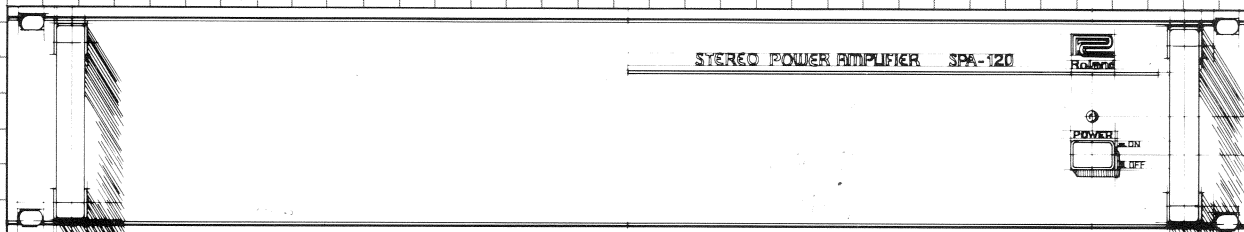


Roland

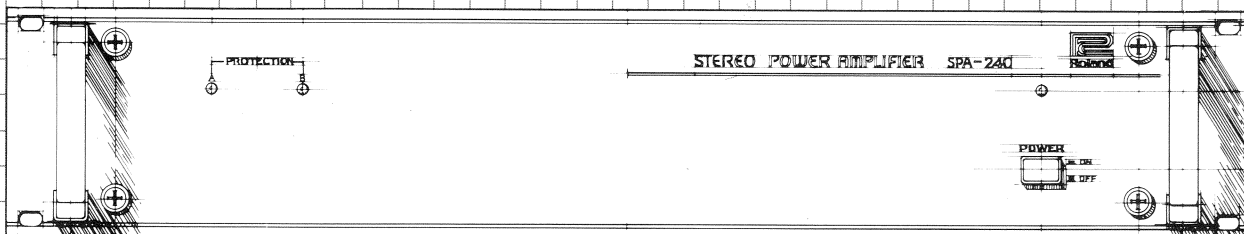
POWER AMPLIFIER

OWNER'S MANUAL

SPA-120



SPA-240



The Roland Rack

FEATURES

- A versatile stereo power amplifier which can be used for anything from musical instrument amplifier to PA systems.
- Balanced and unbalanced inputs.
- Standard 19" rack mount.
- SPA-240 only: Full over load protection.

Before Using

- Make sure that the line voltage in your area meets the requirements given in the specifications
- Check with your local Poland dealer if you want to use this unit in a foreign country.
- Plug the amplifier in before turning on the power switch.
- SPA-240 only: When the power switch is turned on, the protection circuit is activated which lights the protection indicators and mutes the output sound. After about 3 or 4 seconds, the protection circuit deactivates and the amplifier can be used.

PRECAUTIONS

- Make sure that the power switch is off before making or breaking connections to this unit or before moving it.
- Allow plenty of air space in front of and behind the amplifier for cooling.
- When using more than two SPA amplifiers, we recommend using a fan for cooling.
- Do not open this unit.
- When replacing the fuse, replace only with the value indicated over the fuse holder.
- If it is desirable to remove the rubber feet on the bottom of this unit, remove the feet and replace the screws.
- Unplug this unit when it is not to be used for a long period of time. Unplug by grasping the plug rather than pulling on the cord.
- In case of trouble, unplug this unit immediately and contact your nearest Roland dealer.
- To clean this unit, unplug it and wipe it with a cloth dampened with a neutral cleaner. Do not use solvents such as paint thinner.

