

General

The Series G2D62 is part of the G2 family of high performance modules. It is a solid-state differential data switching array for routing and distributing high speed serial data streams in a full fanout (broadcast) mode.

Specifically designed for rugged high performance data switching, the I/O ports are full compatible with standard differential '422 drivers and receivers. Inputs are terminated with 100 ohms between the inputs pairs (not to ground). High performance Triaxial (concentric Twinax) I/O connectors provide high signal integrity.

The module may be ordered with a minimum of 8 inputs and 8 outputs, up to a maximum of 64 inputs and 64 outputs. All arrays are "fixed" size and may not be expanded in the field without additional external equipment. This provides the most cost effective packaging solution.

The switching array is non-blocking with full fanout allowing the user to connect any input to one, many, or up to all outputs at any given time (broadcast). No input loading or impedance mis-matches are presented to the user.

This is not a "stand-alone" module for embedding into other equipment. For control and DC power, the module must be installed into any G2 type mainframe with either the -200 or -D200 power supply configuration.

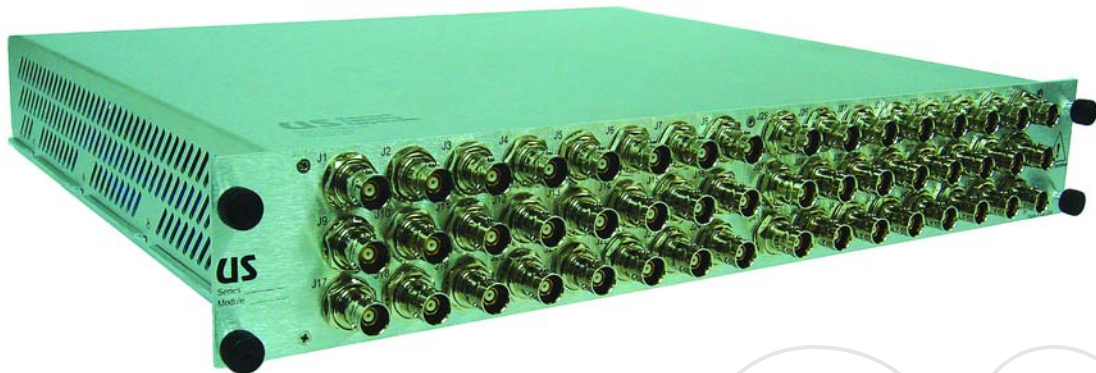
Applications

- Data acquisition systems
- Airborne surveillance systems
- Flight simulators or situation rooms
- Routing and distribution Clock and Data
- Training, conference or security centers
- Time-Code distribution

Features

- Digital switching elements
- Wide digital bandwidth
- Improved signal symmetry
- Non-blocking with full fanout (broadcast)
- True differential I/O circuitry
- Hot-swap module technology

NOTE: For a multi-pin connector version of this module, see the G2D64A module type.



Example Model Number

G2D62-4824-20

Switching array size is specified by the middle four digits. The first two digits of these four specifies the total number of I/O connectors (in+out), while the second two specifies the number of outputs. This example indicates a single 24 input x 24 output array with no internal output source termination.

<u>Model</u>	<u>Array Size</u>	<u>Output Term</u>	<u>Slot Height</u>
G2D62-1608-20	Differential 8x8	None	1
G2D62-1608-21	Differential 8x8	100 Across	1
G2D62-1608-22	Differential 8x8	Dual 50 Series	1
G2D62-3216-20	Differential 16x16	None	2
G2D62-3216-21	Differential 16x16	100 Across	2
G2D62-3216-22	Differential 16x16	Dual 50 Series	2
G2D62-4824-20	Differential 24x24	None	3
G2D62-4824-21	Differential 24x24	100 Across	3
G2D62-4824-22	Differential 24x24	Dual 50 Series	3
G2D62-6432-20	Differential 32x32	None	4
G2D62-6432-21	Differential 32x32	100 Across	4
G2D62-6432-22	Differential 32x32	Dual 50 Series	4
G2D62-9648-20	Differential 48x48	None	6
G2D62-9648-21	Differential 48x48	100 Across	6
G2D62-9648-22	Differential 48x48	Dual 50 Series	6
G2D62-12864-20	Differential 64x64	None	8
G2D62-12864-21	Differential 64x64	100 Across	8
G2D62-12864-22	Differential 64x64	Dual 50 Series	8



Close up of the 3-Lug Triax connector, (sometimes referred to as a "concentric twinax" connector)

