

Utah Sandar AS

User Manual & Installation Guide

UTAH-100/XADA SERIES

Analogue Audio Distribution 1:4 & 1:8

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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
1.1	2009-10-06	Changed Product name
1.0	2008-11-27	Production release
A	2008-08-08	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 delivered after 13. Aug 2005 will comply with the EU Directive 2002/96/EC on Waste from Electrical and Electronic Equipment aka WEEE directive. Please contact your local Sandar sales representative for information about returning these products for safe disposal/recycling. Sandar equipment that complies with the directive will be marked with a WEEE-compliance emblem.



RoHS: All Utah Sandar products delivered after 30. June 2006 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. 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.

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

UTAH100/XADA SERIES 1:4 x8 and 1:8 x4 Audio Distribution is a high-density frame for use in professional Broadcast or Studio environments. Different versions are available, but two versions are standard. One are designed with eight amplifiers, each amplifier with 1 electronic balanced input and 4 electronic balanced outputs and the other one are designed with four amplifiers, each with 1 electronic balanced input and 8 electronic balanced outputs.

The versions are:

Model UTAH100/XADA Series:

- **UTAH100/XADA24:** 2 Channels with 1 input 4 outputs
- **UTAH100/XADA44:** 4 Channels with 1 input 4 outputs
- **UTAH100/XADA64:** 6 Channels with 1 input 4 outputs
- **UTAH100/XADA84:** 8 Channels with 1 input 4 outputs (Standard)

- **UTAH100/XADA18:** 1 Channels with 1 input 8 outputs
- **UTAH100/XADA28:** 2 Channels with 1 input 8 outputs
- **UTAH100/XADA38:** 3 Channels with 1 input 8 outputs
- **UTAH100/XADA48:** 4 Channels with 1 input 8 outputs (Standard)

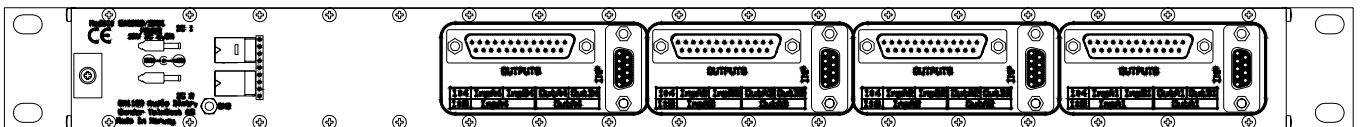
The 19" wide, 1RU high and 67 millimetres deep frame houses the amplifiers and DC-DC power. The frame has redundant power solution and supplies with 12V DC. The blue LED in the front indicates that the unit is ON.

Because of the broadband nature of the UTAH100/XADA SERIES 1x4/1x8 Audio Distribution, it will handle different type of signals:

- **Analogue audio** (Twisted Pair Signals)
- **Time code signals** (SMPTE/EBU LTC)



