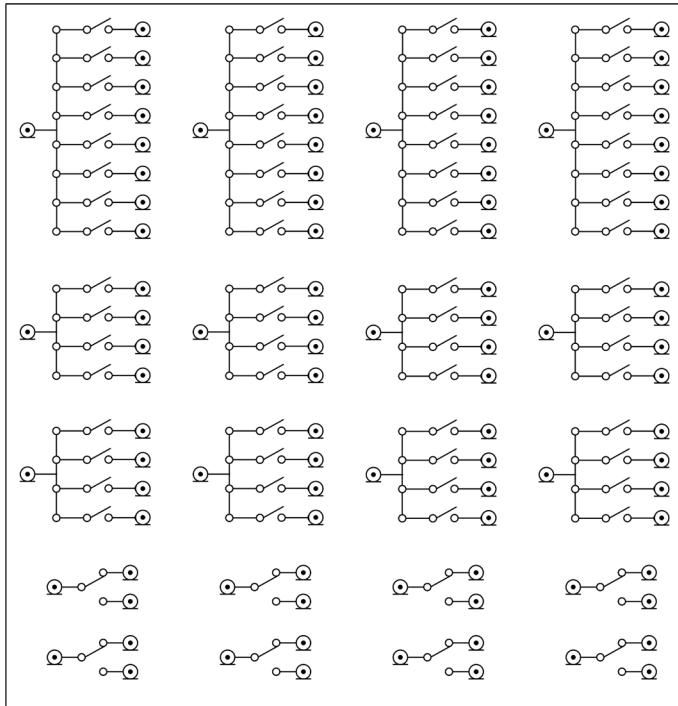
- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching applications requiring higher bandwidth.

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Specifications

Electrical

- Voltage Max = 200VDC, 200VAC
- Current Max = 1A (carry)
- Power Max = 10W
- Path Impedance 50Ω
- Crosstalk = -50dB

Environmental Temperature

- Operating 0° to 50°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

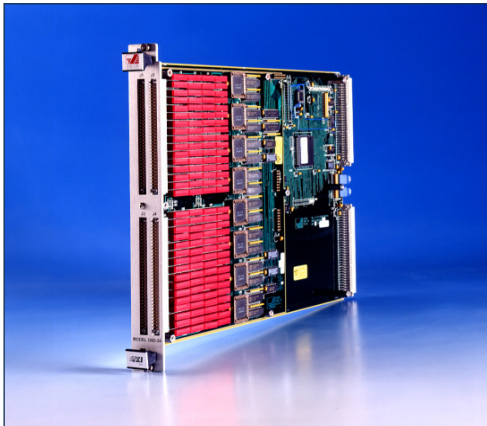
Mechanical

- "C" size VXI

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Ordering Information

Model #	Description	Manufacturer #	
3000-32	4 (1x8) & 8(1x4) & 8(1x2) Coaxial Multiplexer, 900MHz	90400290-001	Quote Request
	Set of Mating connectors for one Module	89800120	Quote Request
	Mating Connector Shell (4 Req'd)	56102560	Quote Request
	Mating Contact (104 Req'd)	72000140	Quote Request
3000-32 Opt 5	4(1x8) & 8(1x4) Coaxial Multiplexer	90400290-005	Quote Request
3000-32 Option B	Set of Pigtail Cables for one Module 4'	89800120-004	Quote Request



Product Description

The 3000-34 provides four 1-wire 2x32 Switching Matrices. This module provides high Bandwidth and high Density as well as Flexibility. Model 3000-34 can be configured as 1(2x128) or 2(2x64) or 4(2x32) matrices using internal jumpers. The 3000-34 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- Configurable as:
1(2x128) > 10MHz
2(2x64) > 20MHz
4(2x32) > 45MHz
- Voltage Max = 220VDC
- Current Max = 1A
- Power = 10 Watts
- Path Impedance 50Ω

Recommended Uses

- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching applications requiring higher bandwidth.

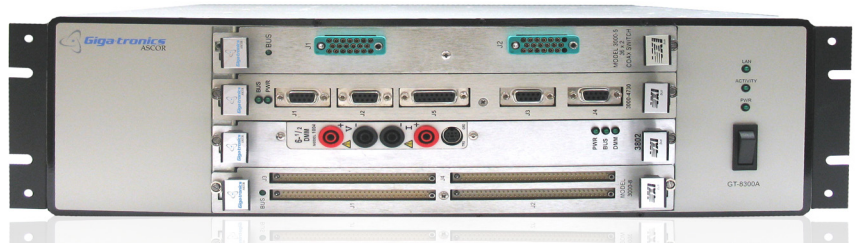
■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

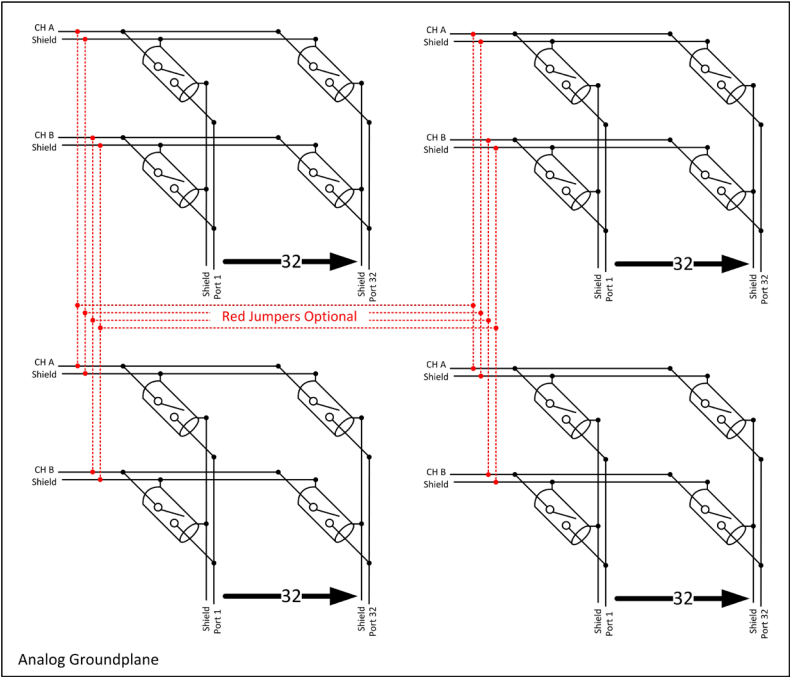
■ **Airborn Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 220VDC, 200 VACpk
 - Current Max = 1A (carry)
 - Power Max = 10W
 - Path Impedance 50Ω
 - Path Resistance <0.40Ω
 - Bandwidth >10MHz (2x128)
 - >20MHz (2x64)
 - >45MHz (2x32)
 - Crosstalk < -50dB (at 100MHz)
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI

Ordering Information

Model #		Description	Manufacturer #	
3000-34		4(2x32) 2-wire Matrix, 45MHz	90400190	Quote Request
		Set of Mating Connectors for one Module	89800390	Quote Request



Product Description

The 3000-35 provides a truly unique design. These cards are typically used in a group to provide a quantity of “universal” I/O pins to be used in a general purpose ATE environment. This concept is explained in greater detail on page 2. This module provides high Bandwidth and high Density as well as Flexibility. Model 3000-35 can be used with both source and measurement instruments such as Oscilloscopes, Function Generators, Pulse Counters or Arbitrary Waveform Generators. The 3000-35 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 16 Universal I/O pins
- 6 Instrument Ports
- 4 sets of load resistors
- 12 High Performance Ports
- 10 Analog Bus ports
- Voltage Max = 200VDC
- Current Max = 0.5A
- Power = 10 Watts
- Path Impedance 50Ω

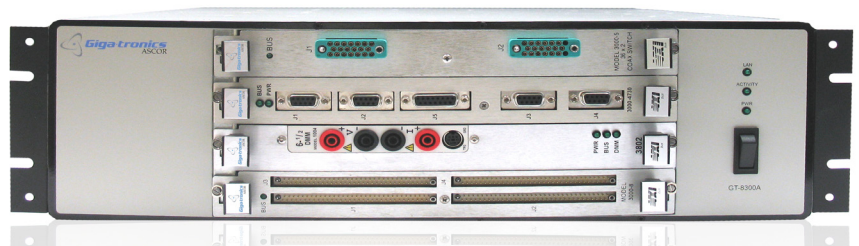
■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Analog Ground Plane** – A separate ground plane beneath the switches eliminates stray emissions, and since the Digital portion of the board has a separate ground plane, test signals will not affect the control circuitry.

Recommended Uses

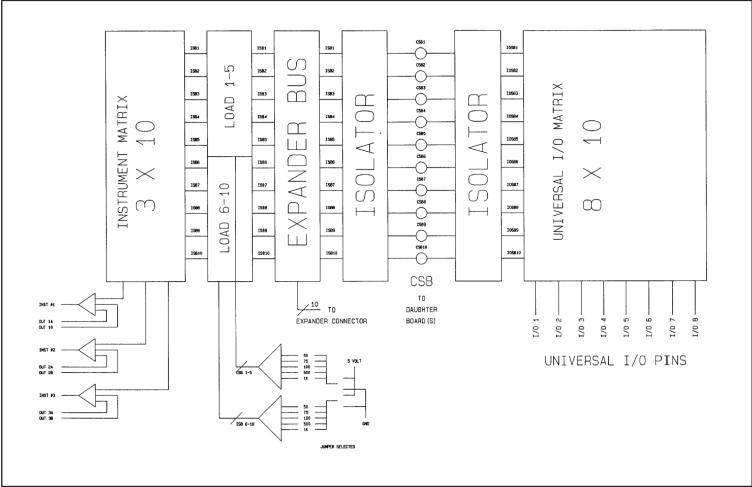
- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation.

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With this design, all instruments must pass through the switching matrix before getting to the test interface.

Instrument Matrix - 3 instruments are connected to the input ports at the left. The 1x3 switches can direct the instrument to either the two High Performance Paths, or to the instrument matrix.

Instrument Bus – Once the signals enter the Inst Matrix, they can be switched to any of the 10 analog busses.

Loads – The load matrix is capable of switching in two different loads, and each of the two load ports is switchable to 5 discrete load values.

Expander Bus – allows adjacent cards to be connected together such that I/O pins or Inst Ports from one card can access pins or ports on the next card.

Universal I/O matrix – allows any of the 8 I/O pins to connect to any of the 10 busses. I/O pins can even be connected together in this way.

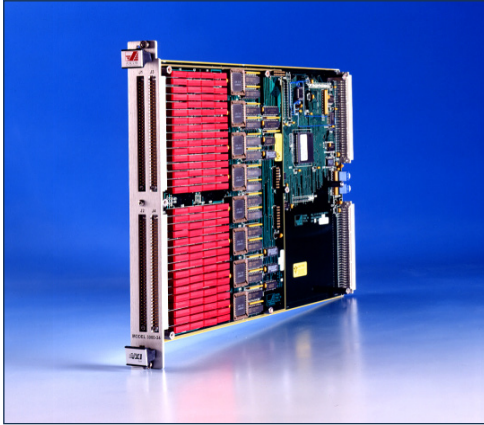
Specifications

- Electrical**
 - Voltage Max = 200VDC, 200VACpk
 - Current Max = 0.5A (switched)
 - Power Max = 10W
 - Path Impedance 50Ω
 - Crosstalk < -50dB (at 100MHz)
- Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- Mechanical**
 - "C" size VXI

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Ordering Information

Model #	Description	Manufacturer #	
3000-35	8x10 HF, 3x10 UHF, 6 Star switches w/ matrix termination	90400300	Quote Request
	Set of Mating connectors for one Module	89800170	Quote Request



Product Description

The 3000-38 provides 16 groups of (1x8) multiplexers along with onboard relays to reconfigure the module on the fly into a variety of one and two wire configurations. This module provides high Bandwidth and high Density as well as Flexibility. Model 3000-38 can be used with both source and measurement instruments such as Oscilloscopes, Function Generators, Pulse Counters or Arbitrary Waveform Generators. The 3000-38 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- **Software Configurable as:**
 - 1(1x256) 1-wire
 - 2(1x128) 1-wire
 - 4(1x64) 1-wire
 - 8(1x16) 1-wire
 - 16(1x8) 1-wire
 - 1(1x128) 2-wire
 - 2(1x64) 2-wire
 - 4(1x16) 2-wire
 - 8(1x8) 2-wire
- Voltage Max = 250VDC, 250VAC
- Current Max = 1A
- Bandwidth = 40MHz

▣ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

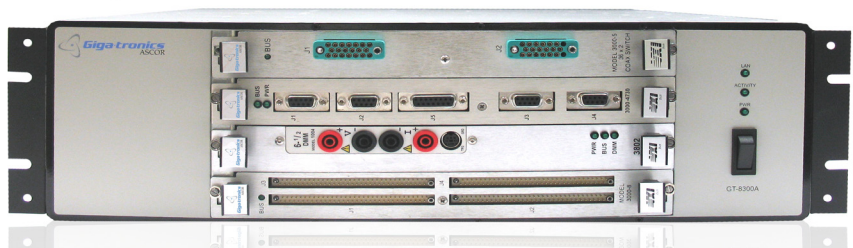
▣ **Software Reconfigurable** – This allows the board to be re-tasked for different UUT applications in different form factors. No moveable wire jumpers needed.

▣ **Dual Row Connectors** – Selected to enable use of low cost Twisted Pair Ribbon Cable.

Recommended Uses

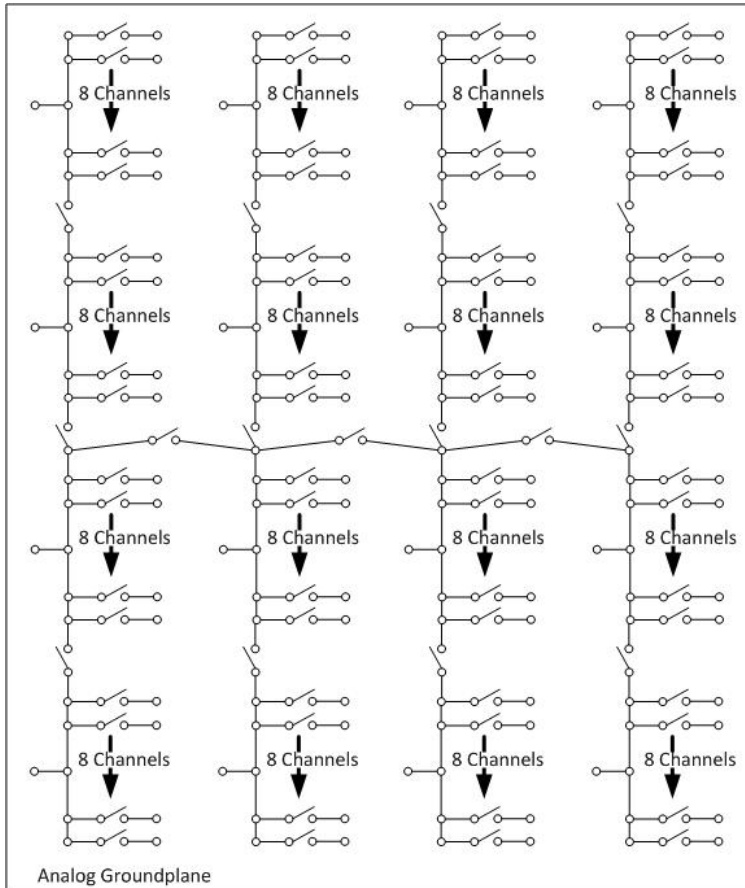
- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching applications requiring higher bandwidth.

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Specifications

Electrical

- Voltage Max = 250VDC, 250VAC
- Current Max = 1A (switched)
- Power Max = 5W
- DC Isolation = 10MΩ
- Path Resistance = 0.53Ω
- Thermal EMF = 60uV
- Crosstalk = -50dB at 10MHz
- Bandwidth = 40MHz

Environmental Temperature

- Operating 0° to 50°C
- Storage -40° to 75°C

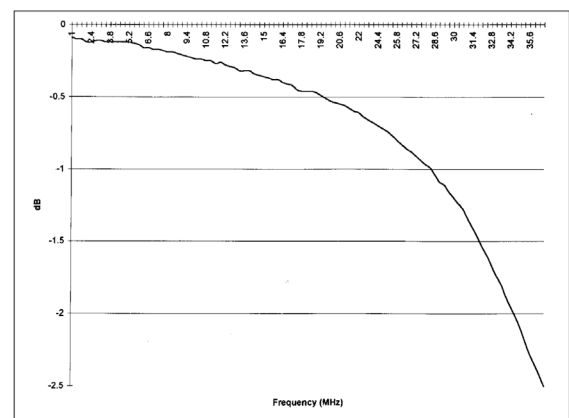
Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- "C" size VXI

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty



Ordering Information

Model #	Description	Manufacturer #	
3000-38	16(1x8) 1-wire Multiplexer, 40MHz	90401360	Quote Request
	Set of Mating connectors for one Module	8980050-001	Quote Request

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Product Description

The 3000-39 provides a truly unique design. These cards are typically used in a group to provide a quantity of “universal” I/O pins to be used in a general purpose ATE environment. This concept is explained in greater detail on page 2. This module provides high Bandwidth and high Density as well as Flexibility. Model 3000-39 can be used with both source and measurement instruments such as Oscilloscopes, Function Generators, Pulse Counters or Arbitrary Waveform Generators. The 3000-39 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 16 Universal I/O pins
- 6 Instrument Ports
- 4 sets of load resistors
- 12 High Performance Ports
- 10 Analog Bus ports
- Voltage Max = 200VDC
- Current Max = 1.5A
- Power = 10 Watts
- Path Impedance 50Ω

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Analog Ground Plane** – A separate ground plane beneath the switches eliminates stray emissions, and since the Digital portion of the board has a separate ground plane, test signals will not affect the control circuitry.

With this design, all instruments must pass through the switching matrix before getting to the test interface.

Instrument Matrix - 3 instruments are connected to the input ports at the left. The 1x3 switches can direct the instrument to either the two High Performance Paths, or to the instrument matrix.

Instrument Bus – Once the signals enter the Inst Matrix, they can be switched to any of the 10 analog busses.

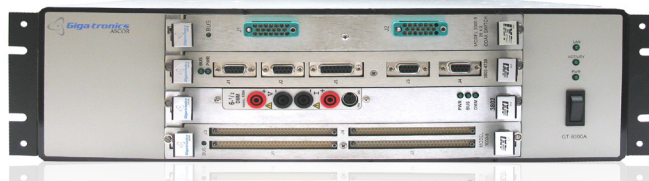
Loads – The load matrix is capable of switching in two different loads, and each of the two load ports is switchable to 5 discrete load values.

Expander Bus – allows adjacent cards to be connected together such that I/O pins or Inst Ports from one card can access pins or ports on the next card.

Universal I/O matrix – allows any of the 8 I/O pins to connect to any of the 10 busses. I/O pins can even be connected together in this way.

Recommended Uses

- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation.



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- Voltage Max = 220VDC, 200VACpk
- Current Max = 1.5A (carry)
- Power Max = 10W
- Path Impedance 50Ω
- Bandwidth >700MHz (Star)
 - >200MHz (3x10)
 - >50MHz (8x10)
- Crosstalk < -50dB (at 100KHz)

- Operating 0° to 50°C
- Storage -40° to 75°C

- Operating 10 to 90%
- Storage 0 to 95%

- "C" size VXL

Model #	Description	Manufacturer #	
3000-39	Universal I/O Card (1-slot), 2(8x10), 2(3x10), 6 Star, 700MHz	90400300-002	Quote Request
	Set of Mating connectors for one Module	89800170	Quote Request
3000-39A	Universal IO Card (2-slot), 3(8x10), 3(3x10), 9 Star, 700MHz	90400300-003	Quote Request
	Set of Mating connectors for one Module	89800170-003	Quote Request
3000-39B	Universal IO Card (2-slot), 4(8x10), 4(3x10), 12 Star, 700MHz	90400300-004	Quote Request
	Set of Mating connectors for one Module	89800170-004	Quote Request



Product Description

The 3000-42 provides 48 SPDT Switches in a small space. This module provides the highest density general purpose switch, ideal for switching UUT Power as well as other current carrying signals. The 3000-42 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 48 SPDT
- Voltage Max = 250VAC, 110VDC
- Current Max = 5A (switched)
- Bandwidth = 50MHz

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

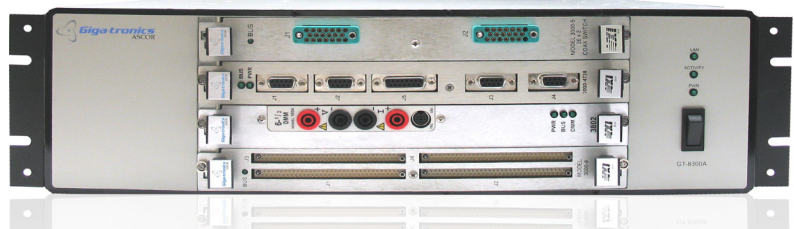
■ **Discrete Component Mounting** – The 3000-42 has internal component mounting locations to allow components to be mounted in Parallel or in series with relay contacts. This makes the module extremely versatile as these points can be used to either re-configure the card, or to convert the module into a programmable component such as a programmable load.

■ **Discrete Connectors** – Selected to allow the use of appropriate gauge wire for either current carrying capacity, or shielded wire for higher bandwidth applications.

Recommended Uses

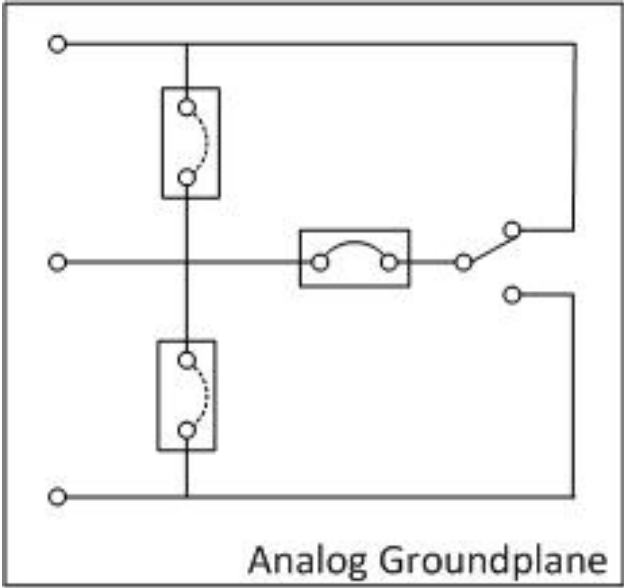
- **Power Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation as well as power switching and distribution applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching applications requiring bandwidth up to 50MHz.

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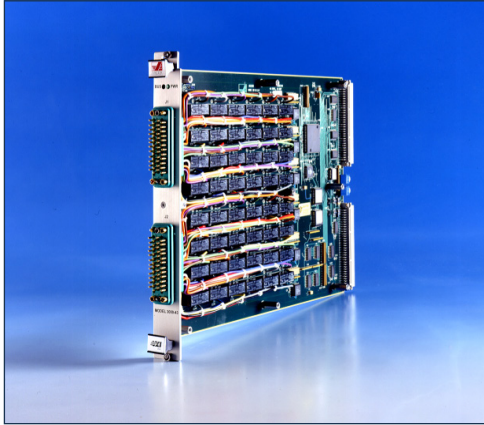
- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max =250VAC, 110VDC
 - Current Max = 5A (switched)
 - Power Max = 1250VA
 - Contact Resistance <0.2Ω
 - Bandwidth >50MHz
 - Crosstalk
 - 62dB at 1MHz
 - 37dB at 10MHz
 - 26dB at 40MHz
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI

Ordering Information

Model #	Description	Manufacturer #	
3000-42	48 SPDT Power Switch Module, 5A	90400710	Quote Request
	Set of Mating connectors for one Module	89800340	Quote Request
3000-42 Opt B	Digital cable 4'	89800340-004	Quote Request



Product Description

The 3000-43 provides 48 SPST Switches in a small space. This module provides the highest density general purpose switch, ideal for switching UUT Power as well as other current carrying signals. The 3000-43 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 48 SPDT
- Voltage Max = 250VAC, 110VDC
- Current Max = 10A (switched)
- Power Max = 2000VA

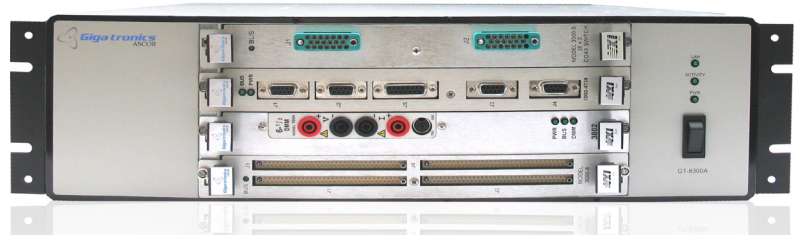
■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Discrete Wired Construction** – This method of construction provides maximum current carrying capacity, and allows for internal re-configuration for specific applications. This method also protects the Circuit board from User Induced damage, allowing an overheated wire to be replaced where an entire PC board might have to be replaced otherwise.

Recommended Uses

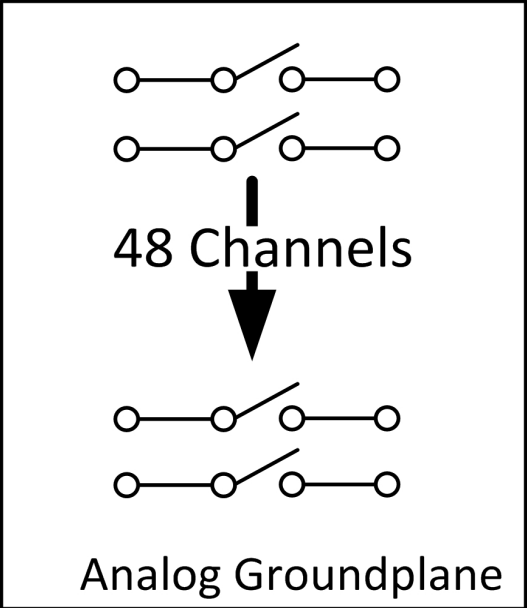
- **Power Switching** – Ideal for power switching and distribution applications.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max =250VAC, 110VDC
 - Current Max = 10A (switched)
 - Power Max = 2000VA
 - Contact Resistance <0.2Ω
- **Environmental**

Temperature

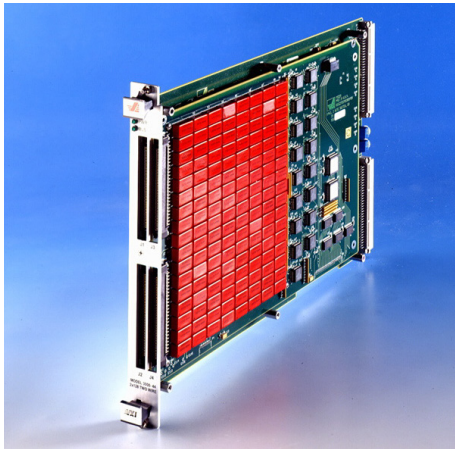
 - Operating 0° to 50°C
 - Storage -40° to 75°C

Humidity (non-condensing)

 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI

Ordering Information

Model #		Description	Manufacturer #	
3000-43		48 SPST Power Switch Module, 10A	90400830	Quote Request
		Set of Mating connectors for one Module	89800410	Quote Request



Product Description

The 3000-44 provides two 2-wire 2x128 Switching Matrices specifically designed to be compatible with Twisted Pair Cabling. This module provides both high Bandwidth and high Signal to Noise Ratio. The 3000-44 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Coaxially Shielded Reed Relays** –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

■ **Analog Ground Plane** – A separate ground plane beneath the switches eliminates stray emissions, and since the Digital portion of the board has a separate ground plane, test signals will not affect the control circuitry.

■ **Dual Row Connectors** – Selected to enable use of low cost Twisted-pair ribbon cable.

Capabilities

- (2x128) 2-wire
or 2(2x64) 2-wire
Expandable in (2x64) increments
- Voltage Max = 220VDC,
200VACpk
- Current Max = 1.5A
- Bandwidth = 70MHz

Recommended Uses

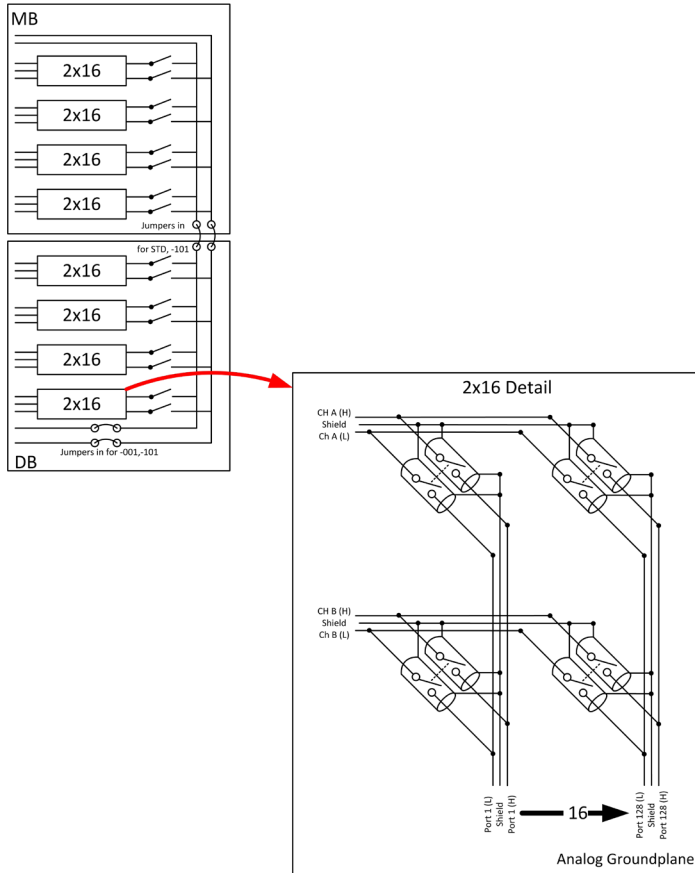
- **Instrument Switching** – Low signal to noise and high bandwidth makes this module ideal for general purpose switching. The Twisted Pair capability makes it specifically useful for Differential signals.

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Specifications

Electrical

- Voltage Max = 220VDC, 200VACpk
- Current Max = 1.5A (carry)
- Power Max = 10W
- Path Impedance 50Ω
- Bandwidth >70MHz (90MHz Typical)
- Crosstalk < -40dB (at 50MHz)

Environmental Temperature

- Operating 0° to 50°C
- Storage -40° to 75°C

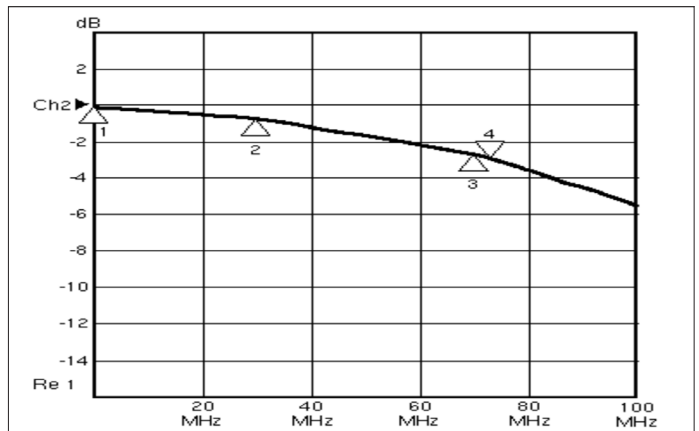
Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- "C" size VXI

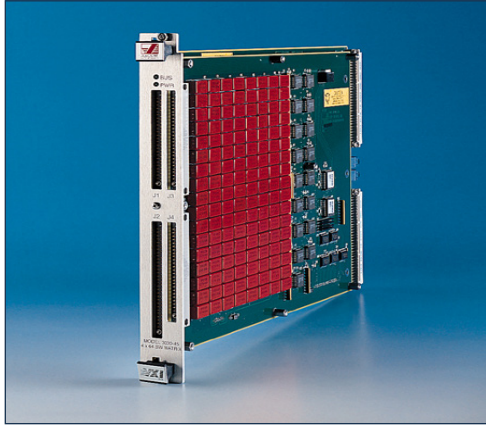
- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty



Ordering Information

Model #	Description	Manufacturer #	
3000-44	(2x128) 2-wire Matrix, 70 MHz	90400650	Quote Request
3000-44 Opt 1	(2x128) 2-wire Matrix, 70 MHz (same as Opt M) has 2 addl inputs on DB	90400650-101	Quote Request
3000-44	2(2x64) 2-wire Matrix, 70 MHz	90400650-001	Quote Request
	Set of Mating Connectors for one 3000-44 Module	89800300	Quote Request

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Product Description

The 3000-45 provides a 2-wire 4x64 Switching Matrix specifically designed to be compatible with Twisted Pair Cabling. This module provides both high Bandwidth and high Signal to Noise Ratio. The 3000-45 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

Capabilities

- 4x64 Matrix (2-wire)
Expandable in (4x32) increments
- Voltage Max = 220VDC, 200VACpk
- Current Max = 1.5A
- Power = 10 Watts
- Path Impedance 50Ω
- Bandwidth >70MHz
(45 MHz version 3000-57)

■ Coaxially Shielded Reed Relays –

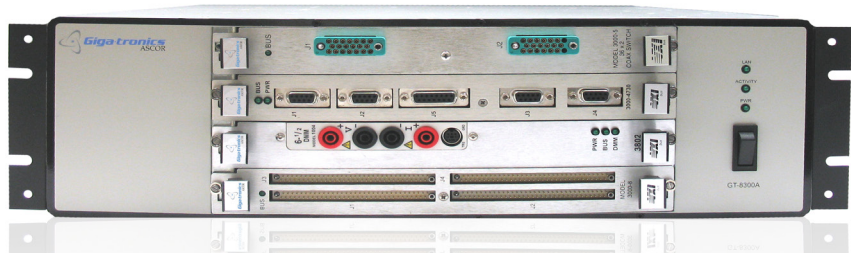
- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

Recommended Uses

- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching applications requiring bandwidth up to 500 MHz.

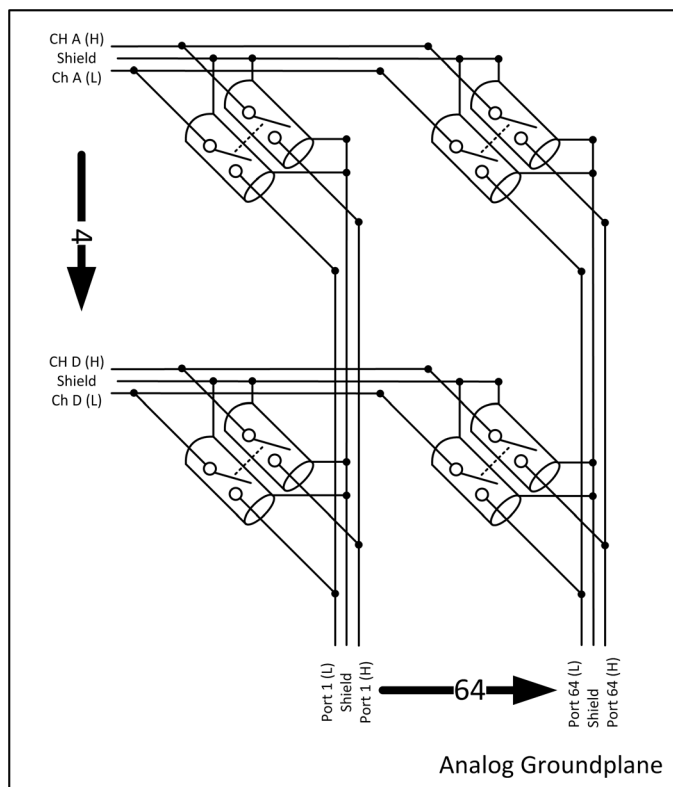
■ **Airborn Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely. Consider 3000-47 or -52 for lower cost Dual Row Ribbon connectors.

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Specifications

Electrical

- Voltage Max = 200VDC, 200VACpk
- Current Max = 1.5A (carry)
- Power Max = 10W
- Path Impedance 50Ω
- Bandwidth >70MHz
- Crosstalk < -40dB (at 50MHz)

Environmental

Temperature

- Operating 0° to 50°C
- Storage -40° to 75°C

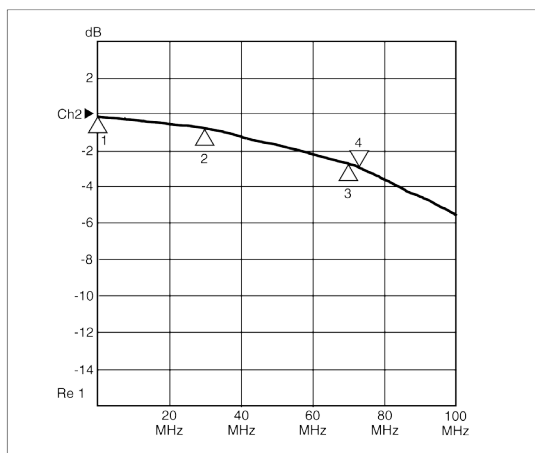
Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

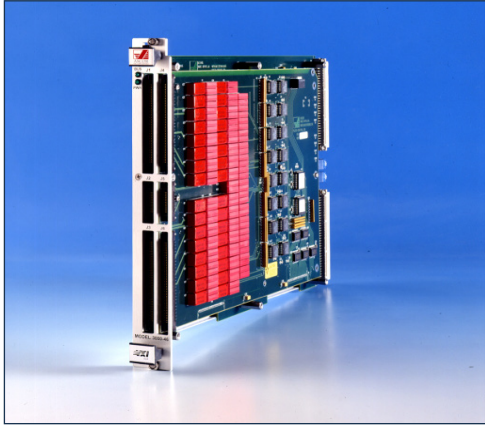
- "C" size VXI

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty



Ordering Information

Model #	Description	Manufacturer #	
3000-45	(4x64) 2wire Matrix, 70MHz (1-slot)	90400320	Quote Request
	Connector Kit for -45 card	89800150	Quote Request
3000-45B	(4x128) 2wire Matrix, 70MHz (2-slots)	90400790	Quote Request



Product Description

The 3000-46 provides both 64 DPDT and 16(1x8) 1-wire Multiplexer. This module provides high Bandwidth and high Density as well as Flexibility. Model 3000-46 is designed specifically to allow the user to create a test system with every UUT input pin reconfigurable as either a Digital or an Analog input pin. The 3000-46 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- Group 1
- 64 DPDT Relays
- Group 2
- 16(1x8) 1-wire
- Configurable as:
 - 8(1x16) 1-wire
 - 4(1x32) 1-wire
 - 2(1x64) 1-wire
 - 8(1x8) 2-wire
 - 4(1x16) 2-wire
 - 2(1x32) 2-wire
 - 1(1x64) 2-wire
- Voltage Max = 220VDC, 200VACpk
- Current Max = 1.5A
- Power = 10 Watts
- Bandwidth = 100MHz

■ Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

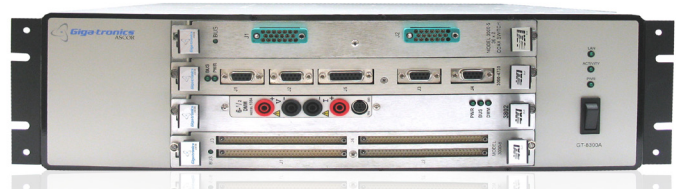
■ **Software Re-configurable** – This allows the board to be re-tasked for different UUT applications in different form factors. No moveable Jumpers are required.