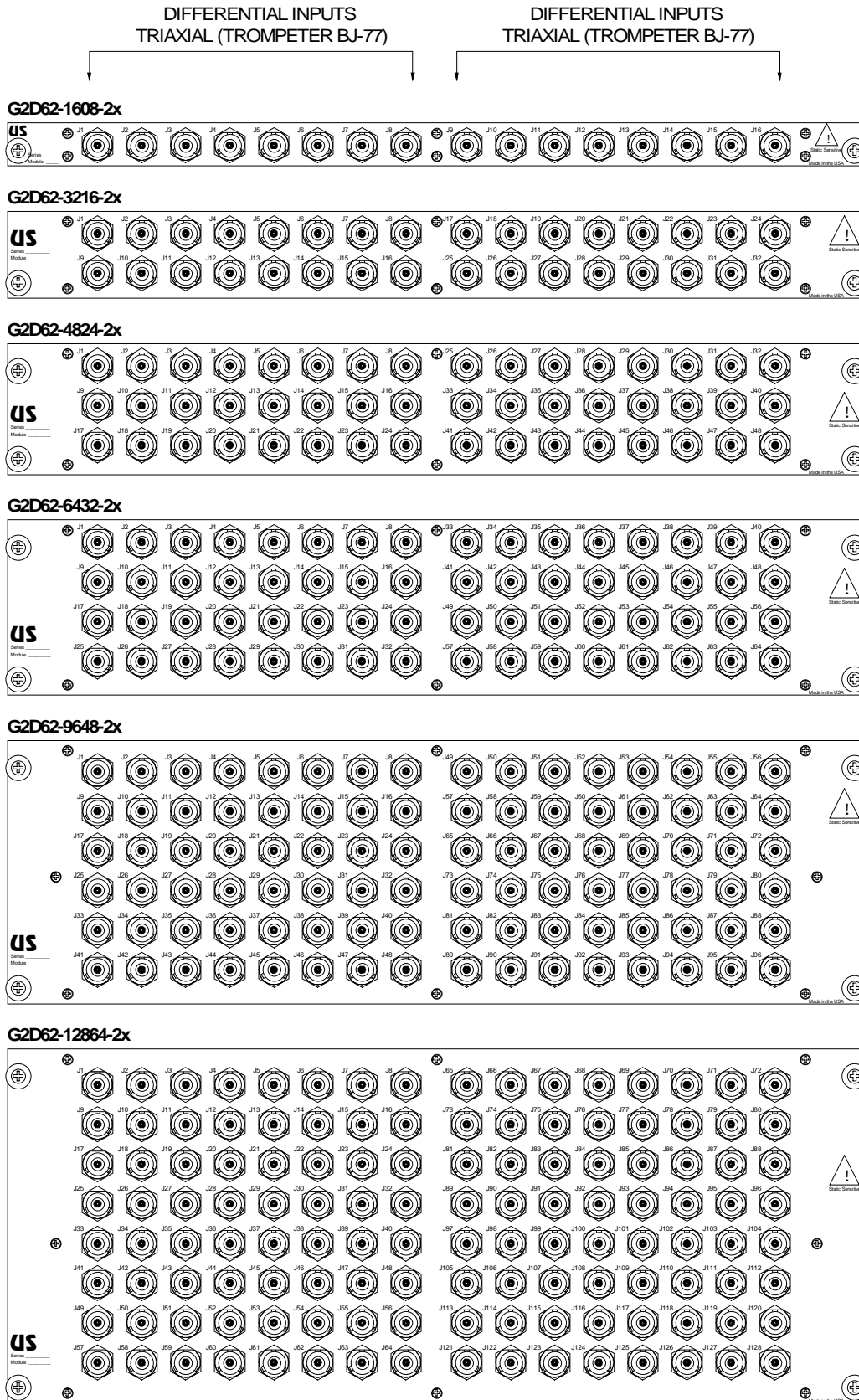
NOTE: Consult the factory for special or other configuration types.

Output Choices

The output termination configuration is specified by the suffix of the model number. See below.

Connector Panel Layout

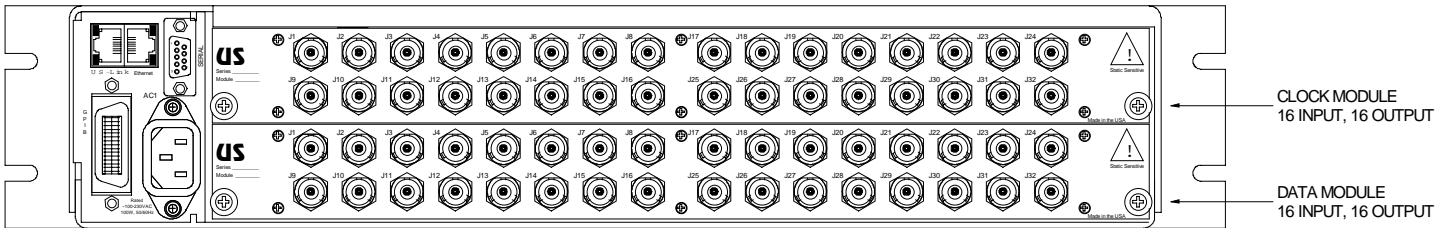
Shown below are the connector panel layouts.



Application Example

Pictured below is a typical application for the G2S62 module. Two identical modules are installed into a single 2RU rack mounted mainframe. The upper module is used for routing differential "clock" signals while the lower module routes "data" signals. The firmware in the unit allows the user to control both levels at the same time (gang-controlled). When commands are received, both modules respond at the same time.

REAR VIEW OF A 2RU RACK MOUNTED MAINFRAME (G2S400CE-D200 TYPE)



Signal Specifications

Switching elementsSolid-State digital core
 Number of inputsMin 8, Max 64
 Number of outputsMin 8, Max 64
 Type of arrayNon-blocking with broadcast
 Signal I/O typeDifferential (422)
 Input receiversHigh speed 422 type
 Output driversHigh speed 422 type
 Data rateDC-20Mbps
 SymmetryBetter than 55%/45% @ 10Mbps
 Switching speed<250uS (plus control time)
 Input impedance100 ohms (std)
 Output impedanceDefined by suffix number
 Signal connector typeTriaxial female (Trompeter BJ-77)

General Specifications

Module size1 to 8 slots height (see table)
 Control typeG2 compatible
 SparringHot-swappable
 ConstructionShielded aluminum case
 DC power-200 or -D200 configuration
 Weight<10lbs (largest unit)
 Operating temp0 to +60C
 Non-operating temp-20 to +85C
 Humidity0 to 95% (NC @ +25C)
 MTBF>110,000 hours
 (per MIL-HDBK-217F, N1
 ground benign @ +25C)

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.