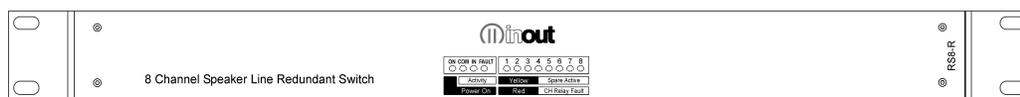


USER MANUAL



Version 1.2



RS8-R

Warranty

RS8-R is covered by 24 month warranty on its electronics parts, starting from the date of purchase. This warranty becomes void in case of tampering with the device and in case of work carried out on it by people that were not authorized by the manufacturer or by an authorized dealer. Warranty conditions are those described in the "Warranty Rules".

NOTE - responsibility of the purchaser: in case of repair under warranty, the device must be packed in order to avoid damage during transport and shipped to the manufacturer together with all the accessories.

Warranty Rules.

1. In order to exercise his warranty rights, the purchaser must include with the device a copy of the evidence of purchase duly stamped by the dealer (bill/invoice).
2. The warranty lasts 24 months on the electronic parts. The warranty is granted at the point of sale or it could be directly requested to the manufacturer.
3. The warranty only covers damage to the product which makes it work badly.
4. Work under warranty will only mean repairing or replacing, free of charge, any parts acknowledged being defective during manufacture or in their material, including labour costs.
5. The warranty does not apply to damage caused by negligence or failure to comply with the instructions, or damage caused by unauthorised people, with a special reference to the external parts.
6. Also, the warranty does not apply to damage caused to the device by connection to unsuitable power sources.
7. The warranty does not cover parts that are subject to wear as a consequence of the use, as well as the chassis if the material is not defective.
8. The warranty does not include transport costs, which will be paid by the purchaser depending on way and time of transport.
9. The warranty expires 24 months after the purchase. In this case, service will be provided charging for the replaced parts, labour costs and transport according to the current rates.
10. In case of any controversy the Court of Law of Venice has the exclusive jurisdiction.

SUMMARY

1. Installation

- 1.1 Introduction
- 1.2 Contents of the RS8-R
- 1.3 Safety rules

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- 3.5 Mode setting dip switch
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- 4.2 Mechanical dimensions
- 4.3 Block diagram
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1

Installation

1.1 Introduction

The relay switch RS8-R was designed to provide an useful backup mechanism and to guarantee an absolute stability and reliability, allowing the use with most amplifiers on the market.

Thanks to the internal microcontroller, the RS8-R relays can be driven by serial commands and it can display on the front panel the fault status and channels status by leds.

1.2 Contents of the RS8-R

Contents of the RS8-R kit:

- n° 1 RS8-R device
- n° 1 user manual
- n° 1 power supply cable

1.3 Safety rules

Read carefully the following warnings to keep your and others safety, for the right use of the device and to avoid warranty invalidation.

1. Do not expose the device to rain or high humidity. Protect the device from accidental liquid penetration, if it happens, stop using the device and apply to qualified or authorized personnel.
2. Do not insert things into the device through the openings to avoid risk of fire or electric shock.
3. Before connect the amplifier, ALWAYS verify the ground connection as requested by the law.
4. Disconnect the device from the light socket before make any operation for the internal device configuration.
5. If the original power cord is waste or deteriorate, replace it with a similar one.
6. Disconnect the device from the light socket before make cleaning operations. Clean the device with a dry and soft cloth. Do not use liquids or spray that can contain flammable elements.
7. Device handling must take place only when all the cables have been disconnected.
8. Device maintenance must be done only by qualified personnel.
9. For any requirement or technical information contact InOut or authorized personnel.

OBSOLETE DEVICES DISPOSAL

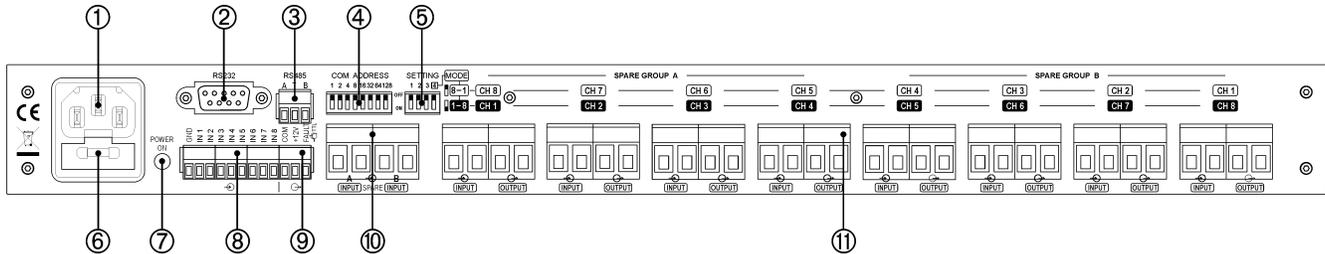


- This picture means that the device is European Directive 2002/96/EC compliant.
- All electronic and electric devices should be disposed separately from the normal garbage, by specific gathering plants designated by the government or by local authorities.
- Correct disposal of obsolete devices, of the accessories and especially of the batteries, contribute to prevent possible negative consequences on human health and on the environment.
- For detailed information on obsolete devices disposal, contact the municipality, the garbage disposal service or the store where you bought the device.