Before Making Connections

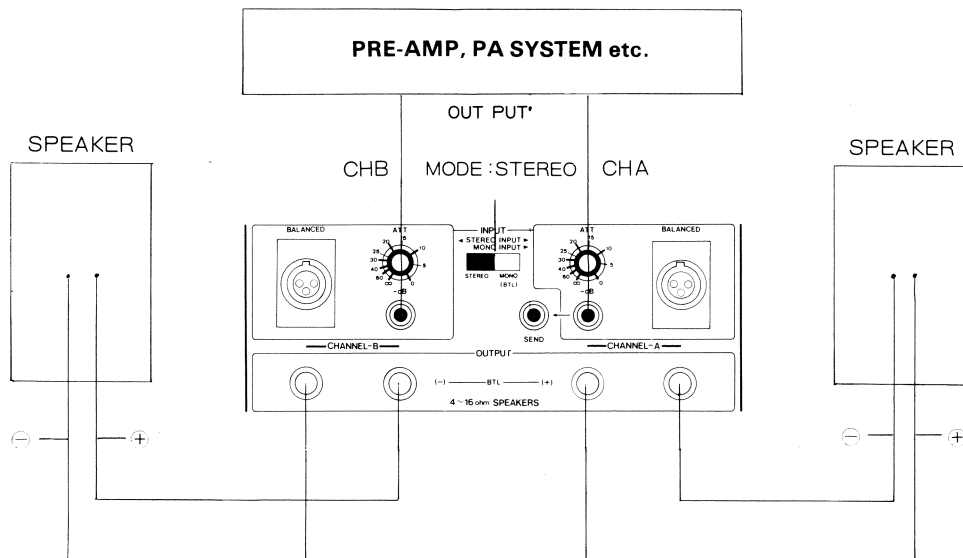
Make sure speaker power rating and impedance match your amplifier.

It is possible to destroy the speakers if the maximum input level of the speakers is lower than the maximum output of the amplifier.

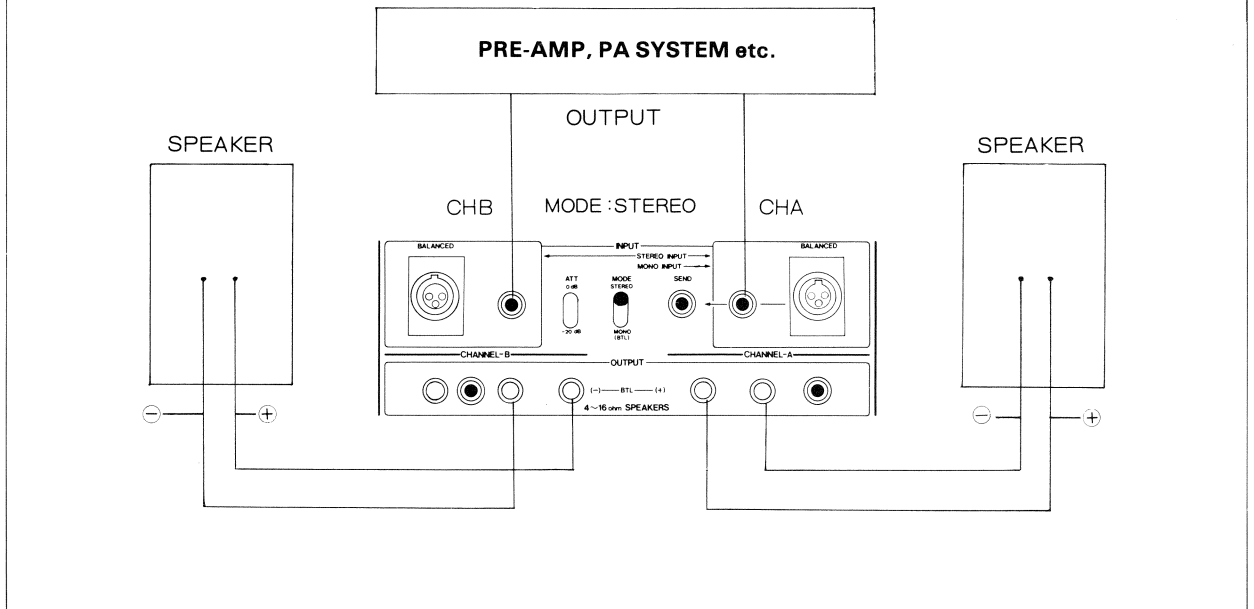
Required speaker impedances:
Stereo operation: 4Ω or more
Mono operation: 8Ω or more

Make sure the power switch is off before connecting the speakers. Also, make sure all system volume controls are set at minimum.

