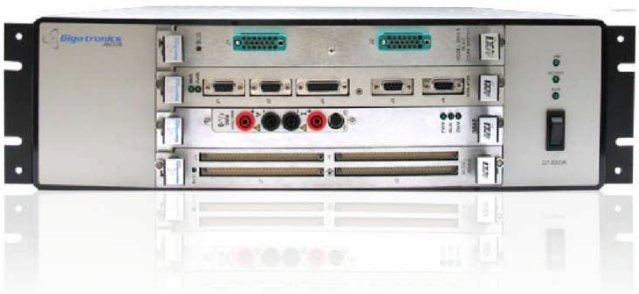
GT-8300A / GT-8400A



Model GT-8300A

Model GT-8400A

Registered 04 June 1996 Amended 10 September 2001

CE Certified Product

ISO 9001 Certified Process

Registrar: BSI, Certification FM 34226

Operation Manual

Giga-tronics ASCOR

Operation Manual, Part Number 07508000-003, Rev. A, Nov. 18, 2010

All technical data and specifications in this publication are subject to change without prior notice and do not represent a commitment on the part of Giga-tronics, Incorporated.

Warranty

Giga-tronics Series 8300/8400 chassis are warranted against defective materials and workmanship for one (1) year from date of shipment, or as detailed in the warranty section of this manual. Giga-tronics will, at its option, repair or replace products that are proven defective during the warranty period. This warranty DOES NOT cover damage resulting from improper use, nor workmanship other than Giga-tronics service. There is no implied warranty of fitness for a particular purpose, nor is Giga-tronics liable for any consequential damages. Specification and price change privileges are reserved by Giga-tronics.

MODEL NUMBERS

This Series 8300/8400 chassis includes two models: The eight-slot Model GT-8400A and the four-slot Model GT-8300A. Apart from the number of slots they support, the two models are identical. Both models are referred to in this manual by the general term Series 8300/8400 chassis, except where it is necessary to make a distinction between the models.

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:

Giga-tronics, Incorporated

Manufacturer's Address

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

Type of Equipment:

RF/Microwave Switching Sub-System
3U Chassis with LAN, and IEEE-488 Control

Model Series Number:

8300/8400

Model Numbers:

GT-8300A, GT-8400A

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 (TCPI). When you are issued a TCPI, do the following:

1. Insert the TCPI at the front of the manual binder.
2. Remove the pages from the manual binder that are noted in the TCPI.
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

Record of Changes			
Revision	**Description of Change**	**Chg Order #**	**Approved By**
A	Initial Release	003302	

Table of Contents

SECTION 1

SAFETY AND MANUAL CONVENTIONS

This manual contains conventions regarding safety and equipment usage as described below.

Product Reference

Throughout this manual, the term “Series 8300/8400” refers to all models of within the series, unless otherwise specified.

Personal Safety Alert

WARNING: Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

Equipment Safety Alert

CAUTION: Indicates a situation which can damage or adversely affect the product or associated equipment.

Notes

Notes are denoted and used as follows:

> ***NOTE:*** Highlights or amplifies an essential operating or maintenance procedure, practice, condition or statement.

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.

OVERVIEW

This manual describes a version of the Series 8300/8400 LAN/GPIB chassis products.

Part Numbers (P/N) 95000110A (GT-8300A) and 95000120A (GT-8400A) are both 3U switching system chassis units, with either four (4) slots for installing compatible Giga-tronics ASCOR 3000 series switch modules, or eight (8) slots for installing compatible Giga-tronics ASCOR 4000 series switch modules. Please contact Giga-tronics for a complete list of compatible modules.

The Series 8300/8400 chassis units offer Ethernet LAN and GPIB (IEEE-488) communication interfaces, along with a built-in Resource Manager. With high bandwidth available, this allows the creation of large switching systems without the need for external cabling that may have poor impedance control, and have widely varying lengths. The result is a switching solution with the ultimate signal integrity.