Front

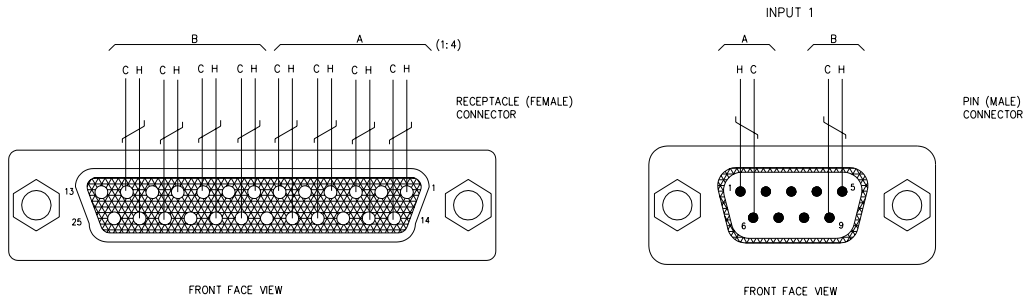


Rear

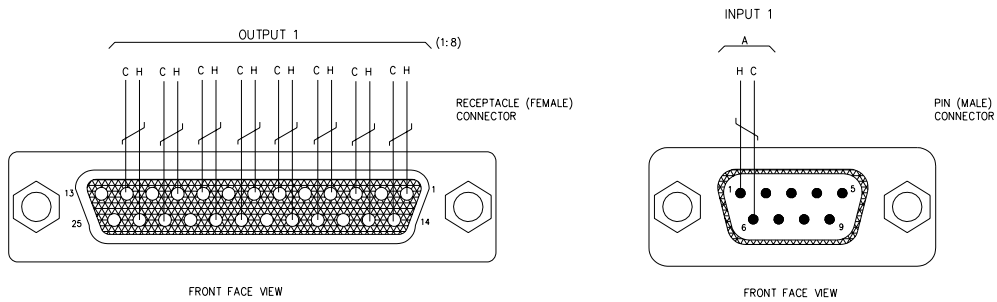
PINOUT

Audio Cable Connections

1:4

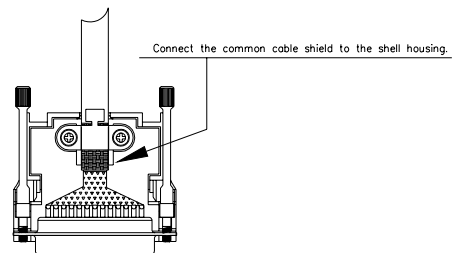
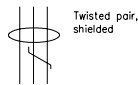


1:8



H=HOT, 0°, +
C=COLD, 180°, -
G=GROUND, Ch, \oplus

The shell housing must be of metalized type.
Connect the common cable shield to the shell housing.



The shell housing must be of metalized type.

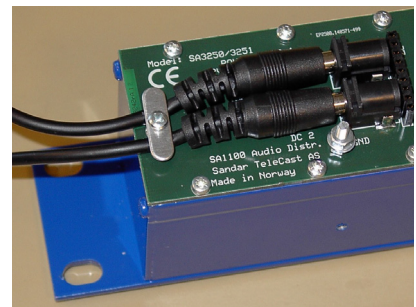
Power Connection

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



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

To prevent unintended disconnecting of power plugs: Use the cable clamp as the image shows.



SPECIFICATIONS

INPUTS:

Number	UTAH-100/XADA84	: 1 (x 8 amplifiers) el. balanced
	UTAH-100/XADA48	: 1 (x 4 amplifiers) el. balanced
Impedance		: <20K Ω
CMRR 20-20000Hz		: >70dB

OUTPUTS:

Number	UTAH-100/XADA84	: 4 (x 8 amplifiers) el. balanced
	UTAH-100/XADA48	: 8 (x 4 amplifiers) el. balanced
Impedance		: <50 Ω
Output symmetry		: >60dB

PERFORMANCE:

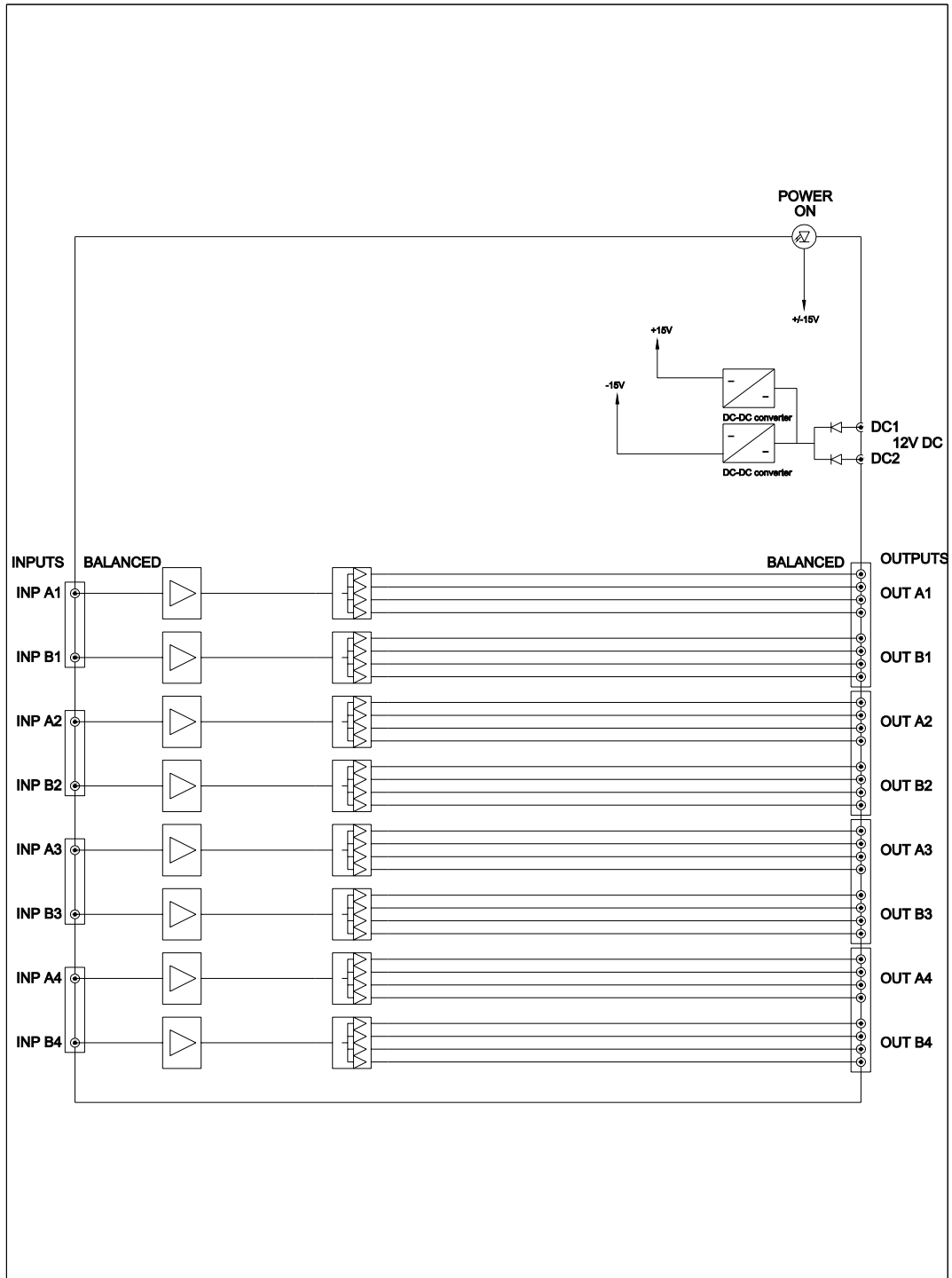
System gain, 600 Ω load		: -0.8 dB, \pm 0,1dB
System gain, 10k Ω load		: -0.15 dB, \pm 0,1dB
Gain difference two Ch. 1kHz		: \pm 0.2dB
Frequency response 20 – 20000Hz		: \pm 0.1dB
Bandwidth 20Hz-200kHz		: -0.3dB
Phase between two Ch.		: < 1 $^\circ$
THD+noise, +6dB into 600 Ω		: < 0.002%
THD+noise, +24dB into 600 Ω		: < 0.005%
Max level, 10K Ω load		: +24dBu (<0,003%THD+N @ 1kHz)
Max level, 10K Ω load		: +24dBu (<0,005%THD+N 20-20000Hz)
Noise, 50 Ω source (Q-Pk)		: < -87dBu
Crosstalk, 20-20000Hz		: > 90dBr

POWER:	DC 1	: 12V, 0.6A
	DC 2	: 12V, 0.6A

FRAME:		: UTAH100/XADA84 & UTAH100/XADA48
		W: 482.6mm (19")
		H: 43.6mm (1U)
		D: 52mm
Weight		: 0.7kg
Operating temperature range		: 0 $^\circ$ C - 45 $^\circ$ C
Humidity		: 90% non condensing