■ **Isolation Relays** – In order to create a true Analog/Digital UUT input pin, the input signal must have the ability to be routed to either the Analog Multiplexer, or the Digital Sub-System. The Isolation relays perform this function.

Recommended Uses

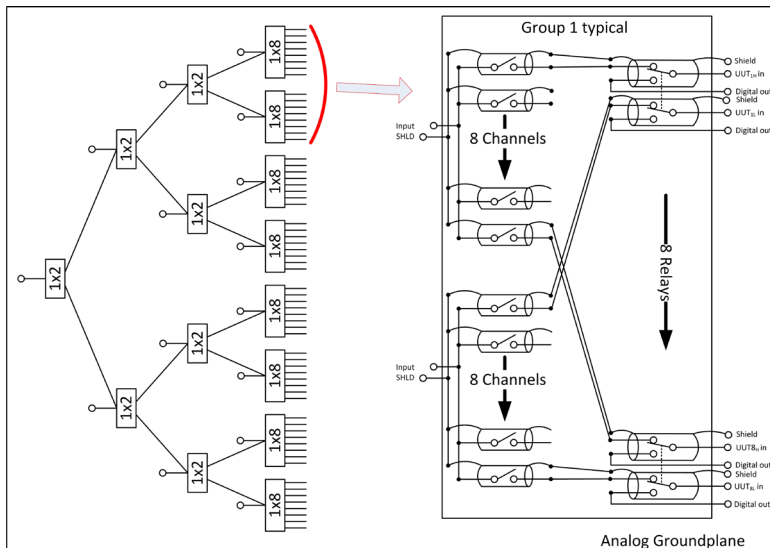
- **UUT Interfacing** – Allows the creation of test system input pins which can be configured “on-the-fly” as either digital or analog inputs. This allows Parametric measurements to be made on digital inputs while the digital sub-system is disconnected.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- **Voltage Max = 220VDC, 200VACpk**
- **Current Max = 1.5A (carry)**
- **Power Max – 10W**
- **Isolation >107Ω**
- **Bandwidth**
- **Form Factor Differential Single Ended**

(1x1) 2-wire	175MHz	100MHz
(1x8) 2-wire	95MHz	74MHz
(1x16) 2-wire	90MHz	64 MHz
(1x32) 2-wire	85MHz	57MHz

Environmental

Temperature

- Operating 0° to 50°C
- Storage -40° to 75°C

Humidity (non-condensing)

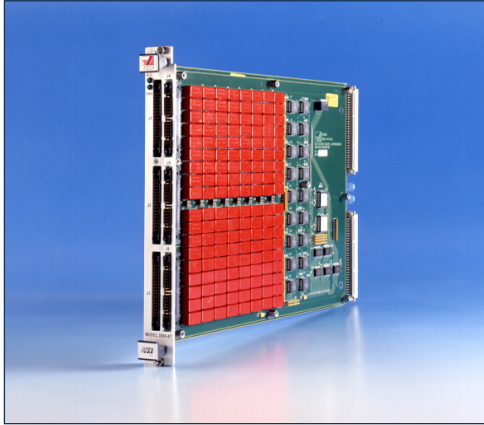
- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- "C" size VXI

Ordering Information

Model #	Description	Manufacturer #	
3000-46	64 DPDT & 16(1x8) 1-wire Multiplexer, 100MHz	90400750	Quote Request
	Set of Mating connectors for one Module	89800360	Quote Request
3000-46	Set of Pigtail Cables for one Module 1'	89800360-001	Quote Request
3000-46	Set of Pigtail Cables for one Module 2'	89800360-002	Quote Request
3000-46	Set of Pigtail Cables for one Module 3'	89800360-003	Quote Request
3000-46	Set of Pigtail Cables for one Module 4'	89800360-004	Quote Request
3000-46	Set of Pigtail Cables for one Module 5'	89800360-005	Quote Request
3000-46	Set of Pigtail Cables for one Module 6'	89800360-006	Quote Request



Product Description

The 3000-47 provides a 2-wire 8x32 Switching Matrix specifically designed to be compatible with Twisted Pair Cabling. This module provides both high Bandwidth and high Signal to Noise Ratio. The 3000-47 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- Configurable as;
(1)8x32 or (2)8x16
- Voltage Max = 220VDC, 200VACpk
- Current Max = 1.5A
- Power = 10 Watts
- Path Resistance <0.38 Ω
- Bandwidth >90MHz
(50 MHz version 3000-52)

Recommended Uses

- **Instrument Switching** – Low signal to noise and high bandwidth makes this module ideal for general purpose switching. The Twisted Pair capability makes it specifically useful for Differential signals.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching applications requiring bandwidth up to 50MHz.

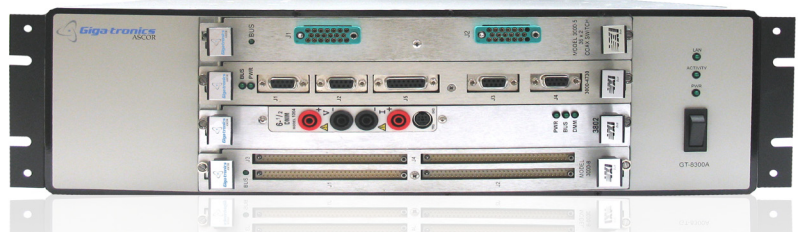
■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50 Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

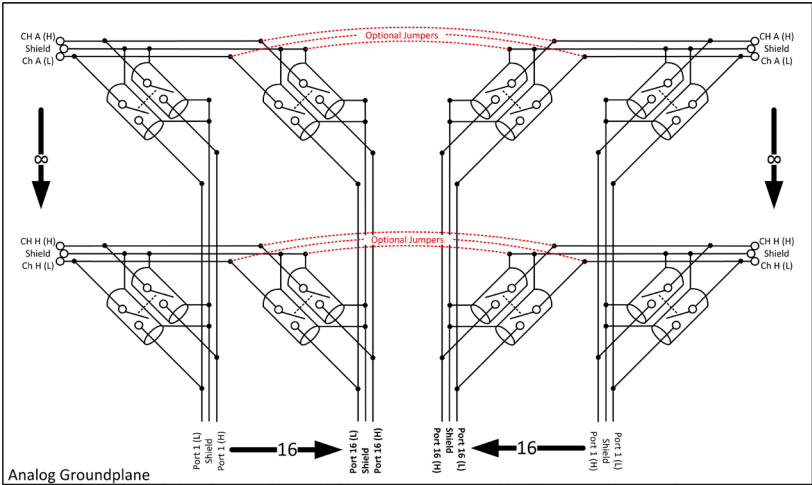
■ **Dual Row Connectors** – Selected to enable use of low cost Twisted Pair Ribbon cable. Connectors configured to allow simple matrix expansion with ribbon cable.

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Specifications

Electrical

- Voltage Max = 220VDC, 200VACpk
- Current Max = 1.5A (carry)
- Power Max = 10W
- Path Resistance < 0.38Ω
- Bandwidth >90MHz
- Crosstalk < -45dB (at 50MHz)
< -42dB (at 100MHz)
- Isolation > -71dB
- Insulation Resistance >10⁷ Ω

Environmental

Temperature

- Operating 0° to 50°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- "C" size VXI

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Ordering Information

Model #	Description	Manufacturer #	
3000-47	(8x32) 2-wire Matrix, 90MHz	90400800	Quote Request
	Set of Mating connectors for one Module	89800430	Quote Request
3000-47	VPC Funnel Adapter	89800430-001	Quote Request
3000-47	Set of Pigtail Cables for one Module	89800430-002	Quote Request
3000-47 Opt 1	2(8x16) 2-wire Matrix, 90MHz	90400800-001	Quote Request



Product Description

The 3000-48 provides 16 High Power Driver Channels with Diode protection built-in . The Power Source must be supplied by the user. There is also an internal 4 channel timer. Each timer channel controls 4 of the 16 Driver Channels. The 3000-48 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Drive Voltage – Must be supplied externally**

■ **Timer Control – allows the Driver Channels to be timed using various start and stop commands.**

Capabilities

- 16 High Power Drivers
- Drive Voltage Max = 50V
- Drive Current Max = 4A
- 4 Programmable Timers
- Power = 100W/Ch, 650W total

Recommended Uses

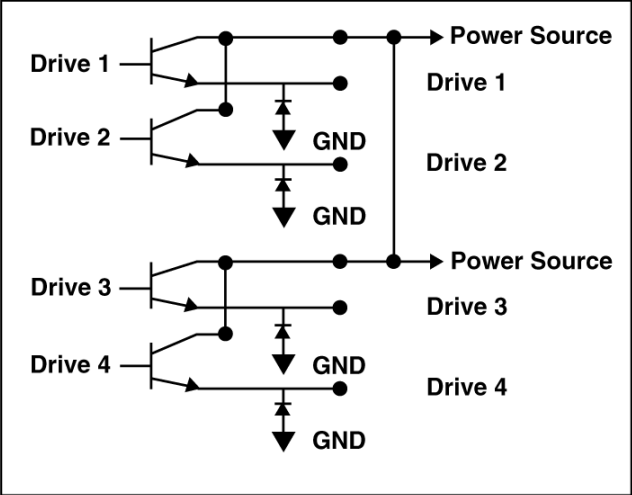
- **High Power Digital Inputs** – Useful for controlling devices requiring significantly higher Voltages and Currents than normal Open Collector devices can handle.

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4 of 16, Typical Driver Channels

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 50VDC
 - Current Max = 4A
 - Power Max = 100W/ch, 650W total
 - Diode Protection on each pin
 - Driver Power Provided Externally
- **Timing Controls**
 - 4 Timers, 10us to 655ms ea
 - Enable/Disable control of each
 - Time or Continuous modes
 - Group Start Command
 - Selected Start Command
 - Selected Stop Command
 - Event Monitor
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI

Ordering Information

Model #		Description	Manufacturer #	
3000-48		16 Channel High Power Source Driver	90400390	Quote Request
		Set of Mating connectors for one Module	89800180	Quote Request



Product Description

The 3000-49 provides 16 High Power Sink Driver Channels with Diode protection built-in . The Power return/drain must be supplied by the user. There is also an internal 4 channel timer. Each timer channel controls 4 of the 16 Driver Channels. The 3000-49 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Drive Voltage – Must be supplied externally**

■ **Timer Control – allows the Driver Channels to be timed using various start and stop commands.**

Capabilities

- 16 High Power Drain
- Sink Voltage Max = 50V
- Sink Current Max = 4A
- 4 Programmable Timers
- Power = 100W/Ch, 650W total

Recommended Uses

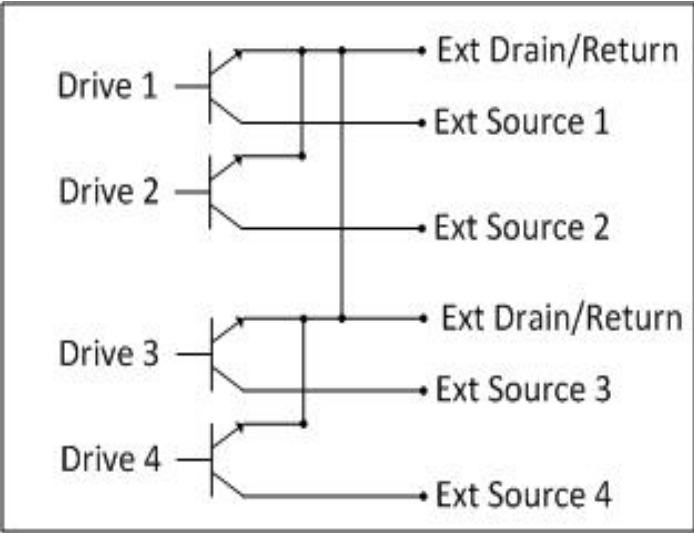
- **High Power Digital Inputs** – Useful for controlling devices requiring significantly higher Voltages and Currents than normal Open Collector devices can handle.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 50VDC
 - Current Max = 4A
 - Power Max = 100W/ch, 650W total
 - Diode Protection on each pin
 - Driver Power Provided Externally
- **Timing Controls**
 - 4 Timers, 10us to 655ms ea
 - Enable/Disable control of each
 - Time or Continuous modes
 - Group Start Command
 - Selected Start Command
 - Selected Stop Command
 - Event Monitor
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI

Ordering Information

Model #		Description	Manufacturer #	
3000-49		16 Channel High Power Sink Driver	90400400	Quote Request
		Set of Mating connectors for one Module	89800180	Quote Request



Product Description

The 3000-51 provides 20 SPDT Switches in a small space. This module provides the highest Power general purpose switch, ideal for switching UUT Power as well as other current carrying signals. The 3000-51 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

Capabilities

- 20 SPDT
- Voltage Max = 250VAC, 30VDC
- Current Max = 20A (switched)
- Power = 5000VA

■ **Wired Construction** – This method of construction provides maximum current carrying capacity, and allows for internal re-configuration for specific applications. This method also protects the Circuit board from User Induced damage, allowing an overheated wire to be replaced where an entire PC board might have to be replaced otherwise.

Recommended Uses

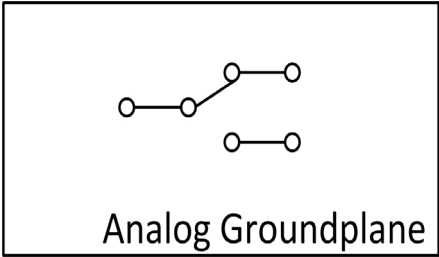
- **Power Switching** – Ideal for power switching and distribution applications.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max =250VAC, 30VDC
 - Current Max = 20A (switched)
 - Power Max = 5000VA
 - Contact Resistance <0.2Ω
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI

Ordering Information

Model #	Description	Manufacturer #	
3000-51	20 SPDT Power Switch Module, 20A	90401460	Quote Request



Product Description

The 3000-52 provides a Dual 2-wire 8x16 Switching Matrix specifically designed to be compatible with Twisted Pair Cabling. This module provides both high Bandwidth and high Signal to Noise Ratio. The 3000-52 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Analog Ground Plane** – A separate ground plane beneath the switches eliminates stray emissions, and since the Digital portion of the board has a separate ground plane, test signals will not affect the control circuitry.

■ **Dual Row Connectors** – Selected to enable use of low cost Twisted Pair Ribbon cable. Connectors configured to allow simple matrix expansion with ribbon cable.

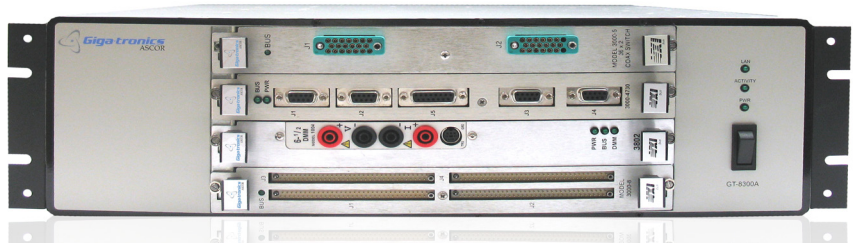
Capabilities

- Configurable as;
(1)8x32 or (2)8x16
- Voltage Max = 220VAC, 250VAC
- Current Max = 2A
- Power = 60 Watts
- Path Resistance <0.41 Ω
- Bandwidth >70MHz
(90 MHz version 3000-47)

Recommended Uses

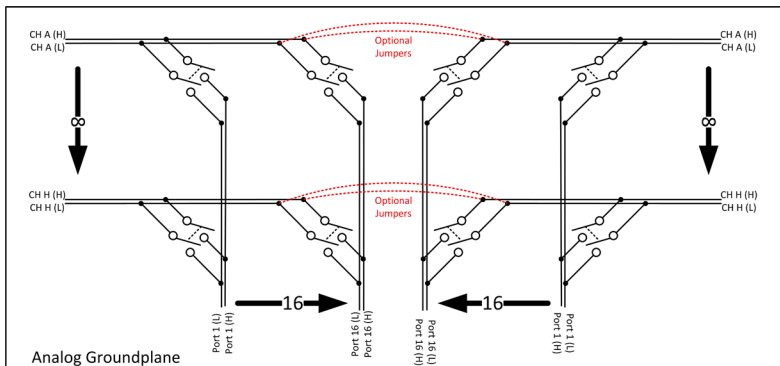
- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching applications requiring bandwidth up to 70MHz.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (switched)
- Power Max = 60W
- Path Resistance < 0.41Ω
- Bandwidth >70MHz
- Crosstalk < -52dB (at 50MHz)
- Isolation > -71dB

Environmental Temperature

- Operating 0° to 50°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- "C" size VXI

Ordering Information

Model #	Description	Manufacturer #	
3000-52	(8x32) 2-wire Matrix, 70MHz, IDC connectors	90400810	Quote Request
3000-52 opt 1	2(8x16) 2-wire Matrix, IDC connectors	90400810-001	Quote Request
3000-52 opt 2	(8x32) 2-wire Matrix, Airborn connectors	90400810-002	Quote Request
3000-52 opt 3	2(8x16) 2-wire Matrix, Airborn connectors	90400810-003	Quote Request
3000-52 opt 4	2(8x16) 2-wire Matrix, IDC conn w/latches	90400810-101	Quote Request
	Set of Mating connectors for one Module	89800430	Quote Request
3000-52	VPC Funnel Adapter	89800430-001	Quote Request
3000-52	Set of Pigtail Cables for one Module 2'	89800430-002	Quote Request



Capabilities

- 96 SPDT (1-slot)
- 144 SPDT (2-slot)
- 192 SPDT (2-slot)
- Voltage Max = 220VDC, 250VAC
- Current Max = 1A (carry)
- Bandwidth = 5MHz

Product Description

The 3000-53 provides 96 SPDT Switches in a small space. This module provides the highest density general purpose switch, ideal for general purpose switching. The 3000-53 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

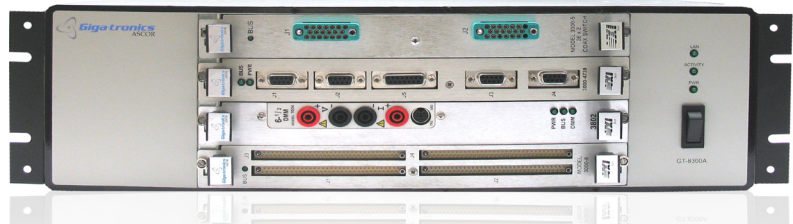
■ **Stackable Daughter cards** – This allows the card to be sized for the application. The number of relays can be expanded by simply adding additional daughter cards.

■ **Dual Row Connectors** – Selected for reduced cost allowing the use of inexpensive Ribbon Cables.

Recommended Uses

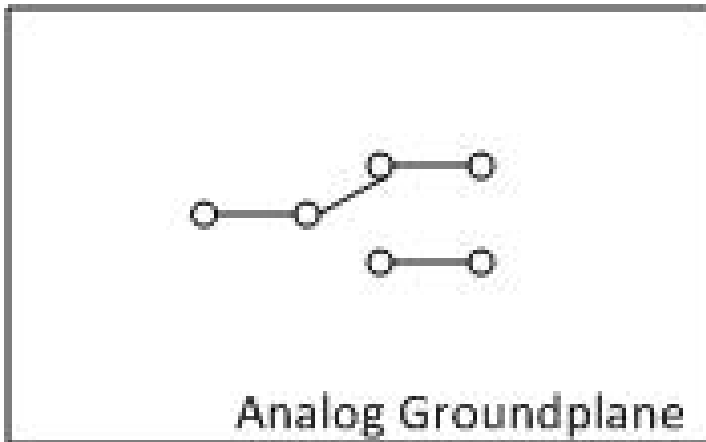
- General Purpose switching – the ease of expansion using this module makes it ideal for all general purpose low frequency switching applications.

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Typical Diagram for one SPDT Relay

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- Voltage Max = 220VDC, 250VAC
- Current Max = 1A (carry)
- Power Max = 30VA
- Contact Resistance <0.5Ω
- Bandwidth >5MHz

Environmental Temperature

- Operating 0° to 50°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- "C" size VXI

Ordering Information

Model #	Description	Manufacturer #	
3000-53	96 SPDT Switch Module, 5MHz (1-slot)	90400530	Quote Request
	Set of Mating connectors for one Module	89800450	Quote Request
3000-53	Set of Pigtail Cables for one Module	89800450-002	Quote Request
3000-53A	144 SPDT Switch Module, 5MHz (2-slot)	90400530-101	Quote Request
	Set of Mating connectors for one Module	89800450-001	Quote Request
3000-53B	192 SPDT Switch Module, 5MHz (2-slot)		Quote Request



Product Description

The 3000-56 provides 64 SPDT Shielded Reed Relays. This module provides high Bandwidth and high Density as well as Flexibility. The 3000-56 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 64 SPDT
- Voltage Max = 200VDC, 200VACpk
- Current Max = 1A (carry)
- Power = 10 Watts
- Path Impedance 50Ω

Recommended Uses

- **Instrument Switching** – High bandwidth makes this module ideal for general purpose switching. The Twisted Pair capability makes it specifically useful for Differential signals.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching applications requiring bandwidth up to 500MHz.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

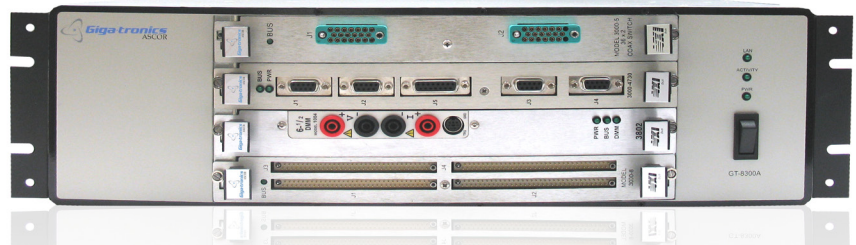
Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

■ **Airborn Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely.

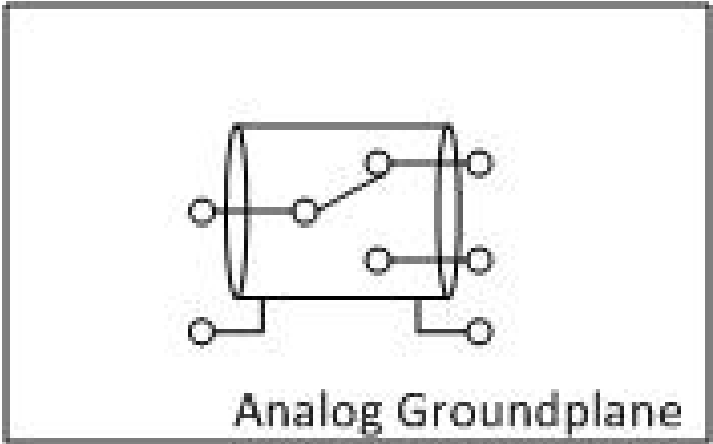
■ **Dual Row Connectors** – Selected to enable use of low cost Twisted Pair Ribbon cable. Connectors configured to allow simple matrix expansion with ribbon cable.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 220VDC, 200 VACpk
 - Current Max = 1A (carry)
 - Power Max = 10W
 - Path Impedance 50Ω
 - Bandwidth >500MHz
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI

Ordering Information

Model #		Description	Manufacturer #	
3000-56		64 SPDT Switch Module, 500MHz	90400190	Quote Request
		Set of Mating connectors for one Module	89800510	Quote Request



Product Description

The 3000-57 provides a Dual 2-wire 4x32 Switching Matrix specifically designed to be compatible with Twisted Pair Cabling. This module provides both high Bandwidth and high Signal to Noise Ratio. The 3000-52 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Analog Ground Plane** – A separate ground plane beneath the switches eliminates stray emissions, and since the Digital portion of the board has a separate ground plane, test signals will not affect the control circuitry.

■ **Airborn Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely. Consider 3000-47 or -52 for lower cost Dual Row Ribbon connectors.

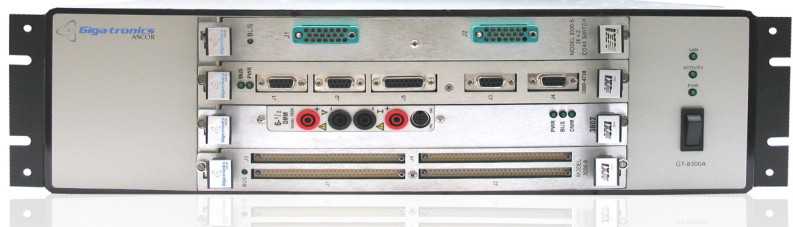
Capabilities

- Configurable as;
(1)4x64 or (2)4x32
Expandable in (4x32) increments
- Voltage Max = 220VDC, 250VAC
- Current Max = 2A
- Power = 60 Watts
- Path Impedance 50Ω
- Bandwidth >45MHz
(70 MHz version 3000-45)

Recommended Uses

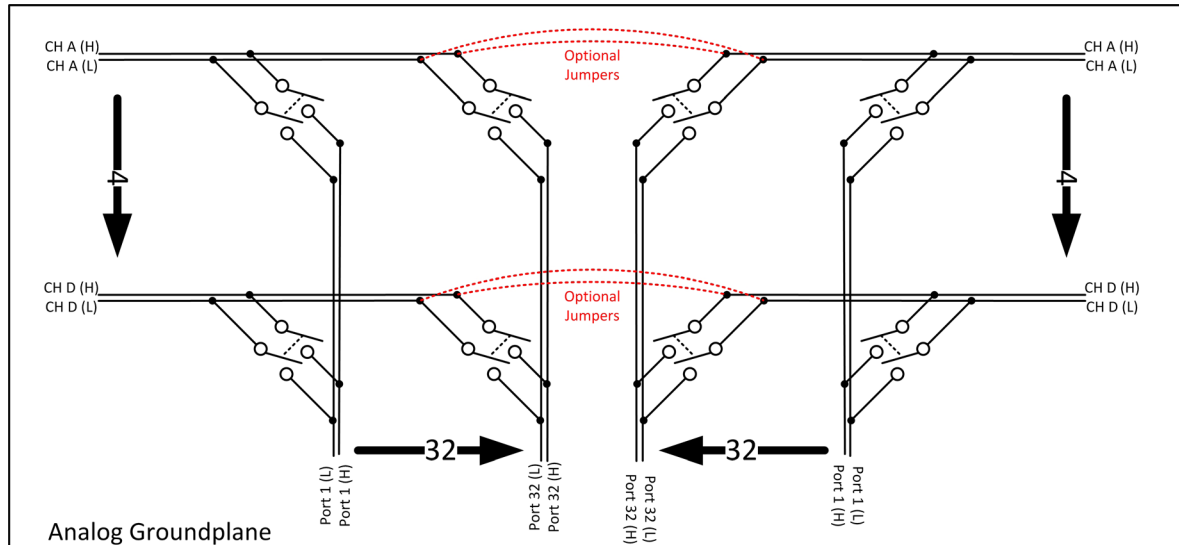
- **Instrument Switching** – Low signal to noise and high bandwidth makes this module ideal for general purpose switching. The Twisted Pair capability makes it specifically useful for Differential signals.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching applications requiring bandwidth up to 45MHz.

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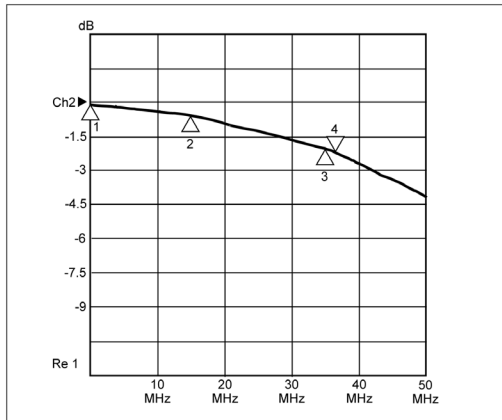


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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty



Specifications

Electrical

- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (switched)
- Power Max = 60W
- Path Impedance 50Ω
- Bandwidth >45MHz

Environmental

Temperature

- Operating 0° to 50°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- "C" size VXI

Ordering Information

Model #	Description	Manufacturer #	
3000-57	(4x64) 2-wire Matrix, 45MHz	90401010	Quote Request
	Set of Mating connectors for one Module	89800830-001	Quote Request
3000-57 Opt 1	2(4x32) 2-wire Matrix, 45MHz	90401010-001	Quote Request

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Return to TOC



Product Description

The 3000-59 provides 32 SPDT Switches in a small space. This module provides the highest density general purpose switch, ideal for switching UUT Power as well as other current carrying signals. The 3000-59 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Wired Construction** – This method of construction provides maximum current carrying capacity, and allows for internal re-configuration for specific applications. This method also protects the Circuit board from User Induced damage, allowing an overheated wire to be replaced where an entire PC board might have to be replaced otherwise.

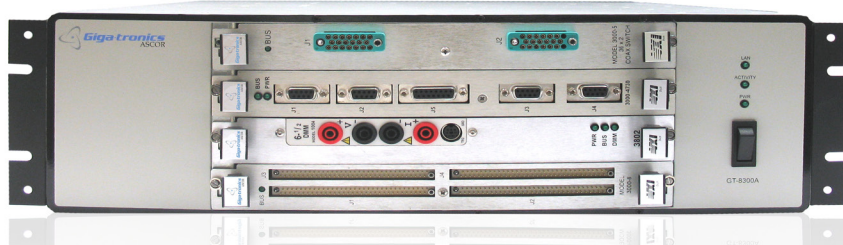
Capabilities

- 32 SPDT
- Voltage Max = 150VDC, 250VAC
- Current Max = 10A (switched)
- Power = 2000VA

Recommended Uses:

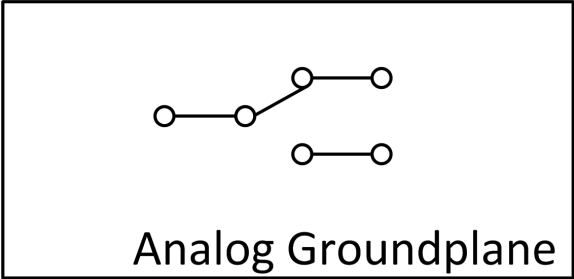
- **Power Switching** – Ideal for power switching and distribution applications.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 150VDC, 250VAC
 - Current Max = 10A (switched)
 - Power Max = 2000VA
 - Bandwidth = 10MHz
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI

Ordering Information

Model #	Description	Manufacturer #	
3000-59	32 SPDT Power Switch Module, 10A	90401380	Quote Request



Capabilities

- 32 DPDT Relays
- Voltage Max = 220VDC, 250VAC
- Current Max = 2A
- Power = 60 Watts
- Bandwidth >180MHz

Product Description

The 3000-60 provides 32 Channels of DPDT switches. These Dual Form "C" relays are able to deliver 2 Amps continuously. The 3000-60 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

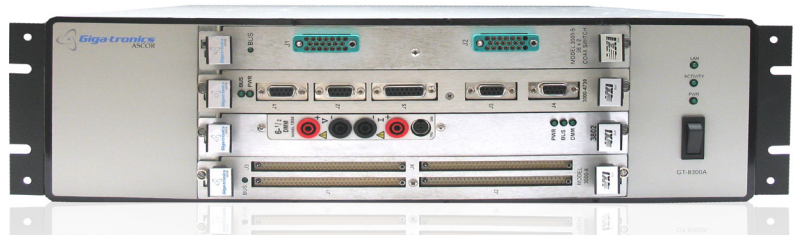
■ **Analog Ground Plane** – A separate ground plane beneath the switches eliminates stray emissions, and since the Digital portion of the board has a separate ground plane, test signals will not affect the control circuitry.

■ **Component Mounting Holes** – There are additional positions for through hole component mounting surrounding each relay so that the board can be reconfigured (as a tree for example) or so that components can be added (making it a programmable device).

Recommended Uses

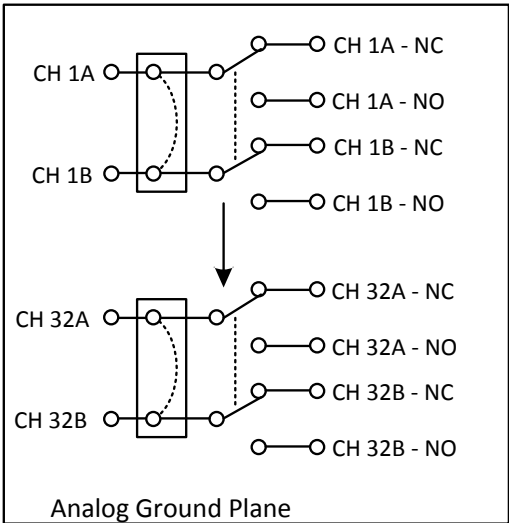
- **Power Switching** – Control and distribute power to the UUT.
- **Programmable Components** – the relays can be connected together internally, and components can be added to make the board behave like a programmable resistor or capacitor as an example.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 220VDC, 250VAC
 - Current Max = 2A (carry)
 - Power Max = 60W
 - Bandwidth >180MHz
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI

Ordering Information

Model #		Description	Manufacturer #	
3000-60		32 DPDT, 1A, 180MHz	90400570	Quote Request

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Product Description

The 3000-61 provides 128 Channel of Bi-Directional CMOS I/O. The 3000-61 has been designed with several exceptional features that make it stand out from competitive products.

- **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.
- **Scale-able Construction** – Optional 64 Channels of Differential I/O
- **Serial/Parallel Data Bus** – This module will support data rates of up to 2 Million read or write operations per second.

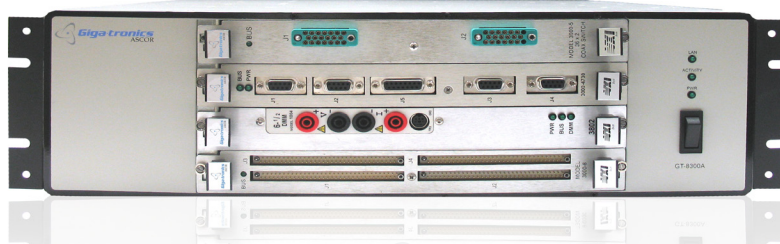
Capabilities

- 128ch CMOS I/O
- Optional 64 Ch Differential I/O

Recommended Uses

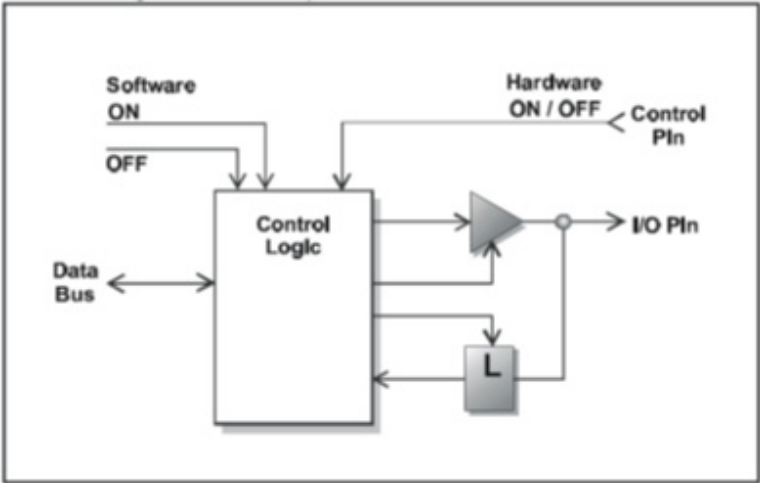
- **UUT Interfacing and Control** – Terminations can be customized to meet UUT requirements.
- **External Switching Control** – High Current option can be used to control external Coaxial Switches.

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Typical Driver Channel

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - 128 Channels CMOS I/O
 - 64 Channels Differential I/O (optional)
- **Environmental**

Temperature

 - Operating 0° to 50°C
 - Storage -40° to 75°C

Humidity (non-condensing)

 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI

Ordering Information

Model #		Description	Manufacturer #	
3000-61		128 Channel Digital I/O, CMOS	90401390	Quote Request
3000-61 Opt 3		128 Channel Digital I/O, CMOS with 64 Ch Differential	90401390-003	Quote Request



Product Description

The 3000-62 provides 128 Channel of Bi-Directional TTL I/O. This module can also be expanded in 128 Channel increments to 256 in a 1-slot module, and up to 512 channels in a 2-slot module. The 3000-62 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Scale-able Construction** – This module can be expanded in 128 Channel Increments up to 256 channels in a 1-slot module or 256 channels in a 2-slot module.

■ **Termination Options** – Various termination options are available for different applications. Each 128 Channel Module can be setup with different Terminations as required.

■ **Serial/Parallel Data Bus** – This module will support data rates of up to 2 Million read or write operations per second.

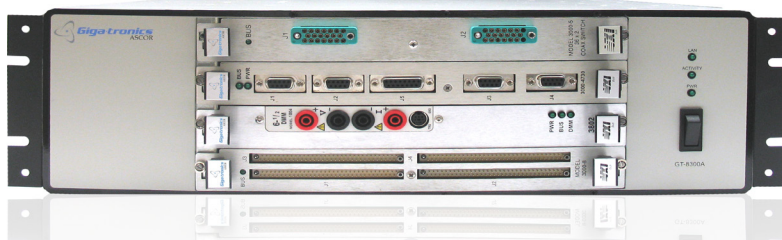
Capabilities

- Configurable in 128ch bi-directional increments up to 256 in a 1-slot module or 512 in a 2-slot module
- Terminations available
330/680Ω
1KΩ Pull up
High Current (32ma Source, 64ma Sink)

Recommended Uses

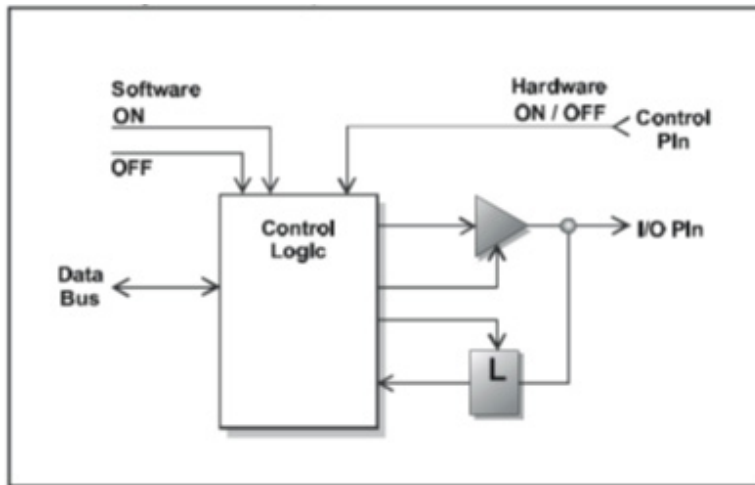
- **UUT Interfacing and Control** – Terminations can be customized to meet UUT requirements.
- **External Switching Control** – High Current option can be used to control external Coaxial Switches.

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Typical Driver Channel

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- 128 Channels Bi-Directional I/O Tri-State, Latching, Expandable in 128 Ch Increments
- Standard Terminations 330/680Ω 1KΩ Pull up High Current (32ma Source, 64ma Sink)

Environmental Temperature

- Operating 0° to 50°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- "C" size VXI

Ordering Information

Model #	Description	Manufacturer #	
3000-62	128 Channel TTL I/O (1-slot Motherboard), Specify Termination	90400840	Quote Request
3000-62 Opt 1	Additional 128 Channel TTL I/O, 256 Total, Specify Term	90400840-001	Quote Request
3000-62 Opt 1	Set of Mating connectors for one Module	89800470	Quote Request
3000-62 Opt 2	128 Channel TTL I/O (1-slot Motherboard) with 96Ch Daughterboard (32 CMOS & 32 OC & 32 Diff Drivers)	90400840-002	Quote Request
3000-62 Opt 2	Set of Mating connectors for one Module	89800470-001	Quote Request
3000-62 Opt 3	128 Channel TTL I/O (1-slot Motherboard) with 64 Differential Drivers Daughterboard	90400840-003	Quote Request
3000-62 Opt 3	Set of Mating connectors for one Module	89800470-002	Quote Request
3000-62 Opt 4	128 Channel TTL I/O (1-slot Motherboard) with 128 Relay Driver Daughterboard	90400840-004	Quote Request
3000-62 Opt 4	Set of Mating connectors for one Module	89800470-003	Quote Request



Product Description

The 3000-63 provides 128 Channel of Open Collector TTL I/O. The 3000-63 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Scale-able Construction** – Optional 128 additional Channels of OC TTL I/O

■ **Serial/Parallel Data Bus** – This module will support data rates of up to 2 Million read or write operations per second.

