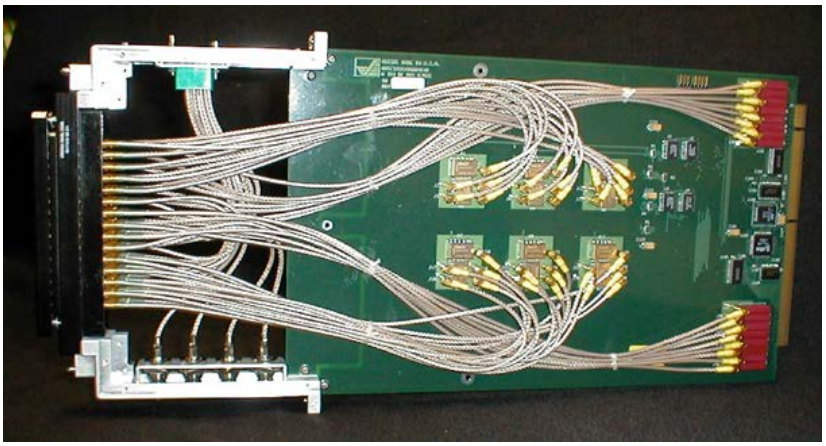
Model 4526
HF Coax Multiplexer
90900430



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Warranty

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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	4517

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 10/06		JL
B			
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**

PL 90900430	-	PARTS LIST -– UPPER LEVEL
ASSY90900430	-	ASSEMBLY DRAWING -– UPPER LEVEL
PL85004540	-	PARTS LIST -- SUB-ASSEMBLY
ASSY85004540	-	ASSEMBLY DRAWING -– SUB-ASSEMBLY
SCH85004540	-	SCHEMATIC -– SUB-ASSEMBLY

Chapter 3 **Functional Description**

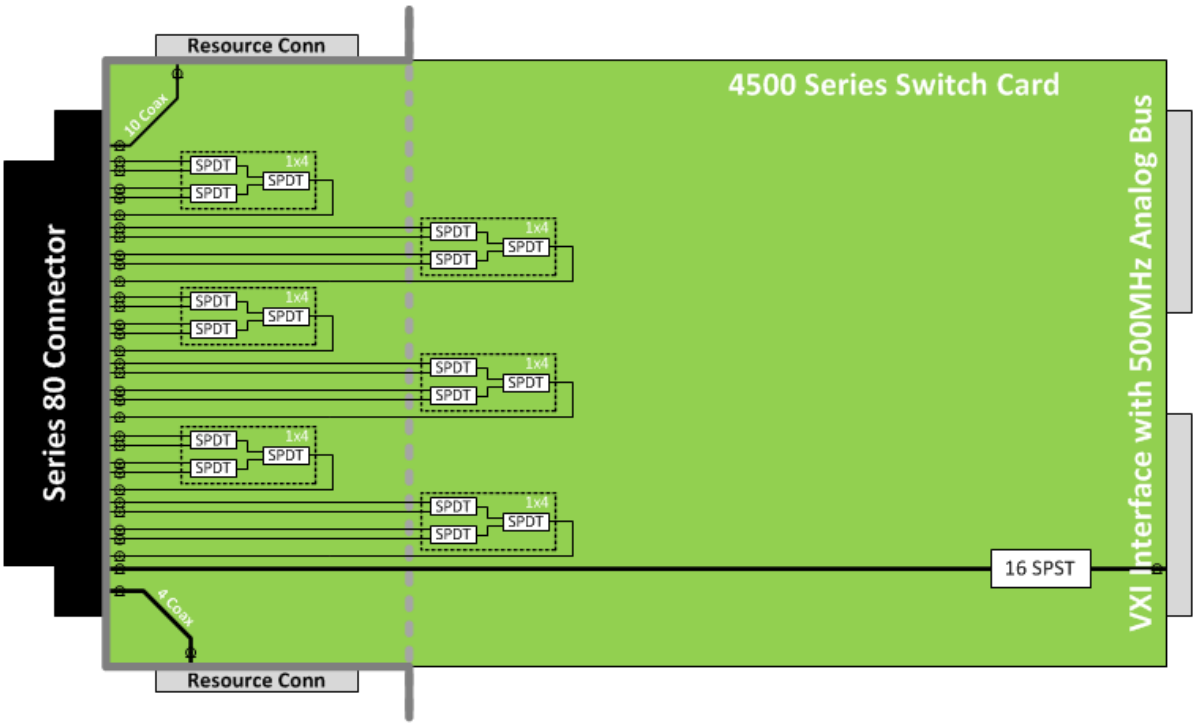
3.1 Introduction

The Model 4525 is an ultra high frequency coaxial switch that provides Six 1-x4 RF switch trees.

All of the switch paths are routed to the interface connector with coaxial cables. In addition, a direct path to the series 4000 analog bus is provided using sixteen coaxially shielded relays for isolating the bus from the interface connector. This is intend to provide access to the analog bus and bring out signal from other modules such as the 4501, 4502, 4510, 4524, and 4525. Making large switch matrix of various types and bring out the common channel becomes very simple. There are also ten coaxial feed-thru's for connecting instrumentation directly from the resource connector to the interface connector.

This card assembly fits in an ASCOR series 4000 VXI host module which can be 3 wide to 8 wide VXI module with the capacity for 6 to 17 card assemblies. This allows ease in design of complex switch systems. The Series 4000 host VXI module contains sixteen 2-wire analog backplane traces to allow connections between card assemblies without the need of external cabling.