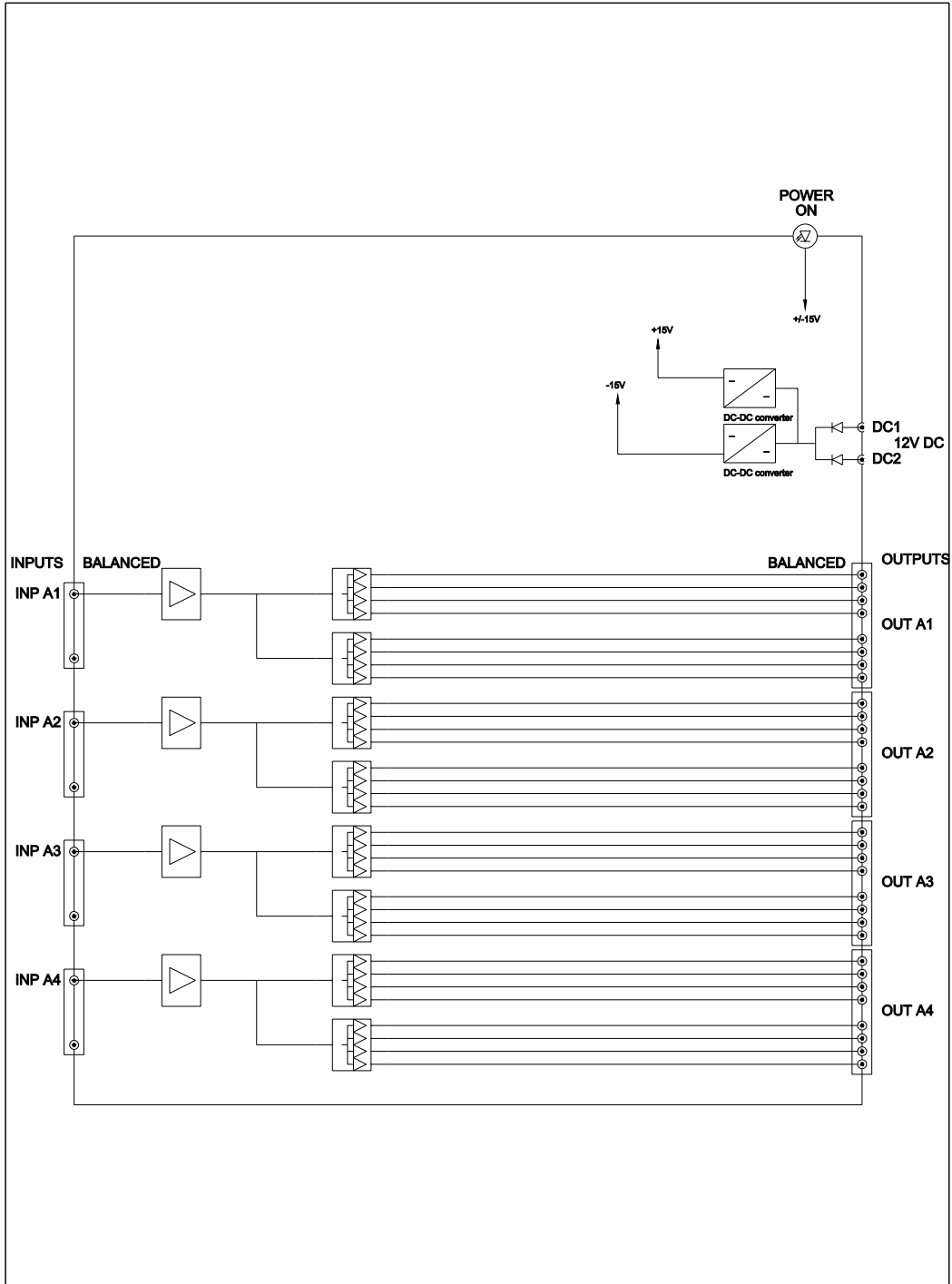
Utah Sandar AS reserves the right to change specifications without prior notice.

DRAWING – UTAH-100/XADA84 BLOCK DIAGRAM



		Drawn:	2008-08-06/HD	Page:		Utah Sandar
		Checked:		of:		
02	2009-10-06/HD	UTAH-100/XADA84 8 Ch. 1x4 ANALOGUE AUDIO DISTRIBUTION, 19",1U				3250-03
01	2008-11-28/HD	BLOCK DIAGRAM				Utah Sandar AS
Rev No	Date/Sign	Part No.		Ref.		Proj

DRAWING – UTAH-100/XADA48 BLOCK DIAGRAM



		Drawn:	2008-08-06/HD	Page:		
		Checked:		of:		
		UTAH-100/XADA48 4 Ch. 1x8 ANALOGUE AUDIO DISTRIBUTION, 19",1U BLOCK DIAGRAM				3251-03
02	2009-10-06/HD					Utah Sandar AS
01	2008-112-03/HD					
Rev.No	Date/Sign	Part No.	Ref.	Proj		