Universal Switching Corporation

Specification Sheet SIM32-001
High Performance 30-250MHz IF-Band Matrix
Up to 32-in, 32-out Switching Array
FanOUT (SIM32) & FanIN (SIM32i) Versions

July 2022

General

Critical communication installations demand high performance, high reliability, and expandable core equipment. Our SIM32(i) modular IF-Band matrix unit provides the system engineer with an uncompromising combination of these features in a cost effective 6RU package. The unit delivers a modular 30-250MHz high performance IF switching array that can be configured from a 4x4, up to a 32x32 matrix. Wideband 20-3000MHz versions are available (SWM32).

Redundant hot-swap power supplies are standard, plus our optional redundant system control interfaces (C3-Lite CPU) deliver the ultimate in system reliability for critical applications. Also, if signal damage or failure occurs, it will only affect a single channel. The SIM32**X** or SIM32i**X** are the same but have a 10.1″ display (**Option-X**) and enhanced front panel functionality and features.

Compact (6RU) and high performance, the unit provides a cost effective, flexible switching capacity for smaller installations. The unit can be configured from a small 4x4 and field expanded up to a 32x32 in single-channel increments while delivering a distributive type (FanOUT) switch array, or a combiner type (FanIN) array. Configurations can be symmetrical (16x16), or asymmetrical (10x24, 9x32). Fixed reduced-sized versions (not expandable) are also available to reduce overall costs. Call the factory.

Complete control and status of the unit is available at either the lockable touchscreen, the 10/100/1G interface(s), or the multi-serial ports. All input and output blades are hot-swappable for simple repair or system expansion.

Applications

- Communication installations
- Airborne surveillance systems
- Teleport and last mile installations
- Ground station and infrastructure facilities
- Receiver routing for transmit or receive

Features

- High reliability GaAs switch technology
- SMA or BNC signal connector types
- Impedance 50 or 75 ohm
- Expandable in the field
- Redundant hot-swap power supplies
- Single or dual controllers (and control ports)
- Available with **Option X** display (SIM32X, SIM32iX)
- Choose between Fan-Out or Fan-In versions
- Menu driven touchscreen display & web browser
- Available with either single or dual CPUs (C3-Lite)
- 10/100/1G Ethernet & Multi-serial ports (232/422/485)
- Includes TCP/IP, SNTP, SNMP (v1/v2C/v3), IPv4 & IPv6
- Removable microSD card for secure environments
- Built-in continuous diagnostics
- Available in wideband versions (30-3000MHz)
- International AC power input
- LabVIEW drivers and control software available

ROUTEWARE
PRO
5.0
Monitor & Control software
RouteWarePRO
INCLUDED

Reliability
Resiliency

SNMP
C3 Powered
LXI
IPv6

System SIM32X
Shown with **Option X** 10.1″ display
(6RU)
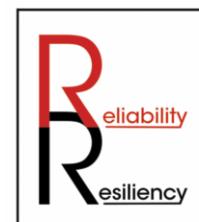
System SIM32
Shown with standard 4.3″ display

SIM32-001

Model Number Assignment

S I M 3 2 (i) (X) - i i o o - x z c

Series Number
SIM32 = FanOUT 4.3" Screen
SIM32X = FanOUT 10.1" Screen
SIM32i = FanIN 4.3" Screen
SIM32iX = FanIN 10.1" Screen

Number of Inputs
04 (min) to 32 (max)

Number of Outputs
04 (min) to 32 (max)

A = SMA Connector
C = BNC Connector

5 = 50 ohm impedance
7 = 75 ohm impedance *

1 = Single CPU
2 = Dual (redundant) CPU

*BNC only
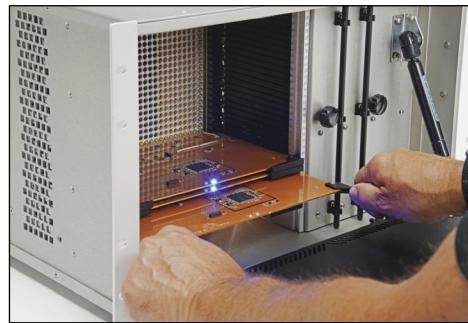
Installing an I/O blade

Maintenance Tools
Cable & expansion tool storage
behind access panels

Built-in Rack Mount
6RU removable flanges
and chassis slide mounting

Signal Connectors
BNC or SMA available
(SMA shown)

C3-lite Hot-Swap CPUs
Single or Dual
10/100/1G and uSD slot
Multi-serial port

Hot-Swap Redundant Supplies
Dual supplies are standard
(with supply pull straps)

10-32 Ground Stud

Removable Feet
(remove for rack mounting)

Forced Cooling
Redundant monitored
cooling fans

Individual Blades
Up to 32 input blades
(behind hinged panel)

System SIM32(i) Specifications

Array size . . . . .Up to 32in x 32out array
Switching technology . . . . . . .Solid-state CMOS elements
Type of system . . . . .Distributive or combiner (specify)
Architecture . . . . .Modular (single card for In or Out)

I/O Characteristics

Frequency range . . . . .30 - 250MHz
Impedance . . . . .50 or 75 ohm (specify)
Coupling . . . . .AC coupled
Gain .Unity +/-1dB (nominal),
Gain adjustment . . . . .SIM32 +/-6dB, SIM32i no adjustment
Flatness . . . .<+/-2.0dB typ (36MHz seg +/-0.50dB)
                                      FanIN 50-90MHz +/-1.0dB
                                      FanOUT 50-90MHz +/-0.5dB
Isolation . . . .>80dB (I/I, O/O), >80dB (I/O)
Input return loss . . . .>20dB (50-90MHz), 13dB MAX
-1dB compression . . . . .SIM32: > +5dBm
                                      SIM32i: > +12dBm
Noise figure . . . . .SIM32: < 18dB (50-90MHz) @ 0dB gain
                                      SIM32i: < 20dB (50-90MHz)
Output IP3 . . . . .SIM32: > 20dB @ 70MHz
                                      SIM32i: > 23dBm @ 70MHz
Signal connector . . . . .BNC or SMA female

Universal Switching's policy is one of continuous development. Consequently, the company reserves the right to vary from the descriptions and specifications shown in this publication.

General Specifications

Power supply section . . . . .Hot-Swap redundant supplies
Power supply monitoring . . . .Included
Ethernet port . . . . .10/100/1G (LXI certified)
Protocols . . . . .SNTP, SNMP v1/v2C/v3 & TCP/IP
Redundant controllers . . . . . . .Optional (Hot-Swap)
Input and output cards . . . . .Hot swap
Front panel display . . . . .Touchscreen (4.3" or optional 10.1")
Configuration memory . . . . . .FLASH
Cooling . . . . .Fan assisted (monitored)
AC power requirements . . . . .90-264VAC, 47-63Hz, <220 Watts
Line protection . . . . .Fuses @ power inputs w/spares included
Weight . . . .<35 lbs
Size . . . . .10.47H x 16.50D x 19.00W (6RU)
Operating temp . . . . .0 to +60C
Non-operating temp . . . .-20 to +85C
Humidity . . . . .0 to 95% (NC @ +25C)
MTBF . . . .>125,000 hours
Warranty . . . . .2 years
Certifications . . . . .CE EN61010

NOTE 1: If special, unique performance, or features are required, the base model number is used plus a unique 5-digit suffix.

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