

General

Designed for routing and distributing digital data in either synchronous or asynchronous modes, the System S5120F helps eliminate the use of manual patch bays and patch cords. It is an ultra-dense all digital switch array specifically designed for routing single-ended and differential (422) digital signals such as RS-422, PCM, TTL, clock & data, RS-530, or other similar signals up to 40Mbps.

Fully populated, this 5RU unit delivers 512 inputs and 512 outputs where a given input can be connected to one, many, or all 512 outputs (full fan-out non-blocking). The S5120FX is the same but has a 10.1" display (**Option X**) and enhanced front panel capabilities. The I/O of the unit is native "422" (differential) while other signal types are achieved with external adaptive panels (TTL, PCM).

The system is field configurable from a 64x64, and expandable to a full 512x512 within the same 5RU chassis while in the field. To further expand, multiple units can be connected together for 1024x1024 with the appropriate adaptive panel.

This unit comes standard with redundant hot-swap power supplies. Several system management options are available including command line, TCP/IP, SNMP, and graphical web GUI interface for remote administration. All control and status is available at the built-in web browser, 10/100/1G Ethernet port or multi-serial port (RS-232C/422A/485), plus it can be configured with single or dual CPU's.

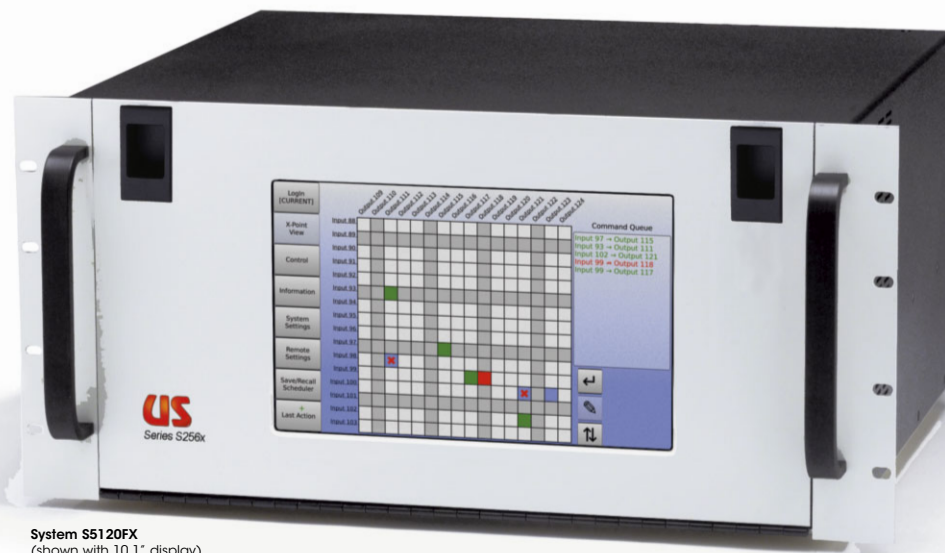
The S5120F is also compatible with our RouteWarePRO control software package that will get you up and running right away. Within minutes, you can install the software and start controlling your automated patch.

Applications

- Telemetry data TTL or PCM streams
- Clock and Data routing
- Differential 422 native I/O
- Data recorder data management
- Imaging and animation production facilities
- Production studios

Features

- High reliability differential (422) digital design
- Optional 1RU adapter panels for '422, TTL or PCM
- Redundant digital signal paths (Tri-Stage)
- Designed specifically for digital switching
- Flexible configuration: 64x64 up to 512x512 (or larger)
- Multiple units can be grouped to configure 1024x1024
- Ultra-dense with more than 260,000 crosspoints in 5RU
- DC to 40Mbps throughput
- Input signal activity monitoring included
- Hot-swap module technology
- Menu driven color touchscreen display (4.3" or 10.1")
- Configure with either single or dual CPUs
- 10/100/1G Ethernet, USB and multi-serial control ports
- TCP/IP, SNMP (v1/v2C/v3), IPv4 & IPv6 & web browser
- Removable microSD card for secure environments
- Rugged 5RU high aluminum chassis (8.75")
- 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



System S5120FX
(shown with 10.1" display)

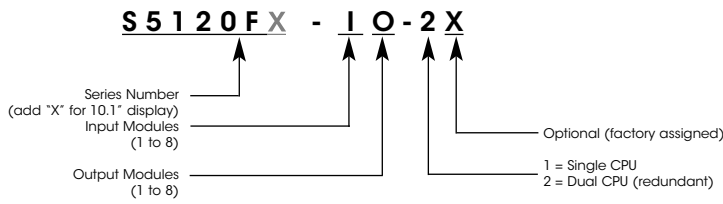


Download our Monitor & Control software **RouteWarePRO** for a FREE 30-day trial today!



