

Switching Catalog and Selection Guide



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High Density 3000 Series Switching Solutions - 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.

Recommended uses:

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

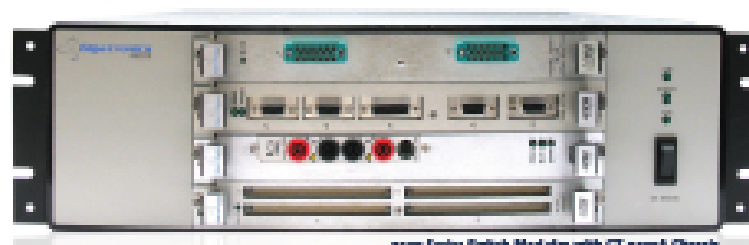
Capabilities:

- 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

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



3000 Series Switch Module with 6U chassis

Selector Guide:

General Purpose Modules

- 3000-12 - 32 DPDT, 55MHz
- 3000-53 - 96-192 SPDT, 5 MHz
- 3000-56 - 64 SPDT Shield, 500MHz
- 3000-60 - 32 DPDT, 100MHz

Matrix Switching Modules

- 3000-05 - (2x2) Coax, 350MHz
- 3000-06 - 2(2x18) Coax, 350MHz
- 3000-25 - 7(2x2) Coax, 500MHz
- 3000-30 - 2(2x12), 3(2x5) Coax, 500MHz
- 3000-34 - 4(2x32) 1-wire, 45 MHz
- 3000-39 - Universal I/O, 700MHz
- 3000-44 - (2x128) 2-wire Shield, 70MHz
- 3000-45 - (4x4) 2-wire Shield, 70MHz
- 3000-45B - (4x128) 2-wire Shield, 70MHz
- 3000-47 - 2(8x16) 2-wire Shield, 90MHz
- 3000-52 - 2(8x16) 2-wire, 70MHz
- 3000-57 - 2(4x32) 2-wire, 45MHz

Multiplexer Switching Modules

- 3000-03 - 4(1x32) 1-wire Shield, 35MHz
- 3000-08 - 8(1x32) 1-wire Shield, 40MHz
- 3000-09 - 16(1x32) 1-wire Shield, 40MHz
- 3000-32 - 4(1x8), 8(1x4), 8(1x2) coax, 900MHz
- 3000-38 - 16(1x8) 1-wire, 40MHz
- 3000-46 - 16(1x8) 8x4 DPST 1-wire, 100MHz
- 3000-66 - 16(1x4) 2-wire Shield, 350MHz

RF Switching Modules

- 3000-154 - 12(1x4) Coax Multiplexer, 1.5GHz
- 3000-155 - (4x4) Matrix, 1.5GHz
- 3000-155A - 2(4x4) Coax Matrix, 1.5GHz

Microwave Switching Modules

- 3000-2126 - 12 SPST, 26.5GHz
- 3000-226 - 25PST, 26.5GHz
- 3000-2326T - 3 SPDT, 3 SPST, 26.5GHz
- 3000-236T - 3 SPDT, 2 SPST, 26.5GHz
- 3000-246T - 4 SPST, 26.5GHz
- 3000-2466T - 4 SPST, 6 SPDT, 26.5GHz
- 3000-266 - 6 SPST, 26.5GHz
- 3000-2666T - 6 SPST, 6 SPDT, 16GHz
- 3000-266 - 8 SPST, 26.5GHz
- 3000-64 - 6 SPST, 6GHz
- 3000-60 - 6 SPST, 26.5GHz

Digital/Driver Modules

- 3000-04 - 128ch OC Driver
- 3000-48 - 16ch High Pwr Driver
- 3000-61 - 128ch CMOS I/O
- 3000-62 - 128-512ch TTL I/O
- 3000-63 - 128-256ch OC TTL I/O

Power Switching Modules

- 3000-01 - 8(1x8), 5A
- 3000-02 - 66 SPST, 5A
- 3000-42 - 48 SPDT, 5A
- 3000-43 - 48 SPST, 10A
- 3000-51 - 32 SPDT, 20A
- 3000-59 - 32 SPDT, 10A

Programmable Resistance Modules

- 3000-27 - 16-20ch 16bit 20Ω-10MΩ

Shield-Shield Reed Relays



please visit website <http://www.gigatronics.com/products/3000series/VXModules> and click on the Selector Guide for more specification information.

Scalable 4000 Series Switching Solutions - DC to Microwave

4000 Series Switching

Overview:

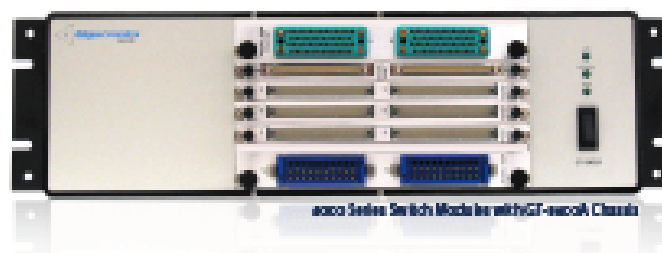
- ❑ **3U Tall 8 Slot Chassis** – Holds up to 8 single wide High Density switching modules.
- ❑ **Internal Analog Backplane** – The 4000 series switch cards can make use of the chassis' 32 channel 500 MHz backplane.
- ❑ **6U Form Factor** – the 6U form factor will accommodate 3-4 times the number of relays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

Recommended uses:

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

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



Selector Guide :

General Purpose Modules

4032 – 32 DPDT, 50MHz
 4048 – 64 SPST, 100MHz
 4064 – 64 SPST, Shld 70MHz
 4080 – 96 SPST, 93MHz
 4148 – 48 SPDT, 235MHz
 4307 – 36 SPDT, 100MHz

Matrix Switching Modules

4116 – (4x16) 1-wire Shld, 70MHz
 4132 – (4x32) 1-wire, 50MHz
 4164 – (2x64) 1-wire Shld, 32MHz
 4216 – (8x16) 3-wire, 100MHz
 4228 – (2x64) 3-wire Shld, 50MHz
 4229 – (2x64) 3-wire, 50MHz
 4232 – (4x32) 3-wire, 60MHz

Power Switching Modules

4048 – 48 SPDT, 5A
 4503 – 20 SPDT, 20A
 4504 – 20 SPST, 20A
 4505 – 5(1x4), 5(1x2), 20A
 4506 – 12(1x4), 20A
 4516 – 10(1x8), 5A

Multiplexer Switching Modules

4108 – 12(1x8) 1-wire Shld, 100MHz
 4208 – 6(1x8) 3-wire, 50MHz
 4264 – (1x64) 3-wire, 50MHz
 4308 – 8(1x2), 6(1x8), 2(1x4), Coax, 1.5GHz
 4508 – 22(1x4) 1-wire, 124MHz
 4509 – 17(1x4) & 2(1x2) Coax, 1.3GHz
 4512 – 2(1x32) 3-wire Shld, 60MHz
 4515 – 4(1x8) 3-wire, 5A, 50MHz

Star Switching Modules

4332 – 8(8pole) Star, 50MHz
 4513 – 6x8 Matrix & 8(4pole)Star
 4518 – 8(10pole) Star, 3-wire Shld

Digital Modules

4050 – 128 Channel Digital I/O Shld-Shield Reed Relays



please visit website <http://www.gigatronics.com/products/High-Density-Modules-VOL-4000-Series> and click on the Selector Guide for more specification information.

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

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DC to Microwave

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.



General Purpose and Power Modules

- 7010 – 8 SPDT, 6A, 100MHz
- 7017 – 32 Channel OC Relay Drivers
- 7018 – 32 SPST, 2A, 153MHz
- 7019 – 16 SPDT, 5A, 67MHz
- 7020 – 16 SPDT, 2A, 67MHz
- 7023 – 32 SPST, Shld, 103MHz

Matrix Switching Modules

- 7011 – (2x16) 1-wire, 90MHz
- 7012 – (2x16) 1-wire Shld, 113MHz
- 7013 – (4x8) 2-wire, 178MHz
- 7021 – (2x16) 2-wire Shld, 90MHz
- 7022 – (4x16) 1-wire Shld, 90MHz
- 7024 – (4x8) 2-wire Shld, 90MHz
- 7027 – 4(1x8) 2-wire, 73MHz

Multiplexer Switching Modules

- 7014 – 4(1x4) 1-wire Shld, 150MHz
- 7015 – 2(1x16) 1-wire Shld, 70MHz
- 7026 – (1x32) 2-wire, 30MHz

Digital Modules

- 7016 – 32 Channel TTL I/O

Microwave Switching Modules

- 720x – Microwave Switching Platform
- 1x2, 1x4, 1x8, DPDT
- DC to 40GHz

Recommended uses:

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



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DC to Microwave

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*	Collection of eight 1x4 Coaxial Switches (Replaces Tektronix VX4320)	00401351
VXI 3000-4330*	Collection of six 1x10 4-Wire (120 Channel) Relay Mux Switch (Replaces Tektronix VX 4330)	00401330
VXI 3000-4350*	Collection of based 64 SPDT Switch (Replaces Tektronix VX4350)	00401340
VXI 3000-4351*	Collection of based 40 SPST Switch (Replaces Tektronix VX4351)	00401220
VXI 3000-4353*	Collection of based 32 SPST Switch (Replaces Tektronix VX4353)	00401310
VXI 3000-4356*	Collection of based 20 DPDT Switch (Replaces Tektronix VX4356)	00401290
VXI 3000-4357*	Collection of Based 32 SPDT Switch (Replaces Tektronix VX4357)	00401200
VXI4357**	Collection of 32 SPDT Switch (Replaces Tektronix VX4357)	00401700
VXI 3000-4380	256 Cross Point Matrix (Replaces Tektronix VX4380)	00401270
VXI 3000-4730	12 Channel D/A Converter (Replaces Tektronix VX4730)	00401320
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.	00401250
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.	00401260
VXI4801	Message based 48 Optically Isolated TTL I/O lines (Replaces Tektronix VX4801). 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.	00401710
VXI 3000-A308	Register based 80 Channel Driver (Replaces Tektronix 73A308). 80 open collector outputs	00401230

* 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

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Series 8000

MICROWAVE SWITCHING PRODUCTS



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



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 **Giga-tronics**
ASCOR

Series 8000

MICROWAVE SWITCHING PRODUCTS

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

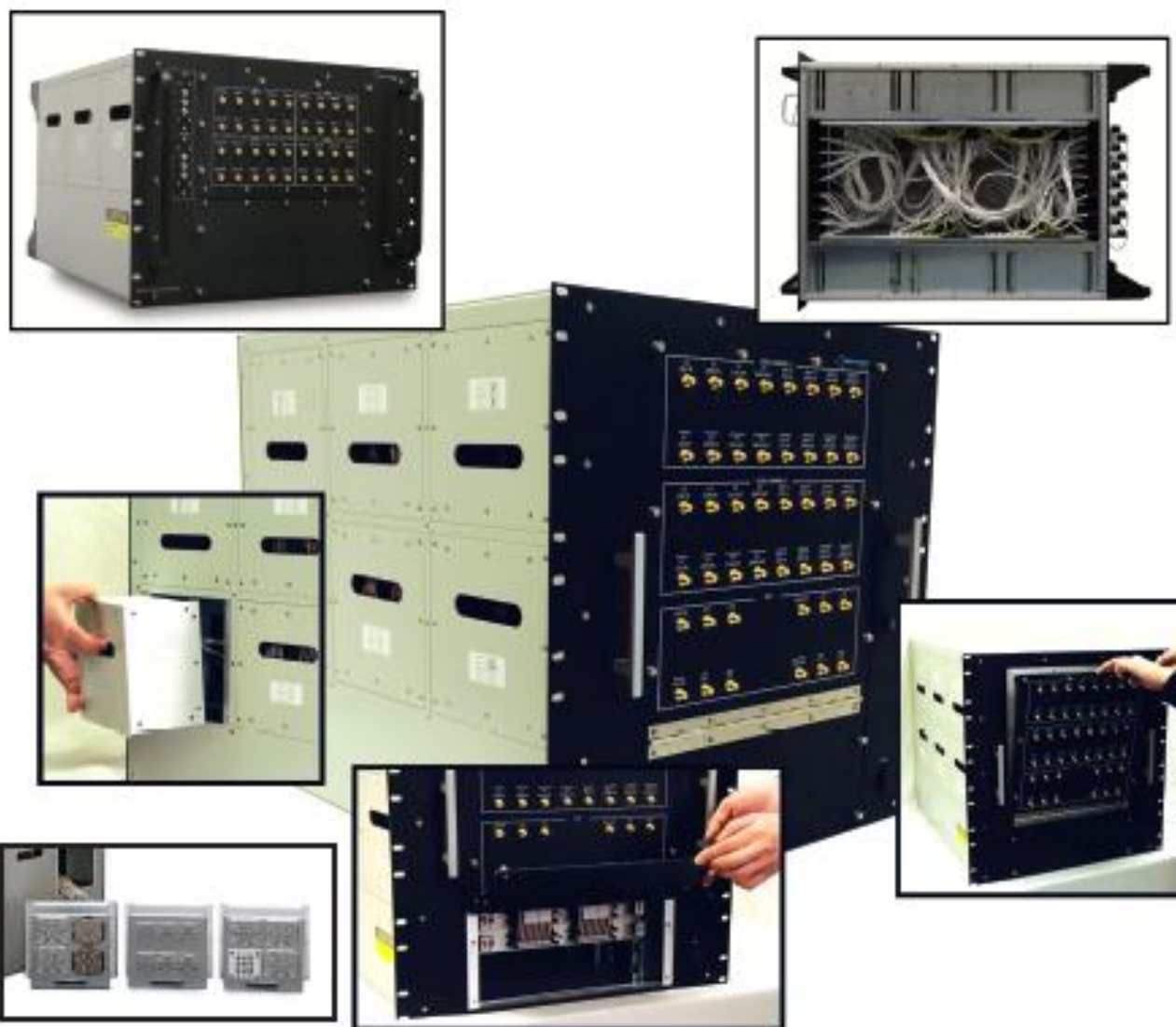
Reliability 10M Cycles

Series 8800 Platform

Modular Platform

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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Series 8800 Platform

Modular Platform

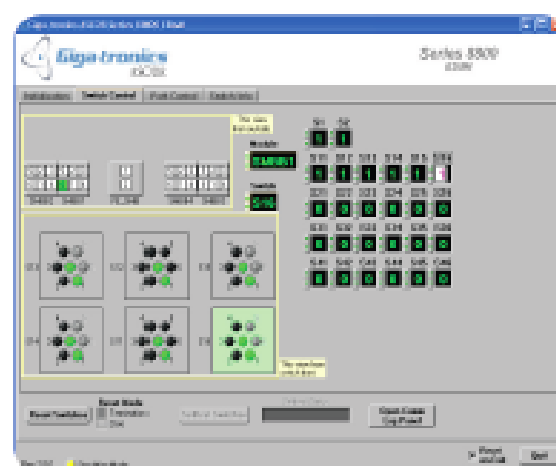
Key Features

- ❑ **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)



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ASCOR

Model GT-8900

Microwave Switching Chassis



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

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

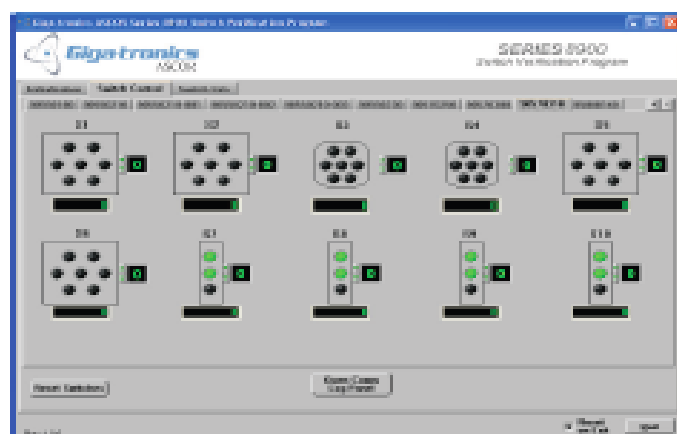


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Giga-tronics
ASCOR

Model GT-8900

Microwave Switching Chassis



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 — Type 3 (as needed, same order as front panel)

Qty

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

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



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



8901G-26TP26

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RF & Microwave Switching Solutions

Flexible Solutions

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

- ❑ Up to six 1x6 Switches
- ❑ Up to four 1x2 Switches
- ❑ LAN or IEEE-488 Control
- ❑ LED Switch Position Indicators

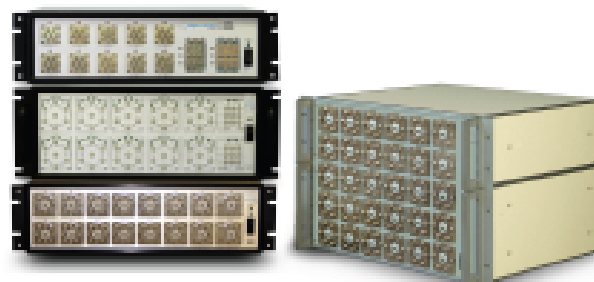


ASCOR Series 8902 Full Rack

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)



ASCOR Series 8000 RF Interface signal switching

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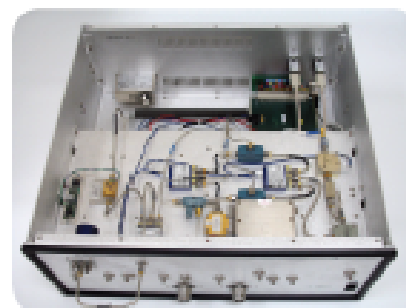
RF & Microwave Switching Solutions

Dedicated / Custom Solutions

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

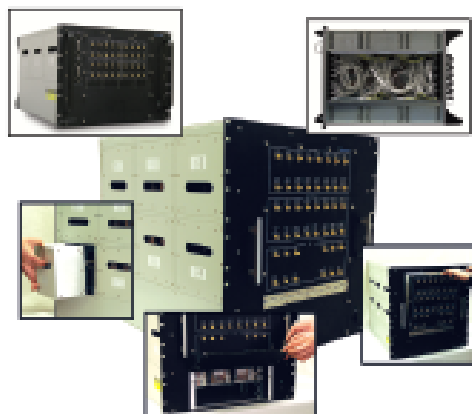
Typical Applications

- ❑ **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.



Modular Solutions

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.



Giga-tronics ASCOR provides switching solutions to fit your needs. **Contact us today.**

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

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Model GT-8900 Optical

RF/FIBER OPTIC SWITCHING CHASSIS



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



Model GT-8900 Optical

RF/FIBER OPTIC SWITCHING CHASSIS



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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3000 Series Selection Guide

Model	Part Number	Type	Form	Bandwidth	Max Voltage	Max Current	Comments
3000-04	90400660	Digital/Driver	128 Channel Relay Driver		45V	500 mA	(+12V Terminations Std)
3000-04 Opt 1	90400660-001	Digital/Driver	128 Channel Relay Driver		45V	500 mA	with SCSI Connectors
3000-48	90400390	Digital/Driver	16 Channel High Power Source Driver		50V	4A	
3000-49	90400400	Digital/Driver	16 Channel High Power Sink Driver		50V	4A	
3000-61	90401390	Digital/Driver	128 Channel Digital I/O CMOS				
3000-61 Opt 3	90401390-003	Digital/Driver	128 Channel Digital I/O CMOS with 64 Ch Differential				
3000-62	90400840	Digital/Driver	128 Channel TTL I/O (1-slot Motherboard)		5V		
3000-62 Opt 1	90400840-001	Digital/Driver	Additional 128 Channel TTL I/O 256 Total		5V		Specify Termination
3000-62 Opt 2	90400840-002	Digital/Driver	128 Channel TTL I/O (1-slot Motherboard) with 96Ch Daughterboard		5V		Specify Termination
3000-62 Opt 3	90400840-003	Digital/Driver	128 Channel TTL I/O (1-slot Motherboard) with 64 Differential Drivers Daughterboard		5V		Specify Termination
3000-62 Opt 4	90400840-004	Digital/Driver	128 Channel TTL I/O (1-slot Motherboard) with 128 Relay Driver Daughterboard		5V		Specify Termination
3000-63	90401400	Digital/Driver	128 Channel OC TTL Drivers		5V	64ma	
3000-63 Opt 1	90401400-001	Digital/Driver	256 Channel OC TTL Drivers		5V	64ma	
3000-12	90400570	General	32 DPDT Switch Module	55MHz	220VAC	2A	
3000-53	90400530	General	96 SPDT Switch Module	5MHz	220VAC, 250VDC	1A	(1-slot)
3000-53A	90400530-101	General	144 SPDT Switch Module	5MHz	220VAC, 250VDC	1A	(2-slot)
3000-53B		General	192 SPDT Switch Module	5MHz	220VAC, 250VDC	1A	(2-slot)
3000-56	90400870	General Shielded	64 SPDT Switch Module	500MHz	200VDC, 200VACpk	1A	
3000-60	90401190	General	32 DPDT Switch Module	180MHz	220VDC, 250VAC	2A	Component Mounting locations
3000-05	90400100-002	Matrix Coax	1(2x36) Coaxial Matrix	350MHz	200VDC	0.5A	Wired Construction
3000-06	90400260-001	Matrix Coax	2(2x18) Coaxial Matrix	350MHz	200VDC	0.5A	Wired Construction
3000-25	90400920	Matrix Coax	7(2x6) Coaxial Matrix	500MHz	200VDC	1A	Wired Construction
3000-30	90400280-001	Matrix Coax	2(2x6) & 2(2x12) Coaxial Matrix	500MHz	200VDC	1A	Wired Construction
3000-34	90400190	Matrix Shielded	4(2x32) 2-wire Matrix or 2(2x64) or 1(1x128)	45MHz	200VDC, 200VACpk	1A	
3000-39	90400300-002	Matrix	Universal I/O Card (1-slot)	500MHz	200VDC, 200VACpk	0.5A	
3000-39A	90400300-003	Matrix	Universal IO Card (2-slot)	500MHz	200VDC, 200VACpk	0.5A	
3000-39B	90400300-004	Matrix	Universal IO Card (2-slot)	500MHz	200VDC, 200VACpk	0.5A	
3000-44	90400650	Matrix Shielded	(2x128) 2-wire Matrix	70MHz	200VDC, 200VACpk	1.5A	
3000-44 Opt 1	90400650-101	Matrix Shielded	2(2x64) 2-wire Matrix	70MHz	200VDC, 200VACpk	1.5A	
3000-45	90400320	Matrix Shielded	(4x64) 2-wire Matrix	70MHz	200VDC, 200VACpk	1.5A	(1-slot)

3000-45B	90400790	Matrix Shielded	(4x128) 2-wire Matrix	70MHz	200VDC, 200VACpk	1.5A	(2-slot)
3000-47	90400800	Matrix Shielded	(8x32) 2-wire Matrix	90MHz	200VDC, 200VACpk	1.5A	
3000-47 Opt 1	90400800-001	Matrix Shielded	2(8x16) 2-wire Matrix	90MHz	200VDC, 200VACpk	1.5A	
3000-52	90400810	Matrix	(8x32) 2-wire Matrix	70MHz	220VDC, 250VAC	2A	IDC
3000-52 opt 1	90400810-001	Matrix	2(8x16) 2-wire Matrix	70MHz	220VDC, 250VAC	2A	IDC connectors
3000-52 opt 2	90400810-002	Matrix	(8x32) 2-wire Matrix	70MHz	220VDC, 250VAC	2A	Airborn connectors
3000-52 opt 3	90400810-003	Matrix	2(8x16) 2-wire Matrix	70MHz	220VDC, 250VAC	2A	Airborn connectors
3000-52 opt 4	90400810-101	Matrix	2(8x16) 2-wire Matrix	70MHz	220VDC, 250VAC	2A	IDC conn w/latches
3000-57	90401010	Matrix	1(4x64) 2-wire Matrix	45MHz	220VDC, 250VAC	2A	
3000-57 Opt 1	90401010-001	Matrix	2(4x32) 2-wire Matrix	45MHz	220VDC, 250VAC	2A	
3000-80	90401160	Microwave	6(1x6) Coaxial Multiplexer	26.5GHz			SMA Rotary Switches
3000-2xxxx		Microwave	Custom Configured	26.5GHz			SMA Rotary Switches
3000-03	90400620-001	Multiplexer Shielded	Prog 4(1x30) 1-wire Multiplexer	35MHz	200VDC, 200VACpk	0.5A	
3000-03	90400620-100	Multiplexer Shielded	Fixed 1(1x120)1-wire Multiplexer	35MHz	200VDC, 200VACpk	0.5A	
3000-08	90400490-100	Multiplexer Shielded	Prog 2(1x120) or 4(1x60) 1-wire Multiplexer	40MHz	200VDC, 200VACpk	0.5A	
3000-08	90400490-102	Multiplexer Shielded	Fixed 2(1x60) and 4(1x30) 1-wire Multiplexer	40MHz	200VDC, 200VACpk	0.5A	
3000-08	90400490-105	Multiplexer Shielded	Prog 2(1x6) or 1(1x120) and Fixed 4(1x30) 1-wire Multiplexer	40MHz	200VDC, 200VACpk	0.5A	
3000-08	90400490-106	Multiplexer Shielded	Fixed 2(1x120) 1-wire Multiplexer	40MHz	200VDC, 200VACpk	0.5A	
3000-09	90400230	Multiplexer Shielded	Prog 4(1x120) 1-wire Multiplexer	40MHz	200VDC, 200VACpk	0.5A	
3000-32	90400290-001	Multiplexer Coax	4 (1x8) & 8(1x4) & 8(1x2) Coaxial Multiplexer	900MHz	200VDC, 200VACpk	1A	
3000-32 Opt 5	90400290-005	Multiplexer Coax	4(1x8) & 8(1x4) Coaxial Multiplexer	900MHz	200VDC, 200VACpk	1A	
3000-38	90401360	Multiplexer	16(1x8) 1-wire Multiplexer	40MHz	250VAC, 250VDC	1A	
3000-46	90400750	Multiplexer Shielded	64 DPDT & 16(1x8) 1-wire Multiplexer	100MHz	220VDC, 250VAC	1.5A	
3000-66	90401180	Multiplexer Shielded	16(1x4) 2wire Multiplexer	350MHz	200VDC, 200VACpk	1A	
3000-02	90400120-002	Power	96 SPST Power Switch Module	n/a	250VAC, 250VDC	5A	Wired Construction
3000-42	90400710	Power	48 SPDT Power Switch Module	50MHz	277VAC, 110VDC	5A	Component Mounting locations
3000-43	90400830	Power	48 SPST Power Switch Module	n/a	250VAC, 110VDC	10A	Wired Construction
3000-51	90401460	Power	20 SPDT Power Switch Module	n/a	250VAC, 30VDC	20A	Wired Construction
3000-59	90401380	Power	32 SPDT	10MHz	250VAC, 150VDC	10A	Wired Construction
3000-01	90400060	Power	8(1x8) 1-wire Power Multiplexer	n/a	250VAC, 150VDC	5A	Wired Construction
3000-27	90400250	Resistance	10 Channel Programmable Resistor (20-1.31M ohms)				0.25W
3000-27 Opt 2	90400250-002	Resistance	5 Resistor channels Motherboard Only				0.25W
3000-154	90401660	RF	12(1x4) Coaxial Switches	1.3GHz	24VDC	1A	SMB Connectors
3000-155	90401650	RF	1(4x4) Coaxial Matrix	1.5GHz	24VDC	1A	SMB Connectors
3000-155A	90401650-001	RF	2(4x4) Matrix	1.5GHz	24VDC	1A	SMB Connectors
3000-155A	90401650-101	RF	2(4x4) Matrix	1.5GHz	24VDC	1A	SMC Connectors