SPA-240 Connections For Stereo Operation

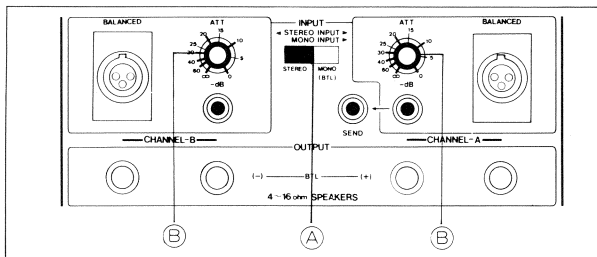


SPA-120 Connections For Stereo Operation

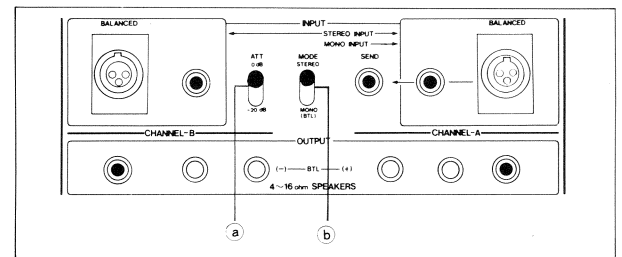


OPERATION

SPA-240



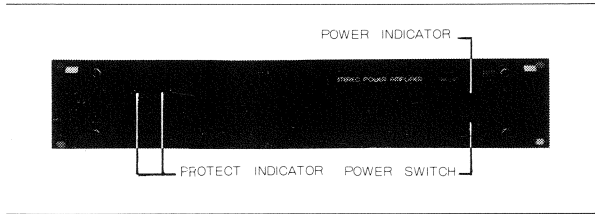
SPA-120



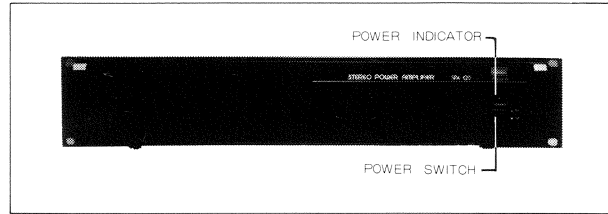
1. Make the connections to the SPA amplifier and set the MODE switch **A** at STEREO or MONO, as needed.
2. Check the speaker connections to make sure they are correct. When operating in stereo, double check that the polarity (" + ", " - ") of the speaker connections is correct.
3. Turn the SPA POWER switch on.
4. Set the level of the input sound source to the desired listening level.
5. When using a high level sound source, use the attenuators on the rear panel **B** **b** to lower the input level.

