

### General

The solid-state G2S75 analog switching module is offered for applications demanding high performance solid-state switching. The non-blocking full fanout switching module is available in a maximum configuration of 8 inputs and 64 outputs. The switching array is a "fixed" size and can be used as a building block for larger switching systems by cascading modules together.

It provides a very cost effective switching solution. It's available in the sizes shown in the table on page 4 as standard configurations. The size of the array is determined by the model number. Additional configurations are available on special order. The internal components are connectorized for easy repair and swapping.

The switching array is non-blocking with full fanout allowing the user to connect any given input to one, many, or up to all outputs at any given time. No input loading or impedance mis-matches are presented to the user due to the architecture of the switching array, and the use of high performance power splitters and amplifiers. Alternatively, the module is available without amplifiers by defining the proper suffix part number. Without the amplifiers included, the module could be used as a traditional non-blocking "fanout" matrix, or in the opposite direction where multiple inputs can be selected to be combined to a single given output.

The suffix of the model number can specify some unique features or additional performance specifications (consult the factory). For control and DC power, the module must be installed into any G2 type mainframe controller. They must be configured with the -207 or -D207 power supply configuration.

### Applications

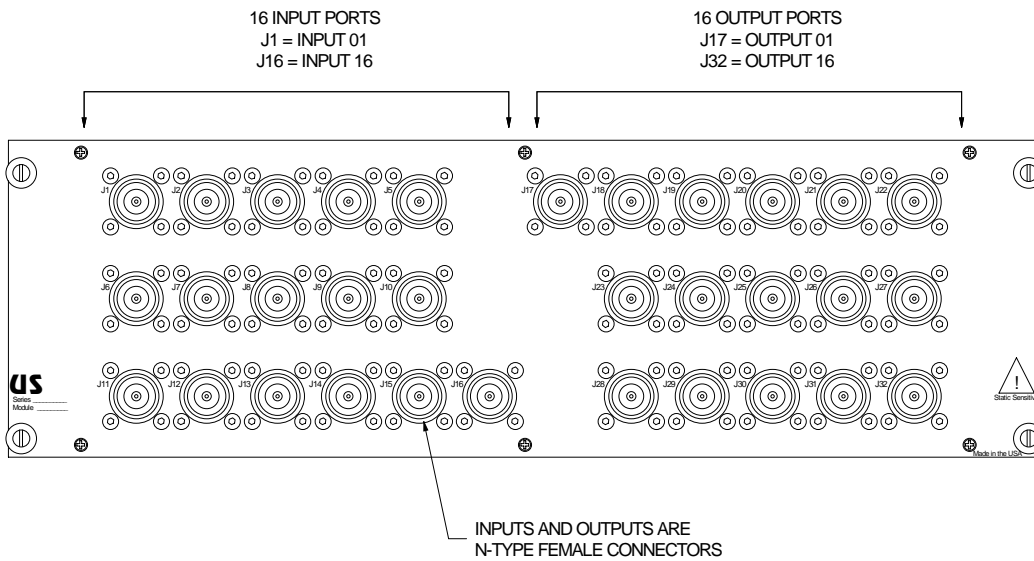
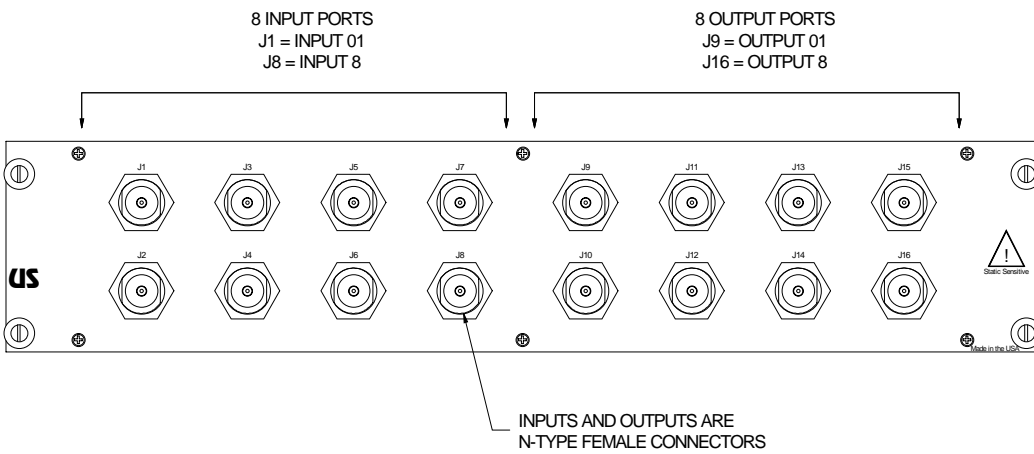
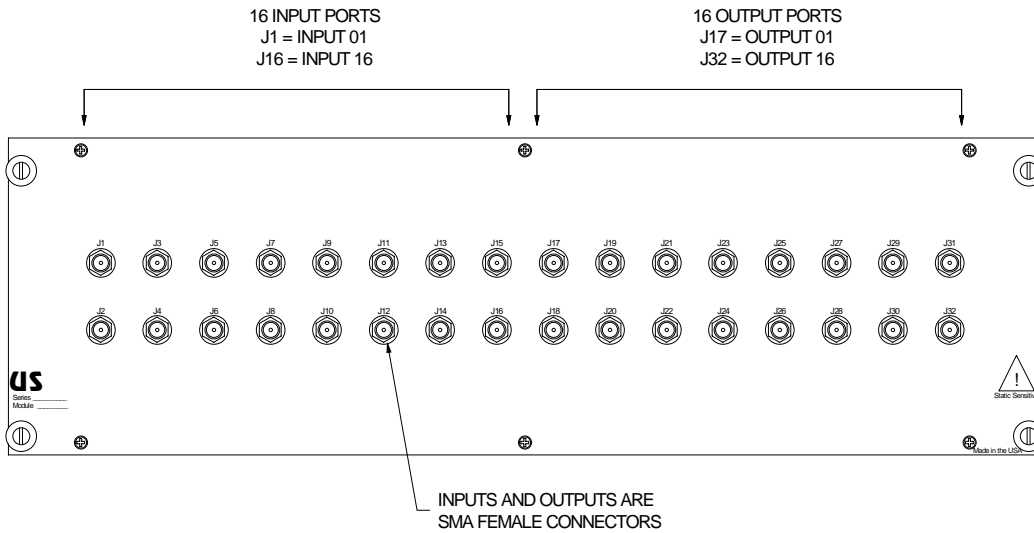
- Airborne surveillance systems
- Communication or cellular installations
- Uplink and downlink IF routing
- Satellite control centers
- Ground station IF signal routing
- Cellular ATE stations

