CYTEC

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GX SERIES

## GROUP / GANG SWITCHING MATRICES and MULTIPLEXERS

Standard CYTEC Switch Modules are available that can switch anywhere from 4 to 200 signal wires simultaneously. Multiple systems can be driven in parallel to handle groups up to 3200 wires. Any of Cytec's switch modules can be custom configured as Group Switches to handle large number of signals per switched crosspoint.
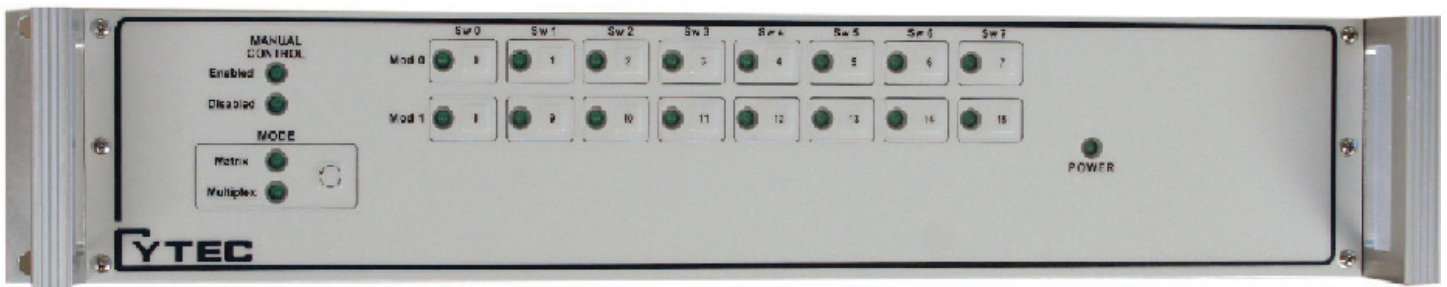
GX Systems can be configured for any of the following scenarios in either 1xN multiplexers or NxM matrices. We can provide Driver Chassis to control your relay banks, or complete systems built with our switch modules. Don't see it? Just ask!

Signal Type	Test Type	Communication Apps
• Coax, IF, RF	• Cable test	• Failsafe Switches
• Microwave	• Environmental test	• Redundancy Switches
• TTL, CMOS Logic	• Semi Conductor	• Fall-over Switches
• Power, AC or DC	• Componet Test	• Ethernet, Sat, CATV
• Serial Data	• Burn-in	• Data Recorders
• Fiber Optics	• Fiber Optics	• Comm Links
• Video	• Mixed Signal	• Video

The Group Switch concept is best illustrated by a practical application such as the one shown below. Four Environmental Chambers are running for two weeks. The switch is programmed to automatically switch the data recorder or test instruments on a given interval to analyze information from the DUT or run an automated test.
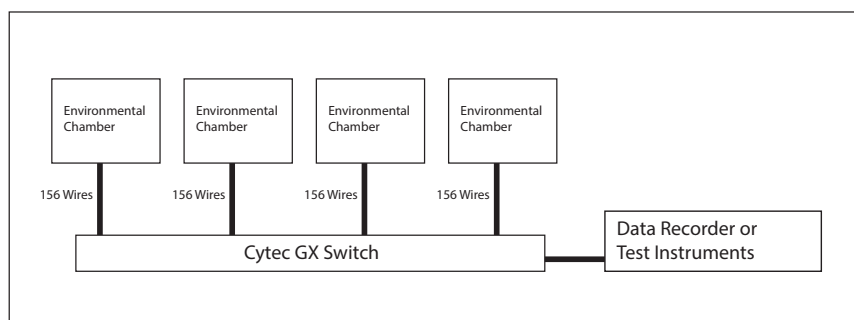
CONTACT 1-585-381-4740 OR WWW.CYTEC-ATE.COM FOR TECHNICAL ASSISTANCE

GX SERIES CHASSIS

The GX Series Chassis are built as either single chassis Mainframes or as Expansion Chassis controlled by one GX Series Control Unit. For larger systems having more than 16 groups, the MESA Control Unit is used to control several GX/16 Control Units.

