Make your own HOTBOX 60

This is a guide to making your own simple Attenuator
identical to the very first ones I made and sold many years ago.

It has a fixed -10dB reduction, which isn't a lot but is enough to be useful.

This unit has a clean, open and transparent sound in a small
enclosure size, which is probably why they sold so well :)

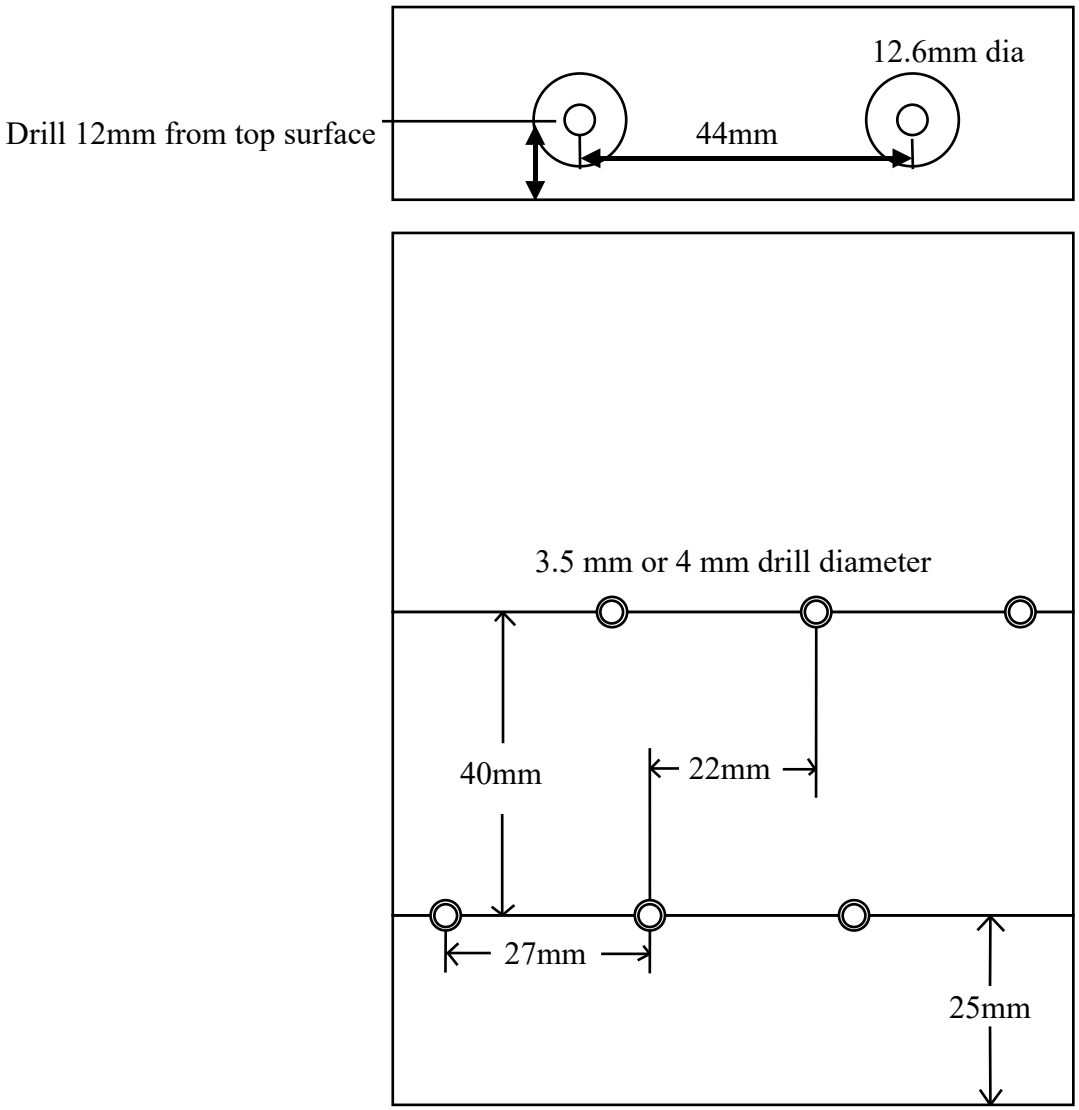
Make your own HOTBOX 60 v1.0

Mark holes carefully, then drill all of them using a 3.5 mm or 4 mm drill bit.

Enlarge the two jack holes to 1/2” (12.6mm) prefereably using a step drill bit.

Optionally: Drill holes in base for pull-through feet.
Most adhesive feet will drop off due to the heat when in use.

