Utah Sandar AS

User Manual & Installation Guide

UTAH100/X16V

16x16, 8x8 Wide Band Router with/without

UTAH-100/X16V, UTAH-100/X16VCP,
UTAH-100/X8V, UTAH-100/X8VCP

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INTRODUCTION

Thank you for choosing a Utah Sandar product.
We are convinced that your choice will prove to be a wise
and worthy decision for many years to come.

Your Utah Sandar product has been tested for performance at the
factory according to the specifications given for the system in this
manual. However, before putting the device into
operation we kindly ask you to read this manual, and
act according to the information given.

All information given in this document is property of Utah
Sandar. To the knowledge of Utah Sandar there are no
errors in the manual. Should any errors be discovered,
please notify Utah Sandar. Utah Sandar will under no
circumstances accept responsibility neither for errors in this
manual, nor consequences of such errors.

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WARRANTY

This Utah Sandar product is warranted against defects in materials and workmanship for a period of two
(2) years from the date of invoice. During the warranty period, Utah Sandar will, at its option, either
repair or replace products that prove to be defective.

The warranty shall not apply to defects resulting from improper or inadequate installation or
maintenance by buyer, buyer-supplied software or interfacing, unauthorized modification or misuse,
operation outside of the environmental specifications for the product, or improper site preparation or
maintenance.

If a product needs to be returned for service, please first contact the Utah Sandar Helpdesk to obtain a
Return Material Authorization (RMA) number. Make sure the packaging provides sufficient protection
against ESD and mechanical damage. Please enclose a note with the RMA, return address, contact
person details and a failure symptom description.

DOCUMENT REVISION HISTORY

Rev.	Date	Description
1.0	2010-01-13	Changed the specifications
B	2009-10-26	Changed Company and product name
A	2009-06-02	Preliminary

SAFETY & ENVIRONMENT

General

This product and related documentation must be reviewed for familiarization with safety markings and instructions before operation. This product has been designed and tested in accordance with the relevant international standards.

Safety Symbols

Indicates hazardous voltages.

Indicates earth (ground) terminal.

The **CAUTION** sign denotes a hazard. It calls attention to an operating procedure, practice, or the like, which if not correctly performed or adhered to could result in damage to or destruction of part or all of the product. Do not precede beyond a CAUTION sign until the indicated conditions are fully understood and met.

The **WARNING** sign denotes a hazard. It calls attention to a procedure, practice, or the like, which, if not performed or adhered to could result in personal injury. Do not proceed beyond a WARNING sign until the indicated conditions are fully understood and met.

Safety Earth Ground

This is a Safety Class 1 product (a protective earth terminal (Ch) is provided).
An uninterrupted safety earth ground must be provided from the main power source to the product input wiring terminals, power, cord, or supplied power cord set. Whenever it is likely that the protection has been impaired, the product must be made inoperative and secured against any unintended operation.

Environment

WEEE: All Utah Sandar products will comply with the EU Directive 2002/96/EC on Waste from Electrical and Electronic Equipment aka WEEE directive. Please contact your local Utah Sandar sales representative for information about returning these products for safe disposal/recycling. Utah Sandar equipment that complies with the directive will be marked with a WEEE-compliance emblem.

RoHS: All Utah Sandar products will comply with the EU Directive 2002/95/EC on Restriction of Hazardous Substances aka RoHS directive. Thereby not containing above the limits specified in the said directive of any of the banned substances. Utah Sandar equipment that complies with the directive will be marked with a RoHS-compliance emblem.
Exempt: Spare/Expansion parts for older systems are exempt from the directive.

US Utah Sandar

INSTALLATION

Initial Inspections

Check the contents of the shipment for completeness and possible transport damage.
If the contents are incomplete or damaged, contact Utah Sandar AS immediately for repairing or replacement parts of the equipment.

ESD Handling

This product may contain Electrostatic Sensitive Devices (ESD).
Precautions to minimise the risk of damage, due to electrostatic discharge during handling, are recommended. For guidance, refer to British Standard BS CECC 00015, Part 1: BASIC SPECIFICATION FOR PROTECTION OF ELECTROSTATIC SENSITIVE DEVICES

Before Applying Power

Verify that the product is configured to match the available main power source per the input power configuration instructions provided in this manual and product marking.

Service

Servicing, adjustments, maintenance or repair of this product may be performed by qualified personnel only. Adjustments described in this manual may be performed with power supplied to the product while protective covers are removed. Energy available at many points may, if contacted, result in personal injury. Capacitors inside this product may still be charged even when disconnected from their power source.

GENERAL DESCRIPTION

The UTAH100/X16V Compact 16x16 Wideband Router fully complies with the relevant standards for PAL and NTSC and Wideband formats. The router has a multi-sync loop through input that handles bi-level and tri level sync. Having both an Ethernet SNMP/HTTP/SanEth) and DSUB9P RS-232 interface for remote control and configuration makes it very adaptable to any 3rd party control system.
16 LED's in the front lit in presences of signal on the outputs.
The Power consumption and the heat dissipation for the UTAH100/X16V family is low saving the environment and giving the products a long lifetime.
The UTAH-100/X16HD is delivered in four models:

Model UTAH-100/X16V   : 16x16 with 16 LEDs for signal presences in the front.
Model UTAH-100/X16VCP   : 16x16 with Push Buttons in the front 16 for outputs selection and 16
                                      for input selection.
Model UTAH-100/X8V   : 8x8 with 8 LEDs for signal presences in the front.
Model UTAH-100/X8VCP   : 8x8 with Push Buttons in the front 8 for outputs selection and 8
                                      for input selection.

