Universal Switching Corporation

March 2016

General

Designed specifically for applications where low downtime, high performance, modularity and maintainability are of paramount importance, the G2T-CAS product line outperforms all other manufacturers while remaining cost effective.

Leveraged from our field proven G2T Series, the G2T-CAS is a reliable platform unequaled in the switching industry. The rugged aluminum and steel construction provides the ultimate in modularity and durability while the advanced control and power system give the site designer total system confidence.

A normal "system" is comprised of two (or more) rack mount units. The smaller 2RU rackmount "controller/powerhead" unit contains self-monitoring hot-swap power supplies and up to two hot-swap control CPU units. The supplies and the CPU's are accessed from the hinged front panel. No rear access is needed once the unit is installed.

The 2RU controller/power unit connects to the switching and distribution frame unit(s) via two cables to supply DC power and control. Sized module "frames" are available depending upon what is needed to meet the application. The unique G2T-CAS design allows us to configure an appropriately sized unit in a cost effective manner.

A system is normally factory configured to meet the customer specifications provided. The modular rear panel can host any type of I/O connector without affecting the design of the actual switching modules and amplifiers.

Applications

- Ground station signal routing
- Analog or Digital switching
- Designed to support DC-30GHz signals
- Satcom and telemetry facilities
- Mobile or airborne systems
- Critical installations where minimal downtime is required

Features

- High reliability solid-state or relay elements available
- Flexible configuration design
- Capable of analog or digital switching
- DC to 30GHz design supported
- Ultra-high density switch design
- Hot-Swap module technology
- Individual module status displays
- All modules hot-swappable via the hinged front panels
- "One-Time" user cable routing design
- Front panel capacitive color touchscreen
- Many options available: variable gain, reroute, fiber.
- Various remote interface choices
- Dual remote interface capability
- Includes Ethernet (TCP/IP, SNMP), serial and USB
- Command set is 488.2 compliant
- Rugged aluminum/steel chassis construction
- International AC power range
- Self-monitoring hot-swap plug-in supplies with PFC
- Built-in rack mount design (19 inch)
- Built-in chassis slide mounting (slides optional)
- Certified CE EN61010 (LVD)
- LabVIEW VISA drivers and RouteWarePRO GUI available

G2T
Made in the USA

LXI
SNMP
IPv6
ROUTEWARE PRO 4.0

Series G2T-CAS
Controller & Powerhead Unit, 2RU

Series G2T-CAS
Example of a larger switching "frame" for the G2T-CAS system technology showing the open frame design for excellent cooling and hinged front panel for quick module access.

G2T-CAS-001

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Construction Overview

Quality hardware is used throughout the design of the G2T-CAS products. Since customers demand the best for their critical application, hinged front panels with detents, folding handles, venting and all aluminum construction is provided.

A typical "system" is comprised of two (or more) rack mount units. The smaller 2RU rackmount "controller/power" head unit contains self-monitoring hot-swap power supplies and up to two hot-swap control CPU units. The supplies and the CPU's are accessed from the hinged front panel. No rear access is needed once the unit is installed.

Plug-in Modules

The switch "frame" contains all the hot-swap modules whether they be the switches, distribution amplifiers or other types. Each module has an integrated microcontroller that monitors and controls its functions along with driving the on-module status and error indicators.

The modules install from the front of the unit eliminating the need to remove or access any signal cables when replacing or installing a module. This unique design provides for quick replacement. Modules are secured with two high quality positive-lock latch devices. A finger handle is also provided for simple module extraction. Modules can be single slot or multi-slot. Module signal and control connectors are properly aligned and are protected from X-Y shock by multiple stainless steel guide pins.

The "frame" backplane is factory configured to meet the user requirement. It can contain blind-mate coaxial connectors, multipin connectors or a combination of both depending upon the application. Being completely passive, this part of the system never requires user access.

Series G2 - CAS
Example front view, 7RU

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Controller/Powerhead Unit (2RU)

This unit is the brains and stength behind our G2T-CAS product line. It is a 2RU unit that features a rugged rackmount aluminum and steel design with a hinged front panel containing a menu driven color touchscreen.