2

Overview

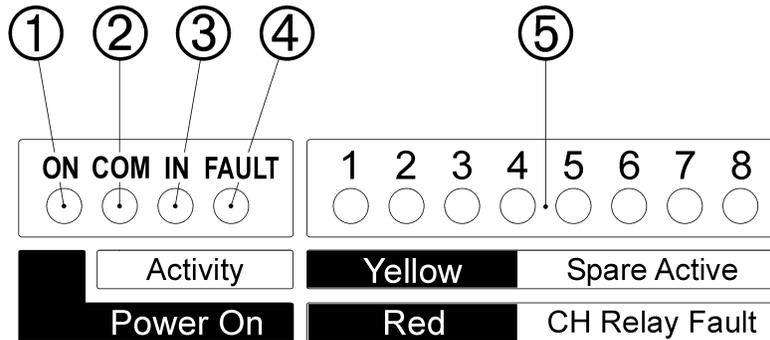
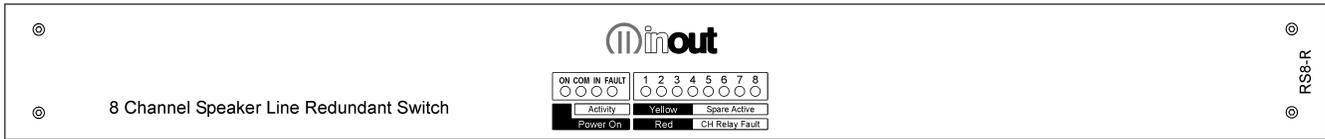
2.1 Rear panel overview



- 1 - AC mains power connector, use the appropriate supplied cable.
- 2 - RS232 serial connector
- 3 - RS485 serial connector
- 4 - Com address switch
- 5 - Mode setting switch:
 - 1. Fault-out inverted
 - 2. Fault buzzer ON
 - 3. 9600/38400 baud
 - 4. CH1/CH8 inverted
- 6 - Protection fuse on mains power
- 7 - “Device ON” LED, powered device
- 8 - Logic inputs
- 9 - Fault output TTL connector
- 10 - Spare Inputs connector.
- 11 - CH 1-2-3-4-5-6-7-8 input/output connectors

Note: The input Spare A is the backup amplifier input for the channels from 1 to 4, Spare B for the channels from 5 to 8. By simply connecting Spare A and B in parallels you can associate a single backup amplifier to all 8 channels.