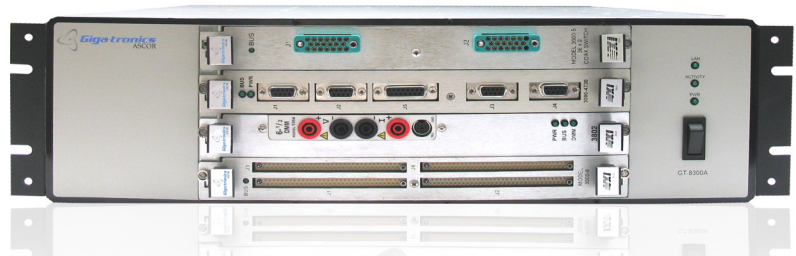
Capabilities

- 128ch OC TTL I/O
- Optional 128ch expansion

Recommended Uses

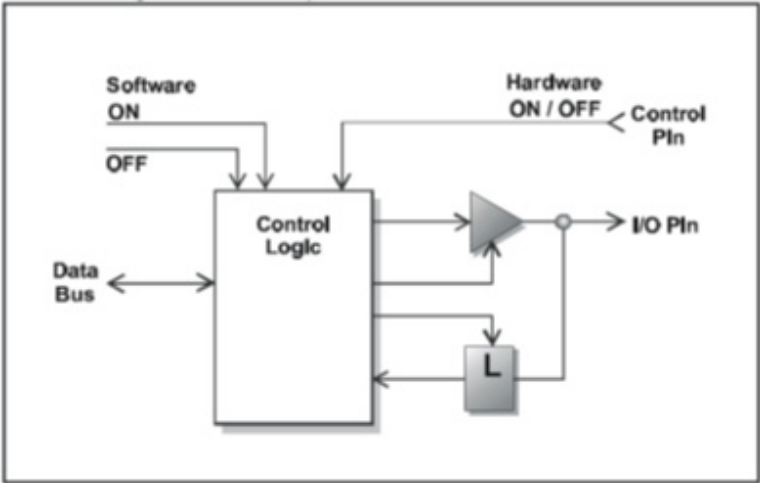
- **UUT Interfacing and Control** – Terminations can be customized to meet UUT requirements.
- **External Switching Control** – High Current option can be used to control external Coaxial Switches.

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Typical Driver Channel

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - 128 Channels OC TTL I/O
 - Tri-State-able Drivers
 - 64ma Sink
 - 128 Additional Channels (optional)
- **Environmental**

Temperature

 - Operating 0° to 50°C
 - Storage -40° to 75°C

Humidity (non-condensing)

 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI

Ordering Information

Model #		Description	Manufacturer #	
3000-63		128 Channel OC TTL Drivers	90401400	Quote Request
3000-63 Opt 1		256 Channel OC TTL Drivers	90401400-001	Quote Request



Product Description

The 3000-66 provides sixteen 2-wire 1x4 Multiplexers. This module provides high Bandwidth and high Density. The 3000-66 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Coaxially Shielded Reed Relays –**

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

■ **Airborn Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely.

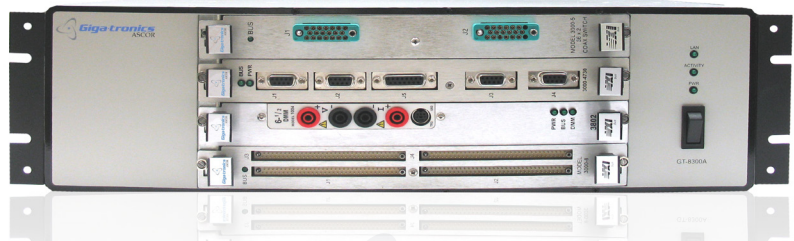
Capabilities

- 16(1x4)
- Voltage Max = 220VDC, 200VACpk
- Current Max = 1A
- Power = 10 Watts
- Bandwidth = 350MHz

Recommended Uses

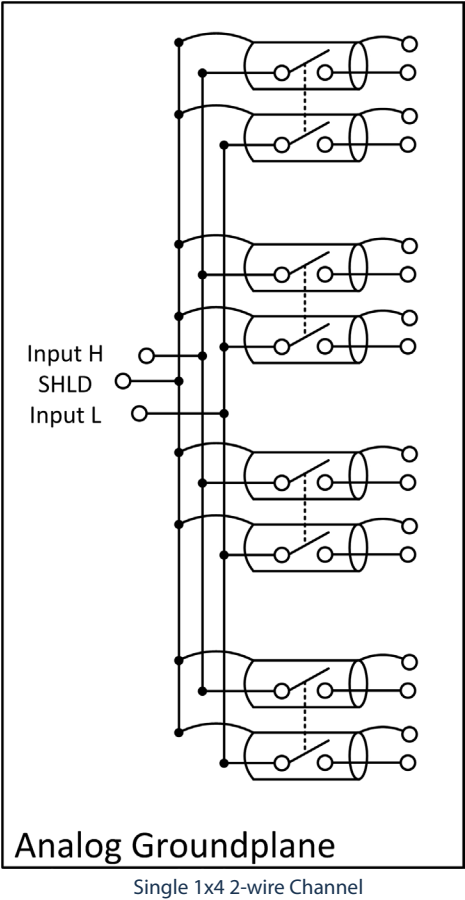
- **Instrument Switching** – High bandwidth makes this module ideal for general purpose switching. The Twisted Pair capability makes it specifically useful for Differential signals.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching applications requiring bandwidth up to 350MHz.

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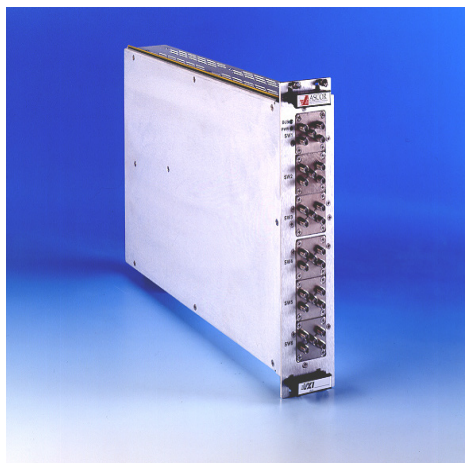
Specifications

- Electrical**
 - Voltage Max = 220VDC, 200 VACpk
 - Current Max = 1A (carry)
 - Power Max = 10W
 - Path Impedance 50Ω
 - Bandwidth >350MHz
- Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- Mechanical**
 - "C" size VXI

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Ordering Information

Model #	Description	Manufacturer #	
3000-66	16(1x4) 2wire Multiplexer, 350MHz	90401180	Quote Request
	Set of Mating Connectors for one Module	89800820	Quote Request



Product Description

The 3000-80 provides six Coaxial Multiplexers. This module provides high Bandwidth and high Density as well as Flexibility. Model 3000-80 can be used with both source and measurement instruments such as RF Generators and Spectrum Analyzers. The 3000-80 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Configurable**– This module can be ordered with any number of switches from 1-6.

Capabilities

- 6(1x6) or 6(1x4) Coax
- Bandwidth = 6, 26.5, 40 GHz
- Power = 15 Watts
- Path Impedance 50Ω

Recommended Uses

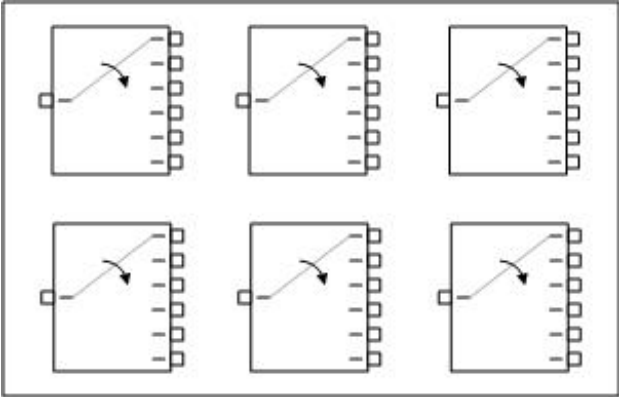
- **RF Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- Path Impedance 50Ω
- Bandwidth = 26.5GHz (6 & 40GHz also avail)
- VSWR
 - 4GHz <1.15:1
 - 8GHz <1.25:1
 - 12GHz <1.30:1
 - 18GHz <1.40:1
 - 25GHz <2.00:1
- Isolation
 - 4GHz 75dB
 - 8GHz 70dB
 - 12GHz 65dB
 - 18GHz 60dB
 - 25GHz 55dB
- Insertion Loss
 - 4GHz 0.25dB
 - 8GHz 0.30dB
 - 12GHz 0.35dB
 - 18GHz 0.45dB
 - 25GHz 1.00dB

Environmental

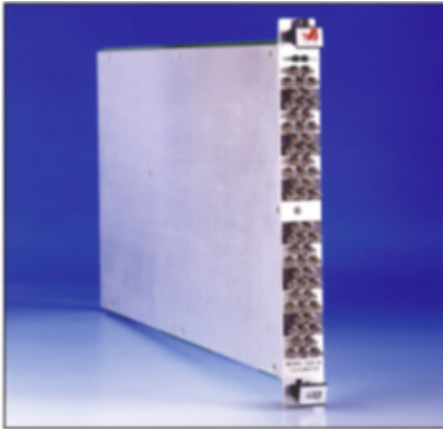
- Temperature
- Operating 0° to 50°C
 - Storage -40° to 75°C
- Humidity (non-condensing)
- Operating 10 to 90%
 - Storage 0 to 95%

Mechanical

- "C" size VXI
- Connector SMA-F

Ordering Information

Model #	Description	Manufacturer #	
3000-80	6(1x6) Coaxial Multiplexer	90401160	Quote Request



Product Description

The 3000-154 provides twelve (1x4) Coaxial Multiplexers. This module provides high Bandwidth and high Density as well as Flexibility. Model 3000-154 can be used with both source and measurement instruments such as Oscilloscopes, Function Generators, Pulse Counters or Arbitrary Waveform Generators. The 3000-154 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Coax Wired Construction** – This method of construction provides maximum bandwidth, and allows for internal re-configuration for specific applications.

■ **Coaxial Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely using individual Coaxial Contacts.

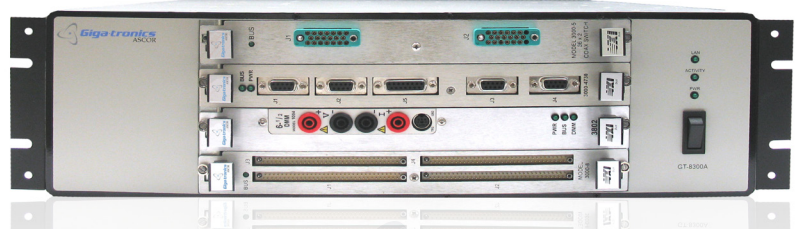
Capabilities

- 12(1x4)coax at 1.3GHz
- Voltage Max = 24VDC
- Current Max = 1A
- Power = 10 Watts
- Path Impedance 50Ω

Recommended Uses

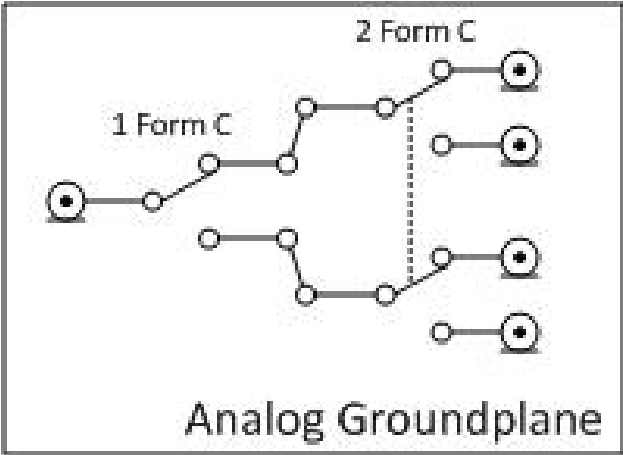
- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching applications requiring bandwidth up to 1.3GHz.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 24VDC
 - Current Max = 1A (switched)
 - Power Max = 10W
 - Path Impedance 50Ω
 - Bandwidth = 1.3GHz
 - VSWR
 - 100MHz <1.15:1
 - 500MHZ <1.40:1
 - 1.3GHz <1.50:1
 - Crosstalk (Adjacent Channel)
 - 100MHz <-70dB
 - 500MHZ <-50dB
 - 1.3GHz <-37dB
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI
 - Weight 2.6 lbs

Ordering Information

Model #	Description	Manufacturer #	
3000-154	12(1x4) Coaxial Switches, 1.3GHz with SMB Connectors	90401660	Quote Request



Product Description

The 3000-155 provides a Coaxial 4x4 Switching Matrix. This module provides high Bandwidth and high Density as well as Flexibility. Model 3000-155 can be used with both source and measurement instruments such as Oscilloscopes, Function Generators, Pulse Counters or Arbitrary Waveform Generators. The 3000-155 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Coax Wired Construction** – This method of construction provides maximum bandwidth, and allows for internal re-configuration for specific applications.

■ **Coaxial Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely using individual Coaxial Contacts.

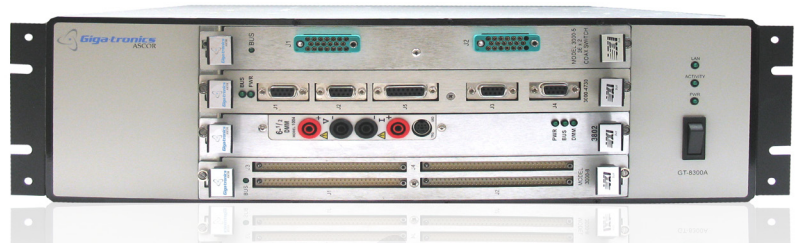
Capabilities

- Configurable as
1(4x4) coax at 1.5GHz
2(4x4) coax at 1.5GHz
- Voltage Max = 24VDC
- Current Max = 1A
- Power = 24 Watts
- Path Impedance 50Ω

Recommended Uses

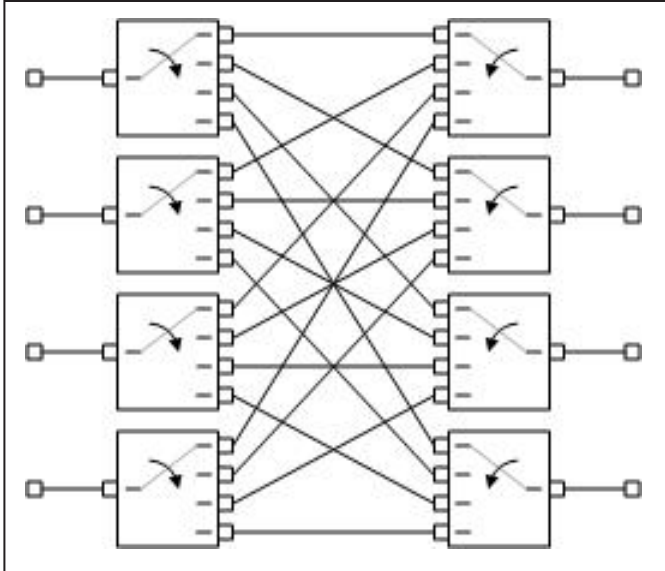
- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching applications requiring bandwidth up to 1.5 GHz.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- Voltage Max = 24VDC
- Current Max = 1A (switched)
- Power Max = 10W
- Path Impedance 50Ω
- Bandwidth = 1.3GHz
- Insertion Loss

100MHz	<0.5dB
500MHz	<-1.2dB
1GHz	<-1.8dB
1.3GHz	<-2.8dB
- VSWR

100MHz	<1.15:1
500MHz	<1.40:1
1.3GHz	<1.50:1
- Crosstalk (Adjacent Channel)

100MHz	<-70dB
500MHz	<-50dB
1.3GHz	<-37dB

Environmental Temperature

- Operating 0° to 50°C
- Storage -40° to 75°C

Humidity (non-condensing)

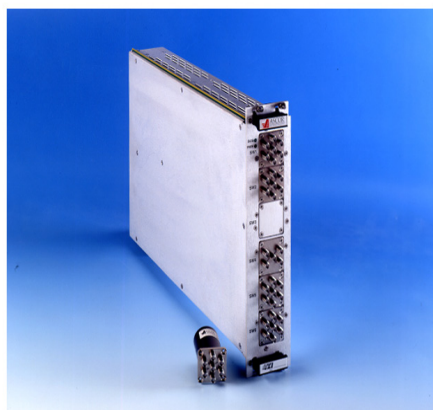
- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- "C" size VXI
- Weight 2.6 lbs

Ordering Information

Model #		Description	Manufacturer #	
3000-155	RF	4x4 Matrix, 1.5GHz	90401650	Quote Request
	RF	Set of SMB Mating connectors for -155 Module	89800370-001	Quote Request
3000-155A	RF	Dual 4x4 Matrix, 1.5GHz with SMB connectors	90401650-001	Quote Request
3000-155A	RF	Dual 4x4 Matrix, 1.5GHz with SMC connectors	90401650-101	Quote Request
	RF	Set of SMB Mating connectors for -155 Module (only 1 Req'd)	89800370-002	Quote Request



Product Description

The 3000-2xxxx provides a configurable Microwave Switching platform. This module can be configured as needed to suit nearly any Microwave Application. The 3000-2xxxx has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Configurable**– This module can be ordered with any type or number of switches from 1-6.

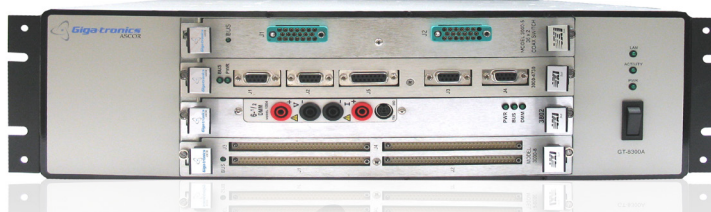
Capabilities

- SPDT, SP4T, SP6T
- Bandwidth = 0-6, 26.5, 40 GHz
- Power = 15 Watts
- Path Impedance 50Ω
- 2-3 Slots

Recommended Uses

- **RF Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation.

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Specifications

Electrical

- SPDT, SP4T or SP6T
- Power Max = 15W
- Path Impedance 50Ω
- Bandwidth = 0-6, 26.5, 40 GHz

Environmental

- Operating 0° to 50°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

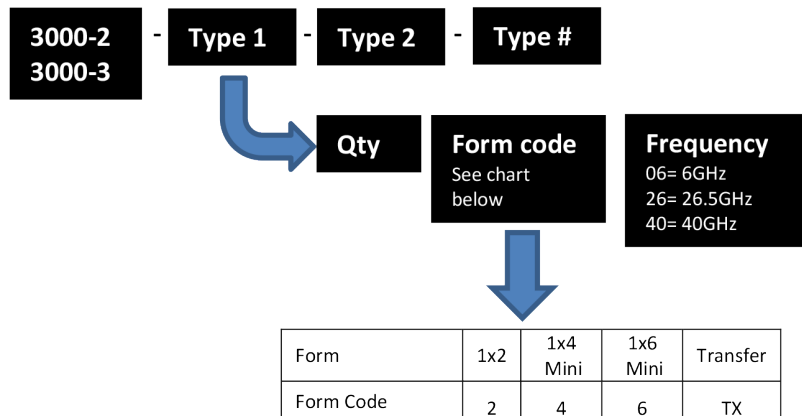
Mechanical

- "C" size VXI
- Terminated
- 2 Slot
- 3 Slot
- Connector SMA-F

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

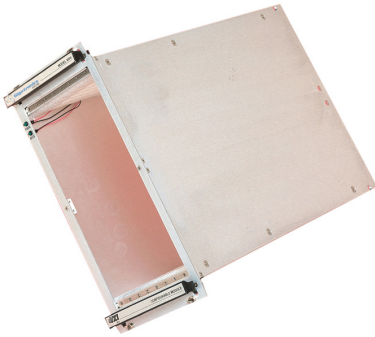
Ordering Information

Configuration Guide



Examples

3000-2-2426-3640 = 2-slot carrier with 2(1x4) 26.5GHz and 3(1x6) 40GHz switches
 3000-3-1266 - = 3-slot carrier with 12(1x6) 6GHz switches



Capabilities

- 3-8 VXI Slot Carriers
- Analog Backplane
- 500MHz Bandwidth
- 16 Ch Differential
- 32 Ch Single Ended



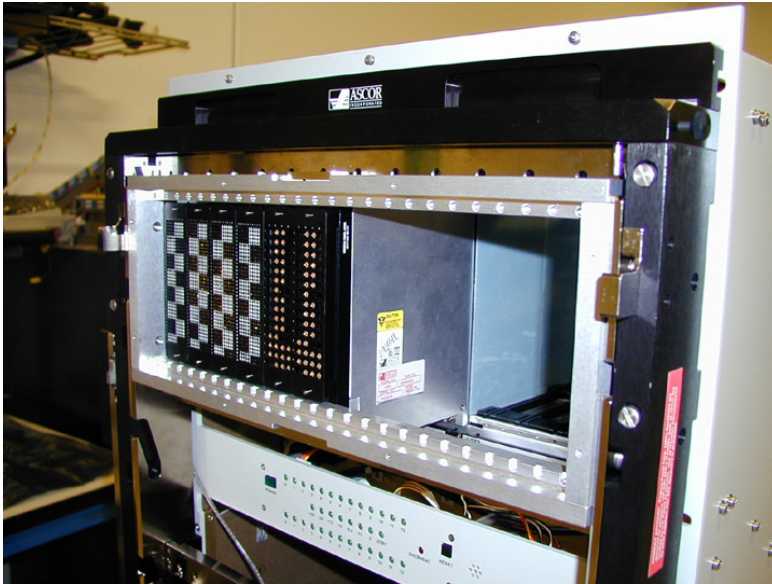
Product Description

The 4500 Series of Switches is specifically designed to work in a VXI environment with a Virginia Panel Test Receiver, single or Double Tier. The cards are designed to an extended length making the addition of a VP Funnel Adapter unnecessary, providing more switching area and a completely cable-less switching system. At the back end, the 4000 Series VXI carrier provides a 32 Channel 500MHz analog Backplane (16ch Differential) to allow the interconnection between the cards to be cable-less as well. This results in a switching system with Maximum electrical Performance as well as Minimal MTTR and far greater MTBF since the failure prone cables are eliminated.

Recommended Uses

- **High Performance Switching Systems** – The Cable-less interconnection and test interface allows these cards to provide the highest performance possible in an ATE application.
- **Analog Bus Access** – The access to the 4000 Series Carrier's Analog Bus allows multiple modules to be connected together without cables.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.





- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Ordering Information

Model #	Description	Manufacturer #	
4003A-6	3 VXI Wide Multi-Slot Module 5 slots (.6 pitch) M-Module ready	90401170	Quote Request
4004B-6	4 VXI Wide Multi-Slot Module 7 slots (.6 pitch)	90401590	Quote Request
4004B-12	4 VXI Wide Multi-Slot Module 4 slots (1.2 pitch)	90401520	Quote Request
4005A-12	5 VXI Wide Multi-Slot Module 5 slots (1.2 pitch)	90401440	Quote Request
4005B-6	5 VXI Wide Multi-Slot Module 9 slots (.6 pitch)	90401600	Quote Request
4006B-6	6 VXI Wide Multi-Slot Module 11 slots (.6 pitch)	90401610	Quote Request
4007B-6	7 VXI Wide Multi-Slot Module 13 slots (.6 pitch)	90401620	Quote Request
4008B-6	8 VXI Wide Multi-Slot Module 15 slots (.6 pitch)	90401630	Quote Request
4008B-2	8 VXI Wide Multi-Slot Module 8 slots (1.2 pitch)	90401540	Quote Request

Product Description

The 4032 provides 32 DPDT Relays. This module provides high Bandwidth for good signal carrying capability for general purpose switching. The 4032 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Analog Ground Plane** – A separate ground plane beneath the switches eliminates stray emissions, and since the Digital portion of the board has a separate ground plane, test signals will not affect the control circuitry.

■ **“D” Style Connectors** – Selected for low cost and reliability.

■ **Component Mounting Holes** – There are additional positions for through hole component mounting surrounding each relay so that the board can be reconfigured (as a tree for example) or so that components can be added (making it a programmable device).

Capabilities

- 32 DPDT
- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (Switched)

Recommended Uses

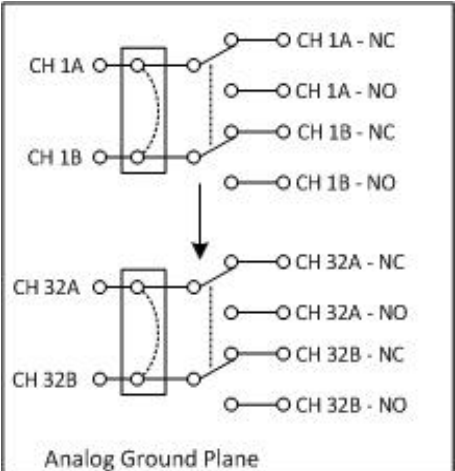
- **Power Switching** – Control and distribute power to the UUT
- **Programmable Components** – the relays can be connected together internally, and components can be added to make the board behave like a programmable resistor or capacitor as an example.

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Typical Diagram for one DPDT Relay

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 220VDC, 250VAC
 - Current Max = 2A (switched)
 - Power Max = 60W, 125 VA
 - Path Resistance <150 mΩ
 - Bandwidth >55 MHz
 - Crosstalk < -80dB (at 300 kHz)
 - Insulation Resistance >10⁷ Ω
- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 13" Overall
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4032	32 DPDT Switch Module, 2A (0.6" pitch)	90900170	Quote Request



Product Description

The 4048 provides 48 SPDT High Current Relay channels. This module provides high current carrying capability for distribution and switching of UUT power. The 4048 has been designed with several exceptional features that make it stand out from competitive products.

- **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.
- **Discrete Component Mounting** – The 4048 has internal component mounting locations to allow components to be mounted in Parallel or in series with relay contacts. This makes the module extremely versatile as these points can be used to either re-configure the card, or to convert the module into a programmable component such as a programmable load.
- **Airborn Connectors** – selected for improved Bandwidth and Reliability.

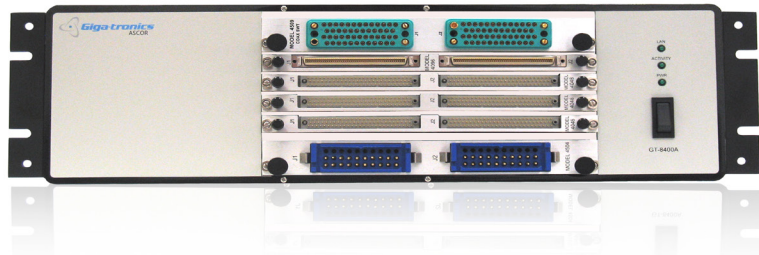
Capabilities

- 48 SPDT
- Voltage Max = 400VACpk/150VDC
- Current Max = 5A
- Power = 1662VA, 180W
- Bandwidth = 50MHz

Recommended Uses

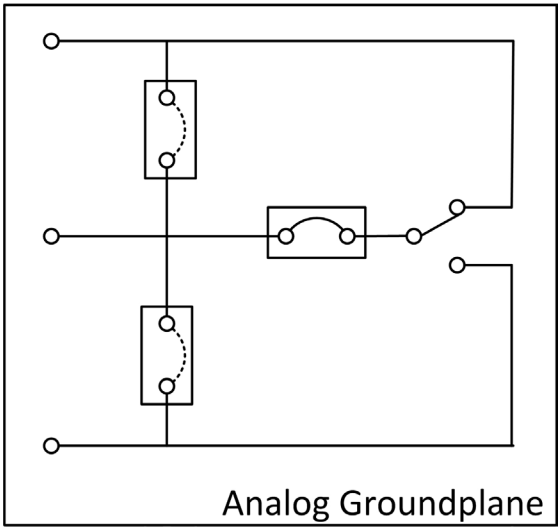
- **Power Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation as well as power switching and distribution applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching applications requiring bandwidth up to 50MHz.

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Typical Channel

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 400VACpk, 150VDC
 - Current Max = 5A
 - Power Max = 1662VA, 180W
 - Contact Resistance <0.2Ω
 - Bandwidth >50MHz
 - Crosstalk
 - 62dB at 1MHz
 - 37dB at 10MHz
 - 26dB at 40MHz
- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 13" Overall
 - Weight = 1lb

Ordering Information

Model #		Description	Manufacturer #	
4048		48 SPDT, 5A (0.6" pitch)	90900220	Quote Request
		Set of Mating connectors for one Module	89800760	Quote Request

Product Description

The 4049 provides 64 SPST Relays. This module provides high Bandwidth for good signal carrying capability for general purpose switching. The 4049 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Dual Row Connectors** – Selected to enable use of low cost Twisted Pair Ribbon cable and IDC connectors

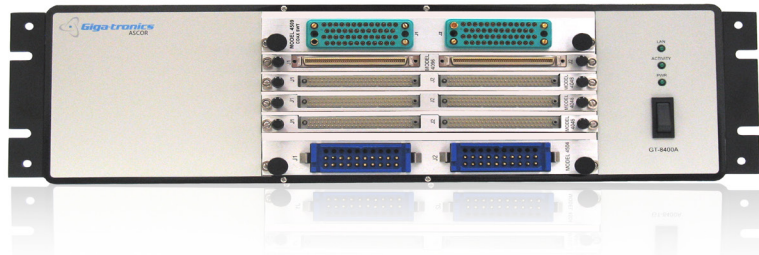
Capabilities

- 64 SPST
- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (Switched)

Recommended Uses

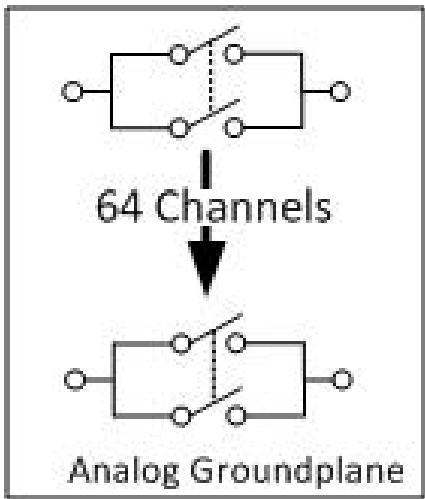
- **General Purpose switching** – Form-A or SPST Relays are excellent general purpose relays.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 220VDC, 250VAC
 - Current Max = 2A (Switched)
 - Power Max = 60W, 125VA
 - Contact Resistance < 50mΩ
- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 13" Overall
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4049	64 SPST, 2A, (0.6" pitch)	90900330	Quote Request

Product Description

The 4050 provides 128 Channels of Bi-Directional TTL I/O. This module is available in several configurations depending on the application. The 4050 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 128 Channels
 - TTL
 - CMOS
 - Open Collector
 - Differential

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

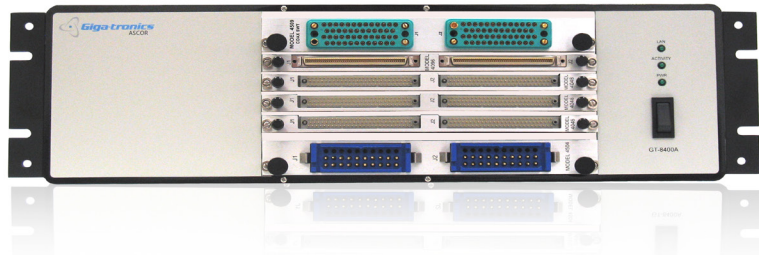
■ **Configuration Options** – Various driver combinations are available in programmable groups of 16 pins. TTL, CMOS, Open Collector, and Differential are all available.

■ **Serial/Parallel Data Bus** – This module will support data rates of up to 2 Million read or write operations per second.

Recommended Uses

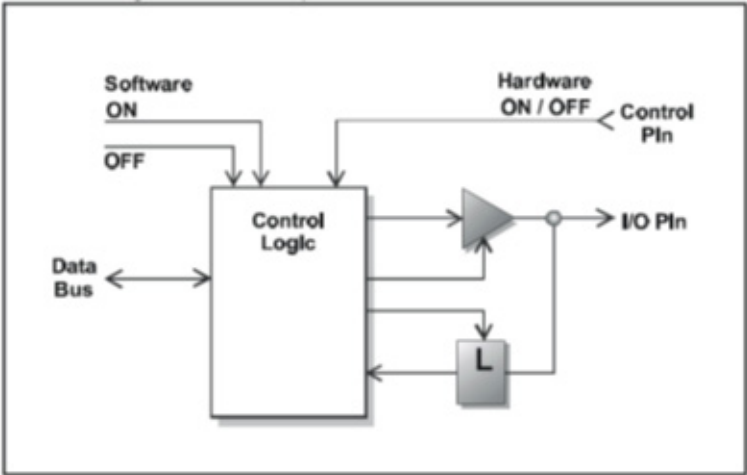
- **UUT Interfacing and Control** – Terminations can be customized to meet UUT requirements.
- **External Switching Control** – High Current option can be used to control external Coaxial Switches.

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Typical Driver Channel

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - 128 Channels Bi-Directional I/O
 - Driver Capabilities
 - TTL = 64ma Source, 32ma Sink
 - CMOS = 24ma Source and Sink
 - OC = 64ma Sink
 - Diff = 20ma Source and Sink
- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI

Ordering Information

Model #	Description	Manufacturer #	
4050	128 Channel Digital IO Module (contact factory for driver options)	90400340	Quote Request

Product Description

The 4064 provides 64 SPST Relays. This module provides high Bandwidth for good signal carrying capability for general purpose switching. The 4064 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

Capabilities

- 64 SPST
- Voltage Max = 200VDC, 200VACpk
- Current Max = 1A (carry)
- Shielded Relays

■ Coaxially Shielded Reed Relays –

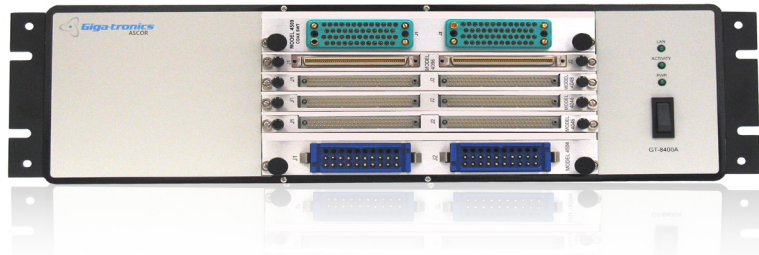
- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1 Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

■ **Positronic Connectors** – Selected for improved Shielding Specifications.

Recommended Uses

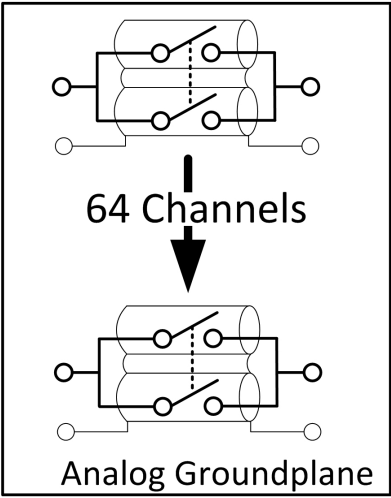
- **General Purpose Switching** – Form-A or SPST Relays are excellent general purpose relays.

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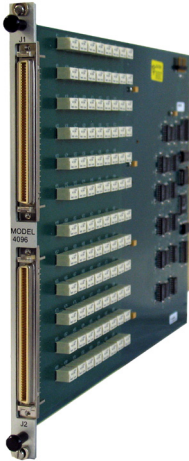
- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 200VDC, 200VACpk
 - Current Max = 1A (carry)
 - Bandwidth = 70MHz
 - Power Max = 10W
 - Contact Resistance < 50mΩ
- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 13" Overall
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4064	64 SPST Switch Module, 2A (0.6" pitch)	90900350	Quote Request



Product Description

The 4096 provides 96 SPST Relays. This module provides high Bandwidth for good signal carrying capability for general purpose switching. The 4096 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **"D" Connectors** – Selected for low cost and connector Retention.

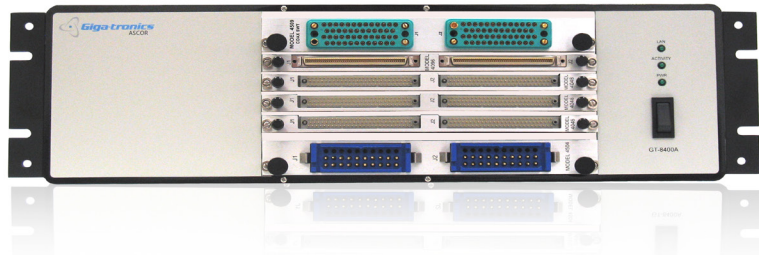
Capabilities

- 96 SPST
- Voltage Max = 220VDC, 250VAC
- Current Max = 1A (Switched)
- Bandwidth = 92MHz

Recommended Uses

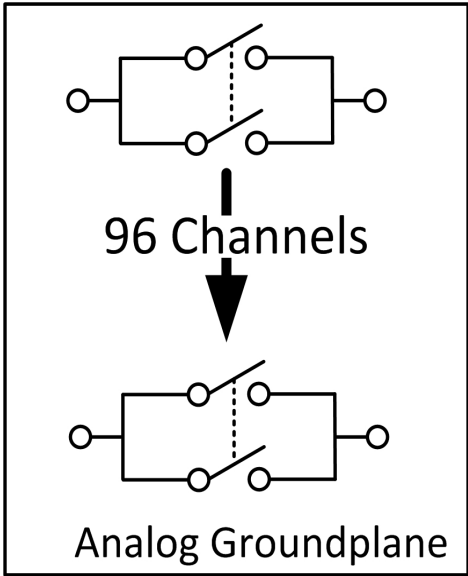
- **General Purpose Switching** – Form-A or SPST Relays are excellent general purpose relays.

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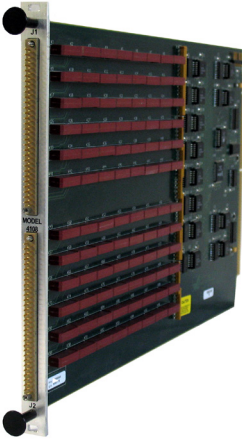
- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 220VDC, 250VAC
 - Current Max = 1A (Switched)
 - Power Max = 30W
 - Bandwidth = 92MHz
 - Crosstalk = -43dB @ 50MHz
 - Contact Resistance < 50mΩ
- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 13" Overall
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4096	96 SPST Switch Module, 1A (0.6" pitch)	90900280	Quote Request



Product Description

The 4108 provides 12(1x8) Switch Multiplexers. This module provides high Bandwidth and high Density as well as Flexibility. Model 4108 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 4108 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

■ **Airborn Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely.