4000 Series Selection Guide

Model	Part Number	Type	Form	Bandwidth	Max Voltage	Max Current	Comments
4050	90900340	Digital	128 Channel Digital IO Module (contact factory for driver options)				TTL, CMOS, OC, Diff
4032	90900230	General	32 SPDT	55MHz	220VDC, 250VAC	2A	(0.6" pitch)
4049	90900330	General	64 SPST		220VDC, 250VAC	2A	(0.6" pitch)
4096	90900280	General	96 SPST	92MHz	220VDC, 250VAC	1A	(0.6" pitch)
4148	90900210	General	48 SPDT	235MHz	220VDC, 250VAC	2A	(0.6" pitch)
4503	90900300	General	20 SPDT Relays		200VDC, 250VAC	20A	Wired Construction (1" pitch)
4504	90900270	General	20 SPST Relays		200VDC, 250VAC	20A	Wired Construction (1" pitch)
4507	90900170	General	36 SPDT Switch Module	100MHz	200VDC, 250VAC	2A	(0.6" pitch)
4064	90900350	General Shielded	64 SPST	70MHz	200VDC, 200VACpk	1A	(0.6" pitch)
4164	90900250	Matix, Shielded	(2x64) 1-wire Matrix	32MHz	200VDC, 200VACpk	1A	(0.6" pitch)
4216	90900370	Matrix	(8x16) 2-wire Matrix		220VDC, 250VAC	2A	(0.6" pitch)
4264	90900410	Matrix	(1x64) 2-Wire Matrix				(0.6" pitch)
4116	90900360	Matrix, Shielded	(4x16) 1-wire Matrix	70MHz	200VDC, 200VACpk	1A	(0.6" pitch)
4132	90900020	Matrix, Shielded	(4x32) 1-wire Matrix	50MHz	200VDC, 200VACpk	1A	(0.6" pitch)
4228	90900380	Matrix, Shielded	(2x64) 2-Wire Matrix	50MHz	200VDC, 200VACpk	1A	(0.6" pitch)
4229	90900390	Matrix, Unshielded	(2x64) 2-Wire Matrix	50MHz	220VDC, 250VAC	2A	(0.6" pitch)
4232	90900400	Matrix, Unshielded	(4x32) 2-Wire Matrix	80MHz	220VDC, 250VAC	2A	(0.6" pitch)
4208	90900050	Multiplexer	6(1x8) 2-wire Multiplexers	60MHz	220VDC, 250VAC	2A	(0.6" pitch)
4308	90900420	Multiplexer Coax	8(1x2), 6(1x8), 2(1x4) RF Mux	900MHz	200VDC, 200VAC	1A	(0.6" pitch)
4508	90900180	Multiplexer	22(1x4) 1-wire Multiplexer	124 MHz	220VDC, 250VAC	2A	(0.6" pitch)
4515	90900080	Multiplexer	8(1x6) 2-wire Multiplexers	50MHz	250VDC, 250VAC	5A	(0.6" pitch)
4516	90900090	Multiplexer	10(1x8) 1-wire Multiplexers		250VDC, 250VAC	5A	(0.6" pitch)
4108	90900060	Multiplexer, Shielded	12(1x8) 1-wire Multiplexers	100 MHz	200VDC, 200VACpk	1A	(0.6" pitch)
4512	90900070	Multiplexer, Shielded	2(1x32) 2-wire Multiplexers	60MHz	200VDC, 200VACpk	1A	(0.6" pitch)
4048	90900220	Power	48 SPDT	50MHz	150VDC, 400VACpk	5A	Component Mounting Locations (0.6" pitch)
4505	90900150	Power	5(1x4) & 5(1x2) Power Multiplexer	1Khz	250VDC, 250VAC	20A	Wired Construction (1" pitch)
4506	90900160	Power	12(1x4) Power Multiplexer	1Khz	250VDC, 250VAC	20A	Wired Construction (1" pitch)
4509	90900190	RF	17(1x4), 5(1x2), Coax Multiplexers	1.3GHz	30VDC	0.5A	Wired Construction (1" pitch)
4518	90900130	special Shielded	Analog Backplane Output Isolation	50MHz	200VDC, 200VACpk	0.5A	(0.6" pitch)
4513	90900110	Star Shielded	(8x8) 1-wire Matrix & 8(4-pole) Star Switches	50MHz	200VDC, 200VACpk	0.5A	(0.6" pitch)
4332	90900120	Star, Shielded	8(8-pole) Star Switches	50MHz	200VDC, 200VACpk	0.5A	(0.6" pitch)
4517	90900100	Star, Shielded	8(10-pole) Star Switches		200VDC, 200VACpk	1A	(0.6" pitch)

4500 Series Selection Guide

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
4502	90900040	Matrix	16(3-P) & 16(4-P STAR), (4x6) 2-wire Matrix	200MHz	200VDC, 200VACpk	1A	Built in Series 80 Funnel
4510	90900460	Matrix	16(4x8) 2-wire Matrix	25MHz	200VDC, 200VACpk	1A	Built in Series 80 Funnel
4524	90900470	Matrix	DUAL(8X8) 1-wire Shielded Matrix	900MHz	200VDC, 200VACpk	1A	Built in Series 80 Funnel
4525	90900440	Matrix	(16X48) 1-wire Matrix	450MHz	200VDC, 200VACpk	1A	Built in Series 80 Funnel
4526	90900430	Coax	6(1X4) Coaxial Switches	1.5GHz	200VDC, 200VACpk	1A	Built in Series 80 Funnel

7000 Series Selection Guide

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

Model 3000-01

8(1X8) 1-WIRE POWER MULTIPLEXER



Capabilities

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

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.

- **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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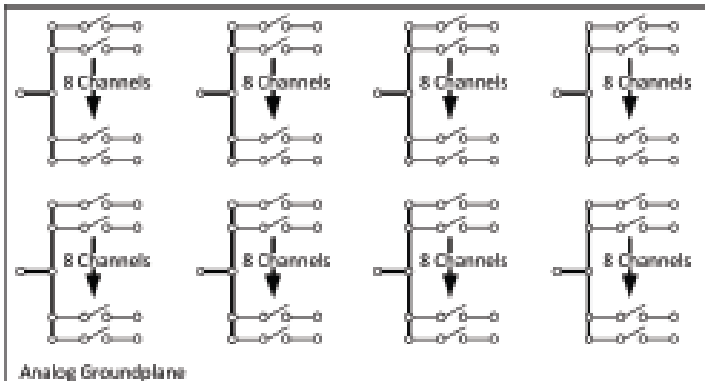


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Model 3000-01

8(1X8) 1-WIRE POWER MULTIPLEXER



- 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

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Model 3000-02

96 SPST POWER SWITCH MODULE



Capabilities

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

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.

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

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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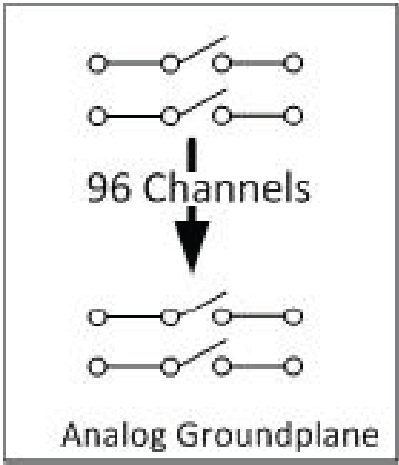


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Model 3000-02

96 SPST POWER SWITCH MODULE



- 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

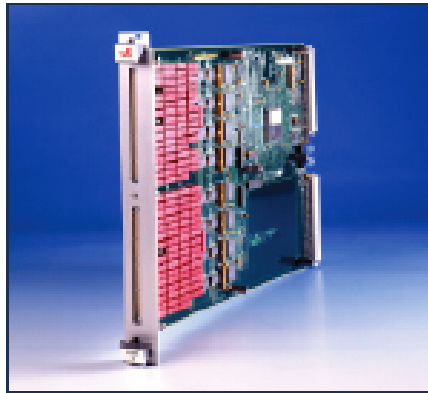
Model #	Description	Manufacturer #
3000-02	96 SPST, 5A	90400120-002
3000-02	Set of Mating Connectors for one Module	89800110

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Model 3000-03

4(1X30) 1-WIRE MULTIPLEXER



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.

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

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.

- ❑ **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.

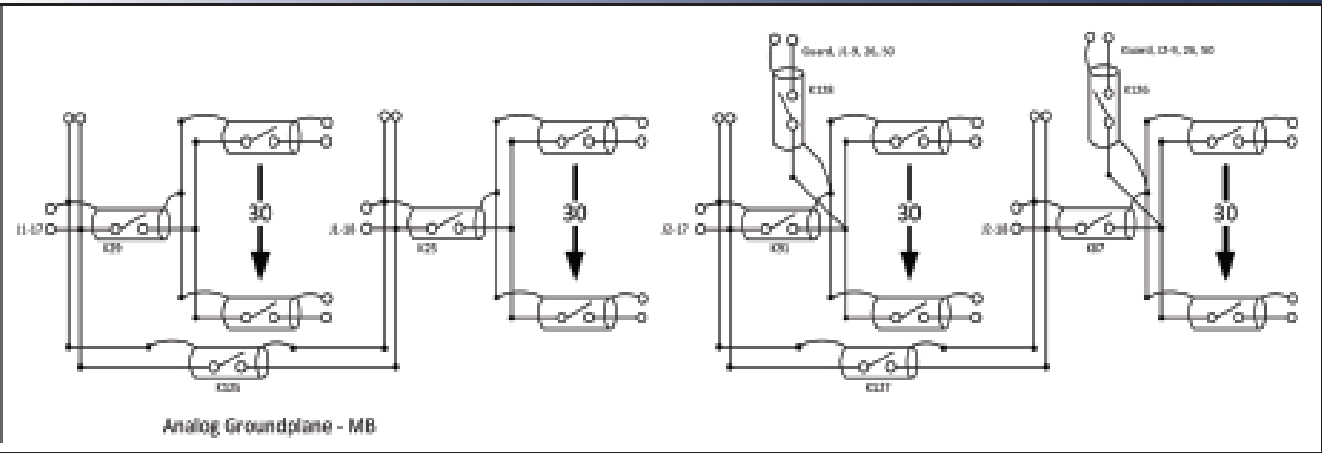


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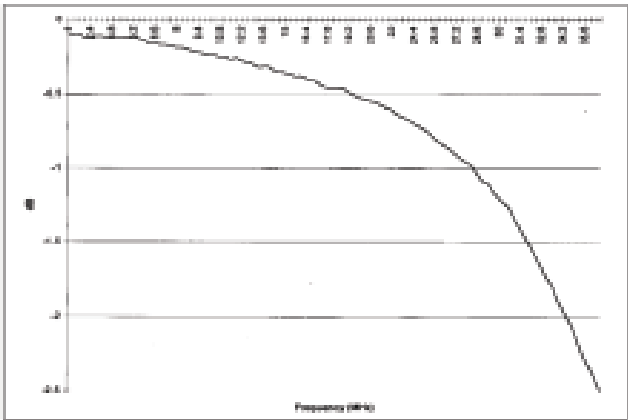


Model 3000-03

4(1X30) 1-WIRE MULTIPLEXER



- 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
3000-03	Fixed 1(1x120) 1-wire, Multiplexer, 35MHz	90400620-100
3000-03	Set of Mating connectors for one Module	89800050

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

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Model 3000-04

128 CHANNEL RELAY DRIVER



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.

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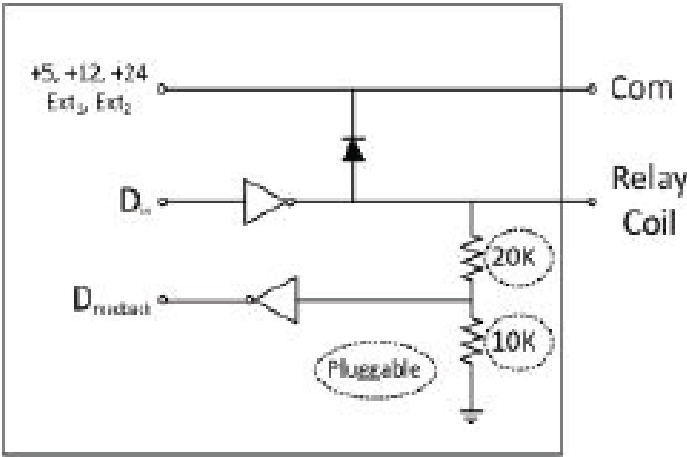


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Model 3000-04

128 CHANNEL RELAY DRIVER



- 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
3000-04	Set of Mating Connectors for one Module (std)	89800420
3000-04	Set of Pigtail Cables for one Module 3' (std)	89800420-003
3000-04 Opt 1	128 Channel Relay Driver, 45V, 500 mA with SCSI Connectors	90400660-001

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Model 3000-05

(2X36) COAXIAL MATRIX



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.

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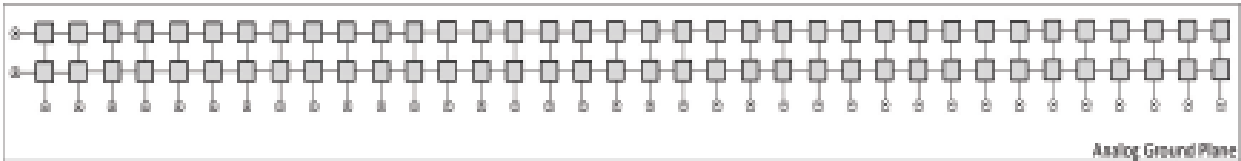


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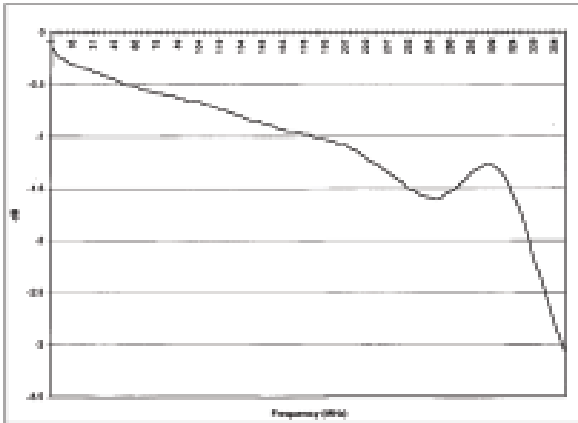


Model 3000-05

(2X36) COAXIAL MATRIX



- 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
3000-05	Set of Mating Connectors for one Module	89800020

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Model 3000-06

2(2X18) COAXIAL MATRIX



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)

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.

❑ **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.

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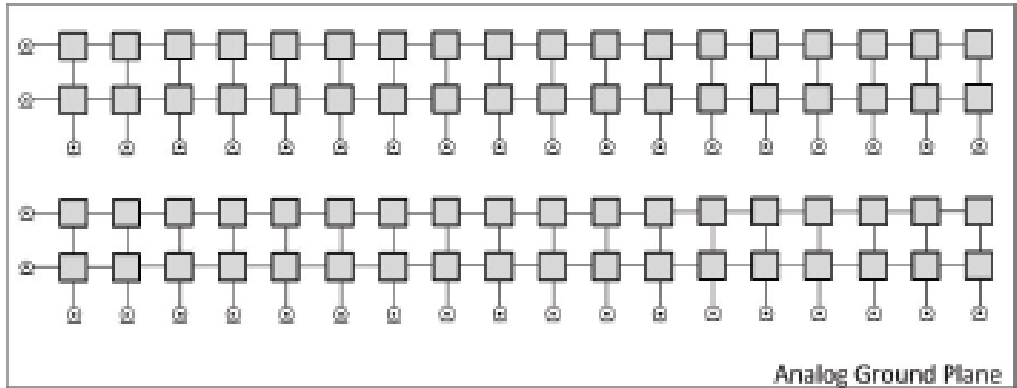


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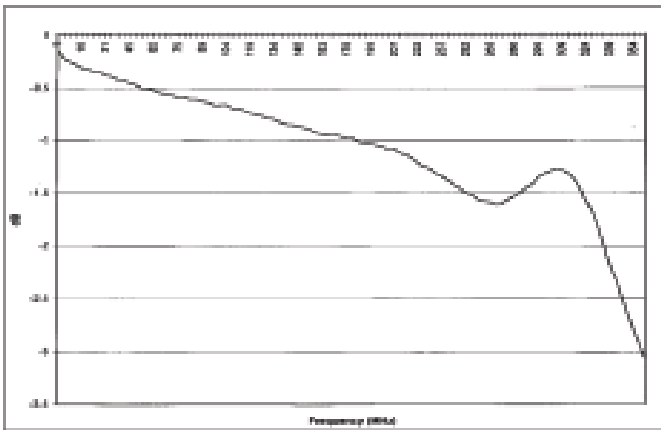


Model 3000-06

2(2X18) COAXIAL MATRIX



- 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

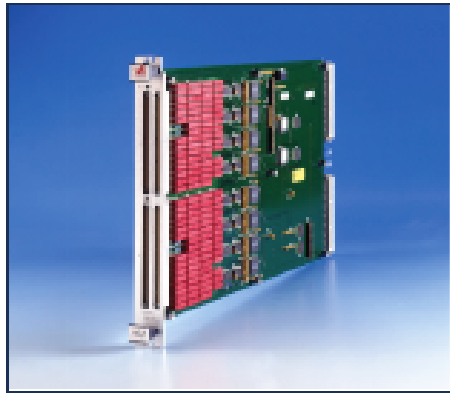
Model #	Description	Manufacturer #
3000-06	2(2x18), 350MHz	90400260-001
3000-06	Set of Mating Connectors for one Module	89800020

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Model 3000-08

8(1X30) 1-WIRE MULTIPLEXER



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.

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

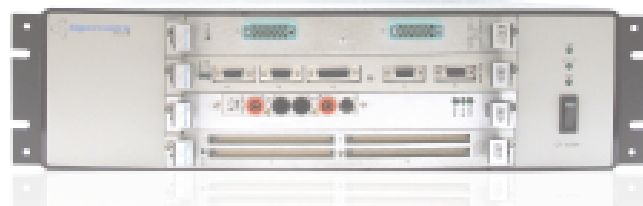
Product Description

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.

- **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.

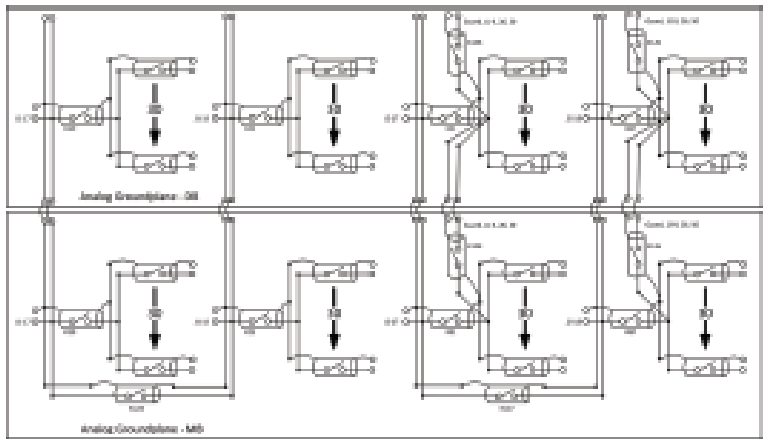


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Model 3000-08

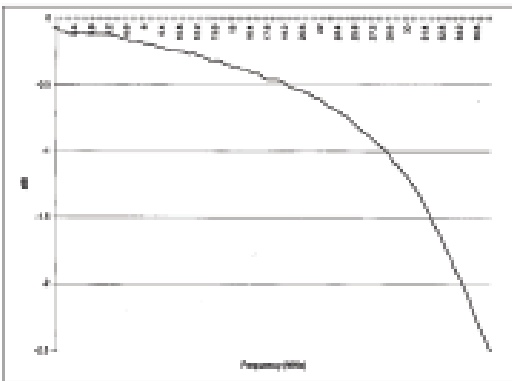
8(1X30) 1-WIRE MULTIPLEXER



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

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Model 3000-09

16(1X30) 1-WIRE MULTIPLEXER



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.

Product Description

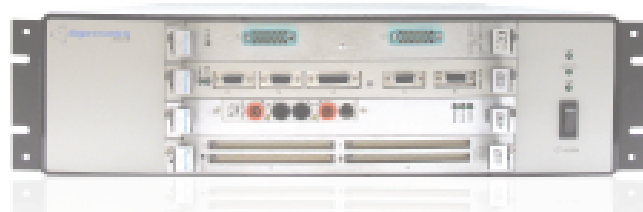
The 3000-09 provides 16(1x30) Switch Multiplexers. This module provides high Bandwidth and high Density as well as Flexibility. Model 3000-09 has a separate ground plane beneath the shielded Relays providing both high Bandwidth and minimal crosstalk. It is ideal for use with a DMM as a multi-channel 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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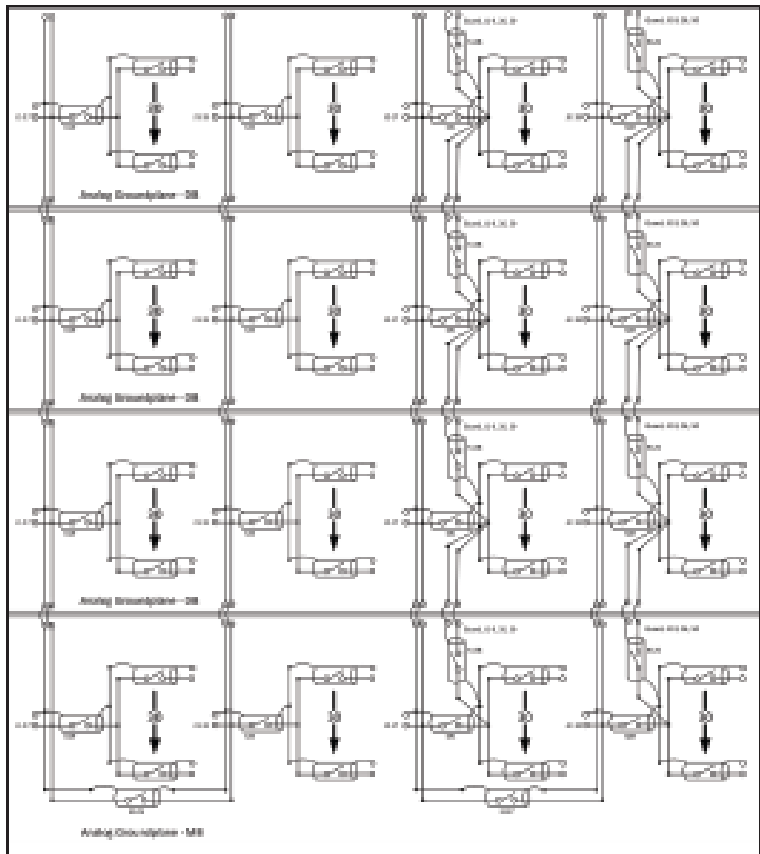


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Model 3000-09

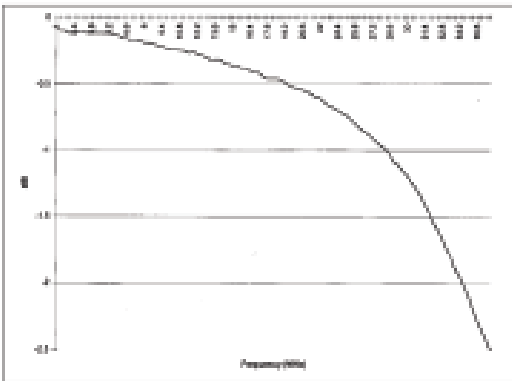
16(1X30) 1-WIRE MULTIPLEXER



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
	Set of Mating connectors for one Module	89800050-002

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Model 3000-12

32 DPDT SWITCH MODULE



Capabilities

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

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).

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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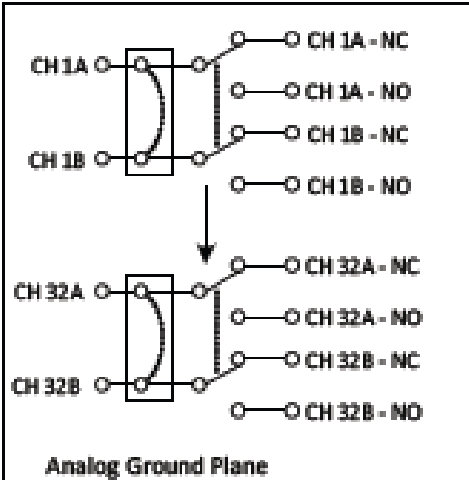


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Model 3000-12

32 DPDT SWITCH MODULE



- 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

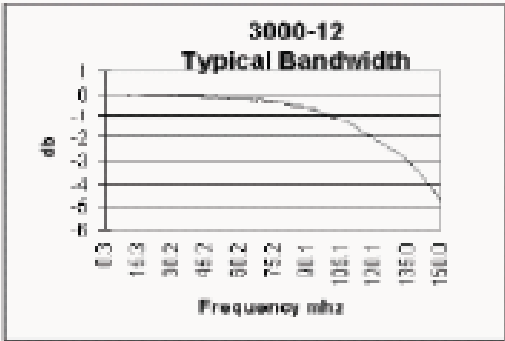
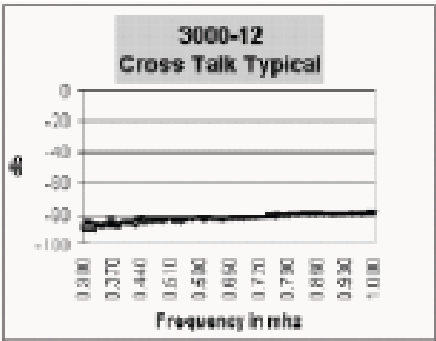
- **Electrical**
 - Voltage Max = 220VDC, 250VAC
 - Current Max = 2A (carry)
 - Power Max = 60W, 125VA
 - Path Resistance < 150mΩ
 - Bandwidth >55MHz
 - Crosstalk < -80dB (at 300KHz)
 - Insulation Resistance >107Ω
- **Environmental**

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
	Set of Mating Connectors for one Module (std)	89800350

Model 3000-25

7(2X6) COAXIAL MATRIX



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.

**Low Cost GT-8300A 3U chassis
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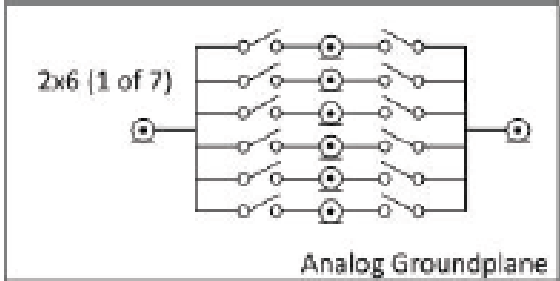


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Model 3000-25

7(2X6) COAXIAL MATRIX



- 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 VXI

Ordering Information

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

Model 3000-27

10 CHANNEL PROGRAMMABLE RESISTOR



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.

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



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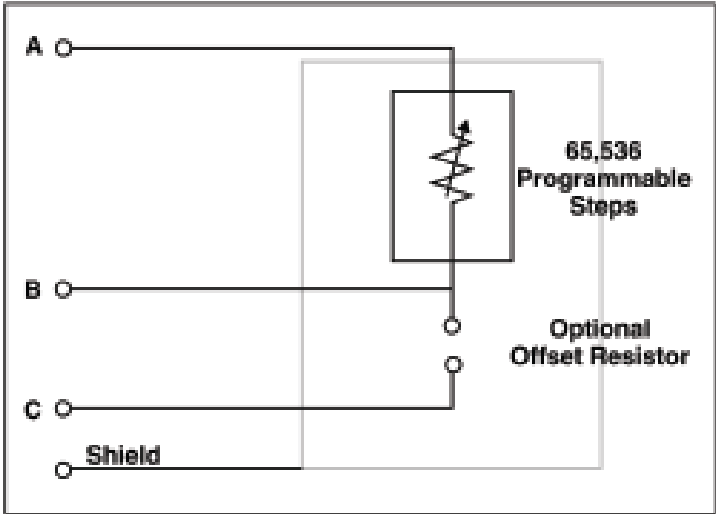


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Model 3000-27

10 CHANNEL PROGRAMMABLE RESISTOR



- 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
3000-27	Set of Mating Connectors for one Module	89800200
3000-27 Opt 2	5 Channel Programmable Resistor (20-1.31M ohms)	90400250-002

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Model 3000-30

2(2X6) & 2(2X12) COAXIAL MATRIX



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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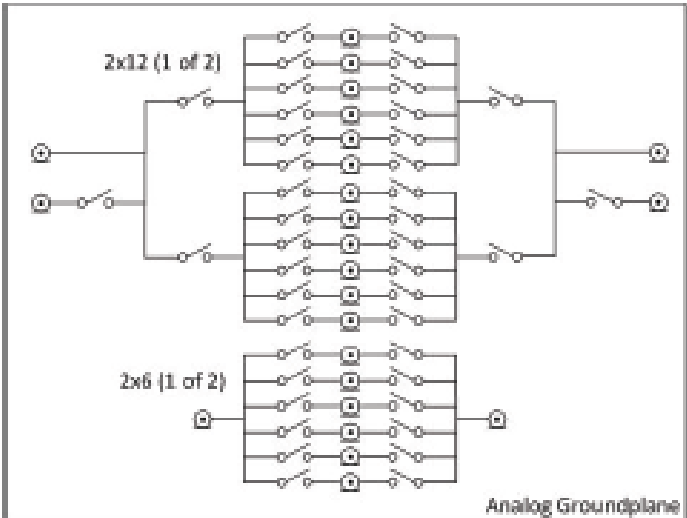


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Model 3000-30

2(2X6) & 2(2X12) COAXIAL MATRIX



- 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
	Set of Mating Connectors for one Module	8980020-001

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Model 3000-31

128 CHANNEL TTL I/O



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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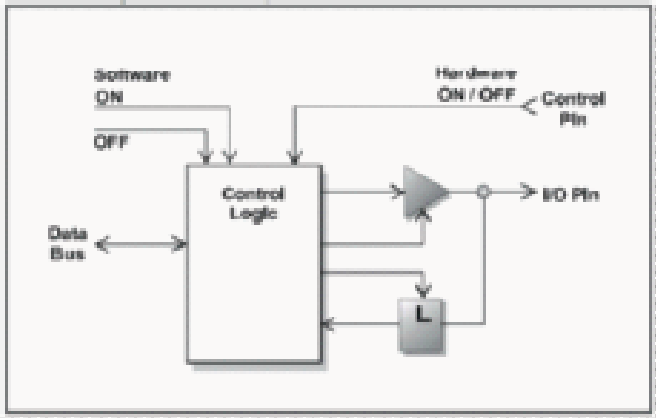


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Model 3000-31

128 CHANNEL TTL I/O



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
3000-31 Opt 1	Additional 128 Ch 256 total, specify Term, (1-slot)	85001140
3000-31	Additional 128 Ch 384 total, specify Term, (2-slot)	Contact Factory
3000-31	Additional 128 Ch 512 total, specify Term, (2-slot)	Contact Factory

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Model 3000-32 4(1X8) & 8(1X4) & 8(1X2) COAXIAL MULTIPLEXER



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.