NAMES AND FUNCTIONS OF PARTS

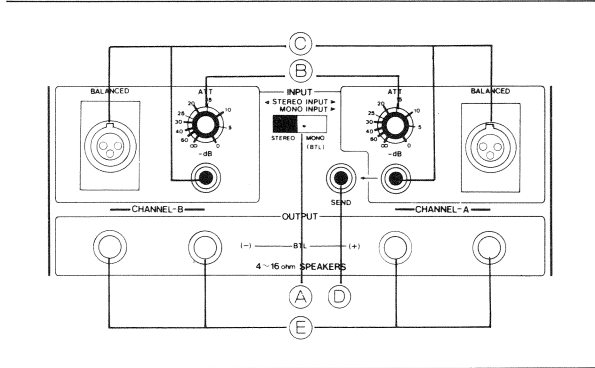
SPA-240 FRONT PANEL



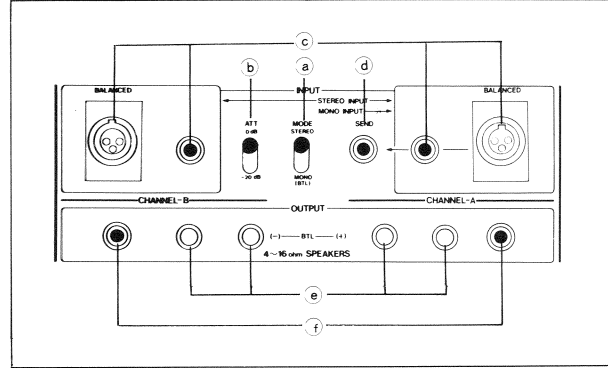
SPA-120 FRONT PANEL



SPA-240 REAR PANEL



SPA-120 REAR PANEL



ⓐ MODE Switch

Determines the operating mode of the amplifier.

*In MONO, use Channel A for the input. Note that the speaker connections for MONO mode are not the same as for STEREO mode.

ⓑ INPUT ATTENUATOR Control (SPA-240 only)

Controls the input level.

●At "0", a +4dBm (1.23v RMS) input signal will produce the maximum rated power output.

ⓓ INPUT ATTENUATOR Switch (SPA-120 only)

For attenuating the input level by 20dB.

●At "0", a +4dBm (1.23v RMS) input signal will produce the maximum rated power output.

●Affects both channels simultaneously.

ⓒ INPUT CONNECTORS

●The balanced input uses an XLR connector; the unbalanced input a standard 1/4" phone jack.

●If both inputs (balanced and unbalanced) are used simultaneously, the unbalanced input will have priority.

ⓓⓓ SEND Jack

This jack is for cascading amplifiers when more than one is being used.

ⓔⓔ SPEAKER BINDING POSTS

ⓕ SPEAKER Jack (SPA-120 only)

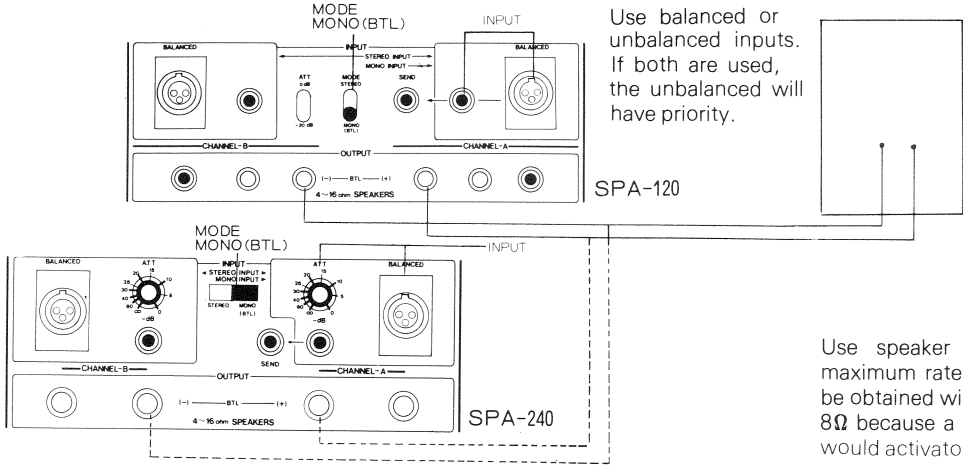
●The SPEAKER jacks ⓕ are in parallel with the SPEAKER BINDING POSTS ⓔ; use caution when using simultaneously.

ⓐⓐ GROUND Screw

For making common ground connections with other equipment.

