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Model 3000-4356
20 DPDT Switch Module
90401290

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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	3000-4356

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

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

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**
	Initial Release		
A	Updated 6/02		
B	Updated 8/06		
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**

TOP ASSEMBLY

PL 90401290

ASM 90401290

PL 85004260

ASM 85004260

SCH 85004260

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

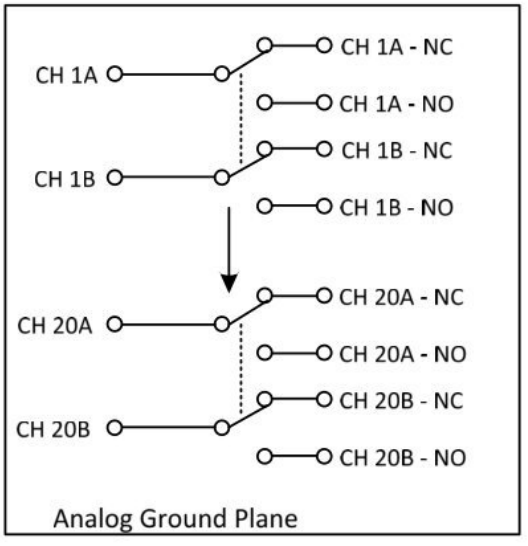
Chapter 3 **Functional Description**

3.1 Introduction

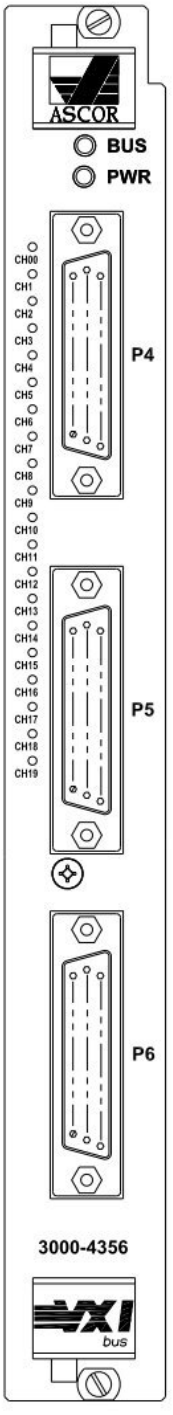
The ASCOR VXI 3000-4356 consists of 20 Double Pole Double Throw (DPDT) relays. This module can be used as a direct interchange for the Tektronix VXI module VX4356 provided that the original Tektronix module is operating under a Plug&Play software driver.

3.2 General Description

The 3000-4356 is a direct hardware replacement for the Tektronix VX4356. The same front panel connectors, the same signals come to the same pins, and the specifications are the same or better. No special cables or adapter are necessary. ASCOR also provides a software Plug&Play driver which will run both the VX4356 and the 3000-4356.



Chapter 4 **Front Panel**

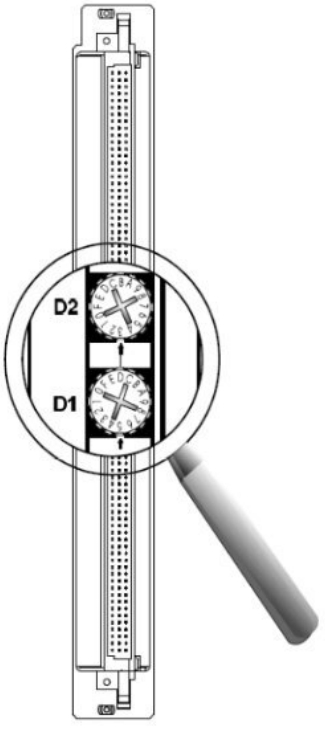


Chapter 5 Controls and Indicators

The following controls and indicators are provided to select and display the functions of the ASCOR 3000-4356 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 3000-4356 uses a 10 Amp fuse in the +5 Volt line If any fuse opens, remove the fault before replacing the fuse to avoid any other damage.

