

General

The G2T mainframes are the latest addition to our field-proven G2 family of products and supersedes the G2S mainframe. They feature a front panel touchscreen design supplanting the VF display/keypad found on the G2S mainframes. Another exciting feature is the implementation of our C3 plug-in Controller CPU featuring a 10/100 LXI Ethernet port (TCP/IP, IPv4/6, SNMP, SNMP v1/2), USB 2.0 port, multi-serial port, real-time clock, web browser, and removable MicroSD memory card.

These units provide the systems engineer with one of the best integrated solutions available for controlling and packaging a large variety of switching modules and cards in one of four available standard rack mounted packages. Powerful and streamlined multiprocessor control features allow the user to smoothly integrate the G2T mainframe to fit a multitude of applications.

A variety of modules from the G2 product line may be installed for various switching, distribution and processing functions depending on your specific application. Solid-state, digital and relay-based switching modules can be installed within seconds. Our selection of plug-in modules span a frequency range of DC to 40GHz, and switching configurations from 1x2 to 64x64 (or larger) as well as distribution amplifiers.

Considered to be the most flexible switching product on the market, the G2T mainframes deliver. It is our next generation of switching system to meet today's and tomorrow's needs for high performance, high build quality, and cost effective switching solutions.

Features

- Multi position module bay for G2 plug-ins
- Front panel touchscreen (4.3" or optional 10.1")
- Includes C3 or C3-Lite CPUs with choice of one or two
- Control via 10/100 (LXI), serial or USB control ports
- Protocols: TCP/IP, IPv4, IPv6, SNMP, and SNMP v1/v2
- Robust 488.2 compliant command protocol
- Rugged aluminum & steel chassis construction
- International AC power range
- Monitored cooling fans and temperature sensors
- High efficiency switching power supplies
- Self-monitoring hot-swap front plug-in power supplies
- Robust high-speed internal CanBus design
- Integrated rack mount design (19 inch)
- Built-in chassis slide mounting (slides not included)
- Certified CE EN61010 (LVD)

Applications

The advanced and sophisticated features of the G2T mainframes allow them to be used in numerous applications:

- Switch signals with frequencies DC to 40GHz
- HF, RF, IF, C-Band, L-Band receive antenna switching
- Airborne surveillance systems
- Clock and data TTL, ECL or LVDS routing and distribution
- ENG trucks
- NTSC, HD-SDI and SDI video routing
- Custom ATE test stations
- Production studios or security systems
- Instrumentation
- Redundancy switching
- Telemetry installations



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Overview

G2T mainframes are equipped with cool-running hot-swap switching power supplies and intuitive menu driven front panel touchscreen display. The units also include hot-swap, plug-in CPU controllers for remote control and status monitoring. The minimum controller configuration is one C3 Controller CPU with 10/100 Ethernet (LXI), USB 2.0, and a multi-serial control port. The larger 6RU and 8RU units can accept a second (redundant) hot-swap C3 controller CPU as well. Unit firmware can be user updated via the Ethernet port using a web browser.

User system control options and switching configurations can be stored in the non-volatile FLASH memory, or the removable microSD card for secure locations. A minimum of 199 different switching configurations may be stored and recalled with a single command. This greatly simplifies 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.

NOTE: These units include our new internal CanBus communications. See the individual mainframe descriptions on the following pages for unique details.



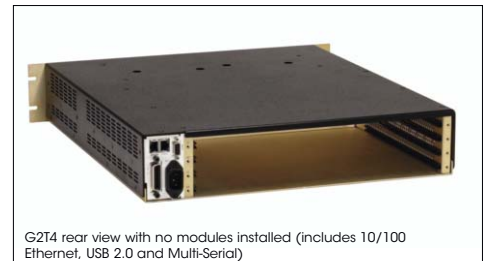
Rear view of G2T16 (8RU) configured with various plug-in switching modules and dual C3 plug-in controller CPUs. This unit also has dual AC input circuits for redundancy.



The mainframes are available with different power supply configurations to match the type of module series being installed into the module bay. The suffix number is used to define the power supply configuration. The power supplies and fans are monitored and report problems to the user via the front panel and the remote interface(s). Power supplies install through the hinged front panels and are available in a redundant configuration for critical applications.

To order a complete system including the G2T mainframe and switching modules, contact the factory for a system model number. This number defines a specific group of modules and assemblies including quantity and type. The system will be shipped fully assembled, thoroughly tested and include all relevant documentation on an eco-friendly system Resource Disc at no additional charge. A 30-day free trial of our control and monitor software RouteWarePRO is included. LabVIEW VISA drivers can be downloaded from our website.