### Features

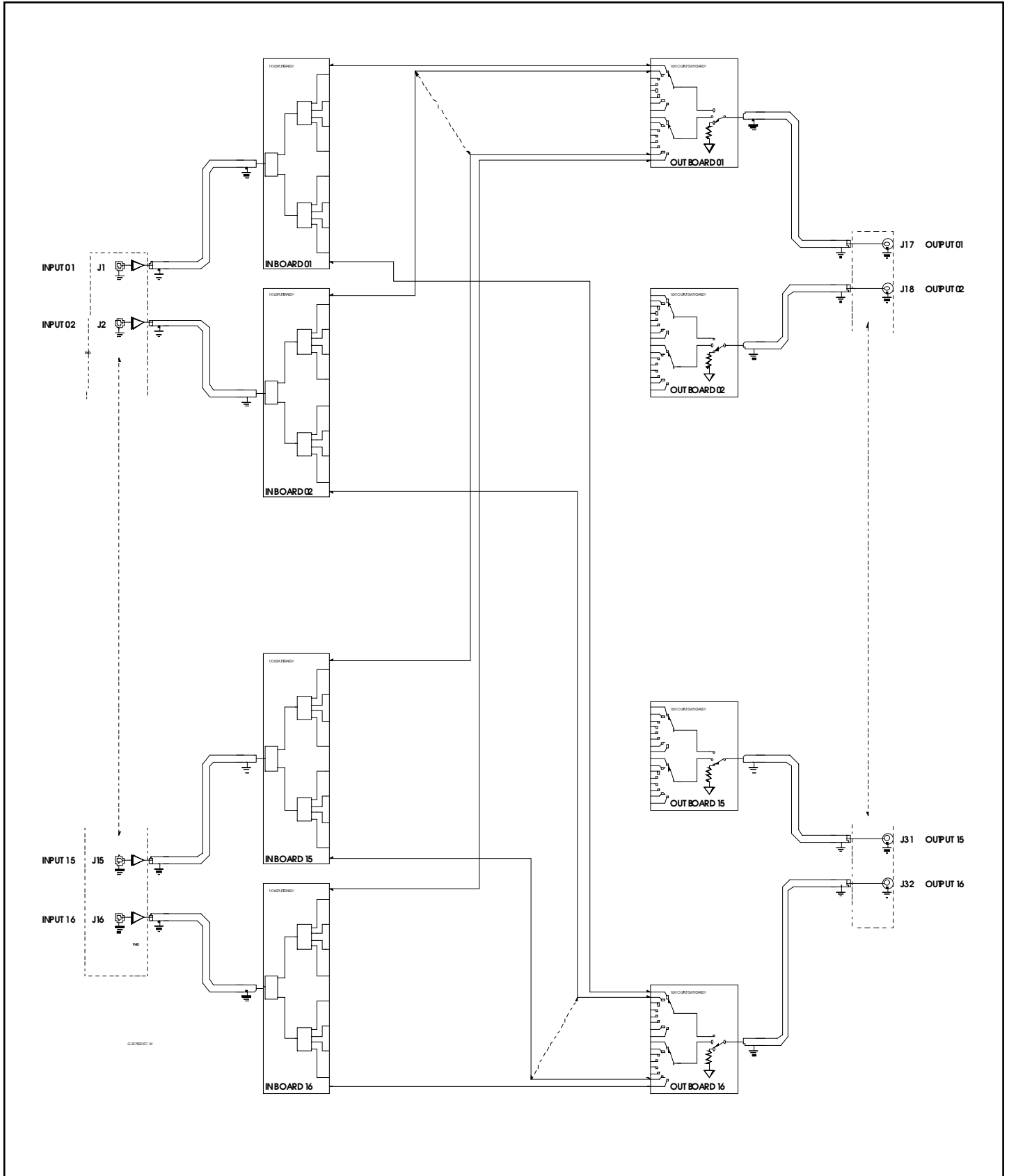
- Solid-state GaAs switching elements
- Wide analog bandpass
- SMA or N-Type signal connectors standard
- Hot-Swap module technology
- Full fanout, non-blocking design or combining
- Unity gain, high isolation signal path or without amplifiers



