

Model 3000-01

8(1x8) 1-wire Power Multiplexer

90400060



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Regulatory compliance information

This product complies with the essential requirements of the following applicable European Directives, and carries the CE mark accordingly.

89/336/EEC and 73/23/EEC

EN61010-1 (1993)

EN61326-1 (1997)

Manufacturer's Name:

Giga-tronics, Incorporated

EMC Directive and Low Voltage Directive

Electrical Safety

EMC – Emissions and Immunity

Manufacturer's Address

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Type of Equipment:

Switching Module

Model Series Number

3000-01

Declaration of Conformity on file. Contact Giga-tronics at the following;

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TPCI Number	TPCI Issue Date	Date Entered	Comments

Revision History			
Revision	Description of Change	Chg Order #	Approved By
A	Initial Release		
B	Updated		
C	Reformatted 3/12		RCW

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Chapter 1 Introduction

1.1 Safety and Manual Conventions

This manual contains conventions regarding safety and equipment usage as described below.

1.1.1 Product Reference

Throughout this manual, the term “Common Core Switching Platform, Series 8800” refers to all models of within the series, unless otherwise specified.

1.1.2 Personal Safety Alert



WARNING: Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

1.1.3 Equipment Safety Alert



CAUTION: Indicates a situation which can damage or adversely affect the product or associated equipment.

1.1.4 Notes

Notes are denoted and used as follows:

NOTE: Highlights or amplifies an essential operating or maintenance procedure, practice, condition or statement.

1.1.5 Electrical Safety Precautions

Any servicing instructions are for use by service-trained personnel only. To avoid personal injury, do not perform any service unless you are qualified to do so.

For continued protections against fire hazard, replace the AC line fuse only with a fuse of the same current rating and type. Do not use repaired fuses or short circuited fuse holders.

Chapter 2 Configuration Table

Module

90400060

PL90400060

Schematics

85001150

PL85001150

SCH85001150

Chapter 3 Functional Description

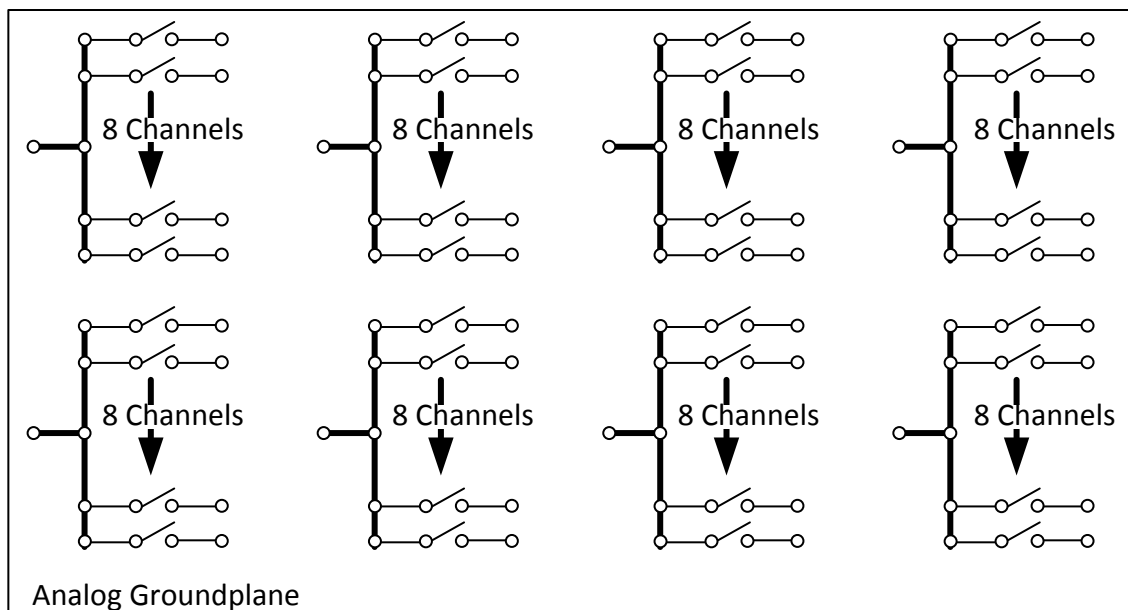
3.1 Introduction

This manual provides the necessary information for the maintenance of the Model 3000-1, eight 1x8 Power Multiplexers.

3.2 General Description

The Module 3000-1 is a VXI compatible module which provides high quality and high power general purpose switching. There are 8(1x8) multiplexers for UUT power distribution. The input side of the multiplexer is capable of handling 15A where the output legs of the multiplexer are only capable of handling 5A each. In this way, several devices can be powered up without damaging the Switch Card. Each of the switches are independent and individually controllable within the module. This module is ideal for use as high current isolation relays or connect relays for power supplies, scanners, stimulus and measurement switching applications. The interface and mechanical construction meets the specification of the VXIbus System Specification, Rev: 1.2 and 1.3.

Chapter 4 Block Diagram

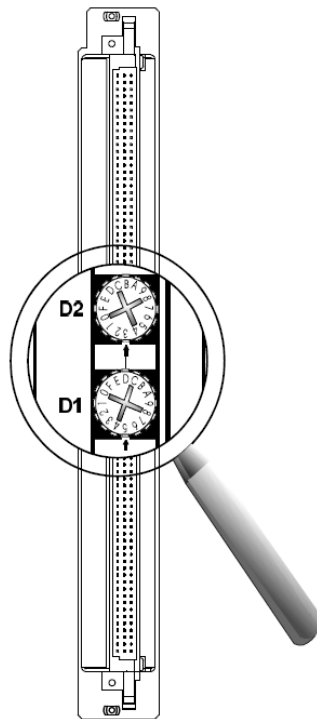


Chapter 5 Controls and Indicators

The following controls and indicators are provided to select and display the functions of the ASCOR 3000-01 Module's operating environment.