Chapter 4 **Block Diagram**



Chapter 5 **Specifications**

Electrical:

Switching Voltage (DC, Resistive):	50V
Switching Current (DC/Peak, AC, Resistive):	1.0 Amp
Carry Current (DC/Peak, AC, Resistive):	1.0 Amp
Max Switching Power:	3 W
Bandwidth	
1x4 RF Switch:	>1.5 GHz
I/O to Resources:	>1.5 GHz
Cross-talk:	> -50 dB
Insertion Loss:	< -2.2 dB
Characteristic Impedance:	50 Ohms
Life Expectancy:	1B cycles
Contact resistance	<125mΩ
Power Consumption:	+5 Volts at 0.8 Amps (Max)

Mechanical:

Thickness:	1.2 inches
Width:	8.5 inches
Length:	18.5 inches
Weight:	7 lbs.

Connector:

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 **Pin Map**

COL / ROW	A	B	C	D
1	AN1	SWT 1-1	SWT 2-1	SWT 3-1
2	AN2	SWT 1-2	SWT 2-2	SWT 3-2
3	AN3	SWT 1-3	SWT 2-3	SWT 3-3
4	AN4	SWT 1-4	SWT 2-4	SWT 3-4
5	AN5	SWT 1 C	SWT 2 C	SWT 3 C
6	AN6	ARB CH 1	DSO CH 1	DSO CH 2
7	AN7	T/C CH 1	AN11	AN14
8	AN8	F/T 2	AN12	AN15
9	AN9	T/C CH 2	AN13	AN16
10	AN10	ARB CH 2	DSO CH 3	DSO CH 4
11	F/T 1	SWT 4 C	SWT 5 C	SWT 6 C
12	AUD 1 H	SWT 4-4	SWT 5-4	SWT 6-4
13	AUD 1 L	SWT 4-3	SWT 5-3	SWT 6-3
14	AUD 2 H	SWT 4-2	SWT 5-2	SWT 6-2
15	AUD 2 L	SWT 4-1	SWT 5-1	SWT 6-1
16	N/C	N/C	N/C	N/C
17	N/C	N/C	N/C	N/C
18	N/C	N/C	N/C	N/C
19	N/C	N/C	N/C	N/C

DSO CH 1 FRONT	DSO CH 2	DSO CH 3	DSO CH 4 REAR

Chapter 7 **Register Map**

7.1 Introduction

The Model 4526 is a register based module. The switch paths are controlled via VXIMAX™ which is the 16/32 bit data controller. The Model 4526 can be programmed in 16 bit or 32 bit wide data. Through your VXI 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. The data read back represents the value at the coil of the relay. This allows verification that the program register has correctly controlled the relay coil.

The following register maps are shown in two configurations: 16 bit mode and 32 bit mode. In each section,16 bit and 32 bit, 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.

For example:

To close relay K1 is to set the register to: (where bit 0 is the control bit for K1)

		MSB															LSB
MODE 32	MODE :16	15 (31)	14 (30)	13 (29)	12 (28)	11 (27)	10 (26)	9 (25)	8 (24)	7 (23)	6 (22)	5 (21)	4 (20)	3 (19)	2 (18)	1 (17)	0 (16)
8000h-lower	8000h	---	---	---	---	K12	K11	K10	K9	K8	K7	K6	K5	K4	K3	K2	K1
8000h-upper	8002h	K28	K27	K26	K25	K24	K23	K22	K21	K20	K19	K18	K17	K16	K15	K14	K13

Register Map

A16 Registers

Offset	Value
00h	7FB5h 7 = Register Based, A16/A24 Module FB5 = VXI Manufacturer ID, ASCOR
02h	7xxxh 7 = A24 space requirement xxx = Model Number for this module
04h	FFFCh Bit 0, reset, is supported. Toggling this bit will clear all relay registers.
06h	(assigned by Resource Manager)

Control	Bit	
3Eh	0	Low true output enable to the relay coil driver IC's.
	1	When low enables read back of relay coil state When high enables read back of data registers
	2	Reserved
	3-15	Don't Care

REGISTER: 800h

FUNCTION: CONTROL, K1-K12

BIT	FUNCTION	COMMENTS
0	K1	1X4 Group 1, bit0: 00-J1 to J2, 01-J1 to J3
1	K2	1X4 Group 1, bit1: 10-J1 to J4, 11-J1 to J5
2	K3	1X4 Group 2, bit0: 00-J6 to J7, 01-J6 to J8
3	K4	1X4 Group 2, bit1: 10-J6 to J9, 11-J6 to J10
4	K5	1X4 Group 3, bit0: 00-J11 to J12, 01-J11 to J13
5	K6	1X4 Group 3, bit1: 10-J11 to J14, 11-J11 to J15
6	K7	1X4 Group 4, bit0: 00-J16 to J17, 01-J16 to J18
7	K8	1X4 Group 4, bit1: 10-J16 to J19, 11-J16 to J20
8	K9	1X4 Group 5, bit0: 00-J21 to J22, 01-J21 to J23
9	K10	1X4 Group 5, bit1: 10-J21 to J24, 11-J21 to J25
10	K11	1X4 Group 6, bit0: 00-J26 to J27, 01-J26 to J28
11	K12	1X4 Group 6, bit1: 10-J26 to J29, 11-J26 to J30
12	------	
13	------	
14	------	
15	------	

REGISTER: 800h
FUNCTION: CONTROL, K1-K12

BIT	FUNCTION	COMMENTS
0	K13	Analog Bus 1
1	K14	Analog Bus 2
2	K15	Analog Bus 3
3	K16	Analog Bus 4
4	K17	Analog Bus 5
5	K18	Analog Bus 6
6	K19	Analog Bus 7
7	K20	Analog Bus 8
8	K21	Analog Bus 9
9	K22	Analog Bus 10
10	K23	Analog Bus 11
11	K24	Analog Bus 12
12	K25	Analog Bus 13
13	K26	Analog Bus 14
14	K27	Analog Bus 15
15	K28	Analog Bus 16