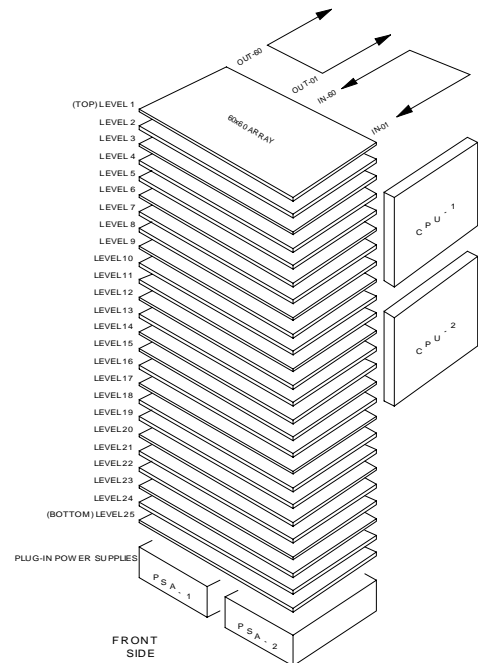


Applications

- Airborne telemetry and surveillance systems
- RS-232C data switching and routing
- Printer or shared device interconnectivity
- Production studios
- Imaging and animation production facilities
- Multi-wire analog system routing

Features

- High reliability solid-state relay elements
- Bidirectional signal path
- Capable of analog or digital switching
- DC to 5MHz bandpass
- Standard I/O connector types
- Redundant power supplies
- Dual remote interface capability
- Hot-Swap power supply and switch module technology
- International AC power input
- LabVIEW drivers available



General

Designed specifically for multi-level switching in large format, the S6025D delivers just that. No other switching system on the market delivers higher density for multi-level switching of both digital and analog signals.

Up to twenty-five wire (levels) of switching are provided in an array size up to 60x60, that's 90,000 crosspoints in a single 9RU high rackmounted package. The S6025D provides solid-

state switching of signals less than 5MHz and up to +/-5.50V in amplitude. Each signal path is bidirectional and suitable for either analog or digital signals, or both. Standard connector types are available for the rear panel I/O connections to the array. Redundant hot-swap power supplies are included, plus a number of remote interface choices are available using the advanced Series C700 CPU's.



Front view (9RU)



Rear view configured as a 60x60

Flexible DC to 5MHz Multi-Level Switching Array System S6025D

Configurations from 16 x 16, up to 60 x 60

Solid-state technology and high analog performance with low cost are offered with the System S6025D multi-level switching system. It delivers up to 90,000 crosspoints in a single rack-mounted package.

Up to twenty-five switch cards can be installed into the S6025D mainframe to deliver twenty-five levels of switching. Each switch card provides switching for one level. The switch cards are available in different factory configurations depending upon client switching needs. The switching cards are available from small a 16x16 to the fully populated card delivering a 60x60 array.

Typically, each switch card installed is the same configuration allowing the user to switch in a multi-level mode (multi-wire). Control of the system allows the user to control the switch cards individually or in ganged mode. In ganged mode, all switch cards switch the same crosspoint at the same time with a single command.

Bi-directional Analog Signal Path

The solid-state switching elements utilized in the S6025D provide an analog solution suitable for either analog or digital signals with a bandwidth less than 5MHz. Each signal path is bi-directional. It has no additional components besides the actual crosspoint such as line drivers, amplifiers or buffers. This provides the most flexible design allowing some cards to switch signals from "in-to-out" and others in the multi-level array to switch from "out-to-in".

Modular Design

A modular plug-in design allows the user to specify exactly the number of levels (wires) that is needed. Due to the compact size of the unit, there are different cards for odd numbered slots and even numbered slots. The switch cards plug into the S6025D mainframe from the front hinged panel allowing for easy maintenance and expandability of the system.

The cards are received internally by a complex five-section, twelve-layer backplane assembly. This backplane assembly receives the twenty-five levels of switching and redistributes the signals for easy connectivity at the rear of the unit.