FUNCTIONAL DESCRIPTION

The Series 8300/8400 chassis units are 3U high (5.25 inches), and come with mounting brackets so they may be mounted to fit in a standard 19 inch rack cabinet. Optional rubber feet can also be used to mount these units on a bench top.

The units are self contained. That is, they contain their own power supply, Ethernet LAN interface, and GPIB interface.

Built-in Resource Manager

The Series 8300/8400 uses Giga-tronics / ASCOR family of switch modules. The 8300 uses the Series 3000 switch cards and the 8400 uses the Series 4000 switch cards. These switch modules use the VXI platform. The 8300/8400 chassis has the VXI slot 0 controller built-in and provides the resource management to control the modules that are plugged into the chassis. A Plug-n-Play driver used for a VXI platform will work with these chassis'. The advantage is those customers who are using our switch modules in VXI can migrate to the Series 8300/8400 and their programs will still work without modification. This eliminates the need for a separate slot 0 controller.

A single power supply supplies +5.0 Volts DC and +12.0 Volts DC to the unit. The power supply input is 90-250 Volts AC, 47-63 Hz. (See Section 3 for full specifications)

WARRANTY

Product is warranted to conform to all applicable specifications for a period of one (1) year from the date of shipping.

FRONT/REAR VIEW

The figures below illustrate the front and rear power, power indicator and slot positions for the units.

Figure 1 – 95000110 Front panel view
(shown with optional modules installed)

Figure 2 – 95000120 Front panel view
(shown with optional modules installed)

Figure 3 – 95000110 / 95000120 Rear panel view

SECTION 2

UNIT DEFAULTS

This unit is shipped from the factor with the following default settings:

Default IP Address: 192.168.0.254

Default Timeout: 120 seconds

***NOTE**:* Any software details referred to in this manual assume that the device is properly connected to the communications interface and this interface is functional.

CAUTION **Please consult Giga-tronics factory before making any changes in your equipment!**

SECTION 3

The unit is equipped with a replaceable fuse on the AC power input module

AC INPUT MODULE FUSE

52000100-024 - FUSE, 250V, TYPE T, SLO-BLO, 6.3 AMP

POWER SUPPLY SPECIFICATIONS

47500680 – Universal Power Supply, 250W, 5V/30A & 12V/16.7A, W/FAN

INPUT					
Parameter	**Conditions /Description**	**Min**	**Nom**	**Max**	**Units**
Input Frequency		47		63	Hz
Input Voltage	90 – 132 / 180 – 264 Auto-selectable	90		264	VAC
Input Current	At 100 – 120 VAC At 200 – 240 VAC			8 4	A A
Inrush Current	Peak measured at 230 VAC at full load, cold start Peak measured at 115 VAC at full load, cold start			70 35	A A
Power Factor	Passive power factor correction meets EN61000-3-2 class a				
OUTPUT					
Parameter	**Conditions /Description**	**Min**	**Nom**	**Max**	**Units**
Transient Response	Output voltage returns to within 1 % in less than 2.5 ms for a 50 % load change. Peak transient does not exceed 5 %				
Overshoot	Turn-on and turn-off overshoot shall not exceed 5% over nominal voltage				
Efficiency	Measured at 230 VAC and full load	75			%
Turn on Delay	At 120 VAC			1	second
Hold up Time	At 120 VAC and 80 % of rated maximum load	20			ms
PROTECTION CIRCUIT					
Parameter	**Conditions /Description**				
Overload	Current limiting starts at 110 – 140 % of the rated output current in foldback mode and recovers automatically				
Short Circuit	Short circuit can be continuous. Recovers automatically upon removal of shout				
Output Over-voltage	Output is protected against over-voltage. Unit shuts down and latches when the voltage at output terminals exceeds 130 %. AC needs to be reset to restart the power supply				
Over Temperature	Power Supply shuts down when temperature is in excess of 85°C. Auto Recovery				

SECTION 4

COMPATIBLE MODULES

The switch cards listed below represent a sample of the over 200 switch modules. If you do not see a card in the sample below, let us know what you need - We may have already solved your problem! Even if we haven't, we may design or tailor an existing module to meet those needs.