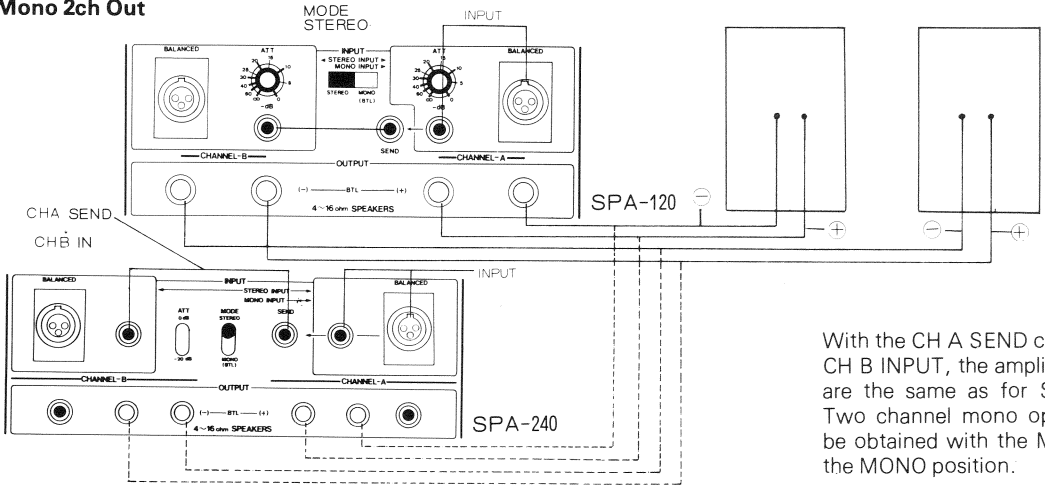
ⓗⓗ FUSE

BTL Connection For Mono Operation



Use speaker of 8Ω to 16Ω . The maximum rated power output cannot be obtained with a speaker of less than 8Ω because a low impedance speaker would activate the protection circuit.

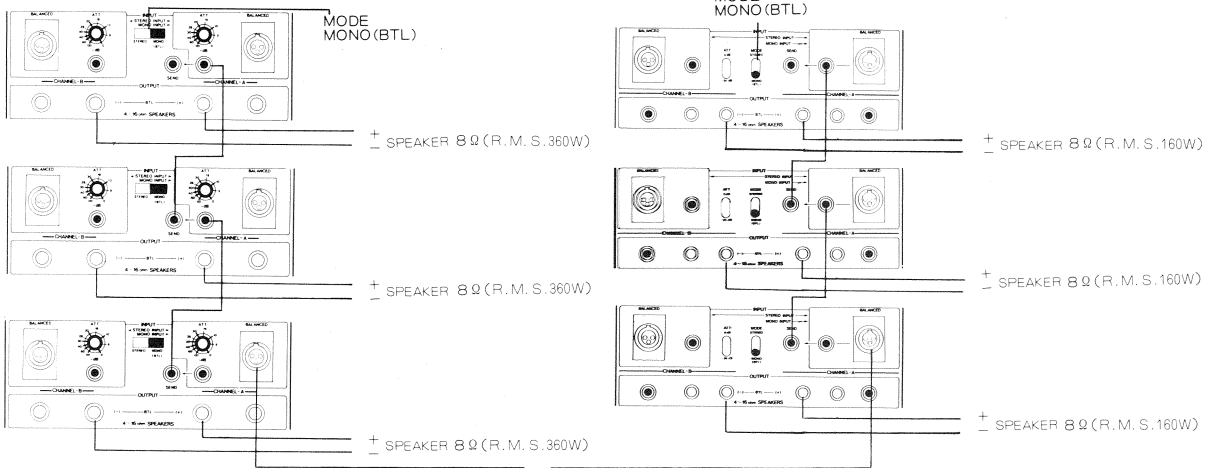
Mono 2ch Out



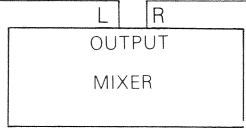
With the CH A SEND connected to the CH B INPUT, the amplifier connections are the same as for STEREO mode. Two channel mono operation cannot be obtained with the MODE switch in the MONO position.

Parallel connection in MONO (To increase power output for PA system use)

Under certain conditions, the use of a cooling fan is recommended.

