Universal Switching Corporation

## General

Eliminating and automating manual patch bays and cords, the System S2561F is a single-ended high-density switch array specifically designed for routing both digital and analog signals. It can handle a wide range of signals such as IRIG-B, PCM, TTL, clock \& data, 70 MHz IFvideo, or other similar signals between DC-125MHz.

Fully populated, this 5RU unit delivers 256 inputs and 256 outputs where a given input can be connected to one, many or all 256 outputs (full Fan-OUT non-blocking). The S2561FX is the same, but includes our Option X front panel display (10.1") providing additional front panel visuals and features.

The system is field configurable from a $32 \times 32$, which is then expandable to a full $256 \times 256$ within the same chassis. To further expand, multiple units can be connected together for $512 \times 512$, or even sizes up to as large as $1024 \times 1024$.

The unit comes standard with redundant hot-swap power supplies, and is available with either single or dual (redundant) hot-swap C3 controllers installed. The C3 controller features 10/100 Ethernet (LXI certified), USB 2.0 and multi-serial (RS-232C/422A/485) control ports. System control \& monitoring (and programming updates) is simple via the built-in web browser, or from our software package RouteWarePRO.

The optional I/O connector adapter panels allow the system to be multi-purpose for clock/data, TTL, PCM, E1, or any combination of digital or analog signals depending upon the type of panel selected. Signals can be logically grouped together as clock and data with BNC's, or for PCM type signals. The panels also allow the user to remotely locate the I/O from the actual switching chassis. This allows a new higher level of flexibility for the system integrator.

## Applications

- Telemetry data TTL or PCM (clock and data streams)
- Audio, Data or Video routing
- El audio switching (30 channel optional card)
- Clock \& data routing/distribution
- Mobile telemetry and surveillance shelters
- Production studios, data recorders
- Analog NTSC or PAL video routing


## Features

- High reliability solid-state switch elements
- Redundant signal paths (Tri-Stage)
- Flexible configuration: $32 \times 32$ up to $256 \times 256$, or larger
- Capable of digital and analog switching
- DC to 125 MHz bandpass
- Ultra-high density, over 65,500 crosspoint in 5RU
- Hot-swap module technology
- Menu driven color touchscreen display (4.3" \& 10.1")
- Available with either single or dual CPUs
- 10/100 Ethernet, USB and Serial control ports
- TCP/IP, SNTP, SNMP v1/v2, IPv4 \& IPv6 \& web browser
- Removable microSD card for secure environments
- Rugged 5 RU high aluminum/steel chassis
- International AC power range
- Self-monitoring hot-swap plug-in supplies with PFC
- Integrated rack mount design (19 inch)
- Chassis slide mounting hardware (slides not included)
- Certified CE EN61010 (LVD)
- Compatible with RouteWarePRO control software

(shown with 4.3" display)


## Model Number Assignment



## Adapter Panel Assemblies

(sold separately, see individual data sheets)

## Passive input panel assembly

For $256 \times 256$ : AP32BI-S76 (includes two cables and two termination plugs)
For $512 \times 512$ : AP32BI-E-S76 (includes four cables)
For $1024 \times 1024$ : AP32BI-4E-S76 (includes eight cables) - different unit from shown.
NOTE: Must be used with matching output panel assembly. Provides 75 ohm
BNC's to the user. Specify system S2561F(X)-xx-2.

## Active output panel assembly

For 256x256: AP32BO-S76 (includes two cables and two termination plugs) For $512 \times 512$ : AP32BO-E-S76 (includes four cables)
For 1024×1024: AP32BO-4E-S76 (includes eight cables) - different unit from shown.
NOTE: Must be used with matching input panel assembly. Provides 75 ohm BNC's to the user. Specify system S2561F(X)-xx-2.

Hot-swap power supplies are standard


## System S2561F Specifications

Minimum array size
Maximum array size Expansion increment Design capacity
Switching elements
Type of system
Architecture
.32 input, 32 output
.256 input, 256 output
.32 ports per module
.1024 inputs, 1024 outputs **
Solid-state
.Non-blocking with full Fan-Out
.Tri-Stage redundant, uni-directional
** Systems comprised of multiple units are individually controlled
unless special Master/Slave controller is purchased
Input Characteristics
Signal connector
.62 position DSUB
Coupling
Impedance
Input type
Output Characteristics
Signal connector
Coupling
Impedance
Output type
.DC
.50 ohm (75 ohm optional)
.Single-ended

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.

Signal Characteristics (without adapter panels)
Frequency response $\ldots \ldots .$. . $\mathrm{DC}-125 \mathrm{MHz}$ ( 50 ohm version)
Nominal signal level $\ldots \ldots . . \pm .5 \mathrm{VDC}$
Maximum input level . . . . . $\pm 10.0 \mathrm{VDC}$ (no damage)
Crosstalk isolation . . . . . . . $>60 \mathrm{~dB} @ 4 \mathrm{MHz}$

Signal Characteristics with 75 ohm Adapter Panels (shown above)
Frequency response . . . . . . .DC-100MHz minimum ( 75 ohm system) Input VSWR
Nominal signal level
Maximum input level Crosstalk isolation

## General Specifications

Module technology
Power supply section
Controller CPU
Remote interface
Local control
Configuration routing
Configuration memory
Cooling
AC power requirements
Power cords
Weight
Size
Operating temp
Non-operating temp Humidity
MTBF
<1.3:1
$\pm 5.0 \mathrm{VDC}$
$\pm 20.0 \mathrm{VDC}$ (no damage)
$>60 \mathrm{~dB}$ @ 4MHz
$>40 \mathrm{~dB}$ @ 50 MHz
$>30 \mathrm{~dB}$ @ 100 MHz
Hot-Swappable
Redundant hot-swap standard
Single or Dual (redundant)
10/100 Ethernet, USB \& Serial (232/422/485)
Color touchscreen (4.3" or 10.1")
AutoRoute or manual
Flash
Forced cooling with RPM monitoring
$90-264 \mathrm{VAC}, 47-440 \mathrm{~Hz}$, 400Watts
Dual inputs (USA 15A)
50lbs
$8.75 \mathrm{H} \times 22.00 \mathrm{D} \times 19.00 \mathrm{~W}(5 \mathrm{RU})$
0 to +50C
-20 to +85 C
0 to 95\% (NC @ +25C)
>125,000 hours estimated

