

UTAH 100/UDS

Universal Distribution System



The UTAH-100/UDS is a revolutionary approach to signal distribution, combining the flexibility of a multi-rate digital routing switcher with the economy of simple distribution amplifiers for use in signal distribution applications in all types of facilities.

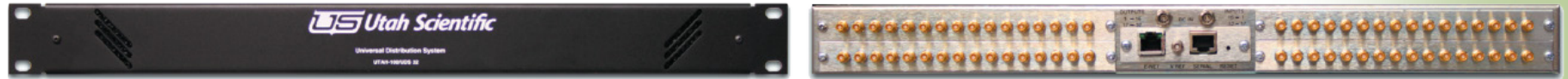
This modular system is based on I/O modules with 16 ports, interconnected by a crosspoint fabric that allows any input signal to feed any number of output ports. The economical design of the modules makes it possible for a 4RU frame to feed up to 144

output ports at a fraction of the cost and power consumption of alternative DA packages – with the benefit of being able to assign input signals to each output individually.

The flexibility of the 100/UDS family is extended even further through the use of Utah's award-winning FLEX-I/O modular I/O system which allows the signal format of each I/O port to be selected from a complete range of options including analog video, digital video over fiber or coax at any rate up to and including 3Gbps, DVI, HDMI, or IP-encapsulated DVB-ASI streams.

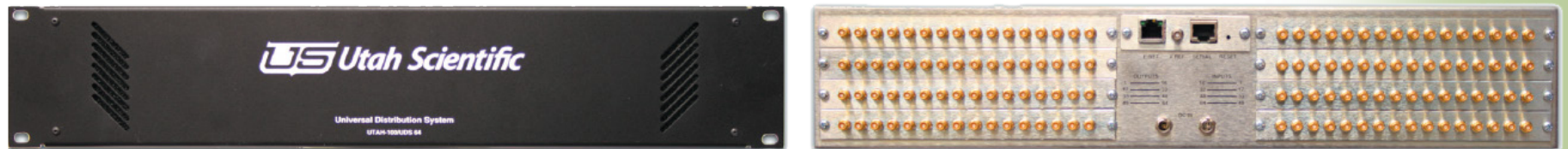
UTAH 100/UDS Features

- ✓ Modular Distribution Amplifier with Routable Inputs
- ✓ SD/HD Compatible - Including 3Gbps Formats and DVB/ASI
- ✓ Web Browser Configurable and Control
- ✓ Mix Fiber and Coax Connections in any of Three Frame Sizes
- ✓ Flex I/O Option Provides Analog, DVI/HDMI, IP Inputs and/or Outputs
- ✓ Web Control Panel Standard - Optional Hardware Panels



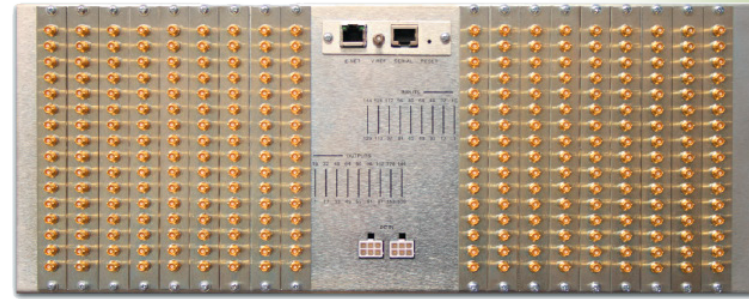
The UTAH-100/UDS is available in three frame sizes: a one RU frame that can hold a 32x32 matrix, a two RU frame for 64x64, and a four RU frame that will house a 144x144 system. Each frame has dual DC input connections and a Reference Video input for vertical interval switching. The frame also holds a controller module with Ethernet and Serial ports for system connections. The controller module can optionally be replaced with an MX-Bus module which allows the UDS frame to become part of an SC-4 control system.

The standard multi-rate video I/O modules are fitted with HD-BNC connectors for maximum density and the highest possible performance at all data rates. These 16-port modules can be replaced by modules fitted with 8 dualport SFP cages, providing a means to use any of the wide range of FLEX-I/O interface modules for fiber, HDMI/DVI, or IP-video signals.



The UTAH-100/UDS is controlled and monitored through a built-in web interface. External hardware control panels and virtual control via Ethernet can extend the functionality of the system to local and remote users as necessary.