Model G2S75-4840-25N  
8 input, 40 output



# Simplified Signal Diagram (16x16)



## Construction

The diagram on page 1 shows the physical rear configuration of the G2S75 module with an 8 input, 8 output configuration and N-Type connectors. This and the other panel layouts are shown on page 2. Three sides of each module contains venting slots for flow through cooling for proper operation in extreme temperature environments. The rugged aluminum enclosure provides a shielded environment for low level, low noise signals. The module also provides aluminum slides for additional grounding to the host mainframe.

The module contains all solid-state components for extreme reliability, suitable for critical applications. Internally, an embedded CPU controls the switching operations of the array. Integrated amplifiers are available for unity gain signal routing. See the configuration table.

## Configurations

With integrated amplifiers (nominal unity gain):

■ G2S75-1608-25S . . . . .8 input, 8 output	SMA	4 slots
■ G2S75-2416-25S . . . . .8 input, 16 output	SMA	6 slots
■ G2S75-2408-25S . . . . .16 input, 8 output	SMA	4 slots
■ G2S75-3216-25S . . . . .16 input, 16 output	SMA	6 slots
■ G2S75-4840-25S . . . . .8 input, 40 output	SMA	12 slots
■ G2S75-4840-25S . . . . .8 input, 64 output	SMA	16 slots
■ G2S75-1608-25N . . . . .8 input, 8 output	N-Type	4 slots
■ G2S75-2416-25N . . . . .8 input, 16 output	N-Type	6 slots
■ G2S75-2408-25N . . . . .16 input, 8 output	N-Type	4 slots
■ G2S75-3216-25N . . . . .16 input, 16 output	N-Type	6 slots
■ G2S75-4840-25N . . . . .8 input, 40 output	N-Type	12 slots
■ G2S75-4840-25N . . . . .8 input, 64 output	N-Type	16 slots

Without integrated amplifiers \*\* :

■ G2S75-1608-20S . . . . .8 input, 8 output	SMA	4 slots
■ G2S75-2416-20S . . . . .8 input, 16 output	SMA	6 slots
■ G2S75-3216-20S . . . . .16 input, 16 output	SMA	6 slots
■ G2S75-4840-20S . . . . .8 input, 40 output	SMA	12 slots
■ G2S75-4840-20S . . . . .8 input, 64 output	SMA	16 slots
■ G2S75-1608-20N . . . . .8 input, 8 output	N-Type	4 slots
■ G2S75-2416-20N . . . . .8 input, 16 output	N-Type	6 slots
■ G2S75-3216-20N . . . . .16 input, 16 output	N-Type	6 slots
■ G2S75-4840-20N . . . . .8 input, 40 output	N-Type	12 slots
■ G2S75-4840-20N . . . . .8 input, 64 output	N-Type	16 slots

**\*\* Note:** The terms "input" and "output" are reversible. May be used to either fanout or combine.

### Signal Specifications

Switching elements . . . . .	Solid-State GaAs
Number of inputs . . . . .	See configuration table
Number of outputs . . . . .	See configuration table
Type of array . . . . .	Non-blocking, unity gain, full fanout also available without amps (non unity gain) for fanout or combining
Signal type . . . . .	Single-ended, AC coupled
Signal connector . . . . .	SMA standard, N-Type optional
Frequency range . . . . .	.800MHz - 2.4GHz (min)
Impedance . . . . .	.50 ohm
Crosstalk isolation . . . . .	>.50dB @ 2.4GHz (typ)
Input VSWR . . . . .	<1.5 : 1
-1dB compression . . . . .	.0dBm (typ)
Noise figure . . . . .	.10dB typical (config dependent)
Third order intercept . . . . .	.20dBm typical (config dependent)
Switching speed . . . . .	<.250uS (plus control time)

### General Specifications

Module size . . . . .	See table
Control type . . . . .	G2 compatible
Sparing . . . . .	Hot-Swappable
Construction . . . . .	Shielded aluminum case
DC power . . . . .	-207 configuration +5V (digital), +5V and -7V (analog)
Weight . . . . .	<.8.5lbs (16x16)
Operating temp . . . . .	.0 to +70C
Non-operating temp . . . . .	-.20 to +85C
Humidity . . . . .	.0 to 95% (NC @ +25C)
MTBF . . . . .	>.120,500 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.