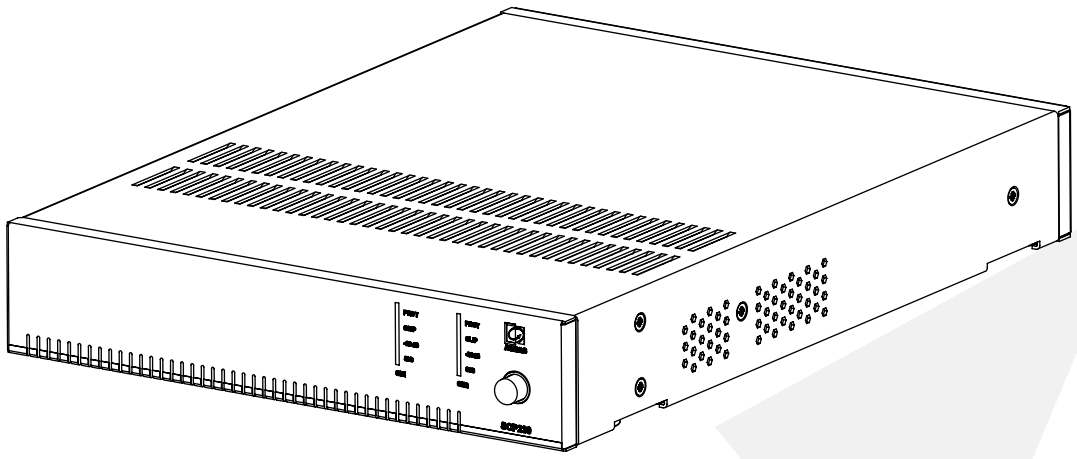
AUDAC

User manual

SCP2xx



ADDITIONAL INFORMATION

This manual is put together with much care, and is as complete as could be on the publication date. However, updates on the specifications, functionality or software may have occurred since publication. To obtain the latest version of both manual and software, please visit the Audac website @ audac.eu.

REV-3.9

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Compact dual-channel power amplifier

The SCP series is a range of extremely powerful compact dual-channel power amplifiers for commercial use. These half 19" devices can be used in stereo low impedance or 70/100V bridge mode. There are several different models to serve a wide range of applications with power ratings that vary between 120W to 1000W in a half 19" rack space housing.

The compact and elegant design of the half 19" rack space enclosure allows for single installation in a 10.5" equipment rack, or side-by-side (two devices) in a 19" equipment rack.

A connection to the WP2xx series input wall panels or volume controllers can be made via the RJ45 connectors on the back of the SCP.

Equipped with a standby mode switch, the SCP series will enter an energy-saving standby mode after a period of inactivity. This feature together with the overall energy-efficient design makes the SCP meet the high standards of the Energy Star certification.

When you combine the SCP series with a suitable pre-amplifier or wall-mounted input panel you create a powerful and complete solutions for background music installations.

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 PLACE THIS UNIT IN AN ENCLOSED ENVIRONMENT SUCH AS A BOOKSHELF OR CLOSET. ENSURE THERE IS ADEQUATE VENTILATION TO COOL THE UNIT. DO NOT BLOCK THE VENTILATION OPENINGS.

DO NOT STICK ANY OBJECTS THROUGH THE VENTILATION OPENINGS.

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

UNPLUG THIS APPARATUS DURING LIGHTNING STORMS OR WHEN UNUSED FOR LONG PERIODS OF TIME

ONLY CONNECT THIS UNIT TO A MAINS SOCKET OUTLET WITH PROTECTIVE EARTHING CONNECTION

THE MAINS PLUG OR APPLIANCE COUPLER IS USED AS THE DISCONNECT DEVICE, SO THE DISCONNECT DEVICE SHALL BE READILY OPERABLE

USE THE APPARATUS ONLY IN MODERATE CLIMATES

THIS DEVICE CAN BE SOLD IN ALL EU REGIONS

CAUTION

The symbols shown are internationally recognized symbols that warn about potential hazards of electrical products. The lightning flash with arrow point 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.