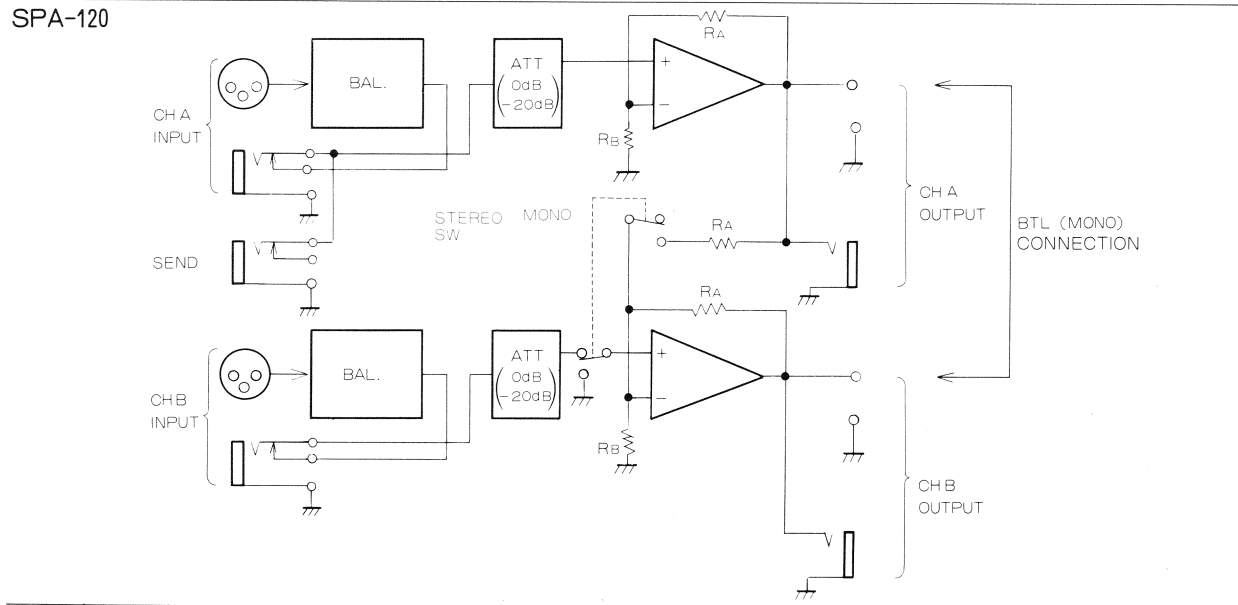
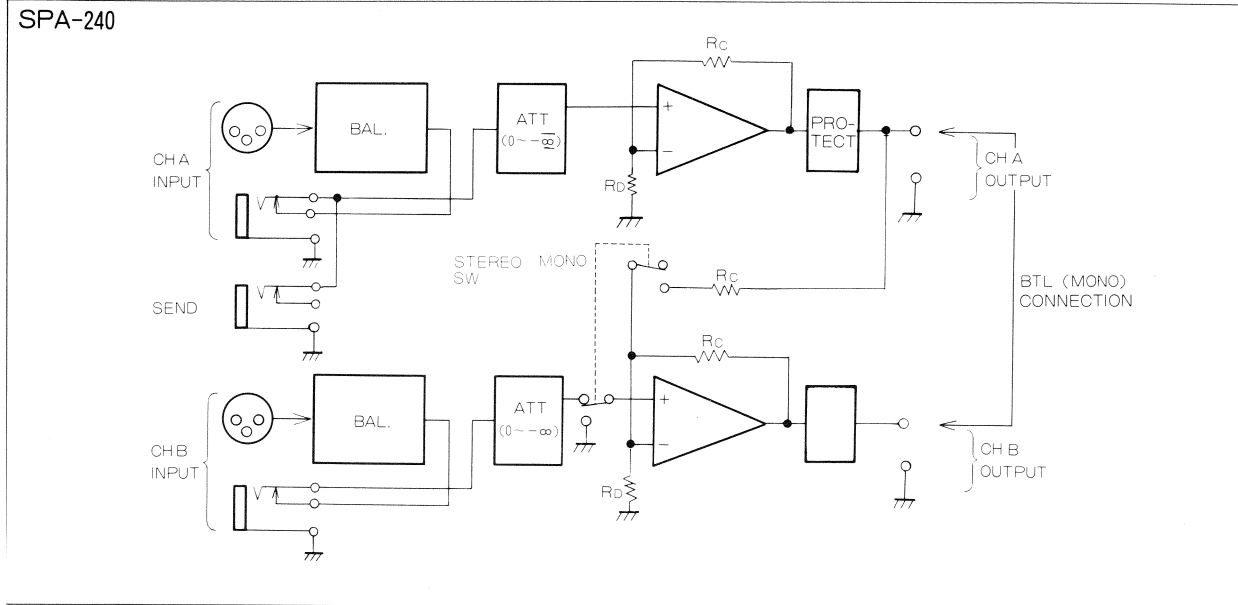