GT-8300A Switching Module Examples

General Purpose

3000-12	32 SPDT, 2 Amp
3000-53	96 SPDT, 2 Amp
3000-60	2 DPDT, 2 Amp High Frequency

Power

3000-02	96 General Purpose SPST, 5 Amp
3000-42	48 SPDT, 5 Amp
3000-43	48 SPST, 10 Amp
3000-51	20 SPDT, 20 Amp

Relay Driver

3000-04	128 Channel Relay Driver, 500 mA
3000-48	16 Channel High Power Driver with Timer

Microwave

3000-80	Six 6 x 1, 26.5 GHz, Single Slot
3000-226	Two 6 x 1, 26.5 GHz
3000-236T	Three 6 x 1, 18 GHz, Terminated
3000-246	Four 6 x 1, 26.5 GHz
3000-286	Eight 6 x 1, 26.5 GHz
3000-23236T	Three 2 x 1, Three 6 x 1, 18 GHz, Terminated
3000-24662	Four 6 x 1 and Six SPDT 26.5 GHz
3000-26662T	Six 6 x 1, Six 2 x 1, 18 GHz, Terminated

Matrix

3000-05	36 x 2 Coaxial Matrix
3000-06	Dual 18 x 2 Coaxial Matrix
3000-44	128 x 2, 2-wire Coaxially Shielded Matrix
3000-44-opt1	Dual 64 x 2, 2-wire Coaxially Shielded Matrix
3000-45	64 x 4, 2-wire Coaxially Shielded Matrix
3000-45B	128 x 4, 2-wire Coaxially Shielded Matrix
3000-47	32 x 8, 2-wire Shielded Matrix
3000-47-opt1	Dual 16 x 8, 2-wire Shielded Matrix
3000-52	32 x 8, 2-wire Matrix
3000-52-opt1	Dual 16 x 8, 2-wire Matrix
3000-57	64 x 4, 2-wire Matrix

Tree

3000-03	Quad 30 x 1, Trees with Switched Guards, Coaxially Shielded
3000-08	Quad 60 x 1, Trees with Switched Guards, Coaxially Shielded

GT-8400A Switching Module Examples

Series 4000 switch cards use slim, high density switch boards with 0.5" spacing. This allows for medium to high density switching configurations in the minimum physical space.

General Purpose

4096	96 SPST

Matrix

4513	8 x 8 Single-Wire Matrix with (8) 4-Pole Star Switch
4524	16 x 8 Matrix
4525	48 x 16 Matrix
4526	HF Coax MUX with Virginia Panel Connectors

Tree

4108	Twelve 8 x 1, Tree
45152	Eight 6 x 1, 2-wire Tree

Normal installation procedures should be followed with installing any modules. Please refer to the instructions that come with each module.

SECTION 5

PARTS LIST/OUTLINE DRAWINGS

95000110 PARTS LIST (GT-8300A)

95000110 Top Level Assembly

- 85007340 PCA, 8300 BACKPLANE 4 WIDE 1.2 – Rev. B
- 47000590 PCA, LAN/GPIB CONTROLLER, SCPMII
- 47500680 Power Supply, 5VDC/30A & 12VDC/16.7A with Fan
- 52000100-024 Fuse, 250V, Type T, SLO-BLO, 6.3 Amp