Capabilities

- 12(1x8) Multiplexers
- Voltage Max = 200VDC, 200VACpk
- Current Max = 1A (carry)
- Power = 10 Watts
- Shielded Relays

Recommended Uses

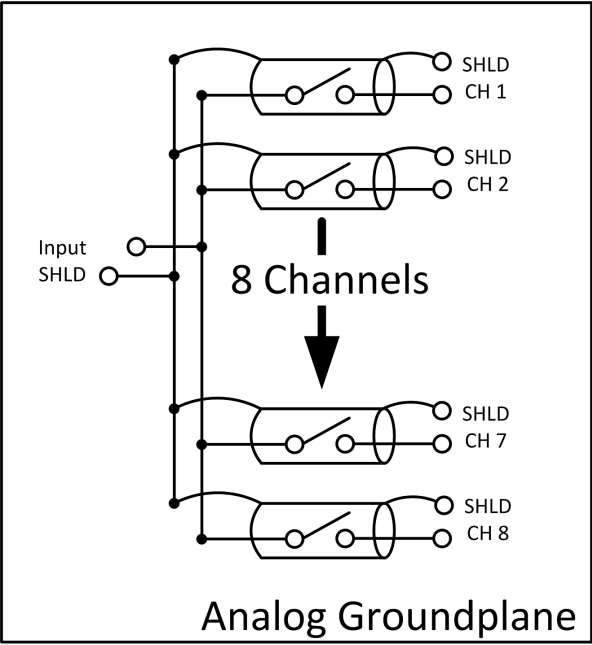
- **System Test and Burn-in Switching** – Low Crosstalk, High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

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Typical 1x8 (1 of 12)

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 200VDC, 200VACpk
 - Current Max = 1A (Carry)
 - Bandwidth = 100MHz
 - Power Max = 10W
 - Path Impedance = 50Ω
 - Contact Resistance <0.5Ω
- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 13" Overall
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4108	12(1x8) 1-wire Multiplexers (0.6"pitch)	90900060	Quote Request
	Set of Pigtail Cables for one Module, 4'	89800610-004	Quote Request

Product Description

The 4116 provides a (4x16) Single wire Matrix. This module provides high Bandwidth and high Density as well as Flexibility. Model 4116 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 4116 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 4x16) Matrix
- Voltage Max = 200VDC, 200VACpk
- Current Max = 1A (carry)
- Power = 10 Watts
- Shielded Relays

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1 Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

■ **Dual Row Connectors** – Selected to enable the use of low cost Twisted Pair Ribbon cable.

Recommended Uses

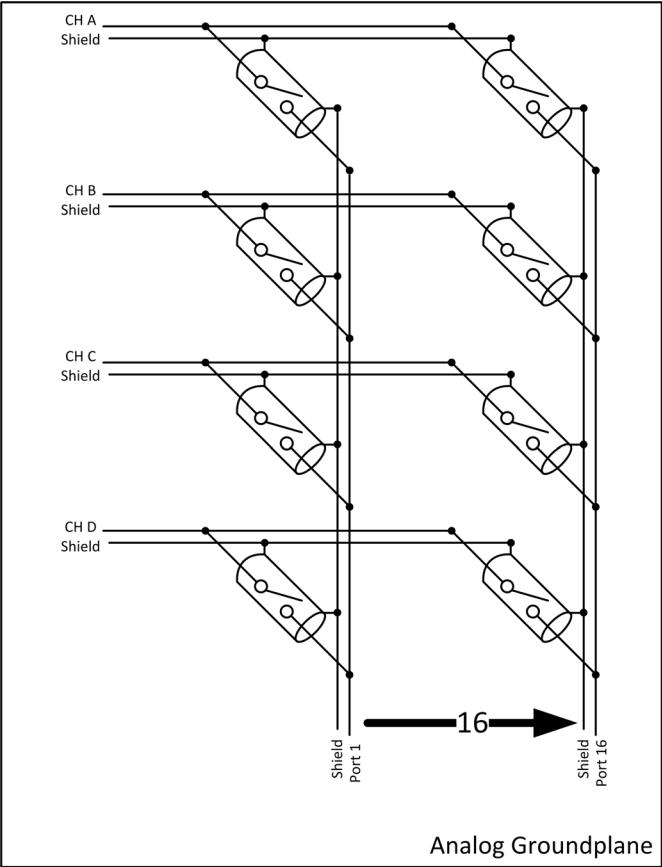
- **System Test and Burn-in Switching** – Low Crosstalk, High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 200VDC, 200VACpk
 - Current Max = 1A (Carry)
 - Bandwidth = 70MHz
 - Power Max = 10W
 - Path Impedance = 50Ω
 - Contact Resistance <0.5Ω

- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%

- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 13" Overall
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4116	(4x16) 1-wire Matrix (0.6"pitch)	90900360	Quote Request

Product Description

The 4132 provides a (4x32) Single wire Matrix. This module provides high Bandwidth and high Density as well as Flexibility. Model 4132 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 4132 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- (4x32) Matrix
- Voltage Max = 200VDC, 200VACpk
- Current Max = 1A (carry)
- Bandwidth = 50 MHz
- Shielded Relays

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

■ **Airborn Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely.

Recommended Uses

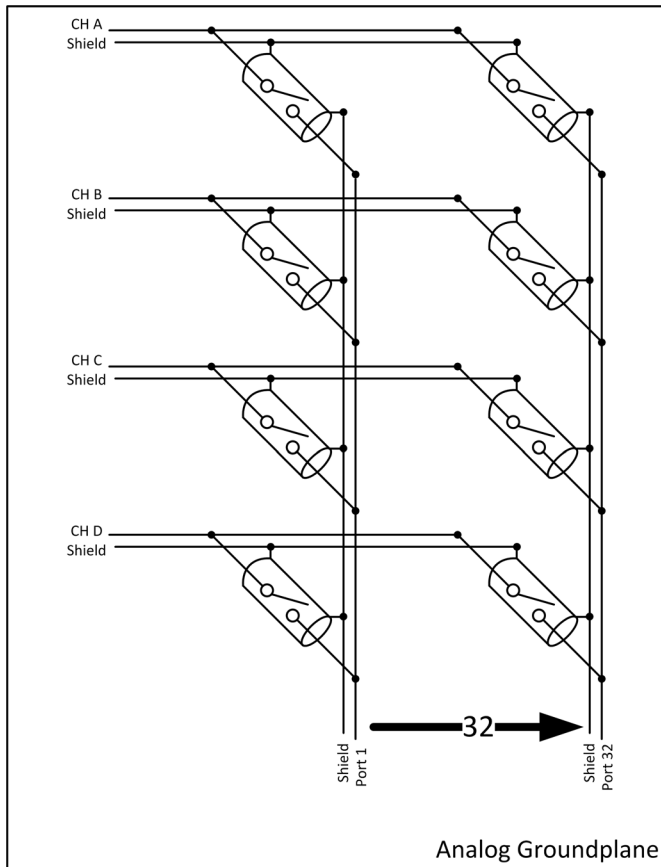
- **System Test and Burn-in Switching** – Low Crosstalk, High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- **Voltage Max** = 200VDC, 200VACpk
- **Current Max** = 1A (Carry)
- **Bandwidth** = 50MHz
- **Power Max** = 10W
- **Crosstalk** = -42 dB @ 50 MHz
- **Path Impedance** = 50Ω
- **Contact Resistance** <0.5Ω

Environmental Temperature

- Operating 0° to 55°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- Pitch 0.6"
- Width = 8.5" Overall
- Length = 13" Overall
- Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4132	(4x32) 1-wire Matrix (0.6"pitch)	90900020	Quote Request
	Set of mating connectors for one module	89800530	Quote Request

Product Description

The 4148 provides 48 SPDT Relays. This module provides high Bandwidth for good signal carrying capability for general purpose switching. The 4148 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **"D" Connectors** – Selected for low cost and connector Retention.

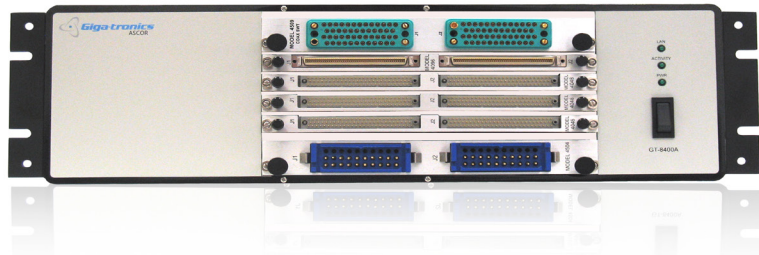
Capabilities

- 48 SPDT
- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (Switched)
- Bandwidth = 235MHz

Recommended Uses

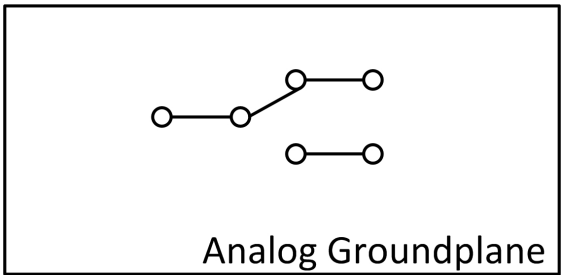
- **General Purpose Switching** – Form-C or SPDT Relays are excellent general purpose relays.

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Typical Diagram for one SPDT Relay

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (Switched)
- Power Max = 60W, 125VA
- Bandwidth = 235MHz
- Crosstalk = -120dB @ 200MHz
- Contact Resistance < 100mΩ

Environmental
Temperature

- Operating 0° to 55°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- Pitch 0.6"
- Width = 8.5" Overall
- Length = 13" Overall
- Weight = 1lb

Ordering Information

Model #		Description	Manufacturer #	
4148		48 SPDT , 2A (0.6"pitch)	90900210	Quote Request
		Set of Mating connectors for one Module	89800800	Quote Request

Product Description

The 4164 provides a (2x64) Single wire Matrix. This module provides high Bandwidth and high Density as well as Flexibility. Model 4164 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 4164 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- (2x64) Matrix
- Voltage Max = 200VDC, 200VACpk
- Current Max = 1A (carry)
- Bandwidth = 32MHz
- Shielded Relays

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ Coaxially Shielded Reed Relays –

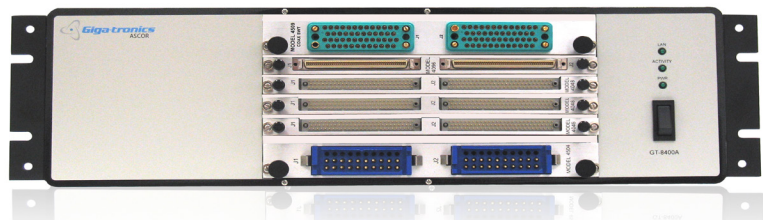
- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

■ **“D” Style Connectors** – Selected for low cost and Connector Retention.

Recommended Uses

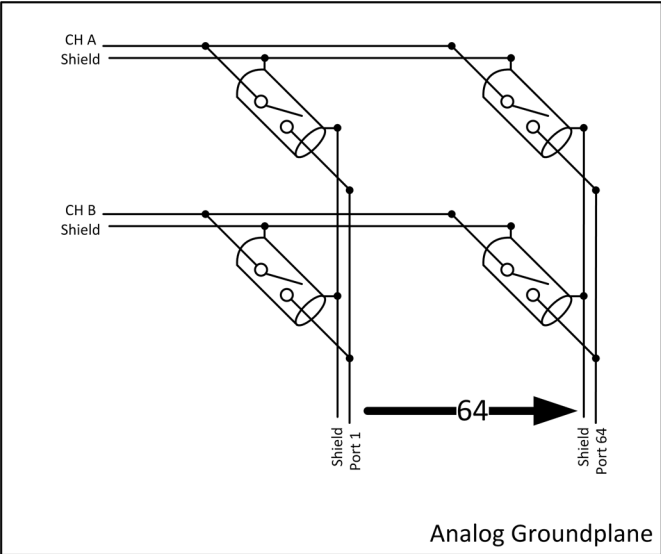
- **System Test and Burn-in Switching** – Low Crosstalk, High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 200VDC, 200VACpk
 - Current Max = 1A (Carry)
 - Power Max = 10W
 - Bandwidth = 32MHz
 - Crosstalk = -30dB @ 200MHz
 - Path Impedance = 50Ω
 - Contact Resistance <0.5Ω

- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%

- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 13" Overall
 - Weight = 1lb

Ordering Information

Model #		Description	Manufacturer #	
4164		(2x64) 1-wire Matrix (0.6"pitch)	90900250	Quote Request
		Set of Mating connectors for one Module	89800730	Quote Request



Product Description

The 4208 provides 6(1x8) Switch Multiplexers. This module provides high Bandwidth and high Density as well as Flexibility. Model 4208 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 4208 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 6(1x8) Multiplexers
- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (switched)
- Power = 60 Watts

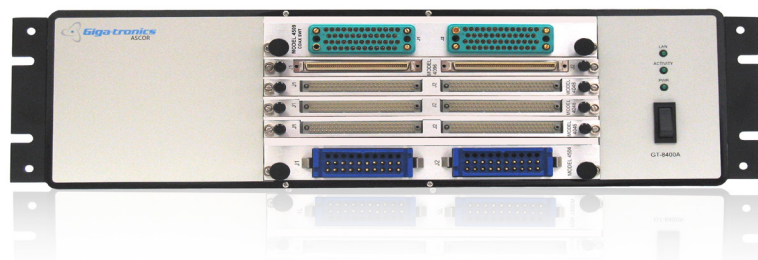
■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Airborn Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely.

Recommended Uses

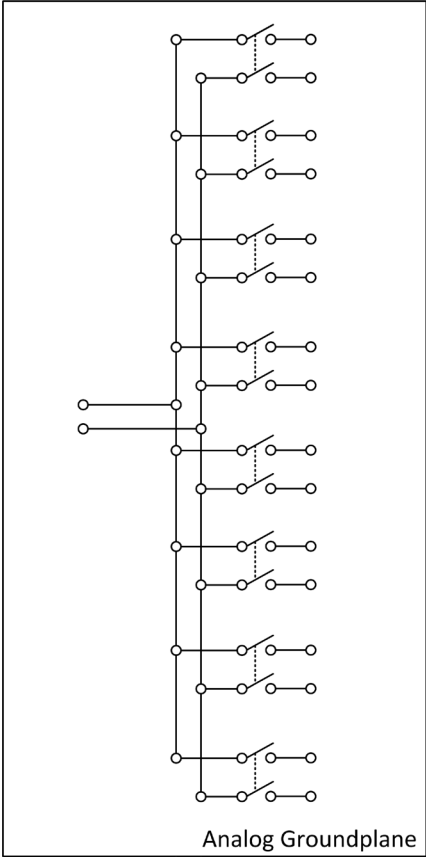
- **System Test and Burn-in Switching** – Low Crosstalk High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

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Specifications

Electrical

- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (switched)
- Bandwidth = 60 MHz
- Power Max = 60W
- Contact Resistance <0.05Ω

Environmental

Temperature

- Operating 0° to 55°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- Pitch 0.6"
- Width = 8.5" Overall
- Length = 13" Overall
- Weight = 1lb

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Ordering Information

Model #	Description	Manufacturer #	
4208	6(1x8) 2-wire Multiplexers (0.6" pitch)	90900050	Quote Request

Product Description

The 4216 provides a (8x16) 2-wire Matrix. This module provides high Bandwidth and high Density as well as Flexibility. Model 4216 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 4216 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- (8x16) Matrix
- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (switched)
- Power = 60 Watts

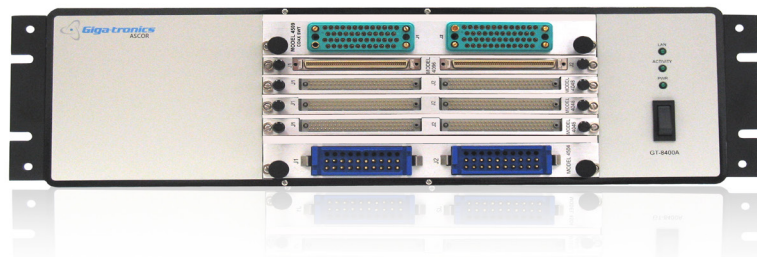
■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Airborn Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely.

Recommended Uses

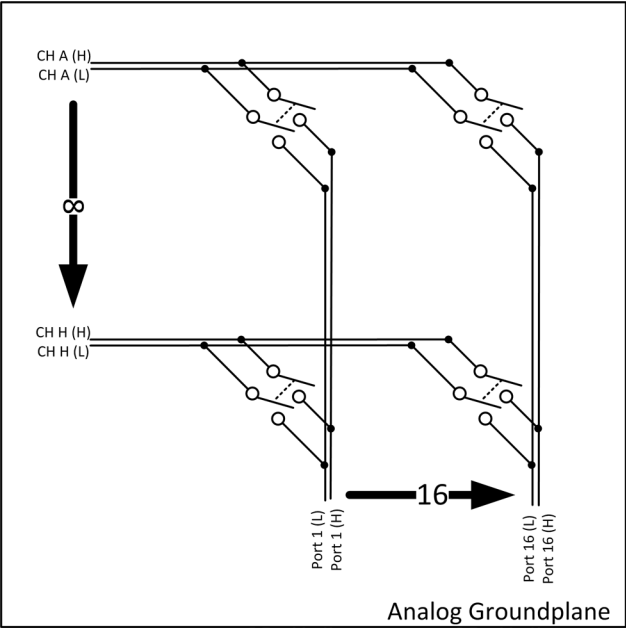
- **System Test and Burn-in Switching** – Low Crosstalk High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 220VDC, 250VAC
 - Current Max = 2A (switched)
 - Power Max = 60W
 - Contact Resistance <0.05Ω
- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 13" Overall
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4216	(8x16) 2-wire Matrix (0.06" pitch)	90900370	Quote Request

Product Description

The 4228 provides a (2x64) 2-wire Matrix. This module provides high Bandwidth and high Density as well as Flexibility. Model 4228 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 4228 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

■ **“D” Style Connectors** – Selected for low cost and connector retention.

Capabilities

- (2x64) Matrix
- Voltage Max = 200VDC, 200VACpk
- Current Max = 1A (carry)
- Power = 10 Watts
- Shielded Relays

Recommended Uses

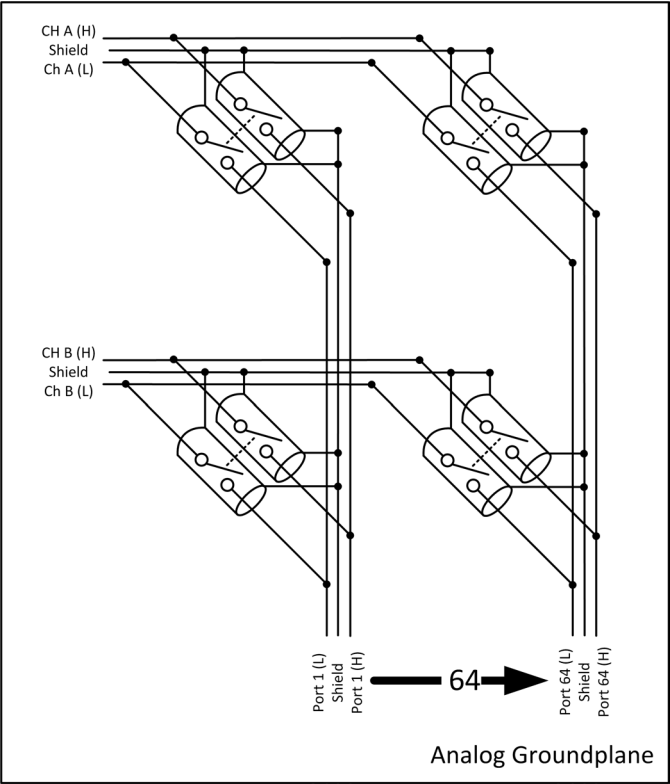
- **System Test and Burn-in Switching** – Low Crosstalk, High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

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Specifications

Electrical

- Voltage Max = 200VDC, 200VACpk
- Current Max = 1A (Carry)
- Bandwidth = 50MHz
- Power Max = 10W
- Path Impedance = 50Ω
- Contact Resistance <0.5Ω

Environmental
Temperature

- Operating 0° to 55°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- Pitch 0.6"
- Width = 8.5" Overall
- Length = 13" Overall
- Weight = 1lb

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Ordering Information

Model #	Description	Manufacturer #	
4228	(2x64) 2-Wire Matrix (0.6" pitch)	90900380	Quote Request

Product Description

The 4229 provides a (2x64) 2-wire Matrix. This module provides high Bandwidth and high Density as well as Flexibility. Model 4229 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 4229 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- (2x64) Matrix
- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (switched)
- Power = 60 Watts
- See 4228 for Shielded Version

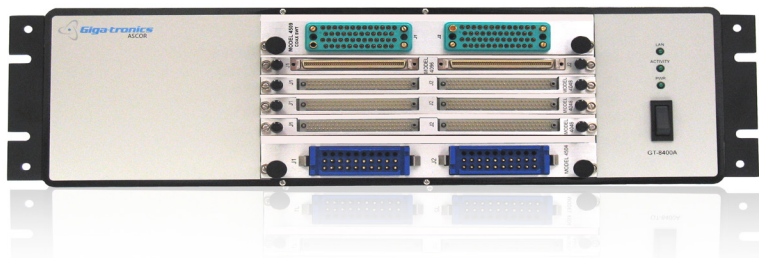
■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **“D” Style Connectors** – Selected for low cost and connector retention.

Recommended Uses

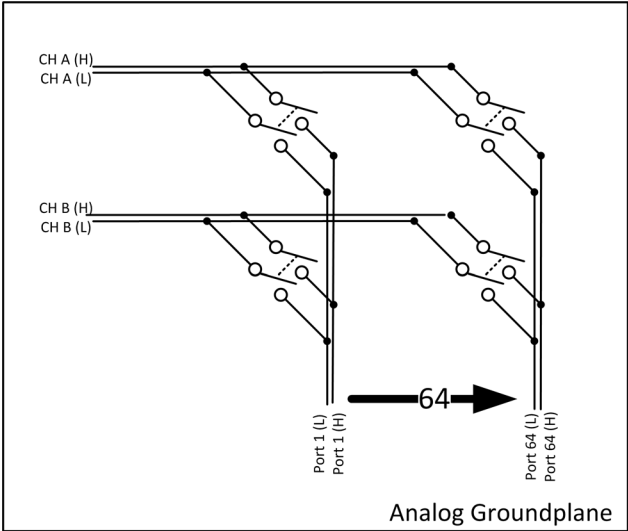
- **System Test and Burn-in Switching** – Low Crosstalk, High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

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- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 220VDC, 250VAC
 - Current Max = 2A (switched)
 - Bandwidth = 50MHz
 - Power Max = 60W
 - Contact Resistance <0.1Ω

- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%

- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 13" Overall
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4229	(2x64) 2-Wire Matrix (0.6" pitch)	90900390	Quote Request

Product Description

The 4232 provides a (4x32) 2-wire Matrix. This module provides high Bandwidth and high Density as well as Flexibility. Model 4232 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 4232 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- (4x32) Matrix
- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (switched)
- Power = 60 Watts

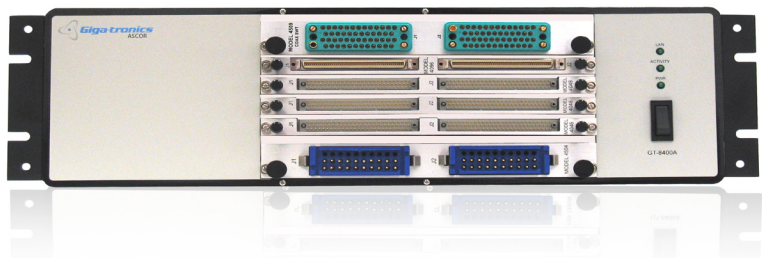
■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Airborn Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely.

Recommended Uses

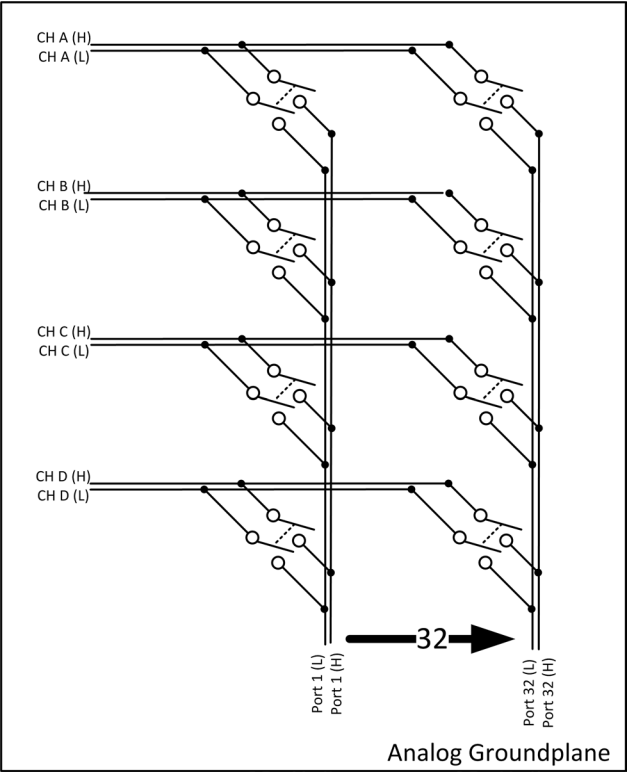
- **System Test and Burn-in Switching** – Low Crosstalk, High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 220VDC, 250VAC
 - Current Max = 2A (switched)
 - Bandwidth = 80MHz
 - Power Max = 60W
 - Contact Resistance <0.1Ω

- **Environmental**

Temperature

 - Operating 0° to 55°C
 - Storage -40° to 75°C

Humidity (non-condensing)

 - Operating 10 to 90%
 - Storage 0 to 95%

- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 13" Overall
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4232	(4x32) 2-Wire Matrix (0.6" pitch)	90900400	Quote Request

Product Description

The 4264 provides a (2x64) 2-wire Matrix. This module provides high Bandwidth and high Density as well as Flexibility. Model 4264 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 4264 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- (2x64) Matrix
- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (switched)
- Power = 60 Watts

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth

■ **Airborn Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely.

Recommended Uses

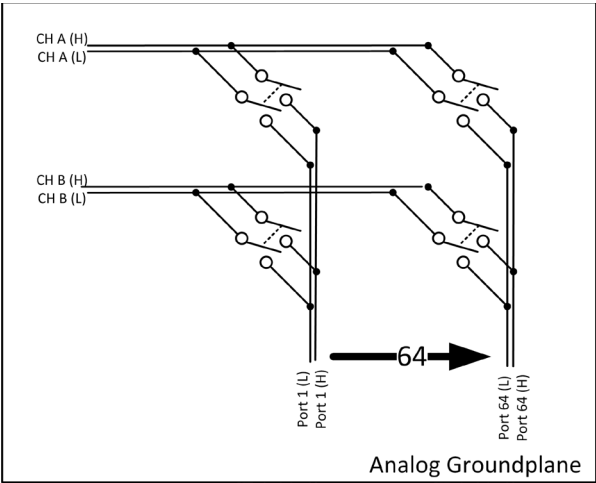
- **System Test and Burn-in Switching** – Low Crosstalk, High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

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Specifications

- **Electrical**
 - Voltage Max = 220VDC, 250VAC
 - Current Max = 2A (switched)
 - Power Max = 60W
 - Contact Resistance <0.1Ω

- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%

- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 13" Overall
 - Weight = 1lb

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Ordering Information

Model #	Description	Manufacturer #	
4264	(2x64) 2-Wire Matrix (0.6" pitch)	90900410	Quote Request

Product Description

The 4308 provides groups of Coax Multiplexers in a convenient assortment of sizes. This module provides high Bandwidth and high Density as well as Flexibility. Model 4308 can be used with both source and measurement instruments such as Oscilloscopes, Function Generators, Pulse Counters or Arbitrary Waveform Generators. The 4308 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- Configuration
 - 6(1x8) at 500MHz
 - 2(1x4) at 700MHz
 - 8(1x2) at 900MHz
- Voltage Max = 200VDC, 200VAC
- Current Max = 1A
- Power = 10 Watts
- Path Impedance 50Ω

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Coax Wired Construction** – This method of construction provides maximum bandwidth, and allows for internal re-configuration for specific applications.

■ **Coaxial Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely using individual Coaxial Contacts.

Recommended Uses

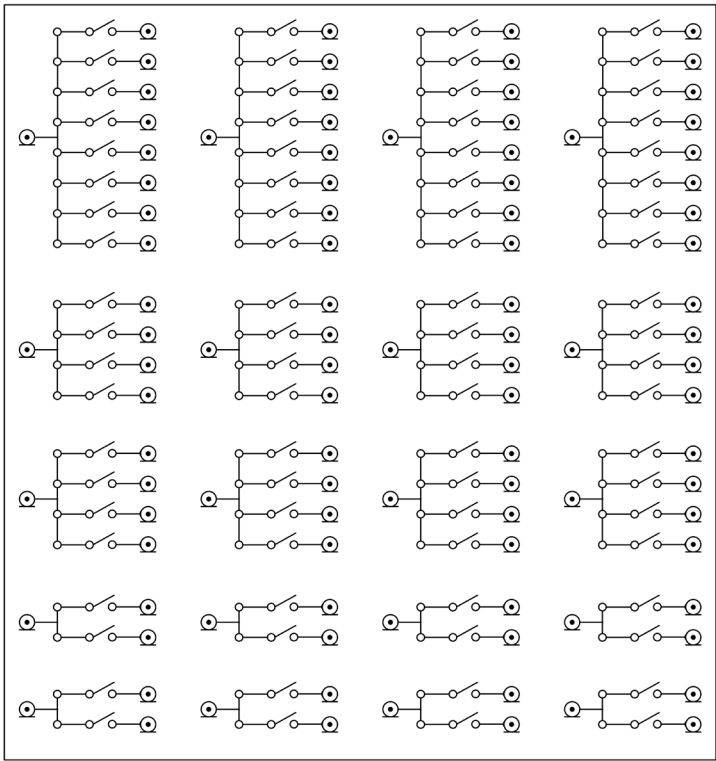
- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching applications requiring higher bandwidth.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 200VDC, 200VAC
 - Current Max = 1A (carry)
 - Power Max = 10W
 - Path Impedance 50Ω
 - Crosstalk = -50dB
- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI

Ordering Information

Model #	Description	Manufacturer #	
4308	6 (1x8) & 2(1x4) & 8(1x2) Coaxial Multiplexer, 900MHz	90900420	Quote Request

Product Description

The 4332 provides eight 8-Pole Star Switches. This module provides high Bandwidth and high Density as well as Flexibility. Model 4332 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 4332 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 8(8-Pole) Star
- Voltage Max = 200VDC, 200VACpk
- Current Max = 1A (carry)
- Power = 10 Watts
- Bandwidth = 50MHz
- Shielded Relays

▣ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

▣ Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

▣ **Dual Row Connectors** – Selected to enable use of low cost Twisted Pair Ribbon Cable

Recommended Uses

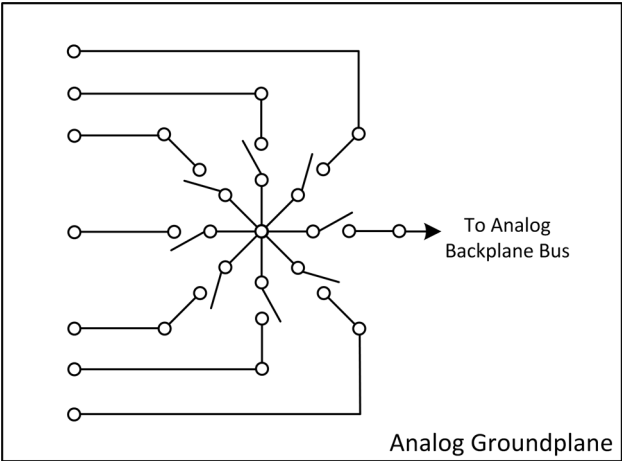
- **System Test and Burn-in Switching** – Low Crosstalk, High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

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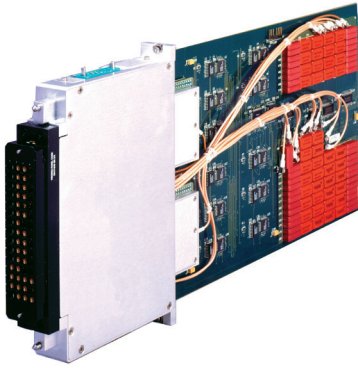
- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 200VDC, 200VACpk
 - Current Max = 1A (Carry)
 - Power Max = 10W
 - Contact Resistance <0.5Ω
 - Bandwidth = 50MHz
 - Characteristic Impedance = 50Ω
- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 13" Overall
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4332	8(8-pole) Star Switches (0.6" pitch)	90900120	Quote Request

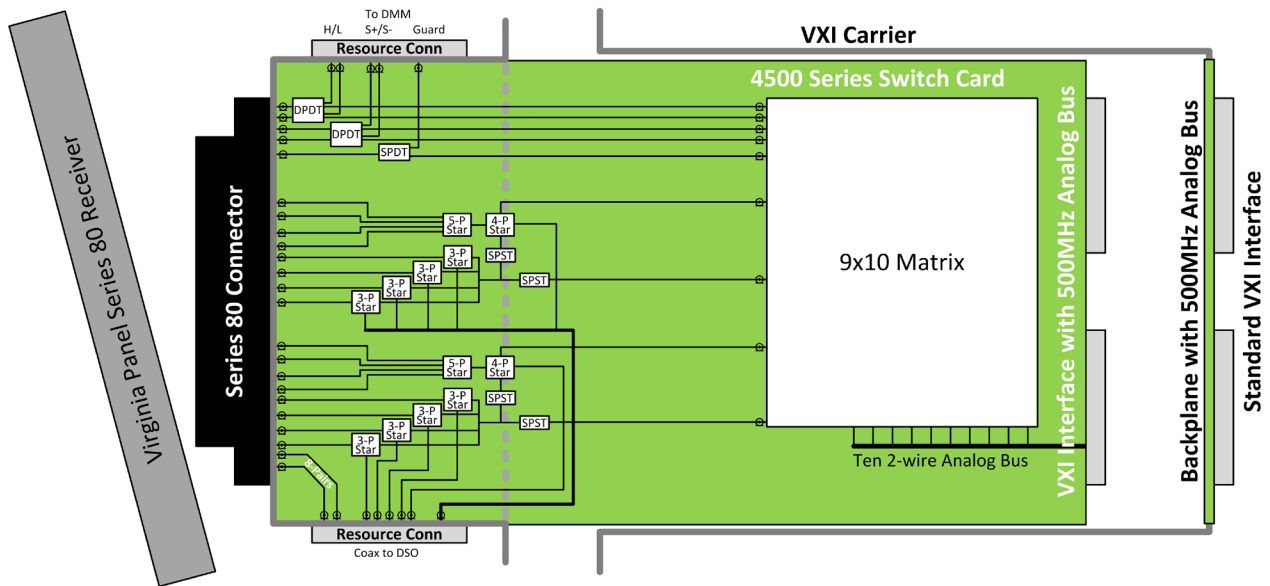


Product Description

The 4500 Series of Switches is specifically designed to work in a VXI environment with a Virginia Panel Test Receiver, single or Double Tier. The cards are designed to an extended length making the addition of a VP Funnel Adapter unnecessary, providing more switching area and a completely cable-less switching system. At the back end, the 4000 Series VXI carrier provides a 32 Channel 500MHz analog Backplane (16ch Differential) to allow the interconnection between the cards to be cable-less as well. This results in a switching system with Maximum electrical Performance as well as Minimal MTTR and far greater MTBF since the failure prone cables are eliminated.

Capabilities

- (9x10) Matrix, Assorted Stars
- Voltage Max = 220VDC, 200VAC
- Current Max = 1A (carry)
- Power = 10 Watts



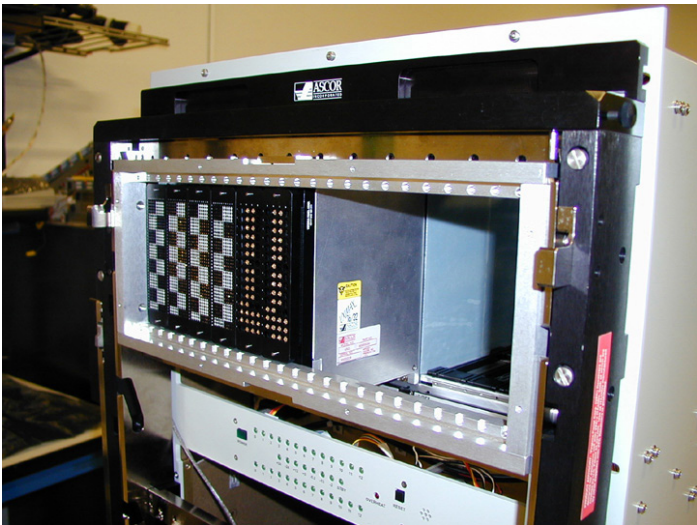
Recommended Uses

- **High Performance Switching Systems** – The Cable-less interconnection and test interface allows these cards to provide the highest performance possible in an ATE application.
- **Analog Bus Access** – The access to the 4000 Series Carrier's Analog Bus allows multiple 4501 modules to be connected together without cables.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.



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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- Voltage Max = 220VDC, 200VACpk
- Current Max = 1A (carry)
- Power Max = 10W
- Bandwidth
 - Resource to Series 80 = 800MHz
 - Series 80 to Analog Bus = 25MHz

Environmental
Temperature

- Operating 0° to 55°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

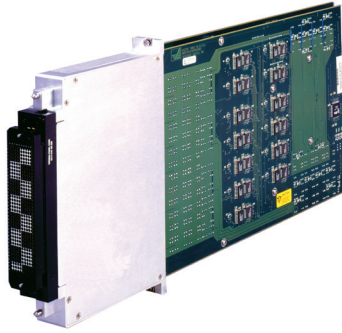
Mechanical

- Pitch 1.2"
- Width = 8.5" Overall
- Length = 18.5" Overall
- Weight = 1lb



Ordering Information

Model #	Description	Manufacturer #	
4501	Coaxial Star and Matrix	90900030	Quote Request

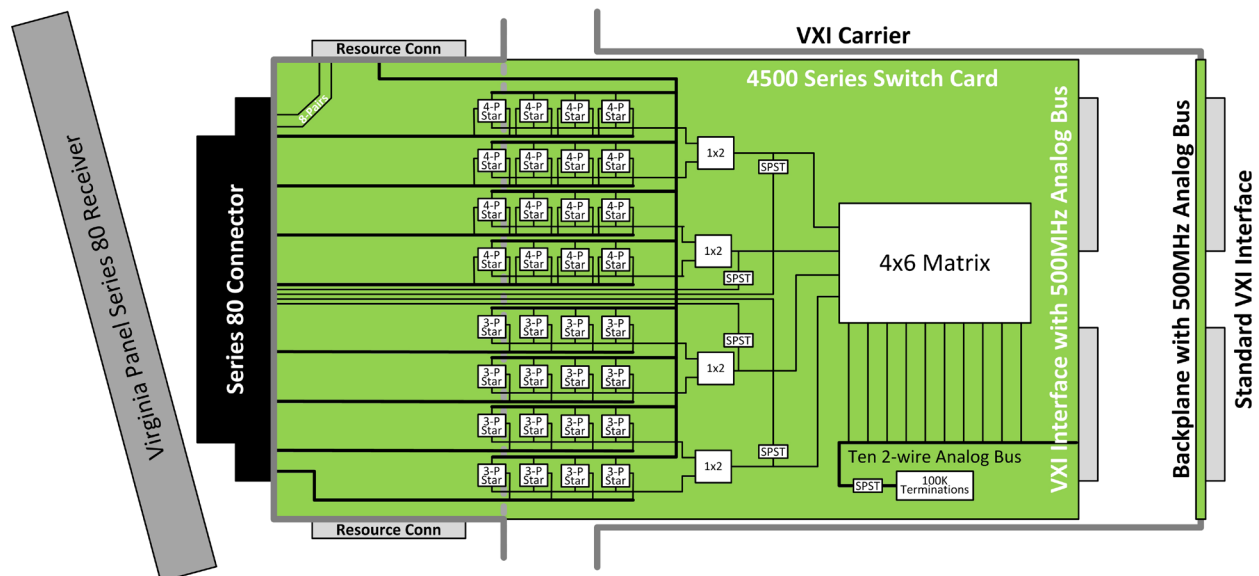


Product Description

The 4500 Series of Switches is specifically designed to work in a VXI environment with a Virginia Panel Test Receiver, single or Double Tier. The cards are designed to an extended length making the addition of a VP Funnel Adapter unnecessary, providing more switching area and a completely cable-less switching system. At the back end, the 4000 Series VXI carrier provides a 32 Channel 500MHz analog Backplane (16ch Differential) to allow the interconnection between the cards to be cable-less as well. This results in a switching system with Maximum electrical Performance as well as Minimal MTTR and far greater MTBF since the failure prone cables are eliminated.