In addition to system configuration, monitoring, and control, the web interface provides a way to group any combination of output ports into an Output Block. Once the block is created, any input signal can be routed to that block with a single selection. This feature can be extremely useful in dubbing applications, or where reference signals need to be switched to a complete studio system or edit bay.



The UTAH-100/UDS web interface includes applets for controlling the router from any web browser. This control can be from a the full-function user interface or from a dedicated applet that provides an on-screen representation of the optional hardware control panel.

UDS-4K

The UTAH-100/UDS 4K Routers bring a cost-effective signal management solution to the growing world of ultra-high definition television. These routers, available in 32x32, 64x64, and 144x144 matrix sizes take advantage of new component technology that supports the 6Gbps data rate of the single-link 4K signals.

This modular system is based on I/O modules with 16 ports, interconnected by a crosspoint fabric that allows any input signal to feed any number of output ports. For mixed-signal applications, the 4K routers can also be fitted with the 3G cards from the UTAH-100/UDS family, providing a full range of connectivity options including coax, fiber, IP-video and DVI/HDMI interfaces.

The UDS routers are controlled and monitored through a built-in web interface that allows the system to be operated from a web browser for local or remote control.





There are two hardware control panels available for the UDS family. The UDS-CP provides a low-cost solution with 32 programmable buttons which can be assigned to sources or destinations. Multiple pages extend the panel's capabilities.

The UTAH-100/UDS-XY Control Panel brings a very flexible means of control to the UDS family. Designed to provide full-matrix control for larger routers up to 144x144, the UDS-XY features a crisp high-resolution display with easy to use scrollable menu-based operation for quickly selecting sources and destinations.



UTAH 100/UDS-288

HD (3G) Video Router

The UTAH-100/UDS-288 brings the significant cost savings of the UTAH-100/UDS Router family to mid-size router applications while maintaining full compatibility with the Utah Scientific family of digital video and digital audio routers, system controllers, and control panels.

The UDS-288 offers front-removable redundant crosspoint cards, frame controller cards and fan assemblies to enhance service reliability and maintenance. The I/O cards have 16 ports each and are fitted with HD-BNC connectors for improved density and performance.

UDS-288 Features

- ✓ Compact 10RU Package
- ✓ Modular System - Up to 288x288 in Blocks of 16
- ✓ MX-Bus Connection to Router Control System
- ✓ External Power Supply with Optional Redundancy
- ✓ Crosspoint Redundancy Option
- ✓ Optional Clean-Quiet Output Modules



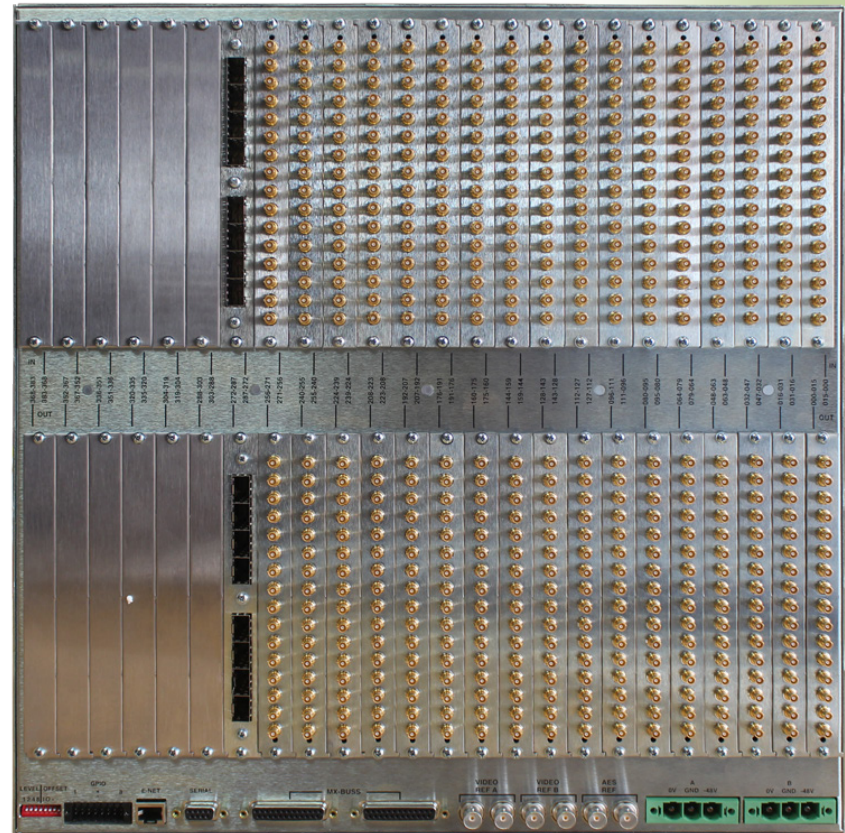
The UDS-288 router is connected to the Utah Scientific router control system by means of the control system's MX-Bus.

