Model 3000-4351
40 SPST Switch Module
90401220

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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	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	3000-4351

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

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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).
4. Record the changes in the table below.

TPCI Number	TPCI Issue Date	Date Entered	Comments

Revision History			
Revision	**Description of Change**	**Chg Order #**	**Approved By**
	Initial Release		
A	Updated 3/05		
B	Updated 2/08		
C	Reformatted 3/12		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 2 **Configuration Table**

TOP ASSEMBLY

PL90401220

Assy90401220

Sub-Assembly

PL85003980

Assy85003980

SCH85003980

PL = PARTS LIST, ASM = ASSEMBLY DRAWING, SCH = SCHEMATIC.

Chapter 3 Functional Description

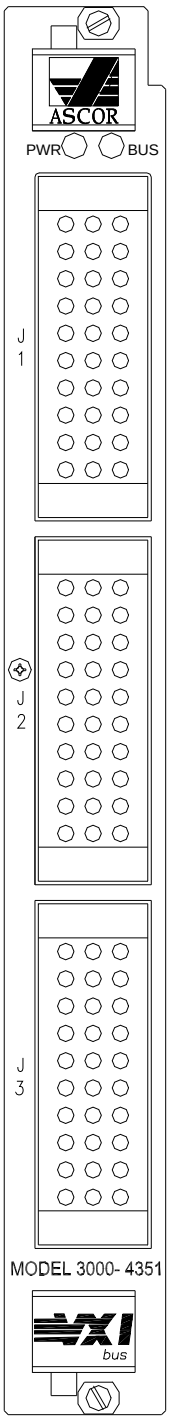
3.1 Introduction

The ASCOR VXI 3000-4351 is a 40-Channel 10-Amp switch module. This module can be used as a direct interchange for Tektronix VX 4351 switch module. The 3000-4351 contains forty SPST (Form A) relays. ASCOR also provides a *Plug&Play* software driver which will run both the VX4351 and the 3000-4351 at the same time in the same chassis.

3.2 General Description

The ASCOR 3000-4351 contains 40 independent single pole single throw relays. Each relay can be controlled independently. The relays may also be operated under program control in pairs as 20 double pole single throw relays. The contacts of each relay are connected to one of three 30-pin high current connectors which are mounted on the module's front panel. Circuitry is included on the 3000-4351 to verify the control signals that are applied to each relay coil driver.

Chapter 4 **Front Panel**

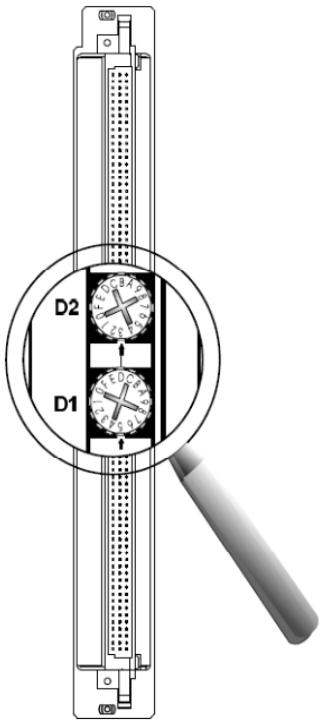


Chapter 5 Controls and Indicators

The following controls and indicators are provided to select and display the functions of the ASCOR 3000-4351 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 3000-4802 uses a single 1.5 Amp fuse at the +5 Volt line. A 7 Amp fuse is provided in the +12 Volt line. If either fuse opens, remove the fault before replacing the fuse to avoid any other damage.

6.2 J105

This jumper selects either the SD or the NC mode. Normal factory setting is to connect J105-1 to J105-2

6.3 J107

This jumper determines whether you are in the 16 bit mode or the 32 bit mode. Normal factory setting is no connection which places you in the 16 bit mode.

6.4 J106

These jumpers determine the delay between the data and the read/write strobe. Normal factory setting is J106-1 to J106-2.