**Low Cost GT-8300A 3U chassis
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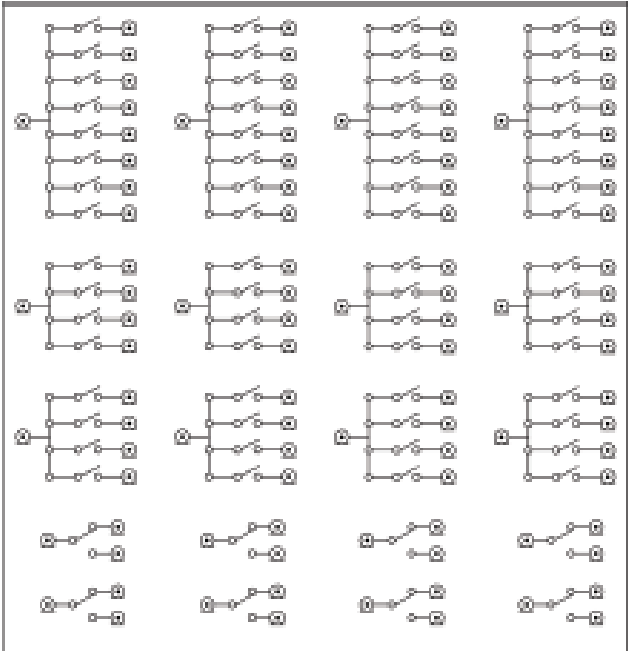


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Model 3000-32

4(1X8) & 8(1X4) & 8(1X2) COAXIAL MULTIPLEXER



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

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Model 3000-34

4(2X32) 1-WIRE MATRIX



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.

❑ **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.

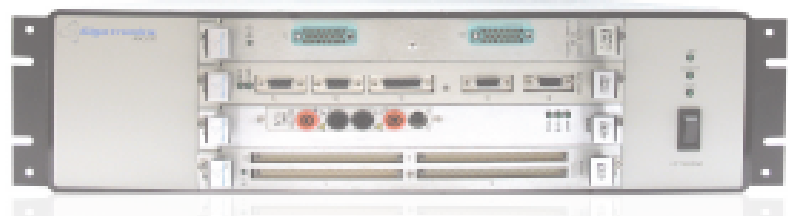
Capabilities

- 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.

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

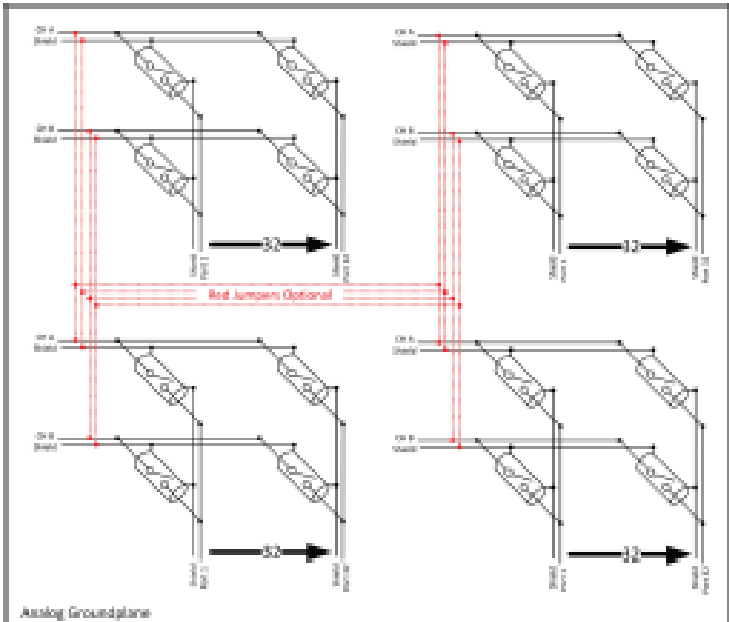


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Model 3000-34

4(2X32) 1-WIRE MATRIX



- 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
	Set of Mating Connectors for one Module	89800390

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Model 3000-35

8 PIN UNIVERSAL I/O CARD



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

- 8 Universal I/O pins
- 3 Instrument Ports
- 2 sets of load resistors
- 3 High Performance Ports
- 10 Analog Bus ports
- (2)2x12 at 500MHz
- Voltage Max = 200VDC
- Current Max = 0.5A
- Power = 10 Watts
- Path Impedance 50Ω

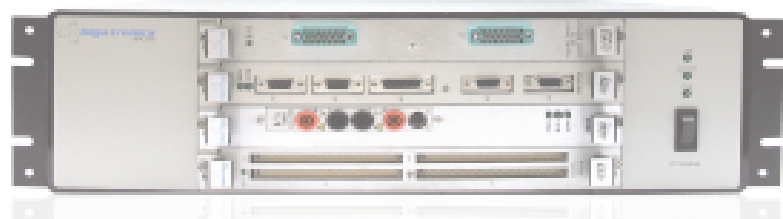
❑ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

❑ **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.

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



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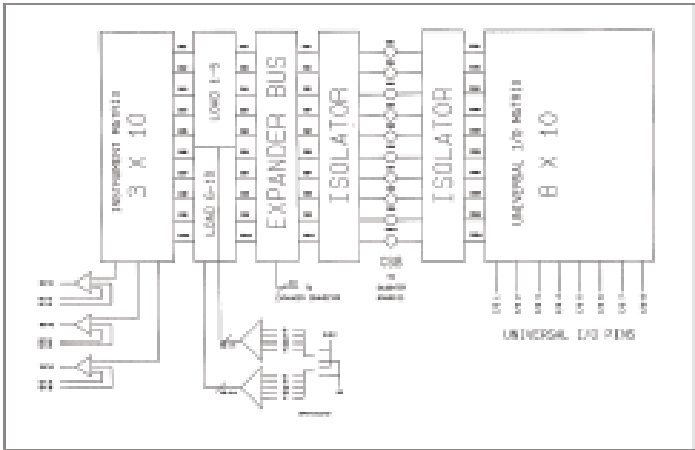


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Model 3000-35

8 PIN UNIVERSAL I/O CARD



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 (unswitched)
 - Power Max = 10W
 - Path Impedance 50Ω
 - Bandwidth >400MHz (2x12)
 - >500MHz (2x6)
 - >750MHz (Hi Perf)
 - 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
	Set of Mating connectors for one Module	89800170

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Model 3000-38

16(1X8) 1-WIRE MATRIX



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.

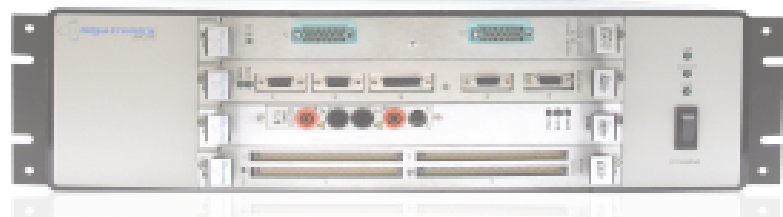
❑ **Software Reconfigurable** – This allows the board to be re-tasked for different UUT applications in different form factors. No moveable wire jumpers needed.

❑ **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.

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

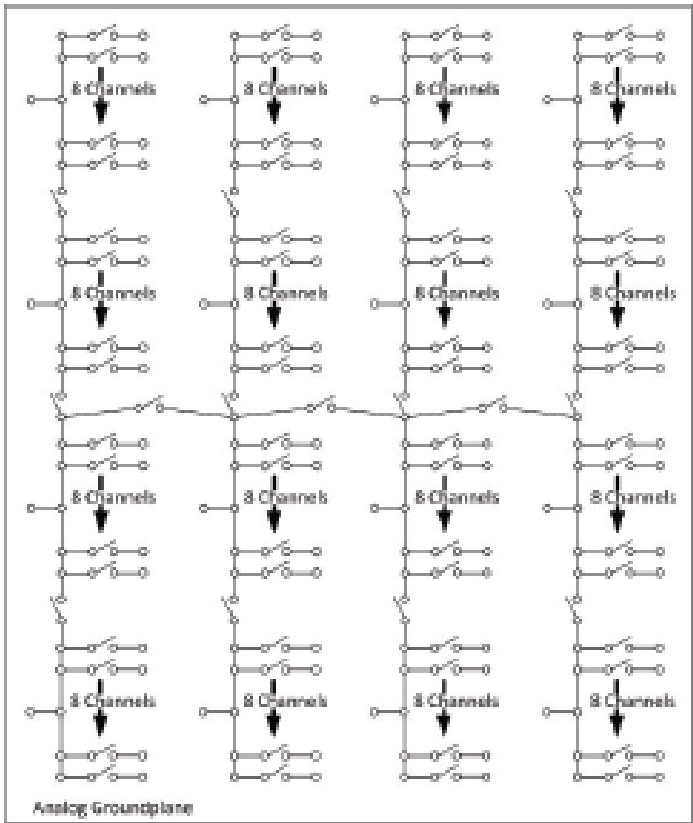


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Model 3000-38

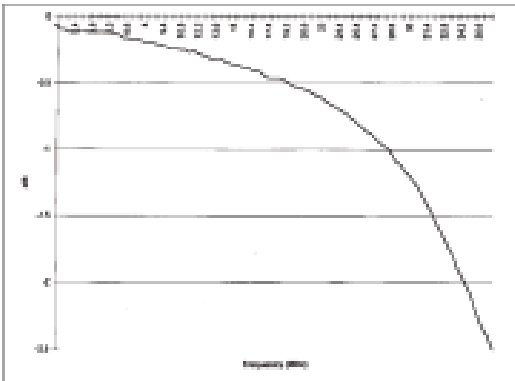
16 (1X8) 1-WIRE MATRIX



- 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 = 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



Ordering Information

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

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Model 3000-39

UNIVERSAL I/O CARD



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

- 8 Universal I/O pins
- 3 Instrument Ports
- 2 sets of load resistors
- 3 High Performance Ports
- 10 Analog Bus ports
- (2)2x12 at 500MHz
- Voltage Max = 200VDC
- Current Max = 0.5A
- Power = 10 Watts
- Path Impedance 50Ω

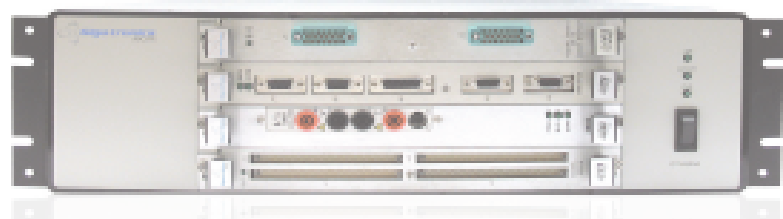
❑ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

❑ **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.

**Low Cost GT-8300A 3U chassis
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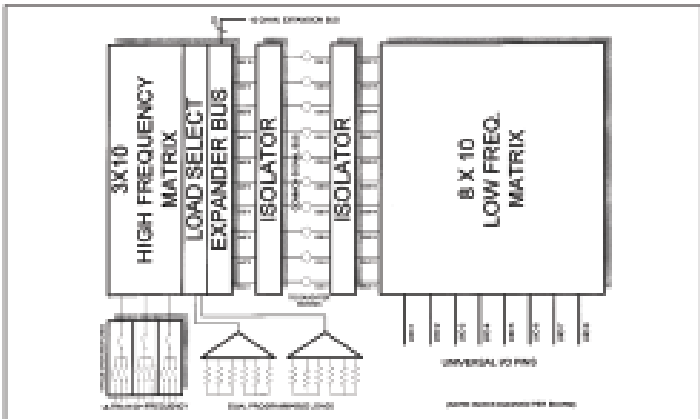


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Model 3000-39

UNIVERSAL I/O CARD



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 = 220VDC, 200VACpk
 - Current Max = 0.5A (carry)
 - Power Max = 10W
 - Path Impedance 50Ω
 - Bandwidth >700MHz (Star)
 - >200MHz (3x10)
 - >50MHz (8x10)
 - Crosstalk < -50dB (at 100KHz)

- 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

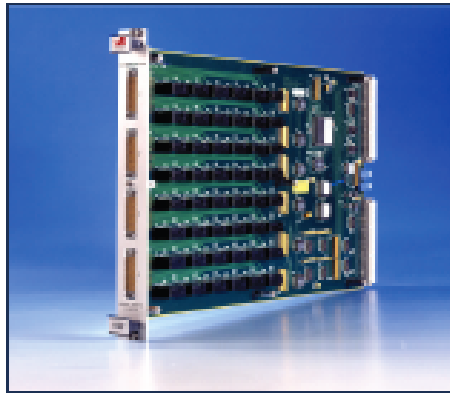
Model #	Description	Manufacturer #
3000-39	Universal I/O Card (1-slot), 2(8x10), 2(3x10), 6 Star, 700MHz	90400300-002
	Set of Mating connectors for one Module	89800170
3000-39A	Universal IO Card (2-slot), 3(8x10), 3(3x10), 9 Star, 700MHz	90400300-003
	Set of Mating connectors for one Module	89800170-003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

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Model 3000-42

48 SPDT POWER SWITCH MODULE



Capabilities

- 48 SPDT
- Voltage Max = 277VAC, 110VDC
- Current Max = 5A (switched)
- Bandwidth = 50MHz

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.

❑ **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.

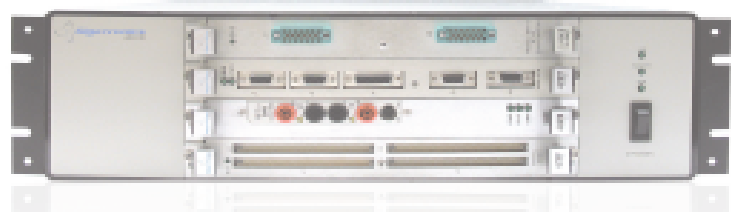
❑ **Discrete Component Mounting** – The 3000-42 has internal component mounting locations to allow components to be mounted in Parallel or in series with relay contacts. This makes the module extremely versatile as these points can be used to either re-configure the card, or to convert the module into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

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



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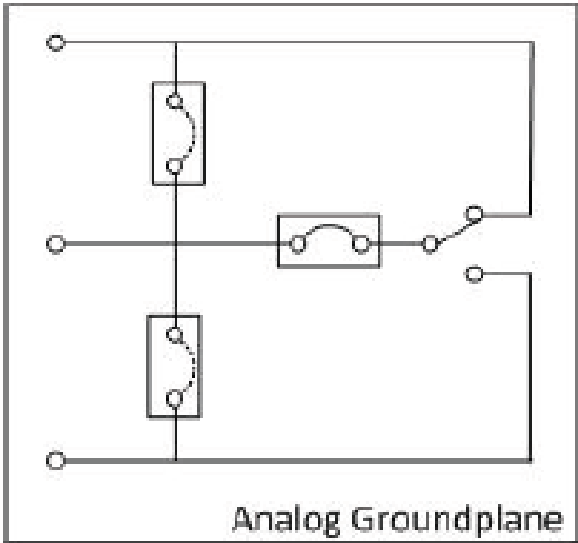


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Model 3000-42

48 SPDT POWER SWITCH MODULE



- 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 = 277VAC, 250VDC
 - 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
	Set of Mating connectors for one Module	89800340
3000-42 Opt B	Set of Pigtail Cables for one Module 4'	89800340-004

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Model 3000-43

48 SPST POWER SWITCH MODULE



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.

■ **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

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

Recommended Uses

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

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



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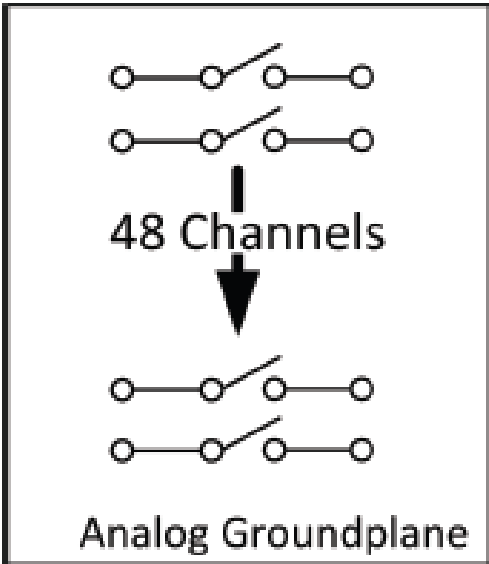


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Model 3000-43

48 SPST POWER SWITCH MODULE



- 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

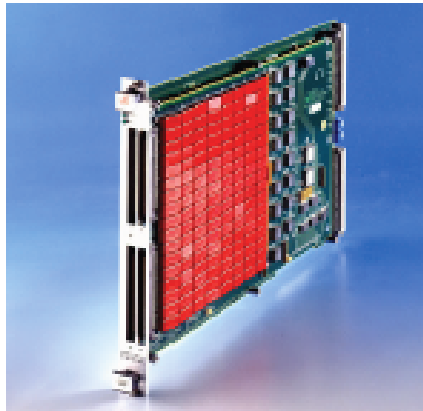
Model #	Description	Manufacturer #
3000-43	48 SPST Power Switch Module, 10A	90400830
	Set of Mating connectors for one Module	89800410

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Model 3000-44

(2X128) 2-WIRE MATRIX



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.

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

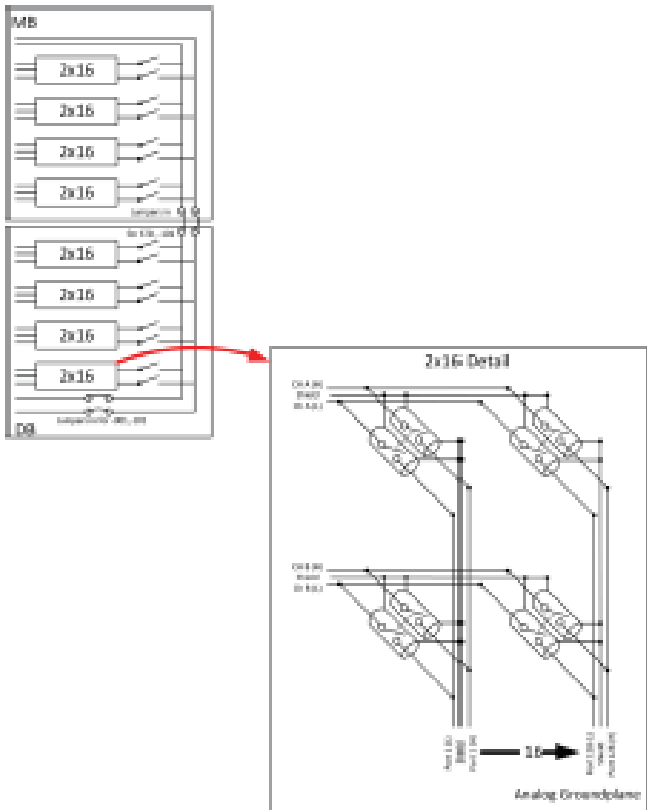


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Model 3000-44

(2X128) 2-WIRE MATRIX



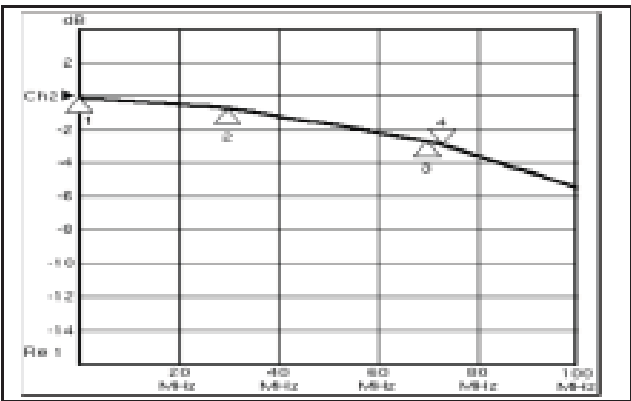
Specifications

- 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

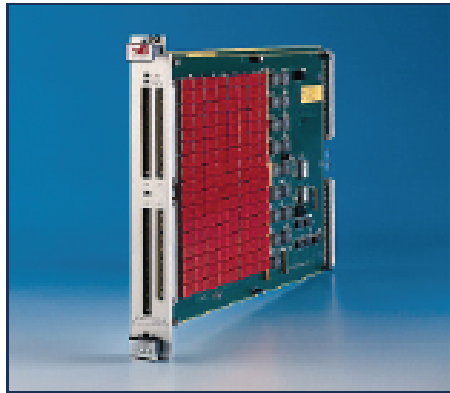
Model #	Description	Manufacturer #
3000-44	(2x128) 2-wire Matrix, 70 MHz	90400650
3000-44 Opt 1	(2x128) 2-wire Matrix, 70 MHz (same as Opt M) has 2 addl inputs on DB	90400650-101
3000-44	2(2x64) 2-wire Matrix, 70 MHz	90400650-001
	Set of Mating Connectors for one 3000-44 Module	89800300

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Model 3000-45

(4X64) 2-WIRE MATRIX



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.

❑ Coaxially Shielded Reed Relays –

- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >18Billion 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

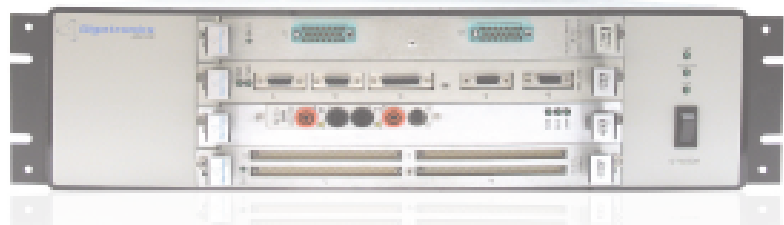
- 4x64 Matrix (2-wire)
- Expandable in (4x32) increments
- Voltage Max = 220VDC, 200VACpk
- Current Max = 1.5A
- Power = 10 Watts
- Path Impedance 50Ω
- Bandwidth >70MHz
(45 MHz version 3000-57)

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.

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

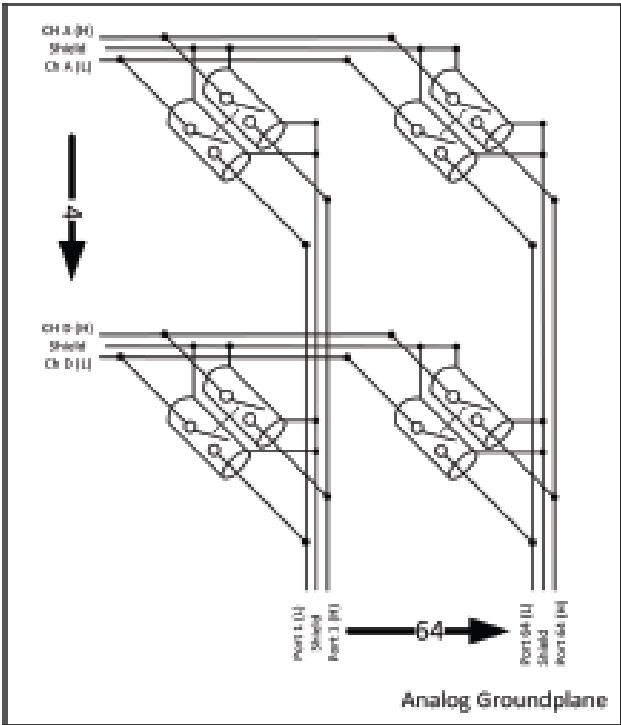


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Model 3000-45

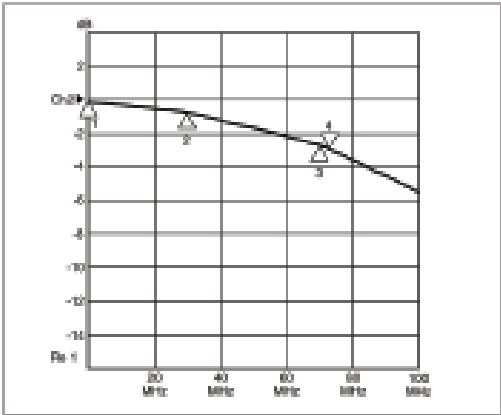
(4X64) 2-WIRE MATRIX



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
	Connector Kit for -45 card	89800150
3000-45B	(4x128) 2wire Matrix, 70MHz (2-slots)	90400790

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Model 3000-46

64 DPDT & 16(1X8) 1-WIRE MULTIPLEXER



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.

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

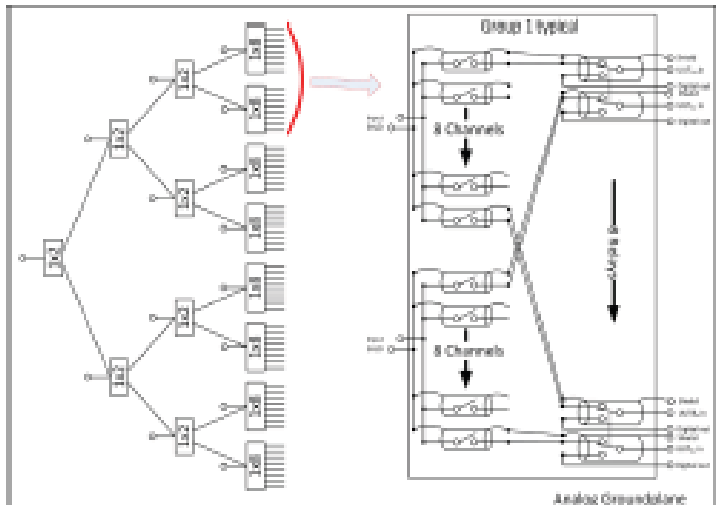


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Model 3000-46

64 DPDT & 16(1X8) 1-WIRE MULTIPLEXER



- 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

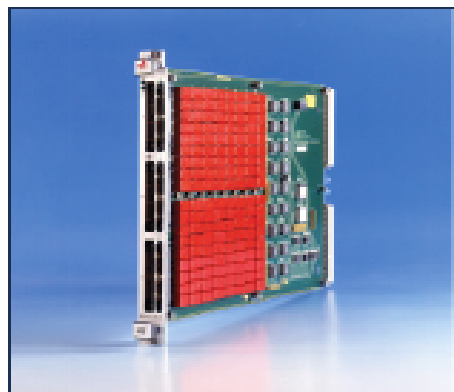
Model #	Description	Manufacturer #
3000-46	64 DPDT & 16(1x8) 1-wire Multiplexer, 100MHz	90400750
	Set of Mating connectors for one Module	89800360
3000-46	Set of Pigtail Cables for one Module 1'	89800360-001
3000-46	Set of Pigtail Cables for one Module 2'	89800360-002
3000-46	Set of Pigtail Cables for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

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Model 3000-47

2(8X16) 2-WIRE MATRIX



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)
- **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.