Capabilities

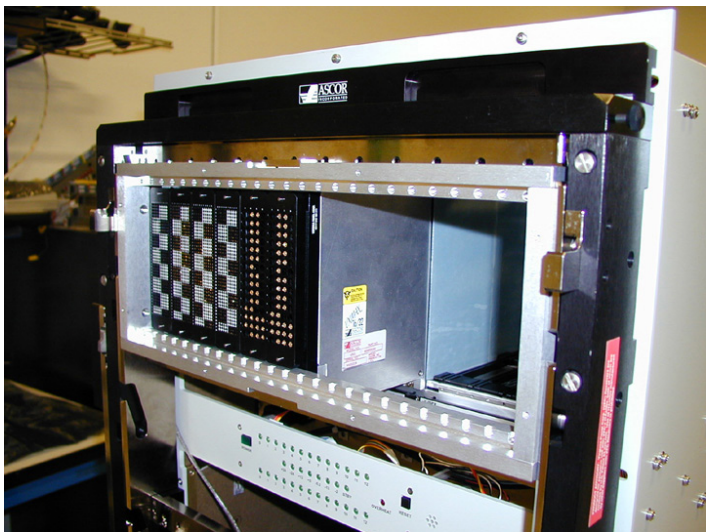
- 16(4-pole) Star Switches, 16(3-pole) Star Switches, 1(4x6) Matrix, 2-Wire Shielded
- Voltage Max = 220VDC, 200VACpk
- Current Max = 1A (carry)
- Power = 10 Watts



Recommended Uses

- **High Performance Switching Systems** – The Cable-less interconnection and test interface allows these cards to provide the highest performance possible in an ATE application.
- **Analog Bus Access** – The access to the 4000 Series Carrier's Analog Bus allows multiple 4502 modules to be connected together without cables.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.





Specifications

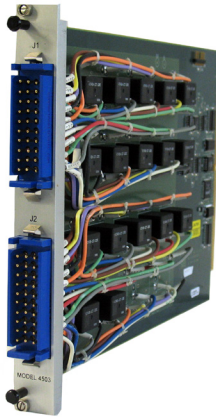
- Electrical
 - Voltage Max = 220VDC, 200VACpk
 - Current Max = 1A (carry)
 - Power Max = 10W
 - Bandwidth
 - Resource to Series 80 = 200MHz
 - Series 80 to Analog Backplane = 35MHz
- Environmental
 - Temperature
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)
 - Operating 10 to 90%
 - Storage 0 to 95%
- Mechanical
 - Pitch 1.2"
 - Width = 8.5" Overall
 - Length = 18.5" Overall
 - Weight = 1lb

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty



Ordering Information

Model #	Description	Manufacturer #	
4502	16(3-P) & 16(4-P Star), (4x6) 2-Wire Matrix	90900040	Quote Request



Product Description

The 4503 provides 20 SPDT High Current Relay channels. This module provides high current carrying capability for distribution and switching of UUT power. The 4503 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Discrete Wired Construction** – This method of construction provides maximum current carrying capacity, and allows for internal re-configuration for specific applications. This method also protects the Circuit board from User Induced damage, allowing an overheated wire to be replaced where an entire PC board might have to be replaced otherwise.

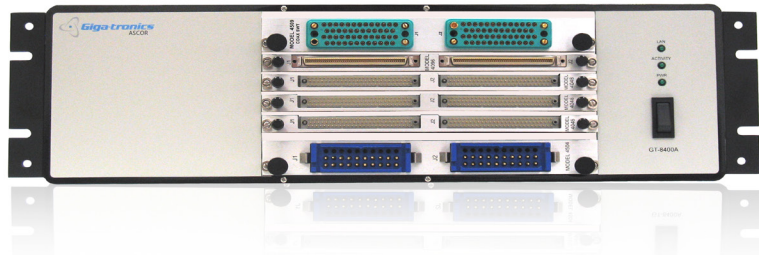
Capabilities

- 20 SPDT
- Voltage Max = 200VDC, 250VACpk
- Current Max = 20A
- Power = 280 Watts, 5000VA

Recommended Uses

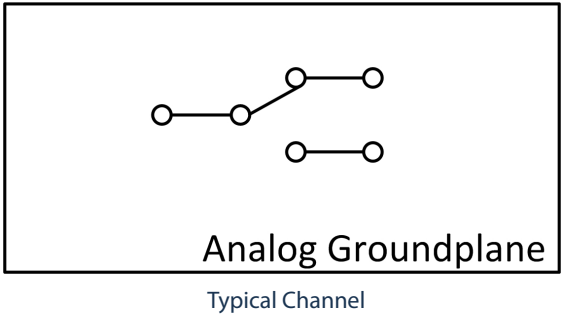
- **UUT Power Control and Distribution** – Ideal for testing multiple UUT's where input power must be distributed to numerous UUT's.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 200VDC, 250VACpk
 - Current Max = 20A
 - Power Max = 280W, 5000VA
 - Breakdown Voltage, 1000Vrms
- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 18.5" Overall
 - Weight = 1lb

Ordering Information

Model #		Description	Manufacturer #	
4503		20 SPDT Relays, 20A (1" pitch)	90900300	Quote Request
		Set of Mating connectors for one Module	89800750	Quote Request



Product Description

The 4504 provides 20 SPST High Current Relay channels. This module provides high current carrying capability for distribution and switching of UUT power. The 4503 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Discrete Wired Construction** – This method of construction provides maximum current carrying capacity, and allows for internal re-configuration for specific applications. This method also protects the Circuit board from User Induced damage, allowing an overheated wire to be replaced where an entire PC board might have to be replaced otherwise.

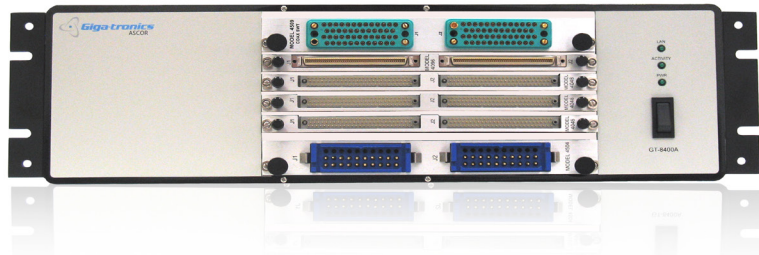
Capabilities

- 20 SPST
- Voltage Max = 200VDC. 250VACpk
- Current Max = 20A
- Power = 280 Watts, 5000VA

Recommended Uses

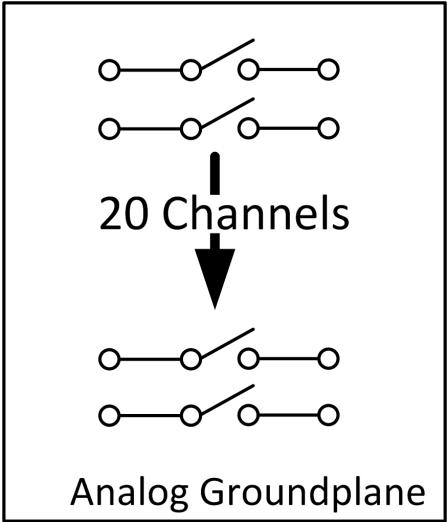
- **UUT Power Control and Distribution** – Ideal for testing multiple UUT's where input power must be distributed to numerous UUT's.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 200VDC, 250VACpk
 - Current Max = 20A
 - Power Max = 280W, 5000VA
 - Breakdown Voltage, 1000Vrms
- **Environmental**

Temperature

 - Operating 0° to 55°C
 - Storage -40° to 75°C

Humidity (non-condensing)

 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 18.5" Overall
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4504	20 SPST Relays, 20A (1" pitch)	90900270	Quote Request
	Set of Mating connectors for one Module	89800750	Quote Request

Product Description

The 4505 provides groups of 5(1x4) and 5(1x2) High Current Multiplexers. This module provides unusually high current carrying capability for distribution and switching of UUT power. The 4505 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Discrete Wired Construction** – This method of construction provides maximum current carrying capacity, and allows for internal re-configuration for specific applications. This method also protects the Circuit board from User Induced damage, allowing an overheated wire to be replaced where an entire PC board might have to be replaced otherwise.

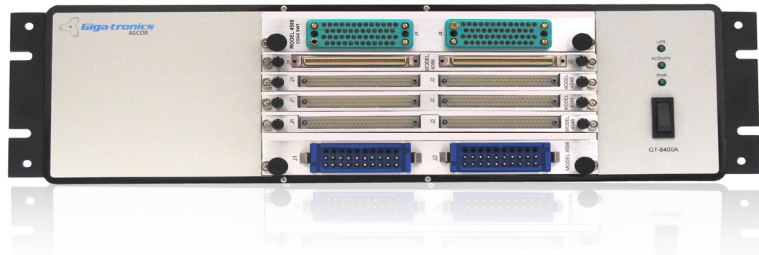
Capabilities

- 5(1x4) and 5(1x2)
- Voltage Max = 220VDC, 250VACpk
- Current Max = 20A
- Power = 250 Watts

Recommended Uses

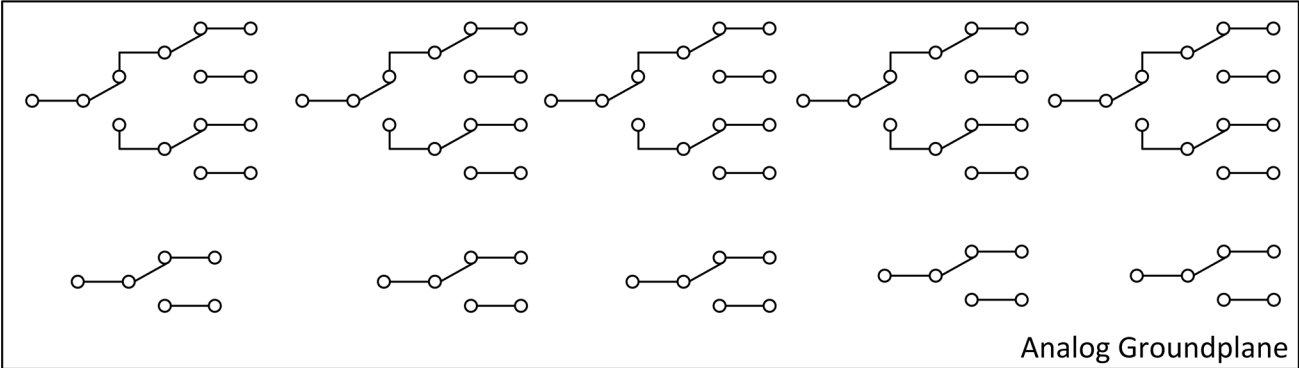
- **UUT Power Control and Distribution** – Ideal for testing multiple UUT's where input power must be distributed to numerous UUT's. The 10 groups of Multiplexers allow up to 10 power supplies to be switched.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- **Voltage Max = 220VDC, 250VACpk**
- **Current Max = 20A**
- **Power Max = 250W or 5000VA**
- **Bandwidth = 1KHz**
- **Breakdown Voltage, 1000Vrms**
- **Contact Resistance <1Ω**
- **One position is Normally Closed**

Environmental
Temperature

- Operating 0° to 55°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- Pitch 0.6"
- Width = 8.5" Overall
- Length = 18.5" Overall
- Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4505	5(1x4) & 5(1x2) Power Multiplexer, 20 A (1" pitch)	90900150	Quote Request
	Set of Mating connectors for one Module	89800640	Quote Request



Product Description

The 4506 provides 12 groups of (1x4) High Current Multiplexers. This module provides high current carrying capability for distribution and switching of UUT power. The 4506 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Discrete Wired Construction** – This method of construction provides maximum current carrying capacity, and allows for internal re-configuration for specific applications. This method also protects the Circuit board from User Induced damage, allowing an overheated wire to be replaced where an entire PC board might have to be replaced otherwise.

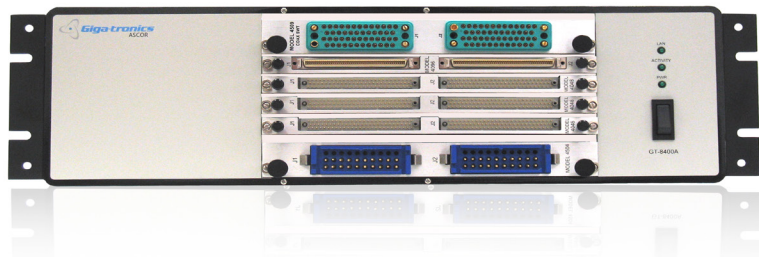
Capabilities

- 12(1x4)
- Voltage Max = 220VDC. 250VACpk
- Current Max = 20A
- Power = 280 Watts, 5000VA

Recommended Uses

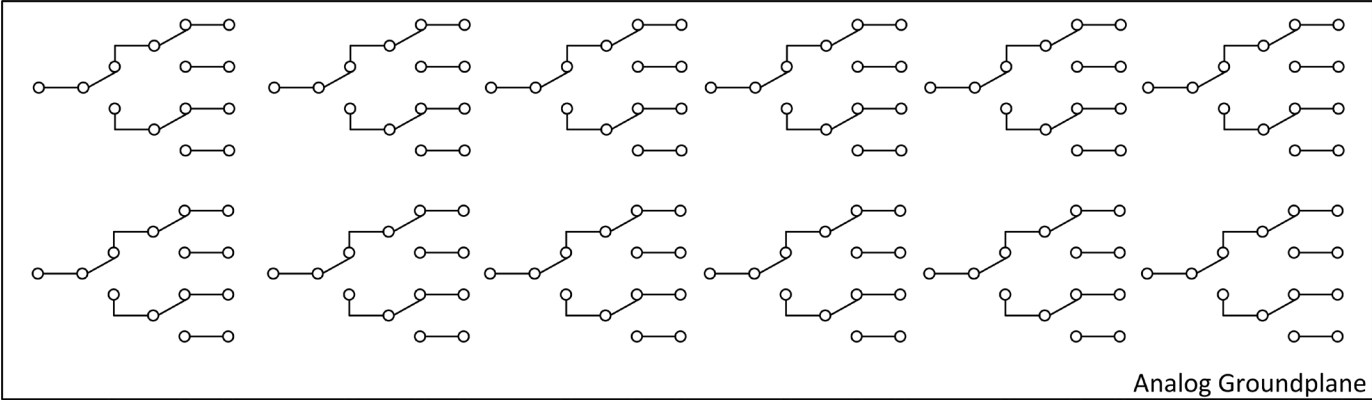
- **UUT Power Control and Distribution** – Ideal for testing multiple UUT's where input power must be distributed to numerous UUT's. The 12 groups of Multiplexers allow up to 12 power supplies to be switched.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- Voltage Max = 220VDC, 250VACpk
- Current Max = 20A
- Power Max = 280W or 5000VA
- Bandwidth = 1KHz
- Breakdown Voltage, 1000Vrms
- Contact Resistance <1Ω
- One position is Normally Closed

Environmental

Temperature

- Operating 0° to 55°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- Pitch 0.6"
- Width = 8.5" Overall
- Length = 18.5" Overall
- Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4506	12(1x4) Power Multiplexer, 20 A (1" pitch)	90900160	Quote Request
	Set of Mating connectors for one Module	89800650	Quote Request



Product Description

The 4507 provides 36 SPDT Relays. This module provides high Bandwidth for good signal carrying capability for general purpose switching. The 4507 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Airborn Connectors** – Selected for improved Bandwidth Specifications.

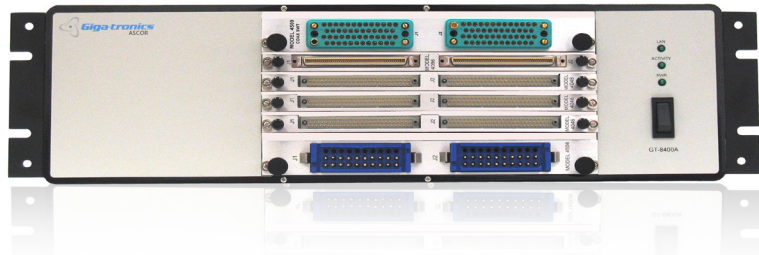
Capabilities

- 36 SPDT
- Voltage Max = 220VDC, 250VACpk
- Current Max = 2A (Switched)
- Bandwidth = 100MHz

Recommended Uses

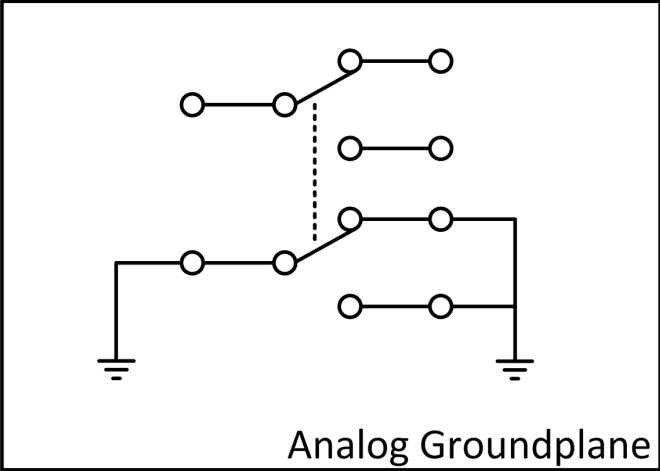
- **General Purpose Switching** – Form-C or SPDT Relays are excellent general purpose relays.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- Voltage Max = 220VDC, 250VACpk
- Current Max = 2A (Switched)
- Bandwidth = 100MHz
- Crosstalk = -40dB at 10MHz
- Power Max = 60W
- Breakdown Voltage, 1000Vrms
- Contact Resistance <1Ω

Environmental

Temperature

- Operating 0° to 55°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- Pitch 0.6"
- Width = 8.5" Overall
- Length = 18.5" Overall
- Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4507	36 SPDT Switch Module, 100MHz, (0.6" pitch)	90900170	Quote Request
	Set of Mating connectors for one Module	89800660	Quote Request



Product Description

The 4508 provides 22(1x4) Multiplexers. This module provides high Bandwidth for good signal carrying capability for general purpose instrument switching. The 4508 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Airborn Connectors** – Selected for improved Bandwidth Specifications.

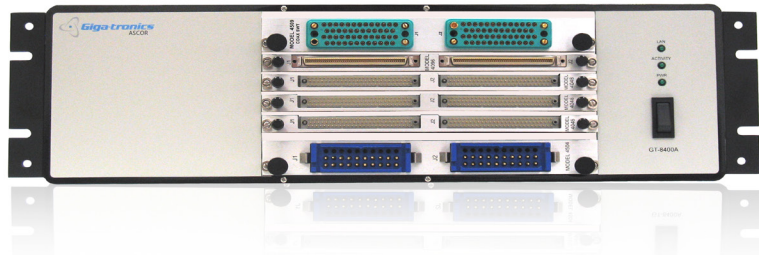
Capabilities

- 22(1x4) 1-wire
- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (Switched)
- Bandwidth = 124MHz

Recommended Uses

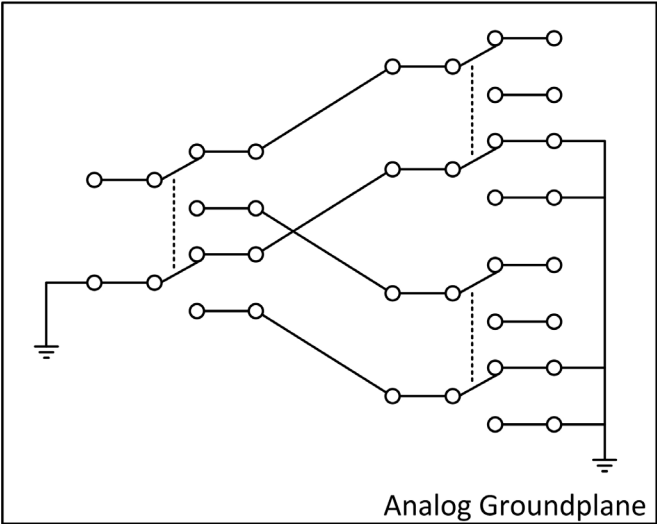
- **General Purpose Switching** – High Bandwidth and low Crosstalk makes this module ideal for all switching applications. The 24 individual (1x4) elements makes this board highly configurable for UUT specific requirements.

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Typical Diagram for a (1x4) Channel
Second pole of DPDT relays, grounded
For improved Bandwidth.

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- Voltage Max = 220VDC, 250VACpk
- Current Max = 2A (Switched)
- Bandwidth = 124MHz
- Crosstalk = -40dB at 10MHz
- Power Max = 60W
- Breakdown Voltage, 1000Vrms
- Contact Resistance <1Ω

Environmental
Temperature

- Operating 0° to 55°C
- Storage -40° to 75°C

Humidity (non-condensing)

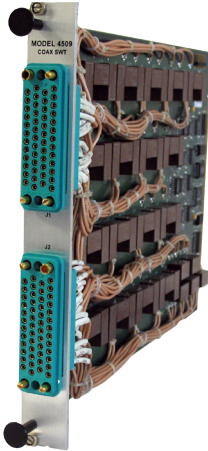
- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- Pitch 0.6"
- Width = 8.5" Overall
- Length = 18.5" Overall
- Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4508	22(1x4) 1-wire Multiplexer, 124 MHz (0.6" pitch)	90900180	Quote Request
	Set of Mating connectors for one Module	89800670	Quote Request



Product Description

The 4509 provides 17 groups of (1x4) and five groups of (1x2) Coaxial Multiplexers. This module provides high Bandwidth for switching of sensitive and/or high frequency signals. The 4509 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Discrete Wired Construction** – This method of construction provides maximum current carrying capacity, and allows for internal re-configuration for specific applications. This method also protects the Circuit board from User Induced damage, allowing an overheated wire to be replaced where an entire PC board might have to be replaced otherwise.

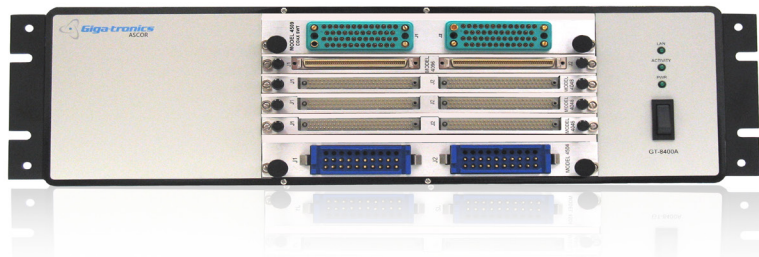
Capabilities

- 17(1x4) & 5(1x2) Coaxial Multiplexers
- Bandwidth = 1.3GHz
- Voltage Max = 30VDC
- Current Max = 0.5A

Recommended Uses

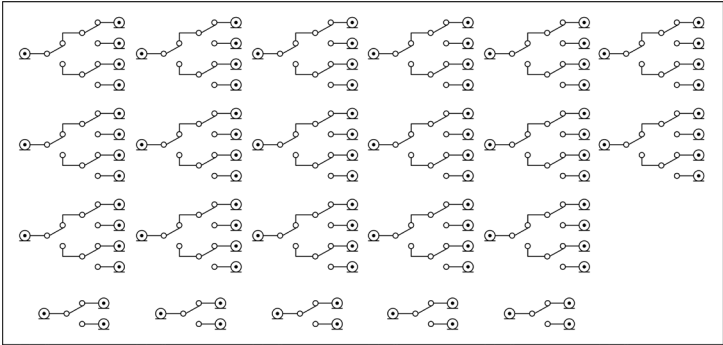
- **UUT Signal Distribution** – Ideal for routing sensitive or high speed signals to higher bandwidth instruments such as Oscilloscopes, Function Generators, Digitizers, etc.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- Voltage Max = 30VDC
- Current Max = 0.5A (Switched)
- Power Max = 10W
- Breakdown Voltage, 1000Vrms
- Contact Resistance <1Ω
- Char Impedance = 50Ω
- Bandwidth = 1.3GHz
- Crosstalk = -35 @250MHz
- Isolation = >50dB at 500 MHz

Environmental

Temperature

- Operating 0° to 55°C
- Storage -40° to 75°C

Humidity (non-condensing)

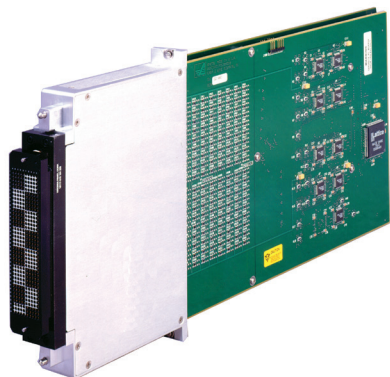
- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- Pitch 0.6"
- Width = 8.5" Overall
- Length = 18.5" Overall
- Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4509	17(1x4), 5(1x2), Coax Multiplexers 1.3GHz (1.0" pitch)	90900190	Quote Request
	Set of Mating connectors for one Module	89800680	Quote Request

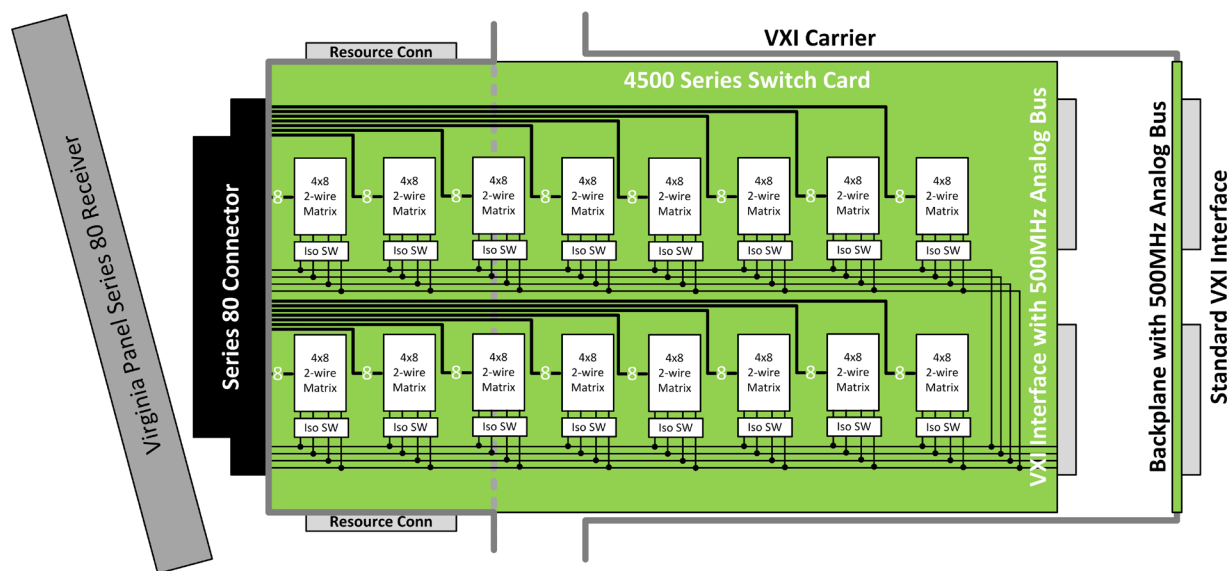


Product Description

The 4500 Series of Switches is specifically designed to work in a VXI environment with a Virginia Panel Test Receiver, single or Double Tier. The cards are designed to an extended length making the addition of a VP Funnel Adapter unnecessary, providing more switching area and a completely cable-less switching system. At the back end, the 4000 Series VXI carrier provides a 32 Channel 500MHz analog Backplane (16ch Differential) to allow the interconnection between the cards to be cable-less as well. This results in a switching system with Maximum electrical Performance as well as Minimal MTTR and far greater MTBF since the failure prone cables are eliminated.

Capabilities

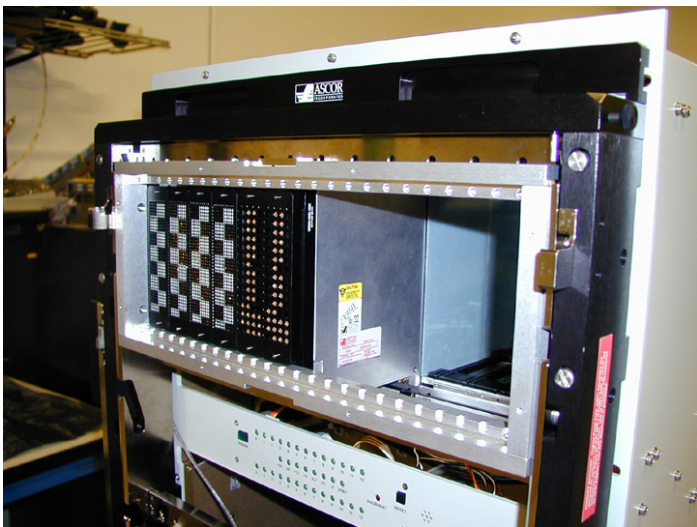
- 16(4X8) Matrices, configurable up to 1(4x128)
- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (switched)
- Power = 60 Watts



Recommended Uses

- **High Performance Switching Systems** – The Cable-less interconnection and test interface allows these cards to provide the highest performance possible in an ATE application.
- **Analog Bus Access** – The access to the 4000 Series Carrier's Analog Bus allows multiple 4510 modules to be connected together without cables.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.





- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- Electrical

 - Voltage Max = 220VDC, 250VAC
 - Current Max = 2A (switched)
 - Power Max = 60W
 - Bandwidth = 25MHz
 - Contact Resistance <0.05Ω
- Environmental

Temperature
 - Operating 0° to 55°C
 - Storage -40° to 75°C

Humidity (non-condensing)
 - Operating 10 to 90%
 - Storage 0 to 95%
- Mechanical

 - Pitch 1.2"
 - Width = 8.5" Overall
 - Length = 18.5" Overall
 - Weight = 1lb



Ordering Information

Model #	Description	Manufacturer #	
4510	16(4x8) 2-wire matrix	90900460	Quote Request

Product Description

The 4512 provides two (1x32) 2-wire Multiplexers. This module provides high Bandwidth and high Density as well as Flexibility. Model 4512 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 4512 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 2(1x32) Multiplexer
- Voltage Max = 200VDC, 200VACpk
- Current Max = 1A (carry)
- Power = 10 Watts
- Shielded Relays

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ Coaxially Shielded Reed Relays –

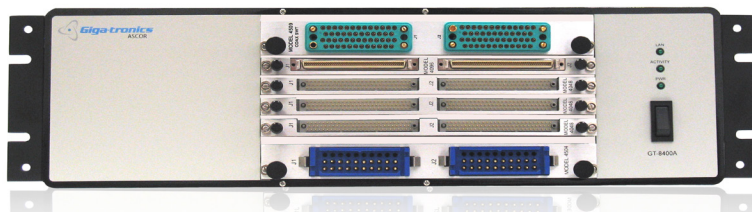
- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

■ **Dual Row Connectors** – Selected to enable the use of low cost Twisted Pair Ribbon cable.

Recommended Uses

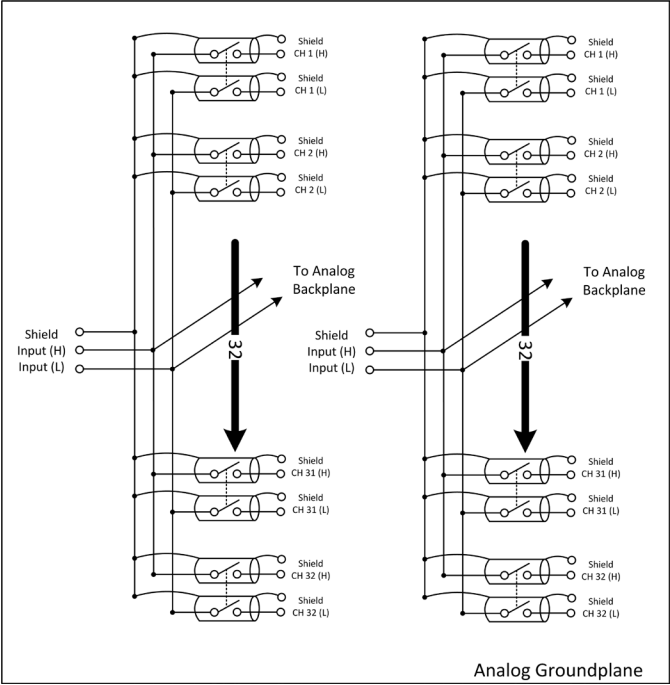
- **System Test and Burn-in Switching** – Low Crosstalk, High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 200VDC, 200VACpk
 - Current Max = 1A (Carry)
 - Bandwidth = 60 MHz
 - Power Max = 10W
 - Path Impedance = 50Ω
 - Contact Resistance <0.5Ω

- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%

- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 18.5" Overall
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4512	2(1x32) 2-wire Multiplexers (0.6" pitch)	90900070	Quote Request

Product Description

The 4513 provides eight 4-Pole Star Switches and an (8x8) 1-wire Matrix. This module provides high Bandwidth and high Density as well as Flexibility. Model 4513 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 4513 has been designed with several exceptional features that make it stand out from competitive products.

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

Capabilities

- Configuration
- (8x8) 1-wire Matrix
- 8(4-Pole) Star
- Voltage Max = 200VDC, 200VACpk
- Current Max = 0.5A (carry)
- Power = 10 Watts
- Shielded Relays

■ Coaxially Shielded Reed Relays –

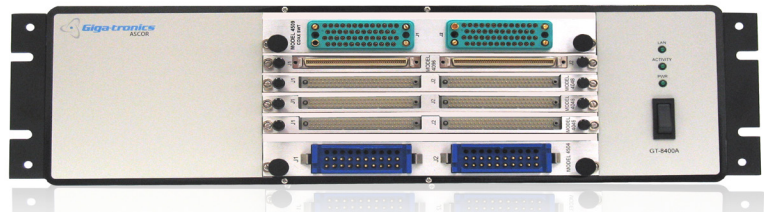
- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

■ **Airborn Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely.

Recommended Uses

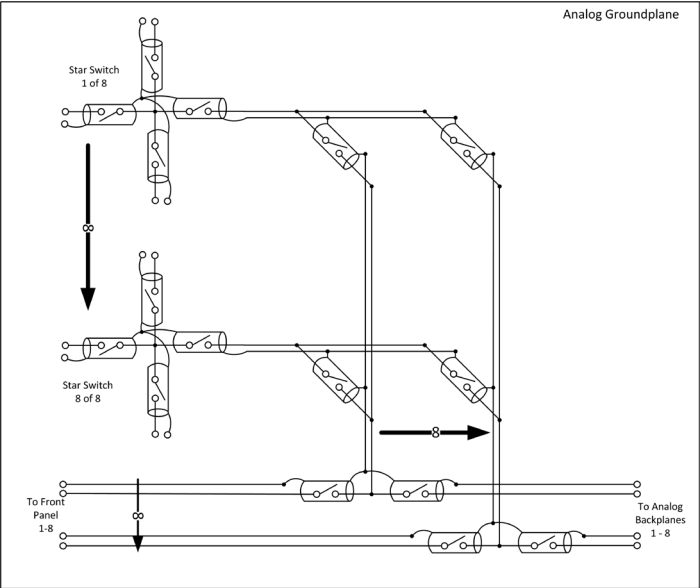
- **System Test and Burn-in Switching** – Low Crosstalk, High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 200VDC, 200VACpk
 - Current Max = 0.5A (Carry)
 - Power Max = 10W
 - Bandwidth = 50MHz
 - Contact Resistance <0.5Ω

- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%

- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 18.5" Overall
 - Weight = 1lb

Ordering Information

Model #		Description	Manufacturer #	
4513		(8x8) 1-wire Matrix & 8(4-pole) Star Switches (0.6" pitch)	90900110	Quote Request
		Set of Mating connectors for one Module	89800990	Quote Request



Product Description

The 4515 provides eight (1x6) 2-wire Multiplexers. This module provides high Current and high Density as well as Flexibility. Model 4515 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 4515 has been designed with several exceptional features that make it stand out from competitive products

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Airborn Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely.

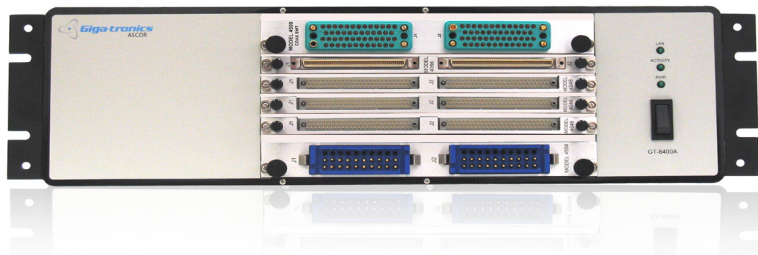
Capabilities

- 8(1x6) Multiplexers
- Voltage Max = 250VDC, 250VAC
- Current Max = 5A (switched)
- Power = 150 Watts

Recommended Uses

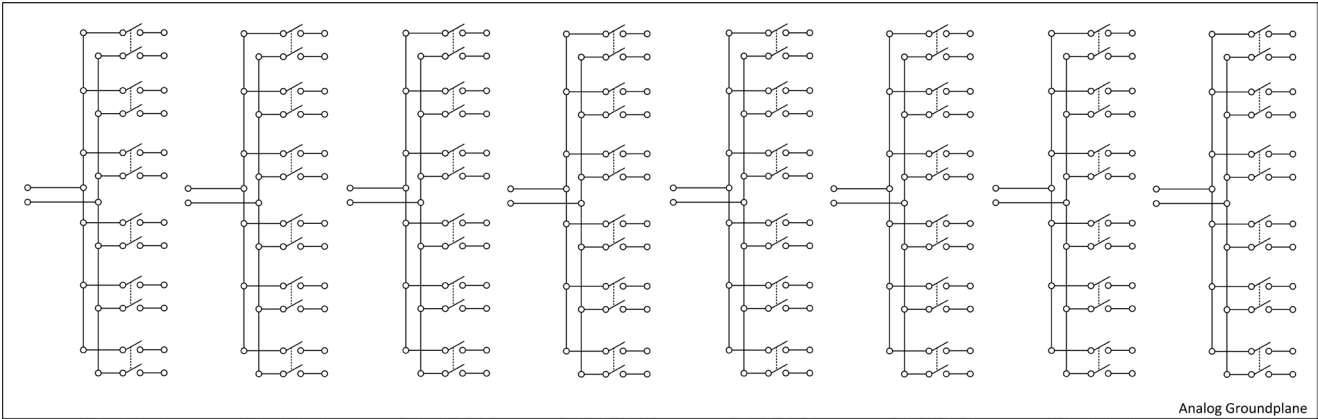
- **System Test and Burn-in Switching** – Low Crosstalk High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose Switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- Voltage Max = 250VDC, 250VAC
- Current Max = 5A (switched)
- Bandwidth = 50 MHz
- Power Max = 150W
- Contact Resistance <0.03Ω

Environmental
Temperature

- Operating 0° to 55°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- Pitch 0.6"
- Width = 8.5" Overall
- Length = 18.5" Overall
- Weight = 1lb

Ordering Information

Model #		Description	Manufacturer #	
4515		8(1x6) 2-wire Multiplexers, 5A (0.6" pitch)	90900080	Quote Request
		Set of Mating connectors for one Module	89800590	Quote Request

Product Description

The 4516 provides ten (1x8) 1-wire Multiplexers. This module provides high Current and high Density as well as Flexibility. Model 4516 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 4516 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 10(1x8) Multiplexer
- Voltage Max = 250VDC, 250VAC
- Current Max = 5A (switched)
- Power = 150 Watts

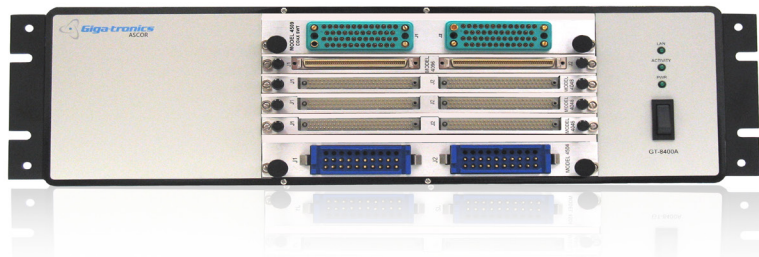
■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **Airborn Connectors** – Selected for improved Bandwidth specifications. Requires cables to be wired discretely.