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: 2014/30/EU (EMC) and 2014/35/EU (LVD). All related standards are listed in a Declaration of Conformity (DoC), which can be found in the products download section on the web-page audac.eu, our through scanning the QR code on page 2 of this user manual.

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 life cycle. 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 at your local collection point or recycling centre for electrical and electronic waste. This will make sure that it will be recycled in an environmentally friendly manner, and will help to protect the environment in which we all live.

POWER SUPPLY AND POWER CORD REQUIREMENTS

Power supply class I grounding requirements:

For protection from fault currents, the equipment shall be connected to a grounding terminal. Plug the system power cord into an AC outlet that provides a ground connection. Substitute cords may not provide adequate fault protection. Only use the power cord supplied with this product or an authorized/equivalent replacement

SAFETY NOTICES:

DENMARK: Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.

FINLAND: Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan.

NORWAY: Apparatet må tilkoples jordet stikkontakt.

SWEDEN: Apparaten skall anslutas till jordat uttag.

ENERGY STAR CERTIFICATION

This product qualifies for ENERGY STAR in the “factory default” setting and this is the setting in which power savings will be achieved. Changing the factory default settings or enabling other features will increase power consumption that could exceed the limits necessary to qualify for ENERGY STAR rating. We want to help you save energy.

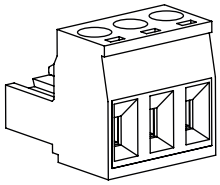
Chapter 1

Connections and connectors

CONNECTION STANDARDS

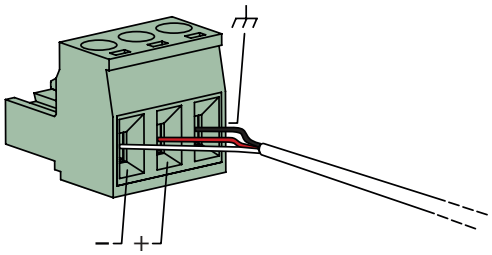
The in- and output connections for AUDAC audio equipment are performed according to international wiring standards for professional audio equipment

3-Pin Terminal block:
For balanced line input connections

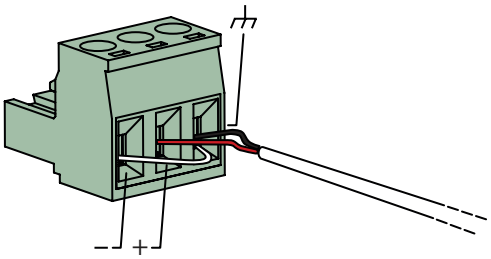


Left:	Signal -	(XLR Pin 3)
Center:	Signal +	(XLR Pin 2)
Right:	Ground	(XLR Pin 1)

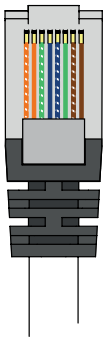
For balanced signal input connections



For unbalanced signal input connections

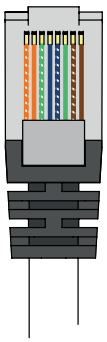


RJ45 (audio):
Remote input units



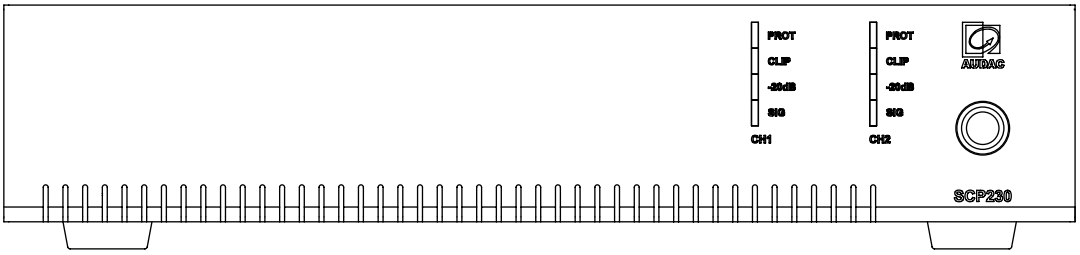
Pin 1	White-Orange	Left channel +
Pin 2	Orange	Left channel -
Pin 3	White-Green	+24V DC
Pin 4	Blue	Not connected
Pin 5	White-Blue	Not connected
Pin 6	Green	GND
Pin 7	White-Brown	Right channel +
Pin 8	Brown	Right channel -