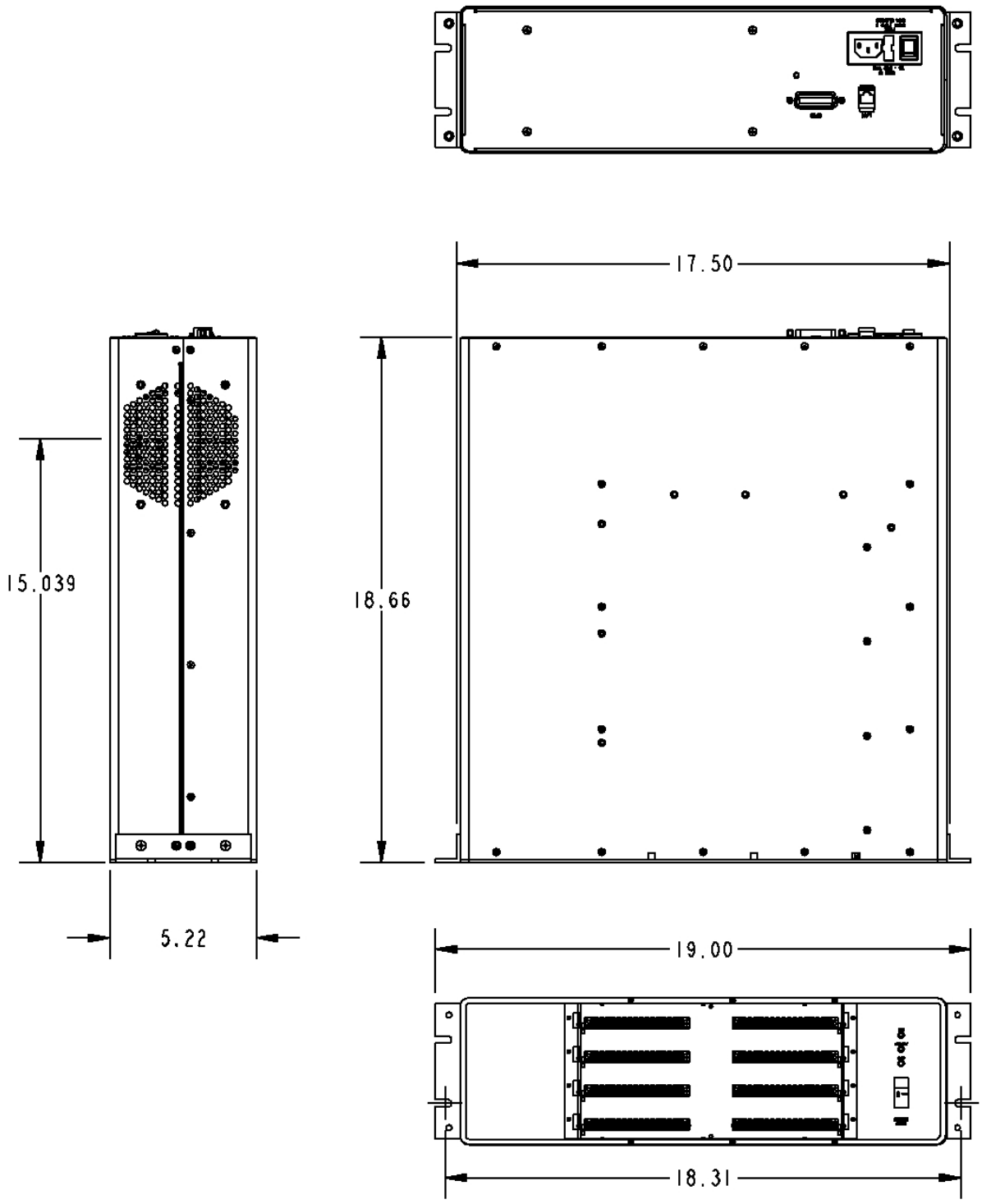
95000120 PARTS LIST (GT-8400A)