Model	Height	Slots	Dual PS	CPU	AC inputs
G2T4-Sxxx-1	2RU	4	No	1	1
G2T4-Dxxx-1	2RU	4	Yes	1	1
G2T6-Sxxx-1	3RU	6	No	1	2
G2T6-Dxxx-1	3RU	6	Yes	1	2
G2T12-Sxxx-1	6RU	12	No	1	2
G2T12-Dxxx-1	6RU	12	Yes	1	2
G2T12-Dxxx-2	6RU	12	Yes	2	2
G2T16-Sxxx-1	8RU	16	No	1	2
G2T16-Dxxx-1	8RU	16	Yes	1	2
G2T16-Dxxx-2	8RU	16	Yes	2	2



G2T4 rear view with no modules installed (includes 10/100 Ethernet, USB 2.0 and Multi-Serial)



G2T4 rear view showing partially installed G2R14 six-section self-terminating microwave module (DC-18GHz)



G2T4 rear view showing fully installed G2R14 module and one empty module slot

G2T4 Mainframe (2RU)

Our G2T4 is the smallest and most popular of the G2T mainframes. It includes a front panel installed single C3 controller CPU in addition to the plug-in hot swap power supplies. Due to its compact size, it cannot be configured with dual CPUs or dual AC power input circuits.

The G2T4 is the only G2T unit that has a front installed CPU and yet it still provides a 10/100 Ethernet port (LXI), USB 2.0 port, and a multi-serial port (RS-232C, RS-422A, multi-drop RS-485). All these ports are available at the rear. If GPIB is needed, the GPIB-USB-KIT is available separately for legacy applications.

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.

The suffix number is used to define the supply type and whether it is a single or dual configuration. The power supplies are monitored and report any problems to the user via the front panel and the remote interface(s). The supplies install through the hinged front panel which is ideal for critical applications. Only one supply is needed for full operation.



Front view with hinged front panel open exposing dual (redundant) plug-in power supplies and plug-in CPU.



G2T4 Specifications

Size	3.50"H x 19.00"W x 20.50"D
Remote control	One C3 CPU (10/100, USB & Serial)
Local control	High brightness touchscreen display
Power switch(s)	LED illuminated (behind front panel)
AC power	90-264VAC, 47 to 440Hz
Power cord	Belden 17250 supplied (115VAC)
Front panel color	FED-STD-595B #26440 (light gray)
Front panel thickness	1/8" (std), 3/16" optional
Chassis slides	Chassis-Trak mounting holes provided
Capacity	Four single slot modules
Module control type	G2 compatible
Cooling	Dual fan assisted (side to side)
Venting	Vents located on sides of unit
Supply type	Hot-swap plug-in supplies
Weight	18lbs
Operating temp.	0 to +55C
Non-operating temp.	-20 to +75C
Humidity	0 to 95% (non-condensing @ +25C)
Chassis finish	Black texture paint & gold iridite
Handles	Black anodized
MTBF	>115,000 hours per MIL-STD-217E, N1
Certifications	CE EN61010 LVD

Power Supply Types

- -S100 Standard supplies: +5V logic and +/-15V analog
- -S200 Standard supplies: +5V logic and +/-5V analog
- -S207 Standard supplies: +5V logic and +/-5V analog
- -S600 Standard supplies: +5V logic and +15V analog
- -D100 Redundant supplies: +5V logic and +/-15V analog
- -D200 Redundant supplies: +5V logic and +/-5V analog
- -D207 Redundant supplies: +5V logic and +/-5V analog
- -D600 Redundant supplies: +5V logic and +15V analog

Model	Height	Slots	Dual PS	CPU	AC inputs
G2T4-Sxxx-1	2RU	4	No	1	1
G2T4-Dxxx-1	2RU	4	Yes	1	1

Example Model Number

G2T4-D200-1

This specifies the G2T4 mainframe with dual (redundant) -200 type power supply sections and includes the standard front panel touchscreen display, front installed controller CPU (C3), USB 2.0 port, combo serial port (RS-232C, RS-422A and RS-485), and 10/100 Ethernet port (LXI) with TCP/IP and SNMP.

G2T6 Mainframe (3RU)

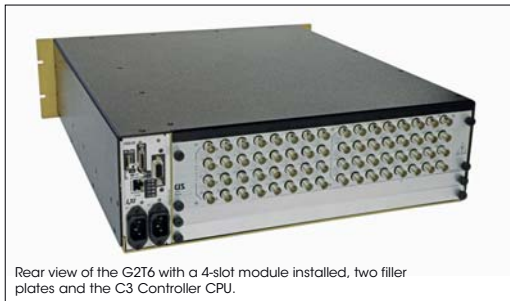
Our 3RU unit is the G2T6 is our mid-sized G2T mainframe. While delivering six module slots in a 3RU package, it provides a single rear-facing control CPU in addition to having hinged front panel access to the single or dual hot-swap supplies. Even though it is a compact 3RU unit, it incorporates dual AC power input circuits for critical applications requiring redundancy.