GX MAINFRAMES

These single chassis Mainframes have all of the control, power and switching in a single chassis. Front panel LEDs display switch status. Available Mainframes include the GX/8 controlling 8 groups of signals or the GX/16 controlling 16 groups of signals. The number of Groups being switched by a Mainframe is typically limited to 16.

GX/16-MF MAINFRAME

This Mainframe switches up to 16 groups of signals in an 8x2 or 16x1 configuration. Each group is typically made up of one to four Switch Modules.

Examples:
- Using two **VX16/G2** Switch Modules with 32 wires per module, each switched group can handle up to 64 wires.
- Using four **CXG/8x1** Modules you can make a four wire 8x1 mux for LCR measurements.

GX/32-MF MAINFRAME

This Mainframe switches up to 32 groups of signals in a 8x4, 16x2 or 32x1 configuration. Each group typically has one switch module.

Examples:
- Using 32 **LX8/G2-P-ST** Switch Modules with 16 wires per module, you can make a 32x1, 16 wire power switch.
- Using 32 **HXV/4x2-SBJ** Switch Modules you can make an 16 wire 16x2 High Voltage test switch.

Custom GX MAINFRAMES

Cytec builds a lot of custom group switches such as 1x2 failsafe and redundancy switches or switches that have mixed signals. **Don't see it? Just ask!** With over 40 years of experience building suystems we can creat a custom solution with very little NRE to fit your exact needs. With access to 100's of relay manufacturers and solid state switches we can find a solution for any group switch switching application from DC to 40 GHz, uV to 25 KV or femtoamps to hundreds of amps. Don't reinvent the wheel, let us get you a price on a proven system, made in the US and warrantied to perform to your specifications.

GX CONTROL UNITS

One Control Unit drives several Expansion Chassis and is used for configurations requiring more than 16 switch modules. Control Units include a Control Module and the power supplies that are needed to energize a large number of Switch Modules. The following Control Units are available:

GX/16-CU CONTROL UNIT

This Unit controls up to 8 Groups. Each Group is typically made up of one or two switch modules and handles a large number of signals.

GX/16 Control Unit with Pushbutton Control

GX/32-CU CONTROL UNIT

This Unit will control up to 32 Groups, with each Group switching a large number of signals.

MESA II CONTROL UNIT

When more than 32 signal Groups are required, control is achieved by using a MESA Control Unit, detailed in the **MESA Bulletin**, that drives up to 16 of the **GX/16-E or GX/32-E Expansion Chassis**.

GX-E EXPANSION UNITS

These Units are designed for large Group Switches requiring more Switch Modules than can be assembled in one mainframe.

Up to 16 modules can be assembled in each chassis and up to 16 chassis can be controlled from the GX Control Unit, which also supplies power and controls via chassis interconnect cables.

Example: Using **RS/25 Switch Modules** with 25 wires per module and eight **GX/16-E Expansion Chassis**, each group can switch 200 wires in a 16x1 multiplexer configuration.

RELAY SPECIFICATIONS for commonly used relays, others are available.

	Type S Reed	Type HV Reed	Type A Armature	Type LT Reed	Type P Armature	Type HXV HP Reed	Solid State Various
Contact Rating VA	10	100	50	10	150	200	0 - 150
Switch Voltage V	200	100	24	100	500	3500	0 - 100
Switch Current A	0.5	1.0	1.0	.25	8	3	10ma - 150 A
Carry Current A	1.0	2.5	1.0	1.0	10	5	10ma - 150 A
Breakdown Voltage V	400	1500	1000	400	1400	7500dc	500 - 2500
Operating Time ms	1	1	10	1	10	3	< 1 ms
Life Expectancy cycles	10^8	10^8	10^7	10^8	10^6	10^8	10^{12}

WARRANTY-- CYTEC Corp. warrants that all products are free from defects in workmanship and materials for a period of five years. Reed relays are guaranteed for 100 million operations when used within their published ratings.