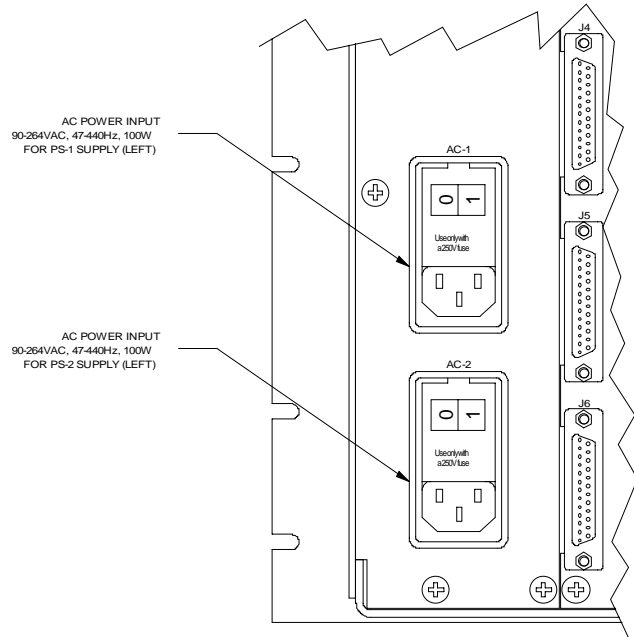
Embedded controllers in each switch card provides distributed control of the array delivering fast routing of signals through the system. The embedded controller supervises both control and status functions for nearly instant response to commands from the main controlling CPU. The solid-state analog switching core offers high bandwidth and isolation. The modules are also hot-swappable for easy maintenance and low system down time.

Power Section

Redundant hot-swappable monitored power supplies are included and are installed at the front of the system. Totally independent AC inputs are provided at the rear panel allowing the user to source AC power from different supplies.

Choice of Control Methods

The S6025D system is available with any single or dual combination of the plug-in C710 units. See the C710 data sheet for additional details. A front panel LED illuminated control keypad and high contrast 4x20 vacuum fluorescent display are included.

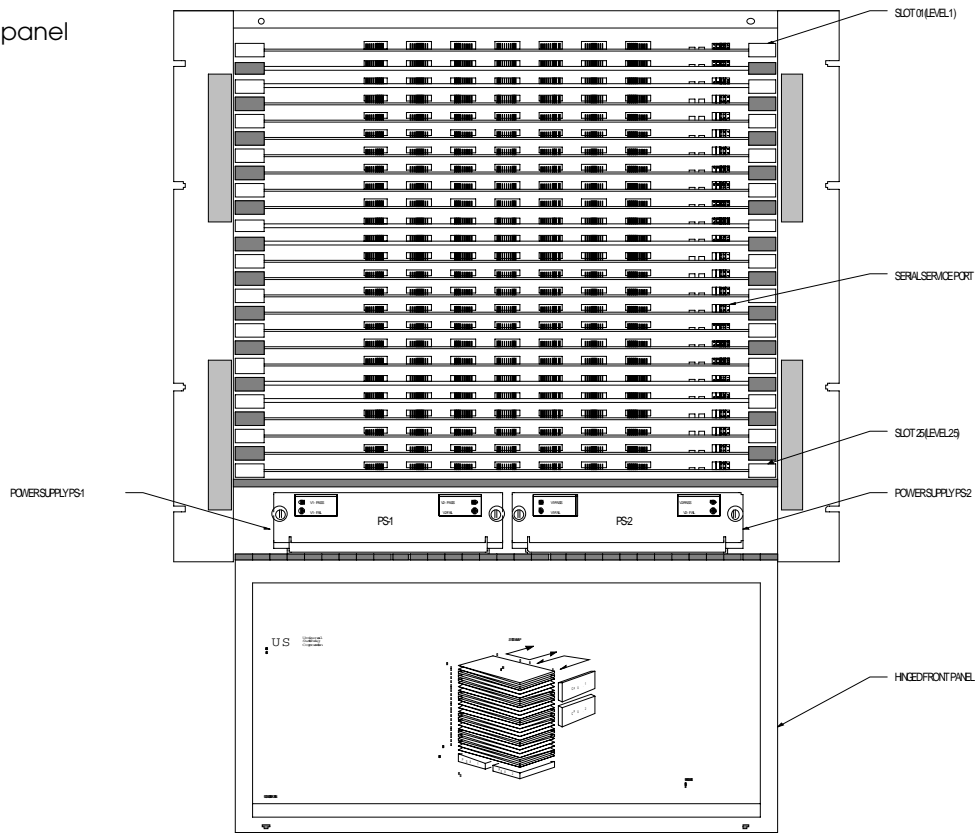


System control options and switching configurations are stored in non-volatile memory (lithium-backed RAM). Up to 199 different switching configurations may be stored in memory and may be recalled with a single command. This greatly simplifies control of commonly used configurations. For power up conditions, the S6025D may be set to recall the last configuration since power down, or to completely clear all crosspoint connections. Since the unit provides solid-state switching, actual connectivity is not maintained in the event of an AC power loss to the system.