2.2 Front panel overview



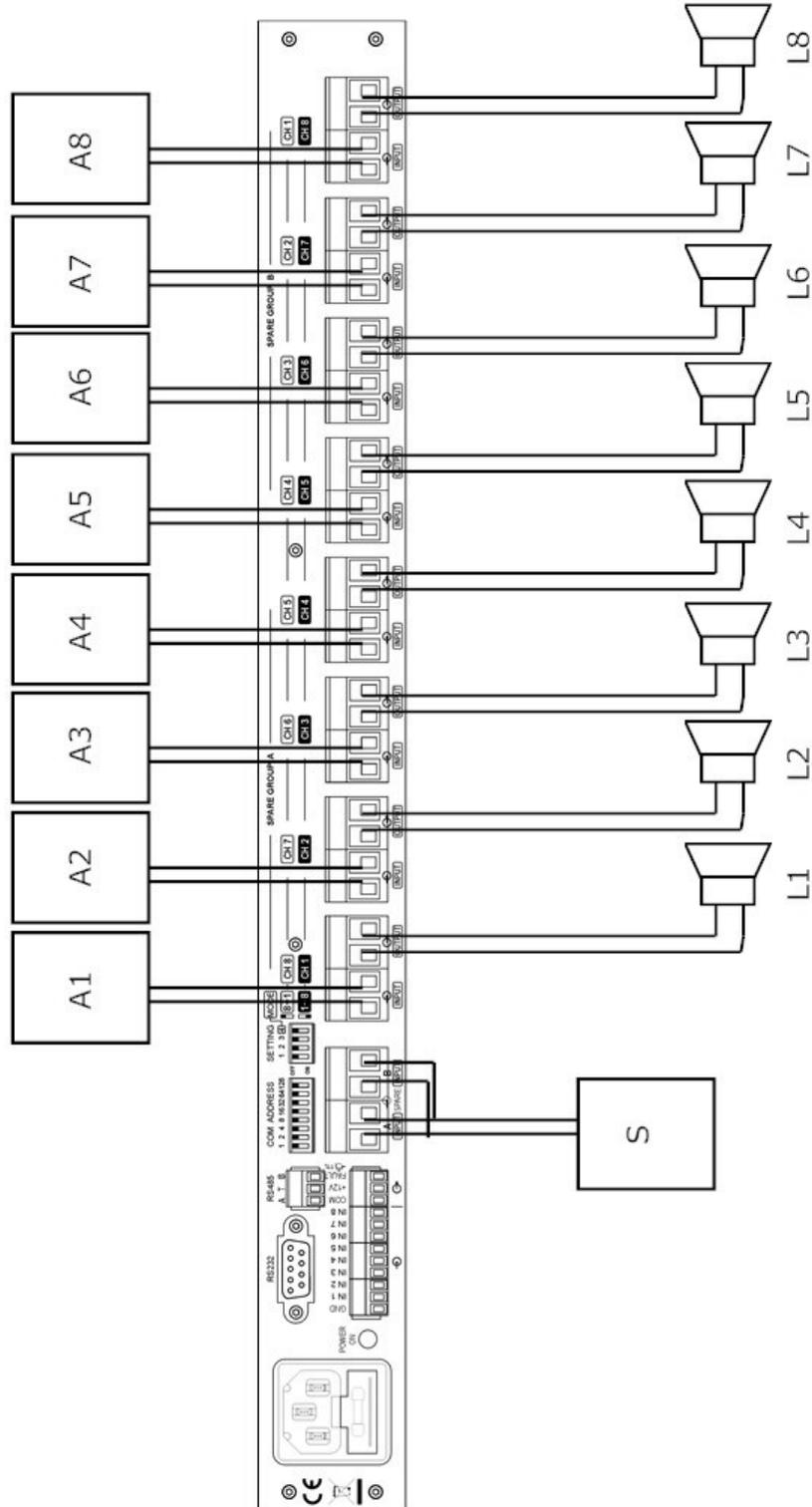
- 1 - Device ON” LED, powered device.
- 2 - COM serial activity
- 3 - Logic input activity
- 4 - General Fault CH1-CH8
- 5 - Two-colour LED with indication purpose:

LED	Description/ Indicating
Off	= Normal function
Yellow	= Spare Active
Red	= CH Relay Fault

3

Connections and configurations

3.1 General Link



3.2 RS232 Serial communication

RS8-R can be connected by RS232 serial port to a master control system or else to a computer. Due to noise coming from outside on the serial line, there can be anomalous behavior by the master system with possible damage to RS-8R. To prevent this kind of danger, the following precautions must be complied with:

- Do not let the serial cables through the same conduits as power cables or high voltage cables. Keep a safety distance from such cables of at least 10 cm.
- Connect the shield of the serial cable to the ground on one of its sides (do not connect the screen from both sides). The shield also must not be grounded at the same point where circuits with high voltages are grounded.
- Disconnect the whole system from the power supply before starting to cable the serial lines. Leaking or parasite current can damage the units.
- The maximum total distance of the RS232 connection is 5 meters.

RS-8R, on the bus RS232, acts exclusively as slave, answering to the commands sent by the master unit.

Note: After each correct string received the COM LED (serial activity) will be on for two seconds, so if the master unit does a polling at interval less than 2 seconds a COM LED off can indicate a communication error.

3.3 RS485 Serial communication

RS8-R could be connected via serial port to an RS485 communication bus, in order to be controlled by a master system or a computer.

Because of disturbs on the serial line coming from outside, dysfunctions can occur to the master system with possible harms to the amplifier; to avoid such troubles use the following precautions:

- Do not put serial cables in the same pipe with power cables or hi-voltage cables. Keep a safe distance from those cables, at least 10 cm.
- Connect the cable screen to the ground at one end (not both ends); ground connection should not be made in the same point where hi-voltage circuits are connected to the ground.
- Switch off the whole system before start wiring the serial lines: also missing or parasite currents could damage the modules.

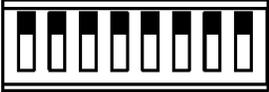
RS8-R support multipoint serial communication with the RS-485 electric standard, that allows to connect up to 255 devices, each one with its own address.

The address is a number that enables the master system to establish the communication with a specific RS8-R among the several ones connected to the same communication bus.