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CONTROL MODULES

IF-11 LAN / GPIB / RS232 Control
Cytec's newest control module has the three most popular control interface protocols built into one module and is backwards compatible with all previous Cytec control modules.
LAN - 10/100BaseT Ethernet with an RJ45 Connector. Uses a static IP easily reset by the end user. There are three ports available and all may be used at the same time. Two ports can be set by the end user and one is the default Telnet which may be disabled.
GPIB - IEEE488.2 compliant control module. Works with all GPIB control cards and software including National Instruments, Matlab and others. Drivers available upon request.
RS232 - Standard D9 serial port which can be used from computer COM ports or USB to COM port cables.

MANUAL CONTROL OPTIONS

Optional Manual Controls are available for all mainframe chassis. Often better to have it and not need it than need it and not have it.
GX/16 and **GX/32** Mainframes or Driver chassis can be purchased with optional 16 or 32 channel pushbutton manual control.
GX/64, GX/128 or GX/256 Driver Chassis are available with Pushwheel Manual Control or MC-2 Keypad w/ LCD Display.

Cytec Model 6751 GX Series
1x8 or 1x16 Group Switch routes 168 wires between 8 or 16 places using standard VP connectors

1x16 168 wire Group Switch with GPIB, 232 and Manual Control

TYPICAL APPLICATIONS:
- **Cable test**
- **Avionics Bus Test.**
- **Environmental Test.**
- **Life Test.**

Chassis Features:
- 1x8 Main Chassi for 1x4 to 1x8 systems.
- Separate 1x8 expansion chassis for 1x9 to 1x16 systems.
- Virginia Panel i2 Micro iCon 168 pin connectors.
- LAN, GPIB, RS232 and USB Control.
- Full LED display & remote status feedback.
- Manual Control option for use without computer.
- Low noise linear power supplies.
- Simple command set and addressing.
- Programming examples available in most languages.
- Five Year Warranty! • Field proven for 20 years.

SWITCH SPECIFICATIONS

|	
Max Switched Voltage	+/- 110 V Peak
Max Switched Current	1 amp
Max Carry Current	2 A continuous
Max switched power	30 Watts, 62.5 VA
Breakdown Voltage	750 Volts peak
Operating Time	3.0 ms
Life Expectancy	100 Million cycles cold switched
	50 Thousand cycles at 30 Watts
1x8 Bandpass	50 MHz, 100 Mbps
1x16 Bandpass	25 MHz, 50 Mbps
Isolation	-65 dB @ 1 MHz, -50 dB @ 20 MHz

Contact Cytec for configuration options, price and availability.