The UDS-288 is compatible with all of the Utah Scientific system controllers from the basic SC-40 to the full-featured SC-4 which is the heart of some of the world's largest mission-critical signal routing systems.

Clean-Quiet Switching Option

The UTAH-100/UDS family now offers an optional output card which can be fitted with signal processing modules that ensure continuously valid SDI signals are output when a switch is made. Each of these modules receives reference from any input in the router and provides fully processed streams on three outputs.

In addition to the processing option, the UDS-288 fully supports the FlexIO features of the UDS family, providing the ability to tailor the system to support fiber I/O and various signal format options such as composite analog, DVI and HDMI on inputs and outputs.



Utah Router Control App

The Utah Router Control Apps for iPads and Android tablets offer yet another control solution for Utah Scientific routing systems. The apps connect directly to the system controller and automatically download router configuration, labels, and status for quick operation wherever a WIFI connection to the controller is available.

Panel layout, button assignments, button colors, and even button icons are user-configurable to make the virtual control panel a vital tool for operations or for maintenance of the routing system.



Frame Specifications

Width: 19" Rack Mount

Depth: 3.4"

Sizes: 1RU -- Capacity: 32 inputs, 32 outputs
Power Consumption: <30W
2RU -- Capacity: 64 inputs, 64 outputs
Power Consumption: <50W
4RU -- Capacity: 144 inputs, 144 outputs
Power Consumption: <100W

Power Supply: External,
Redundant supply optional

Control Connections: RJ-45 Ethernet
RJ-45 Serial
Vertical Interval Reference

I/O Module Specifications

Multi-Rate Digital Input Card

Number of ports per card: 16
Formats supported: From 3Mbps up to 3Gbps
Input Equalization: >100 Meters of Belden 1694
or equivalent cable
Reclocking: All SDI rates up to 3Gbps
Connector Type: HD-BNC

Multi-Rate Digital Output Card

Number of ports per card: 16
Formats supported: From 3Mbps up to 3Gbps
Connector Type: HD-BNC

FLEX-I/O Option

Number of ports per card: 16 (8 SFP cages)
Dual-Channel SFPs support the following:
SDI up to 3Gbps on coax
SDI up to 3Gbps on fiber
PAL / NTSC Analog composite video
DVI/HDMI (single-port SFP)
IP-encapsulated DVB-ASI signals

UTAH 100/UDS-288

32x32 Stereo Analog Audio Router



The UTAH-100/UDS-32AA provides a cost-effective way to add analog audio routing capabilities to a larger routing system while maintaining full compatibility with the Utah Scientific family of digital video and digital audio routers, system controllers, and control panels. The UDS-32AA's ability to handle analog audio signals in either mono or stereo modes offers users a uniquely flexible means to integrate analog audio routing into a wide variety of applications, including master control, where smaller matrix sizes are often required. The UDS-32AA offers dual 32x32 matrices based on an 8x8 modular architecture. Each block of eight inputs or eight outputs is fed through a 25-pin D-Connector for connection to external devices. Breakout cables, breakout panels, and a simple rear-mounting breakout adapter are all available to simplify installation of the router.

Two of the 32x32 matrix blocks are installed in one 2RU frame and can be controlled independently, providing simplicity of operation and flexibility in multi-channel applications. The UDS-32AA router is connected to the Utah Scientific router control system by means of the control system's MX-Bus. The UDS-32AA is compatible with all of the Utah Scientific system controllers from the basic SC-40 to the full-featured SC-4 which is the heart of some of the world's largest mission-critical signal routing systems.