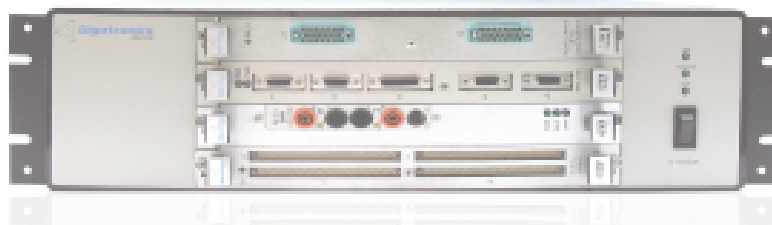
Recommended Uses

- **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.

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

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

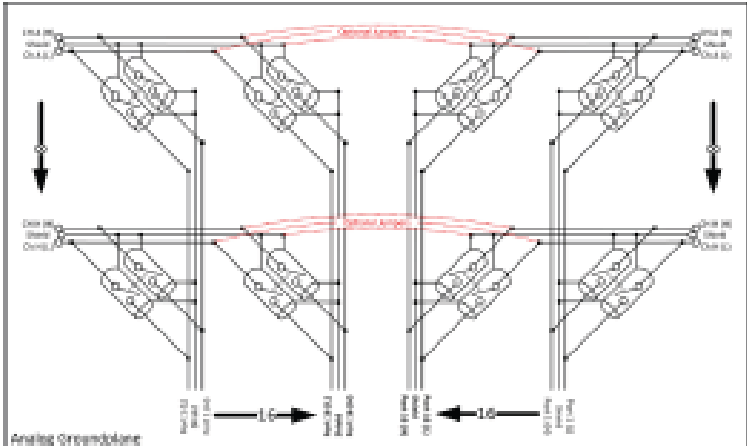


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Model 3000-47

2(8X16) 2-WIRE MATRIX



- 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
 - 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

Ordering Information

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

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Model 3000-48

16 CHANNEL HIGH POWER SOURCE DRIVER



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.

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



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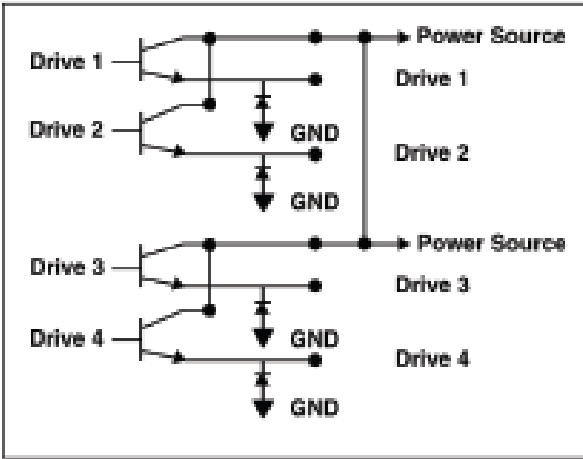


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Model 3000-48

16 CHANNEL HIGH POWER SOURCE DRIVER



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
	Set of Mating connectors for one Module	89800180

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Model 3000-49

16 CHANNEL HIGH POWER SINK DRIVER



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.

**Low Cost GT-8300A 3U chassis
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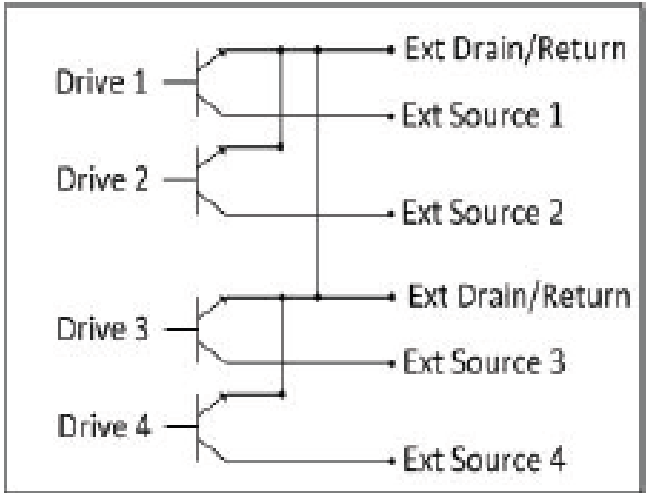


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Model 3000-49

16 CHANNEL HIGH POWER SINK DRIVER



- 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
	Set of Mating connectors for one Module	89800180

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Model 3000-51

20 SPDT POWER SWITCH MODULE



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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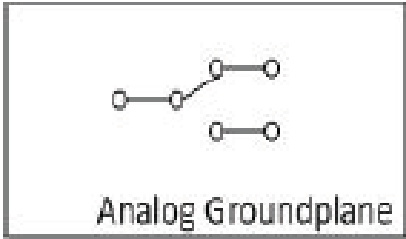


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Model 3000-51

20 SPDT POWER SWITCH MODULE



- 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

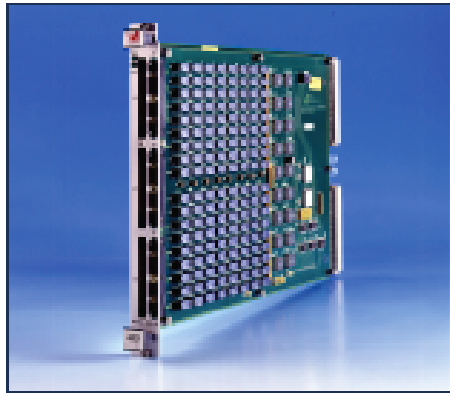
Model #	Description	Manufacturer #
3000-51	20 SPDT Power Switch Module, 20A	90401460

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Model 3000-52

2(8X16) 2-WIRE MATRIX



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.

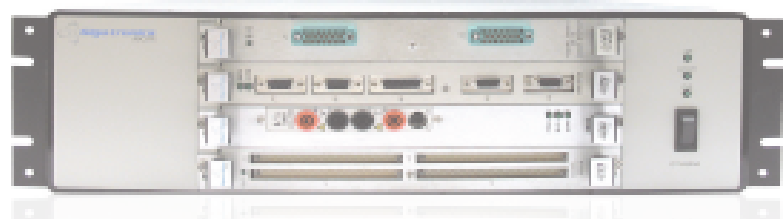
Capabilities

- 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.

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

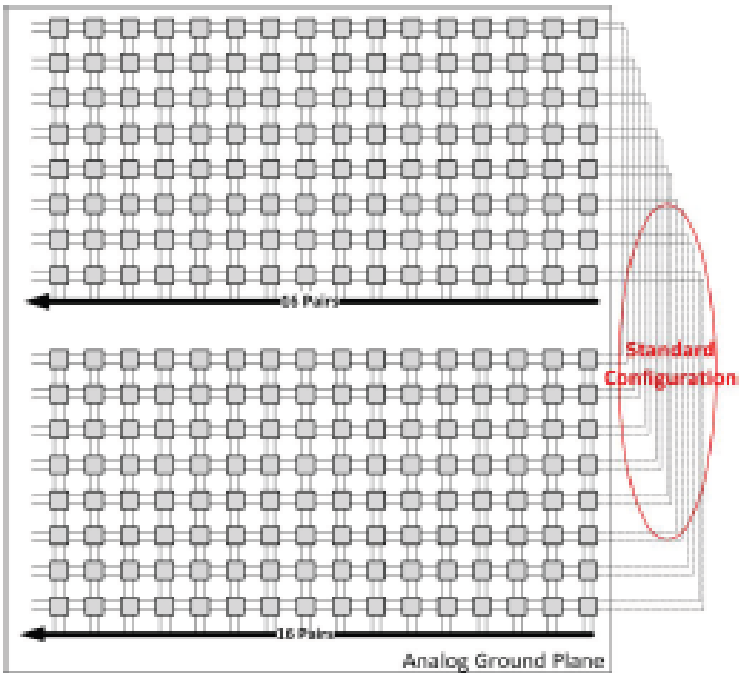


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Model 3000-52

2(8X16) 2-WIRE MATRIX



- 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 > -71 dB
- **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
3000-52 opt 1	2(8x16) 2-wire Matrix, IDC connectors	90400810-001
3000-52 opt 2	(8x32) 2-wire Matrix, Airborn connectors	90400810-002
3000-52 opt 3	2(8x16) 2-wire Matrix, Airborn connectors	90400810-003
3000-52 opt 4	2(8x16) 2-wire Matrix, IDC conn w/latches	90400810-101
	Set of Mating connectors for one Module	89800430
3000-52	VPC Funnel Adapter	89800430-001
3000-52	Set of Pigtail Cables for one Module 2'	89800430-002

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Model 3000-53

96 SPDT SWITCH MODULE



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.

**Low Cost GT-8300A 3U chassis
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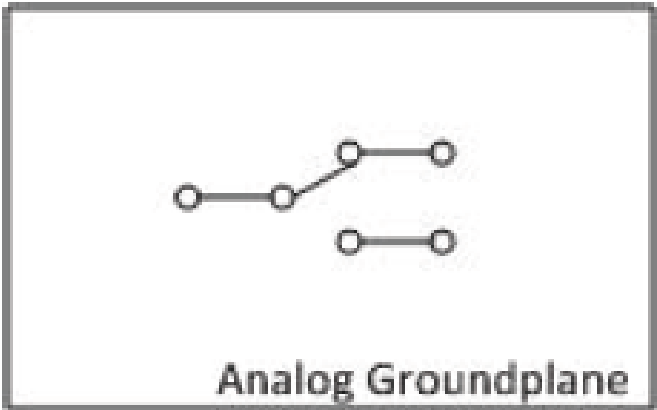


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Model 3000-53

96 SPDT SWITCH MODULE



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
	Set of Mating connectors for one Module	89800450
3000-53	Set of Pigtail Cables for one Module	89800450-002
3000-53A	144 SPDT Switch Module, 5MHz (2-slot)	90400530-101
	Set of Mating connectors for one Module	89800450-001
3000-53B	192 SPDT Switch Module, 5MHz (2-slot)	

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Model 3000-56

64 SPDT SWITCH MODULE



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.

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



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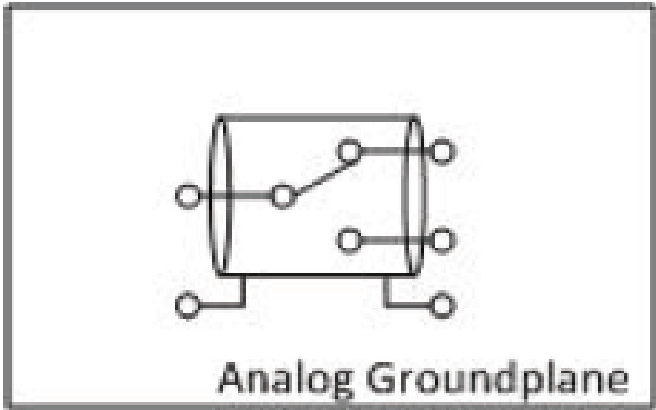


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Model 3000-56

64 SPDT SWITCH MODULE



- 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
 - 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
	Set of Mating connectors for one Module	89800510

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Model 3000-57

2(4X32) 2-WIRE MATRIX



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.

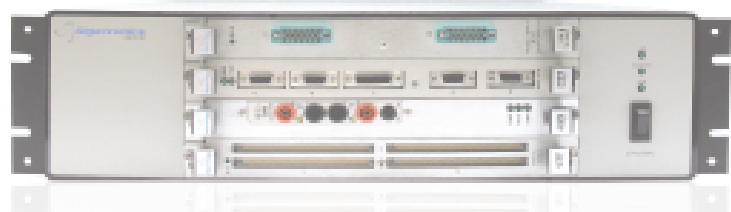
Capabilities

- 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.

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

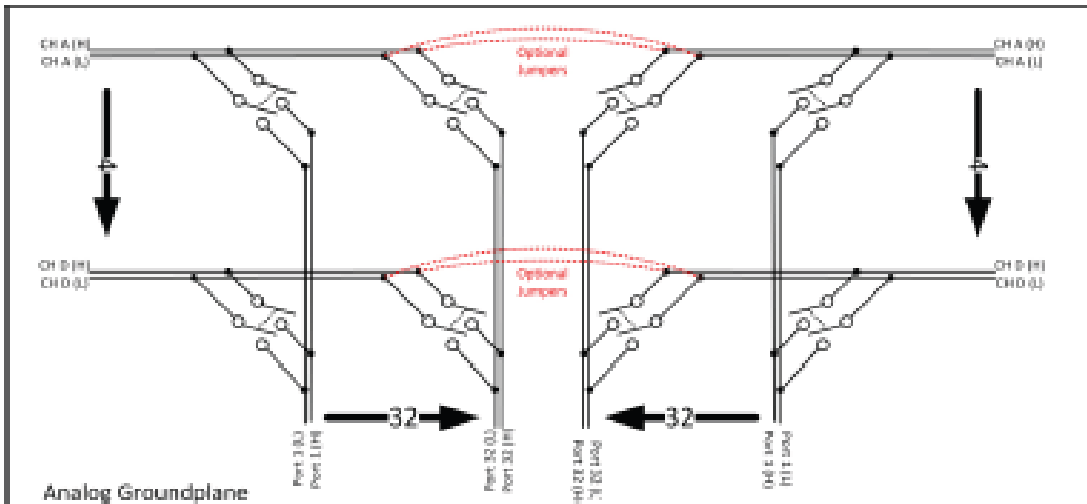


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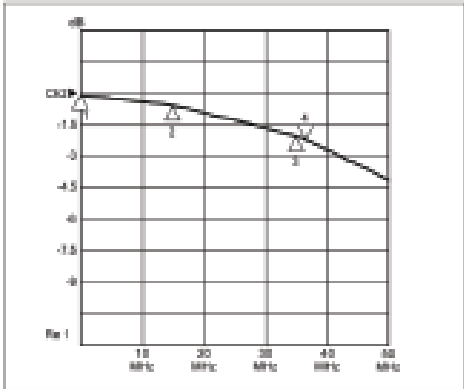


Model 3000-57

2(4X32) 2-WIRE MATRIX



- 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
	Set of Mating connectors for one Module	89800830-001
3000-57 Opt 1	2(4x32) 2-wire Matrix, 45MHz	90401010-001

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Model 3000-59

32 SPDT POWER SWITCH MODULE



Capabilities

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

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.

Recommended Uses:

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

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



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Model 3000-59

32 SPDT POWER SWITCH MODULE



- 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

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Model 3000-60

32 DPDT SWITCH MODULE



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.

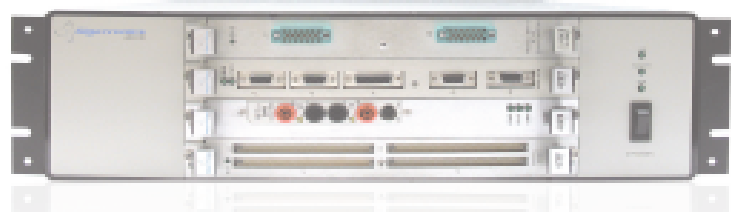
❑ **Analog Ground Plane** – A separate ground plane beneath the switches eliminates stray emissions, and since the Digital portion of the board has a separate ground plane, test signals will not affect the control circuitry.

❑ **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.

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

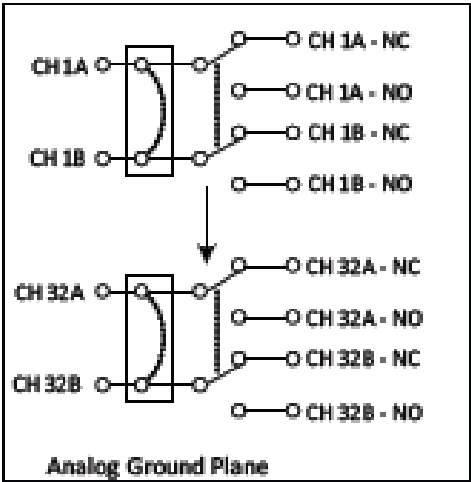


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Model 3000-60

32 DPDT SWITCH MODULE



- 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

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Model 3000-61

128 CHANNEL CMOS I/O MODULE



Capabilities

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

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.

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.

**Low Cost GT-8300A 3U chassis
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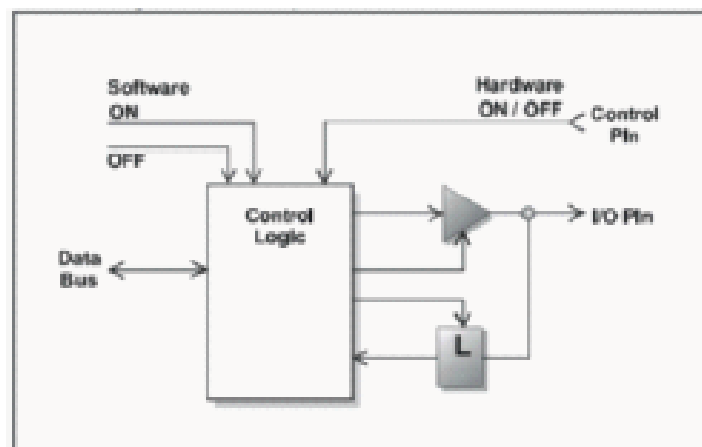


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Model 3000-61

128 CHANNEL CMOS I/O MODULE



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
3000-61 Opt 3	128 Channel Digital I/O, CMOS with 64 Ch Differential	90401390-003

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800.726.4442 (USA) | +1 925.328.4650 (International)



Model 3000-62

128 CHANNEL TTL I/O MODULE



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)

Product Description

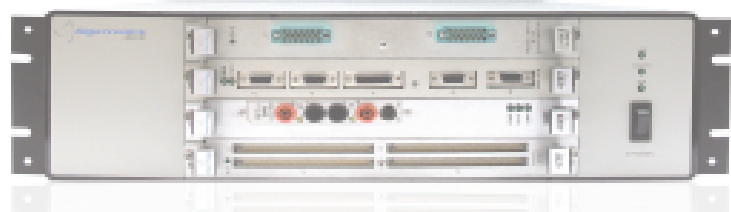
The 3000-62 provides 128 Channel of Bi-Directional TTL I/O. This module can also be expanded in 128 Channel increments to 256 in a 1-slot module, and up to 512 channels in a 2-slot module. The 3000-62 has been designed with several exceptional features that make it stand out from competitive products.

- ❑ **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.

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.

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

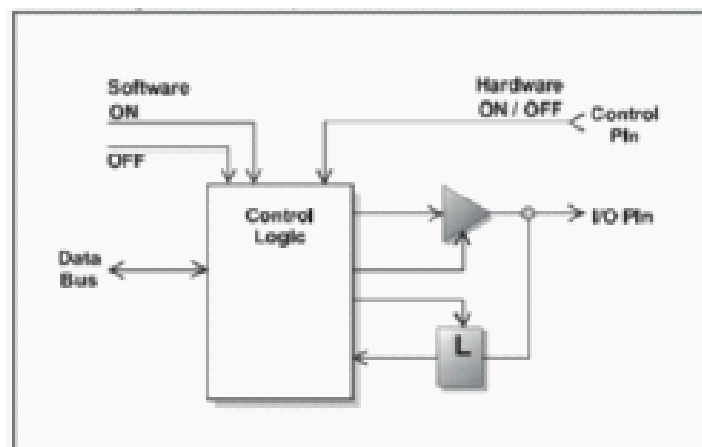


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Model 3000-62

128 CHANNEL TTL I/O MODULE



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

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Model 3000-63

128 CHANNEL OC TTL I/O MODULE



Capabilities

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

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.

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.

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



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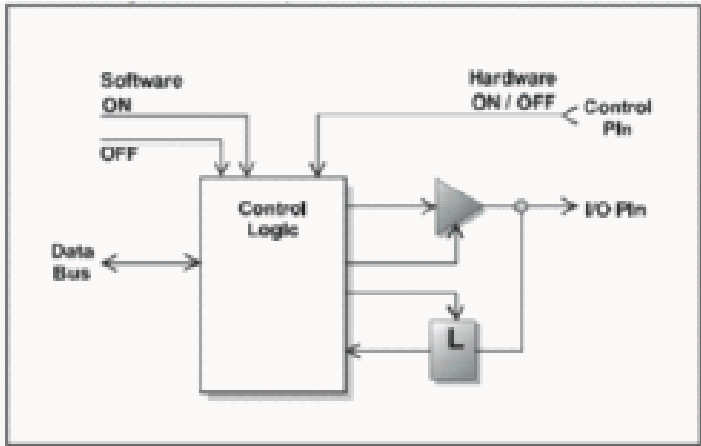


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Model 3000-63

128 CHANNEL OC TTL I/O MODULE



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 OCTTL 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 OCTTL Drivers	90401400
3000-63 Opt 1	256 Channel OCTTL Drivers	90401400-001

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Model 3000-66

16(1X4) 2-WIRE MULTIPLEXER



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.

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

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.



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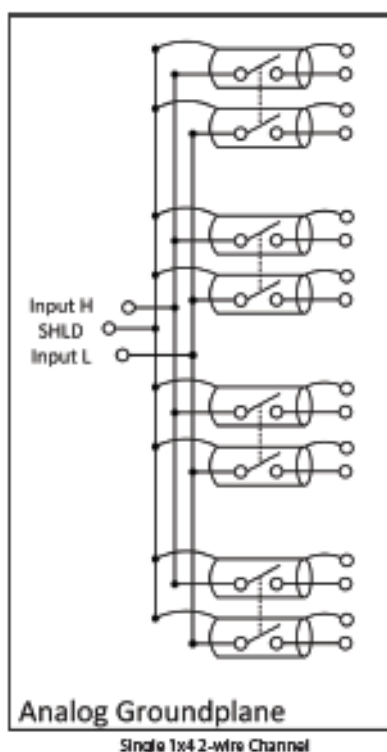
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ASCOR

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Model 3000-66

16(1X4) 2-WIRE MULTIPLEXER



Specifications

Electrical

- Voltage Max = 220VDC, 200VACpk
- 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
	Set of Mating Connectors for one Module	89800820

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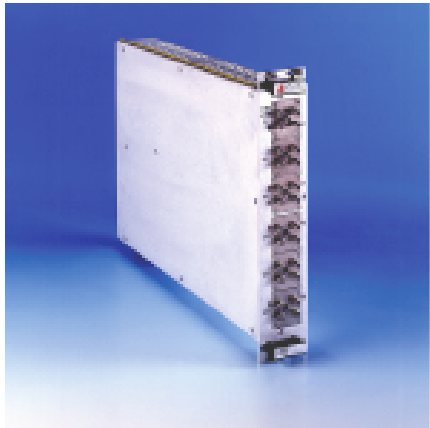


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Model 3000-80

6(1X6) COAXIAL RF MULTIPLEXER



Product Description

The 3000-80 provides six (1x6) 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.

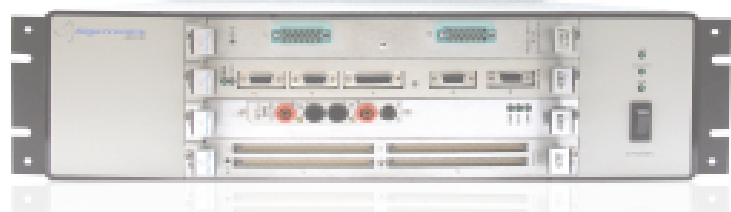
Capabilities

- 6(1x6)coax
- Bandwidth = 26.5GHz
- 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.

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

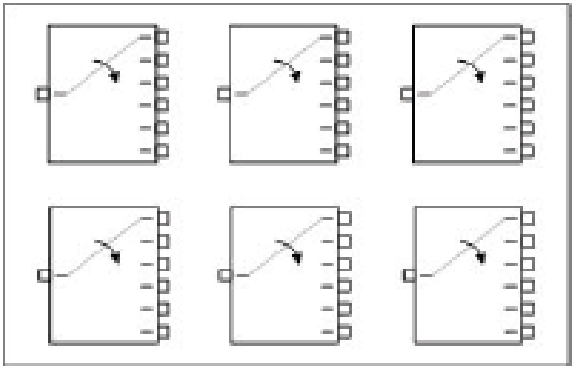


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Model 3000-80

6(1X6) COAXIAL RF MULTIPLEXER



- 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
 - 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

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Model 3000-154

12(1X4) COAXIAL RF MULTIPLEXER



Capabilities

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

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.

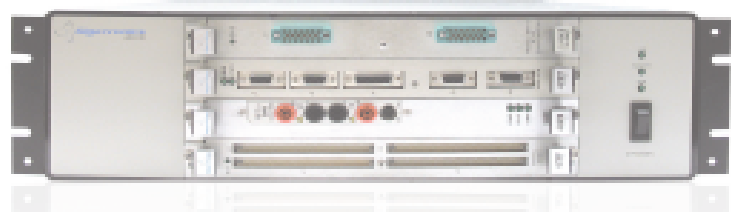
❑ **Coax Wired Construction** – This method of construction provides maximum bandwidth, and allows for internal re-configuration for specific applications.

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

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.

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



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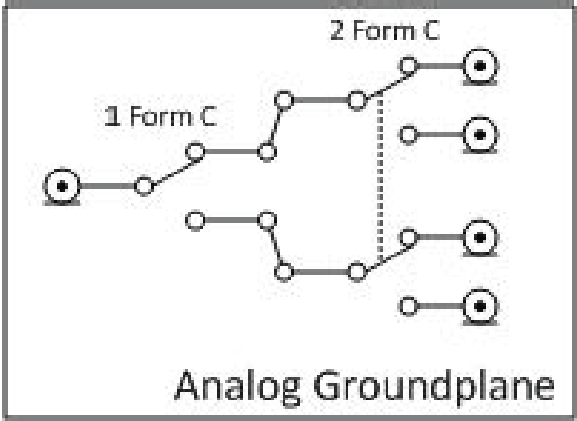


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Model 3000-154

12(1X4) COAXIAL RF MULTIPLEXER



- 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 = 1 A (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

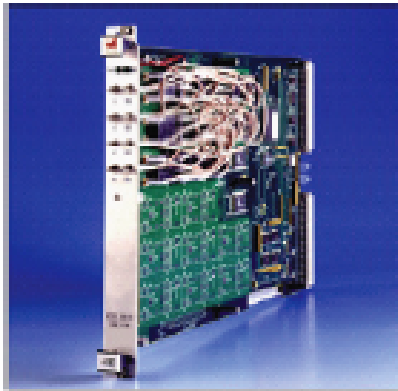
Model #	Description	Manufacturer #
3000-154	12(1x4) Coaxial Switches, 1.3GHz with SMB Connectors	90401660

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Model 3000-155

2(4X4) COAXIAL RF MATRIX



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.

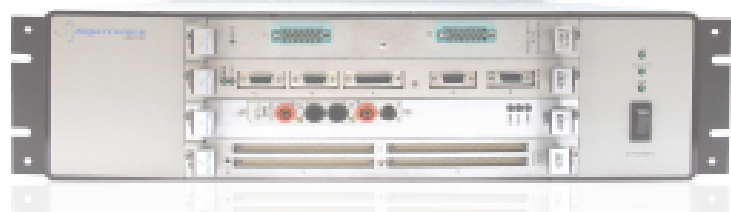
Capabilities

- 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.

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

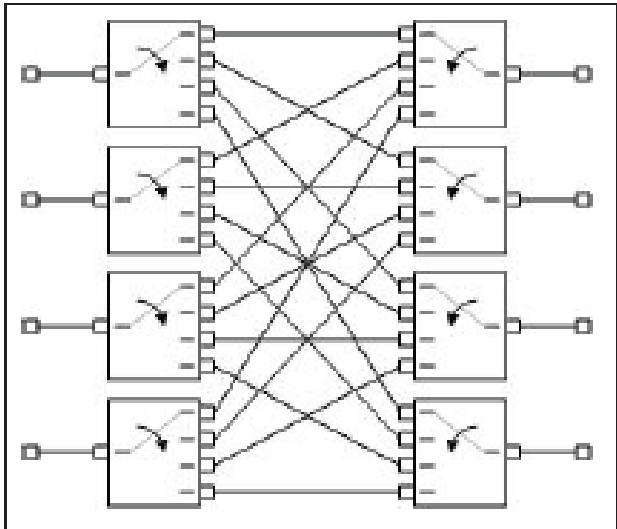


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Model 3000-155

2(4X4) COAXIAL RF MATRIX



- 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 = 1 A (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

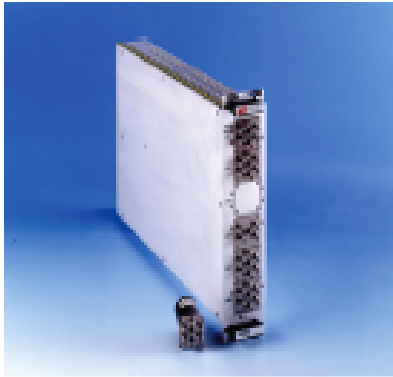
 - "C" size VXI
 - Weight 2.6 lbs

Ordering Information

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

MODEL 3000-2xxxx

MICROWAVE SWITCHES



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.