6.5 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**

Configuration :	40 SPST General Purpose Relays
Contact Ratings :	Switching Current (MAX) = 10 A Switching Voltage (MAX) = 250 VAC, 125 VDC Switching Power (MAX) = 300W, 2500 VA
Operational Life :	Mechanical : 5 x 10e7 At Rated Load : 1 x 10e5
Duty Cycle :	Continuous
Signal Path Specifications:	Signal path resistance : < 0.05 ohm Insulation resistance : >5 x 10e8 ohms
Power up Condition :	At power up all relays are reset (Open)
Operational Life :	5 X 10e6
VXI Compatibility :	Fully compatible with VXI Specification REV. 1.0 .
VXI Device Type :	VXI register based with ASCOR driver.
VXI Card Size :	C size, one slot wide.
Temperature :	0°C to +50°C, operating -40°C to +85°C, storage
Humidity	< 95% R.H., non-condensing, 0°C to +30°C. < 75% R.H., non-condensing, +31°C to +40°C < 45% R.H., non-condensing, +41°C to +50°C
VXI Bus Radiated Emissions :	Complies with VXIbus Specification
VXI Bus Conducted Emissions :	Complies with VXIbus Specification.
Dimensions :	VXI C size ; 10.3in x 13.8in x 1.2in
Weight :	3 lbs.
Front Panel Connectors :	5 Row DIN, 160 contacts, Right Angle PCB Mount Erni Components #004778

A16 Address Space Register Description

Offset	**Value**
00h	CFB5 hex C = Register based, A16/A24 FB5 = ASCOR Manufacturer ID
02h	7F2C hex 7 = 10,000 hex space in the A24 Address space F2C = HV Discrete Driver/Receiver VXI Module number
04h	FFFC hex (typical after running Resource Manager) In order to reset the module: read this address, set bit 0 high, then set bit 0 low without altering the other bits.

Control	**Bit**		
3Eh	0	Low true output enable to the coil driver ICs.	
	1	When low enables read back of the coil state. When high enables read back of the data registers.	
	2	Leave set to 0, reserved by Ascor.	
	3	Interrupt bit 0 (LSB)	Used to set the Module IRQ Level:
	4	Interrupt bit 1	0 = No Interrupts
	5	Interrupt bit 2 (MSB)	1-7 = IRQ1-IRQ7
	6-7	Don’t Care.	
	8-15	Mask Off.	

REGISTER 8000h

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

REGISTER 8002h

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

REGISTER 8004h

BIT	RELAY
0	**K33**
1	**K34**
2	**K35**
3	**K36**
4	**K37**
5	**K38**
6	**K39**
7	**K40**
8	**-----**
9	**-----**
10	**-----**
11	**-----**
12	**-----**
13	**-----**
14	**-----**
15	**-----**

Chapter 9 **Front Panel Pin List**

J1	RELAY
1	K1 (NO)
2	K1 (COM)
3	K2 (NO)
4	K2 (COM)
5	K3 (NO)
6	K3 (COM)
7	K4 (NO)
8	K4 (COM)
9	K5 (NO)
10	K5 (COM)
11	K6 (NO)
12	K6 (COM)
13	K7 (NO)
14	K7 (COM)
15	K8 (NO)
16	K8 (COM)
17	K9 (NO)
18	K9 (COM)
19	K10 (NO)
20	K10 (COM)
21	K11 (NO)
22	K11 (COM)
23	K12 (NO)
24	K12 (COM)
25	K13 (NO)
26	K13 (COM)
27	K14 (NO)
28	K14 (COM)
29	-----
30	-----

J2	RELAY
1	K15 (NO)
2	K15 (COM)
3	K16 (NO)
4	K16 (COM)
5	K17 (NO)
6	K17 (COM)
7	K18 (NO)
8	K18 (COM)
9	K19 (NO)
10	K19 (COM)
11	K20 (NO)
12	K20 (COM)
13	K21 (NO)
14	K21 (COM)
15	K22 (NO)
16	K22 (COM)
17	K23 (NO)
18	K23 (COM)
19	K24 (NO)
20	K24 (COM)
21	K25 (NO)
22	K25 (COM)
23	K26 (NO)
24	K26 (COM)
25	-----
26	-----
27	-----
28	-----
29	-----
30	-----

J3	RELAY
1	K27 (NO)
2	K27 (COM)
3	K28 (NO)
4	K28 (COM)
5	K29 (NO)
6	K29 (COM)
7	K30 (NO)
8	K30 (COM)
9	K31 (NO)
10	K31 (COM)
11	K32 (NO)
12	K32 (COM)
13	K33 (NO)
14	K33 (COM)
15	K34 (NO)
16	K34 (COM)
17	K35 (NO)
18	K35 (COM)
19	K36 (NO)
20	K36 (COM)
21	K37 (NO)
22	K37 (COM)
23	K38 (NO)
24	K38 (COM)
25	K39 (NO)
26	K39 (COM)
27	K40 (NO)
28	K40 (COM)
29	-----
30	-----

NO = NORMALLY OPEN

COM = COMMON