The UTAH100/X16V is delivered with a standard off-the-shelf universal AC/DC converter. Two Independent power inputs are provided to enable redundant supplies.

The 19" wide, 1RU high and 60 millimetres deep frame houses the switch, local control unit and RS-232 and Ethernet remote control interface. Two 12 VDC 2.1mm power input connectors enable use of redundant power supplies.
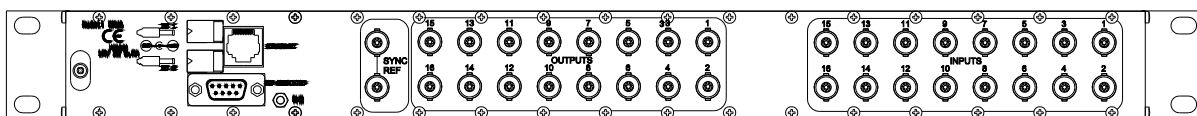

UTAH-100/X16V

UTAH-100/X16VCP

UTAH-100/X8V

UTAH-100/X8VCP

US Utah Sandar
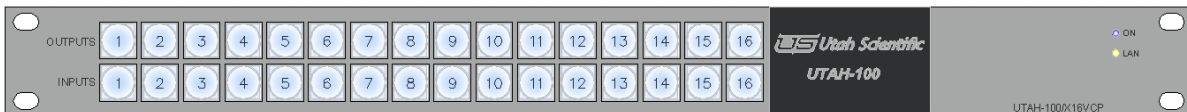
External Power Supply

The external Power Supply is an AC/DC Switch Mode desktop power supply module with compact design. The power supply has a universal input voltage, with 3 pins IEC 320 connector. The output voltage is 13.2 VDC and is short circuit proof and deliver up to 40W. One secondary cable with the modular connector in the one end connects to the power supply and the other end with a 5.5/2.1mm jack connects to the UTAH-100/XHDA frame. Utah Sandar recommends the Power Supply 9920 from Mascot A/S, but other types of Power Supplies may be used with similar specifications. ***Mains cord is not included.***
Mounting bracket is available.

UTAH-100 CONTROL SOFTWARE:

- For Quick Start Guide see the attached document in the delivery.
- UTAH-100 Control Software see the document file: UTAH-100-ControlSoftware10.pdf attached in the user manual CD.

PINOUT

Power Connection

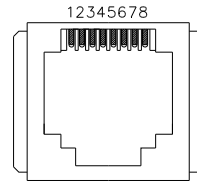The UTAH100/X16V units have two 2.1mm DIN 12VDC connector with + at centre.

$$GND \longrightarrow \bullet \longrightarrow +12V$$

The power unit supplied for the UTAH100/X16V is a 12 VDC with a max rating of 0.8A (10W)

Port Pin Orientation

Ethernet Port

The Ethernet port is an 8-pin RJ-45 jack meeting the requirements of ISO 8877 for 10/100Base-T.

Ethernet Pin Assignment		
Pin	Signal Name	Figure RJ-45
1	TxD+ (Transmit Data)	12345678
2	TxD- (Transmit Data)	
3	RxD+ (Receive Data)	
4	Not used	
5	Not used	
6	RxD- (Receive Data)	
7	Not used	
8	Not used	

RS-232 Port

Serial port, RS-232 is a DSUB9pin (male) connector. Use the following figure and tables for pin orientation and pin assignment information.
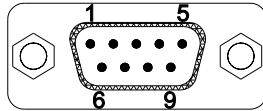
Serial Pin Assignment									
Port	**Signal Pin1**	**Signal Pin 2**	**Signal Pin3**	**Signal Pin4**	**Signal Pin5**	**Signal Pin6**	**Signal Pin7**	**Signal Pin 8**	**Signal Pin 9**
RS-232	Not connected	RxD	TxD	Not connected	GND	Not connected	Not connected	Not connected	Not connected