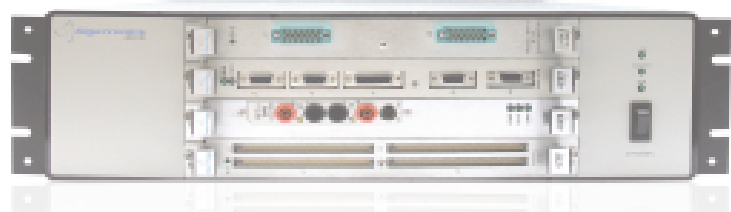
Capabilities

- SPDT, SP4T, SP6T
- Bandwidth = 18GHz
- 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.

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



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MODEL 3000-2xxxx

MICROWAVE SWITCHES



- 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) or (1x3) or (1x4) or (1x6)
- Power Max = 15W
- Path Impedance 50Ω
- Bandwidth = 26.5GHz, Higher Frequencies available in some configurations
- Terminations = available

❑ 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
 - Terminated
 - 2 Slot
 - 3 Slot
- Connector SMA-F

Ordering Information

Construct Model Number as follows:

3000-2 + [qty] [type] + [qty] [type] + [qty] [type] + [terminated]

Example: 3000-26662T = 6(1x6) and 6(1x2) all Terminated

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Model GT-8300A

3000 Series Chassis



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.

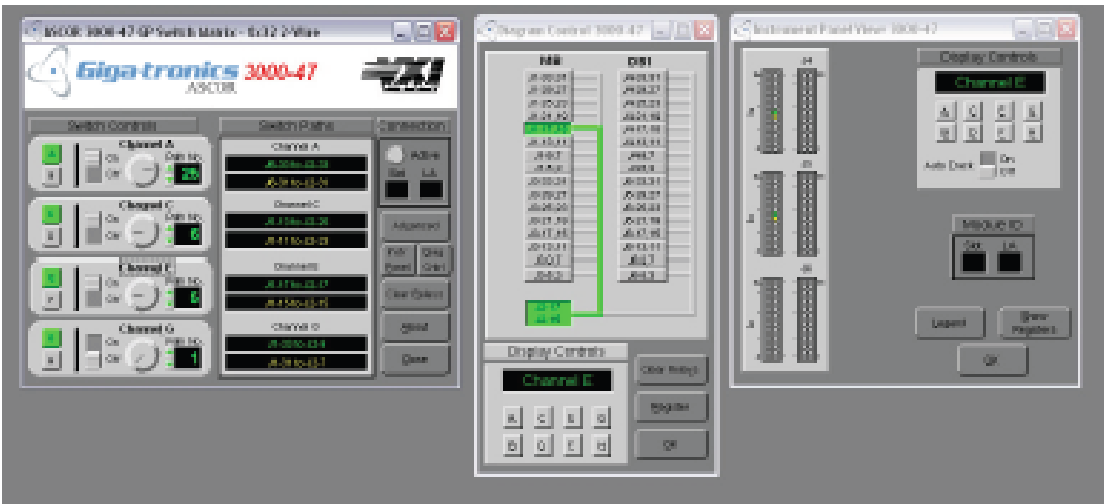
Recommended uses:

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



Model GT-8300A

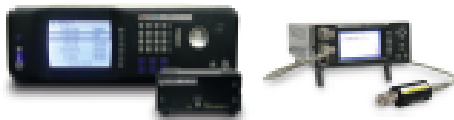
3000 Series Chassis



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

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

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
GT-8308A	6U Chassis with LAN and IEEE-488 control, 8 Slot Interface with a Built-In Resource Manager	95000110-001

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Model 4032

32 DPDT SWITCH MODULE

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).

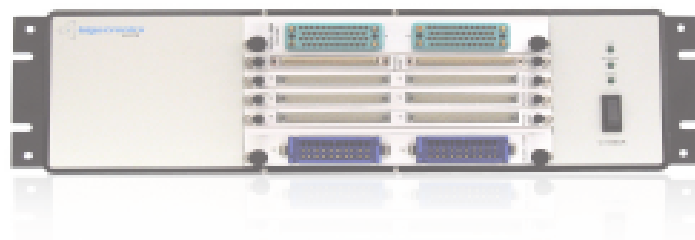
Capabilities

- 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.

**Low Cost GT-8400A 3U chassis
with LAN and IEEE-488 Control**



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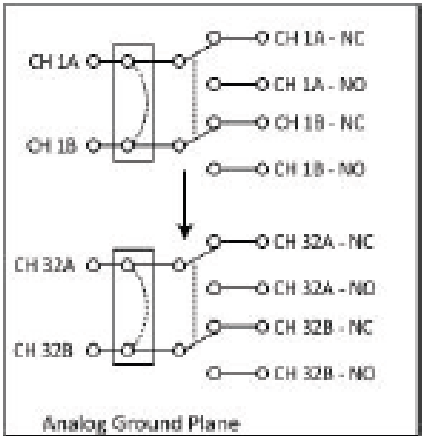


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Model 4032

32 DPDT SWITCH MODULE



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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

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

Model 4048

48 SPDT POWER SWITCH MODULE



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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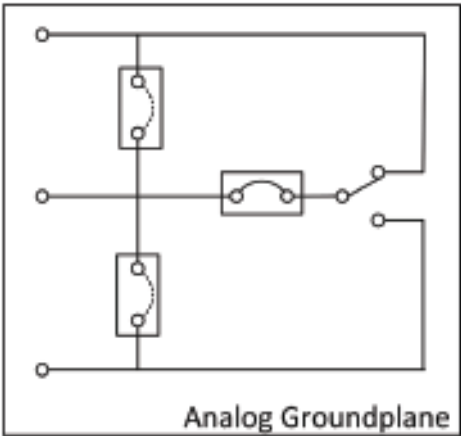


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Model 4048

48 SPDT POWER SWITCH MODULE



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 = 7.825"
- Length = 10.75"
- Weight = 1lb

Ordering Information

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

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Model 4049

64 SPST SWITCH MODULE

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

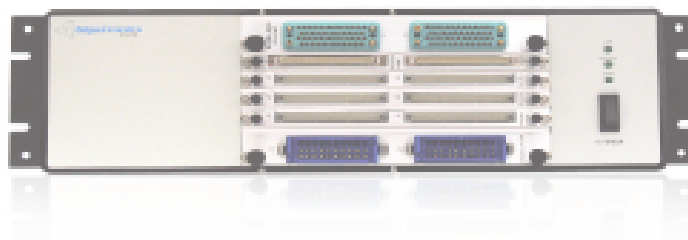
Recommended Uses

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

Capabilities

- 64 SPDT
- Voltage Max = 220VDC, 250VAC
- Current Max = 2A (switched)

**Low Cost GT-8400A 3U chassis
with LAN and IEEE-488 Control**

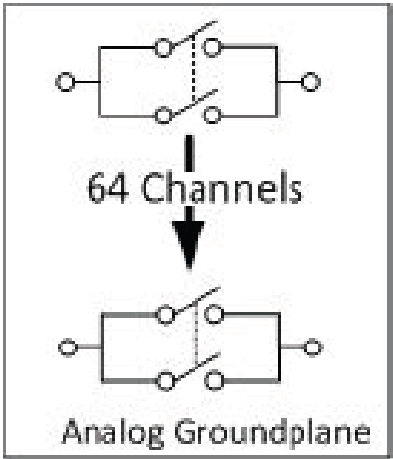


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Model 4049

64 SPST SWITCH MODULE



- 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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

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

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Model 4050

128 CHANNEL DIGITAL I/O MODULE

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.

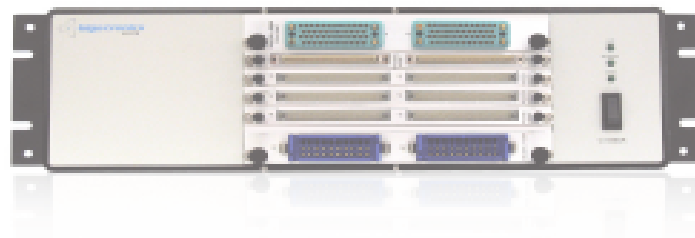
■ **Configuration Options** – Various driver combinations are available in programmable groups of 16 pins. TTL, CMOS, Open Collector, and Differential are all available.

■ **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.

**Low Cost GT-8400A 3U chassis
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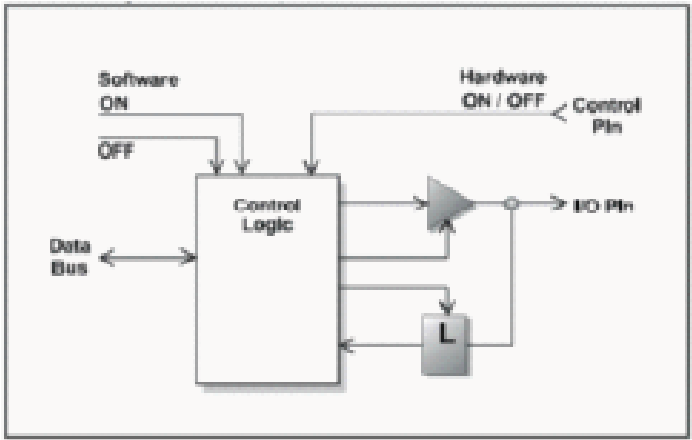


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Model 4050

128 CHANNEL DIGITAL I/O MODULE



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

Model 4064

64 SPST SWITCH MODULE

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 –

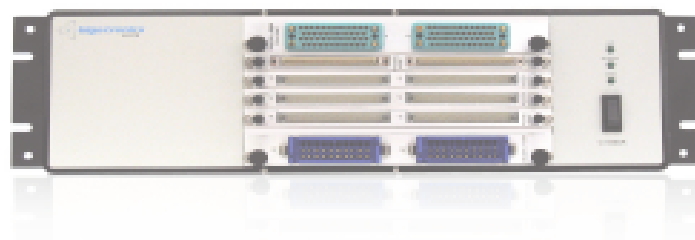
- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “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.

■ **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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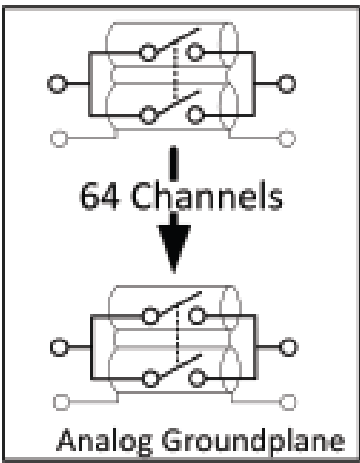


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Model 4064

64 SPST SWITCH MODULE



- 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 = 7.825"
- Length = 10.75"
- Weight = 1lb

Ordering Information

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

Model 4096

96 SPST SWITCH MODULE



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.

**Low Cost GT-8400A 3U chassis
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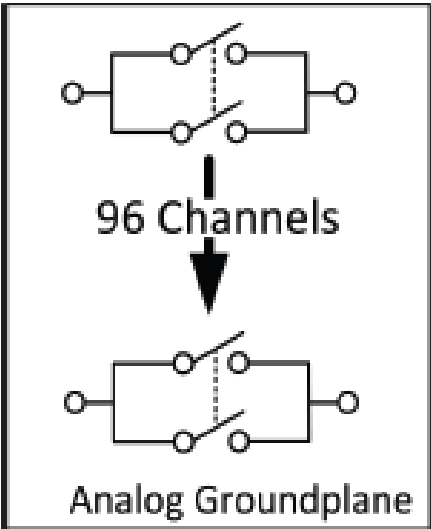


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Model 4096

96 SPST SWITCH MODULE



- 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%

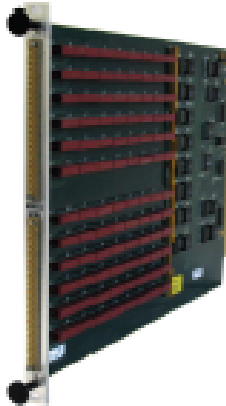
- ▣ **Mechanical**
 - Pitch 0.6"
 - Width = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

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

Model 4108

12(1X8) 1-WIRE MULTIPLEXER



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.

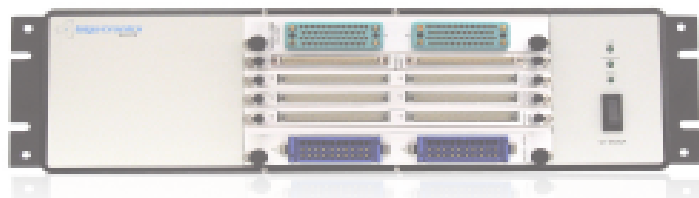
Capabilities

- 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.

Low Cost GT-8400A 3U chassis with LAN and IEEE-488 Control



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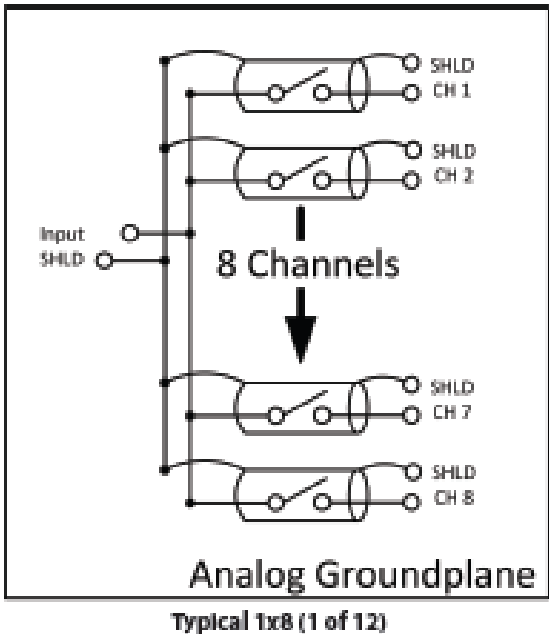


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Model 4108

12(1X8) 1-WIRE MULTIPLEXER



- 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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

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

Model 4116

(4X16) 1-WIRE MATRIX

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 –**

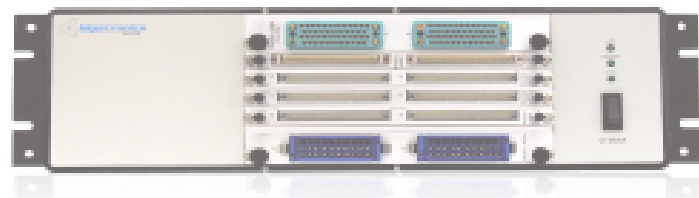
- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in "Dry" or "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.

Low Cost GT-8400A 3U chassis with LAN and IEEE-488 Control



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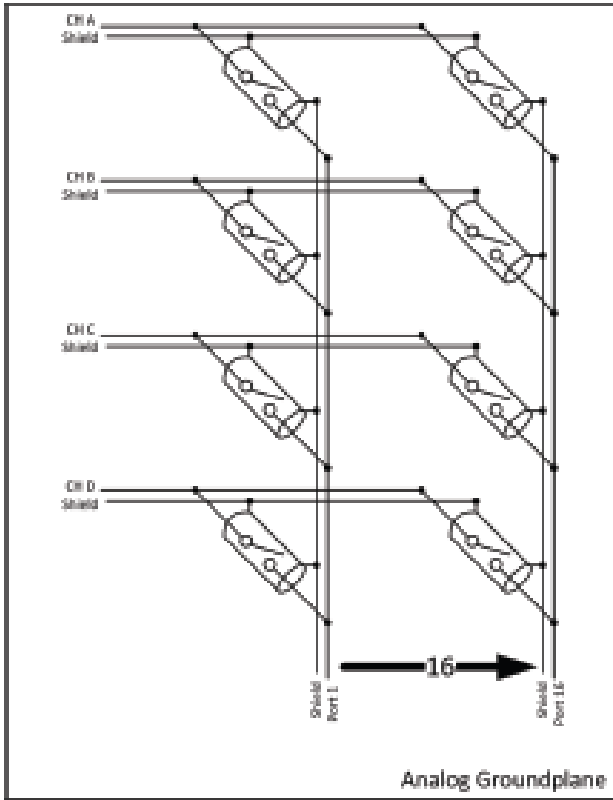


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Model 4116

(4X16) 1-WIRE MATRIX



- 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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

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

Model 4132

(4X32) 1-WIRE MATRIX

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 = 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 –

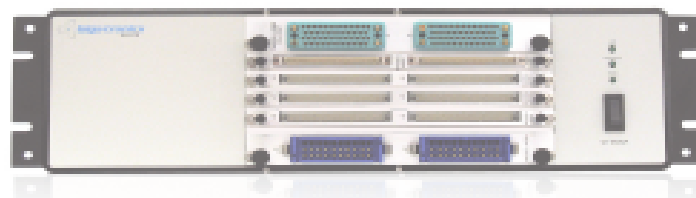
- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in "Dry" or "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.

▣ **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.

Low Cost GT-8400A 3U chassis with LAN and IEEE-488 Control



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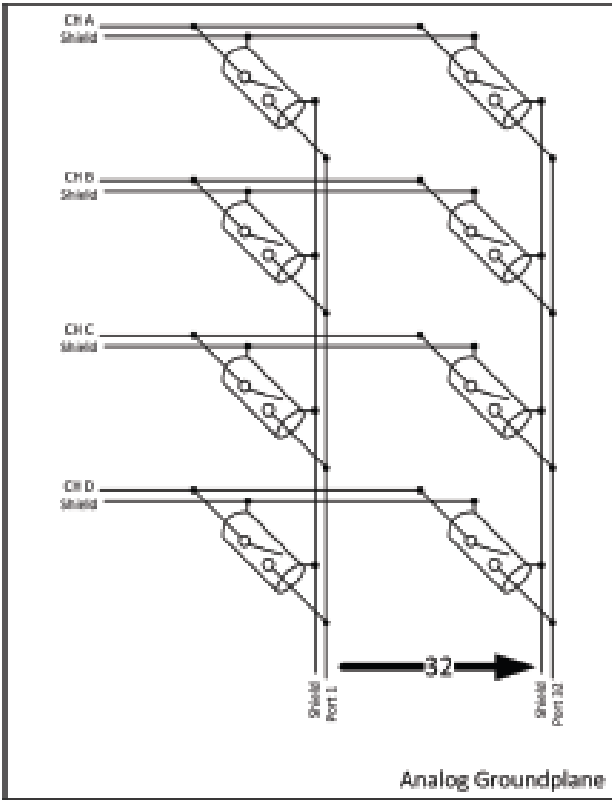


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Model 4132

(4X32) 1-WIRE MATRIX



- 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 = 50MHz
 - Crosstalk = -42dB @ 50MHz
 - 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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #
4132	(4x32) 1-wire Matrix (0.6"pitch)	90900020
	Set of Mating connectors for one Module	89800530

Model 4148

48 SPDT SWITCH MODULE

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.

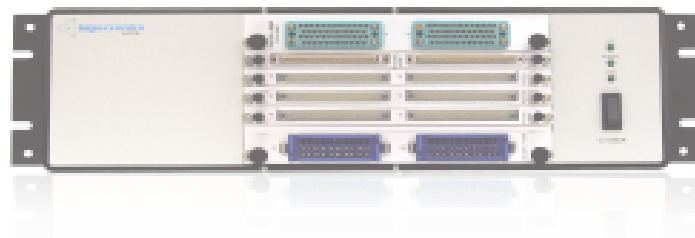
Capabilities

- 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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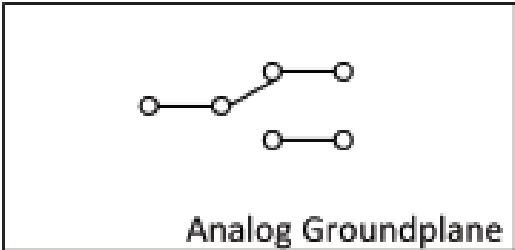


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Model 4148

48 SPDT SWITCH MODULE



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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

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

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Model 4164

(2X64) 1-WIRE MATRIX

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 –

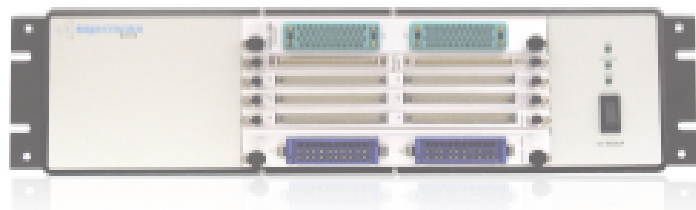
- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “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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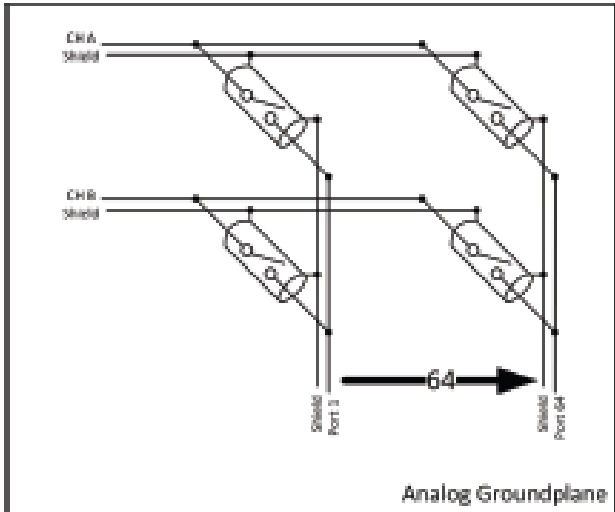


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Model 4164

(2X64) 1-WIRE MATRIX



- 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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

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

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Model 4208

6(1X8) 2-WIRE MULTIPLEXER



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

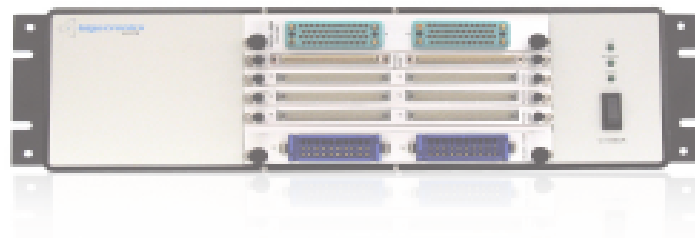
▣ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

▣ **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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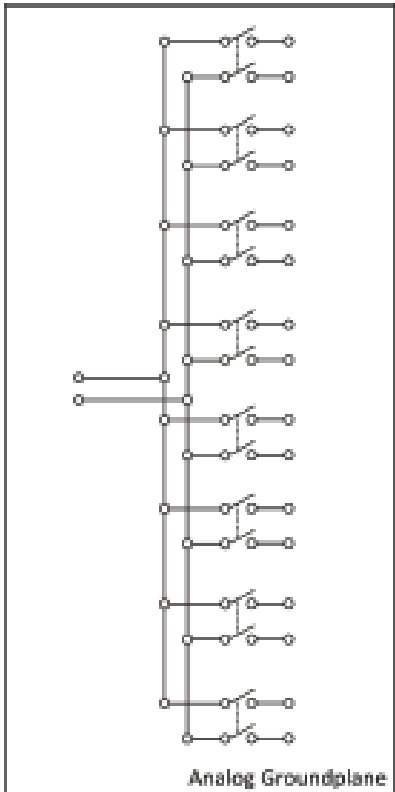


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Model 4208

6(1X8) 2-WIRE MULTIPLEXER



- 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 = 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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

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

Model 4216

(8X16) 2-WIRE MATRIX

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

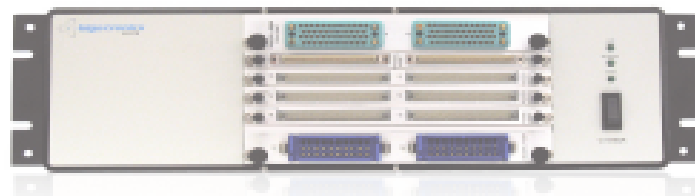
■ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

■ **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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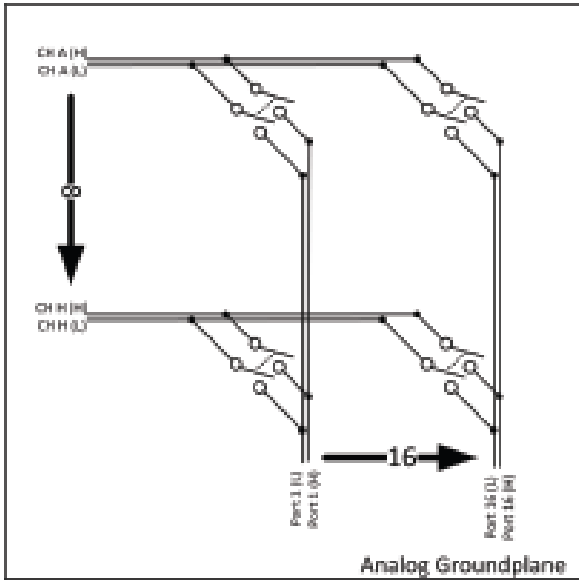


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Model 4216

(8X16) 2-WIRE MATRIX



- 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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

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

Model 4228

(2X64) 2-WIRE MATRIX

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.