Recommended Uses

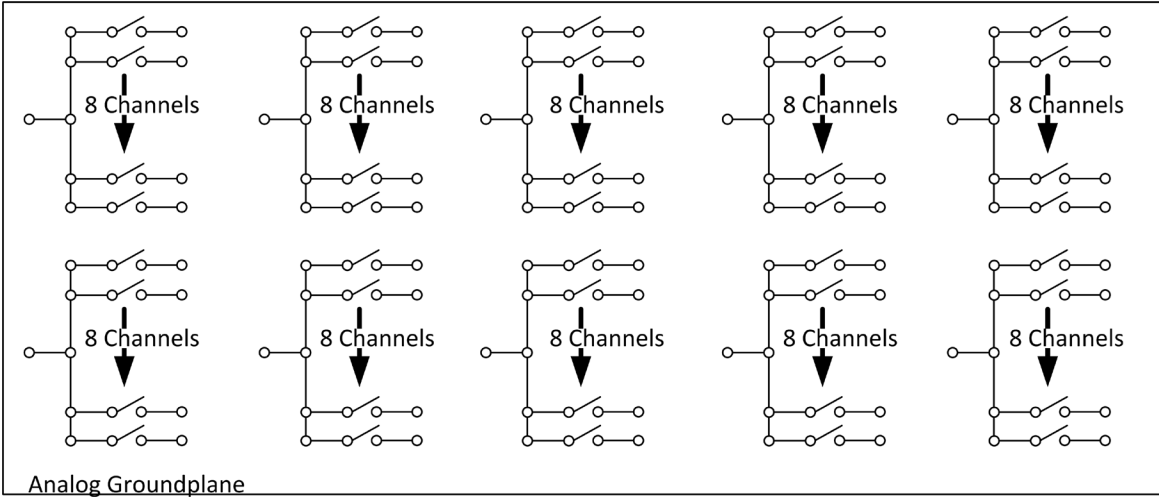
- **System Test and Burn-in Switching** – Low Crosstalk High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 250VDC, 250VAC
 - Current Max = 5A (switched)
 - Power Max = 150W
 - Contact Resistance <0.03Ω

- **Environmental**

Temperature

 - Operating 0° to 55°C
 - Storage -40° to 75°C

Humidity (non-condensing)

 - Operating 10 to 90%
 - Storage 0 to 95%

- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 18.5" Overall
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4516	10(1x8) 1-wire Multiplexers, 5A (0.6" pitch)	90900090	Quote Request

Product Description

The 4517 provides eight 10-Pole 2-wire Star Switches. This module provides high Bandwidth and high Density as well as Flexibility. Model 4517 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel scanner card. The 4517 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 8(10-Pole) 2-wire Star
- Voltage Max = 200VDC, 200VACpk
- Current Max = 1A (carry)
- Power = 10 Watts
- Shielded Relays

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ Coaxially Shielded Reed Relays –

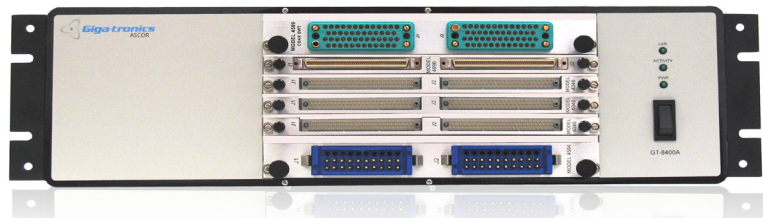
- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

■ **Dual Row Connectors** – Selected to enable the use of low cost Twisted Pair Ribbon cable.

Recommended Uses

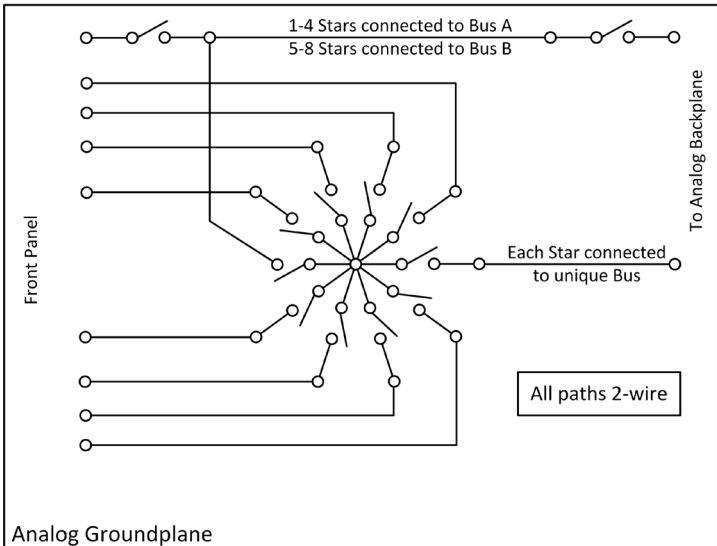
- **System Test and Burn-in Switching** – Low Crosstalk, High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- Voltage Max = 200VDC, 200VACpk
- Current Max = 1A (Carry)
- Power Max = 10W
- Contact Resistance <0.5Ω
- Characteristic Impedance = 50Ω

Environmental

Temperature

- Operating 0° to 55°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- Pitch 0.6"
- Width = 8.5" Overall
- Length = 18.5" Overall
- Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4517	8(10-pole) Star Switches (0.6" pitch)	90900100	Quote Request

Product Description

The 4518 provides thirty two SPST Reed Relays to bring signals on/off the 32 analog busses on the 4000 series backplane. The 4518 has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- 32 SPST Shielded Reed Relays
- Voltage Max = 200VDC, 200VACpk
- Current Max = 0.5A (carry)
- Power = 10 Watts
- Shielded Relays

■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

Recommended Uses

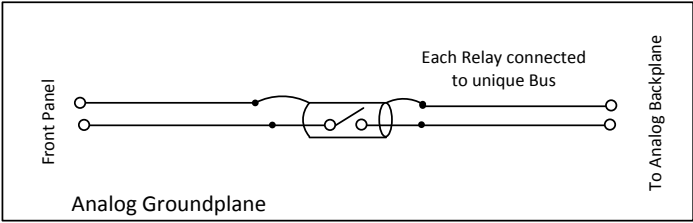
- **System Test and Burn-in Switching** – Low Crosstalk, High Bandwidth and large Channel Counts makes this module ideal for Small Signal applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 200VDC, 200VACpk
 - Current Max = 0.5A (Carry)
 - Power Max = 10W
 - Bandwidth = 50 MHZ
 - Contact Resistance <0.5Ω
- **Environmental**

Temperature

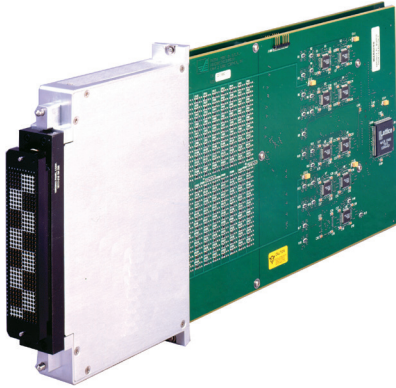
 - Operating 0° to 55°C
 - Storage -40° to 75°C

Humidity (non-condensing)

 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - Pitch 0.6"
 - Width = 8.5" Overall
 - Length = 18.5" Overall
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #	
4518	Analog Output Backplane Isolation Module (0.6" pitch)	90900130	Quote Request

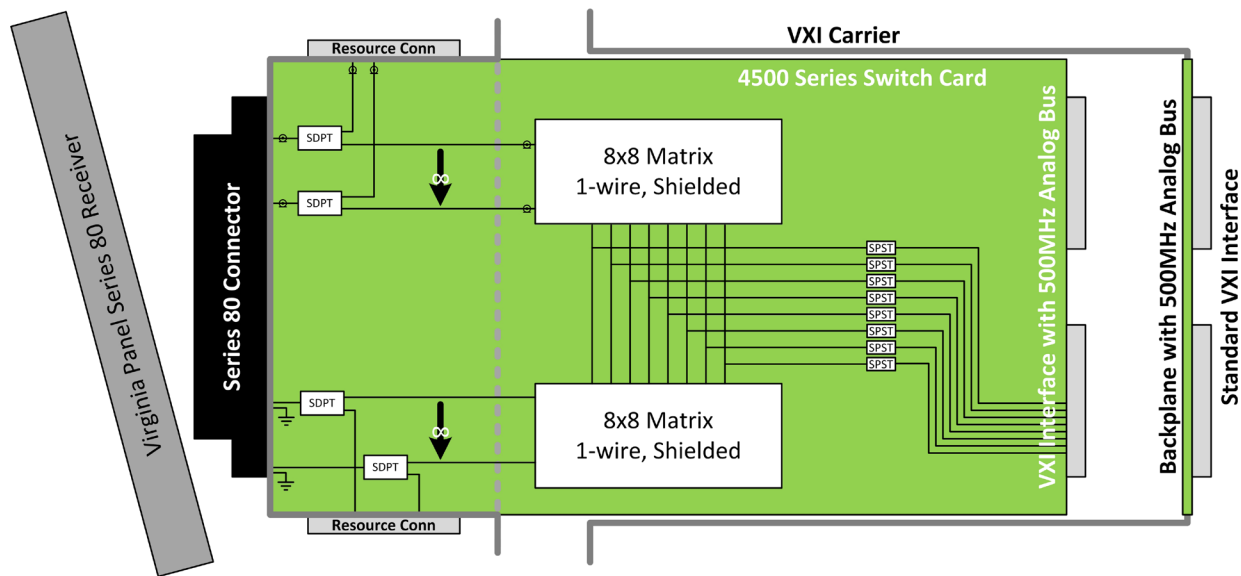


Product Description

The 4500 Series of Switches is specifically designed to work in a VXI environment with a Virginia Panel Test Receiver, single or Double Tier. The cards are designed to an extended length making the addition of a VP Funnel Adapter unnecessary, providing more switching area and a completely cable-less switching system. At the back end, the 4000 Series VXI carrier provides a 32 Channel 500MHz analog Backplane (16ch Differential) to allow the interconnection between the cards to be cable-less as well. This results in a switching system with Maximum electrical Performance as well as Minimal MTTR and far greater MTBF since the failure prone cables are eliminated.

Capabilities

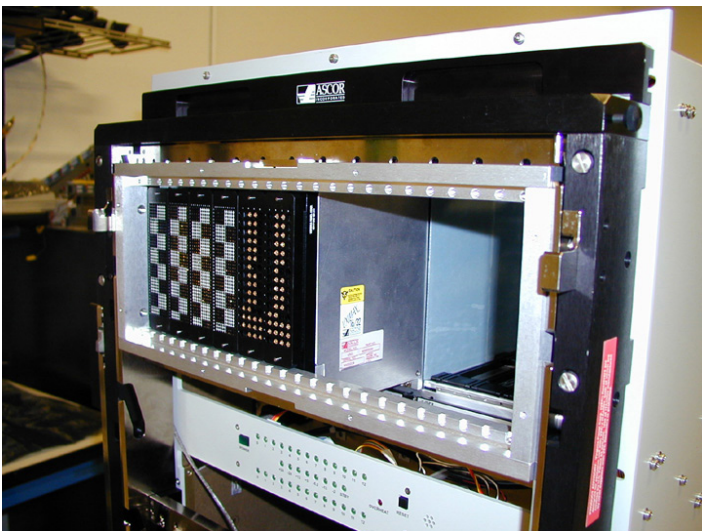
- Dual(8X8) 1-wire Shielded Matrix
- Voltage Max = 220VDC, 200VACpk
- Current Max = 1A (carry)
- Power = 10 Watts



Recommended Uses

- **High Performance Switching Systems** – The Cable-less interconnection and test interface allows these cards to provide the highest performance possible in an ATE application.
- **Analog Bus Access** – The access to the 4000 Series Carrier's Analog Bus allows multiple 4524 modules to be connected together without cables.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.





- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

▣ **Electrical**

- Voltage Max = 220VDC, 200VACpk
- Current Max = 1A (carry)
- Power Max = 10W
- Bandwidth
 - Series 80 to Analog Backplane = 70MHz
 - Resource to Series 80 = 900 MHz

▣ **Environmental**

Temperature

- Operating 0° to 55°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

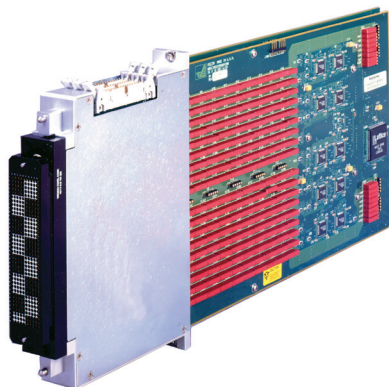
▣ **Mechanical**

- Pitch 1.2"
- Width = 8.5" Overall
- Length = 18.5" Overall
- Weight = 1lb



Ordering Information

Model #	Description	Manufacturer #	
4524	Dual (8x8) 1-wire, Shielded Matrix	90900470	Quote Request

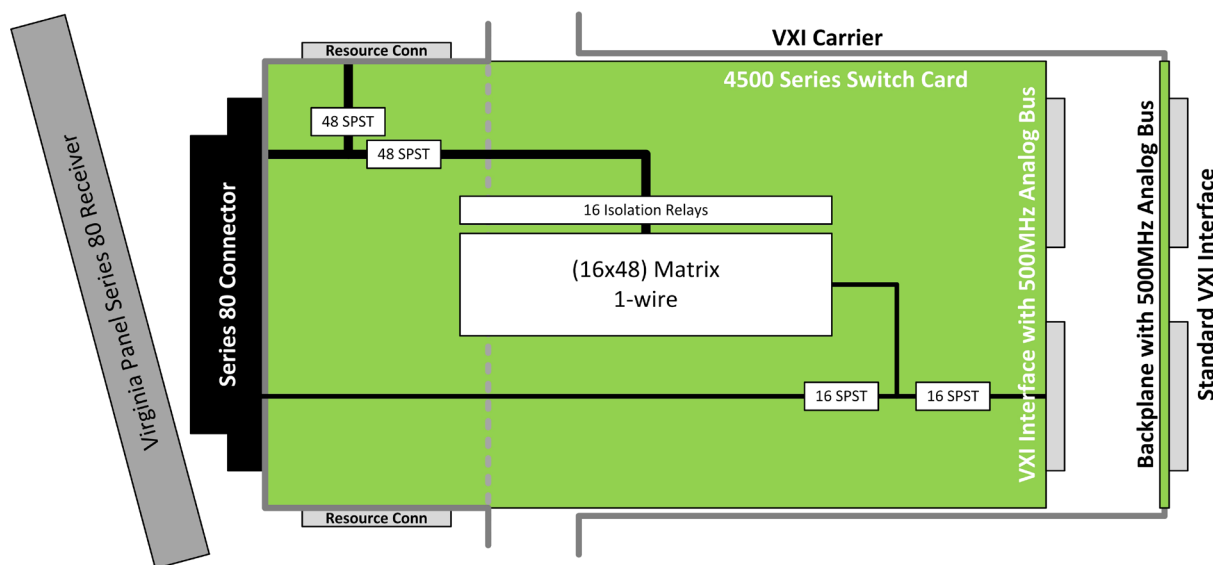


Product Description

The 4500 Series of Switches is specifically designed to work in a VXI environment with a Virginia Panel Test Receiver, single or Double Tier. The cards are designed to an extended length making the addition of a VP Funnel Adapter unnecessary, providing more switching area and a completely cable-less switching system. At the back end, the 4000 Series VXI carrier provides a 32 Channel 500MHz analog Backplane (16ch Differential) to allow the interconnection between the cards to be cable-less as well. This results in a switching system with Maximum electrical Performance as well as Minimal MTTR and far greater MTBF since the failure prone cables are eliminated.

Capabilities

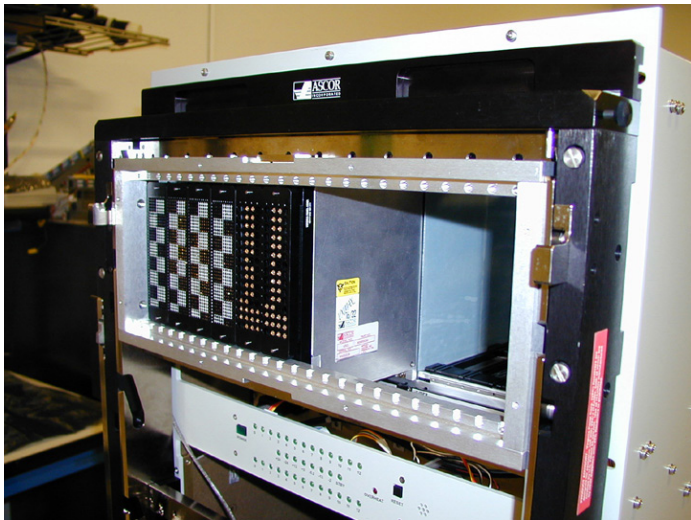
- (16x48) 1-wire Matrix
- Voltage Max = 220VDC, 200VACpk
- Current Max = 1A (carry)
- Power = 100 Watts



Recommended Uses

- **High Performance Switching Systems** – The Cable-less interconnection and test interface allows these cards to provide the highest performance possible in an ATE application.
- **Analog Bus Access** – The access to the 4000 Series Carrier's Analog Bus allows multiple 4525 modules to be connected together without cables.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.





- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 220VDC, 200VACpk
 - Current Max = 1A (carry)
 - Power Max = 10W
 - Bandwidth
 - Receiver to Backplane = 35MHz
 - Receiver to Resource = 450MHz
- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - Pitch 1.2"
 - Width = 8.5" Overall
 - Length = 18.5" Overall
 - Weight = 1lb



Ordering Information

Model #	Description	Manufacturer #	
4525	(16x48) 1-wire Matrix	90900930	Quote Request

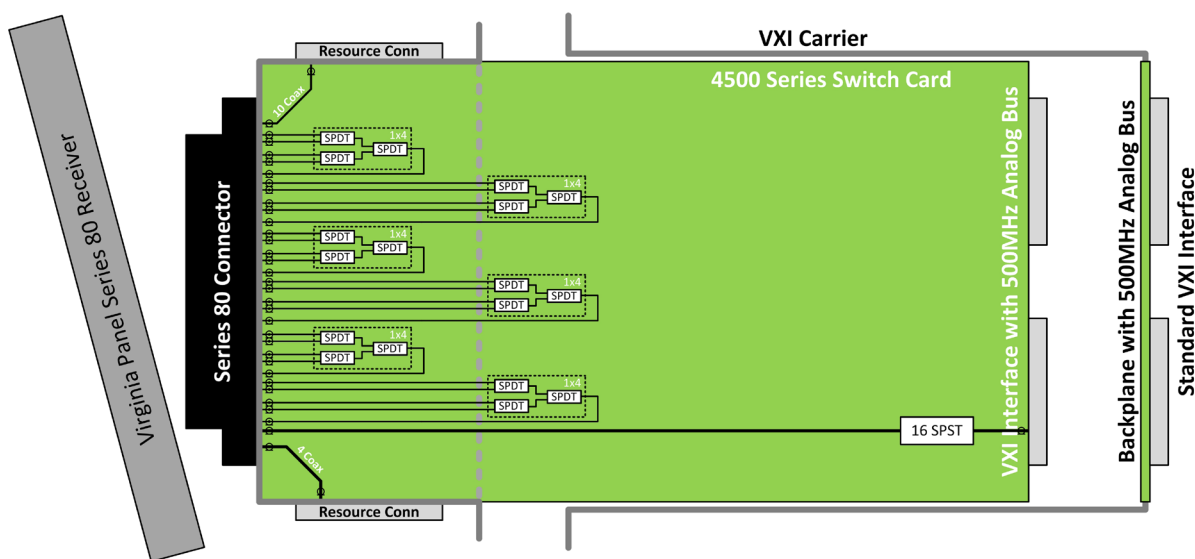


Product Description

The 4500 Series of Switches is specifically designed to work in a VXI environment with a Virginia Panel Test Receiver, single or Double Tier. The cards are designed to an extended length making the addition of a VP Funnel Adapter unnecessary, providing more switching area and a completely cable-less switching system. At the back end, the 4000 Series VXI carrier provides a 32 Channel 500MHz analog Backplane (16ch Differential) to allow the interconnection between the cards to be cable-less as well. This results in a switching system with Maximum electrical Performance as well as Minimal MTTR and far greater MTBF since the failure prone cables are eliminated.

Capabilities

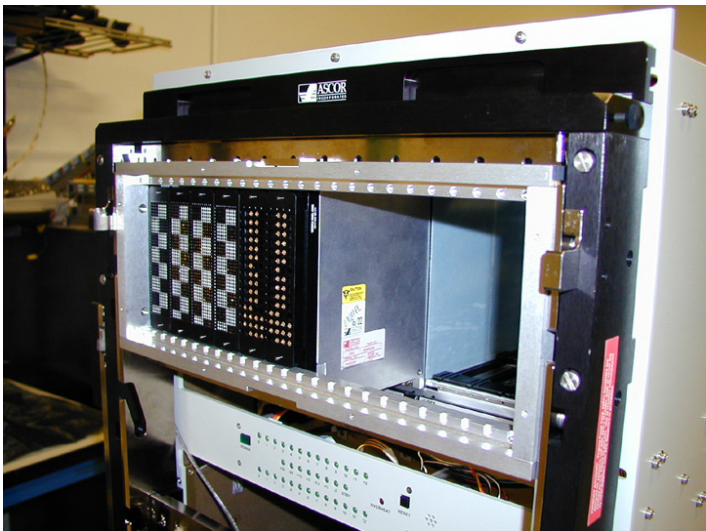
- (16x48) 1-wire Matrix
- Voltage Max = 220VDC, 200VACpk
- Current Max = 1A (carry)
- Power = 100 Watts



Recommended Uses

- **High Performance Switching Systems** – The Cable-less interconnection and test interface allows these cards to provide the highest performance possible in an ATE application.
- **Analog Bus Access** – The access to the 4000 Series Carrier's Analog Bus allows multiple 4526 modules to be connected together without cables.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all switching and signal scanning applications.





- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- Voltage Max = 220VDC, 200VACpk
- Current Max = 1A (carry)
- Power Max = 10W
- Bandwidth
 - Series 80 to Backplane = 1.5GHz
 - Series 80 to Resource = 1.5GHz
 - Series 80 to Series 80 = 1.5GHz

Environmental
Temperature

- Operating 0° to 55°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

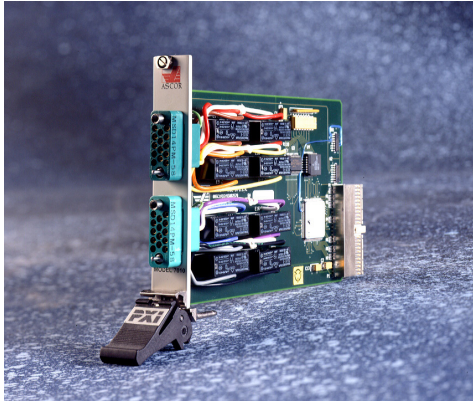
Mechanical

- Pitch 1.2"
- Width = 8.5" Overall
- Length = 18.5" Overall
- Weight = 1lb



Ordering Information

Model #	Description	Manufacturer #	
4526	6(1x4) Coaxial Switches	90900430	Quote Request



Product Description

The 7010 provides eight SPDT Switches in a small space. This module provides the highest density general purpose switch, ideal for switching UUT Power as well as other current carrying signals. The 7010 has been designed with several exceptional features that make it stand out from competitive products.

■ **3U Form Factor** – The 3U PXI format is the most popular PXI size, and is compatible with all brands of PXI approved products.

■ **Discrete Wired Construction** – This method of construction provides maximum current carrying capacity, and allows for internal re-configuration for specific applications. This method also protects the Circuit board from User Induced damage, allowing an overheated wire to be replaced where an entire PC board might have to be replaced otherwise.

■ **Burndy Connectors** – Selected for current carrying capacity and robust performance.

Capabilities

- 8 SPDT
- Bandwidth = 100MHz
- Voltage Max = 150VDC, 380VAC
- Current Max = 10A (switched)

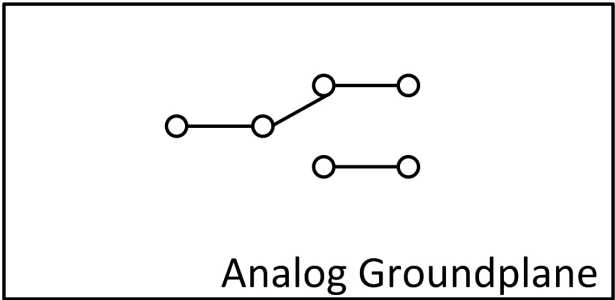
Recommended Uses

- **Power Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications as well as Power Distribution applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all Low Frequency switching applications.



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Typical Channel (1 of 8)

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 150VDC, 380VAC
 - Current Max = 10A (switched)
 - Max Power = 192W or 2000VA
 - Bandwidth = 100MHz
 - Life Expectancy = 5M cycles
 - Contact Resistance < 0.3mΩ
 - J1 & J2 Connectors
 - Burndy MSD 14PM-58
- **Environmental**

Temperature

 - Operating 0° to 50°C
 - Storage -40° to 75°C

Humidity (non-condensing)

 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - 3U PXI
 - Weight 0.5 lbs

Ordering Information

Model #		Description	Manufacturer #	
7010		8 SPDT, 10A, 100 MHz	91000010	Quote Request
		Set of Mating connectors for one Module	89800690	Quote Request



Product Description

The 7011 provides a (2x16) 2-wire Matrix in a small space. This module provides the highest density general purpose switch, ideal for switching instrumentation and other general purpose switching applications. The 7011 has been designed with several exceptional features that make it stand out from competitive products.

■ **3U Form Factor** – The 3U PXI format is the most popular PXI size, and is compatible with all brands of PXI approved products.

■ **Dual Row Connectors** – Selected to enable use of low cost Twisted Pair Ribbon Cable and IDC connectors.

Capabilities

- (2x16) 2-wire Matrix
- Bandwidth = 50MHz
- Voltage Max = 200VDC, 200VAC
- Current Max = 2A (switched)

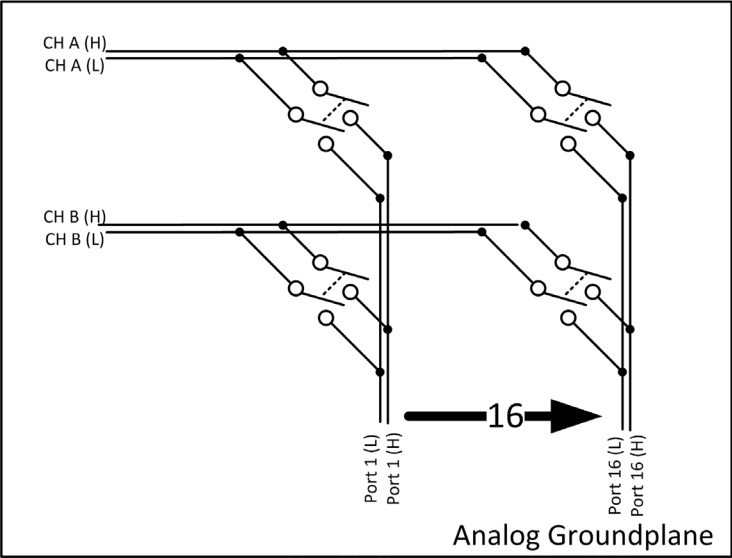
Recommended Uses

- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications as well as General Purpose switching.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all Mid Frequency switching applications.



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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max =220VDC, 250VAC
 - Current Max = 2A (switched)
 - Max Power = 60W, 62.5VA
 - Bandwidth = 50MHz
 - Impedance = 50Ω
 - Life Expectancy = 500K cycles
 - Contact Resistance < 60mΩ
 - Connector AMP/Tyco 104129-9
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - 3U PXI
 - Weight 0.5 lbs

Ordering Information

Model #		Description	Manufacturer #	
7011		(2x16) 2-Wire Matrix, 50MHz (Unshielded)	91000140	Quote Request
		Set of Mating connectors for one Module	89800700	Quote Request



Product Description

The 7012 provides a (2x16) 1-wire Matrix in a small space. This module provides the highest density general purpose switch, ideal for switching instrumentation and other general purpose switching applications. The 7012 has been designed with several exceptional features that make it stand out from competitive products.

■ **3U Form Factor** – The 3U PXI format is the most popular PXI size, and is compatible with all brands of PXI approved products.

■ Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

■ **Dual Row Connectors** – Selected to enable use of low cost Twisted Pair Ribbon Cable and IDC connectors.

Capabilities

- (2x16) 1-wire Matrix
- Bandwidth = 113MHz
- Voltage Max = 220VDC, 220VACpk
- Current Max = 1A (carry)

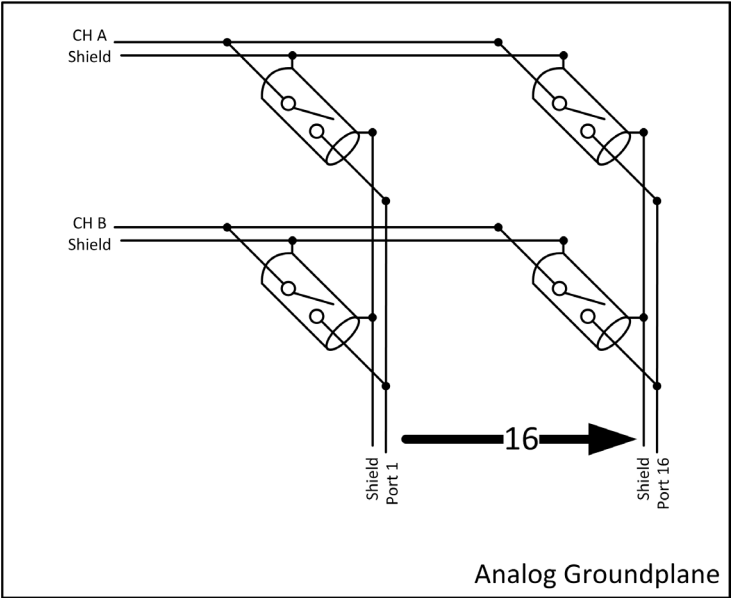
Recommended Uses

- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications as well as General Purpose switching.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all Mid Frequency switching applications.



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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- Voltage Max =220VDC, 220VACpk
- Current Max = 1A (carry)
- Max Power = 10W
- Bandwidth = 113MHz
- Insertion Loss = -0.55dB @ 50MHz
- Crosstalk = -34dB @ 50MHz
- Life Expectancy = 1B cycles
- Contact Resistance < 0.187Ω
- Connector AMP/Tyco 104129-9

Environmental

Temperature

- Operating 0° to 50°C
- Storage -40° to 75°C

Humidity (non-condensing)

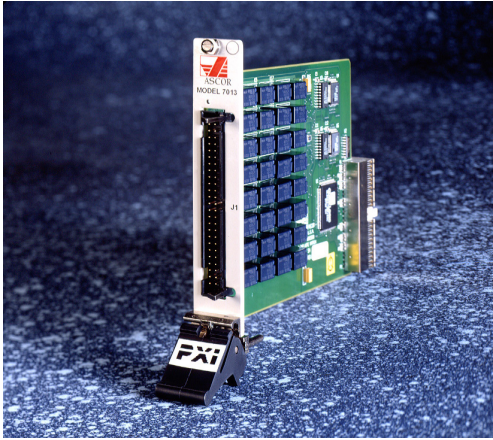
- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- 3U PXI
- Weight 0.5 lbs

Ordering Information

Model #	Description	Manufacturer #	
7012	(2x16) 1-Wire Matrix, 113MHz (shielded)	91000020	Quote Request
	Set of Mating connectors for one Module	89800700	Quote Request



Product Description

The 7013 provides a (4x8) 2-wire Matrix in a small space. This module provides the highest density general purpose switch, ideal for switching instrumentation and other general purpose switching applications. The 7013 has been designed with several exceptional features that make it stand out from competitive products.

■ **3U Form Factor** – The 3U PXI format is the most popular PXI size, and is compatible with all brands of PXI approved products.

■ **Dual Row Connectors** – Selected to enable use of low cost Twisted Pair Ribbon Cable and IDC connectors.

Capabilities

- (4x8) 2-wire Matrix
- Bandwidth = 178MHz
- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (switched)

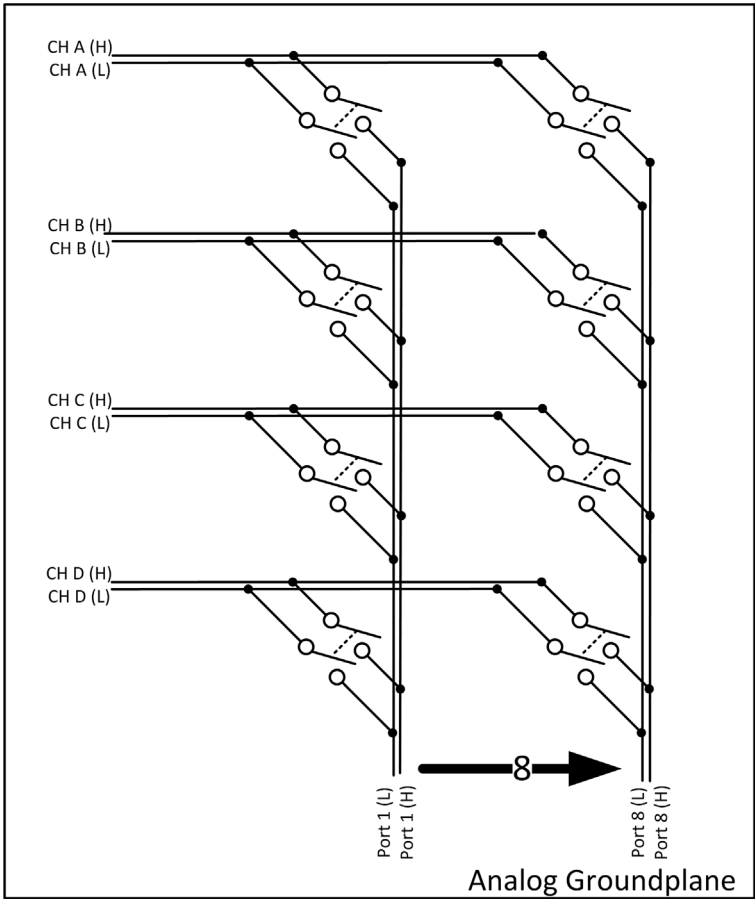
Recommended Uses

- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications as well as General Purpose switching.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all Mid Frequency switching applications.



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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max =220VDC, 220VACpk
 - Current Max = 1A (carry)
 - Max Power = 10W
 - Bandwidth = 178MHz
 - Insertion Loss = -0.4dB @ 100MHz
 - Crosstalk = -50dB @ 100MHz
 - Life Expectancy = 500k cycles
 - Contact Resistance < 330mΩ
 - Connector AMP 104129-9
- **Environmental**

Temperature

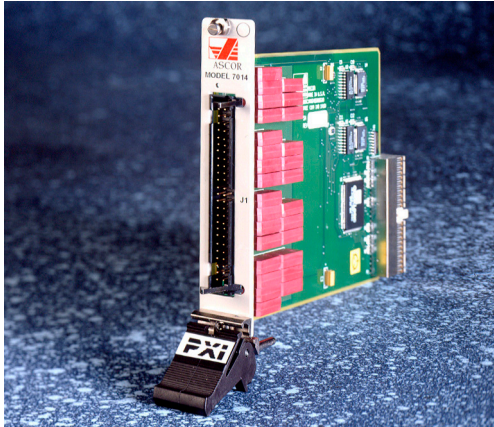
 - Operating 0° to 50°C
 - Storage -40° to 75°C

Humidity (non-condensing)

 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - 3U PXI
 - Weight 0.5 lbs

Ordering Information

Model #		Description	Manufacturer #	
7013		(4x8) 2-wire Matrix (Unshielded)	91000070	Quote Request
		Set of Mating connectors for one Module	89800700	Quote Request



Product Description

The 7014 provides four (1x4) 1-wire Multiplexers in a small space. This module provides the highest density general purpose switch, ideal for switching instrumentation and other general purpose switching applications. The 7014 has been designed with several exceptional features that make it stand out from competitive products.

■ **3U Form Factor** – The 3U PXI format is the most popular PXI size, and is compatible with all brands of PXI approved products.

■ Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

■ **Software Re-configurable** – The 1x4 groups of relays are connected together with additional relays, allowing the board to be configured “on-the-fly” either during a test program, or between applications.

■ **Dual Row Connectors** – Selected to enable use of low cost Twisted Pair Ribbon Cable and IDC connectors.