Made in the USA

Model Number Assignment



System S5120F
(shown with 4.3" display)

Defining a System

How to choose your features

The S5120F is a modular digital switching array comprised of plug-in modules installed into a 5RU mainframe. Plug-in modules provide a flexible architecture for configurations as small as 64 inputs, 64 outputs and can be expanded to a fully populated system providing 512 inputs and 512 outputs. Larger systems up to 1024x1024 can be realized by interconnecting multiple units.

The system model number and basic features can be specified by observing the definition above. First, choose how many input modules you will need, then the number of output remembering that each module provides 64 differential channels.

Each input or output module provides 64 ports (32 differential ports per connector). The high density design of the system incorporates 100 position SCSI connectors. Each connector provides 32 differential ports. It can be specified as a symmetrical or asymmetrical configuration to meet your needs. Factory supplied filler plates cover unpopulated slots for proper system cooling.

Due to the compact size of the S5120F and unique Tri-Stage™ design, path-to-path skew is very small allowing the possibility to route both clock and data within the same unit, up to 256x256. If larger clock/data configurations are

needed, then two units can be used to configure a dual 512x512 where clock signals would be routed by one unit and data signals routed by the second. Control of the system can be ganged so that both signals switch together under one command. This is called peer-to-peer control.

Adapter Panels

Optional adapter panels provide other connection schemes (grouping two pairs for clock/data), various connector types, and even signal conversion (PCM or TTL).

The use of the optional I/O connector adapter panel assemblies provides a host of additional unique features such as individual connectors for each channel, grouping of signals for clock/data, or the simple ability to locate the system I/O connectors on the front of the equipment rack (or mixed, some on the front and some on the rear). The connector panel assemblies also allow the I/O to be located in a different rack from the actual switching system.

Signals can be grouped together as clock and data on D-Sub connectors, or as Triax type (BJ-77), or on BNC for PCM type signals. This allows a new higher level of flexibility for the system integrator. Contact your local sales representative or the factory for assistance.



Adapter Panel Assemblies

See individual data sheets for details. Ordered separately.

Model	Description	Figure
AP512-32BTI	1RU active distributive TTL/PCM input adapter panel with thirty-two BNC connectors (used for 512 x 512 arrays)	1
AP512-32BTI-2E	1RU active distributive TTL/PCM input adapter panel with thirty-two BNC connectors (used for 1024 x 1024 arrays)	1
AP512-32BTO	1RU active "muxing" TTL/PCM output adapter panel with thirty-two BNC connectors (used for 512 x 512 arrays)	1
AP512-32BTO-2E	1RU active "muxing" TTL/PCM output adapter panel with thirty-two BNC connectors (used for 1024 x 1024 arrays)	1
AP512-16D9P	1RU passive "422" adapter panel with sixteen DE9P connectors (male), two pairs per connector (clock & data)	2
AP512-16D9S	1RU passive "422" adapter panel with sixteen DE9S connectors (female), two pairs per connector (clock & data)	2
AP512-32R	1RU passive "422" adapter panel with thirty-two RJ45 connectors, two pair per connector,	5
AP512-32TR	1RU passive "422" adapter panel with thirty-two BJ77 Triax connectors	4
AP512-32TRI-2E	1RU active "422" distributive input adapter panel with thirty-two BJ77 Triax connectors (used for 1024 x 1024 arrays)	3
AP512-32TRO-2E	1RU active "422" muxing output adapter panel with thirty-two BJ77 Triax connectors (used for 1024 x 1024 arrays)	3

