

TRU Series

User Manual



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Introduction

Line Transformer Unit

The TRU series are Line transformer units containing toroidal line transformers, allowing low impedance power amplifiers to be used for powering large public address audio systems with constant voltage levels of 100 Volt, 70 Volt and 50 Volt.

Several models are available differing in the number of channels and/or the output power for each channel. The output power for each channel can differ from 120 Watt to 500 Watt and the number of channels housed in one unit can vary from 4 to 8.

Unlike regular line transformer units, the TRU series have a special internal decoupling network which make them suitable for use in combination with Class-D power amplifiers.

The line transformers are housed in a solid constructed 19" rack mounting housings with a height of 1 or 2 unit. The connections for both in and outputs are performed using reliable Terminal blocks.

Precautions

READ FOLLOWING INSTRUCTIONS FOR YOUR OWN SAFETY

ALWAYS KEEP THESE INSTRUCTIONS. NEVER THROW THEM AWAY

ALWAYS HANDLE THIS UNIT WITH CARE

HEED ALL WARNINGS

FOLLOW ALL INSTRUCTIONS

NEVER EXPOSE THIS EQUIPMENT TO RAIN, MOISTURE, ANY DRIPPING OR SPLASHING LIQUID. AND NEVER PLACE AN OBJECT FILLED WITH LIQUID ON TOP OF THIS DEVICE.

DO NOT INSTALL THIS UNIT NEAR ANY HEAT SOURCES SUCH AS RADIATORS OR OTHER APPARATUS THAT PRODUCE HEAT

DO NOT PLACE THIS UNIT IN ENVIRONMENTS WHICH CONTAIN HIGH LEVELS OF DUST, HEAT, MOISTURE OR VIBRATION

THIS UNIT IS DEVELOPED FOR INDOOR USE ONLY. DO NOT USE IT OUTDOORS

PLACE THE UNIT ON A STABLE BASE OR MOUNT IT IN A STABLE RACK

ONLY USE ATTACHMENTS & ACCESSORIES SPECIFIED BY THE MANUFACTURER



CAUTION – SERVICING

This product contains no user serviceable parts. Refer all servicing to qualified service personnel. Do not perform any servicing (unless you are qualified to)



EC DECLARATION OF CONFORMITY

This product conforms to all the essential requirements and further relevant specifications described in following directives: 2004/108/EC (EMC) and 2006/95/EC (LVD)



WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

The WEEE marking indicates that this product should not be disposed with regular household waste at the end of its working life. This regulation is created to prevent any possible harm to the environment or human health.

This product is developed and manufactured with high quality materials and components which can be recycled and/or reused. Please dispose this product to your local collection point or recycling centre for electrical and electronic waste. This will make to sure that it will be recycled on an environmentally friendly manner, and will help to protect the environment in which we all live.

CAUTION

The symbols shown are internationally recognized symbols that warn about potential hazards of electrical products. The lightning flash with arrowpoint in an equilateral triangle means that the unit contains dangerous voltages. The exclamation point in an equilateral triangle indicates that it is necessary for the user to refer to the users manual.



These symbols warn that there are no user serviceable parts inside the unit. Do not open the unit. Do not attempt to service the unit yourself. Refer all servicing to qualified personnel. Opening the chassis for any reason will void the manufacturer's warranty. Do not get the unit wet. If liquid is spilled on the unit, shut it off immediately and take it to a dealer for service. Disconnect the unit during storms to prevent damage.

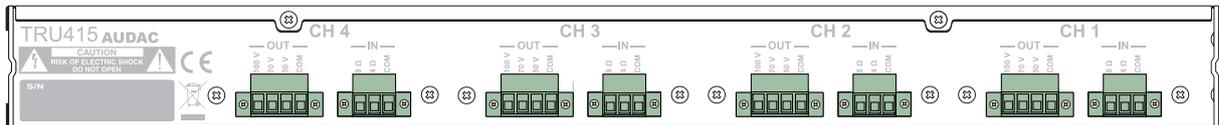
Chapter 1

Front & rear panel

Front panel overview



Rear panel overview



Front panel description

The front panel doesn't contain any indicators or controls because of the complete passive function of the devices.

Rear panel description

The rear panel contains all connection facilities. Every channel is provided with a 3-pin input connector and a 4-pin output connector, both performed by Terminal block connectors with locking screws to ensure a reliable connection.

The input connections (wires coming from the amplifier) shall be connected to the 3-pin connector. Depending of the load capabilities of the connected amplifier the connection can be made for 8 Ohm or 4 Ohm.

The output connections (wires going to the loudspeakers) shall be connected to the 4-pin connector. Depending of the desired output voltage the connection can be made for 100 Volt, 70 Volt or 50 Volt.

NOTE

The front and rear panel for the different TRU units may slightly vary depending on the model (different number of channels or different output power). Although, the principle for all the TRU units stay the same and the connections are always performed in the same way. Because of this, drawings for only one single TRU unit is shown above.