Capabilities

- 4(1x4) 1-wire Multiplexers
- Configurable as:
- 4(1x4)
- 2(1x8)
- 1(1x16)
- Bandwidth = 150MHz
- Voltage Max = 220VDC, 220VACpk
- Current Max = 1A (carry)

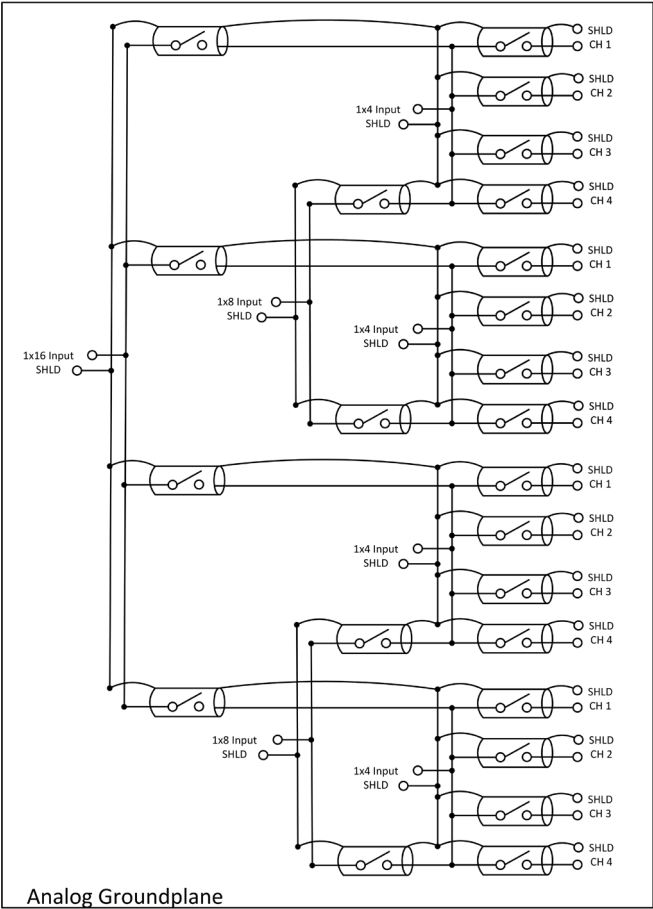
Recommended Uses

- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications as well as General Purpose switching.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all Mid Frequency switching applications.



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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max =220VDC, 220VACpk
 - Current Max = 1A (carry)
 - Max Power = 10W
 - Bandwidth = 150MHz
 - Insertion Loss = -0.4dB @ 100MHz
 - Crosstalk = -50dB @ 100MHz
 - Life Expectancy = 1B cycles
 - Contact Resistance < 0.25mΩ
 - Connector AMP 104129-9
- **Environmental**

Temperature

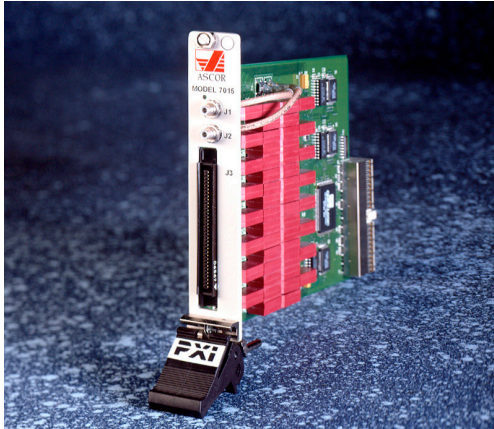
 - Operating 0° to 50°C
 - Storage -40° to 75°C

Humidity (non-condensing)

 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - 3U PXI
 - Weight 0.5 lbs

Ordering Information

Model #		Description	Manufacturer #	
7014		4(1x4) 1-wire Multiplexers, 150MHz (Shielded)	91000050	Quote Request
		Set of Mating connectors for one Module	89800700	Quote Request



Product Description

The 7015 provides a (2x16) Matrix with 16 De-coupling Relays for digital port connections. Ideal for switching instrumentation and other general purpose switching applications. The 7015 has been designed with several exceptional features that make it stand out from competitive products.

■ **3U Form Factor** – The 3U PXI format is the most popular PXI size, and is compatible with all brands of PXI approved products.

■ Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

■ **Connectors** – SMB inputs, and 68 pin Robinson for the outputs

Capabilities

- (2x16) 1-wire Matrix
- Bandwidth = 90MHz
- Voltage Max = 220VDC, 220VACpk
- Current Max = 1A (carry)

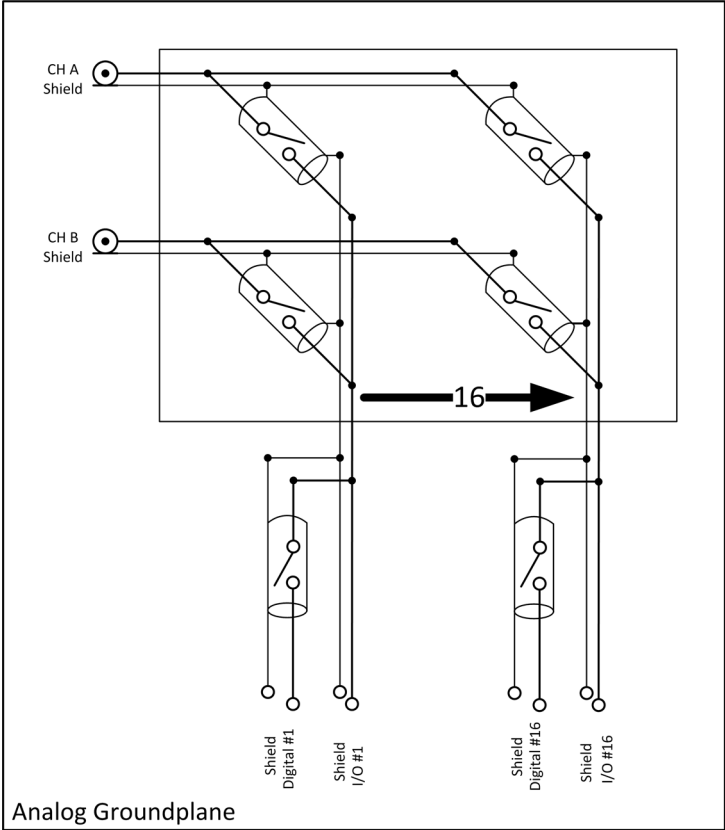
Recommended Uses

- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications as well as General Purpose switching.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all Mid Frequency switching applications.



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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max =220VDC, 220VACpk
 - Current Max = 1A (carry)
 - Max Power = 10W
 - Bandwidth
 - 90MHz (I/O to Input)
 - 329MHz (Dig to I/O)
 - Insertion Loss = -1.4 @ 70MHz
 - Crosstalk = -65dB @ 70MHz
 - Life Expectancy = 1B cycles
 - Contact Resistance < 0.25Ω
 - Connector SMB, 68 pin
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - 3U PXI
 - Weight 0.5 lbs

Ordering Information

Model #		Description	Manufacturer #	
7015	(2x16) 1-wire Matrix, 90MHz (Shielded)		91000040	Quote Request



Product Description

The 7016 provides 32 channels of TTL I/O in a small space. This module provides Tri-stateable interface with TTL devices. The 7016 has been designed with several exceptional features that make it stand out from competitive products.

■ **3U Form Factor** – The 3U PXI format is the most popular PXI size, and is compatible with all brands of PXI approved products.

■ **Dual Row Connectors** – Selected to enable use of low cost Twisted Pair Ribbon Cable and IDC connectors

Capabilities

- 32 Ch TTL I/O

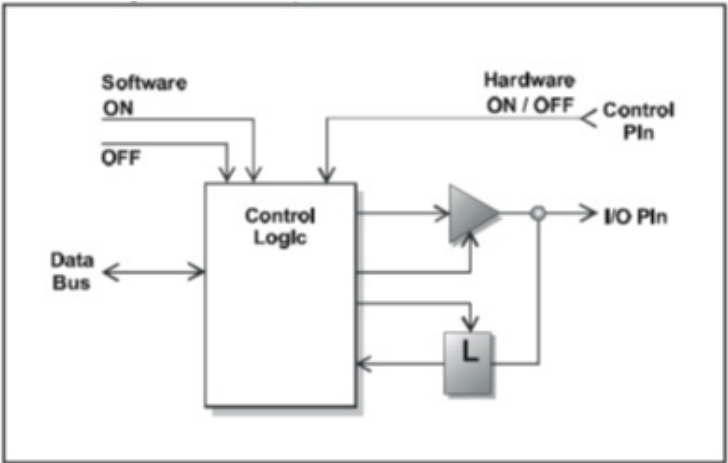
Recommended Uses

- **Instrument Interfacing** – The 7016 provides the ability to control TTL devices, or to take responses from TTL devices.



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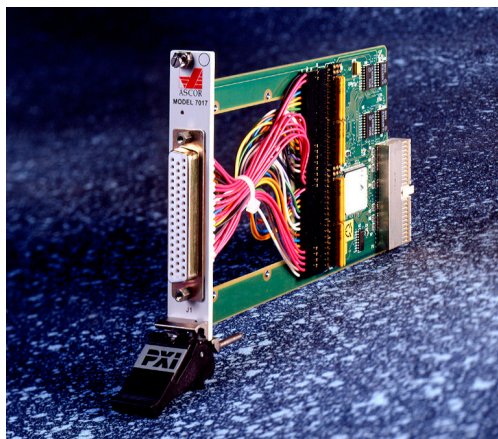
- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - 32 Channels
 - Voh = 2.0v (min)
 - Vol = 0.55v (max)
 - Ioh = 32ma (max)
 - Iol = 64ma (max)
 - Connector AMP 104129-9
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - 3U PXI
 - Weight 0.5 lbs

Ordering Information

Model #		Description	Manufacturer #	
7016		32 Channel TTL I/O	91000030	Quote Request
		Set of Mating connectors for one Module	89800700	Quote Request



Product Description

The 7017 provides 32 channels of Open Collector Relay Drivers in a small space. This module also provides + 5V and +12V from the backplane for powering external relays. The 7017 has been designed with several exceptional features that make it stand out from competitive products.

■ **3U Form Factor** – The 3U PXI format is the most popular PXI size, and is compatible with all brands of PXI approved products.

■ **Discrete Wired Construction** – This method of construction provides maximum current carrying capacity, and allows for internal re-configuration for specific applications. This method also protects the Circuit board from User Induced damage, allowing an overheated wire to be replaced where an entire PC board might have to be replaced otherwise.

■ **Cinch Connector** – Selected for current carrying capacity and robust performance.

Capabilities

- 32 Ch OC Relay Driver
- +5, +12V Supply Voltage
- Current Max = 0.5A

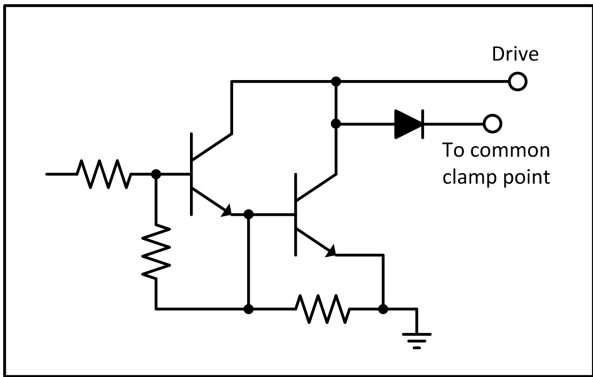
Recommended Uses

- **External Relay control** – useful in any ATE application where a larger device must be controlled by a PXI chassis. RF and Power contactors are good examples of where this product might be used.



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Typical Darlington Channel (1 of 32)

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - OC Voltage Max = 50VDC
 - OC Current Max = 500mA
 - Max Power per 8 pin pkg = 1.5W
 - Vol = 1.6V max
 - Iol = 500mA max
 - Connector Cinch DDM 50S

- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%

- **Mechanical**
 - 3U PXI
 - Weight 0.5 lbs

Ordering Information

Model #	Description	Manufacturer #	
7017	32 Channel OC Relay Drivers	91000120	Quote Request



Product Description

The 7018 provides 32 SPST Switches in a small space. This module provides the highest density general purpose switch, ideal for switching UUT Power as well as other current carrying signals. The 7018 has been designed with several exceptional features that make it stand out from competitive products.

- **3U Form Factor** – The 3U PXI format is the most popular PXI size, and is compatible with all brands of PXI approved products.
- **Positronic Connectors** – Selected for high bandwidth and robust performance.

Capabilities

- 32 SPST
- Bandwidth = 153MHz
- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (switched)

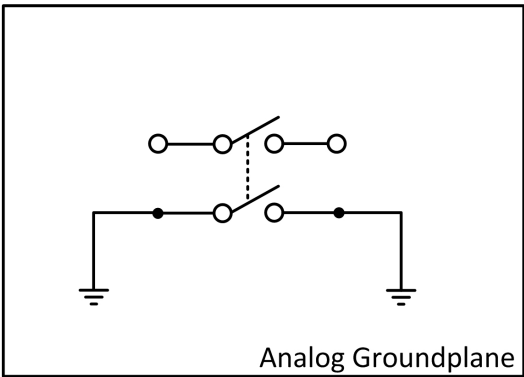
Recommended Uses

- **General Purpose switching** – the ease of expansion using this module makes it ideal for all Low Frequency switching applications.



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Typical Channel (1 of 32). Second Pole of DPST grounded for improved Bandwidth

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- Electrical**
 - Voltage Max =220VDC, 250VAC
 - Current Max = 2A (switched)
 - Max Power = 60W or 62.5VA
 - Bandwidth = 153MHz
 - Crosstalk = -22dB @ 100MHz
 - Life Expectancy = 500K cycles
 - Contact Resistance < 60mΩ
 - 1 & J2 Connectors
 - Positronic SMPL34M0TOLB
- Environmental**

Temperature

 - Operating 0° to 50°C
 - Storage -40° to 75°C

Humidity (non-condensing)

 - Operating 10 to 90%
 - Storage 0 to 95%
- Mechanical**
 - 3U PXI
 - Weight 0.5 lbs

Ordering Information

Model #	Description	Manufacturer #	
7018	32 SPST, 2A, 153MHz	91000150	Quote Request
	Set of Mating connectors for one Module	89800570	Quote Request
	Set of Pigtail Cables for one Module, 6ft length	89800570-006	Quote Request



Product Description

The 7019 provides sixteen SPDT Switches in a small space. This module provides the highest density general purpose switch, ideal for switching UUT Power as well as other current carrying signals. The 7019 has been designed with several exceptional features that make it stand out from competitive products.

- **3U Form Factor** – The 3U PXI format is the most popular PXI size, and is compatible with all brands of PXI approved products.
- **Positronic Connectors** – Selected for high bandwidth and robust performance.

Capabilities

- 16 SPDT
- Bandwidth = 67MHz
- Voltage Max = 110VDC, 277VAC
- Current Max = 5A (switched)

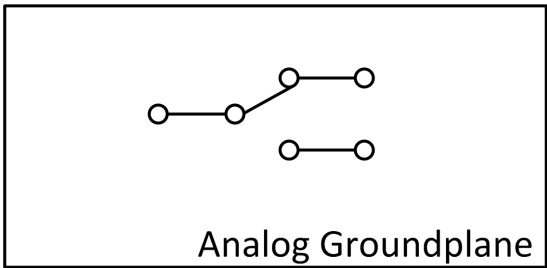
Recommended Uses

- **Power Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications as well as Power Distribution applications.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all Low Frequency switching applications.



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Typical Channel (1 of 16)

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 110VDC, 277VAC
 - Current Max = 5A (switched)
 - Max Power = 150W or 1250VA
 - Bandwidth = 67MHz
 - Life Expectancy = 1M cycles
 - Contact Resistance < 0.1Ω
 - Connector
 - Positronic SMPL34M0TOLB
- **Environmental**

Temperature

 - Operating 0° to 50°C
 - Storage -40° to 75°C

Humidity (non-condensing)

 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - 3U PXI
 - Weight 0.5 lbs

Ordering Information

Model #		Description	Manufacturer #	
7019		16 SPDT 5A, 67MHz	91000090	Quote Request
		Set of Mating connectors for one Module	89800710	Quote Request
		Set of Pigtail Cables for one Module, 6ft length	89800710-006	Quote Request

Product Description

The 7020 provides sixteen SPDT Switches in a small space. This module provides the highest density general purpose switch, ideal for switching UUT Power as well as other current carrying signals. The 7020 has been designed with several exceptional features that make it stand out from competitive products.

■ **3U Form Factor** – The 3U PXI format is the most popular PXI size, and is compatible with all brands of PXI approved products.

■ **Dual Row Connectors** – Selected to allow the use of low cost Twisted Pair Ribbon cable and IDC connectors.

Capabilities

- 16 SPDT
- Bandwidth = 67MHz
- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (switched)

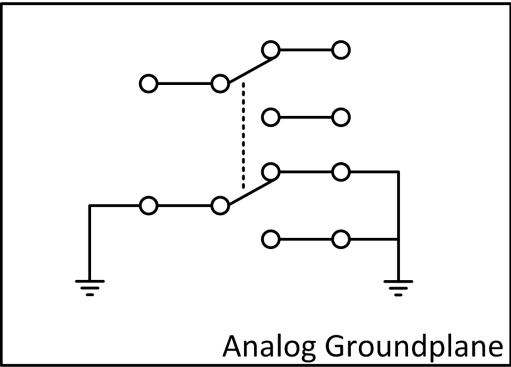
Recommended Uses

- **General Purpose switching** – the ease of expansion using this module makes it ideal for all Low Frequency switching applications.



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Typical Channel (1 of 16).
Second Pole of DPDT grounded for
Improved Bandwidth.

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- Electrical**
 - Voltage Max =220VDC, 250VAC
 - Current Max = 2A (switched)
 - Max Power = 60W or 62.5VA
 - Bandwidth = 67MHz
 - Life Expectancy = 500K cycles
 - Contact Resistance < 60mΩ
 - Connector
 - AMP/Tyco 104129-9
- Environmental**

Temperature

 - Operating 0° to 50°C
 - Storage -40° to 75°C

Humidity (non-condensing)

 - Operating 10 to 90%
 - Storage 0 to 95%
- Mechanical**
 - 3U PXI
 - Weight 0.5 lbs

Ordering Information

Model #	Description	Manufacturer #	
7020	16 SPDT 2A, 67MHz	91000060	Quote Request
7020T	16 SPDT, 2A, 67MHz [-21 Degrees C]	91000061	Quote Request
	Set of Mating connectors for one Module	89800700	Quote Request



Capabilities

- (2x16) 2-wire Matrix
- Bandwidth = 90MHz
- Voltage Max = 220VDC, 220VACpk
- Current Max = 1A (carry)

Recommended Uses

- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications as well as General Purpose switching.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all Mid Frequency switching applications.

Product Description

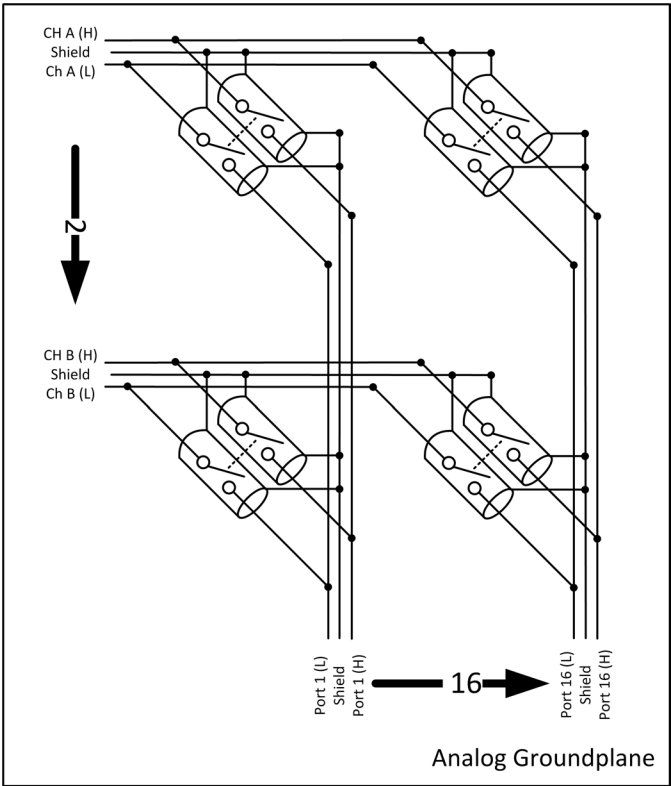
The 7021 provides a (2x16) 2-wire Matrix in a small space. This module provides the highest density general purpose switch, ideal for switching instrumentation and other general purpose switching applications. The 7021 has been designed with several exceptional features that make it stand out from competitive products.

- **3U Form Factor** – The 3U PXI format is the most popular PXI size, and is compatible with all brands of PXI approved products.
- **Coaxially Shielded Reed Relays** –
 - Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
 - Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
 - These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.
- **Dual Row Connectors** – Selected to enable use of low cost Twisted Pair Ribbon Cable and IDC connectors.



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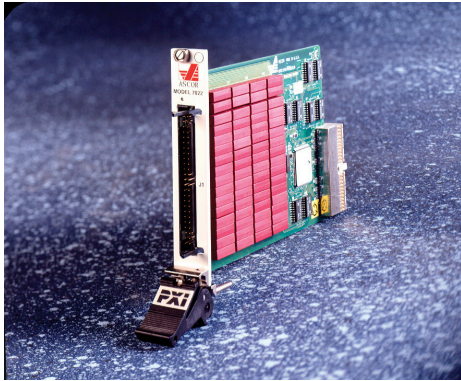
- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max =220VDC, 220VACpk
 - Current Max = 1A (carry)
 - Max Power = 10W
 - Bandwidth = 90MHz
 - Insertion Loss = 0.6dB @ 50MHz
 - Crosstalk = -36dB @ 50MHz
 - Life Expectancy = 1B cycles
 - Contact Resistance < 150mΩ
 - Connector AMP 104129-9
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - 3U PXI
 - Weight 0.5 lbs

Ordering Information

Model #		Description	Manufacturer #	
7021		(2x16) 2-wire Matrix, 90MHz (Shielded)	91000080	Quote Request
		Set of Mating connectors for one Module	89800700	Quote Request



Product Description

The 7022 provides a (4x16) 1-wire Matrix in a small space. This module provides the highest density general purpose switch, ideal for switching instrumentation and other general purpose switching applications. The 7022 has been designed with several exceptional features that make it stand out from competitive products.

■ **3U Form Factor** – The 3U PXI format is the most popular PXI size, and is compatible with all brands of PXI approved products.

■ Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

■ **Dual Row Connectors** – Selected to enable use of low cost Twisted Pair Ribbon Cable and IDC connectors.

Capabilities

- (4x16) 1-wire Matrix
- Bandwidth = 90MHz
- Voltage Max = 220VDC, 220VACpk
- Current Max = 1A (carry)

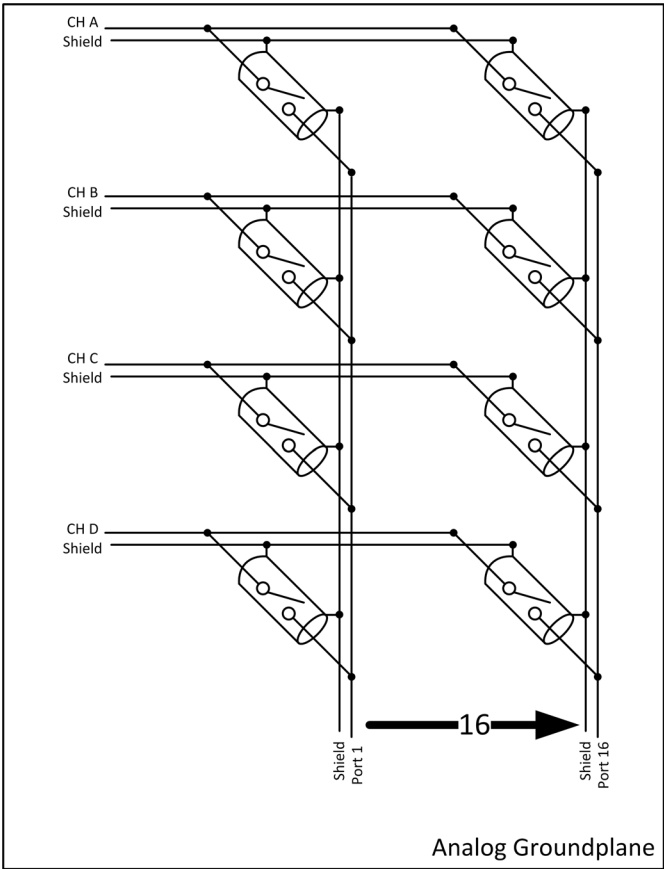
Recommended Uses

- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications as well as General Purpose switching.
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all Mid Frequency switching applications.



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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max =220VDC, 220VACpk
 - Current Max = 1A (carry)
 - Max Power = 10W
 - Bandwidth = 90MHz
 - Insertion Loss = 0.6dB @ 50MHz
 - Crosstalk = -36dB @ 50MHz
 - Life Expectancy = 1B cycles
 - Contact Resistance < 150mΩ
 - Connector AMP 104129-9
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - 3U PXI
 - Weight 0.5 lbs

Ordering Information

Model #		Description	Manufacturer #	
7022		(4x16)12-wire Matrix, 90MHz (Shielded)	91000100	Quote Request
		Set of Mating connectors for one Module	89800700	Quote Request

Product Description

The 7023 provides 32 SPST Switches in a small space. This module provides the highest density general purpose switch, ideal for switching UUT Power as well as other current carrying signals. The 7023 has been designed with several exceptional features that make it stand out from competitive products.

■ **3U Form Factor** – The 3U PXI format is the most popular PXI size, and is compatible with all brands of PXI approved products.

■ Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

Capabilities

- 32 SPST
- Bandwidth = 103MHz
- Voltage Max = 220VDC, 220VACpk
- Current Max = 1A (carry)

Recommended Uses

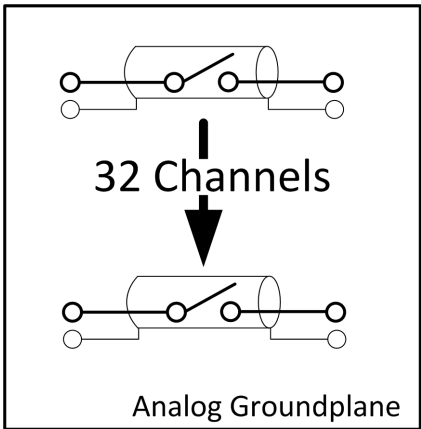
- **General Purpose switching** – the ease of expansion using this module makes it ideal for all Mid Frequency switching applications.

■ **Positronic Connectors** – Selected for high bandwidth and robust performance.



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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max =220VDC, 220VACpk
 - Current Max = 1A (Carry)
 - Max Power = 10W
 - Bandwidth = 103MHz
 - Crosstalk = -19dB @ 50MHz
 - Insertion Loss = -0.5dB @ 50MHz
 - Life Expectancy = 1B cycles
 - Contact Resistance < 187mΩ
 - J1 & J2 Connectors
 - Positronic SMPL34M0TOLB
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - 3U PXI
 - Weight 0.5 lbs

Ordering Information

Model #	Description	Manufacturer #	
7023	32 SPST, 153MHz (Shielded)	91000150	Quote Request
	Set of Mating connectors for one Module	89800570	Quote Request
	Set of Pigtail Cables for one Module, 6ft length	89800570-006	Quote Request

Product Description

The 7024 provides a (4x8) 2-wire Matrix in a small space. This module provides the highest density general purpose switch, ideal for switching instrumentation and other general purpose switching applications. The 7024 has been designed with several exceptional features that make it stand out from competitive products.

■ **3U Form Factor** – The 3U PXI format is the most popular PXI size, and is compatible with all brands of PXI approved products.

■ Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “low Voltage” switching applications. Unlike, ordinary gold plated non-sealed relays which depend on switching arcs to keep contacts clean and will build up resistance in Dry switching applications.

■ **Dual Row Connectors** – Selected to enable use of low cost Twisted Pair Ribbon Cable and IDC connectors

Capabilities

- (4x8) 2-wire Matrix
- Bandwidth = 90MHz
- Voltage Max = 220VDC, 220VACpk
- Current Max = 1A (carry)

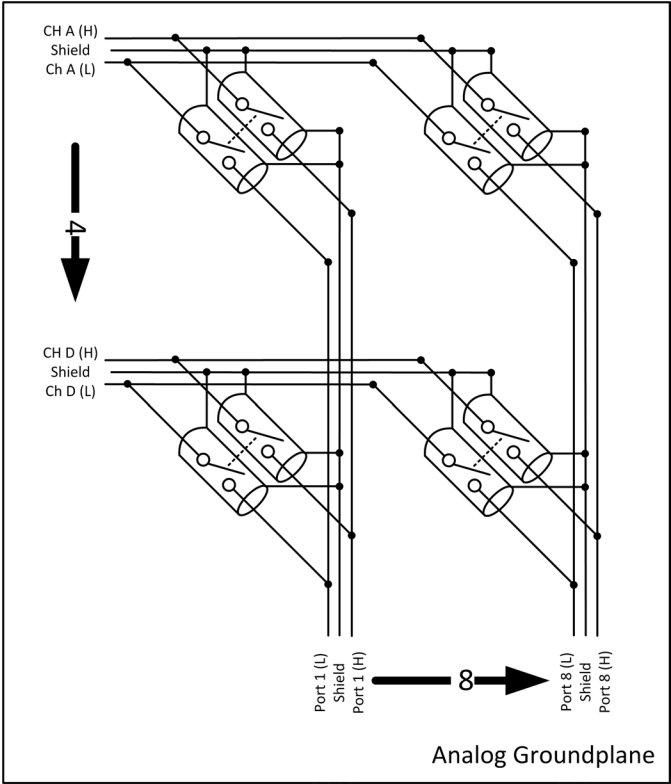
Recommended Uses

- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications as well as General Purpose switching.
- **General Purpose Switching** – the ease of expansion using this module makes it ideal for all Mid Frequency switching applications.



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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max =220VDC, 220VACpk
 - Current Max = 1A (carry)
 - Max Power = 10W
 - Bandwidth = 90MHz
 - Crosstalk = -40dB @ 100MHz
 - Life Expectancy = 1B cycles
 - Contact Resistance < 250mΩ
 - Connector AMP 104129-9
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - 3U PXI
 - Weight 0.5 lbs

Ordering Information

Model #		Description	Manufacturer #	
7024		(4x8) 2-wire Matrix (Shielded) 90MHz	91000130	Quote Request
		Set of Mating connectors for one Module	89800700	Quote Request



Product Description

The 7026 provides a (1x32) 2-wire Matrix in a small space. This module provides the highest density general purpose switch, ideal for switching instrumentation and other general purpose switching applications. The 7026 has been designed with several exceptional features that make it stand out from competitive products.

■ **3U Form Factor** – The 3U PXI format is the most popular PXI size, and is compatible with all brands of PXI approved products.

■ **Positronic Connectors** – Selected for high bandwidth and robust performance.

Capabilities

- (1x32) 2-wire Multiplexer
- Bandwidth = 26MHz
- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (switched)

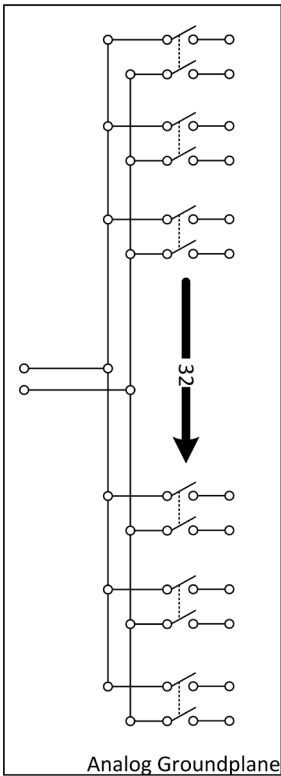
Recommended Uses

- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications as well as General Purpose switching.
- **General Purpose Switching** – the ease of expansion using this module makes it ideal for all Mid Frequency switching applications.



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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max =220VDC, 250VAC
 - Current Max = 2A (switched)
 - Max Power = 60W
 - Bandwidth = 26MHz
 - Insertion Loss = .39dB @ 10MHz
 - Crosstalk = -22dB @ 10MHz
 - Life Expectancy = 500K cycles
 - Contact Resistance < 0.28Ω
 - Connector
 - Positronic SMPL34M0TOLB
- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - 3U PXI
 - Weight 0.5 lbs

Ordering Information

Model #		Description	Manufacturer #	
7026		(1x32) 2-wire Multiplexer (Unshielded)	91000200	Quote Request
		Set of Mating connectors for one Module	89800570	Quote Request
		Set of Pigtail Cables for one Module, 6ft length	89800570-006	Quote Request



Product Description

The 7026 provides a (1x32) 2-wire Matrix in a small space. This module provides the highest density general purpose switch, ideal for switching instrumentation and other general purpose switching applications. The 7026 has been designed with several exceptional features that make it stand out from competitive products.

■ **3U Form Factor** – The 3U PXI format is the most popular PXI size, and is compatible with all brands of PXI approved products.

■ **Software Re-configurable** – The 1x8 groups of relays are connected together with additional relays, allowing the board to be configured “on-the-fly” either during a test program, or between applications.

■ **Positronic Connectors** – Selected for high bandwidth and robust performance.

Capabilities

- 4(1X8) 2-wire Multiplexers
- Software Configurable as
 - 4(1x8)
 - 2(1x16)
 - 1(1x24) & 1(1x8)
 - 1(1x32)
- Bandwidth = 73MHz
- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (switched)

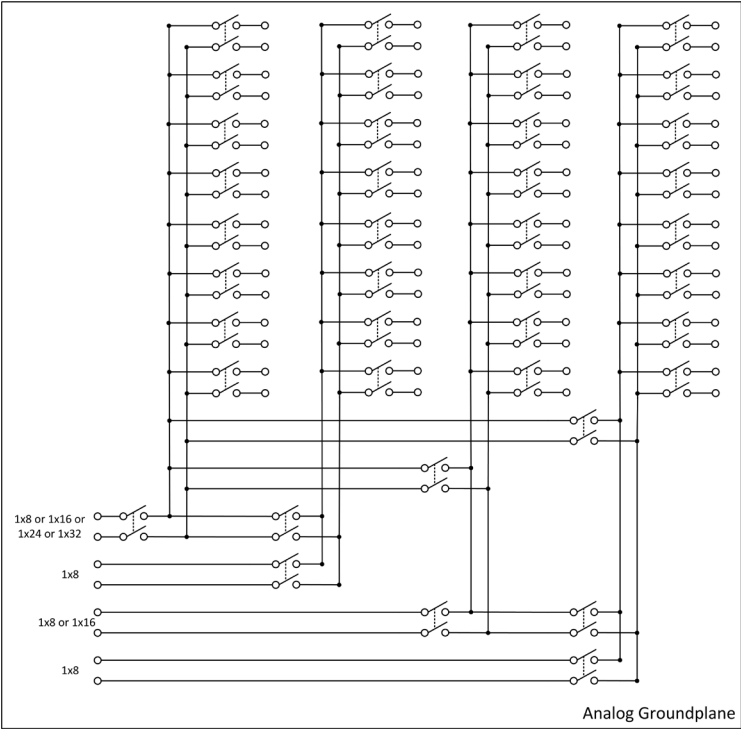
Recommended Uses

- **Instrument Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications as well as General Purpose switching.
- **General Purpose Switching** – the ease of expansion using this module makes it ideal for all Mid Frequency switching applications.



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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

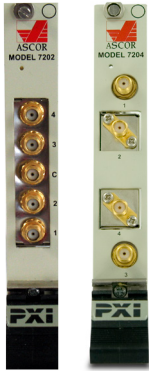
- **Electrical**
 - Voltage Max =220VDC, 250VAC
 - Current Max = 2A (switched)
 - Max Power = 60W, 62.5VA
 - Bandwidth = 73MHz
 - Insertion Loss = -.15dB @ 10MHz
 - Crosstalk = -42dB @ 10MHz
-31 @ 50MHz
 - Life Expectancy = 500K cycles
 - Contact Resistance < 60mΩ
 - Connectors
 - J1 = Positronic SMPL44M0TOLB
 - J2 = Positronic SMPL50M0TOLB

- **Environmental**
 - Temperature**
 - Operating 0° to 50°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%

- **Mechanical**
 - 3U PXI
 - Weight 0.5 lbs

Ordering Information

Model #		Description	Manufacturer #	
7027		4(1X8) 2-wire Multiplexers (Unshielded)	91000210	Quote Request
		Set of Mating connectors for one Module	89800860	Quote Request



Product Description

The 720x series of products provides a configurable Microwave Switching platform for PXI. The module is configured as a 1 or 2 slot module depending on the particular switches selected. This module provides a High Bandwidth general purpose switch, ideal for switching Microwave frequency or high Bandwidth Digital Signals. The 720x has been designed with several exceptional features that make it stand out from competitive products.

Capabilities

- SPDT, SP4T, SP6T, DPDT
- Bandwidth = 0-6, 26.5, 40 GHz
- Power = 15 Watts
- Path Impedance 50Ω

■ **3U Form Factor** – The 3U PXI format is the most popular PXI size, and is compatible with all brands of PXI approved products.

■ **Switch Configurations** – Microwave Switches in the following configurations are available 1x2, 1x4, 1x6 and DPDT Transfer Switches, one or two switches per module.

■ **Frequency Ranges** - DC-3GHz, 6GHz, 18GHz, 26.5GHz and 40GHz are all available.

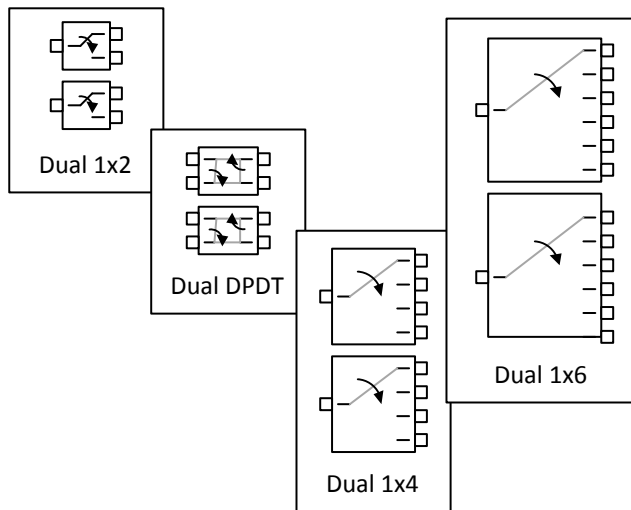
Recommended Uses

- **High Bandwidth Applications** – This module is ideal for any high Bandwidth application where RF insertion loss must be minimized or extremely fast rising/falling edges must be preserved.
- **RF Switching** – Low Crosstalk and high Bandwidth makes this module ideal for Higher Frequency applications such as Test Instrumentation.



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Custom Configurations can be accommodated

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

Electrical

- (1x2), (1x4), (1x6), DPDT
- Power Max = 15W
- Path Impedance 50Ω
- Bandwidth = 0.6, 26.5, 40 GHz

Environmental Temperature

- Operating 0° to 50°C
- Storage -40° to 75°C

Humidity (non-condensing)

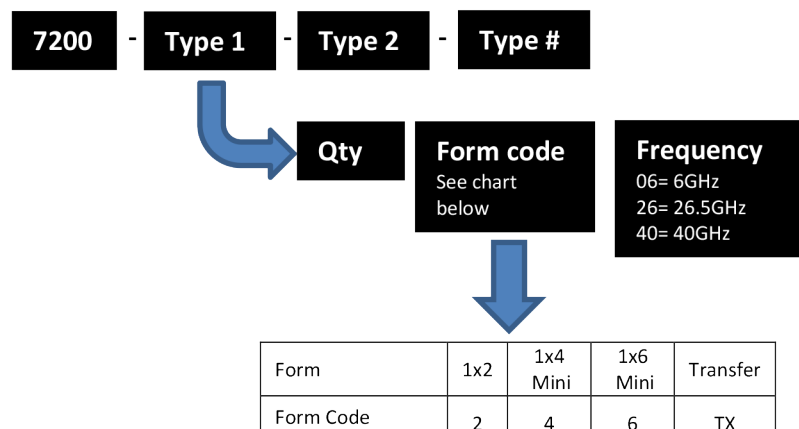
- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

- 3U PXI
- Connector SMA-F

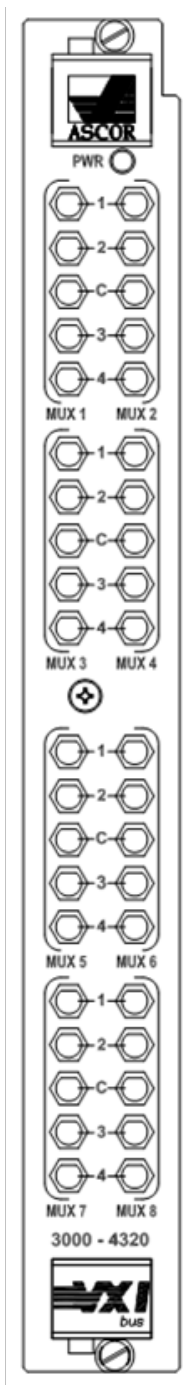
Ordering Information

Configuration Guide



Examples

7200-2426 = 2(1x4) 26.5GHz switches



Product Description

Tektronix has chosen to exit the VXI module market. This has caused some concern with users who have Tektronix modules running in systems which still have to be maintained for some indefinite future period. Giga-tronics ASCOR, drawing on its 15 years of producing general purpose VXI modules, has designed functionally equivalent replacements for a number of Tektronix modules. However we have gone beyond just functional equivalence, we provide a unit which is both hardware and, with ASCOR's *Plug&Play* drivers, software compatible with existing systems.