Figure 1

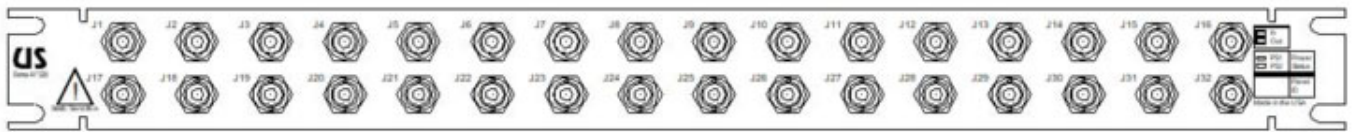


Figure 2

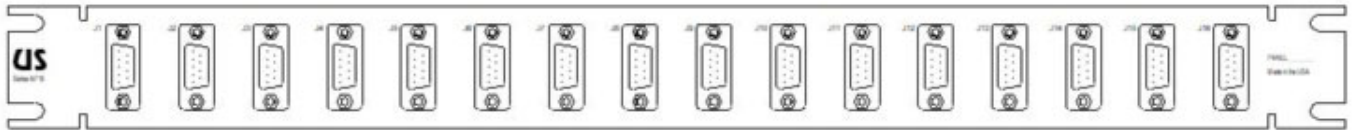


Figure 3

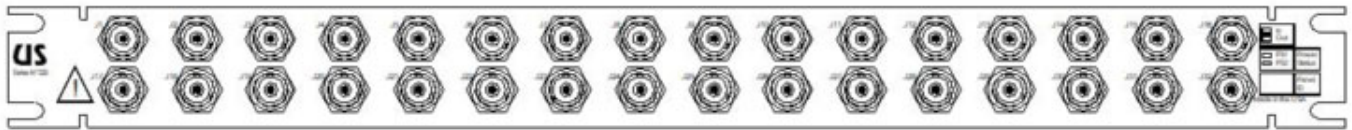


Figure 4

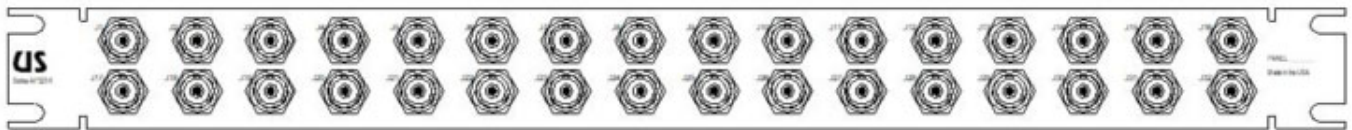


Figure 5



System S5120F Specifications

Minimum array size	.64 input, 64 output
Maximum array size	.512 input, 512 output
Expansion increment	.64 ports per module
Design capacity	.1024 inputs, 1024 outputs **
Switching technology	.Digital
Type of system	.Non-blocking with full fanout
Architecture	.Tri-Stage redundant, uni-directional

** Systems comprised of multiple units are individually controlled unless you add the MAC4 master array controllers.

Input Characteristics

Signal connector	.100 position SCSI-II
Coupling	.DC
Impedance	.100 ohm (differential 422)
Input type	.High-speed 422 receivers
Common mode	-.7V to +12V

Output Characteristics

Signal connector	.100 position SCSI-II
Coupling	.DC
Impedance	.100 ohm (differential 422)
Output type	.High-speed, low skew differential drivers

Signal Characteristics with 50 or 75 ohm TTL Adaptive Panels

Frequency response	.DC-40Mbps
Input VSWR	.<1.2:1

General Specifications

Module technology	.Hot-Swappable
Power supply section	.Redundant hot-swap standard
Controller CPU	.Single or Dual (redundant)
Remote interface	.10/100/1G Ethernet, USB & Serial (232/422/485)
Protocol	.TCP/IP, SNMP v1/v2C/v3, SNTp, IPv4, IPv6
Local control	.Color touchscreen (4.3" or 10.1")
Configuration routing	.AutoRoute or manual
Configuration memory	.Flash
Cooling	.Forced cooling with RPM monitoring
AC power requirements	.90-264VAC, 47-63Hz, <400Watts
Power cords	.Dual inputs (USA 15A)
Weight	.55lbs
Size	.8.75H x 22.00D x 19.00W (5RU)
Operating temp	.0 to +50C
Non-operating temp	-.20 to +85C
Humidity	.0 to 95% (NC @ +25C)
MTBF	.>125,000 hours (per MIL-HDBK-217F N1, ground benign @ +25C) estimated

Factory Spares

In-module (64 input)	.VDI5120F-DD12A
Mid-module	.VDM5120F-D01
Out-module (32 output)	.VDO5120F-DD12A
Power supply element	.PS5120F-200

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.