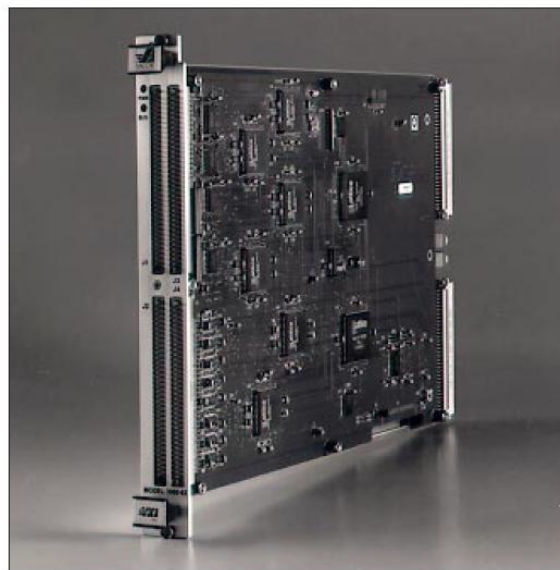


Model 3000-63

128 Channels OC TTL I/O

90401400-000, -001



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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

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

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

Type of Equipment:

Switching Module

Model Series Number

3000-63

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

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1. Insert the TPCI at the front of the manual binder.
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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

90401400 **TOP ASSEMBLY - 128 Channel OC TTL I/O**

BOM90401400-001 TOP ASSEMBLY, BILL OF MATERIAL

85004450 PWA, Mother Board (J1 & J2)

BOM85004450 PWA, MB, BOM

SCH85004450 PWA, MB, SCHEMATIC

90401400-001 **TOP ASSEMBLY - 256 Channel OC TTL I/O**

BOM90401400-001 TOP ASSEMBLY, BILL OF MATERIAL

85004450 PWA, Mother Board (J1 & J2)

BOM85004450 PWA, MB, BOM

SCH85004450 PWA, MB, SCHEMATIC

85004640 PWA, Daughter Board (J3 & J4)

BOM85004640 PWA, DB, BOM

SCH85004640 PWA, DB, SCHEMATIC

Chapter 3 Functional Description

3.1 Introduction

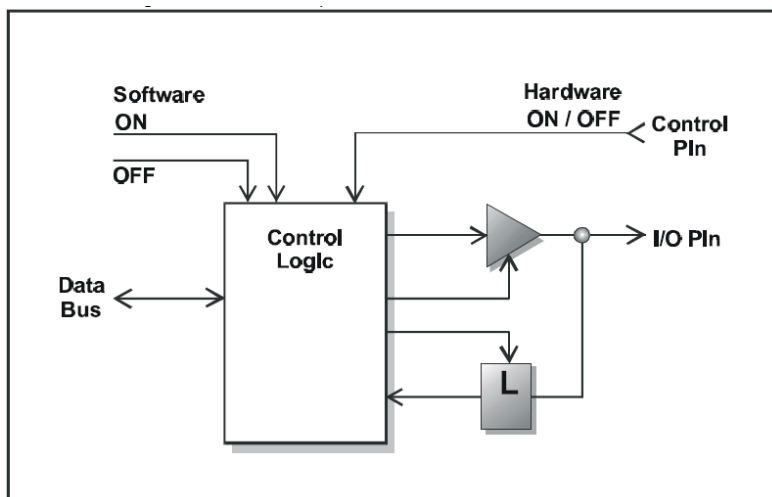
This manual provides the necessary information for the operation and maintenance of the Model 3000-63 General Purpose VXI Switch Module.

3.2 General Description

The Model 3000-63, Option 1 is a 1-Wide VXI I/O Module which provides 256 channels of Open Collector (OC) IC driver Outputs and 256 channels of Input. There are two PWAs inside the unit and four connectors on the front panel for access to the 256 I/O channels. The standard Module is a 128 Channel device which is absent the Daughter card. All of the tables in this manual represent the Option 1 Module, and for the Standard Module the extra entries are simply disregarded.