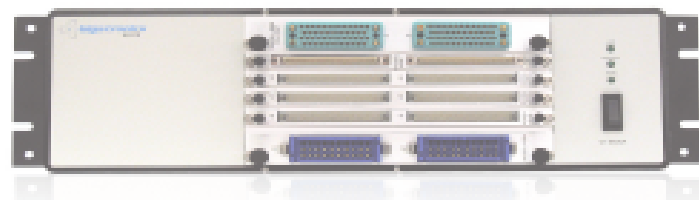
Capabilities

- (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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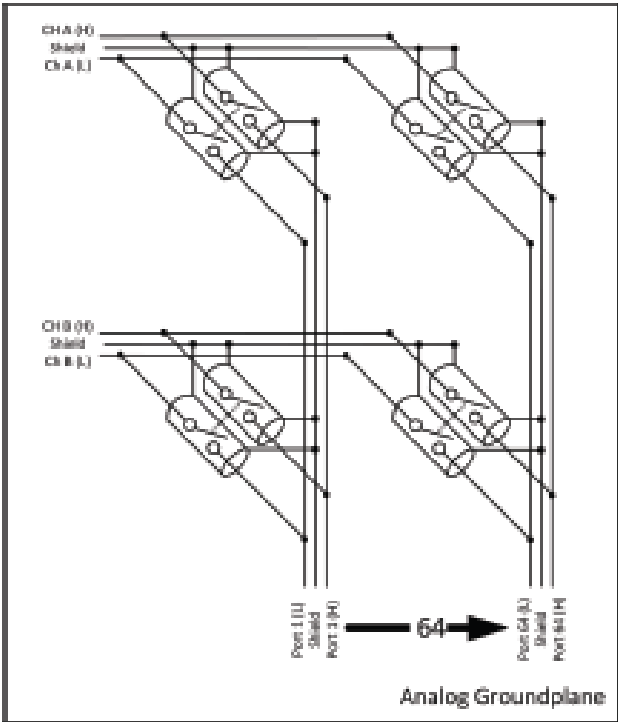


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Model 4228

(2X64) 2-WIRE MATRIX



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 = 7.825"
 - Length = 10.75"
 - 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

Model 4229

(2X64) 2-WIRE MATRIX

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

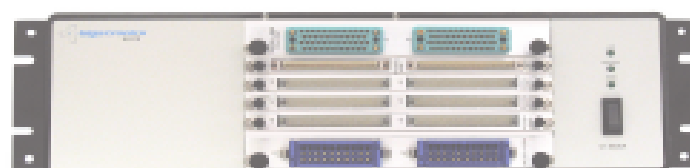
❑ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

❑ **“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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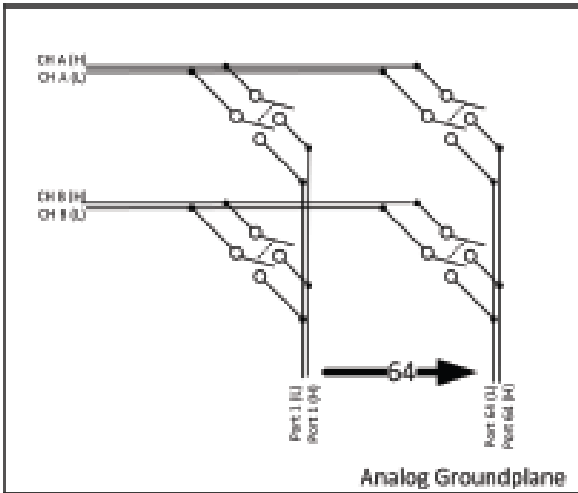


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Model 4229

(2X64) 2-WIRE MATRIX



- 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 = 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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

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

Model 4232

(4x32) 2-WIRE MATRIX

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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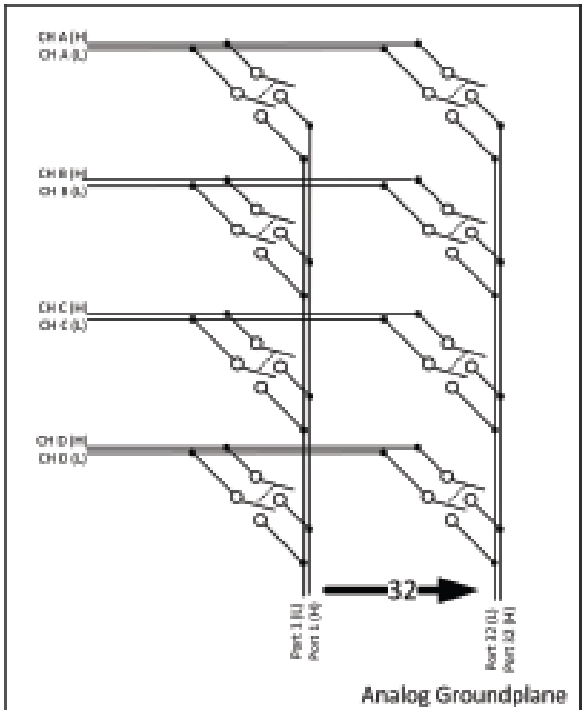


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Model 4232

(4x32) 2-WIRE MATRIX



- 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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

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

Model 4264

(2X64) 2-WIRE MATRIX

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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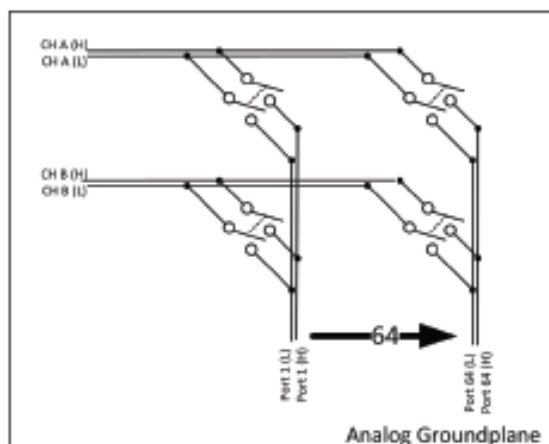


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Model 4264

(2X64) 2-WIRE MATRIX



- 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 <0.1 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 = 7.825"
- Length = 10.75"
- Weight = 1lb

Ordering Information

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

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Model 4308

6(1X8) & 2(1X4) & 8(1X2) COAXIAL MULTIPLEXER

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.

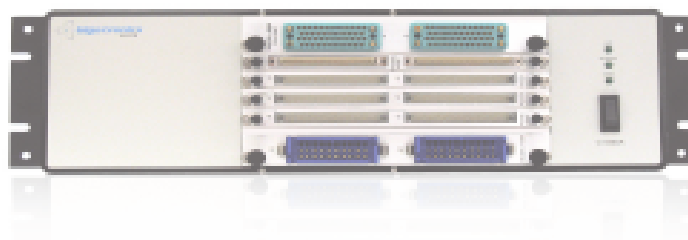
▣ **Coax Wired Construction** – This method of construction provides maximum bandwidth, and allows for internal re-configuration for specific applications.

▣ **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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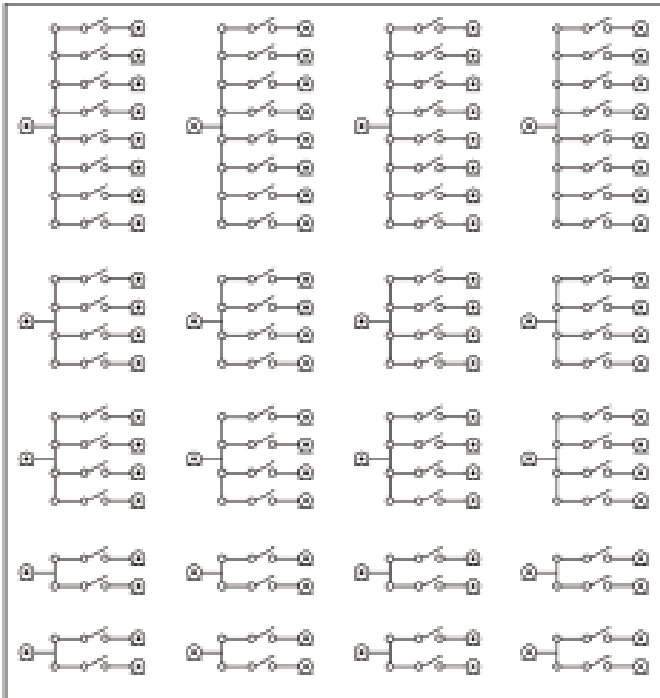


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Model 4308

6(1X8) & 2(1X4) & 8(1X2) COAXIAL MULTIPLEXER



- 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 = 1 A (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

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Model 4332

8(8-POLE) STAR SWITCHES

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 –

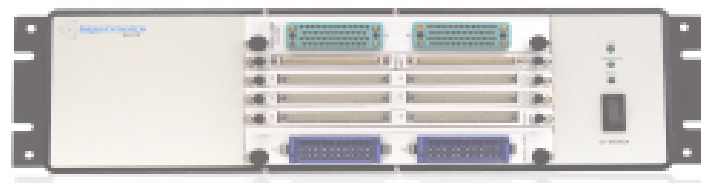
- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in "Dry" or "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.

Low Cost GT-8400A 3U chassis with LAN and IEEE-488 Control



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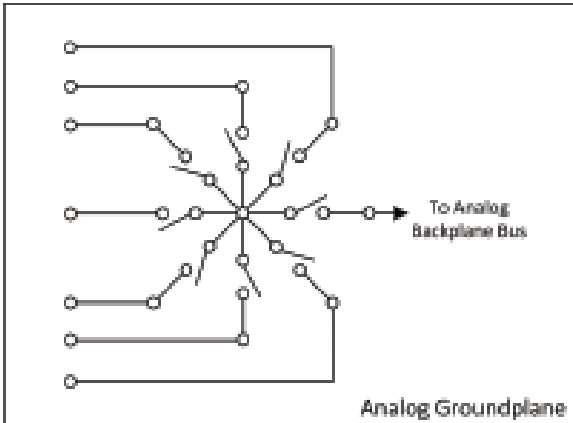


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Model 4332

8(8-POLE) STAR SWITCHES



- 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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

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

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Model 4503

20 SPDT POWER SWITCH MODULE



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.

**Low Cost GT-8400A 3U chassis
with LAN and IEEE-488 Control**



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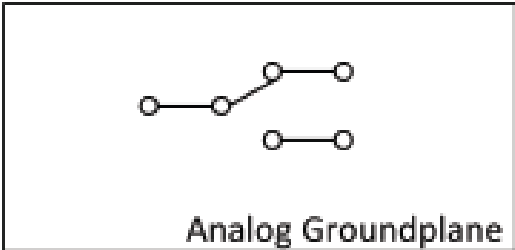


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Model 4503

20 SPDT POWER SWITCH MODULE



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 = 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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

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

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800.726.4442 (USA) | +1 925.328.4650 (International)



Model 4504

20 SPST POWER SWITCH MODULE



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.

**Low Cost GT-8400A 3U chassis
with LAN and IEEE-488 Control**



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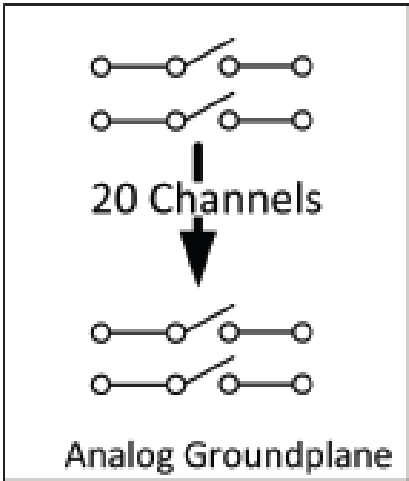


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Model 4504

20 SPST POWER SWITCH MODULE



- 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 = 7.825"
- Length = 10.75"
- Weight = 1lb

Ordering Information

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

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Model 4505

5(1X4) AND 5(1X2) POWER MULTIPLEXER

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.

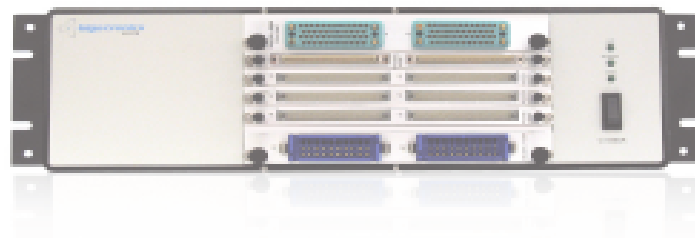
Capabilities

- 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.

**Low Cost GT-8400A 3U chassis
with LAN and IEEE-488 Control**



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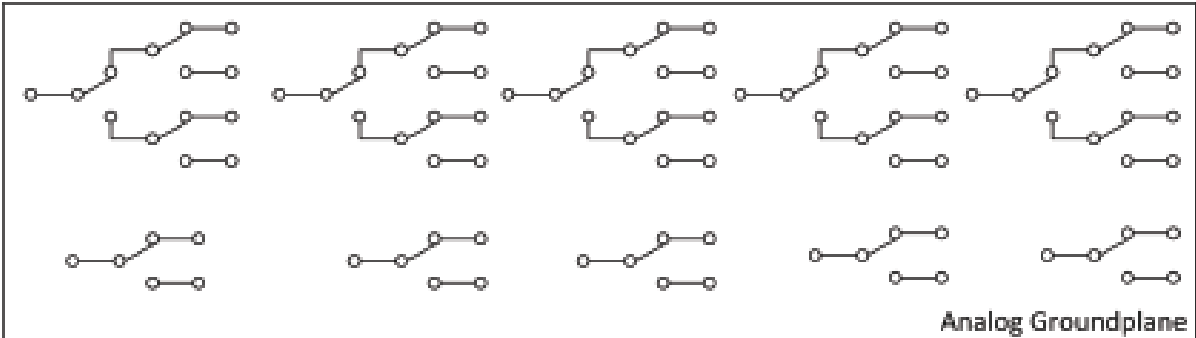


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Model 4505

5(1X4) AND 5(1X2) POWER MULTIPLEXER



- 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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

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

Model 4506

12(1X4) POWER MULTIPLEXER



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.

**Low Cost GT-8400A 3U chassis
with LAN and IEEE-488 Control**



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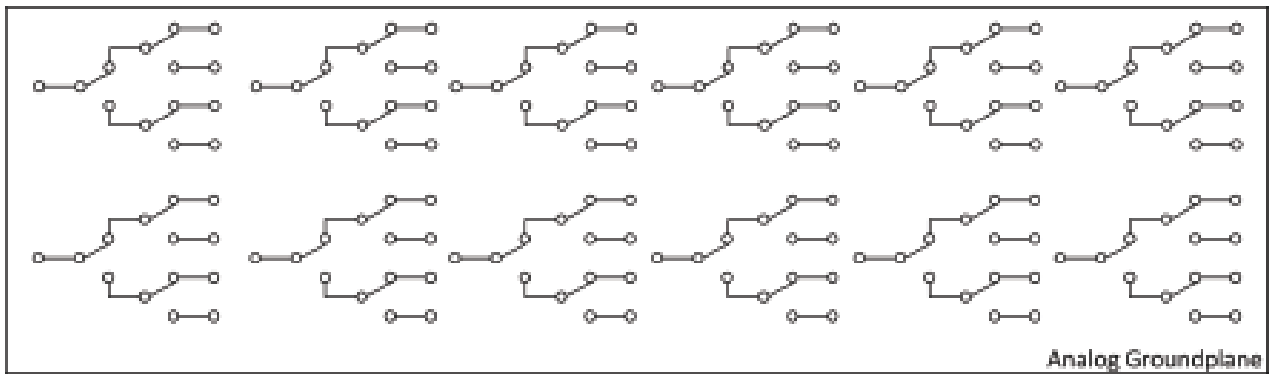


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Model 4506

12(1X4) POWER MULTIPLEXER



- 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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

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

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Model 4507

36 SPDT SWITCH MODULE



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.

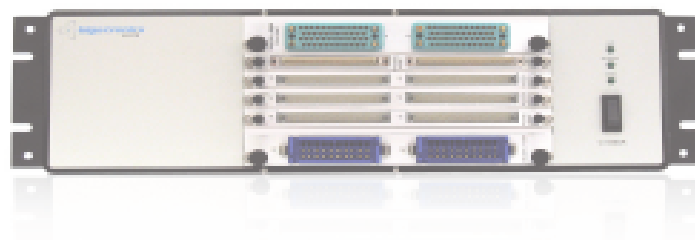
Capabilities

- 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.

**Low Cost GT-8400A 3U chassis
with LAN and IEEE-488 Control**



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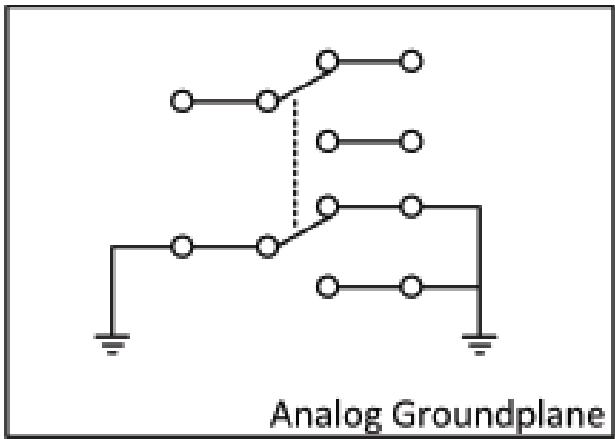


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Model 4507

36 SPDT SWITCH MODULE



- 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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

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

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Model 4508

22(1X4) 1-WIRE MULTIPLEXER



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.

**Low Cost GT-8400A 3U chassis
with LAN and IEEE-488 Control**



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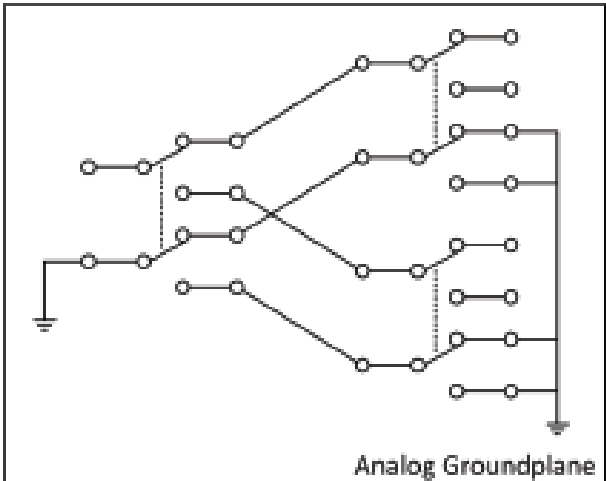


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Model 4508

22(1X4) 1-WIRE MULTIPLEXER



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 = 7.825"
- Length = 10.75"
- Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #
4508	22(1x4) 1-wire Multiplexer, 124 MHz (0.6"pitch)	90900180
	Set of Mating connectors for one Module	89800670

Model 4509

17(1X4) & 5(1X2) COAXIAL MULTIPLEXER



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.

**Low Cost GT-8400A 3U chassis
with LAN and IEEE-488 Control**



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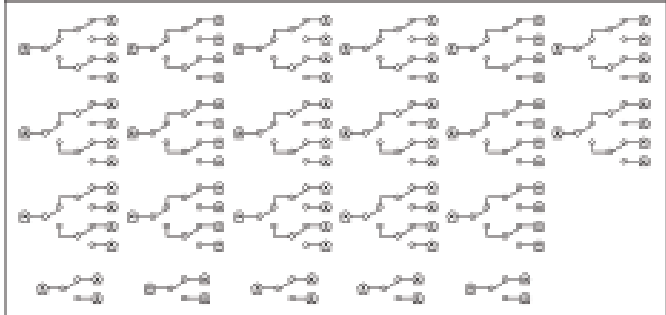


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Model 4509

17(1X4) & 5(1X2) COAXIAL MULTIPLEXER



- 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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #
4509	17(1x4), 5(1x2), Coax Multiplexers 1.3GHz (1.0" pitch)	90900190
	Set of Mating connectors for one Module	89800680

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Model 4512

2(1X32) 2-WIRE MULTIPLEXERS

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 –

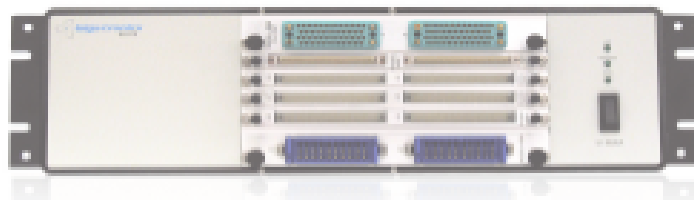
- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “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.

Low Cost GT-8400A 3U chassis with LAN and IEEE-488 Control

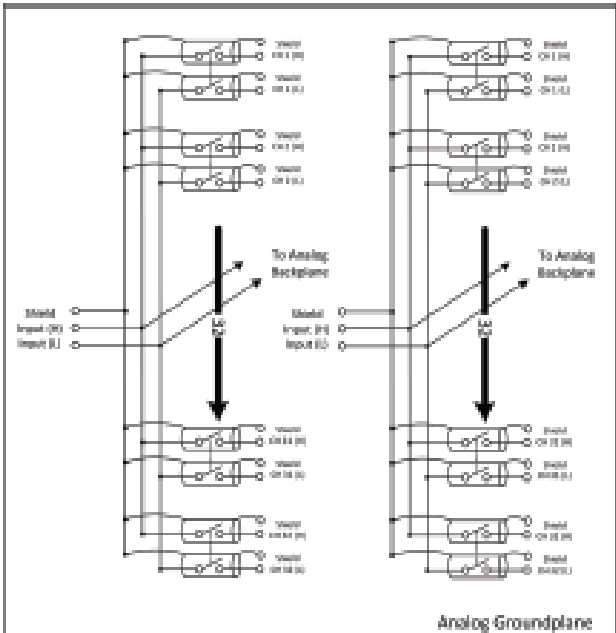


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Model 4512

2(1X32) 2-WIRE MULTIPLEXERS



- 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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #
4512	2(1x32) 2-wire Multiplexers (0.6" pitch)	90900070

Model 4513

(8X8) MATRIX & 8(4-POLE) STAR SWITCHES

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.

Capabilities

- Configuration
- (8x8) 1-wire Matrix
- 8(4-Pole) Star
- 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 –

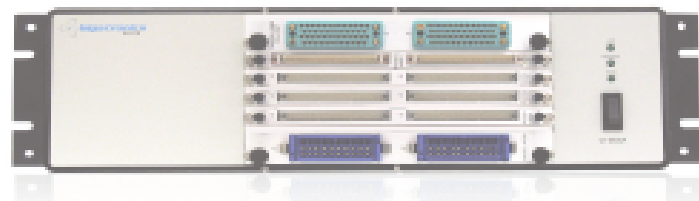
- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in “Dry” or “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.

■ **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.

Low Cost GT-8400A 3U chassis with LAN and IEEE-488 Control

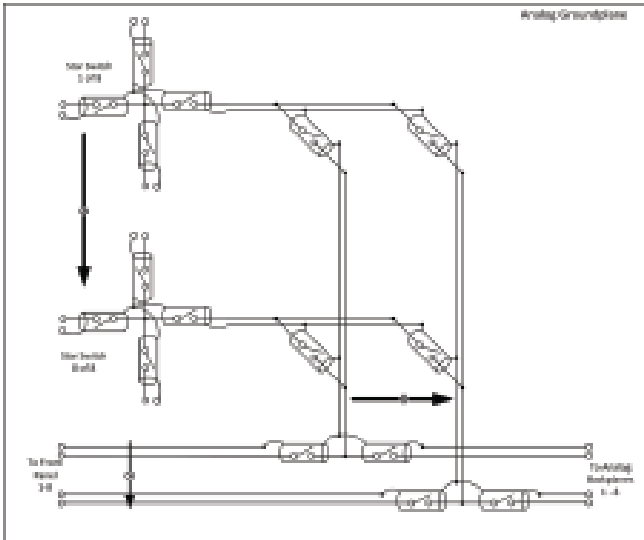


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Model 4513

(8X8) MATRIX & 8(4-POLE) STAR SWITCHES



- 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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #
4513	(8x8) 1-wire Matrix & 8(4-pole) Star Switches (0.6" pitch)	90900110
	Set of Mating connectors for one Module	89800990

Model 4515

8(1X6) 2-WIRE MULTIPLEXER



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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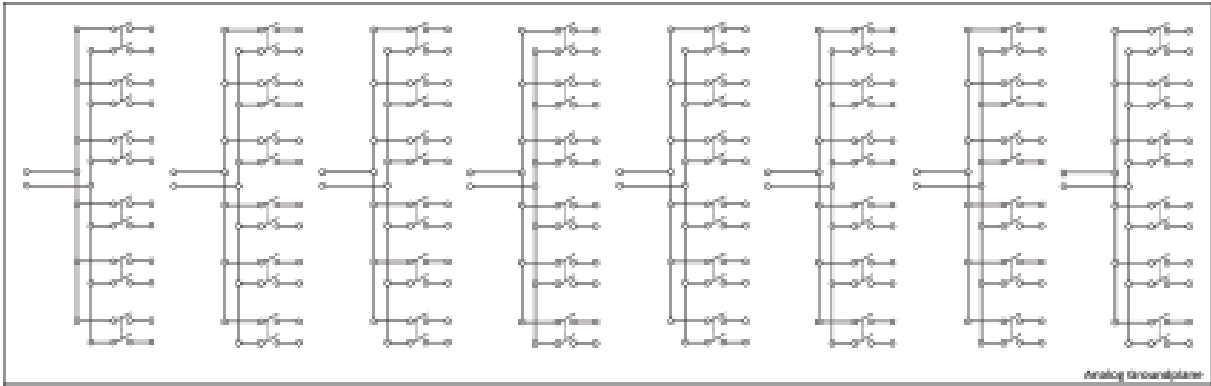


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Model 4515

8(1X6) 2-WIRE MULTIPLEXER



- 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 = 7.825"
- Length = 10.75"
- Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #
4515	8(1x6) 2-wire Multiplexers, 5A (0.6" pitch)	90900080
	Set of Mating connectors for one Module	89800590

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Model 4516

10(1X8) 1-WIRE MULTIPLEXER

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

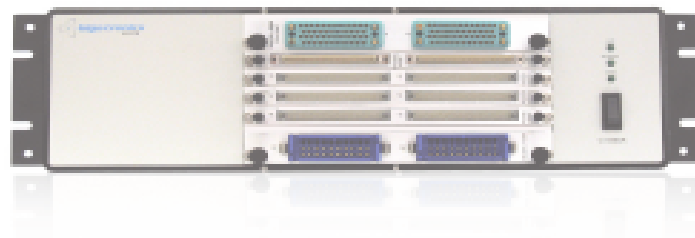
▣ **6U Form Factor** – the larger 6U form factor will accommodate 3-4 times the number of relays as 3U PXI products eliminating the need to build switching structures across boards decreasing Bandwidth.

▣ **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.

**Low Cost GT-8400A 3U chassis
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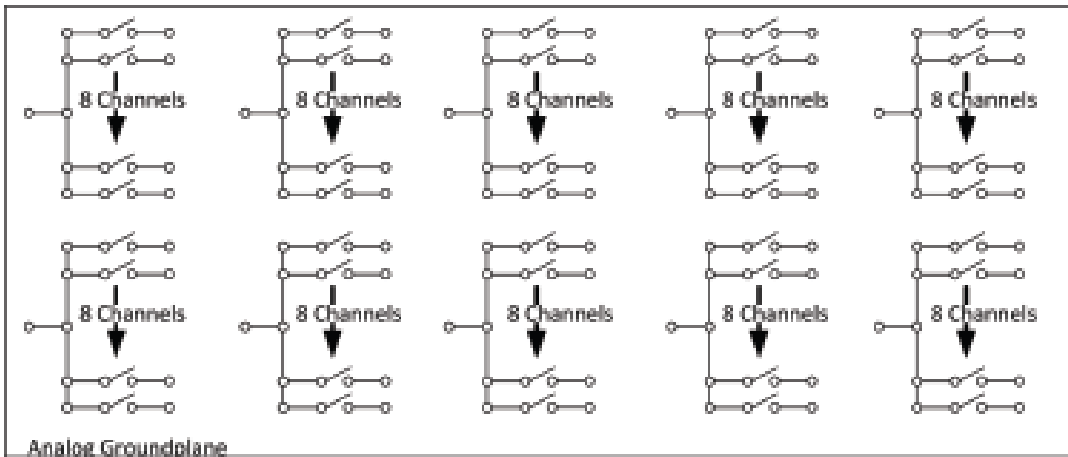


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Model 4516

10(1X8) 1-WIRE MULTIPLEXER



- 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 = 7.825"
- Length = 10.75"
- Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #
4516	10(1x8) 1-wire Multiplexers, 5A (0.6" pitch)	90900090

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Model 4517

8(10-POLE) 2-WIRE STAR SWITCHES

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** –

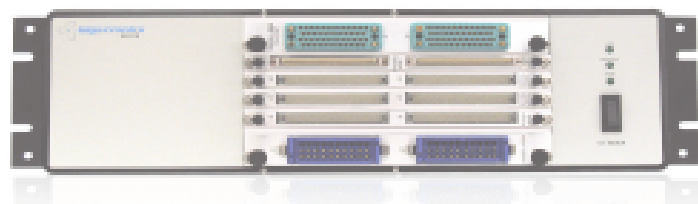
- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in "Dry" or "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.

Low Cost GT-8400A 3U chassis with LAN and IEEE-488 Control



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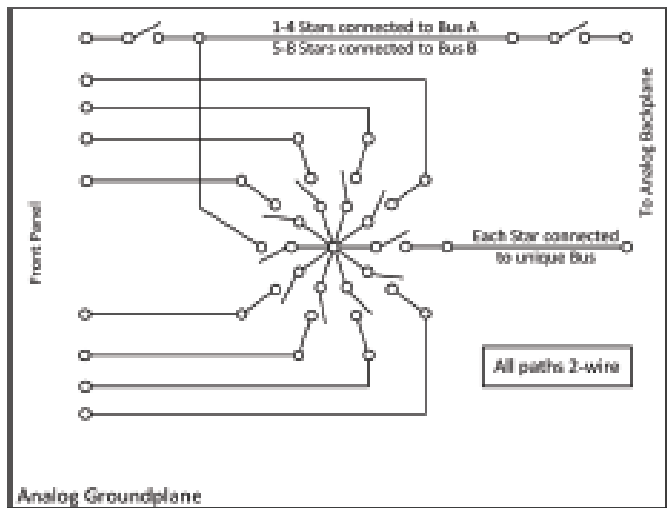


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Model 4517

8(10-POLE) 2-WIRE STAR SWITCHES



- 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 = 7.825"
- Length = 10.75"
- Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #
4517	8(10-pole) Star Switches (0.6" pitch)	90900100

Model 4518

ANALOG BACKPLANE OUTPUT ISOLATION MODULE

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.

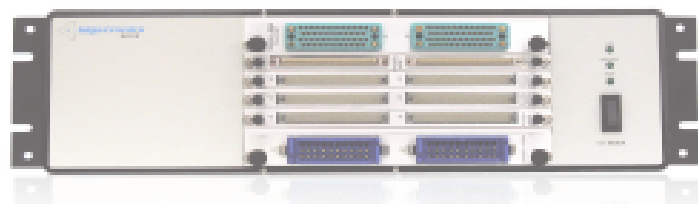
■ Coaxially Shielded Reed Relays –

- 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.

