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REVAMP4120T Instruction manual

REVAMP4120T manual



IMPORTANT SAFETY INSTRUCTIONS



1. Read these instructions
2. Keep these instructions
3. Pay attention to 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 polarized or grounding plug. 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.



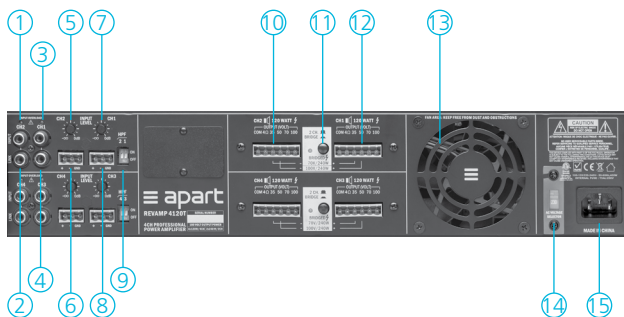
24. This lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of non-insulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock.
- Warning: To reduce the risk of 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

- 2 rack units high
- High power Hypex® class-D power amplifier modules
- Bridgeable 4 channel class-D amplifier
- Output power: 4 x 120 W @ 100 V
- Bridged output power: 2 x 240 W @ 100 V
- High thermal efficiency
- Convectional cooling with temperature controlled cooling fan (normally off)
- Integrated APC limiter/compressor
- Soft start switching power supply unit
- Toroidal 100 volt transformers
- Switching mode power supply
- Balanced euroblock inputs
- Unbalanced inputs on RCA with pass through
- Input level attenuators on all inputs
- Euroblock speaker connectors with multiple taps: 35 volt, 50 volt, 70 volt, 100 volt and 4 ohm
- Extended speaker and amp protection circuits: over current protect, over temperature protect
- 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



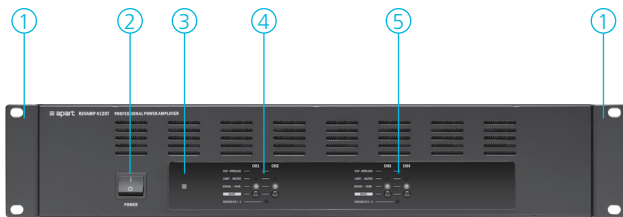
Only channel 1 and 2 are explained. Channel 3 and 4 are functionally identical to 1 and 2.

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 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.
3. **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.

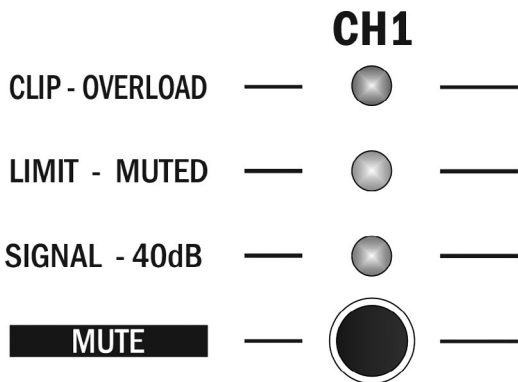
4. **Channel 1 unbalanced input and link cinch connector:** connect the line level input signal for channel 1 here. Line level is 0 dBV. Input and link connector are internally connected 1 on 1. This connector is also used in bridge mode.
5. **Channel 2 input gain setting:** Adjust the input gain to the output level of your source. Make sure to avoid the clip led lighting up at the strongest input peak level.
6. **Channel 2 balanced input on 3 pole euroblock connector.**
7. **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.
8. **Channel 1 balanced input on 3 pole euroblock connector:** This connector is used in bridge mode.
9. **HPF on/off dipswitch for channels 1 and 2:** set to on position to enable the 250Hz highpass filter (ideal for using 100 volt horn speakers)
10. **Channel 2 output on euroblock:** use the com (negative) in combination with one of the output options: low impedance (4 ohms), 35 volt, 50 volt, 70 volt or 100 volt (positive). Never use more than one output simultaneously.
11. **Bridge button:** set to 2 channel for normal operation. Set to bridge mode for bridge mode operation.
12. **Channel 1 output on euroblock:** use the com (negative) in combination with one of the output options: low impedance (4 ohms), 35 volt, 50 volt, 70 volt or 100 volt (positive). Never use more than one output simultaneously.
13. **Fan area:** keep free from dust and obstructions.

14. **Mains voltage selector:** set to 230 or 115 VAC according to your local mains voltage.
15. **Mains voltage inlet:** connect the mains power cord here.

Operation



1. Removable rack ears for 19 rack mounting.
2. Power switch.
3. Power led.
4. Channel 1 and 2 mute buttons and multifunctional led display.
5. Channel 3 and 4 mute buttons and multifunctional led display.



- **Clip** – overload led indicates that the amplifier is overloaded or clipping: reduce the incoming signal immediately to avoid overloads or clipping and eventually amplifier shutdown.
- **Limit** – muted indicates that the internal limiter is active or that the channel is muted by pushing the mute button.
- **Signal** -40dB indicates that a signal is present at the input
- **Mute button**: push to mute/unmute the channel.
- **Bridged led** (yellow) lights up when bridge mode is selected via the rear panel bridge pushbutton.

!!!IMPORTANT!!!

This amplifier relies on convectional and active cooling. In normal situations, overheating will not occur. 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 will result in excessive internal temperature. 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 an additional 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 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.

Before using the amplifier for the first time, check the impedance of your 100 volt speaker lines using the Apart IMPMET: temporarily disconnect the speaker line from the amplifier and measure the speaker line. Impedance @ 100 volt must be 83 ohms or more. This value corresponds to 120 watts @ 100 volt.

Technical specifications

Output power	4 x 120 W / 100 V
Load impedance	83 ohms / 100 volts; 41 ohms / 70 volts; 21 ohms / 50 volts; 10.5 ohms / 35 volts; 4 ohms / 4 ohms
Input connections	4 x unbalanced on RCA with pass through + 4 x balanced on euroblock
Input sensitivity	0 dBV / 1V
Input impedance	22 k Ω
S/N ratio	>101 dB A weighted
THD	<0.05% @ 1 W / 4 Ω / 1 kHz A weighted
Frequency response	50 – 20 kHz + 0 / - 3 dB
Protection circuits	over current, over temperature
Channel separation	> 68 dB @ 1 kHz
Power amp topology	Class D
Power supply	switching mode power supply
Cooling	convectonal and temperature controlled fan
Max power consumption	525 W
Operating temperature range	0 to 35°C
Mains operating voltage	100-120/220-240V~ 50/60Hz
Dimensions	483 x 88 x 332 mm (including rack ears)
Net weight	12.1 kg
Gross weight	15.1 kg

