

REVAMP2250

Instruction manual

REVAMP2250 Manual



IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions
2. Keep these instructions
3. Heed all warnings
4. Follow all instructions
5. This professional device needs to be installed by qualified personnel only.
6. Danger: Exposure to high sound levels may cause a permanent hearing loss. Individuals vary considerably to sound pressure level induced hearing loss but nearly everyone will lose some hearing if exposed to high sound pressure levels for a sufficient amount of time. Therefore it is recommended that all persons exposed to equipment capable of producing high sound pressure levels, such as this amplifier, be protected by hearing protection while installing or operating this unit.
7. Make sure to only use power outlets conform to the power requirements listed on the back of the unit.
8. Do not connect the inputs / outputs of amplifiers or consoles to any other voltage source, such as a battery, mains source, or power supply, regardless of whether the amplifier or console is turned on or off.
9. Do not drive the inputs with a signal level higher than that required to drive equipment to full output.
10. Do not run the output of any amplifier back into another input.
11. This unit has NOT been designed for use in mobile applications, such as: mobile discobars, mobile PA systems, Live bands, audio rental systems, ... Using it in such application will lead to product damages and safety risks.
12. Do not use this apparatus near water
13. Clean only with dry cloth.
14. Do not block any ventilation openings. Install in accordance with the manufacturer instructions.

15. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
16. Do not defeat the safety purpose of the polarised or grounding plug. A polarised plug has two blades with one wider than the other. A grounding plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. Always use the device with a grounded mains power plug. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
17. Protect the power cord from being walked on, pinched or damaged. Particularly at the plugs, connectors and at the point where they exit from the apparatus.
18. Only use attachments/accessories specified by the manufacturer.
19. Unplug the apparatus during lightning storms or when unused for long periods of time.
20. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart or rack is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over. 
21. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
22. **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. The apparatus shall not be exposed to dripping or splashing and that objects filled with liquids, such as vases, shall not be placed on apparatus.
23. **WARNING:** The mains plug/appliance coupler is used as disconnect device, the disconnect device shall remain readily operable.



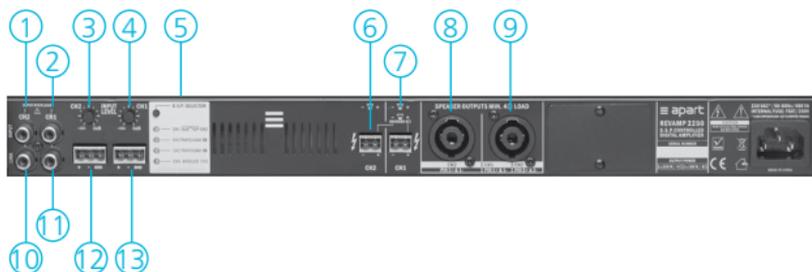
24. This lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of non-insulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock.
- Warning: To reduce the risk of electric shock, do not remove cover (or back) as there are no user-serviceable parts inside. Refer servicing to qualified personnel.
 - The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the appliance.
25.  Protective earthing terminal. The apparatus should be connected to a mains socket outlet with a protective earthing connection.
26.  Correct Disposal of this product. This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.
27. No naked flame sources, such as lighted candles, should be placed on the apparatus.
28. Do not install this equipment in a confined or building-in space such as a book case or similar unit, and remain a well ventilation conditions at open site. The ventilation should not be impeded by covering the ventilation openings with items such as newspaper, table-cloths, curtains etc.

Features

- 1 rack unit high
- High power Hypex® class-D power amplifier modules
- Bridgeable 2 channel amplifier
- Dynamic output power: 2x350W @ 4Ω
- Sine wave power per channel: 2x250W @ 4Ω (500 msec)
- Dynamic bridged output power: 700W @ 8Ω
- Bridged Sine wave output power: 500 W @ 8Ω (500 msec)
- High thermal efficiency
- Highest possible damping factor
- Soft start switching power supply unit
- No cooling fan
- Low power consumption
- Integrated Analog Devices® digital signal processor (DSP) with easy one button operation: simply push the button to select an operating mode, making this amplifier the ideal multi purpose tool for your applications
- LF filter for increased stability when using 100 volt transformers on the output, allowing you to use 100 volt speakers as top speakers combined with a standard low impedance subwoofer for example
- Integrated APC limiter/compressor
- Balanced euroblock inputs
- Unbalanced inputs on RCA with pass through
- Input level attenuators on all inputs
- 4-pole Speakon® speaker output connectors
- Euroblock speaker output connectors
- Extended speaker and amp protection circuits: DC protect, over current protect, over temperature protect, input overload
- Individual channel mute buttons and versatile LED status indicators
- This unit has NOT been designed for use in mobile applications, such as: mobile discobars, mobile PA systems, live bands, audio rental systems, ...
- Removable rack-ears

Note: the integrated APC limiter will automatically limit the incoming audio signal to avoid overloads. This feature can not be defeated and acts as a lifesaver for your valuable speakers.