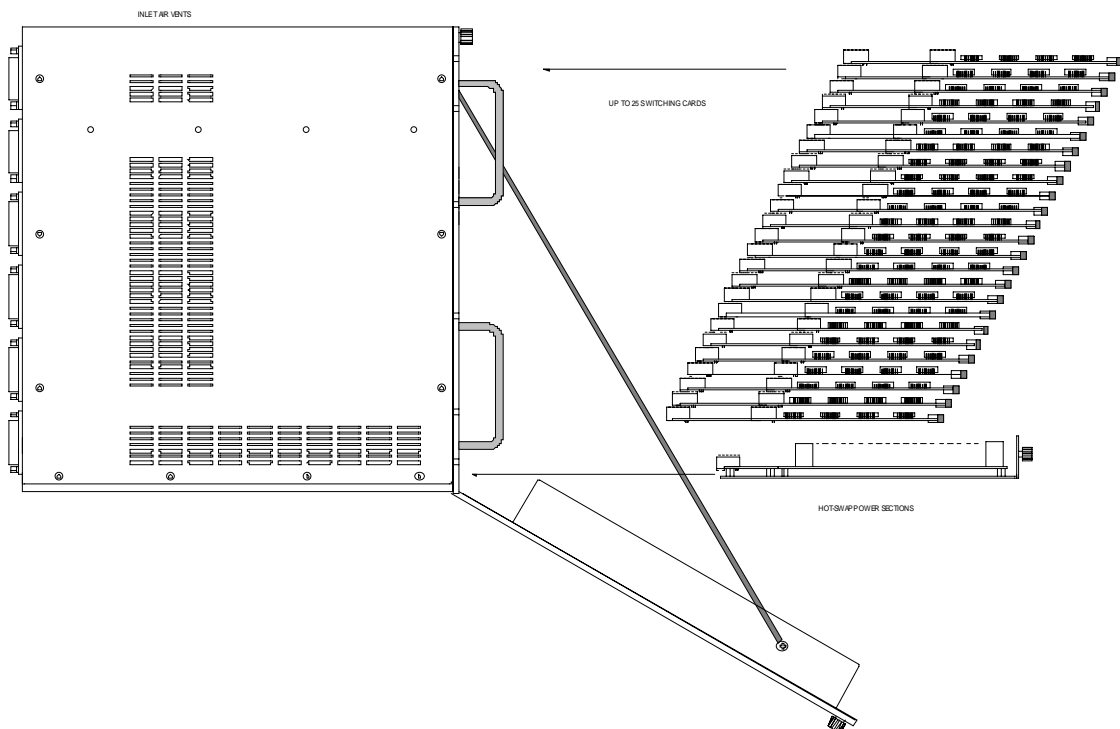
System Ordering

To order a complete system, contact the factory for a system model number. This number defines the switch size, number of levels, features and remote interfaces included. The system will be shipped fully assembled, tested and will also include an operations and programming manual specific to the configuration. LabVIEW drivers are also available for free on our website.