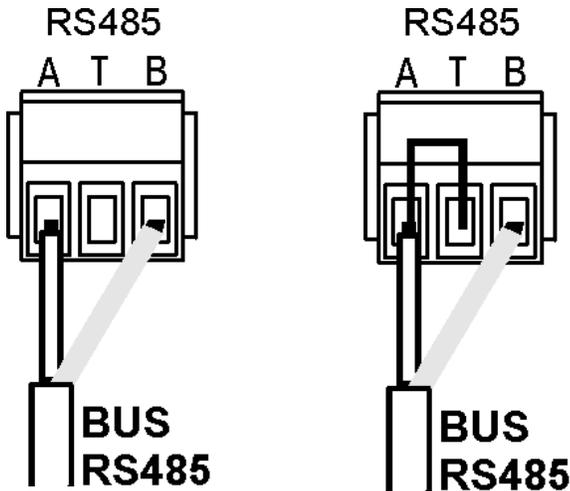
Note: After each correct string received the COM LED (serial activity) will be on for two seconds, so if the master unit does a polling at interval less than 2 seconds a COM LED off can indicate a communication error.

⚠ IMPORTANT: during address setting pay attention to not define more than one module with the same number, otherwise communication becomes confuse and irregular and exchanged data will doesn't make sense.

ADDRESS SETTING ON RS485 BUS

<p>COM ADDRESS</p> <p>1 2 4 8 16 32 64 128</p> 	<p>S1 ON = ID + 1</p> <p>S2 ON = ID + 2</p> <p>S3 ON = ID + 4</p> <p>S4 ON = ID + 8</p> <p>S5 ON = ID + 16</p> <p>S6 ON = ID + 32</p> <p>S7 ON = ID + 64</p> <p>S8 ON = ID + 128</p>
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RS485 BUS CONNECTION



TERMINATION RESISTANCE ON SERIAL LINE

When connected to an RS485 bus should be provided termination resistance at both ends of the line, to avoid stationary waves creation ant to define line impedance also with no transmission. RS8-R has the termination resistance inside, but it is disconnected. To plug it in just short circuit A and T clamps as shown in the picture.

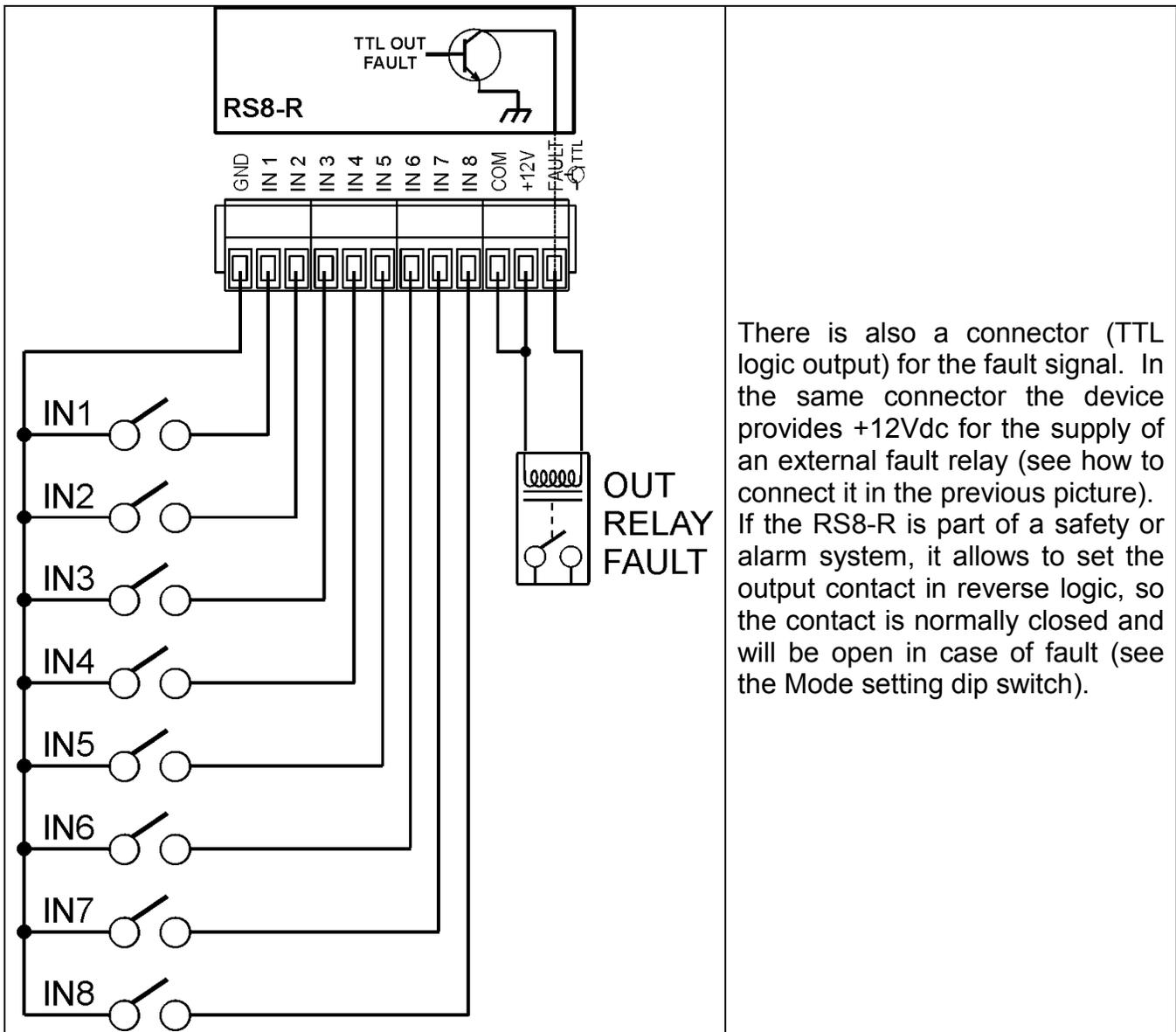
3.4 Logical inputs and Fault out contact