The G2T6 includes a single rear facing plug-in control CPU that provides a 10/100 Ethernet port (LXI), USB 2.0 port, and a multi-serial port (RS-232C, RS-422A, multi-drop RS-485). All these ports are available at the rear. If GPIB is needed, the GPIB-USB-KIT is available separately for legacy applications.

User system control options and switching configurations

can be stored in the non-volatile FLASH memory or in the removable microSD card (not included) for secure installations. A minimum of 199 different switching configurations may be stored in memory 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.

The suffix number is used to define the supply type and whether it is a single or dual configuration. The power supplies are monitored and report any problems to the user via the front panel and the remote interface(s). Supplies install through the hinged front panel for quick and easy installation. Only a single supply is needed for full operation.



Rear view of the G2T6 with a 4-slot module installed, two filler plates and the C3 Controller CPU.



G2T6 Specifications

Size	5.25"H x 19.00"W x 20.50"D
Remote control	one C3 CPU (10/100, USB & Serial)
Local control	High brightness touchscreen display
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	1/8" (std), 3/16" optional
Chassis slides	Chassis-Trak mounting holes provided
Capacity	Six single slot modules
Module control type	G2 compatible
Cooling	Dual fan assisted (side to side)
Venting	Vents located on sides of unit
Supply type	Hot-swap plug-in supplies
Weight	22lbs
Operating temp	0 to +55C
Non-operating temp	-20 to +75C
Humidity	0 to 95% (non-condensing @ +25C)
Chassis finish	Black texture paint & gold iridite
Handles	Black anodized
MTBF	>115,000 hours per MIL-STD-217E, N1
Certifications	CE EN61010 LVD

Power Supply Types

- -S100 Standard supplies: +5V logic and +/-15V analog
- -S200 Standard supplies: +5V logic and +/-5V analog
- -S207 Standard supplies: +5V logic and +/-5V analog
- -S600 Standard supplies: +5V logic and +15V analog
- -D100 Redundant supplies: +5V logic and +/-15V analog
- -D200 Redundant supplies: +5V logic and +/-5V analog
- -D207 Redundant supplies: +5V logic and +/-5V analog
- -D600 Redundant supplies: +5V logic and +15V analog

Model	Height	Slots	Dual PS	CPU	AC inputs
G2T6-Sxxx-1	3RU	6	No	1	2
G2T6-Dxxx-1	3RU	6	Yes	1	2

Example Model Number

G2T6-D600-1

This specifies the G2T6 mainframe with dual (redundant) -600 type power supply sections and includes the standard front panel touchscreen display and rear installed controller CPU (C3) with USB 2.0 port, combo serial port (RS-232C, RS-422A and RS-485), and 10/100 Ethernet port (LXI) with TCP/IP and SNMP.

G2T12(X) Mainframe (6RU)

For larger configurations, we offer our G2T12 mainframe. While delivering a big twelve module slots in a 6RU package, it also provides a choice of one or two rear-facing controller CPUs. It comes standard with dual AC power input circuits for critical applications requiring redundancy, however, you can choose single or dual supplies.

For critical applications, either one or two controller CPUs (redundant controller configuration) can be specified. Each hot-swap control CPU provides a

10/100 Ethernet port (LXI), USB 2.0 port, and a multi-serial port (RS-232C, RS-422A, multi-drop RS-485). If GPIB is needed, the GPIB-USB-KIT is available separately for legacy applications.

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



Shown with Option X (10.1" display)

A minimum of 199 different switching configurations may be stored in memory 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.

The suffix number is used to define the supply type and whether it is a single or dual configuration. The power supplies are monitored and report any problems to the user via the front panel and the remote interface(s). Supplies install through the hinged front panel for quick and easy installation. Only one supply is needed for full operation.

For a bigger display add the "Option X" to upgrade the standard 4.3" display to a beautiful 10.1" with even more features (shown to left).



Standard Display (4.3" display)



G2T12 Specifications

Size	10.50"H x 19.00"W x 20.50"D
Remote control	1 or 2 C3 CPU (10/100, USB & Serial)
Local control	High brightness touchscreen display
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	1/8" (std), 3/16" optional
Chassis slides	Chassis-Trak mounting holes provided
Capacity	Twelve single slot modules
Module control type	G2 compatible
Cooling	Triple fan assisted (side to side)
Venting	Vents located on sides of unit
Supply type	Hot-swap plug-in supplies
Weight	26lbs
Operating temp.	0 to +55C
Non-operating temp.	-20 to +75C
Humidity	0 to 95% (non-condensing @ +25C)
Chassis finish	Black texture paint & gold iridite
Handles	Black anodized
MTBF	>114,000 hours per MIL-STD-217E, N1
Certifications	CE EN61010 LVD