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**

Configuration :	20 DPDT individual relays.
Relay Type :	Hasco KSD205DC5
Contact Ratings :	Switching Current (MAX) = 5A Switching Voltage (MAX) = 250V AC , 125V DC Switching Power (MAX) = 600VA , 120W
Maximum operating Speed:	100 operations per second
Programmable Relay Delay :	0 to 65535 milliseconds.
Operational Life :	2 X 10e5
Duty Cycle :	Continuous
Dwell :	Recommended dwell time at maximum switching rate is 4 milliseconds minimum.
Signal Path Specifications:	Signal path resistance Initial : < 0.3 Ω Insulation resistance : >10 Gigaohms
Isolation	
Wiper to Open Contact :	< -18 dB at 1 MHz
Cross talk between Channels :	< -40 dB at 1 MHz
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 :	44 POSITION DB-44P Norcomp 181-044-112-531

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.	

RELAY	REGISTER 8000h 16 BIT	REGISTER 8000h 32 BIT
K1	**0**	**0**
K2	**1**	**1**
K3	**2**	**2**
K4	**3**	**3**
K5	**4**	**4**
K6	**5**	**5**
K7	**6**	**6**
K8	**7**	**7**
K9	**8**	**8**
K10	**9**	**9**
K11	**10**	**10**
K12	**11**	**11**
K13	**12**	**12**
K14	**13**	**13**
K15	**14**	**14**
K16	**15**	**15**

RELAY	REGISTER 8002h 16 BIT	REGISTER 8000h 32 BIT
K17	**0**	**16**
K18	**1**	**17**
K19	**2**	**18**
K20	**3**	**19**

Chapter 9 **Front Panel Pin List**

RELAY	NORMALLY CLOSED CONTACT	COMMON CONTACT	NORMALLY OPEN CONTACT
K1-A	P4-31	P4-16	P4-1
K1-B	P4-32	P4-17	P4-2
K2-A	P4-33	P4-18	P4-3
K2-B	P4-34	P4-19	P4-4
K3-A	P4-35	P4-20	P4-5
K3-B	P4-36	P4-21	P4-6
K4-A	P4-37	P4-22	P4-7
K4-B	P4-38	P4-23	P4-8
K5-A	P4-39	P4-24	P4-9
K5-B	P4-40	P4-25	P4-10
K6-A	P4-41	P4-26	P4-11
K6-B	P4-42	P4-27	P4-12
K7-A	P4-43	P4-28	P4-13
K7-B	P4-44	P4-29	P4-14
K8-A	P5-31	P5-16	P5-1
K8-B	P5-32	P5-17	P5-2
K9-A	P5-33	P5-18	P5-3
K9-B	P5-34	P5-19	P5-4
K10-A	P5-35	P5-20	P5-5
K10-B	P5-36	P5-21	P5-6
K11-A	P5-37	P5-22	P5-7
K11-B	P5-38	P5-23	P5-8
K12-A	P5-39	P5-24	P5-9
K12-B	P5-40	P5-25	P5-10
K13-A	P5-41	P5-26	P5-11
K13-B	P5-42	P5-27	P5-12
K14-A	P5-43	P5-28	P5-13
K14-B	P5-44	P5-29	P5-14
K15-A	P6-31	P6-16	P6-1
K15-B	P6-32	P6-17	P6-2
K16-A	P6-33	P6-18	P6-3
K16-B	P6-34	P6-19	P6-4
K17-A	P6-35	P6-20	P6-5
K17-B	P6-36	P6-21	P6-6
K18-A	P6-37	P6-22	P6-7
K18-B	P6-38	P6-23	P6-8
K19-A	P6-39	P6-24	P6-9
K19-B	P6-40	P6-25	P6-10
K20-A	P6-41	P6-26	P6-11
K20-B	P6-42	P6-27	P6-12

P4 -17, 50 = AGND P5 -17, 50 = AGND P6 -17, 50 = AGND

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