RS8-R has eight logical inputs that control the channels activation and deactivation.

The pins are:

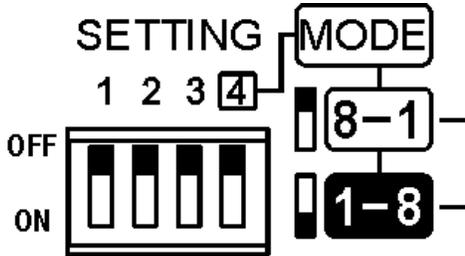
- 1- GND
- 2- IN 1
- 3- IN 2
- 4- IN 3
- 5- IN 4
- 6- IN 5
- 7- IN 6
- 8- IN 7
- 9- IN 8

In order to activate the channel connect the desired input to GND.



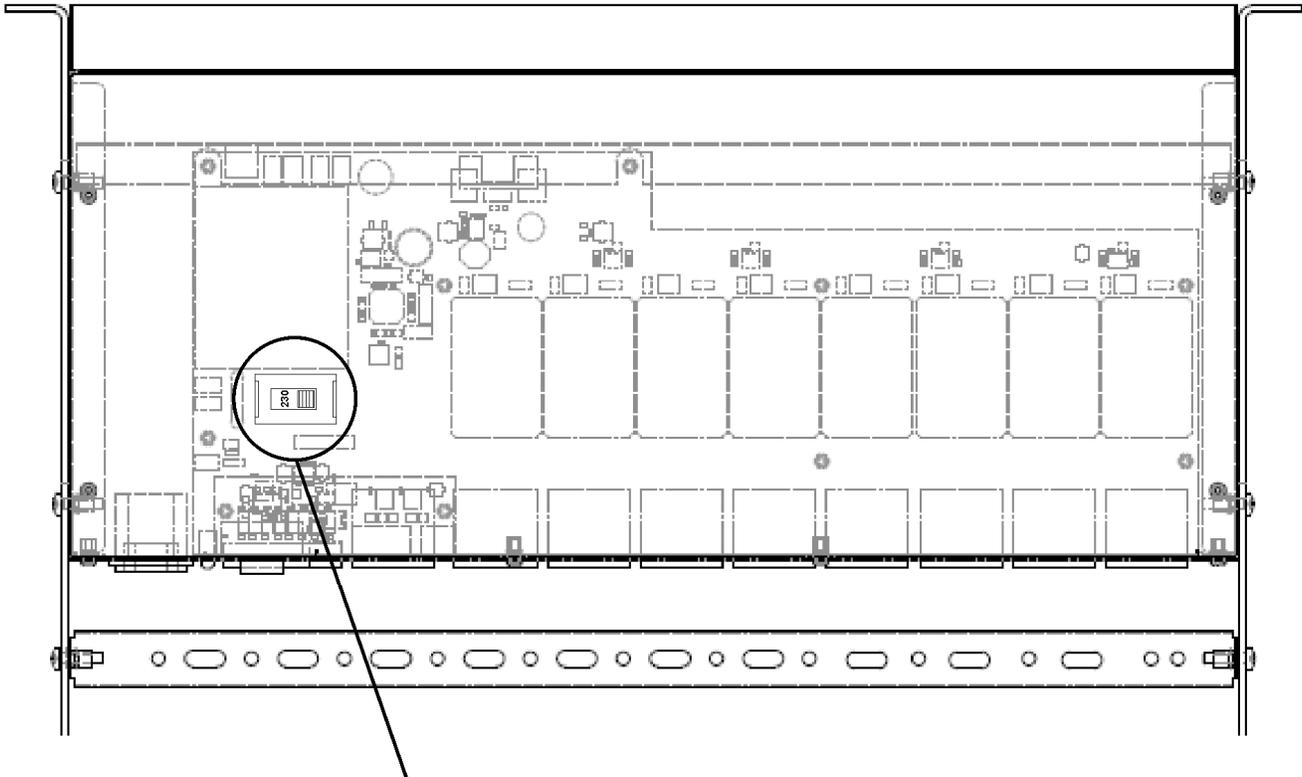
3.5 Mode setting dip switch

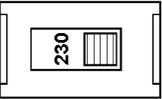
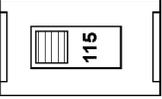
In the rear panel is also available a second dip switch for the setup of the RS8-R.

