User Guide

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APU750

2-Way Crossover
Protection Unit for
AIW750E Loudspeaker

amina®
TECHNOLOGIES Ltd

APU750

The APU750 has been designed to work exclusively with your AIW750E loudspeaker. It performs the vital function of splitting the full range audio signal from your amplifier and directing the appropriately split signals to the separate HF and LF loudspeaker panels. The APU750 features adjustable output levels for the HF panel to allow optimum balance of sound once installed. The APU750 also features a current sensing fuse to protect the loudspeaker from being over-driven and potentially damaged. If the APU750 senses excessive drive current from your amplifier, it will automatically reduce the sound level from the speaker until the amplifier volume is reduced to a safe level.

⚠ IMPORTANT:

- Ensure that the APU750 is used only with the AIW750E Evolution series loudspeaker. Failure to do so may result in speaker damage.
- NEVER connect more than one AIW750E loudspeaker to an APU750
- Be sure that all connections are made in accordance with this guide.
- It is not recommended you use amplifiers with power outputs far greater than the peak power rating of the AIW750E loudspeaker.
- Do not intentionally cause the APU750 to go into protection mode by deliberately over-driving the loudspeaker.
- If your APU750 automatically reduces audio volume from the loudspeaker frequently, it may suggest the amplifier is too powerful or the layer of plaster applied to the AIW750E is too thick. In either case please consult with your dealer or Amina Technologies Ltd.
- Install this product in a cool, dry and clean place - away from direct sunlight, heat sources, vibration, dust and moisture.
- Do not expose this unit to sudden temperature changes or locate it in an environment with high humidity. This is to prevent condensation forming inside which may cause damage to the unit and possibly other devices connected to it.
- Do not clean this unit with chemical solvents as this may damage the finish. Use a clean, dry or damp cloth.

APU750: Positioning

- The APU750 is designed to be free-standing or permanently fixed to a suitable structure using the two mounting holes.
- The APU750 does not require ventilation and therefore its installation position is not critical. However, the product should ALWAYS be installed in a dry environment that will not exceed 35 degrees Centigrade (95 degrees Fahrenheit).
- Do not place equipment on top of the APU750.
- Where possible, do not position the APU750 adjacent to mains power cables as these may interfere with the product's internal circuit components.

APU750: HF Panel adjustable output

The APU750 features internal jumper switches to allow the installer to adjust the output level of the HF (high-frequency) panel relative to the LF (low-frequency) panel. The factory supplied setting is "0dB". Please read the following if these settings need to be changed.

- The APU750 is a low voltage, passive device, however ALWAYS disconnect it from all speakers and amplifiers before adjusting the internal jumpers (ensure all equipment is turned off at this point).
- The HF panel can be adjusted to suit personal taste or to allow for minor variations in frequency response as a result of uneven plaster thickness. Use of a sound pressure level meter will help accurately achieve evenly matched speakers.
- Set the jumpers as follows depending on the required output level in the frequency range 500Hz - 20KHz:

0dB	- set jumper to 0dB
+2dB	- set jumper to +2dB
-2dB	- set jumper to -2dB

WARNING:

No more than one jumper should be used per bank of 3 pins

APU750: HF Panel adjustable output

Inside the APU750

To change the jumpers, the APU750 housing must be opened by carefully unscrewing the four screws on the underside of the unit. These are located on the base of the APU750.

The jumpers (0dB, +2dB, -2dB) for each channel are positioned as indicated in the below diagram:

The PCB

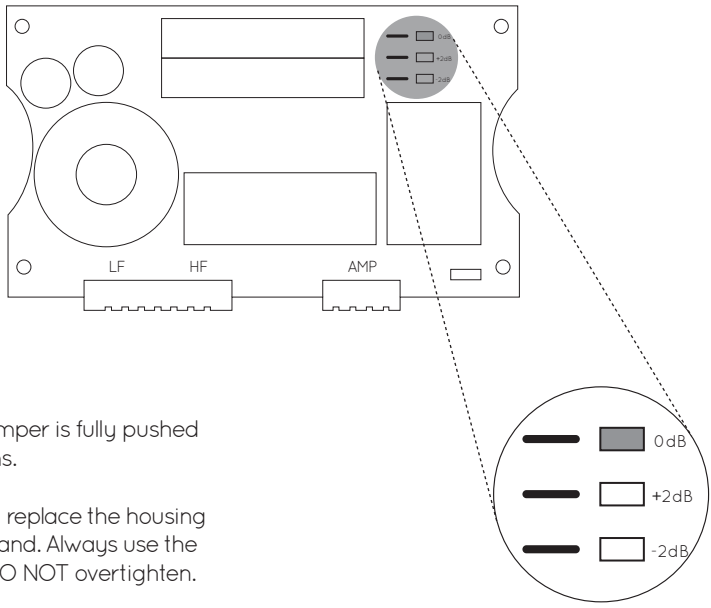


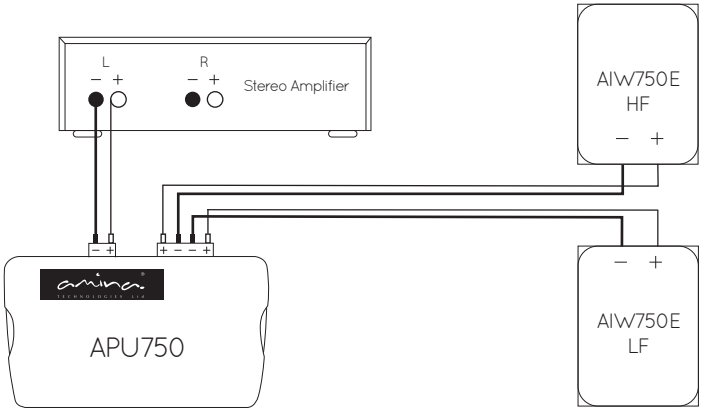
Diagram shows the jumper setting for the factory set 0dB position.

Important

- Ensure that the jumper is fully pushed down onto the pins.
- ONLY remove and replace the housing fixing screws by hand. Always use the correct tool and DO NOT overtighten.
- It is recommended that the PCB is left out of the housing when testing jumper settings so as to avoid repeated tightening and un-tightening of the housing fixing screws. Make sure the PCB is resting on the housing base and not on a metal surface of any kind.

APU750: Connecting to your system

APU750 wiring schematic
(one channel shown)



Note:
Red levers on the Springcon® plugs are used for the "+" loudspeaker connections.
Black levers on the Springcon® plugs are used for the "-" loudspeaker connections.

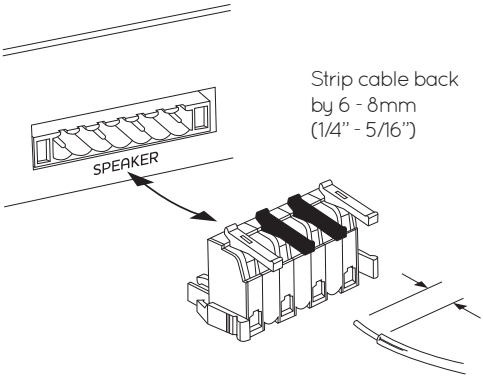
IMPORTANT - ensure that the HF and LF panels are connected to the correct output of the APU750. Also ensure that the correct polarity is used. Careful labelling of the speaker cable during speaker installation is recommended.

IMPORTANT - DO NOT operate either the HF or LF panels in isolation as the load presented to the amplifier could be below 3.2 Ohm.

Springcon® plugs connection

Note:
Ensure the cables are securely clamped when the Springcon® levers are closed.

To remove the plugs from the connecting header squeeze the two clips on either side to release.

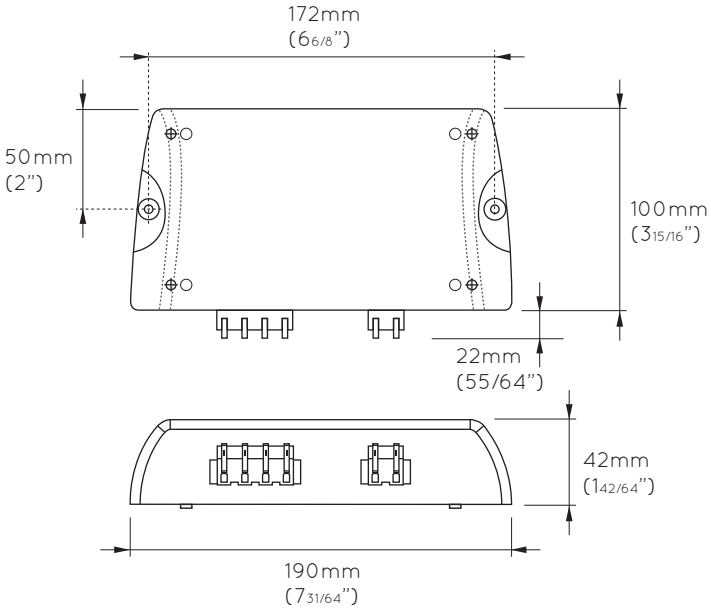


WARNING: *Always switch your amplifier off whilst connecting / disconnecting speakers*

APU750: Specifications

Model Number	APU750
Dimensions	190 x 100 x 42mm (7 1/2 x 4 x 1 5/8")
Weight	0.6kg (1. 3lbs)
Filter type	2-way crossover, 2nd order type with adjustable mid/treble output level
Fuse protection	Self-resetting, current sensing type
Compatability	Suitable for use with Amina AIW750E only
Number of channels	1
Connection type	Input – 1x Springcon® 2 pole connector (supplied) / Output – 1x Springcon® 4 pole connector (supplied)
Maintenance requirements	Repeated tripping of protection fuse may require fuse replacement by manufacturer to ensure optimal speaker performance

APU750: Dimensions



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