RJ45 (control):
Remote volume controller



Pin 1	White-Orange	Not connected
Pin 2	Orange	Not connected
Pin 3	White-Green	GND
Pin 4	Blue	Variable control voltage (0 ~ 10V)
Pin 5	White-Blue	+10V
Pin 6	Green	+10V
Pin 7	White-Brown	Not connected
Pin 8	Brown	Not connected

Front panel overview



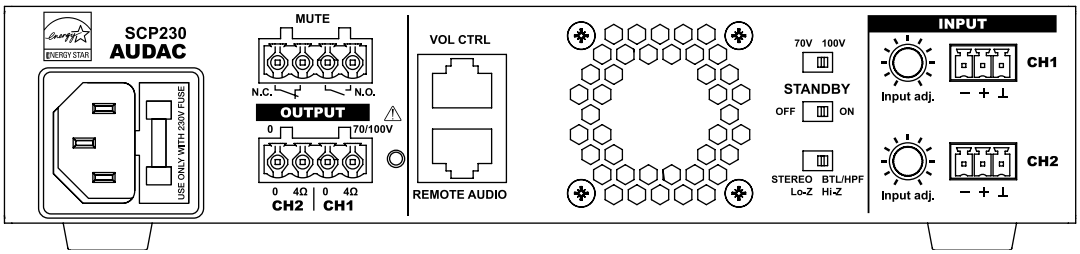
Indicator LEDs (VU):
Channel monitoring is made convenient by four indicator LEDs for each channel.

The LEDs give a continuous indication of the operation of the corresponding channel. The green signal LED illuminates whenever a signal is present, while the -20dB LED illuminates when the input signal exceeds the -20 dB level. The Clip LED illuminates when the corresponding channel is working at the maximum level. To ensure the best signal-to-noise ratio, the Clip LED should illuminate only (or maximum) at peak levels.

When the Clip LED illuminates, the output limiter of the amplifier will intervene avoiding a distorted “Clipping” sound on the output. The Protection LED will illuminate when overheating occurs, or any other fault is detected. When the protection LED is illuminated, no signal will be available on the outputs. The Protection LED will also illuminate when the external mute contacts are activated.

Power switch:
A power switch is used to switch the amplifier on and off. The LED ring around the switch illuminates in blue colour when the power is switched on or will illuminate in orange color when switched to standby mode.

Rear panel overview



AC Power inlet with fuse:

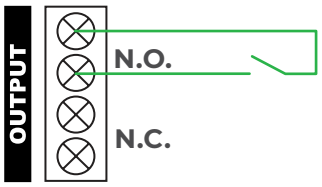
The mains power supply (100-240V AC - 50/60 Hz) has to be applied to this AC power inlet.

Mute connection:

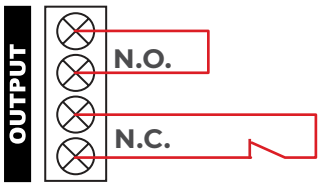
A priority mute contact connection is present which allows complete muting of background music in the presence of a contact closure between both 'MUTE' contacts.

This contact is convenient for situations where a separate emergency system is installed and complete background music muting is required. For example, on the occasion of a fire alarm. The emergency system output contacts can be linked to this contact input. When a N.C. contact trigger is being used, a contact bridge shall be used between both N.O. contact terminals.