Behind the quick access hinged front panel, the unit has front installed CPUs (single or redundant) and hot-swap redundant power supplies. When redundant CPUs are installed, the user gets a full second set of remote interface ports (Ethernet, Serial and USB). All these ports are available at the rear. If GPIB is needed, the GPIB-USB-KIT is available separately for legacy applications.

The control CPUs can be quickly upgraded in field via Ethernet. They also utilize our standard 488.2 protocol and is compatible with our control software GUI package "RouteWarePRO" that can manage many systems at multiple locations.

User system control options and switching configurations can be stored in the non-volatile FLASH memory or the removable microSD card (not included) for secure installations.

A minimum of 199 different switching configurations may be stored and recalled with a single command. This can greatly simplify control of commonly used configurations. For power up conditions, the system may be set to recall the last configuration since power down, or to completely clear all crosspoint connections.
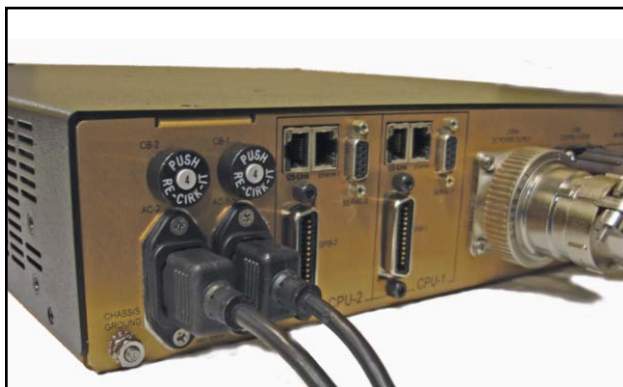
- Hinged front panel design
- Hot-swap power supplies via front panel
- Redundant hot-swap dual CPUs via front panel
- Menu driven touchscreen
- Dual sets of remote control ports
- Firmware updates via Ethernet (webpage)
- Field proven design
- Can be remotely located (10 feet) from switchframe
- Optional uSD cards can be used for secure environments
- Includes TCP/IP, SNMP, IPv4 and IPv6

Model C3
Plug-in CPU controller
(single or dual can be installed)

GPIB-USB adapter is optional for legacy applications requiring GPIB control.

Last Action   OK | APPLICATION TITLE   +
GET?: Top Single CPU
FROM: Touch Panel
CONNECT   DISCONNECT
SAVE/RECALL   VIEW CONNECTIONS
VERIFY   MENU   Dec 11, 2015 13:31:24

LXI

SNMP

IPv6

ROUTEWARE
PRO
4.0

Rear view of the switching "frame" for the CAS system showing the open frame design for excellent cooling and customizable rear connector panel.

A example a multi-chassis configuration system with the hinged front panel open exposing the internal hot-swap modules (shows prior controller version with keypad). We can provide total system configuration and installation including racks, software and site installation.

General Specifications

Configuration ....Requirement defined
Remote control ....1 or 2 C3 CPU (10/100, USB & Serial)
Protocols ....TCP/IP, SNMP, IPv4, IPv6, 488.2
Local control ....Touchscreen display (4.3")
Power switch(s) ....LED illuminated (behind front panel)
AC power ....90-264VAC, 47 to 440Hz
Power cord(s) ....Two Belden 17250 supplied (115VAC)
Front panel color ....FED-STD-595B #26440 (light gray)
Front panel thickness ....3/16"
Chassis slides ....Chassis-Trak mounting holes provided
Module type ....G2T-CAS compatible
Supply type ....Hot-swap plug-in supplies
Operating temp...................0 to +55C
Non-operating temp............-20 to +75C
Humidity...............................0 to 95% (non-condensing @ +25C)
Chassis finishes ....Black texture paint & gold iridite
Handles ....Black anodized
MTBF....................................>75,000 hours per MIL-STD-217E, N1
Certifications ....CE EN61010 LVD

Universal Switching's policy is one of continuous development, and consequently the company reserves the right to vary from the descriptions and specifications shown in this publication.

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