Low Cost GT-8400A 3U chassis with LAN and IEEE-488 Control



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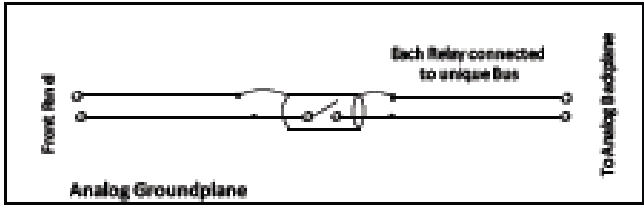


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Model 4518

ANALOG BACKPLANE OUTPUT ISOLATION MODULE



- 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 = 7.825"
 - Length = 10.75"
 - Weight = 1lb

Ordering Information

Model #	Description	Manufacturer #
4518	Analog Output Backplane Isolation Module (0.6" pitch)	90900130

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Model 4501

COAXIAL STAR AND MATRIX SWITCH

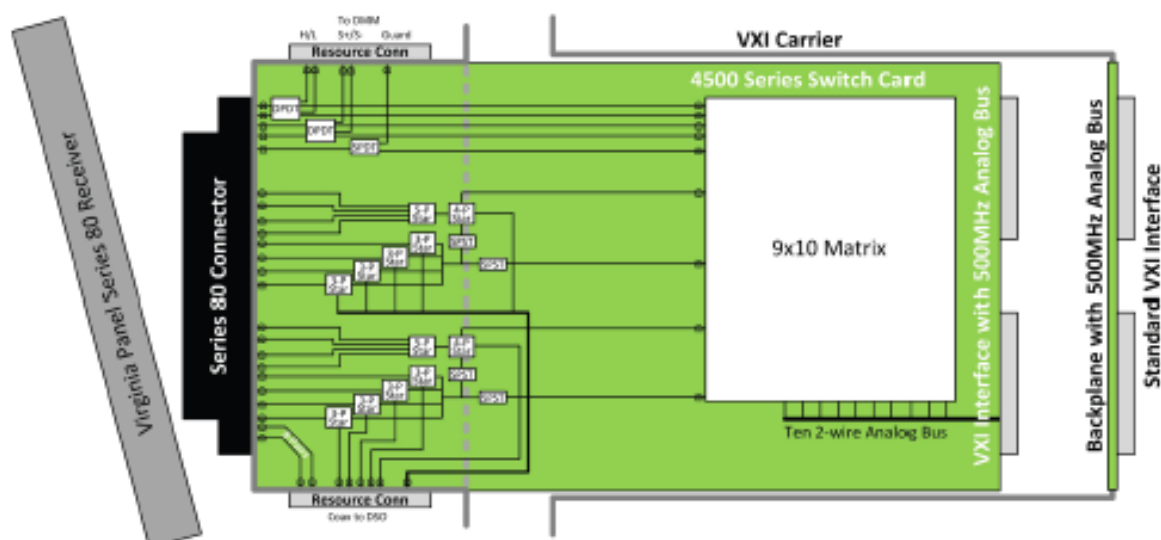


Product Description

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 = 1 A (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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Model 4501

COAXIAL STAR AND MATRIX SWITCH



- 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 = 7.825"
- Length = 10.75"
- Weight = 1lb



Ordering Information

Model #	Description	Manufacturer #
4501	Coaxial Star and Matrix	90900030

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Model 4502

64 STAR, (4X6) MATRIX

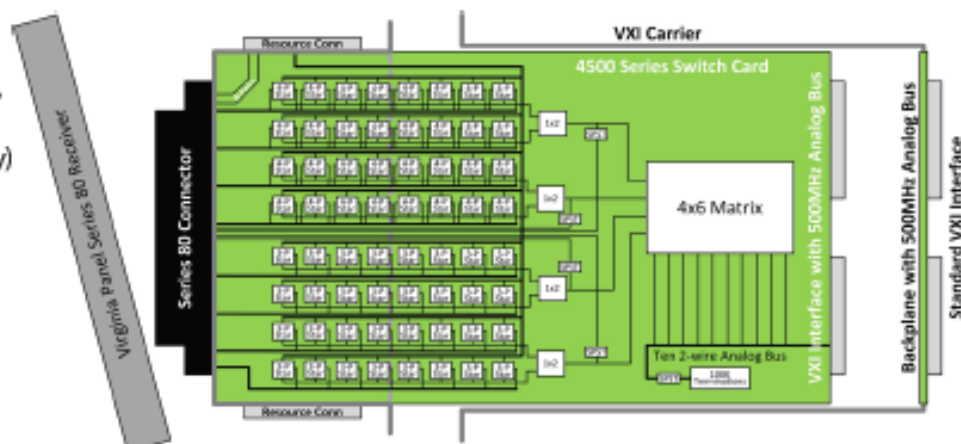


Product Description

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

- 32(4-pole) Star Switches, 32(3-pole) Star Switches, 1(4x6) Matrix, 2Wire Shielded
- Voltage Max = 220VDC, 200VACpk
- Current Max = 1 A (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.

**Low Cost GT-8400A 3U chassis
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Model 4502

64 STAR, (4X6) MATRIX



- 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 = 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 = 7.825"
- Length = 10.75"
- Weight = 1lb



Ordering Information

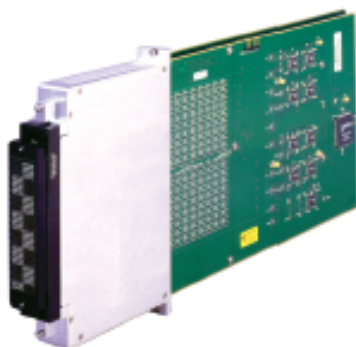
Model #	Description	Manufacturer #
4502	64 Star, (4x6) Matrix	90900040

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Model 4510

16(4x8) 2-WIRE MATRIX

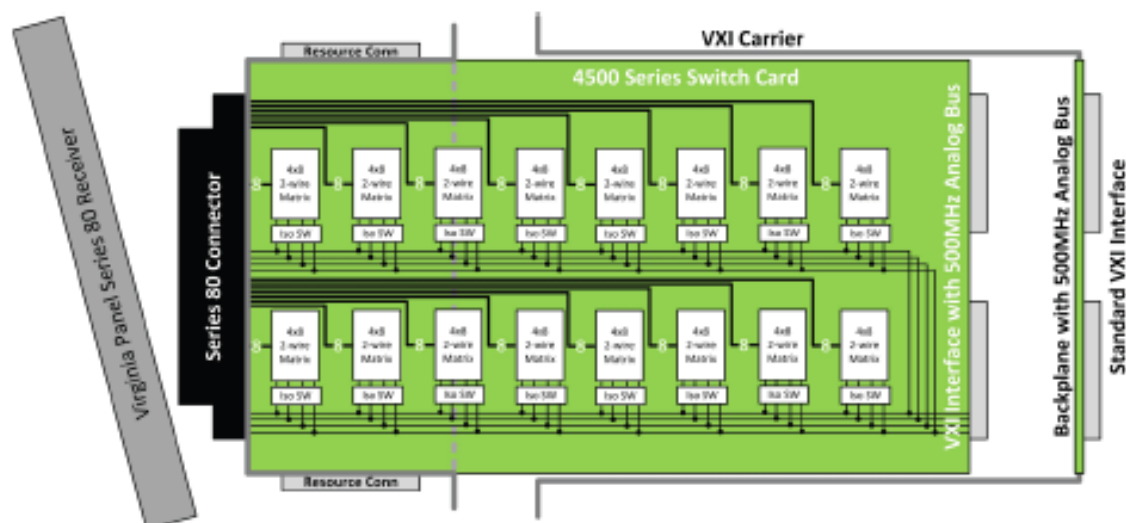


Product Description

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.

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Model 4510

16(4x8) 2-WIRE MATRIX



- 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 = 7.825"
- Length = 10.75"
- Weight = 1lb



Ordering Information

Model #	Description	Manufacturer #
4510	16(4x8) 2-wire matrix	90900460

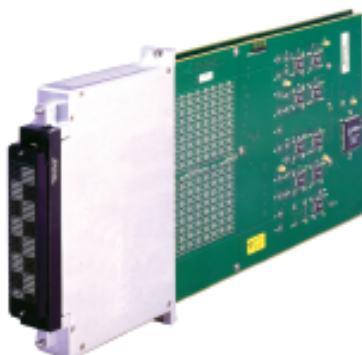
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Model 4524

DUAL(8X8) 1-WIRE SHIELDED MATRIX

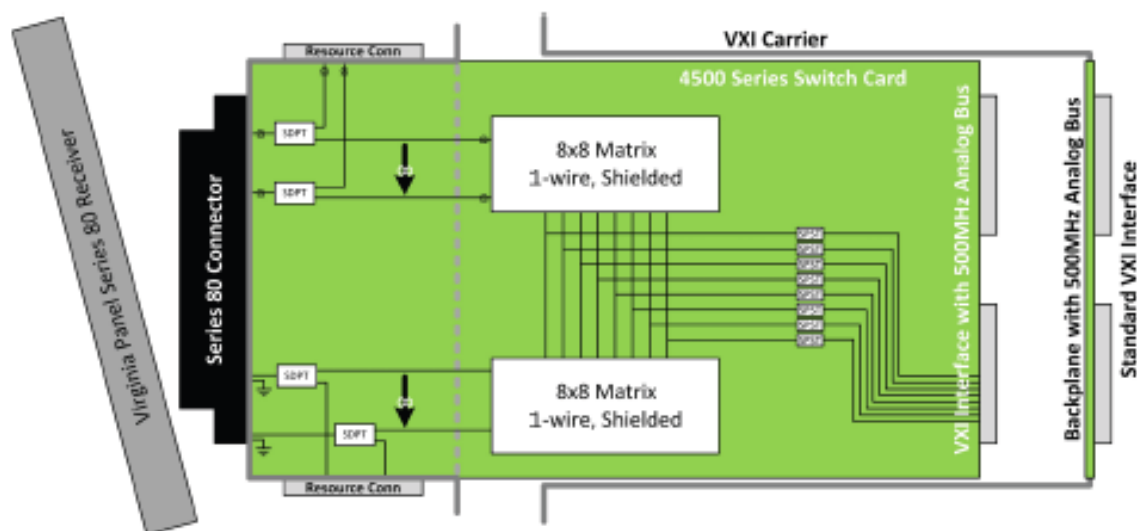


Product Description

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 = 1 A (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.

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Model 4524

DUAL(8X8) 1-WIRE SHIELDED MATRIX



- 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 = 7.825"
- Length = 10.75"
- Weight = 1lb



Ordering Information

Model #	Description	Manufacturer #
4524	Dual (8x8) 1-wire, Shielded Matrix	90900470

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Model 4525

(16X48) 1-WIRE MATRIX

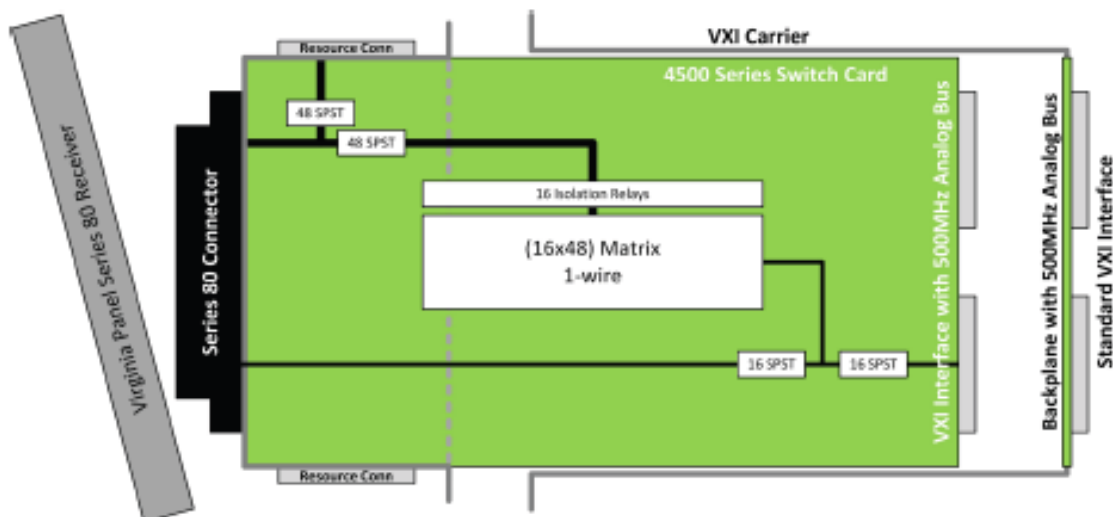


Product Description

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 = 1 A (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.

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Model 4525

(16x48) 1-WIRE MATRIX



- 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 = 7.825"
- Length = 10.75"
- Weight = 1lb



Ordering Information

Model #	Description	Manufacturer #
4525	(16x48) 1-wire Matrix	90900930

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Model 4526

6(1X4) COAXIAL SWITCHES

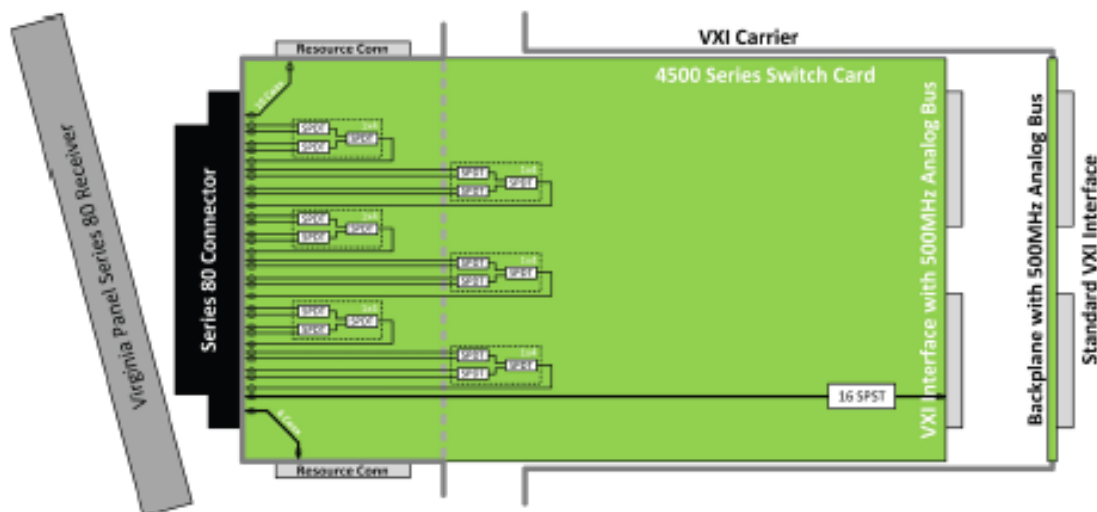


Capabilities

- (16x48) 1-wire Matrix
- Voltage Max = 220VDC, 200VACpk
- Current Max = 1 A (carry)
- Power = 100 Watts

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 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.

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Model 4526

6(1X4) COAXIAL SWITCHES



- 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 = 7.825"
- Length = 10.75"
- Weight = 1lb



Ordering Information

Model #	Description	Manufacturer #
4526	6(1x4) Coaxial Switches	90900430

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Model GT-8400A

4000 Series Chassis



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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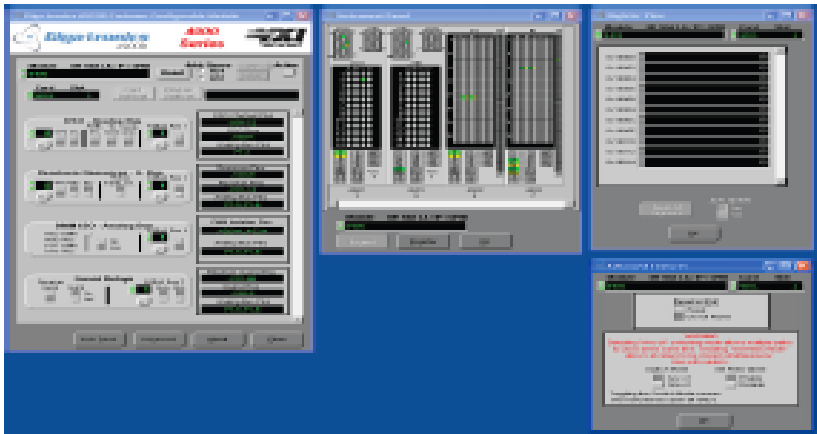


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Model GT-8400A

4000 Series Chassis



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

Specifications

Electrical

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

Ordering Information

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

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Model 7010

8 SPDT POWER SWITCH MODULE



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)

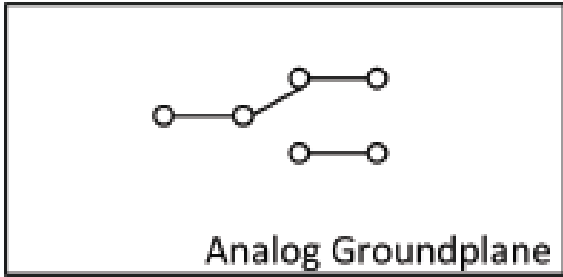
Recommended Uses

- **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.



Model 7010

8 SPDT POWER SWITCH MODULE



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
	Set of Mating connectors for one Module	89800690

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Model 7011

(2X16) 2-WIRE MATRIX



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)

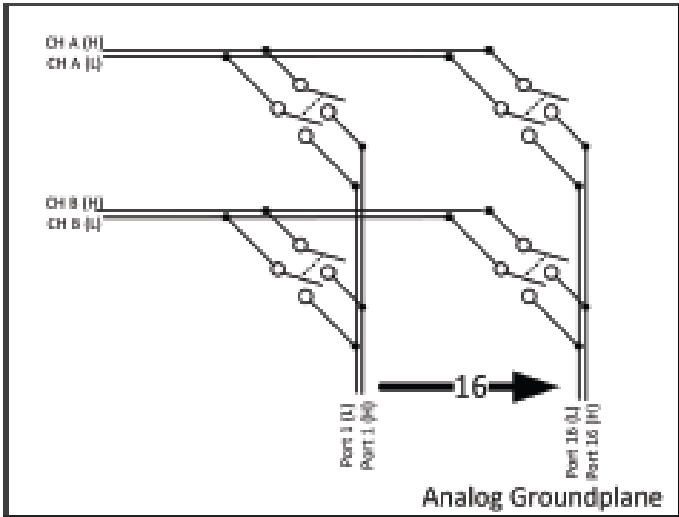
Recommended Uses

- **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.



Model 7011

(2X16) 2-WIRE MATRIX



- 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
	Set of Mating connectors for one Module	89800700

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Model 7012

(2X16) 1-WIRE MATRIX



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 >18Billion 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)

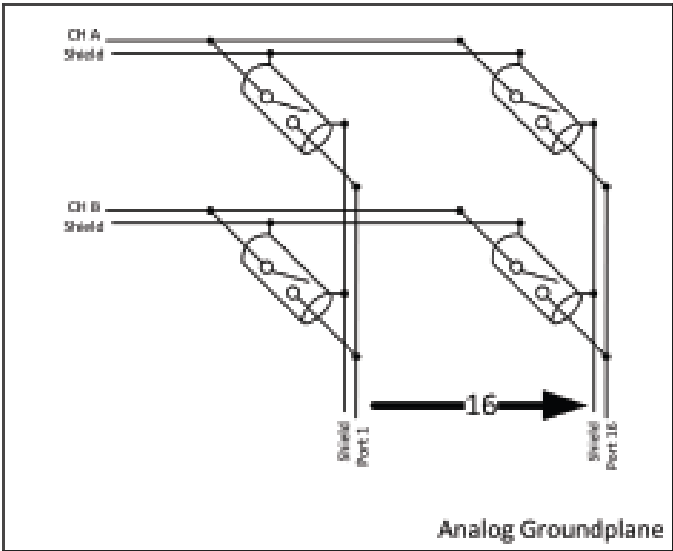
Recommended Uses

- 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.



Model 7012

(2X16) 1-WIRE MATRIX



- 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 = 1 A (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
	Set of Mating connectors for one Module	89800700

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Model 7013

(4X8) 2-WIRE MATRIX



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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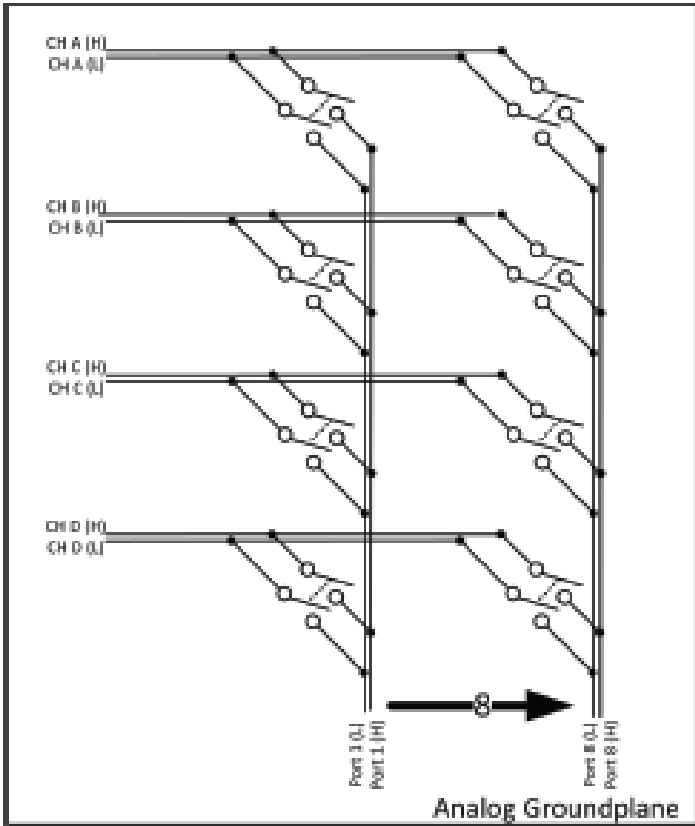


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Model 7013

(4X8) 2-WIRE MATRIX



- 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 = 1 A (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
	Set of Mating connectors for one Module	89800700

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Model 7014

4(1X4) 1-WIRE MULTIPLEXERS



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.

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.

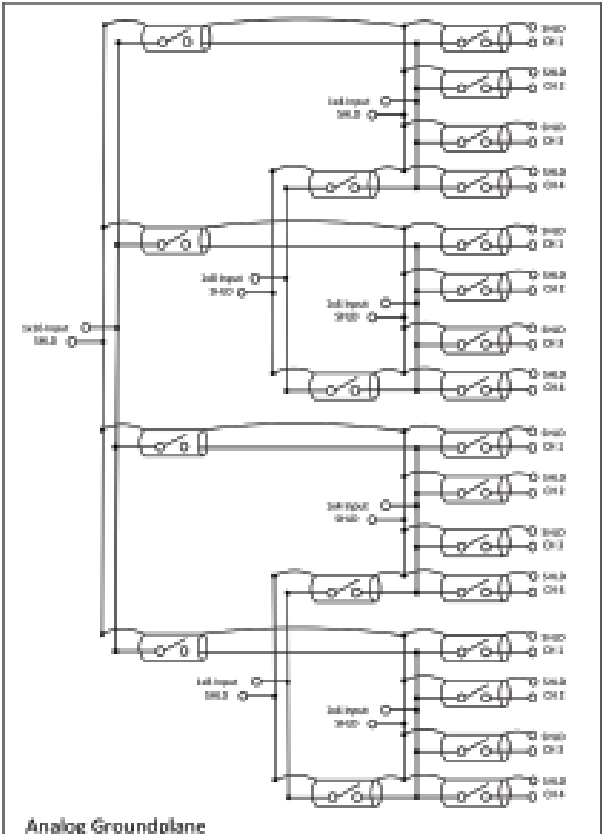
- **Software Re-configurable** – The 1x4 groups of relays are connected together with additional relays, allowing the board to be configured "on-the-fly" either during a test program, or between applications.

- **Dual Row Connectors** – Selected to enable use of low cost Twisted Pair Ribbon Cable and IDC connectors.



Model 7014

4(1X4) 1-WIRE MULTIPLEXERS



- 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 = 1 A (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
	Set of Mating connectors for one Module	89800700

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Model 7015

(2X16) 1-WIRE MATRIX



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.

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.

■ Coaxially Shielded Reed Relays –

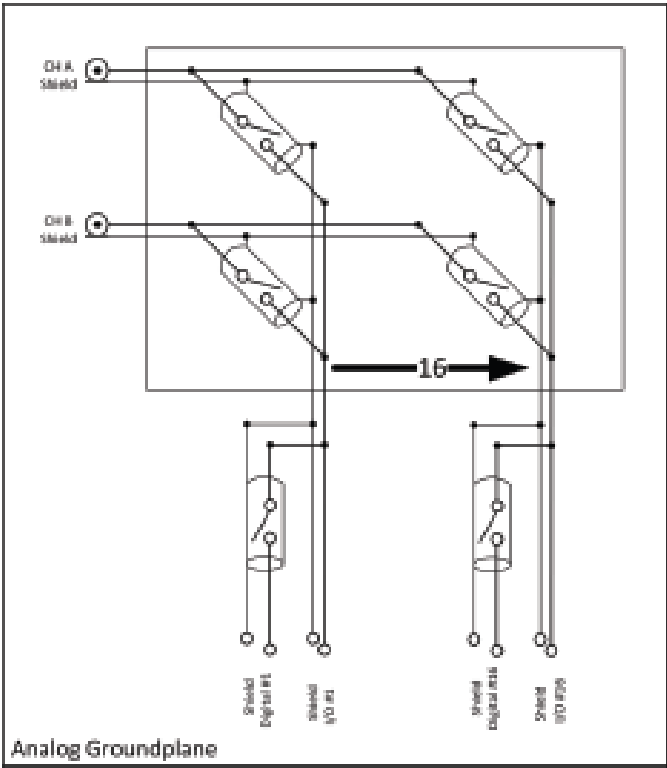
- Shielding allows a characteristic 50Ω impedance to be maintained, while dramatically increasing Noise Immunity.
- Reed Relays are rated for >1Billion cycles vs 1M for standard Relays.
- These relays use Ruthenium at the contact area in a hermetically sealed environment, making them ideal in "Dry" or "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



Model 7015

(2X16) 1-WIRE MATRIX



- 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 = 1 A (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

Model 7016

32 CHANNEL TTL I/O



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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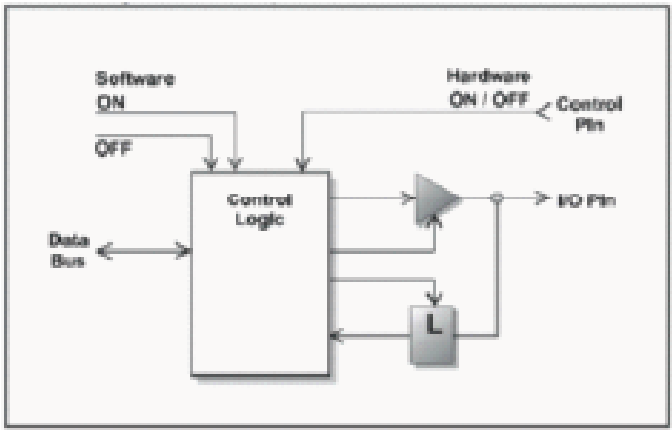


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Model 7016

32 CHANNEL TTL I/O



- 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
	Set of Mating connectors for one Module	89800700

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Model 7017

32 CHANNEL OC RELAY DRIVER



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

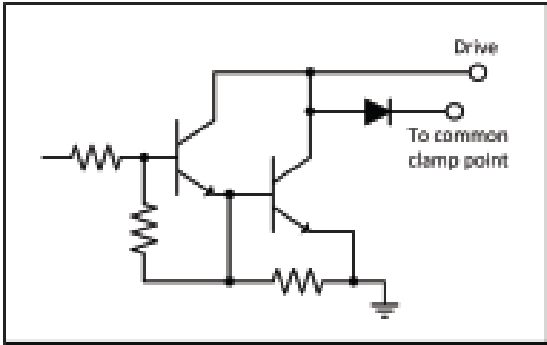
Recommended Uses

- **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.