Normal open mute contact diagram



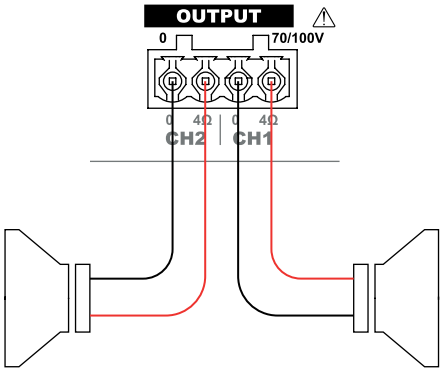
Normal closed mute contact diagram



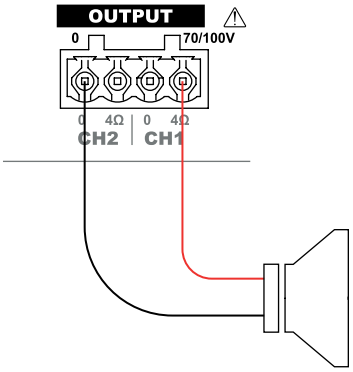
Audio output connection:

The speakers shall be connected to the terminal block output connector. Depending on the setup, two speakers can be connected in low impedance stereo setup, or one speaker line can be connected in a constant voltage 70/100V bridge configuration. Typical wiring applications are shown in the following diagrams.

SCP2xx connected in stereo mode



SCP2xx connected in bridge mode



SCP series minimum load impedance in 4 Ohm stereo output mode

	Output voltage	Impedance	Power
SCP206	15.5 Volt	4 Ohm	2 x 60 Watt
SCP212	22 Volt	4 Ohm	2 x 120 Watt
SCP224	31 Volt	4 Ohm	2 x 240 Watt
SCP230	35 Volt	4 Ohm	2 x 300 Watt
SCP250	45 Volt	4 Ohm	2 x 500 Watt

SCP series minimum load impedance in 70 Volt bridge mode

	Output voltage	Impedance	Power
SCP206	70 Volt	41.67 Ohm	120 Watt
SCP212	70 Volt	20.83 Ohm	240 Watt
SCP224	70 Volt	10.41 Ohm	480 Watt
SCP230	70 Volt	8.33 Ohm	600 Watt
SCP250	70 Volt	5 Ohm	1000 Watt

SCP series minimum load impedance in 100 Volt bridge mode

	Output voltage	Impedance	Power
SCP206	100 Volt	83.33 Ohm	120 Watt
SCP212	100 Volt	41.67 Ohm	240 Watt
SCP224	100 Volt	20.83 Ohm	480 Watt
SCP230	100 Volt	16.67 Ohm	600 Watt
SCP250	100 Volt	10 Ohm	1000 Watt

Remote audio input:
A remote audio wall panel (e.g. WP2xx) can be connected to the bottom 'Remote audio' RJ45 connector for providing a remote audio input. The connection of this extension port can be made by using CAT5e (or better) twisted pair cable in a straight pinout configuration.

Pinout and colour coding are described in Chapter 1 of this instruction manual. The remote audio input provides stereo balanced line input with an input sensitivity of +12dBV and a +24V output for powering external audio panels. The audio signal from the remote audio input is mixed with the amplifier's line inputs.

Remote volume control:
The top 'Vol Ctrl' RJ45 connector allows for an external control of the main volume of the SCP amplifier. The connection of this extension port can be made by using CAT5e (or better) twisted pair cable in a straight pinout configuration. Pinout and colour coding are described in Chapter 1 of this instruction manual.

The remote volume controller connection is designed for use with a suitable volume controller (e.g. WP200). It is a VCA input, working between 0-10V (linear envelope), and can be used with an external 0-10V control system. The amplifiers overall volume is controlled dependent on the applied control voltage. A control voltage of 10V means no attenuation, while 0V mutes the amplifier. When no external controller is connected, the volume is at maximum.

Standby switch:
The Standby mode of the SCP can be turned on or off. When enabled, the SCP will automatically go into standby mode after 30 minutes of inactivity (no signal detection).

Stereo- (Lo-Z) / bridge- (Hi-Z) mode switch:
Provides the possibility to switch the amplifier between Lo-Z and Hi-Z modes. If this switch is set to Lo-Z stereo, the output will be stereo can capable of driving low impedance speakers. If it is set to Hi-Z BTL/HPF, both output channels are bridged and capable of driving high impedance / constant voltage speaker systems. The output voltage can be switched between 70/100V through using a corresponding switch, depending on the requirements of the installation. An HPF (70 Hz) will be enabled when switched to Hi-Z.