Power Supply Types

- -S100 Standard supplies: +5V logic and +/-15V analog
- -S200 Standard supplies: +5V logic and +/-5V analog
- -S207 Standard supplies: +5V logic and +/-5V analog
- -S600 Standard supplies: +5V logic and +15V analog
- -D100 Redundant supplies: +5V logic and +/-15V analog
- -D200 Redundant supplies: +5V logic and +/-5V analog
- -D207 Redundant supplies: +5V logic and +/-5V analog
- -D600 Redundant supplies: +5V logic and +15V analog

Model	Height	Slots	Dual PS	CPU	AC inputs
G2T12-Sxxx-1	6RU	12	No	1	2
G2T12-Dxxx-1	6RU	12	Yes	1	2
G2T12-Dxxx-2	6RU	12	Yes	2	2

NOTE: Add an "X" for the 10.1" display (G2T12X)

Example Model Number

G2T12-D207-2

This specifies the G2T12 mainframe with dual (redundant) -207 type power supply sections and includes the standard front panel touchscreen display and dual rear installed controller CPU (C3) with USB 2.0 port, combo serial port (RS-232C, RS-422A and RS-485), and 10/100 Ethernet port (LXI) with TCP/IP and SNMP.

G2T16(X) Mainframe (8RU)

The G2T16 is our largest G2T mainframe. While delivering a full sixteen module slots in an 8RU package, it also provides a choice of one or two rear-facing controller CPUs. It comes standard with dual AC power input circuits for critical applications requiring redundancy, however, you can choose single or dual supply configurations.

For critical applications, either one or two controller CPUs (redundant controller configuration) can be specified. Each hot-swap control CPU provides a 10/100 Ethernet port (LXI), USB 2.0 port, and a multi-serial port (RS-232C, RS-422A, multi-drop RS-485). If GPIB is needed, the GPIB-USB-KIT is available separately for legacy applications.

On each CPU, the user system control options and switching configurations can be stored in the non-volatile FLASH memory or in the removable microSD card (not included) for secure instal-

lations. A minimum of 199 different switching configurations may be stored in memory 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.

The suffix number is used to define the supply type and whether it is a single or dual configuration. The power supplies are monitored and report any problems to the user via the front panel and the remote interface(s). Supplies install through the hinged front panel for quick and easy installation. Only one supply is needed for full operation.

For a bigger display add the "Option X" to upgrade the standard 4.3" display to a beautiful 10.1" with more features (shown to left).



Shown with Option X
(10.1" display)



Standard Display
(4.3" display)

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.

G2T16 Specifications

Size	14.00"H x 19.00"W x 20.50"D
Remote control	1 or 2 C3 CPU (10/100, USB & Serial)
Local control	Touchscreen display (4.3" or 10.1")
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	1/8" (std), 3/16" optional
Chassis slides	Chassis-Trak mounting holes provided
Capacity	Sixteen single slot modules
Module control type	G2 compatible
Cooling	Penta fan assisted (side to side)
Venting	Vents located on sides of unit
Supply type	Hot-swap plug-in supplies
Weight	30lbs
Operating temp	0 to +55C
Non-operating temp	-20 to +75C
Humidity	0 to 95% (non-condensing @ +25C)
Chassis finish	Black texture paint & gold iridite
Handles	Black anodized
MTBF	>110,000 hours per MIL-STD-217E, N1
Certifications	CE EN61010 LVD

Power Supply Types

- -S100 Standard supplies: +5V logic and +/-15V analog
- -S200 Standard supplies: +5V logic and +/-5V analog
- -S207 Standard supplies: +5V logic and +/-5V analog
- -S600 Standard supplies: +5V logic and +15V analog
- -D100 Redundant supplies: +5V logic and +/-15V analog
- -D200 Redundant supplies: +5V logic and +/-5V analog
- -D207 Redundant supplies: +5V logic and +/-5V analog
- -D600 Redundant supplies: +5V logic and +15V analog

Model	Height	Slots	Dual PS	CPU	AC inputs
G2T16-Sxxx-1	8RU	16	No	1	2
G2T16-Dxxx-1	8RU	16	Yes	1	2
G2T16-Dxxx-2	8RU	16	Yes	2	2

NOTE: Add an "X" for the 10.1" display (G2T16X)

Example Model Number

G2T16-D207-1

This specifies the G2T16 mainframe with dual (redundant) -207 type power supply sections and includes the standard front panel touchscreen display, and single rear installed controller CPU (C3) with USB 2.0 port, combo serial port (RS-232C, RS-422A and RS-485), and 10/100 Ethernet port (LXI) with TCP/IP and SNMP.