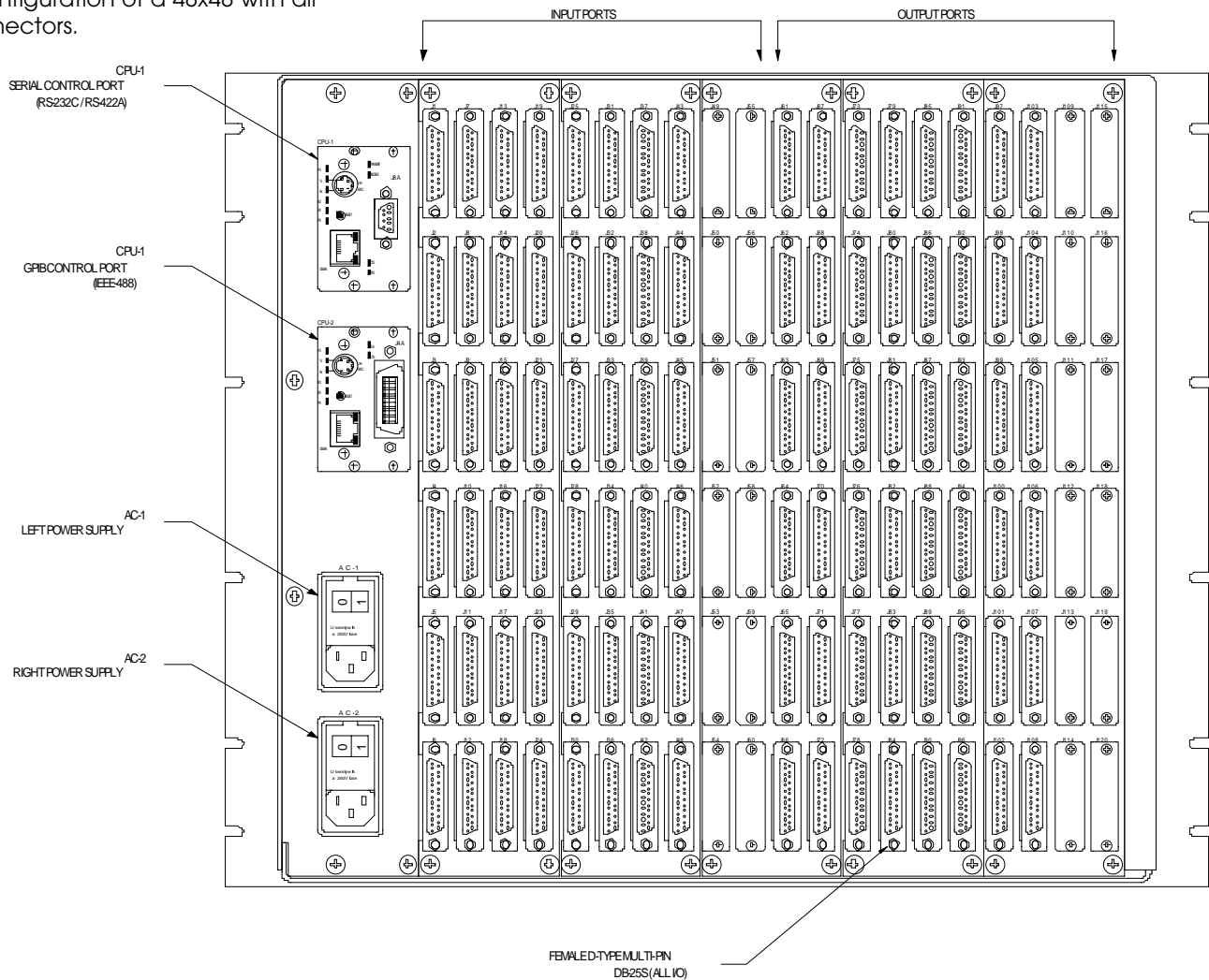
Front View
(with front panel lowered).



Side View
(with front panel lowered).



Example configuration of a 48x48 with all DB-25S connectors.



System S6025D Specifications

Minimum array size16 input, 16 output
 Maximum array size60 input, 60 output
 Minimum number of levels . . .1
 Maximum number of levels . . .25
 Level expansion increment . . .1 level at a time
 Switching elementsSolid-state
 Type of systemNon-blocking, without buffering
 ArchitectureMulti-level
 Signal connectorsStandard D-Sub
 Status LED'sFront panel

Input Characteristics **

Signal connectorDB-25S or DB-25P
 CouplingDC (AC coupling optional)

Output Characteristics **

Signal connectorDB-25S or DB-25P
 CouplingDC (AC coupling optional)

** Signal path is bidirectional. The term "Input" or "Output" is used for reference only.

Signal Characteristics

Frequency responseDC-5MHz
 On resistance65 ohm (+/-10 ohm)
 Current10mA max
 Maximum input level+5.5VDC (no damage)
 Signal diode clampingIncluded (to power supply rails)
 Crosstalk isolation>60db @ 1MHz

General Specifications

Module technologyHot-Swappable
 Power supply sectionRedundant hot-swap supplies standard
 Control options (C710)Ethernet with TCP/IP
 Serial (RS-232, RS-422, RS-485)
 GPIB (IEEE-488)
 Configuration routingIndividual level control or ganged
 Configuration memory200 lithium-back RAM locations
 Memory retention>10 years
 CoolingVariable triple fan assisted
 AC power requirements90-264VAC, 47-440Hz, 100Watts (each)
 Weight50lbs
 Size15.75H x 15.00D x 19.00W (9RU)
 Operating temp0 to +60C
 Non-operating temp-20 to +85C
 Humidity0 to 95% (NC @ +25C)
 MTBF>30,000 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.