Connections



1. **Channel 2 overload led:** when this led lights up, you are overloading the input. Lower the input signal immediately to prevent the amplifier from shutting down.
2. **Channel 1 overload led:** when this led lights up, you are overloading the input. Lower the input signal immediately to prevent the amplifier from shutting down.
3. **Channel 2 input gain setting.** Adjust the input gain to the output level of your source. Make sure to avoid the clip led lighting up at the strongest input peak level.
4. **Channel 1 input gain setting.** Adjust the input gain to the output level of your source. Make sure to avoid the clip led lighting up at the strongest input peak level.
5. **DSP selector switch with led indicators:** push the button to scroll between the various pre-programmed DSP settings. There are 6 possible DSP settings and 2 available combinations. The settings will be memorized and recalled when the unit is

powered up. Full details of the available settings can be found below.

6. **Channel 2 speaker output on 2 pole euroblock connector.**
7. **Channel 1 speaker output on 2 pole euroblock connector.**
8. **Channel 2 speaker output on speakon connector.** Pin 1+ = speaker 2 +, pin 1- = speaker 2 -.
9. **Channel 1 and 2 stereo speaker output on speakon connector.** Pin 1+ = speaker 1 +, pin 1- = speaker 1 -; Pin 2+ = speaker 2+, pin 2- = speaker 2-. In bridge mode, pin 1 + = speaker +, pin 2+ = speaker-.
10. **Channel 2 unbalanced input and link cinch connector:** connect the line level input signal for channel 2 here. Line level is 0 dBV. Input and link connector are internally connected 1 on 1.
11. **Channel 1 unbalanced input and link cinch connector:** connect the line level input signal for channel 1 here. Line level is 0 dBV. Input and link connector are internally connected 1 on 1. This connector is also used in bridge mode or when DSP mode CH1 SUB – CH2 TOP is selected.
12. **Channel 2 balanced input on 3 pole euroblock connector.**
13. **Channel 1 balanced input on 3 pole euroblock connector.** This connector is used in bridge mode or when DSP mode CH1 SUB – CH2 TOP is selected.
14. **Mains inlet:** connect the mains power cord here.

Operation



1. Removable rack ears for 19" rack mounting.
2. Power switch: after switching on the power, the power led will light up after approx 1 second. The limit-muted leds will light up for a few seconds to avoid excessive power on pop noise.
3. Power led
4. Channel 1 status led bar and mute switch: when the mute switch is pressed, the orange "LIMIT – MUTED" led will light up. This led will also light up when the internal limiter is activated to avoid the amplifier from being overloaded by high input signals. The "CLIP – OVERLOAD" led indicates that the power amplifier is clipping: reduce the input signal at once whenever this occurs !!! The green "SIGNAL - -40dB" led will light up when an input signal is present. The red "INPUT – OVERLOAD" indicates that the input is being overloaded. Reduce the incoming signal at once !!!
5. Channel 2 status led bar and mute switch: when the mute

switch is pressed, the orange "LIMIT – MUTED" led will light up. This led will also light up when the internal limiter is activated to avoid the amplifier from being overloaded by high input signals. The "CLIP – OVERLOAD" led indicates that the power amplifier is clipping: reduce the input signal at once whenever this occurs !!! The green "SIGNAL - -40dB" led will light up when an input signal is present. The red "INPUT – OVERLOAD" indicates that the input is being overloaded. Reduce the incoming signal at once !!!

6. **DSP setting led display:** the leds show which of the DSP settings or combinations have been activated.

DSP features and audio signal routing:

There are 6 possible DSP settings and 2 available combinations. The settings will be memorized and recalled when the unit is powered up.

- CH1 SUB – TOP CH2: frequencies below 100 Hz are sent to the sub channel (CH1). Frequencies above 100 Hz are sent to the top channel (CH2). The Filter slope (12 dB/oct or second order Butterworth characteristic) and frequency (100Hz) are fixed. The Audio signal from input 1 is used.
- CH1 TRAF0 LOAD: Use this mode when you want channel 1 of your amplifier to drive a transformer to drive 100V speaker systems. This mode applies a highpass filter to channel 1. Filter characteristics: 12 dB/oct at 50 Hz. Butterworth characteristic. This setting increases amplifier stability when using a 100 volt transformer on output 1.
- CH2 TRAF0 LOAD: Use this mode when you want channel 2

of your amplifier to drive a transformer to drive 100V speaker systems. This mode applies a highpass filter to channel 2. Filter characteristics: 12 dB/oct at 50 Hz. Butterworth characteristic. This setting increases amplifier stability when using a 100 volt transformer on output 1.