95000120 Top Level Assembly

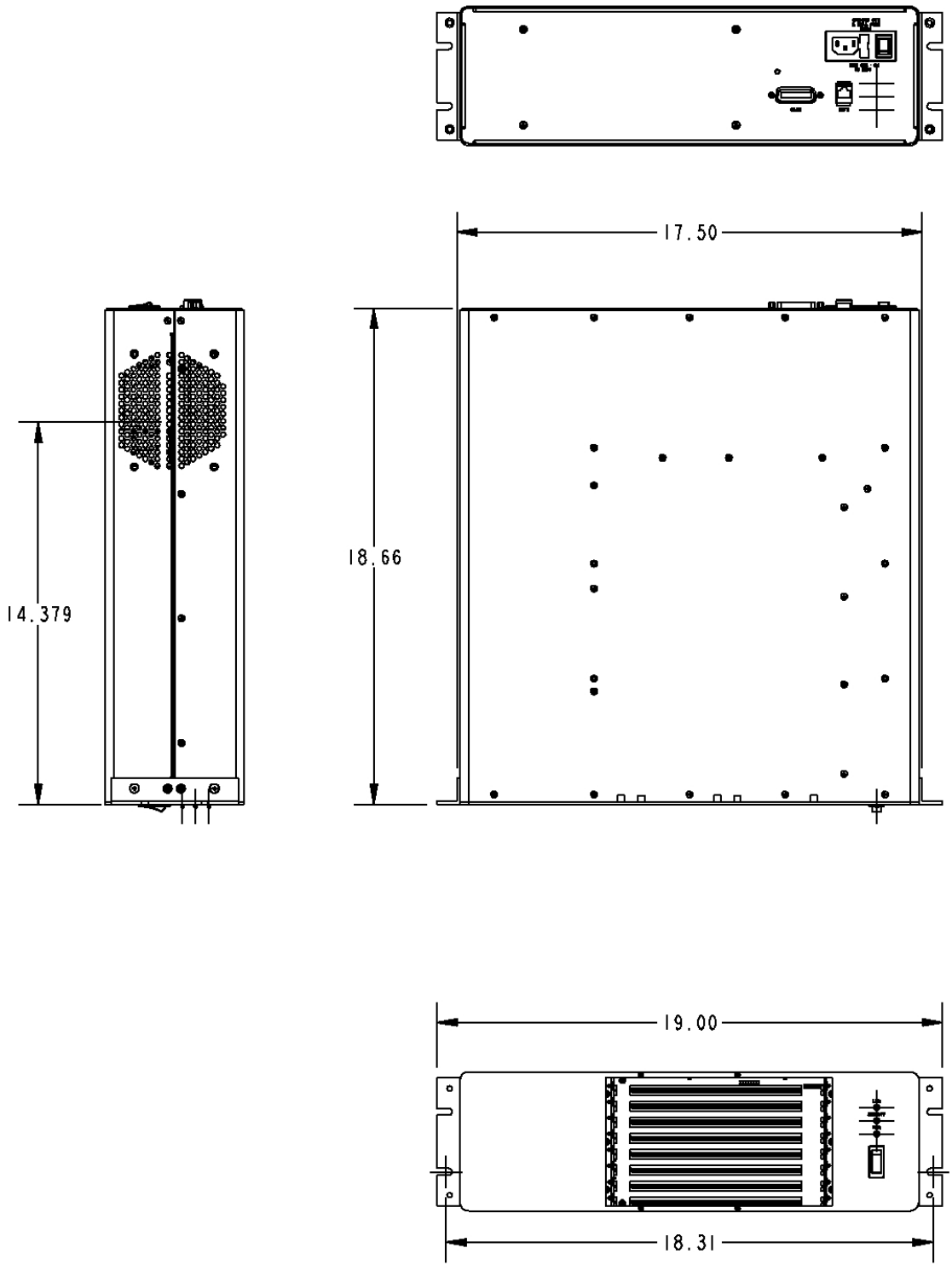
- 85007360 8400 BACKPLANE 8 X .6, PCA – Rev. B
- 47000590 PCA, LAN/GPIB CONTROLLER, SCPMII
- 47500680 Power Supply, 5VDC/30A & 12VDC/16.7A with Fan
- 52000100-024 Fuse, 250V, Type T, SLO-BLO, 6.3 Amp

***NOTE**:* Only the major components are listed above.
The functional difference between models 95000110 (GT-8300A) and 95000120 (GT-8400A) is the number of slots in the backplane, and the form factor of the modules that can be used in each chassis. The 3000 series modules are compatible with the GT-8300A while the 4000 series modules are compatible with the GT-8400A.

95000110 OUTLINE DRAWING



95000120 OUTLINE DRAWING



Notes

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