The Output Open Collector function is provided by an 74BCT760 IC chip, with 8 channels of OC per chip. The Input function is provided by an 74ABT16373 IC chip with 16 channels per chip. In addition there are 16 Gate signals externally available on the Front Panel Connectors which control groups of 16 I/O channels. These Gate signals are normally kept Enabled by a resistor network. When activated to Ground (Logic Low) the Gate signal will keep the assigned I/O channels from functioning. There is a provision in the PWA to add various values of SIP Resistor Networks to each I/O Channel. These Resistor Networks are NOT installed in the standard product.

Chapter 4 Block Diagram



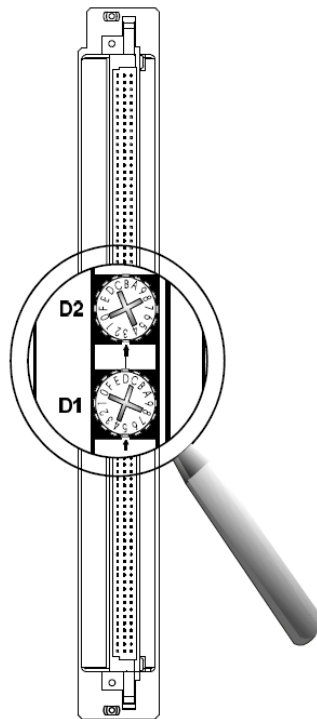
Typical Channel

Chapter 5 Controls and Indicators

The following controls and indicators are provided to select and display the functions of the ASCOR 3000-63 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 3000-63 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

OC I/O CHANNEL

INPUT = SN74ABT16373ADL, (P/N 30801373-001)

OUTPUT = SN74BCT760DW, (P/N 31000760-001), I_{OL}=64ma (clamp diode)

FRONT PANEL CONNECTORS

CONN	DESCRIPTION	ASCOR P/N	VENDOR	VENDOR P/N
J1, J2, J3, J4	70 POS, NO MOUNTING EARS	56103880	AIRBORN	WTB70PR7J342

MATING PARTS KIT

Installation Kit # 89800470 contains four mating connectors and four hoods

Environmental Specifications

Temperature:

Operating: 0° to 55°C

Storage: - 40° to 75°C

Relative Humidity:

Operating: 0 to 90% non-condensing

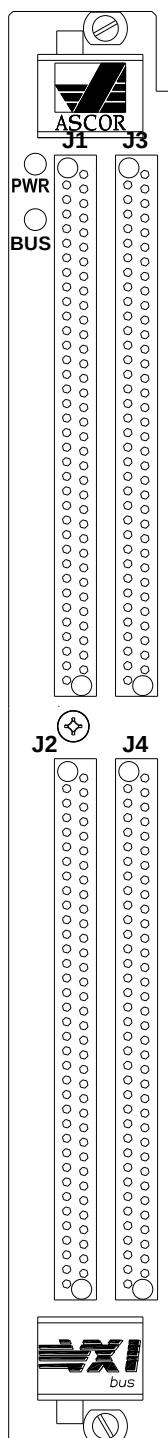
Storage: 0 to 95% non-condensing

Chapter 9 Register Map

16 BIT REGISTERS vs OC OUTPUT PINS

REGISTERED ADDRESS	REGISTER BITS															
	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	J1-43	J1-08	J1-42	J1-07	J1-41	J1-06	J1-40	J1-05	J1-39	J1-04	J1-38	J1-03	J1-37	J1-02	J1-36	J1-01
	J1-51	J1-16	J1-50	J1-15	J1-49	J1-14	J1-48	J1-13	J1-47	J1-12	J1-46	J1-11	J1-45	J1-10	J1-44	J1-09
	J1-59	J1-24	J1-58	J1-23	J1-57	J1-22	J1-56	J1-21	J1-55	J1-20	J1-54	J1-19	J1-53	J1-18	J1-52	J1-17
	J1-67	J1-32	J1-66	J1-31	J1-65	J1-30	J1-64	J1-29	J1-63	J1-28	J1-62	J1-27	J1-61	J1-26	J1-60	J1-25
	J2-43	J2-08	J2-42	J2-07	J2-41	J2-06	J2-40	J2-05	J2-39	J2-04	J2-38	J2-03	J2-37	J2-02	J2-36	J2-01
	J2-51	J2-16	J2-50	J2-15	J2-49	J2-14	J2-48	J2-13	J2-47	J2-12	J2-46	J2-11	J2-45	J2-10	J2-44	J2-09
	J2-59	J2-24	J2-58	J2-23	J2-57	J2-22	J2-56	J2-21	J2-55	J2-20	J2-54	J2-19	J2-53	J2-18	J2-52	J2-17
	J2-67	J2-32	J2-66	J2-31	J2-65	J2-30	J2-64	J2-29	J2-63	J2-28	J2-62	J2-27	J2-61	J2-26	J2-60	J2-25
	J3-43	J3-08	J3-42	J3-07	J3-41	J3-06	J3-40	J3-05	J3-39	J3-04	J3-38	J3-03	J3-37	J3-02	J3-36	J3-01
	J3-51	J3-16	J3-50	J3-15	J3-49	J3-14	J3-48	J3-13	J3-47	J3-12	J3-46	J3-11	J3-45	J3-10	J3-44	J3-09
	J3-59	J3-24	J3-58	J3-23	J3-57	J3-22	J3-56	J3-21	J3-55	J3-20	J3-54	J3-19	J3-53	J3-18	J3-52	J3-17
	J3-67	J3-32	J3-66	J3-31	J3-65	J3-30	J3-64	J3-29	J3-63	J3-28	J3-62	J3-27	J3-61	J3-26	J3-60	J3-25
	J4-43	J4-08	J4-42	J4-07	J4-41	J4-06	J4-40	J4-05	J4-39	J4-04	J4-38	J4-03	J4-37	J4-02	J4-36	J4-01
	J4-51	J4-16	J4-50	J4-15	J4-49	J4-14	J4-48	J4-13	J4-47	J4-12	J4-46	J4-11	J4-45	J4-10	J4-44	J4-09
	J4-59	J4-24	J4-58	J4-23	J4-57	J4-22	J4-56	J4-21	J4-55	J4-20	J4-54	J4-19	J4-53	J4-18	J4-52	J4-17
	J4-67	J4-32	J4-66	J4-31	J4-65	J4-30	J4-64	J4-29	J4-63	J4-28	J4-62	J4-27	J4-61	J4-26	J4-60	J4-25

Chapter 10 FRONT PANEL CONNECTORS



(MB – PWA ASSY 85004450)

J1

Description	Pin #	Pin #	Description
Chassis GND	70	35	DGND
GATE 113 128	69	34	GATE 97 112
GATE 81 96	68	33	GATE 65 80
OC128	67	32	OC127
OC126	66	31	OC125
OC124	65	30	OC123
OC122	64	29	OC121
OC 120	63	28	OC119
OC118	62	27	OC117
OC116	61	26	OC115
OC114	60	25	OC113
OC112	59	24	OC111
OC110	58	23	OC109
OC108	57	22	OC107
OC106	56	21	OC105
OC104	55	20	OC103
OC102	54	19	OC101
OC100	53	18	OC99
OC98	52	17	OC97
OC96	51	16	OC95
OC94	50	15	OC93
OC92	49	14	OC91
OC90	48	13	OC89
OC88	47	12	OC87
OC86	46	11	OC85
OC84	45	10	OC83
OC82	44	9	OC81
OC80	43	8	OC79
OC78	42	7	OC77
OC76	41	6	OC75
OC74	40	5	OC73
OC72	39	4	OC71
OC70	38	3	OC69
OC68	37	2	OC67
OC66	36	1	OC65