45 days ARO. Smaller and larger systems are available. Many other relay and connector types available. Custom systems with little to no NRE. Call or e-mail for quotes or technical help. Check our web page at: cytec-ate.com
LabView and LabWindows drivers available.*
LabView and LabWindows are trademarks of National Instruments.
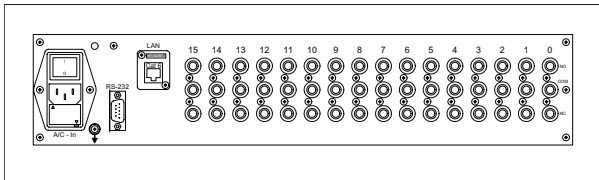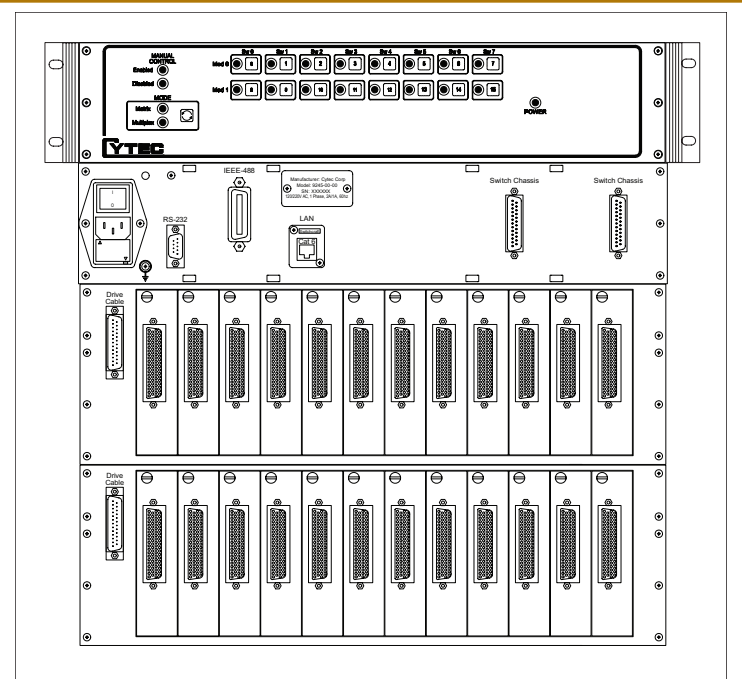
Custom GX Examples
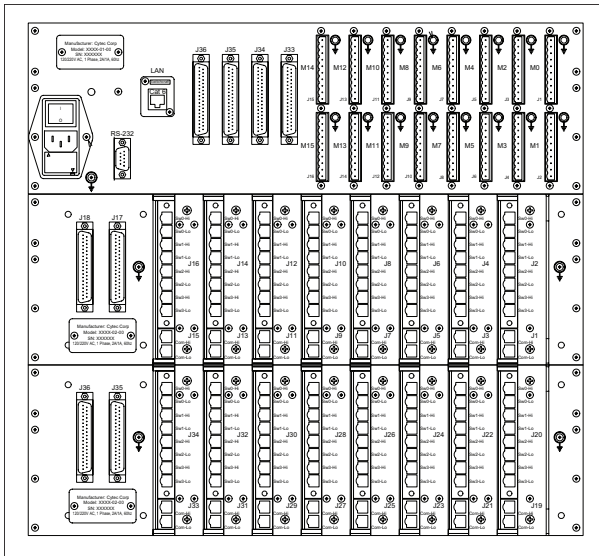
This system has 16 10 amp 1x4 2 pole circuits and 16 50 amp 2 pole 1x4 circuits w/ LAN, RS232 and manual control.
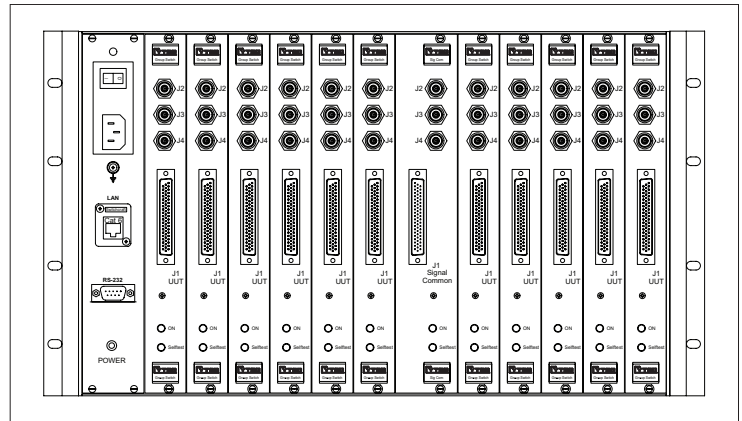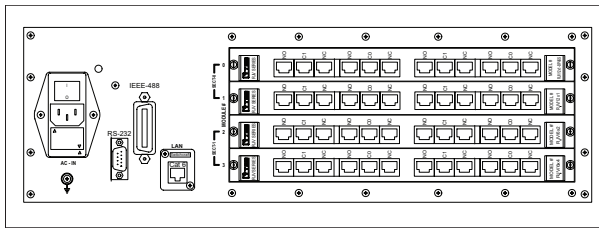

This system is a custom 1x11 with HD62 Connectors and three Triax connectors on each module for high speed differential signals. A self test feature was built into the system.

This system is a 75 ohm 2 GHz antenna or cable modem failsafe switch for redundant systems.

16 channel 8 wire A/B switch with RJ45 connectors for Ethernet, DSL, or any high speed differential signals.

This system is a custom 12 port with HD78 Connectors and switches as a 1x11 156 wire group switch with a mix of power and signal relays.

For assistance in selecting the best product series and configuration for your application, please contact our Technical Sales Department at the phone number listed below. With 40 years experience building 100's of custom systems we can surely find a solution for your needs.

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