5.1 VXI Logical Address

The Logical Address Switch is dual circular switches, D1 and D2 which are located at the rear of the module. The address can be set to any value between 1 and 255 (decimal) or 1 and FF (hexadecimal), (address 0 is reserved for the resource manager). However, the Module fully supports Dynamic Configuration as defined in **Section F of the VXI specification**, address 255 (FF) should be selected only if the Resource Manager also supports Dynamic Configuration.



5.2 LEDs

The following LEDs are visible at the Module's front panel to indicate the status of the module's operation:

5.2.1 "BUS" LED

This green color LED is normally off and will flash on when the module is addressed by the system.

5.2.2 "PWR" LED

This red color LED is normally on when the Module is Powered up.

Chapter 6 Internal Settings

The following items are inside the module and can be reached by removing the side cover.

6.1 Fuse

The ASCOR VXI 3000-01 uses a 10 Amp fuse in the +5 Volt line and is located on the Mother Board (MB) assembly.

6.2 VXI_{bus} Interrupt Level Selection

The VXIbus interrupt level is set with three bits in the “3Eh” register.

See the section on “A16 ADDRESS SPACE REGISTER DESCRIPTION”.

The interrupt level is factory set to “no interrupt”.

Chapter 7 Specifications

Electrical:

Switching Voltage (DC/Peak AC, Resistive)	150 VDC, 250 VAC
Switching Current (DC/Peak AC, Resistive)	15 Amps (input) 5 Amps (output)
Contact Power Rating (DC/Peak AC, Resistive)	150 Watts or 1250 VA
Life Expectancy (@ Signal <<1.0V, 0.010A)	100,000
Contact resistance:	0.030 ohms at rated current
Operating time:	6mS

Mechanical:

Thickness:	1.200 inches
Width:	10.317 inches
Length:	13.78 inches
Weight:	4 lbs.

Environmental Specifications

Temperature:	
Operating:	0° to 55°C
Storage:	- 40° to 75°C
Relative Humidity:	
Operating:	0 to 90% non-condensing
Storage:	0 to 95% non-condensing

Chapter 9 Register Map

9.1 Introduction

The main board contains the basic Power Switch tree and VXI interface. There are 64 Relays which are used to configure the eight 1x8 relay Multiplexers which are controlled by bits in the eight 8-bit registers. The registers are accessed as 16-bit data A24 offsets 40h to 4Eh or as 8-bit data at A24 offsets 41h to 4Fh. The power input connector is a "D" type with eight power pins rated at 20A each. The output connector is an Airborn 66 pin connector.

9.2 Programming

The Power Switch card is a VXI register based device that has A16/A24 addressing. The Power Switch card contains 64 relays organized as 8(1x8)'s. The card is configured so that each register controls one UUT.

A24 Register Map

4E	Data Register 8	UUT 8
4C	Data Register 7	UUT 7
4A	Data Register 6	UUT 6
48	Data Register 5	UUT 5
46	Data Register 4	UUT 4
44	Data Register 3	UUT 3
43	Data Register 2	UUT 2
40	Data Register 1	UUT 1
3E	Control Register	

Control Register

Bit #	15-3	2	1	0
Contents	X	EEW*	COILRE*	X

Coil Readback Register

Bit #	15-8	7-0
Contents	X	Coil Bits

Note: The coil bits are the complement of the relay register

Data Register

Bit #	15-8	7	6	5	4	3	2	1	0
Contents	X	X	X	X	+5V	-15V	+15V	-35V	+35V
	Not Avail	Spare				UUT Power Supplies			

Chapter 10 Connections

UUT Group #1

Input Pin	Output Pin	Relay
J1-1	J2-66	K1
	J2-33	K9
	J2-65	K17
	J2-32	K25
	J2-64	K33
	J2-31	K41
	J2-62	K49
	J2-30	K57

UUT Group #2

Input Pin	Output Pin	Relay
J1-2	J2-62	K2
	J2-29	K10
	J2-61	K18
	J2-28	K26
	J2-60	K34
	J2-27	K42
	J2-59	K50
	J2-26	K58

UUT Group #3

Input Pin	Output Pin	Relay
J1-3	J2-58	K3
	J2-25	K11
	J2-57	K19
	J2-24	K27
	J2-56	K35
	J2-23	K43
	J2-55	K51
	J2-22	K59

UUT Group #4

Input Pin	Output Pin	Relay
J1-4	J2-54	K4
	J2-21	K12
	J2-53	K20
	J2-20	K28
	J2-52	K36
	J2-19	K44
	J2-51	K52

	J2-18	K60
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UUT Group #5

Input Pin	Output Pin	Relay
J1-5	J2-50	K5
	J2-17	K13
	J2-49	K21
	J2-16	K29
	J2-48	K37
	J2-15	K45
	J2-47	K53
	J2-14	K61

UUT Group #6

Input Pin	Output Pin	Relay
J1-6	J2-46	K6
	J2-13	K14
	J2-45	K22
	J2-12	K30
	J2-44	K38
	J2-11	K46
	J2-43	K54
	J2-10	K62

UUT Group #7

Input Pin	Output Pin	Relay
J1-7	J2-42	K7
	J2-9	K15
	J2-41	K23
	J2-8	K31
	J2-40	K39
	J2-7	K47
	J2-39	K55
	J2-6	K63

UUT Group #8

Input Pin	Output Pin	Relay
J1-8	J2-38	K8
	J2-5	K16
	J2-37	K24
	J2-4	K32
	J2-36	K40
	J2-3	K48
	J2-35	K56
	J2-2	K64