J2

Description	Pin #	Pin #	Description
Chassis GND	70	35	DGND
GATE 49 64	69	34	GATE 33 48
GATE 17 32	68	33	GATE 1 16
OC64	67	32	OC63
OC62	66	31	OC61
OC60	65	30	OC59
OC58	64	29	OC57
OC56	63	28	OC55
OC54	62	27	OC53
OC52	61	26	OC51
OC50	60	25	OC49
OC48	59	24	OC47
OC46	58	23	OC45
OC44	57	22	OC43
OC42	56	21	OC41
OC40	55	20	OC39
OC38	54	19	OC37
OC36	53	18	OC35
OC34	52	17	OC33
OC32	51	16	OC31
OC30	50	15	OC29
OC28	49	14	OC27
OC26	48	13	OC25
OC24	47	12	OC23
OC22	46	11	OC21
OC20	45	10	OC19
OC18	44	9	OC17
OC16	43	8	OC15
OC14	42	7	OC13
OC12	41	6	OC11
OC10	40	5	OC9
OC8	39	4	OC7
OC6	38	3	OC5
OC4	37	2	OC3
OC2	36	1	OC1

NOTES:

1. When viewing the connectors from the front, Pin 1 is on the bottom Right, Pin 36 is on the bottom Left.
2. Chassis GND is connected to the front panel.
3. DGND = Digital Ground, Power Supply Common.

(DB – PWA ASSY 85004640)

J3

Description	Pin #	Pin #	Description
Chassis GND	70	35	DGND
GATE 241 256	69	34	GATE 225 240
GATE 209 224	68	33	GATE 193 208
OC256	67	32	OC255
OC254	66	31	OC253
OC252	65	30	OC251
OC250	64	29	OC249
OC248	63	28	OC247
OC246	62	27	OC245
OC244	61	26	OC243
OC242	60	25	OC241
OC240	59	24	OC239
OC238	58	23	OC237
OC236	57	22	OC235
OC234	56	21	OC233
OC232	55	20	OC231
OC230	54	19	OC229
OC228	53	18	OC227
OC226	52	17	OC225
OC224	51	16	OC223
OC222	50	15	OC221
OC220	49	14	OC219
OC218	48	13	OC217
OC216	47	12	OC215
OC214	46	11	OC213
OC212	45	10	OC211
OC210	44	9	OC209
OC208	43	8	OC207
OC206	42	7	OC205
OC204	41	6	OC203
OC202	40	5	OC201
OC200	39	4	OC199
OC198	38	3	OC197
OC196	37	2	OC195
OC194	36	1	OC193

J4

Description	Pin #	Pin #	Description
Chassis GND	70	35	DGNG
GATE 177 192	69	34	GATE 161 176
GATE 145 160	68	33	GATE 129 144
OC192	67	32	OC191
OC190	66	31	OC189
OC188	65	30	OC187
OC186	64	29	OC185
OC184	63	28	OC183
OC182	62	27	OC181
OC180	61	26	OC179
OC178	60	25	OC177
OC176	59	24	OC175
OC174	58	23	OC173
OC172	57	22	OC171
OC170	56	21	OC169
OC168	55	20	OC167
OC166	54	19	OC165
OC164	53	18	OC163
OC162	52	17	OC161
OC160	51	16	OC159
OC158	50	15	OC157
OC156	49	14	OC155
OC154	48	13	OC153
OC152	47	12	OC151
OC150	46	11	OC149
OC148	45	10	OC147
OC146	44	9	OC145
OC144	43	8	OC143
OC142	42	7	OC141
OC140	41	6	OC139
OC138	40	5	OC137
OC136	39	4	OC135
OC134	38	3	OC133
OC132	37	2	OC131
OC130	36	1	OC129

NOTES:

1. When viewing the connectors from the front, Pin 1 is on the bottom Right, Pin 36 is on the bottom Left.
2. Chassis GND is connected to the front panel.
3. DGND = Digital Ground, Power Supply Common.