Model 3000-12
32 SPDT Switch Module
90400570

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CONTACT INFORMATION

Giga-tronics, Incorporated
4650 Norris Canyon Road
San Ramon, California 94583
Telephone: 800.726.4442 (only within the United States)
925.328.4650
Fax: 925.328.4700
On the Internet: www.gigatronics.com

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	EMC Directive and Low Voltage Directive
EN61010-1 (1993)	Electrical Safety
EN61326-1 (1997)	EMC – Emissions and Immunity
Manufacturer's Name:	**Manufacturer's Address**
Giga-tronics, Incorporated	4650 Norris Canyon Road San Ramon, California 94583 U.S.A.
Type of Equipment:	**Model Series Number**
Switching Module	3000-12

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

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4650 Norris Canyon Road
San Ramon, California 94583
Telephone: 800.726.4442 (only within the United States)
925.328.4650
Fax: 925.328.4700

Record of Changes to This Manual

Use the table below to maintain a permanent record of changes to this document. Corrected replacement pages are issued as Technical Publication Change Instructions (TPCI). When you are issued a TPCI, do the following:

1. Insert the TPCI at the front of the manual binder.
2. Remove the pages from the manual binder that are noted in the TPCI.
3. Replace the page(s) removed in the previous step with the corrected page(s).
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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			
C	Reformatted 2/12		RCW

Contents

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 3 **Functional Description**

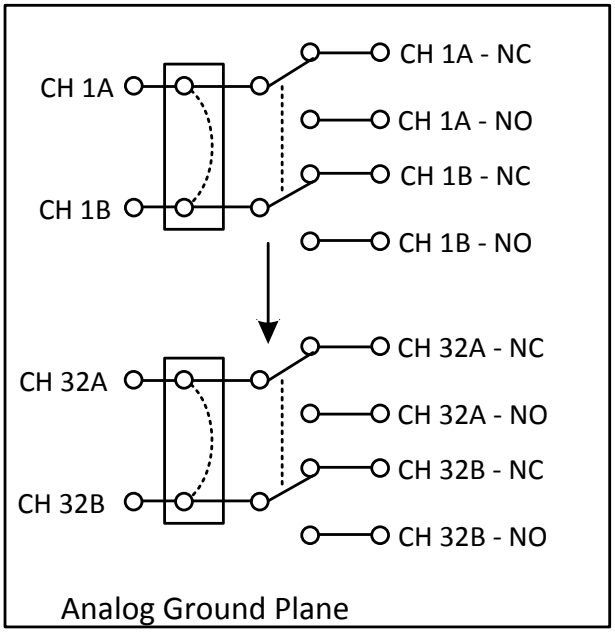
3.1 Introduction

This User Guide provides a basic description of the Model 3000-12, thirty two DPDT relays module. Also included are installation and input connection procedures, programming information, service and maintenance information.

3.2 General Description

This module contains 32 DPDT Relays (Double Pole Double Throw Relays). The basic module 3000-12 is specially designed to support ATE testing and it supports shielded measurements. Each channel is shielded to an isolated ground plane. This ground is brought out to the front panel connector. This allows connections of shielded wires to the relays. The 3000-12 is a register based VXI module. The register map is carefully laid out for easy software control. The interface and mechanical constructions meet 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 3000-8 Module's operating environment.

5.1 VXI LOGICAL ADDRESS

See the Logical Address Switch setting in the Installation and Maintenance section

located in Section 2 .

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 3000-12

module is addressed by the system.

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 3000-12 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 Specification

Number of relays	32
Max Voltage:	120 VAC, 150 VDC
Max Current:	2 amp
Bandwidth:	>30MHz (into 50 ohms to Analog Ground)
Max Power	60 watts
Path resistance:	</=200 milliohm

Connector: ITT Cannon 2DD100S Qty. 2

Environmental Specification

Temperature:	
Operating:	0 to 55 degrees C
Storage:	40 to 75 degrees C
Humidity:	
Operating	10 to 90% non-condensing
Storage:	0 to 95% non-condensing

Chapter 8 **Register Map**

8.1 Programming

The Model 3000-12 is a VXI register based module. The switch paths are controlled via VXIMAX™ which is the 16/32 bit data controller. The Model 3000-12 can be programmed in 16 bit or 32 bit wide data. Through your VXI controller, write the data to the appropriate register as shown on the register map for the relay or relays in the register that is being closed. When the data bit is true, the relay chosen will be closed. The state of the relays in a register can be determined by reading the desired register. The data read back represents the value at the coil of the relay. This allows verification that the program register has correctly controlled the relay coil.

The following register maps are shown in the configurations: 16 bit mode and 32 bit mode. In each section, 16 bit and 32 bit, the register map is organized to show the relay designation in each register. It is followed by the register's functionality and the path connections to the front panel.