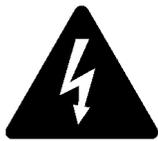


<i>Set</i>	<i>Action</i>	<i>Description</i>
1 =	Fault-out contact inverted (default OFF)	The RS8-R is equipped with output connectors for reporting faulty amplified channel both with contact and relay TTL output. If the amplifier is placed inside a security system or alarm, DA250-P allows you to configure the relay contacts with contrary logic in which the contact is normally closed during normal operation and will open in case of failure. To enable this mode of operation TOP lift the lid and set the jumpers as follows.
2 =	Fault buzzer ON (default OFF)	RS8-R is equipped with an internal buzzer that is activated when you unplug the spiral cable between the front and the main housing or in case of general failure.
3 =	9600/38400 baud rate setting (default OFF)	OFF = 9600 baud serial communication ON = 38400 baud serial communication
4 =	CH1/CH8 inverted (default OFF)	Allows you to reverse the sequence of connecting channels

3.6 115-230Vac selection



VOLTAGE SELECT SWITCH	
MAINS VOLTAGE 230V _{AC} / 50Hz MAINS FUSE T 315mA	
MAINS VOLTAGE 115V _{AC} / 60Hz MAINS FUSE T 630mA	



CAUTION
RISK OF ELECTRIC SHOCK



**DISCONNECT THE POWER CABLE FROM THE UNIT BEFORE REPLACING FUSE.
REPLACE THE MAINS FUSE ONLY WITH THE SAME TYPE AND RATING.**

4

Specifications

4. 1 Technical features

Mains power.....	: 230 Vac / 50Hz or 115 Vac / 60 Hz
Consumption.....	: 46 W
Mains protection.....	: 315 mA 250V delayed fuses
Max current	: 16 A
Max power for 4/8 Ohms lines	: 600 W
Max power for 70/100V lines.....	: 800 W
Isolation between lines.....	: 4 KV
Number of switching lines.....	: 8
Number of spares.....	: 2
Front led.....	: Power, COM activity, Fault, Channels activation
Controls.....	: RS232 or RS485 or Logic contacts
Classification.....	: IP 30 in the strength of liquid and powders permeation.
Dimensions.....	: 44x434x206mm.
Weight.....	: 1.9 Kg.

CEE directive compliant:

Safety.....	: 2006/95/EC
Electromagnetic compatibility.....	: 2004/108/EC

Applied standards:

Safety.....	: EN 60065: 2002 + A1:2006 Audio, video and similar electronic apparatus – Safety requirements.
Electromagnetic compatibility.....	: EN 55103-1: 1998 Environment E2 Product family standard or audio, video, audio-visual and entertainment lighting control apparatus for professional use Part 1: Emission
	: EN 55103-2: 1998 Environment E2 Product family standard or audio, video, audio-visual and entertainment lighting control apparatus for professional use Part 2: Immunity