Chapter 2

Connecting

The inputs of the TRU unit simply should be connected to the low impedance loudspeaker outputs of a power amplifier. Depending of the output power and the load capabilities of the connected amplifier the connection can be made for 8 Ohm and 4 Ohm.

Due to the internal decoupling network which is internally provided, the TRU units can be connected to Class-D amplifiers, which is unlikely for regular line transformers (or line transformer units).

The loudspeakers shall be connected to the outputs of the TRU units. Depending of the desired output voltage the connection can be made for 100 Volt, 70 Volt or 50 Volt.

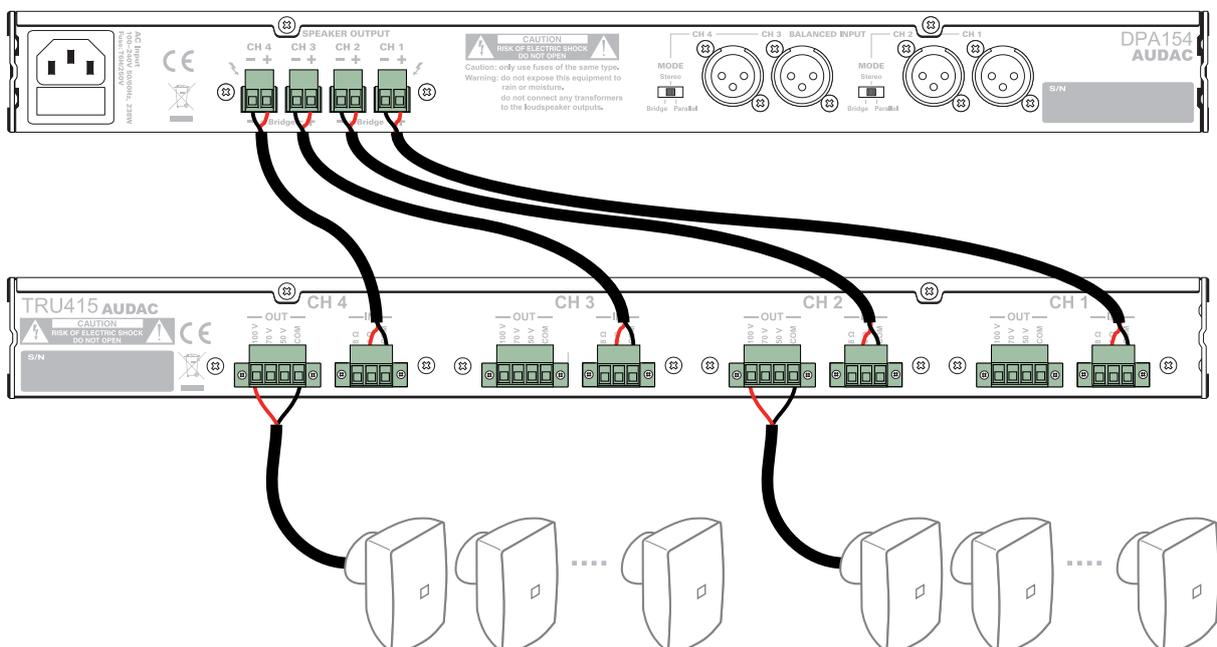
NOTE

The total load of the loudspeaker lines should always be verified before connecting, using a real impedance measurement device.

Minimum impedance table

	100V	70V	50V
TRU812	83.33 Ohm	41.67 Ohm	20.83 Ohm
TRU415	66.67 Ohm	33.33 Ohm	16.67 Ohm
TRU425	40 Ohm	20 Ohm	10 Ohm
TRU450	20 Ohm	10 Ohm	5 Ohm

Example diagram



Chapter 3

Additional information

Technical specifications

Output power	TRU415 TRU425 TRU450 TRU812	4 x 150 Watt 4 x 250 Watt 4 x 500 Watt 8 x 120 Watt
Output power taps		100 Volt / 70 Volt / 50 Volt
Output impedance	TRU415 TRU425 TRU450 TRU812	66.67 Ohm / 33.33 Ohm / 16.67 Ohm 40 Ohm / 20 Ohm / 10 Ohm 20 Ohm / 10 Ohm / 5 Ohm 83.33 Ohm / 41.67 Ohm / 20.83 Ohm
Input impedance		4 Ohm / 8 Ohm
Frequency response (± 3 dB)		35 Hz – 20 kHz
THD+N		< 0.1 %
Transformer type		Toroidal
Connectors	Input Output	3–pin Terminal block connector with lock (5.08 mm) 4–pin Terminal block connector with lock (5.08 mm)
Construction		Steel
Mounting		19 “ Rack mount
Unit height	TRU415 TRU425 TRU450 TRU812	1 HE 1 HE 2 HE 2 HE
Dimensions (W x H x D)	TRU415 TRU425 TRU450 TRU812	482 x 44 x 322 mm 482 x 44 x 322 mm 482 x 88 x 322 mm 482 x 88 x 322 mm
Weight	TRU415 TRU425 TRU450 TRU812	Kg Kg Kg Kg
Recommended accessories		Procab CLA530 Terminal Block connection cable