Compact 2RU Features

- ✓ Compact 2RU Package
- ✓ 32x32 Stereo or Dual 32x32 Mono Operation
- ✓ MX-Bus Connection to Router Control System
- ✓ External Power Supply with Optional Redundancy
- ✓ D-Connector for Each Block of 8 Inputs/Outputs
- ✓ Optional Breakout Panels for Easy Wiring



Signal Specifications

Frequency Response:	± 0.05 dB 20Hz to 20kHz (-3 dB point = 200kHz)
Max. input level:	+23 dBu
Input Impedance:	200K Ω
Output Impedance:	20 Ω
THD / IMD:	.05% / .05% @24dBu, 20Hz to 20kHz
Hum and noise:	-85dBu 20Hz to 15kHz
Crosstalk:	-90 dB @20KHz
Gain Uniformity:	± 0.05 dB
CMR:	70 dB @50/60hz
Common Mode voltage:	10Vp-p (DC plus peak AC)
DC on output:	± 65 mV

Power

AC power consumption:	50W Max.
Voltage:	90-240VAC 50/60 Hz external universal power supply
Redundancy:	Dual redundant power supplies (optional)

Physical / Environmental

Width:	19" rack mount (480mm)
Height:	2 RU (3.5" / 89mm)
Depth:	3.4" (85mm)
Weight:	5 lb (2.25kg)
Operational temperature range:	0-90 degrees F (10-40 degrees C)
Operational humidity range:	0-90% (non condensing)

Specifications

Video Standards

SMPTE 259M-C, SMPTE 292M, SMPTE 425M-A,
SMPTE 425-B, SMPTE 310M, DVB-ASI compliant

525i 29.97, 625i 25

720p 50, 59.94, 60

1080i 25, 29.97, 30

1080PsF 23.98, 24, 25, 29.97, 30

1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60

Embedded Audio

20-bit synchronous 48 kHz to SMPTE 272M-C

24-bit synchronous 48 kHz to SMPTE 299M

Video Inputs & Outputs

Formats: Auto select for simultaneous operations
of SD, HD, 3G SDI, 2K, and DVB-ASI

Connector: BNC, 1 per input and output

Reclocking: Automatic for all standard signal rates
270Mbps, 1.485Gbps, 2.970Gbps, DVB-ASI
Automatic bypass for non-standard signal
rates 18Mbps-2.970Gbps

Equalization: Automatic 400m at 270Mbps, 220m
at 1.485Gbps, 200m at 2.970Gbps with
Belden 1694A or equivalent cable

Reference Input

(1) BNC: Analog PAL, NTSC, or HD tri-level

Control

(1) RJ-45: 10/100 Ethernet
Embedded web server
Utah Scientific RCP-3 Ethernet protocol

(1) RJ-45: Diagnostic port

(1) 422/232: DB-9F Subminiature
Utah Scientific RCP-1 serial protocol

Power

90-240VAC 50/60Hz external +12V DC

(2) Captive nut fastener

Power consumption 30 watts max

Physical

Width: 19" (48.26cm)

Depth: DA & 32x, 64x, and 144x routers 4.25" (10.80cm)
288x 15.0"
Panels 3.75" (9.53cm)

Height: 1RU, 1.75" (4.45cm); 2RU, 3.5" (8.9cm); 4RU, 7.0"
(17.8cm); 10RU, 17.5" (44.5cm)

Environmental

Operating temperature 32-104 degrees F, (0-40 degrees C)

Relative humidity range: 0-90%, non-condensing

Warranty

5-year limited warranty, 24/7 service support

The complete UDS Series offers the largest selection of low cost routing on the market.
Please see the UDS Compact Series Brochure for more information.



Since the introduction of our first analog router over three decades ago, Utah Scientific has been an industry leader in the design and manufacture of world-class signal routing and processing.

Hybrid technologies enable integrated frame sync, clean-quiet outputs, SMPTE ST 2022, A/D and D/A conversions, fiber optic conversion, audio embedding/de-embedding, and MADI transport. By design, Utah products are the most energy efficient on the market.

Utah Scientific has the most experience in the design and manufacture of routing switchers and associated distribution products in the market. We take pride in knowing that the reliability and performance of our products are second to none and are backed by industry leading service and support.