SPECIFICATIONS

Type	Analogue Video
Standard	PAL, NTSC
Number of In/Out Model UTAH100/X16V	16x16
Model UTAH100/X16VCP	16x16 with 32Pb Control Panel
Model UTAH100/X8V	8x8
Model UTAH100/X8VCP	8x8 with 16Pb Control Panel
Impedance	75 Ohm
Output level	1Vp-p ±1%
Return Loss Input/Output up to 5 MHz	≥ 35dB
5 MHz to 270 MHz	> 15dB
Crosstalk up to 5 MHz	≥ 60dB
5 MHz – 100 MHz	≥ 35dB
Frequency Response 100 kHz – 50 MHz	+ 0/- 0.5 dB
BW	> 100 MHz
Connector	BNC
Video Reference Input	
Type	Analogue Video Reference according to SMPTE RP168
Standard	PAL, NTSC
Connector	BNC Loop-Through
Impedance	Hi-Z, External 75 Ohm termination
Input Level	0.5 Vpp - 2 Vpp
Input Return Loss to 5 MHz (75 Ohm term.)	> 40 dB
Ethernet	
Type	10/100 Base T
Standard	IEEE 802.3
Connector	RJ45
RS-232	
Type	RS-232(DTE)
Connector	DSUB 9 PIN
Electrical	
DC input	12 VDC
DC Connector	DC Jack 2.1mm
DC Power 8x8	6.4 W
8x8 CP	7 W
16x16	7.2 W
16x16 CP	8 W
Operating Temperature Range	0 °C - +45 °C
Humidity	90 % non condensing
External Power Supply	Universal 90-250VAC, 50/60Hz
Mechanical	
Dimensions	W: 482.6mm (19") H: 43.6mm (1U) D: 52mm + Connectors
Weight	0.7/0.8 kg

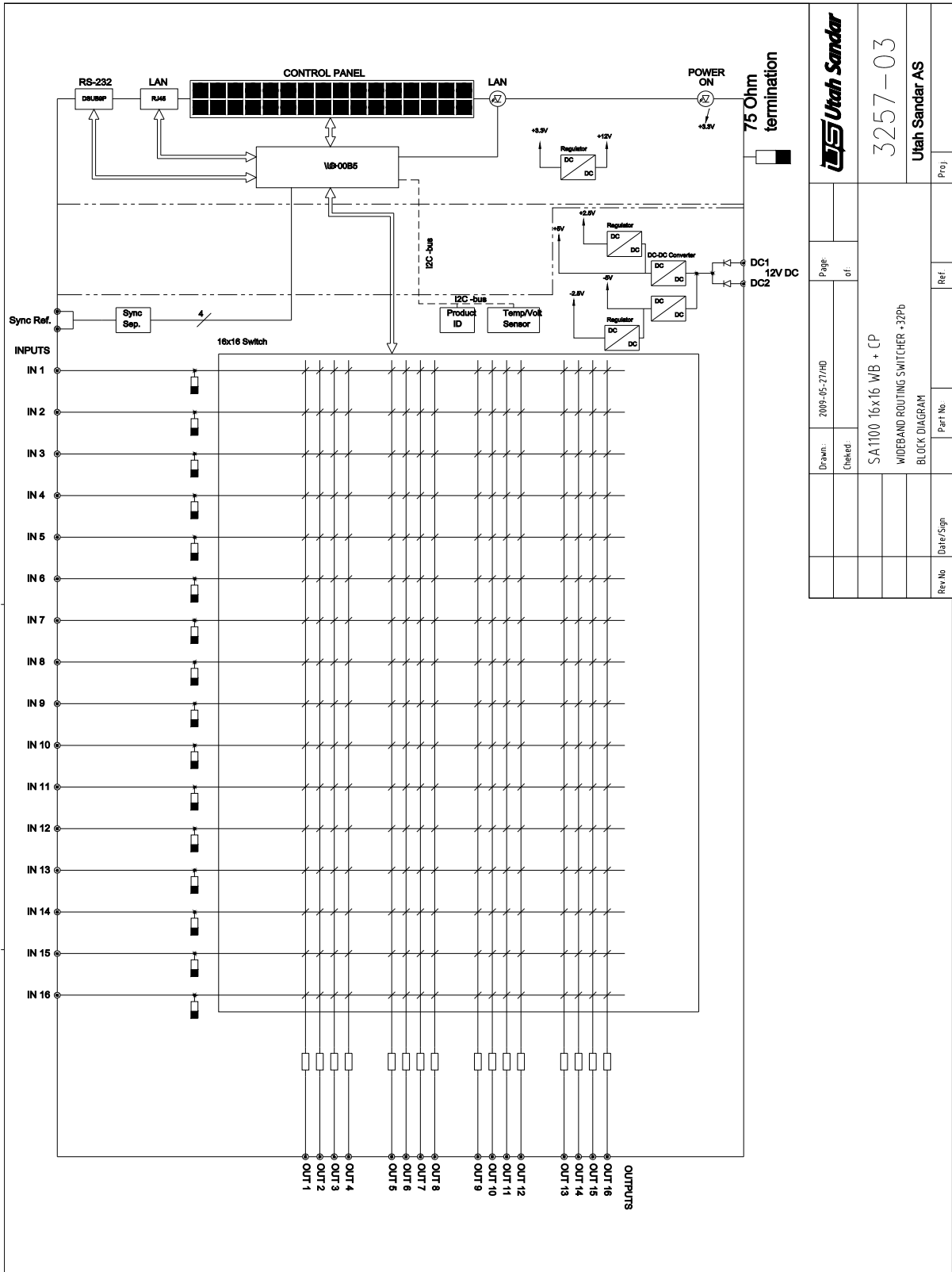*Utah Sandar AS reserves the right to change specifications without prior notice.*

BLOCK DIAGRAM

Model Utah100/X16V

![Utah Sandar] **Utah Sandar**

Model UTAH100/X16VCP