Compatibility

- **HARDWARE** - From the hardware front panel, . Giga-tronics ASCOR has chosen to take the "clone" approach. The front panels have the same connectors with the same signals appearing on the same pins as the original Tektronix modules. No adaptor cables or cross-reference charts are needed. Hardware *Plug&Play*.
- **SOFTWARE** - The Giga-tronics ASCOR *Plug&Play* software driver, which is provided for each unit, replaces the Tektronix *Plug&Play* software driver. When the ASCOR driver is installed it will run either the original Tektronix unit or the ASCOR replacement at the same time in the same chassis. No changes to any system code are needed.

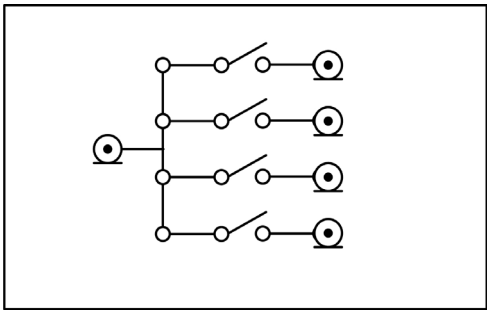
Future OBSOLESCENCE

While ASCOR has taken a "clone" approach to the front panel connectors, inside the module is a different story. Again using its 15 year history of designing superior VXI modules, ASCOR designs the inside circuitry using the latest parts and technology. There is no worry of the Giga-tronics ASCOR unit becoming obsolete because of the parts used. Strict adherence to transmission line design ensures a module with greater bandwidth and lower cross-talk than the original Tektronix unit.



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Typical Channel

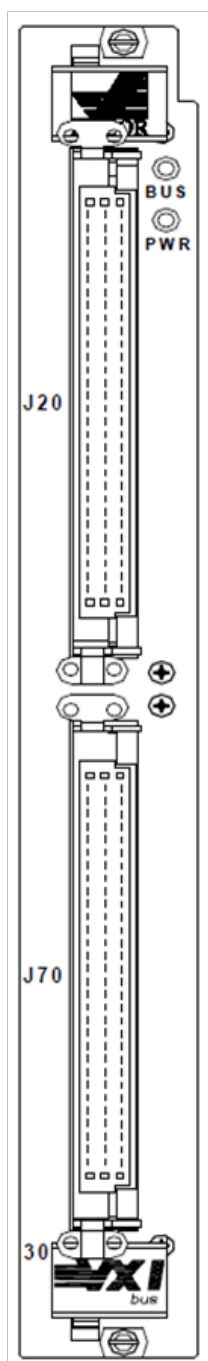
- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Bandwidth = 1.3GHz
 - Power = 10W max
 - Cross Talk = -46.17 dB @ 1.3 GHz
 - Insertion Loss = -1.25 @ 1.3 GHz
- **Power Requirements**
 - 5 volts @ 2.2A
- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI
 - Weight 3lbs

Ordering Information

Model #		Description	Manufacturer #	
3000-4320A		RF SW, 8 (1x4), 1.3GHz (10 Watts Max) [TEKTRONIX VX4320]	90401351	Quote Request



Product Description

Tektronix has chosen to exit the VXI module market. This has caused some concern with users who have Tektronix modules running in systems which still have to be maintained for some indefinite future period. Giga-tronics ASCOR, drawing on its 15 years of producing general purpose VXI modules, has designed functionally equivalent replacements for a number of Tektronix modules. However we have gone beyond just functional equivalence, we provide a unit which is both hardware and, with ASCOR's *Plug&Play* drivers, software compatible with existing systems.

Compatibility

- **HARDWARE** - From the hardware front panel, . Giga-tronics ASCOR has chosen to take the "clone" approach. The front panels have the same connectors with the same signals appearing on the same pins as the original Tektronix modules. No adaptor cables or cross-reference charts are needed. Hardware *Plug&Play*.
- **SOFTWARE** - The Giga-tronics ASCOR *Plug&Play* software driver, which is provided for each unit, replaces the Tektronix *Plug&Play* software driver. When the ASCOR driver is installed it will run either the original Tektronix unit or the ASCOR replacement at the same time in the same chassis. No changes to any system code are needed.

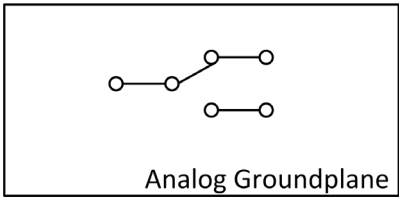
Future OBSOLESCENCE

While ASCOR has taken a "clone" approach to the front panel connectors, inside the module is a different story. Again using its 15 year history of designing superior VXI modules, ASCOR designs the inside circuitry using the latest parts and technology. There is no worry of the Giga-tronics ASCOR unit becoming obsolete because of the parts used. Strict adherence to transmission line design ensures a module with greater bandwidth and lower cross-talk than the original Tektronix unit.



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Typical Channel

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- ▣ **Electrical**
 - Voltage Max = 125VDC, 250VAC
 - Current Max = 2A (switched)
 - Power Max = 60W
- ▣ **Power Requirements**
 - 5 volts @ 2.2A (Max)
- ▣ **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- ▣ **Mechanical**
 - "C" size VXI
 - Weight 3lbs

Ordering Information

Model #		Description	Manufacturer #	
3000-4350		GP Relay, 64 SPDT, 2A [TEKTRONIX VX4350]	90401340	Quote Request

Product Description

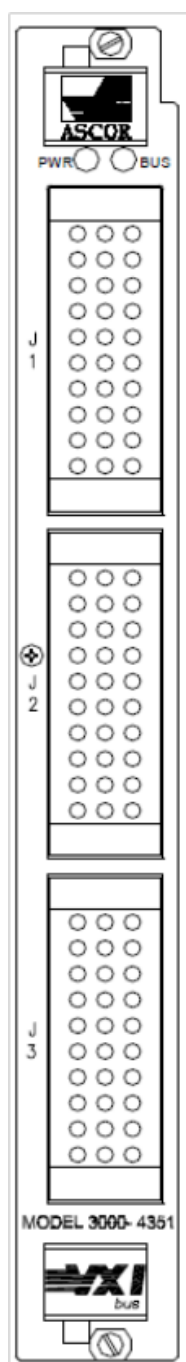
Tektronix has chosen to exit the VXI module market. This has caused some concern with users who have Tektronix modules running in systems which still have to be maintained for some indefinite future period. Giga-tronics ASCOR, drawing on its 15 years of producing general purpose VXI modules, has designed functionally equivalent replacements for a number of Tektronix modules. However we have gone beyond just functional equivalence, we provide a unit which is both hardware and, with ASCOR's *Plug&Play* drivers, software compatible with existing systems.

Compatibility

- **HARDWARE** - From the hardware front panel, . Giga-tronics ASCOR has chosen to take the "clone" approach. The front panels have the same connectors with the same signals appearing on the same pins as the original Tektronix modules. No adaptor cables or cross-reference charts are needed. Hardware *Plug&Play*.
- **SOFTWARE** - The Giga-tronics ASCOR *Plug&Play* software driver, which is provided for each unit, replaces the Tektronix *Plug&Play* software driver. When the ASCOR driver is installed it will run either the original Tektronix unit or the ASCOR replacement at the same time in the same chassis. No changes to any system code are needed.

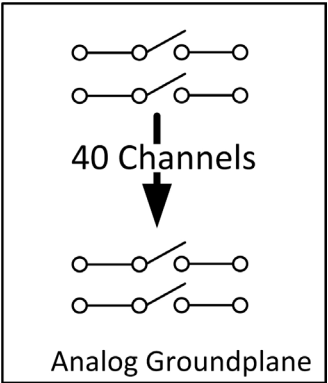
Future OBSOLESCENCE

While ASCOR has taken a "clone" approach to the front panel connectors, inside the module is a different story. Again using its 15 year history of designing superior VXI modules, ASCOR designs the inside circuitry using the latest parts and technology. There is no worry of the Giga-tronics ASCOR unit becoming obsolete because of the parts used. Strict adherence to transmission line design ensures a module with greater bandwidth and lower cross-talk than the original Tektronix unit.



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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- ▣ **Electrical**
 - Voltage Max = 125VDC, 250VAC
 - Current Max = 10A (switched)
 - Power Max = 300W
 - Non-inductive load
- ▣ **Power Requirements**
 - 5 volts @ 2.2A (MAX)
 - +12 volts @ 4.3A (MAX, all relays)
- ▣ **Environmental**

Temperature

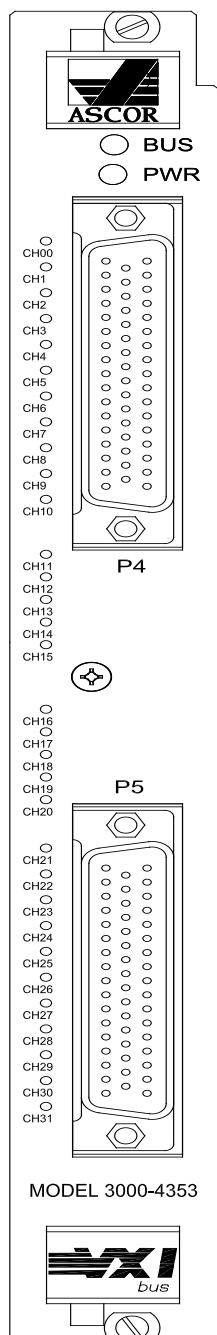
 - Operating 0° to 55°C
 - Storage -40° to 75°C

Humidity (non-condensing)

 - Operating 10 to 90%
 - Storage 0 to 95%
- ▣ **Mechanical**
 - "C" size VXI
 - Weight 4lbs

Ordering Information

Model #		Description	Manufacturer #	
3000-4351		40 SPST, 10 Amp [TEKTRONIX VX4351]	90401220	Quote Request



Product Description

Tektronix has chosen to exit the VXI module market. This has caused some concern with users who have Tektronix modules running in systems which still have to be maintained for some indefinite future period. Giga-tronics ASCOR, drawing on its 15 years of producing general purpose VXI modules, has designed functionally equivalent replacements for a number of Tektronix modules. However we have gone beyond just functional equivalence, we provide a unit which is both hardware and, with ASCOR's *Plug&Play* drivers, software compatible with existing systems.

Compatibility

- **HARDWARE** - From the hardware front panel, . Giga-tronics ASCOR has chosen to take the "clone" approach. The front panels have the same connectors with the same signals appearing on the same pins as the original Tektronix modules. No adaptor cables or cross-reference charts are needed. Hardware *Plug&Play*.
- **SOFTWARE** - The Giga-tronics ASCOR *Plug&Play* software driver, which is provided for each unit, replaces the Tektronix *Plug&Play* software driver. When the ASCOR driver is installed it will run either the original Tektronix unit or the ASCOR replacement at the same time in the same chassis. No changes to any system code are needed.

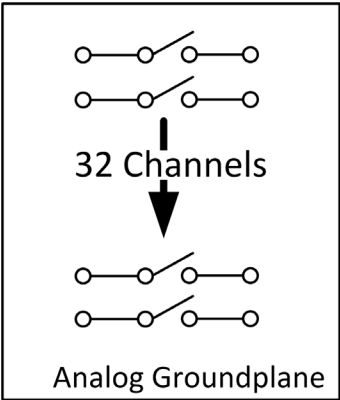
Future OBSOLESCENCE

While ASCOR has taken a "clone" approach to the front panel connectors, inside the module is a different story. Again using its 15 year history of designing superior VXI modules, ASCOR designs the inside circuitry using the latest parts and technology. There is no worry of the Giga-tronics ASCOR unit becoming obsolete because of the parts used. Strict adherence to transmission line design ensures a module with greater bandwidth and lower cross-talk than the original Tektronix unit.



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Typical Channel

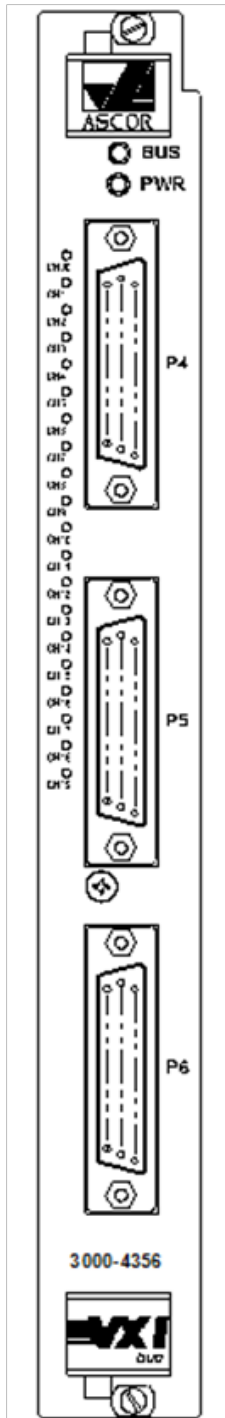
Specifications

- **Electrical**
 - Voltage Max = 110VDC, 277VAC
 - Current Max = 5A (switched)
 - Power Max = 150W
 - Crosstalk = -40dB at 1MHz
 - Non-inductive load
- **Power Requirements**
 - 5 volts @ 2.2A (MAX)
- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI
 - Weight 3lbs

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Ordering Information

Model #		Description	Manufacturer #	
3000-4353		Relay Switch, 32 SPST, 5A [TEKTRONIX VX4353]	90401310	Quote Request



Product Description

Tektronix has chosen to exit the VXI module market. This has caused some concern with users who have Tektronix modules running in systems which still have to be maintained for some indefinite future period. Giga-tronics ASCOR, drawing on its 15 years of producing general purpose VXI modules, has designed functionally equivalent replacements for a number of Tektronix modules. However we have gone beyond just functional equivalence, we provide a unit which is both hardware and, with ASCOR's *Plug&Play* drivers, software compatible with existing systems.

Compatibility

- **HARDWARE** - From the hardware front panel, . Giga-tronics ASCOR has chosen to take the "clone" approach. The front panels have the same connectors with the same signals appearing on the same pins as the original Tektronix modules. No adaptor cables or cross-reference charts are needed. Hardware *Plug&Play*.
- **SOFTWARE** - The Giga-tronics ASCOR *Plug&Play* software driver, which is provided for each unit, replaces the Tektronix *Plug&Play* software driver. When the ASCOR driver is installed it will run either the original Tektronix unit or the ASCOR replacement at the same time in the same chassis. No changes to any system code are needed.

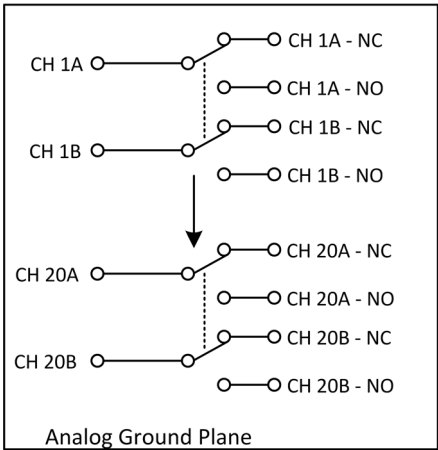
Future OBSOLESCENCE

While ASCOR has taken a "clone" approach to the front panel connectors, inside the module is a different story. Again using its 15 year history of designing superior VXI modules, ASCOR designs the inside circuitry using the latest parts and technology. There is no worry of the Giga-tronics ASCOR unit becoming obsolete because of the parts used. Strict adherence to transmission line design ensures a module with greater bandwidth and lower cross-talk than the original Tektronix unit.



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Typical Channel

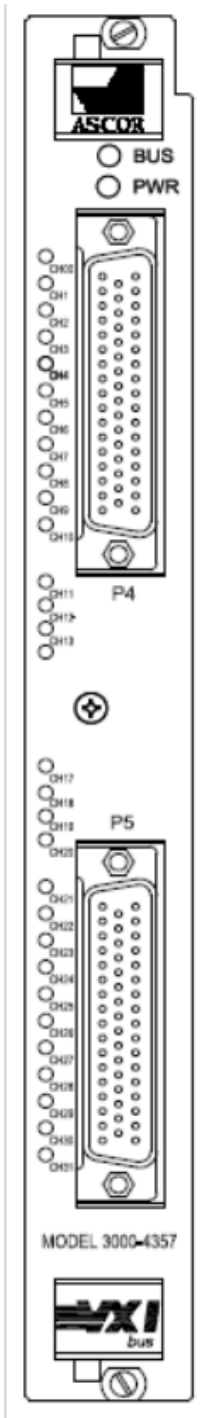
- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- ▣ **Electrical**
 - Voltage Max = 125VDC, 250VAC
 - Current Max = 5A (switched)
 - Power Max = 120W
 - Crosstalk = -40dB at 1MHz
 - Non-inductive load
- ▣ **Power Requirements**
 - 5 volts @ 2.2A (MAX)
- ▣ **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- ▣ **Mechanical**
 - "C" size VXI
 - Weight 3lbs

Ordering Information

Model #		Description	Manufacturer #	
3000-4356	20 DPDT, 5A Relays [TEKTRONIX VX4356]		90401290	Quote Request



Product Description

Tektronix has chosen to exit the VXI module market. This has caused some concern with users who have Tektronix modules running in systems which still have to be maintained for some indefinite future period. Giga-tronics ASCOR, drawing on its 15 years of producing general purpose VXI modules, has designed functionally equivalent replacements for a number of Tektronix modules. However we have gone beyond just functional equivalence, we provide a unit which is both hardware and, with ASCOR's *Plug&Play* drivers, software compatible with existing systems.

Compatibility

- **HARDWARE** - From the hardware front panel, . Giga-tronics ASCOR has chosen to take the "clone" approach. The front panels have the same connectors with the same signals appearing on the same pins as the original Tektronix modules. No adaptor cables or cross-reference charts are needed. Hardware *Plug&Play*.
- **SOFTWARE** - The Giga-tronics ASCOR *Plug&Play* software driver, which is provided for each unit, replaces the Tektronix *Plug&Play* software driver. When the ASCOR driver is installed it will run either the original Tektronix unit or the ASCOR replacement at the same time in the same chassis. No changes to any system code are needed.

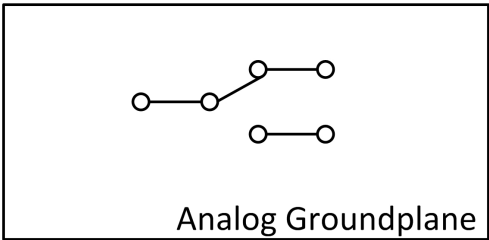
Future OBSOLESCENCE

While ASCOR has taken a "clone" approach to the front panel connectors, inside the module is a different story. Again using its 15 year history of designing superior VXI modules, ASCOR designs the inside circuitry using the latest parts and technology. There is no worry of the Giga-tronics ASCOR unit becoming obsolete because of the parts used. Strict adherence to transmission line design ensures a module with greater bandwidth and lower cross-talk than the original Tektronix unit.



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Typical Channel

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- ▣ **Electrical**
 - Voltage Max = 110VDC, 277VAC
 - Current Max = 5A (switched)
 - Power Max = 150W
 - Bandwidth = 100 MHz
 - Crosstalk = -40dB at 1MHz
 - Non-inductive load
- ▣ **Power Requirements**
 - 5 volts @ 2.2A (MAX)
- ▣ **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- ▣ **Mechanical**
 - "C" size VXI
 - Weight 3lbs

Ordering Information

Model #	Description	Manufacturer #	
3000-4357	32 SPDT, 5Amp [TEKTRONIX VX4357], Register Based module	90401200	Quote Request
VX4357	32 SPDT, 5 Amp [TEKTRONIX VX4357], Message Based Module	90401700	Quote Request

Product Description

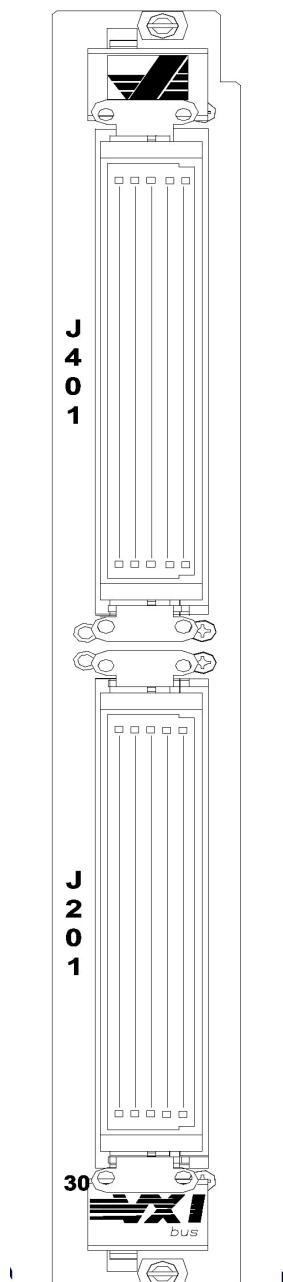
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Compatibility

- **HARDWARE** - From the hardware front panel, . Giga-tronics ASCOR has chosen to take the "clone" approach. The front panels have the same connectors with the same signals appearing on the same pins as the original Tektronix modules. No adaptor cables or cross-reference charts are needed. Hardware *Plug&Play*.
- **SOFTWARE** - The Giga-tronics ASCOR *Plug&Play* software driver, which is provided for each unit, replaces the Tektronix *Plug&Play* software driver. When the ASCOR driver is installed it will run either the original Tektronix unit or the ASCOR replacement at the same time in the same chassis. No changes to any system code are needed.

Future OBSOLESCENCE

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- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Specifications

- **Electrical**
 - Voltage Max = 220VDC, 250VAC
 - Current Max = 2A (switched)
 - Power Max = 60W
 - Bandwidth= 19.8MHz
 - Non-inductive load
- **Power Requirements**
 - 5 volts @ 1.1A (Idle)
 - 5 volts @ 4.3A (Max)
- **Environmental**

Temperature

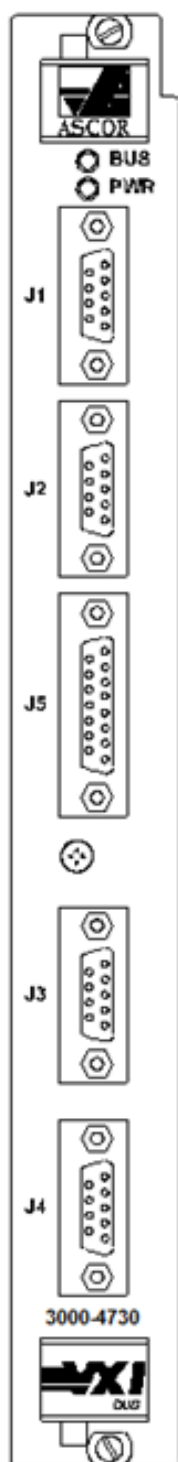
 - Operating 0° to 55°C
 - Storage -40° to 75°C

Humidity (non-condensing)

 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI
 - Weight 3lbs

Ordering Information

Model #		Description	Manufacturer #	
3000-4380		256 Cross Point, 2A [TEKTRONIX VX4380]	90401270	Quote Request



Product Description

Tektronix has chosen to exit the VXI module market. This has caused some concern with users who have Tektronix modules running in systems which still have to be maintained for some indefinite future period. Giga-tronics ASCOR, drawing on its 15 years of producing general purpose VXI modules, has designed functionally equivalent replacements for a number of Tektronix modules. However we have gone beyond just functional equivalence, we provide a unit which is both hardware and, with ASCOR's Plug&Play drivers, software compatible with existing systems.

Compatibility

- **HARDWARE** - From the hardware front panel, . Giga-tronics ASCOR has chosen to take the "clone" approach. The front panels have the same connectors with the same signals appearing on the same pins as the original Tektronix modules. No adaptor cables or cross-reference charts are needed. Hardware *Plug&Play*.
- **SOFTWARE** - The Giga-tronics ASCOR *Plug&Play* software driver, which is provided for each unit, replaces the Tektronix *Plug&Play* software driver. When the ASCOR driver is installed it will run either the original Tektronix unit or the ASCOR replacement at the same time in the same chassis. No changes to any system code are needed.

Future OBSOLESCENCE

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Specifications

■ Electrical

- **Single ended, Bipolar 16 bit DAC**
- **Voltage Max = $\pm 16.3835V$**
- **Current Max = 60ma/ch all driven**
 - **12ch total < 720ma**

■ Power Requirements

- 5 volts @ 2.0A
- +24 volts @ 1.4A
- -24 volts @ 1.4A

■ Environmental

Temperature

- Operating 0° to 55°C
- Storage -40° to 75°C

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

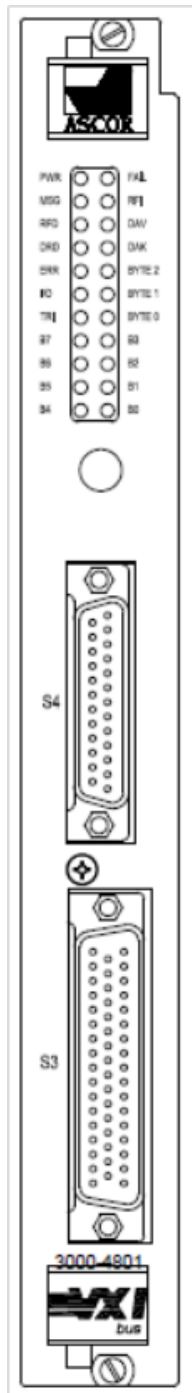
■ Mechanical

- "C" size VXI
- Weight 3lbs

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Ordering Information

Model #	Description	Manufacturer #	
3000-4730	12 Channel DAC, 16 bits [TEKTRONIX VX4730], Register Based Module	90401320	Quote Request



Product Description

Tektronix has chosen to exit the VXI module market. This has caused some concern with users who have Tektronix modules running in systems which still have to be maintained for some indefinite future period. Giga-tronics ASCOR, drawing on its 15 years of producing general purpose VXI modules, has designed functionally equivalent replacements for a number of Tektronix modules. However we have gone beyond just functional equivalence, we provide a unit which is both hardware and, with ASCOR's *Plug&Play* drivers, software compatible with existing systems.

Compatibility

- **HARDWARE** - From the hardware front panel, . Giga-tronics ASCOR has chosen to take the "clone" approach. The front panels have the same connectors with the same signals appearing on the same pins as the original Tektronix modules. No adaptor cables or cross-reference charts are needed. Hardware *Plug&Play*.
- **SOFTWARE** - The Giga-tronics ASCOR *Plug&Play* software driver, which is provided for each unit, replaces the Tektronix *Plug&Play* software driver. When the ASCOR driver is installed it will run either the original Tektronix unit or the ASCOR replacement at the same time in the same chassis. No changes to any system code are needed.

Future OBSOLESCENCE

While ASCOR has taken a "clone" approach to the front panel connectors, inside the module is a different story. Again using its 15 year history of designing superior VXI modules, ASCOR designs the inside circuitry using the latest parts and technology. There is no worry of the Giga-tronics ASCOR unit becoming obsolete because of the parts used. Strict adherence to transmission line design ensures a module with greater bandwidth and lower cross-talk than the original Tektronix unit.



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Functional : The Model 3000-4801 provides 48 Optically Isolated TTL or CMOS capable bi-bidirectional I/O lines. The 48 outputs are organized as six 8-bit bytes. Each of the six bytes can be configured under program control.

Byte Transfer Polarity:	Input and output bytes selectable as active high or active low.
Input data:	Returned as two hexadecimal ASCII characters per byte.
Input Control:	On program command, or with external DRD or DAK handshake.
Output Data:	Programmed as two hexadecimal ASCII characters per byte or by an H or L character on an individual byte basis.
Output Control:	On program command or with external RFD or DAV handshake.
TRI-STATE Control:	On program command on each byte or by external tristate control.
Mask Capability :	AND, OR and XOR masking provided of each I/O byte.
Byte Ordering :	A predetermined sequence for input or output byte transfer may be programmed. Bytes may be transferred in any required order.
Interrupt Modes :	Program selectable on programming error, RFD or DRD handshake.
Ext. Control Logic Sense :	Data Available, Ready For Data, Data Acknowledge, and Data Ready control line polarities are all program selectable as high or low true.
I/O Signal Type :	TTL and CMOS compatible (74ABT16541 driver chip).

Specifications

Electrical

- $V_{oh} = 3.0V$ ($I_{oh} = -3ma$)
- $V_{oh} = 2.0V$ ($I_{oh} = -32ma$)
- $V_{ol} = 0.55V$
- $V_{ih} = 2.0V$
- $V_{il} = 0.8V$
- $I_{in} = 1\mu A$
- $I_{oz} = 50\mu A$

Power Requirements

- 5 volts @ 2.2A (Max)

Environmental Temperature

- Operating 0° to $55^{\circ}C$
- Storage -40° to $75^{\circ}C$

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

Mechanical

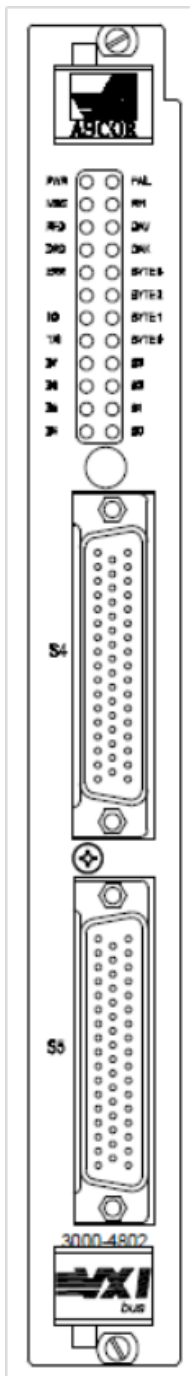
- "C" size VXI
- Weight 3lbs

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Ordering Information

Model #	Description	Manufacturer #	
3000-4801	48 TTL / CMOS I/O, Opt Isolated [TEKTRONIX VX4801], Register Based Module	90401250	Quote Request
VX4801	48 TTL / CMOS I/O, Opt Isolated [TEKTRONIX VX4801], Message Based Module	90401710	Quote Request

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Product Description

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Compatibility

- **HARDWARE** - From the hardware front panel, . Giga-tronics ASCOR has chosen to take the "clone" approach. The front panels have the same connectors with the same signals appearing on the same pins as the original Tektronix modules. No adaptor cables or cross-reference charts are needed. Hardware *Plug&Play*.
- **SOFTWARE** - The Giga-tronics ASCOR *Plug&Play* software driver, which is provided for each unit, replaces the Tektronix *Plug&Play* software driver. When the ASCOR driver is installed it will run either the original Tektronix unit or the ASCOR replacement at the same time in the same chassis. No changes to any system code are needed.

Future OBSOLESCENCE

While ASCOR has taken a "clone" approach to the front panel connectors, inside the module is a different story. Again using its 15 year history of designing superior VXI modules, ASCOR designs the inside circuitry using the latest parts and technology. There is no worry of the Giga-tronics ASCOR unit becoming obsolete because of the parts used. Strict adherence to transmission line design ensures a module with greater bandwidth and lower cross-talk than the original Tektronix unit.

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FUNCTIONAL : The Model 3000-4802 provides 80 TTL or CMOS capable bidirectional I/O lines. The 80 I/O lines are organized as ten 8-bit bytes. Each of the ten bytes can be configured under program control.

Byte Transfer Polarity:	Input and output bytes selectable as active high or active low.
TRI-STATE Control:	On program command on each byte or by external tri-state control.
Mask Capability:	AND, OR and XOR masking provided of each I/O byte.
Interrupt Modes:	Program selectable on programming error, RFD or DRD handshake.
Ext. Control Logic Sense:	Data Available, Ready For Data, Data Acknowledge, and Data ready control line polarities are all program selectable as high or low true.
I/O Signal Type:	TTL and CMOS compatible (74ABT16541 driver chip)

Specifications

Electrical

- $V_{oh} = 3.0V$ ($I_{oh} = -3ma$)
- $V_{ol} = 2.0V$ ($I_{oh} = -32ma$)
- $V_{ol} = 0.55V$
- $V_{ih} = 2.0V$
- $V_{il} = 0.8V$
- $I_{in} = 1\mu A$
- $I_{oz} = 50\mu A$

Power Requirements

- 5 volts @ 2.2A (Max)

Environmental

Temperature

- Operating 0° to $55^{\circ}C$
- Storage -40° to $75^{\circ}C$

Humidity (non-condensing)

- Operating 10 to 90%
- Storage 0 to 95%

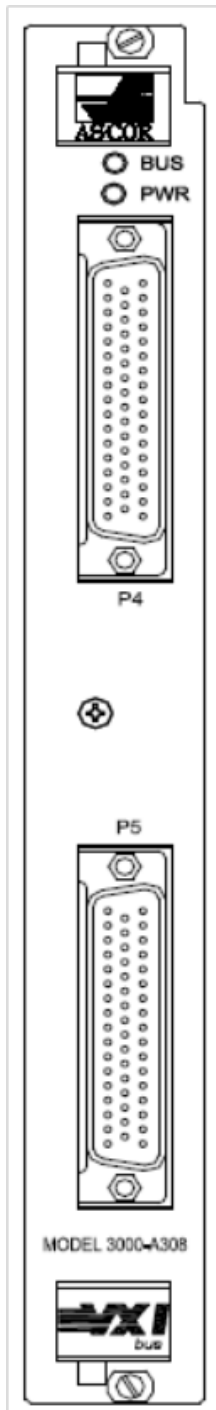
Mechanical

- "C" size VXL
- Weight 3lbs

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Ordering Information

Model #	Description	Manufacturer #	
3000-4802	80 TTL-CMOS I/O [TEKTRONIX VX4802]	90401260	Quote Request



Product Description

Tektronix has chosen to exit the VXI module market. This has caused some concern with users who have Tektronix modules running in systems which still have to be maintained for some indefinite future period. Giga-tronics ASCOR, drawing on its 15 years of producing general purpose VXI modules, has designed functionally equivalent replacements for a number of Tektronix modules. However we have gone beyond just functional equivalence, we provide a unit which is both hardware and, with ASCOR's *Plug&Play* drivers, software compatible with existing systems.

Compatibility

- **HARDWARE** - From the hardware front panel, . Giga-tronics ASCOR has chosen to take the "clone" approach. The front panels have the same connectors with the same signals appearing on the same pins as the original Tektronix modules. No adaptor cables or cross-reference charts are needed. Hardware *Plug&Play*.
- **SOFTWARE** - The Giga-tronics ASCOR *Plug&Play* software driver, which is provided for each unit, replaces the Tektronix *Plug&Play* software driver. When the ASCOR driver is installed it will run either the original Tektronix unit or the ASCOR replacement at the same time in the same chassis. No changes to any system code are needed.

Future OBSOLESCENCE

While ASCOR has taken a "clone" approach to the front panel connectors, inside the module is a different story. Again using its 15 year history of designing superior VXI modules, ASCOR designs the inside circuitry using the latest parts and technology. There is no worry of the Giga-tronics ASCOR unit becoming obsolete because of the parts used. Strict adherence to transmission line design ensures a module with greater bandwidth and lower cross-talk than the original Tektronix unit.



www.gigatronics.com | inquiries@gigatronics.com
800.726.4442 (USA) | +1 925.328.4650 (International)



FUNCTIONAL : The Model 3000-A308 consists of 80 Open Collector (OC), 300ma drivers. The 80 outputs are organized as 10 banks of 8 drivers. Each bank can be independently configured under program control.

Output Control :	On program command, A VXIbus TTL trigger line, or an IEEE Group Execute Trigger.
Output Enable Control :	On program command, all outputs may be enables or disabled (tri-stated).
Output Driver :	Sprague UDN-2596A

Specifications

- **Electrical**
 - CEsat = 0.5V (Ic=300ma)
 - Ic = 300ma Max
 - Voltage = 50V max (35V inductive)
 - Itot = 20A (all devices)
- **Power Requirements**
 - 5 volts @ 1.0A (Max)
- **Environmental**
 - Temperature**
 - Operating 0° to 55°C
 - Storage -40° to 75°C
 - Humidity (non-condensing)**
 - Operating 10 to 90%
 - Storage 0 to 95%
- **Mechanical**
 - "C" size VXI
 - Weight 3lbs

- All ASCOR cards have built-in circuitry to verify both the control signal from the programming register, as well as verifying the relay coil is intact.
- All Switching modules feature built-in memory to maintain the service record of the unit with time stamping.
- All Modules carry a full 3 year Warranty

Ordering Information

Model #		Description	Manufacturer #	
3000-A308		80 channel driver [TEKTRONIX 73A-308]	90401230	Quote Request

RF/Microwave Instrumentation Solutions



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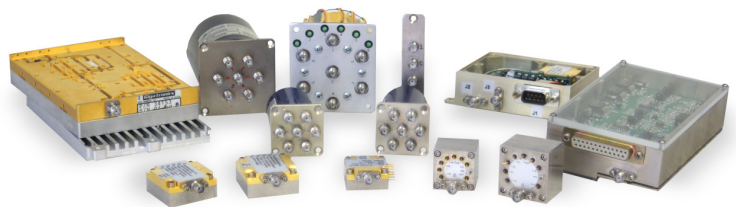
Giga-tronics designs and manufactures best-in-class fast-switching, ultra-low noise RF and microwave signal generators, broadband solid-state microwave power amplifiers, CW and Peak USB power sensors, high dynamic range microwave power meters and sensors, with frequency ranges to 50 GHz. R&D, production and test managers, scientists, engineers and technicians use Giga-tronics test equipment to realize higher performance, higher productivity and greater ease-of-use in many applications in aerospace and defense, communications and microwave component test

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- Repair record retention
- Factory-authorized hardware, firmware, and software upgrades, as applicable

Calibration Services

All calibrations are processed in full accordance with ANSI-Z-540-1 1994, ISO 10012, and MIL-STD-45662

- Calibrations performed against same specifications used in original manufacturing of the instrument
- All test equipment is traceable to NIST
- ISO 9001:2008 and AS 9100:2009 certificate of registration



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Founded in 1980, Giga-tronics Incorporated (Nasdaq "GIGA"), an ISO 9001 and AS 9100 certified company, headquartered in San Ramon, California, is a leading engineering-and-design manufacturer of best-in-class RF and microwave signal generators, microwave power amplifiers, USB power sensors, microwave power meters and broadband switching matrices. R&D, production and test managers, scientists, engineers and technicians around the world use Giga-tronics test equipment to realize higher productivity and greater ease of use in many applications: ATE systems, aerospace & defense, communications and general microwave component testing.

Contact

For Quotes, Order Assistance, or Demonstration Equipment:

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