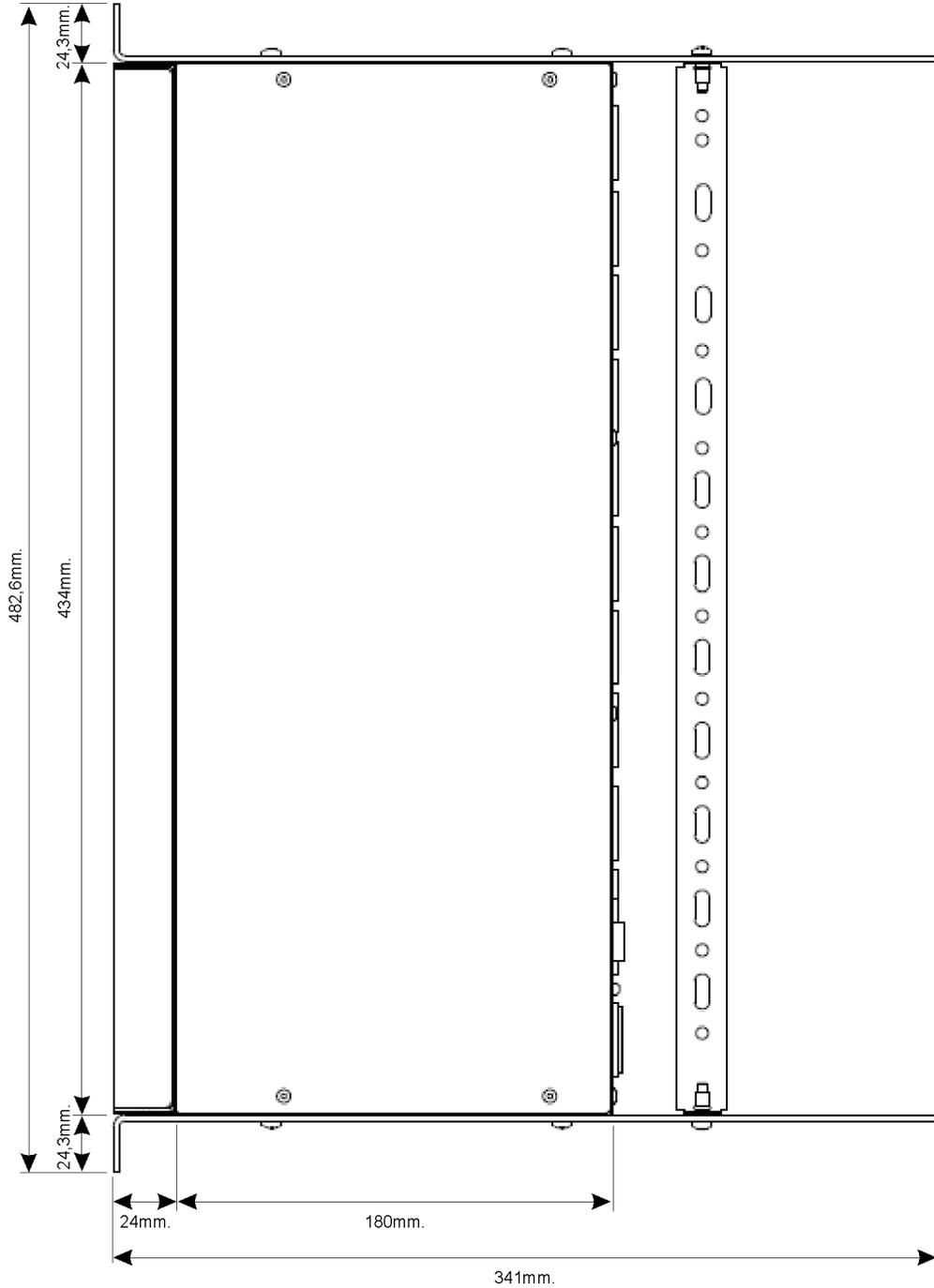
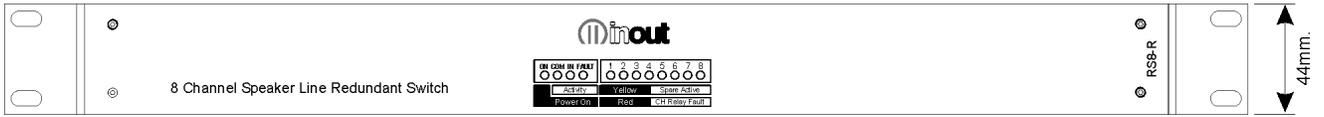


Manufactured by:

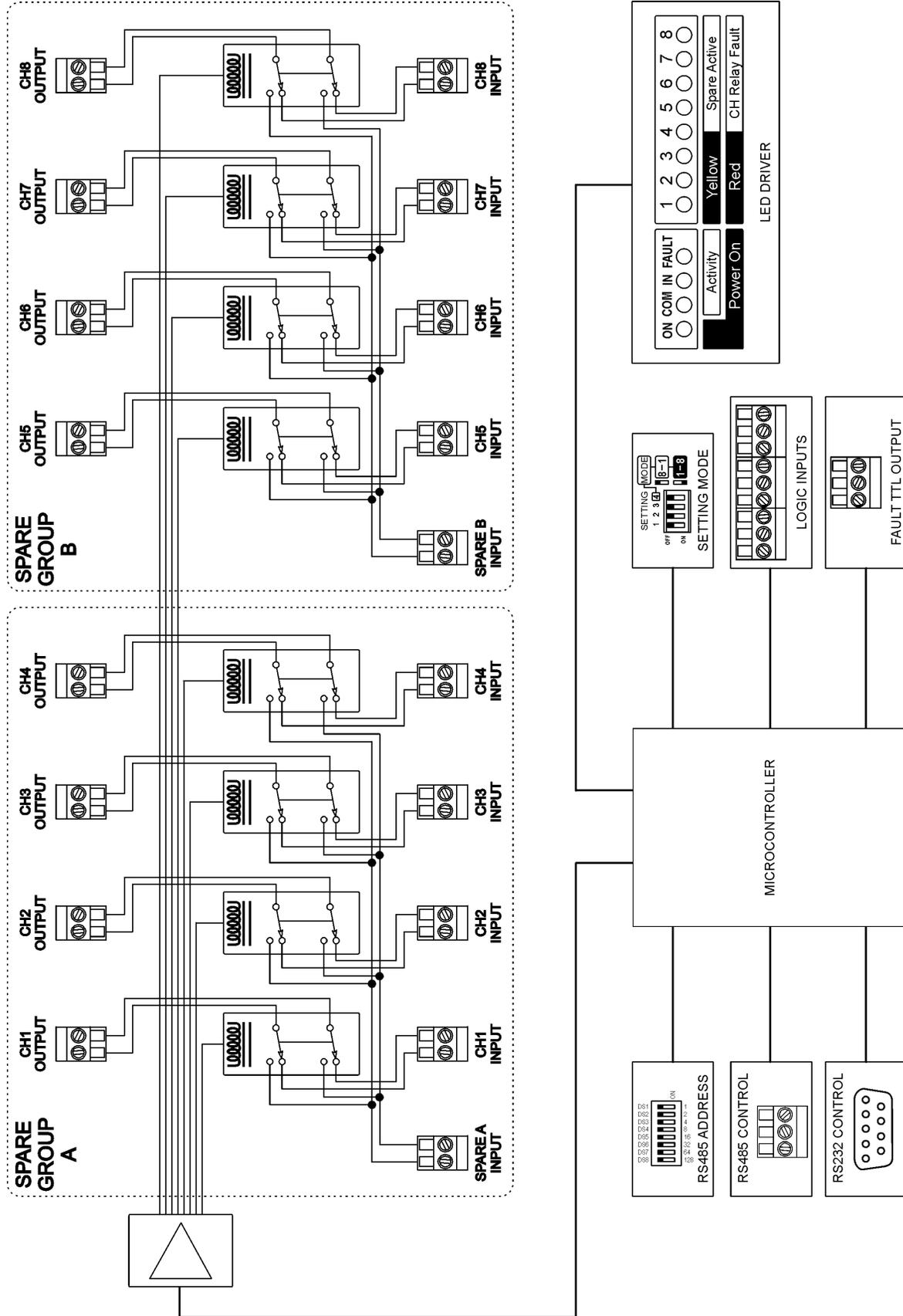


Noventa di Piave (VE) - ITALY

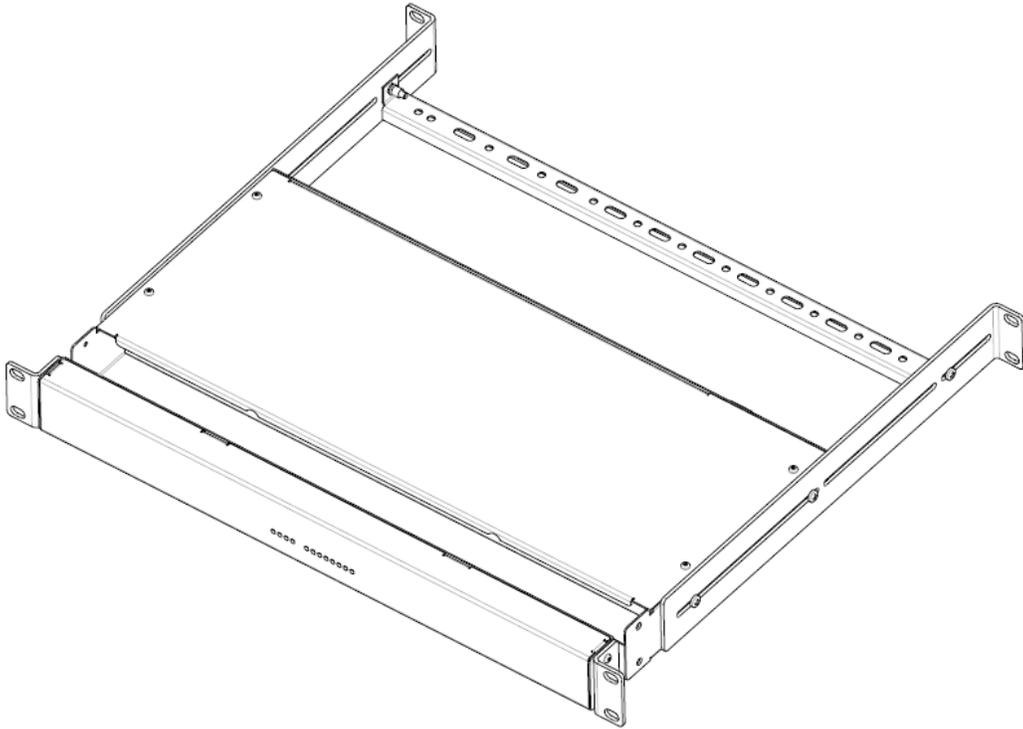
4.2 Mechanical dimensions



4.3 Block diagram



4.4 Rack Mounting



Adjustable Front Panel to accomodate any rack lenght.