Register Description

REGISTER: 8000h **MODE: 16/32 bit**

FUNCTION: Relays K1-16

BIT	CONNECTION-A	CONNECTION-B	RELAY
0	NC: J1-3, NO: J1-1, C: J1-2	NC: J1-29, NO: J1-27, C: J1-28	K15
1	NC: J1-54, NO: J1-52, C: J1-53	NC: J1-79, NO: J1-77, C: J1-78	K16
2	NC: J1-6, NO: J1-4, C: J1-5	NC: J1-32, NO: J1-30, C: J1-31	K13
3	NC: J1-57, NO: J1-55, C: J1-56	NC: J1-82, NO: J1-80, C: J1-81	K14
4	NC: J1-9, NO: J1-7, C: J1-8	NC: J1-35, NO: J1-33, C: J1-34	K11
5	NC: J1-60, NO: J1-58, C: J1-59	NC: J1-85, NO: J1-83, C: J1-84	K12
6	NC: J1-12, NO: J1-10, C: J1-11	NC: J1-38, NO: J1-36, C: J1-37	K9
7	NC: J1-63, NO: J1-61, C: J1-62	NC: J1-88, NO: J1-86, C: J1-87	K10
8	NC: J1-15, NO: J1-13, C: J1-14	NC: J1-41, NO: J1-39, C: J1-40	K7
9	NC: J1-66, NO: J1-64, C: J1-65	NC: J1-91, NO: J1-89, C: J1-90	K8
10	NC: J1-18, NO: J1-16, C: J1-17	NC: J1-44, NO: J1-42, C: J1-43	K5
11	NC: J1-69, NO: J1-67, C: J1-68	NC: J1-94, NO: J1-92, C: J1-93	K6
12	NC: J1-21, NO: J1-19, C: J1-20	NC: J1-47, NO: J1-45, C: J1-46	K3
13	NC: J1-72, NO: J1-70, C: J1-71	NC: J1-97, NO: J1-95, C: J1-96	K4
14	NC: J1-24, NO: J1-22, C: J1-23	NC: J1-50, NO: J1-48, C: J1-49	K1
15	NC: J1-75, NO: J1-73, C: J1-74	NC: J1-100, NO: J1-98, C: J1-99	K2

Register Description

REGISTER: 8000h **MODE: 16/32 bit**

FUNCTION: Relays K1-16

BIT	CONNECTION-A	CONNECTION-B	RELAY
0	NC: J1-3, NO: J1-1, C: J1-2	NC: J1-29, NO: J1-27, C: J1-28	K15
1	NC: J1-54, NO: J1-52, C: J1-53	NC: J1-79, NO: J1-77, C: J1-78	K16
2	NC: J1-6, NO: J1-4, C: J1-5	NC: J1-32, NO: J1-30, C: J1-31	K13
3	NC: J1-57, NO: J1-55, C: J1-56	NC: J1-82, NO: J1-80, C: J1-81	K14
4	NC: J1-9, NO: J1-7, C: J1-8	NC: J1-35, NO: J1-33, C: J1-34	K11
5	NC: J1-60, NO: J1-58, C: J1-59	NC: J1-85, NO: J1-83, C: J1-84	K12
6	NC: J1-12, NO: J1-10, C: J1-11	NC: J1-38, NO: J1-36, C: J1-37	K9
7	NC: J1-63, NO: J1-61, C: J1-62	NC: J1-88, NO: J1-86, C: J1-87	K10
8	NC: J1-15, NO: J1-13, C: J1-14	NC: J1-41, NO: J1-39, C: J1-40	K7
9	NC: J1-66, NO: J1-64, C: J1-65	NC: J1-91, NO: J1-89, C: J1-90	K8
10	NC: J1-18, NO: J1-16, C: J1-17	NC: J1-44, NO: J1-42, C: J1-43	K5
11	NC: J1-69, NO: J1-67, C: J1-68	NC: J1-94, NO: J1-92, C: J1-93	K6
12	NC: J1-21, NO: J1-19, C: J1-20	NC: J1-47, NO: J1-45, C: J1-46	K3
13	NC: J1-72, NO: J1-70, C: J1-71	NC: J1-97, NO: J1-95, C: J1-96	K4
14	NC: J1-24, NO: J1-22, C: J1-23	NC: J1-50, NO: J1-48, C: J1-49	K1
15	NC: J1-75, NO: J1-73, C: J1-74	NC: J1-100, NO: J1-98, C: J1-99	K2

For example:

To close relay K15 is to set the register to:

Register 8000h

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Register Map, 16 Bit

DESCRIPTION: 32 DPDT RRELAYSX, MOTHER BOARD

PCB NUMBER: 85003240

ADDRESS OFFSET: 8000h

MSB **LSB**

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
K2	K1	K4	K3	K6	K5	K8	K7	K10	K9	K12	K11	K14	K13	K16	K15

ADDRESS OFFSET: 8002h

MSB **LSB**

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
K18	K17	K20	K19	K22	K21	K24	K23	K26	K25	K28	K27	K30	K29	K32	K31

Register Map, 32 Bit

DESCRIPTION: 32 DPDT RELAYSX, MOTHER BOARD

PCB NUMBER: 85003240

ADDRESS OFFSET: 8000h

LSB

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
K2	K1	K4	K3	K6	K5	K8	K7	K10	K9	K12	K11	K14	K13	K16	K15

MSB

32	32	30	29	28	27	26	25	24	23	22	20	19	18	17	16
K18	K17	K20	K19	K22	K21	K24	K23	K26	K25	K28	K27	K30	K29	K32	K31

Note: Caltron Systems, K32 not installed. J2 pins 73-75 and J2 pins 97-99 are used to bring out test points for +24V,+12V, and +5V through a 1K ohm resistors.