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Model 3000-4353
32 SPST Switch Module
90401310

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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:

Giga-tronics, Incorporated

Manufacturer's Address

4650 Norris Canyon Road
San Ramon, California 94583
U.S.A.

Type of Equipment:

Switching Module

Model Series Number

3000-4353

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

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TPCI Number	TPCI Issue Date	Date Entered	Comments

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Revision History			
Revision	**Description of Change**	**Chg Order #**	**Approved By**
	Initial Release		
A	Updated 6/02		
B	Updated 2/08		
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.

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Chapter 2 **Configuration Table**

TOP ASSEMBLY

PL 90401310

ASM 90401310

PL 85003950-001

ASM 85003950-001

SCH 85003950-001

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

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Chapter 3 Functional Description

3.1 Introduction

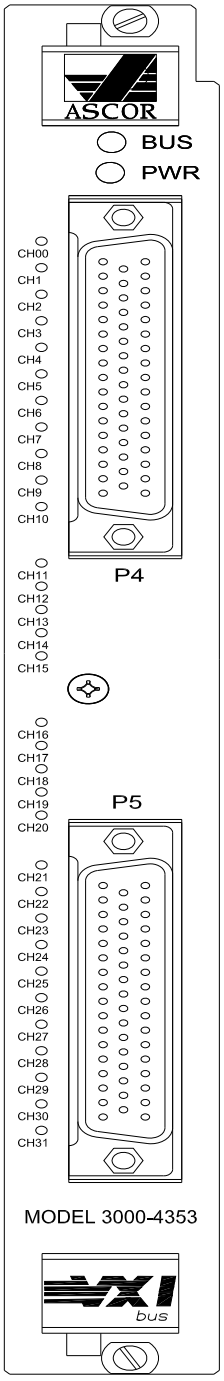
The ASCOR VXI 3000-4353 consists of 32 Single Pole Single Throw (SPST) relays. This module can be used as a direct interchange for the Tektronix VXI module VX4353. Each relay is independently controlled and can be independently opened or closed under program control.

3.2 General Description

The 3000-4353 is a direct hardware replacement for the Tektronix VX4353. 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 driver which will run both the VX4353 and the 3000-4353.

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Chapter 4 **Front Panel**



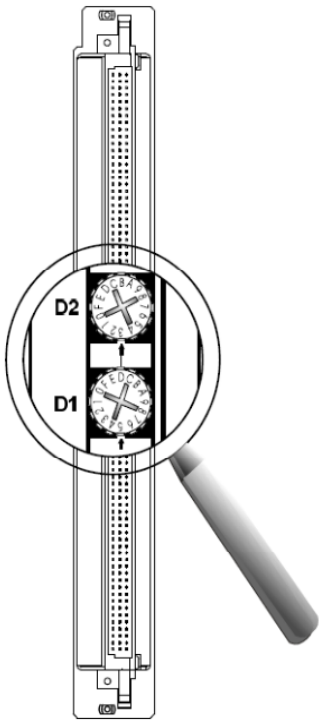
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Chapter 5 Controls and Indicators

The following controls and indicators are provided to select and display the functions of the ASCOR 3000-4353 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.

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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 3000-4353 uses a 5 Amp fuse in the +5 Volt line and a 5 A fuse in the +12 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”.

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Chapter 7 **Specifications**

Configuration :	**32 SPST individual relays.**
Relay Type :	**Aromat JQ1AE-12V**
Contact Ratings :	Switching Current (MAX) = 5A Switching Voltage (MAX) = 277VAC , 110VDC Switching Power (MAX) = 1250 VA
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 oHMS 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

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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 :	50 Position PC Mount Tyco (AMP) 206971-2

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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.	

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REGISTER = 8000h

	REGISTER	REGISTER
	8000h	8000h
RELAY	16 BIT	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**

	REGISTER	REGISTER
	8002h	8000h
RELAY	16 BIT	32 BIT
K17	**0**	**16**
K18	**1**	**17**
K19	**2**	**18**
K20	**3**	**19**
K21	**4**	**20**
K22	**5**	**21**
K23	**6**	**22**
K24	**7**	**23**
K25	**8**	**24**
K26	**9**	**25**
K27	**10**	**26**
K28	**11**	**27**
K29	**12**	**28**
K30	**13**	**29**
K31	**14**	**30**
K32	**15**	**31**

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Chapter 9 **Front Panel Pin List**

RELAY	COMMON CONTACT	NORMALLY OPEN CONTACT
K1	P4-2	P4-1
K2	P4-4	P4-3
K3	P4-6	P4-5
K4	P4-8	P4-7
K5	P4-10	P4-9
K6	P4-12	P4-11
K7	P4-14	P4-13
K8	P4-16	P4-15
K9	P4-19	P4-18
K10	P4-21	P4-20
K11	P4-23	P4-22
K12	P4-25	P4-24
K13	P4-27	P4-26
K14	P4-29	P4-28
K15	P4-31	P4-30
K16	P4-33	P4-32
K17	P5-2	P5-1
K18	P5-4	P5-3
K19	P5-6	P5-5
K20	P5-8	P5-7
K21	P5-10	P5-9
K22	P5-12	P5-11
K23	P5-14	P5-13
K24	P5-16	P5-15
K25	P5-19	P5-18
K26	P5-21	P5-20
K27	P5-23	P5-22
K28	P5-25	P5-24
K29	P5-27	P5-26
K30	P5-29	P5-28
K31	P5-31	P5-30
K32	P5-33	P5-32

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

NOTE : P4 = J1 , AND P5 = J2 ON SCHEMATIC

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