Model 7017

32 CHANNEL OC RELAY DRIVER



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

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Model 7018

32 SPST SWITCH MODULE



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)

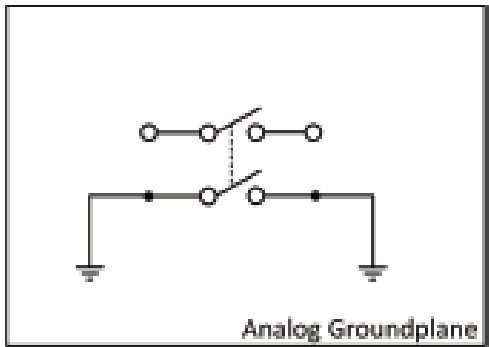
Recommended Uses

- **General Purpose switching** – the ease of expansion using this module makes it ideal for all Low Frequency switching applications.



Model 7018

32 SPST SWITCH MODULE



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
	Set of Mating connectors for one Module	89800570
	Set of Pigtail Cables for one Module, 6ft length	89800570-006

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Model 7019

16 SPDT POWER SWITCH MODULE



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)

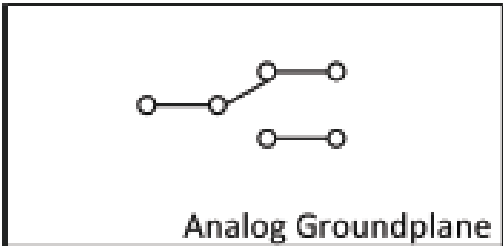
Recommended Uses

- 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.



Model 7019

16 SPDT POWER SWITCH MODULE



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
	Set of Mating connectors for one Module	89800710
	Set of Pigtail Cables for one Module, 6ft length	89800710-006

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Model 7020

16 SPDT SWITCH MODULE

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)

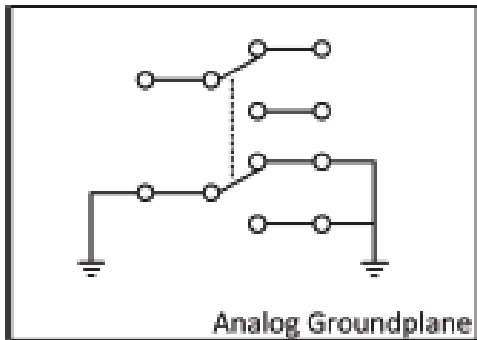
Recommended Uses

- **General Purpose switching** – the ease of expansion using this module makes it ideal for all Low Frequency switching applications.



Model 7020

16 SPDT SWITCH MODULE



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 = 67 MHz
 - 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
7020T	16 SPDT, 2A, 67MHz [-21 Degrees C]	91000061
	Set of Mating connectors for one Module	89800700

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Model 7021

(2X16) 2-WIRE MATRIX



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

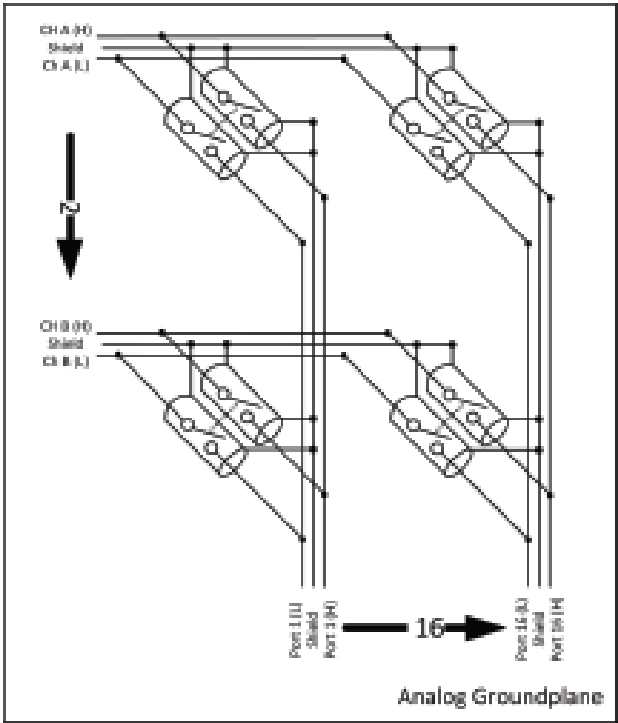
The 7021 provides a (2x16) 2-wire Matrix in a small space. This module provides the highest density general purpose switch, ideal for switching instrumentation and other general purpose switching applications. The 7021 has been designed with several exceptional features that make it stand out from competitive 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.



Model 7021

(2X16) 2-WIRE MATRIX



- 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 = 1 A (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
	Set of Mating connectors for one Module	89800700

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Model 7022

(4X16) 1-WIRE MATRIX



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)

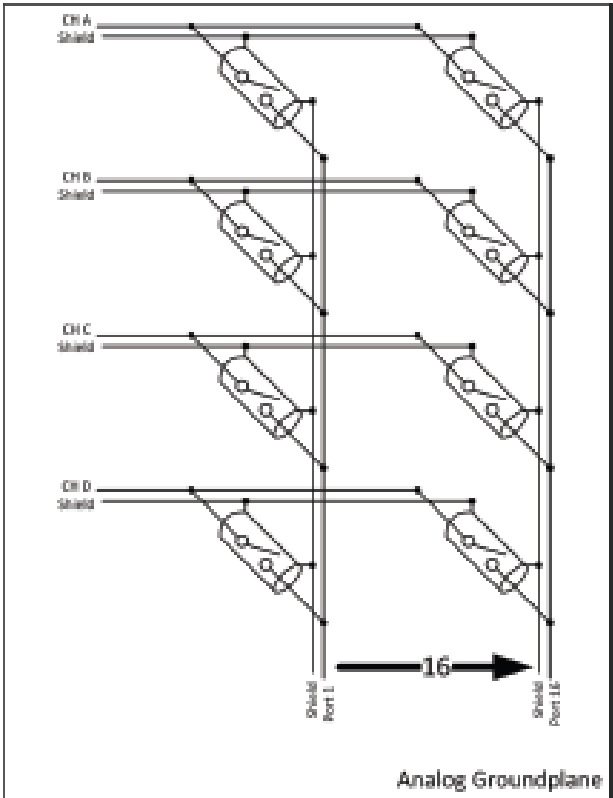
Recommended Uses

- 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.



Model 7022

(4X16) 1-WIRE MATRIX



- 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 = 1 A (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
	Set of Mating connectors for one Module	89800700

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Model 7023

32 SPST SWITCH MODULE

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

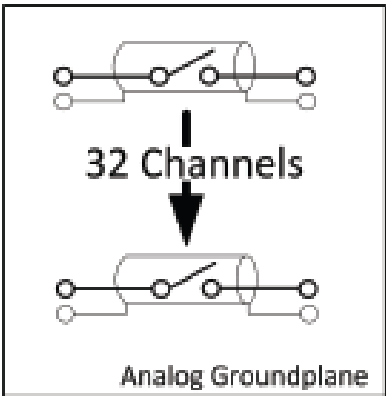
- General Purpose switching – the ease of expansion using this module makes it ideal for all Mid Frequency switching applications.

■ **Positronic Connectors** – Selected for high bandwidth and robust performance.



Model 7023

32 SPST SWITCH MODULE



- 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 = 1 A (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
	Set of Mating connectors for one Module	89800570
	Set of Pigtail Cables for one Module, 6ft length	89800570-006

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Model 7024

(4X8) 2-WIRE MATRIX

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)

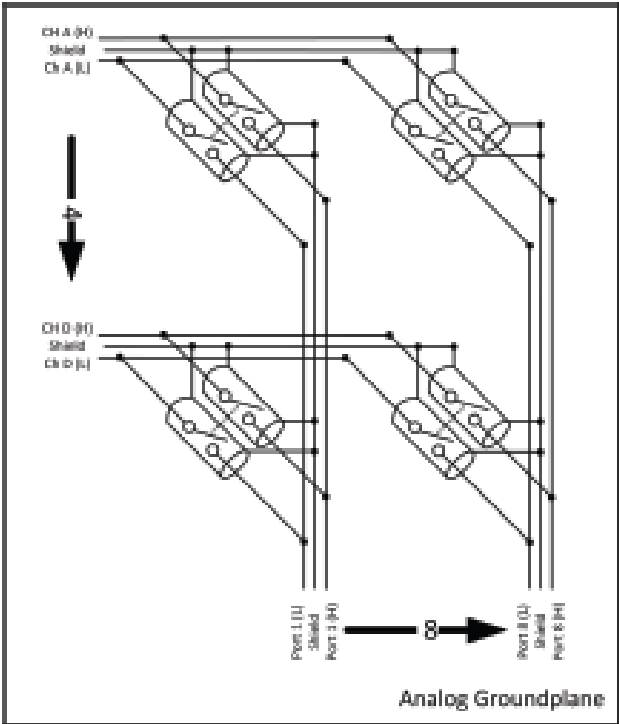
Recommended Uses

- **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.



Model 7024

(4X8) 2-WIRE MATRIX



- 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 = 1 A (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
	Set of Mating connectors for one Module	89800700

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Model 7026

(1X32) 2-WIRE MULTIPLEXER



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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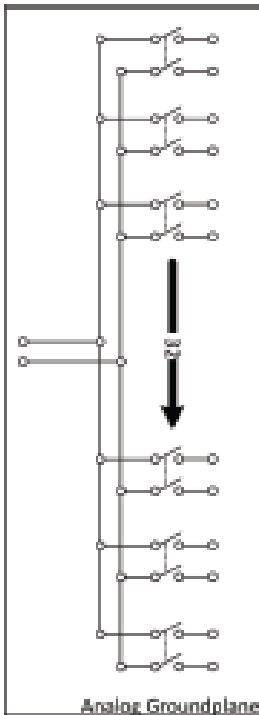


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Model 7026

(1X32) 2-WIRE MULTIPLEXER



- 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
	Set of Mating connectors for one Module	89800570
	Set of Pigtail Cables for one Module, 6ft length	89800570-006

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Model 7027

4(1X8) 2-WIRE MULTIPLEXERS



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.

Product Description

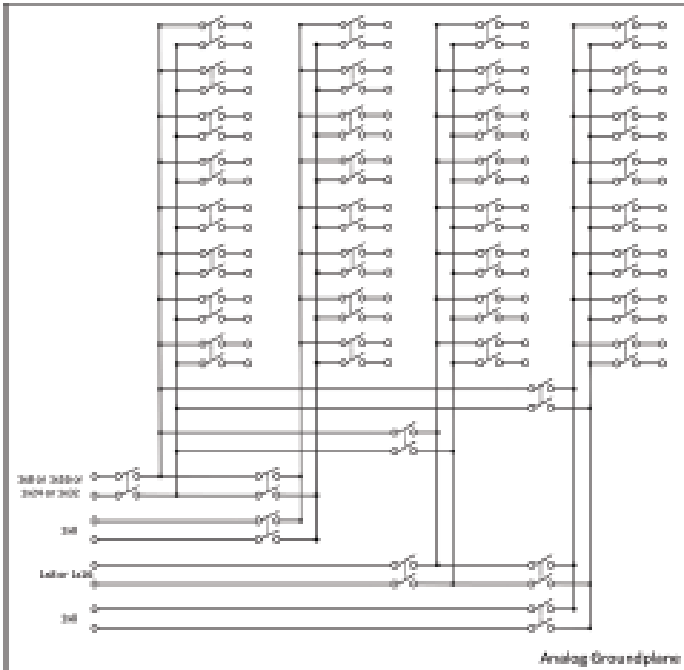
The 7026 provides a (1x32) 2-wire Matrix in a small space. This module provides the highest density general purpose switch, ideal for switching instrumentation and other general purpose switching applications. The 7026 has been designed with several exceptional features that make it stand out from competitive 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.



Model 7027

4(1X8) 2-WIRE MULTIPLEXERS



- 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, 62.5 VA
 - 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
	Set of Mating connectors for one Module	89800860

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



Model 720x

MICROWAVE COAXIAL SWITCH



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 = DC-40GHz
- 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.

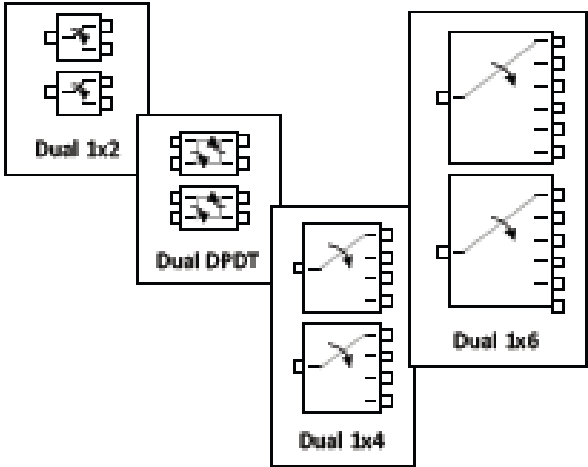
Recommended Uses

- **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.



Model 720x

MICROWAVE COAXIAL SWITCH



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 = DC-40GHz
 - Terminations = available
- ▣ **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

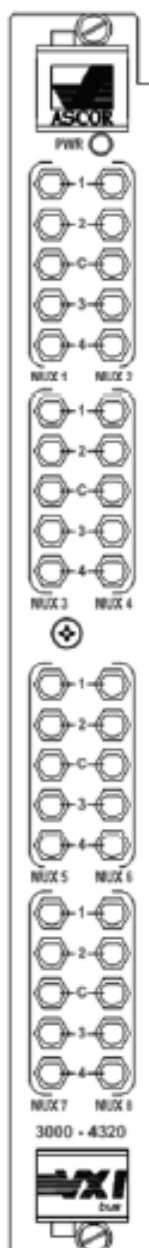
Model #	Description	Manufacturer #
720x	Microwave Switching Platform, 1x2, 1x4, 1x6, DPDT (DC-40GHz)	Contact Factory

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800.726.4442 (USA) | +1 925.328.4650 (International)



Model 3000-4320A

8(1X4) COAXIAL MULTIPLEXER



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

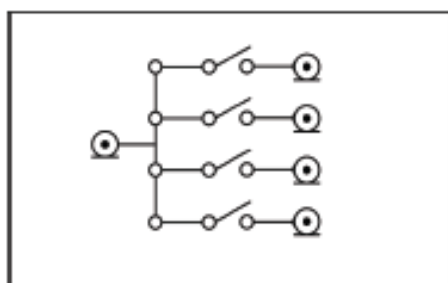
- **HARDWARE** - From the hardware front panel, . Giga-tronics ASCOR has chosen to take the "clone" approach. The front panels have the same connectors with the same signals appearing on the same pins as the original Tektronix modules. No adaptor cables or cross-reference charts are needed. Hardware *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.

Model 3000-4320A

8(1X4) COAXIAL MULTIPLEXER



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

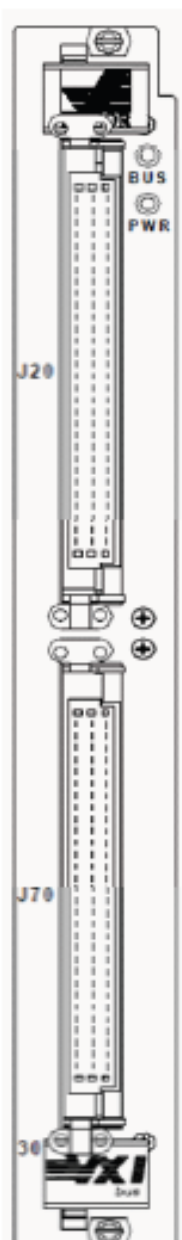
Model #	Description	Manufacturer #
3000-4320A	RF SW, 8 (1x4), 1.3GHz (10 Watts Max) [TEKTRONIX VX4320]	90401351

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800.726.4442 (USA) | +1 925.328.4650 (International)



Model 3000-4350

64 SPDT RELAYS



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

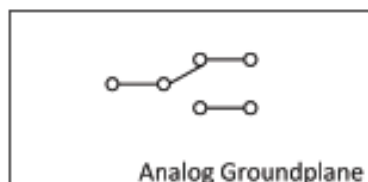
- **HARDWARE** - From the hardware front panel, . Giga-tronics ASCOR has chosen to take the "clone" approach. The front panels have the same connectors with the same signals appearing on the same pins as the original Tektronix modules. No adaptor cables or cross-reference charts are needed. Hardware *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.

Model 3000-4350

64 SPDT RELAYS



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

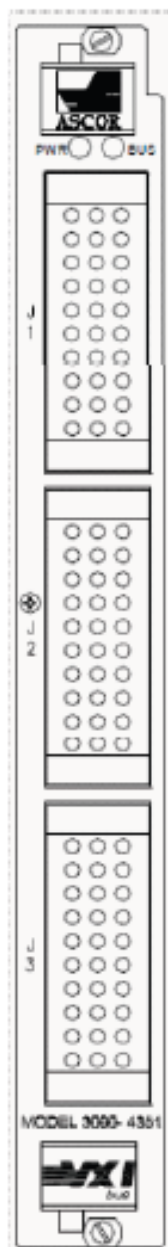
Model #	Description	Manufacturer #
3000-4350	GP Relay, 64 SPDT, 2A [TEKTRONIX VX4350]	90401340

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800.726.4442 (USA) | +1 925.328.4650 (International)



Model 3000-4351

40 SPST RELAYS



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

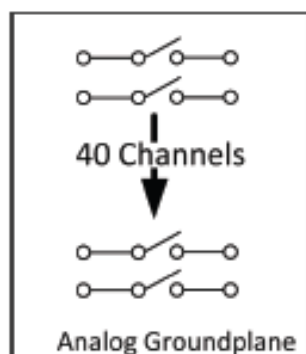
- **HARDWARE** - From the hardware front panel, . Giga-tronics ASCOR has chosen to take the "clone" approach. The front panels have the same connectors with the same signals appearing on the same pins as the original Tektronix modules. No adaptor cables or cross-reference charts are needed. Hardware *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.

Model 3000-4351

40 SPST RELAYS



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

- 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

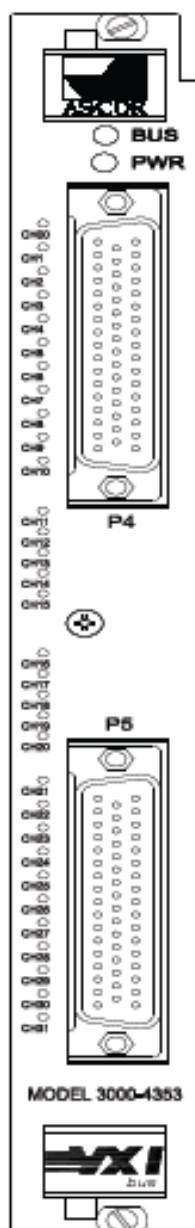
Model #	Description	Manufacturer #
3000-4351	40 SPST, 10 Amp [TEKTRONIX VX4351]	90401220

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800.726.4442 (USA) | +1 925.328.4650 (International)



Model 3000-4353

32 SPST RELAYS



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

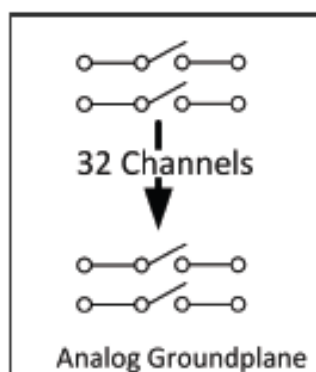
- **HARDWARE** - From the hardware front panel, . Giga-tronics ASCOR has chosen to take the "clone" approach. The front panels have the same connectors with the same signals appearing on the same pins as the original Tektronix modules. No adaptor cables or cross-reference charts are needed. Hardware *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.

Model 3000-4353

32 SPST RELAYS



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

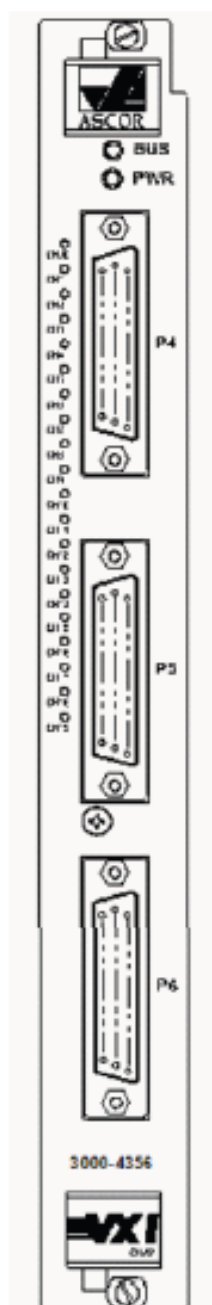
Model #	Description	Manufacturer #
3000-4353	Relay Switch, 32 SPST, 5A [TEKTRONIX VX4353]	90401310

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



Model 3000-4356

20 DPDT RELAYS



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

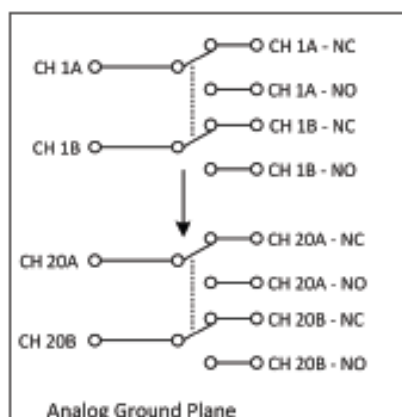
- **HARDWARE** - From the hardware front panel, . Giga-tronics ASCOR has chosen to take the "clone" approach. The front panels have the same connectors with the same signals appearing on the same pins as the original Tektronix modules. No adaptor cables or cross-reference charts are needed. Hardware *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.

Model 3000-4356

20 DPDT RELAYS



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

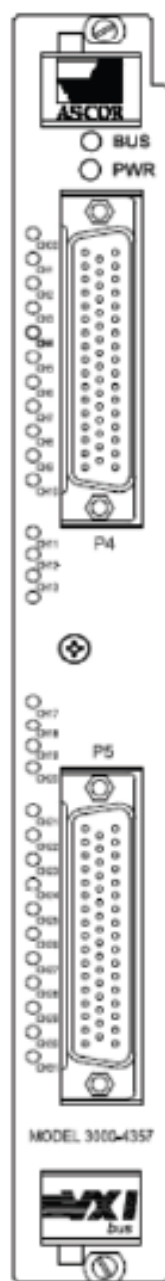
Model #	Description	Manufacturer #
3000-4356	20 DPDT, 5A Relays [TEKTRONIX VX4356]	90401290

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



Model 3000-4357

32 SPDT RELAYS



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

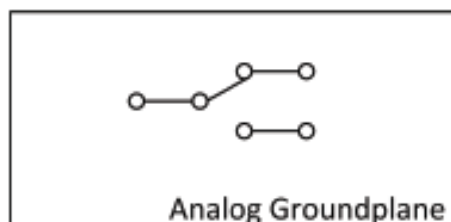
- **HARDWARE** - From the hardware front panel, . Giga-tronics ASCOR has chosen to take the "clone" approach. The front panels have the same connectors with the same signals appearing on the same pins as the original Tektronix modules. No adaptor cables or cross-reference charts are needed. Hardware *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.

Model 3000-4357

32 SPDT RELAYS



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
3000-4357	32 SPDT, 5 Amp [TEKTRONIX VX4357], Message Based Module	90401700

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800.726.4442 (USA) | +1 925.328.4650 (International)



Model 3000-4380

256-CROSSPOINT SWITCH

Product Description

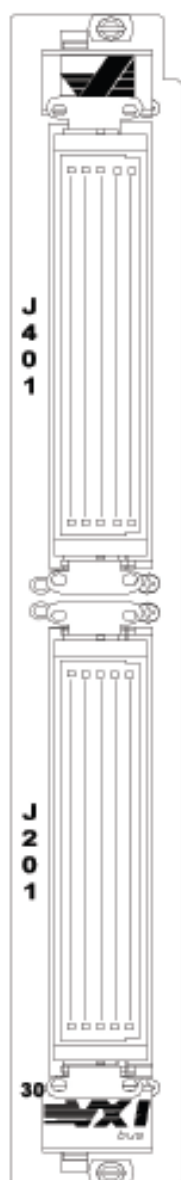
Tektronix has chosen to exit the VXI module market. This has caused some concern with users who have Tektronix modules running in systems which still have to be maintained for some indefinite future period. Giga-tronics ASCOR, drawing on its 15 years of producing general purpose VXI modules, has designed 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.



Model 3000-4380**256-CROSSPOINT SWITCH**

- 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

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



Model 3000-4801

48 OPTO-ISOLATED CMOS I/O

Product Description

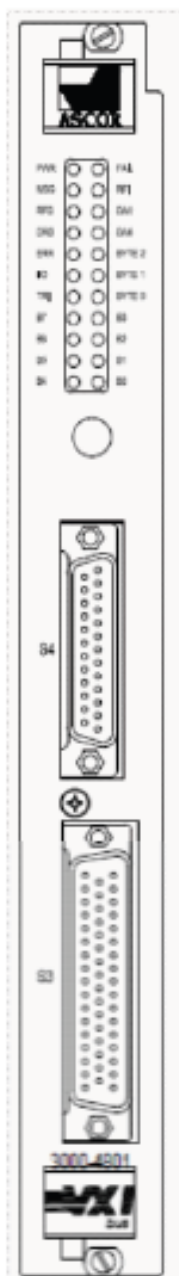
Tektronix has chosen to exit the VXI module market. This has caused some concern with users who have Tektronix modules running in systems which still have to be maintained for some indefinite future period. Giga-tronics ASCOR, drawing on its 15 years of producing general purpose VXI modules, has designed 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.



Model 3000-4801

48 OPTO-ISOLATED CMOS I/O

Functional : The Model 3000-4801 provides 48 Optically Isolated TTL or CMOS capable bi-birectional 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

- $V_{oh} = 3.0V$ ($I_{oh} = -3ma$)
- $2.0V$ ($I_{oh} = -32ma$)
- $V_{ol} = 0.55V$
- $V_{ih} = 2.0V$
- $V_{il} = 0.8V$
- $I_{in} = 1uA$
- $I_{oz} = 50uA$

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

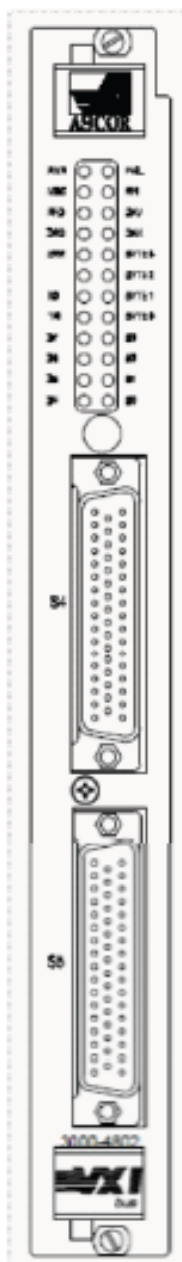
Model #	Description	Manufacturer #
3000-4801	48 TTL / CMOS I/O, Opt Isolated [TEKTRONIX VX4801], Register Based Module	90401250
3000-4801	48 TTL / CMOS I/O, Opt Isolated [TEKTRONIX VX4801], Message Based Module	90401710

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Model 3000-4802

80 TTL-CMOS I/O



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.

Model 3000-4802

80 TTL-CMOS I/O

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 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

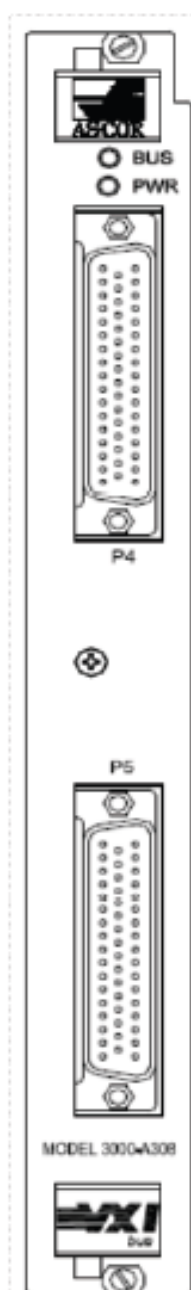
Model #	Description	Manufacturer #
3000-4802	80 TTL-CMOS I/O [TEKTRONIX VX4802]	90401260

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Model 3000-A308

80 OPEN COLLECTOR DRIVERS



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.

Model 3000-A308

80 OPEN COLLECTOR DRIVERS

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, AVXibus 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

- $CE_{sat} = 0.5V$ ($I_c = 300ma$)
- $I_c = 300ma$ Max
- Voltage = 50V max (35V inductive)
- $I_{tot} = 20A$ (all devices)

■ Power Requirements

- 5 volts @ 1.0A (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-A308	80 channel driver [TEKTRONIX 73A-308]	90401230

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