70V / 100V switch:
When switched in Hi-Z mode (STEREO - BTL-HPF) the output voltage can be switched between 70/100V using this switch. In Hi-Z mode, the amplifier channel CH1 input is used and the input source should be a mono-summed signal which is configured on the source side. When using a WP2XX as the source, the wallpanel needs to be set to Mono mode using the DIP switch on the back.

Balanced stereo line input:
The balanced stereo line inputs use 3-pins terminal block connectors. All different kinds of balanced and unbalanced line level audio sources can be connected to the line inputs. Some examples are pre-amplifiers, mixers and spoken messages through an audio source. It is fitted with a gain control potentiometer by which the input sensitivity can be controlled within a range of -3 dBV ~ +7 dBV.

Technical specifications

		SCP206	SCP212	SCP224
RMS/AES power handling	@ 4 Ohm stereo	2 x 60 Watt	2 x 120 Watt	2 x 240 Watt
	@ 8 Ohm stereo	2 x 30 Watt	2 x 60 Watt	2 x 120 Watt
	@ 70/100V bridge	120 Watt	240 Watt	480 Watt
Frequency response		20 Hz - 20 kHz		
Signal / Noise		> 95 dB		
THD+N		< 0.05%		
Amplifier technology		Class D		
Cooling		Convection cooled		Fan cooled (controlled)
Inputs	Balanced line	2 x Balanced line input 3-pin terminal block ~ 3.81mm		
	Remote audio input	RJ45		
	Remote volume controller	RJ45		
	Priority mute contact	NO or NC		
Outputs		Low Z & 70/100V speaker output 4-pin terminal block ~ 5.08 mm		
Controls		Gain control (potentiometer)		
		Stereo low Z & mono high switch		
		70/100V switch		
		Standby ON/OFF		
Power supply		100 ~ 240 V AC / 50 ~ 60 Hz		
Power consumption	Standby	0.5 W	0.5W	0.5W
	Idle	19W	19W	19W
	1/8 rated power	42W	60W	100W
	1/3 rated power	75W	123W	220W
Ambient temperature range (in operation)		0°C ~ +40°C		
Relative humidity range		< 80 %, not condensing		
Dimensions (W x H xD)		217.5 x 43.7 x 300 mm		
Weight		2.70 Kg		
Mounting		1/2 19" / 1 HE or tabletop		
Construction		Steel		
Color		Black		
Optional accessories		WP2xx remote wall panel inputs		
		WP200 Remote volume controller		
		MBS310 rackmount adapter		

Technical specifications

		SCP230	SCP250
RMS/AES power handling	@ 4 Ohm stereo	2 x 300 Watt	2 x 500 Watt
	@ 8 Ohm stereo	2 x 150 Watt	2 x 250 Watt
	@ 70/100V bridge	600 Watt	1000 Watt (800 Watt @ 70V)
Frequency response		20 Hz - 20 kHz	
Signal / Noise		> 95 dB	
THD+N		< 0.05%	
Amplifier technology		Class D	
Cooling		Fan cooled (controlled)	
Inputs	Balanced line	2 x Balanced line input 3-pin terminal block ~ 3.81mm	
	Remote audio input	RJ45	
	Remote volume controller	RJ45	
	Priority mute contact	NO or NC	
Outputs		Low Z & 70/100V speaker output 4-pin terminal block ~ 5.08 mm	
Controls		Gain control (potentiometer)	
		Stereo low Z & mono high switch	
		70/100V switch	
		Standby ON/OFF	
Power supply		100 ~ 240 V AC / 50 ~ 60 Hz	
Power consumption	Standby	0.5 W	0.5W
	Idle	19W	19W
	1/8 rated power	115W	200W
	1/3 rated power	262W	400W
Ambient temperature range (in operation)		0°C ~ +40°C	
Relative humidity range		< 80 %, not condensing	
Dimensions (W x H xD)		217.5 x 43.7 x 300 mm	
Weight		2.70 Kg	
Mounting		1/2 19" / 1 HE or tabletop	
Construction		Steel	
Color		Black	
Optional accessories		WP2xx remote wall panel inputs	
		WP200 Remote volume controller	
		MBS310 rackmount adapter	

Notes



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