Model 720x
Microwave Coaxial Switch

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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**
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Type of Equipment:	**Model Series Number**
Switching Module	720x

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**
A	Initial Release 2/02		JL
B	Updated		
C	Reformatted 5/12		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 (7201 1(1x4) Coaxial Switch)

PL91000160

Assy91000160

PWA Assembly/Schematics

PL85003560-001

Assy85003560-001

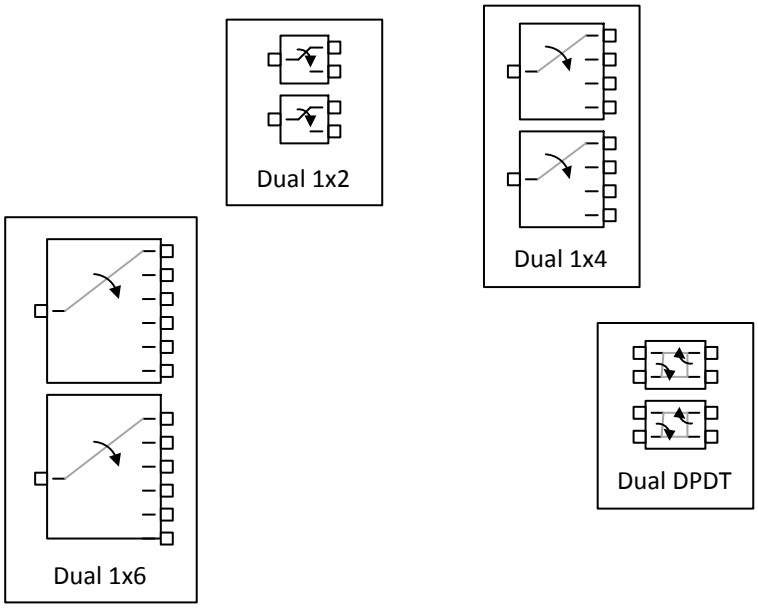
SCH85003560-001

Chapter 3 Functional Description

3.1 Introduction

The 720x PXI PC card assembly provides provisions to attach and control, Microwave Coaxial Switching modules to a PXI card. This manual is intended as a general purpose manual serving the various configurations of this PXI card. The card assembly fits in a CompactPCI or PXI series chassis. The assembly is also compatible with the National Instrument PXI specification, which allows ease of design for complex switch systems.

Chapter 4 **Block Diagram**



Chapter 5 **Specifications**

Electrical:

The electrical specifications will vary depending on the specific relay chosen. Microwave Relay modules are available in various Frequency Ranges from DC-40GHz in various configurations.

Mechanical:

Size:	3U PXI
Width:	1.6 inches
Height:	5.2 inches
Length:	6.5 inches
Weight:	0.5 lbs.
Connector:	Typically SMA

Environmental Specifications

Temperature:

Operating:	0º to 55ºC
Storage:	- 40º to 75ºC

Relative Humidity:

Operating:	0 to 90% non-condensing
Storage:	0 to 95% non-condensing

Chapter 6 **Programming**

This section refers to the 7201 having a single 1x4 relay module. Other configurations are shown below.

The Model 7201 is a PXI register based card assembly design to be used with the National Instrument PXI chassis. The Model 7201 can be programmed in 8, 16 or 32 bit wide data format. Through your PXI 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. Data read back represents the value of the desired register. In addition, you can read back the coil state to verify that the coil is driven correctly by the program register. This scenario verifies that the program register has correctly controlled the relay coil.

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. PXI will automatically assign the starting address of the card, called Bar0. This will be the starting address of the first register. Each address location controls 8 bits. Shown are the control functions using 16 format.

Programming of the Model 7201 is very simple. The module is organized as a 1x4 Coax RF Switch. The location of the first register is assigned by the PCI enumerator. This is designated as "Bar0" or the starting address of the card. The program registers using 16 bit format are located as follows:

Register #1: read/write function: Bar0 + 0000h
coil read back: Bar0 + 0008h

Register Bit	15	14	13	12	11	10	9	8
Common Connected To	---	---	---	---	---	---	---	---

Register Bit	7	6	5	4	3	2	1	0
Common Connected To	---	---	---	---	Port 4	Port 3	Port 2	Port 1

NOTE : When NO bits are selected, the Common is connected to Port 1.
(See front panel on Assembly Drawing 91000160 for Port numbers)

Chapter 7 Internal Connections

7201, 7202

RF SWITCH CONNECTOR	SIGNAL NAME	PCA CONNECTOR
1	G (Shield)	---
2	G (Shield)	---
3	Port 1	J1-2
4	Port 2	J1-4
5	+5 V	J1-1
6	0 v (Logic Ground)	---
7	Port 3	J1-6
8	Port 4	J1-8
9	G (Shield)	---
10	G (Shield)	---

7203 SPDT- Switch 1

RF SWITCH CONNECTOR	SIGNAL NAME	PCA CONNECTOR
1	---	---
2	---	---
3	---	---
4	Switch 1 Coil	J1-2
5	---	---
6	---	---
7	---	---
8	+12 volts	J1-1

7203 SPDT- Switch 2

RF SWITCH CONNECTOR	SIGNAL NAME	PCA CONNECTOR
1	---	---
2	---	---
3	---	---
4	Switch 2 Coil	J1-4
5	---	---
6	---	---
7	---	---
8	+12 volts	J1-3

7204 DPDT - SWITCH 1

RF Switch Connector	Signal Name	PCA Connector
1	+5 volt	J1-1
2	Coil	J1-2

7204 DPDT - SWITCH 2

RF Switch Connector	Signal Name	PCA Connector
1	+5 volt	J1-3
2	Coil	J1-4

Chapter 8 VOLTAGE SELECTION JUMPERS

The 720x requires that the following jumpers be present on the PWA.

These jumpers are normally preset at the factory

E1 to E2 (+5V)

E7 to E8 (+5V)