- CH1 BRIDGED CH2: both amps are used in bridge. Audio signal from input 1 is used.
- Combination CH1 SUB – TOP CH2 with CH2 TRAF0 LOAD: this combination allows a low impedance subwoofer to be used with 100 volt top speakers. Audio signal from input 1 is used. This setting increases amplifier stability when using a 100 volt transformer on output 2.
- CH1 TRAF0 LOAD with CH2 TRAF0 LOAD: a highpass filter is applied to channel 1 and 2 to ensure that low frequencies are filtered. Filter characteristics: 12 dB/oct at 50 Hz. Butterworth characteristic. This setting increases amplifier stability when using 100 volt transformers on the outputs.

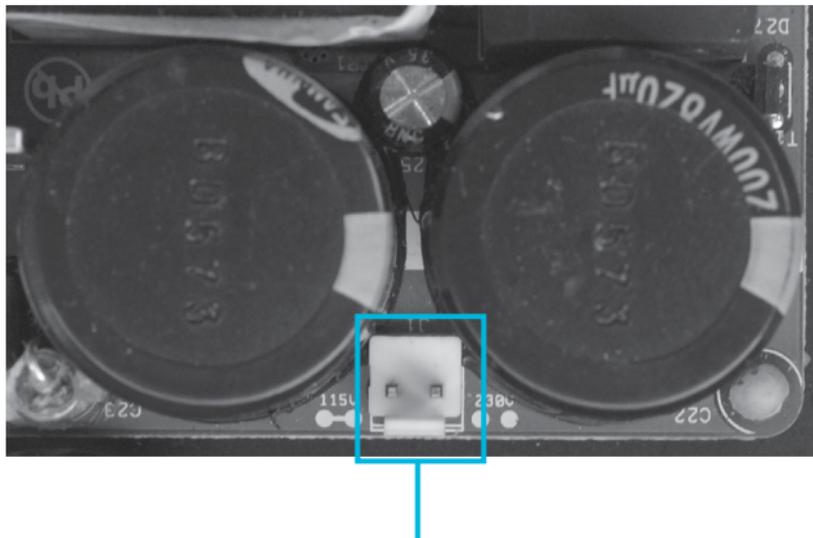
!!! IMPORTANT !!!

This amplifier relies on convectional cooling only. In normal situations, overheating will not occur due to the class D amplifier topology. Since there are no cooling fans in the amplifier, make sure the convectional cooling system can work properly. The unit can be built in a 19 inch rack system, but it is forbidden to block the ventilation holes provided. Therefore, it is absolutely necessary to allow at least one free rack space or 44 mm above and beneath the amplifier. Make sure the ambient temperature is between 0 and 35°C. Operating the unit beyond its normal limits may cause overheating. Power amplifiers are hard workers, and their behaviour is similar to human beings. In extreme conditions, human beings are not able to perform efficiently. This also applies to amplifiers. It is generally a bad idea to mount multiple heat generating units such as amplifiers in the same rack. If necessary, use a forced ventilation system in your mounting rack.

The mains fuse is located inside the unit. When the fuse is broken, replace it with a fuse of the same current and voltage rating: 5.0 AT/250V. For qualified personnel only!

This unit has NOT been designed for use in mobile applications, such as: mobile discobars and DJ setups, mobile PA systems, live bands, audio rental systems, ...

Use it in fixed installations only.



110 VAC operation: it is possible to operate the unit at 110 (115) VAC.

Therefore, open the unit and set a wire jumper on the connector for 110 VAC operation.

Technical specifications

dynamic output power	2 x 350 W @ 4 Ω
sine wave power per channel	250 W @ 4 Ω (500 ms)
dynamic output power bridged	700 W @ 8 Ω
sine wave power bridged	500 W @ 8 Ω
minimum output load impedance CH1 and CH2	4 Ω
minimum output load impedance bridge mode	8 Ω
input connections	2 x balanced euroblock, 4 x unbalanced cinch with pass through
input sensitivity	0 dBV / 1 V
input impedance	22 k Ω
S/N ratio	>90 dB A weighted
THD ch. 1/2	<0.1% @ 100 W / 4 Ω / 1 kHz A weighted
frequency response	10 – 24 kHz + 0 / - 3 dB
built-in DSP	yes
protection circuits	over current, over temperature, DC offset, AC and DC over- and undervoltage
channel separation	>74 dB @ 1 kHz
damping factor	> 50 all channels
APC system	internal compressor and clip limiter
power amp topology	class-D
power supply	SMPS

cooling	convectonal
max power consumption	600 W
operating temperature range	0 to 35°C
power supply	230 VAC / 50 Hz – 115 VAC / 60 Hz (with internal jumper)
dimensions	483 x 44 x 235 mm (including rack ears)
net weight	3.1 kg
gross weight	4.9 kg

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Apart-Audio specifications are subject to change without notice.