In order to show the connections, the left channel here is shown using the SPA-240 and the right channel the SPA-120.



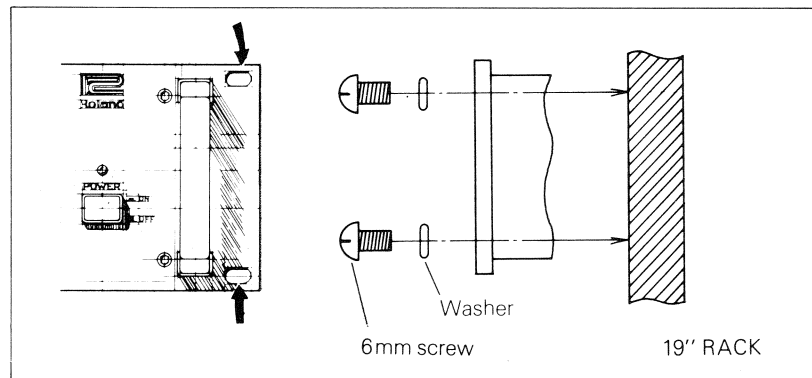
Since the amplifier input impedances are in parallel, use mixer inputs with low impedances.

3 BLOCK DIAGRAM



● Rack Mounting the SPA 120, 240

The SPA-120,240 can be mounted in a standard 19" rack using 6mm screws as shown in the drawing.



SPECIFICATIONS

POWER AMPLIFIER	SPA-240	SPA-120
Input level Balanced: Unbalanced:	+4dBm (1.23v) +4dBm (1.23v)	+4dBm (1.23v) +4dBm (1.23v)
Input impedance Balanced: Unbalanced:	26k Ω 56k Ω	26k Ω 47k Ω
Output Speaker, stereo: Speaker, mono:	4to16 Ω 8to16 Ω	4to16 Ω 8to16 Ω
Circuit:	Complementary direct coupled with two stage differential amplifier	
Output power (20Hz—20kHz)	120 + 120 W (8 Ω) 180 + 180 W (4 Ω) 360 W (8 Ω , mono)	60 + 60 W (8 Ω) 80 + 80 W (4 Ω) 160 W (8 Ω , mono)
THD:	better than 0.05%	better than 0.05%
Frequency response:	10 Hz – 100 kHz, ± 0 dB -1	10 Hz – 100 kHz, ± 0 dB -1
Power bandwidth:	20 Hz – 100 kHz	20 Hz – 45 kHz
Damping factor:	better than 70	better than 70
S/N ("A" weighted; input shorted):	better than 110 dB	better than 110 dB
Power requirements:	100v, 117v, 220v, 240v; 50/60Hz	100v, 117v, 220v, 240v; 50/60Hz
Power consumption:	210 W	150 W
Dimensions:	482(W) x 92(H) x 442(D) mm 19" rack mount EIA-2U	482(W) x 92(H) x 265(D) mm 19" rack mount EIA-2U
Weight:	14 kg	7.5 kg

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UPC 10253



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