Hotbox Drill Template
View from TOP



Box is Hammond (Eddystone) 29830 PSLA

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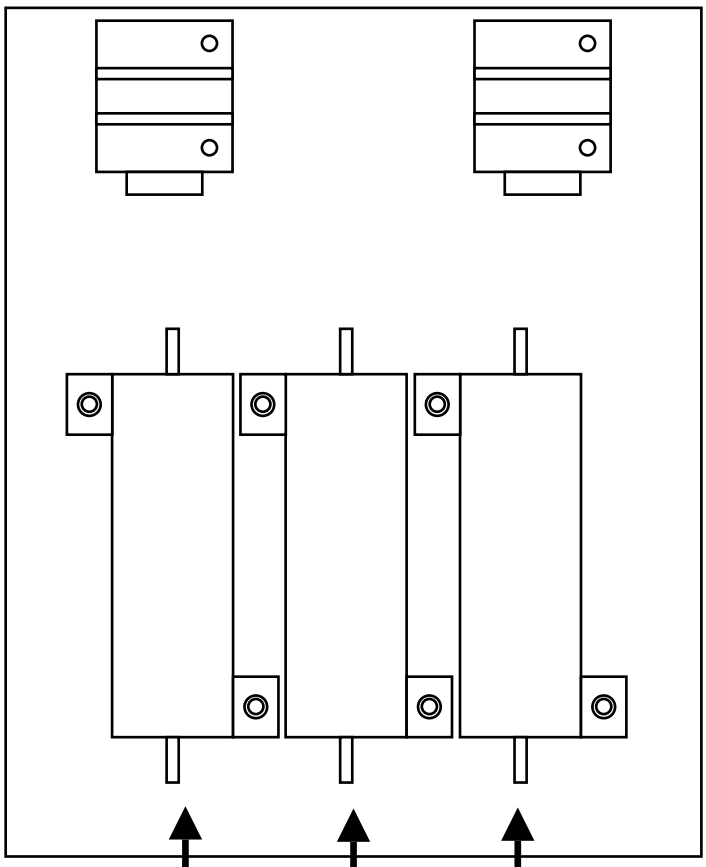
Put thin (1mm diameter) line of heat paste on
all resistors where they conact the box

Mount all resistors using M3 screws and nuts.
10mm to 16mm long is ideal
Use a 5.5 mm nut driver to make things easier.

Mount jacks with washers on inside and legs visible to you.

Hotbox Mounting Template
View from bottom/inside

Unswitched, mono jack sockets. I strongly recommend Neutrik NMJ2HF-S because I have seen cheaper ones melt! :o



16 ohm	→	47r	/	47r	/	33r
8 ohm	→	22r	/	22r	/	15r
4 ohm	→	15r	/	15r	/	6r8

These three resistors are all “Arcol HS50” (Ohmite in America) and are available on ebay and via most electronics retailers.

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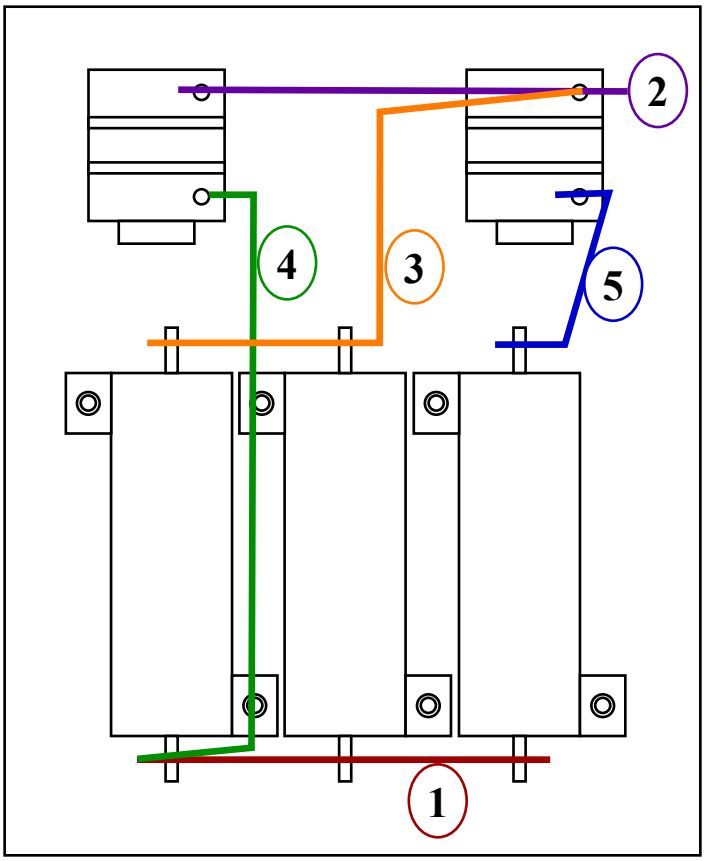
Use thick, stiff wire of at least 1mm diameter that will hold its shape
OR
Use 6A (or above) mains flex.
Ideally the stuff used by immersion heaters because it is heatproof and has five different coloured cores, which is perfect

Assemble and solder the wires in the numerical order shown

Hotbox Soldering Wires View from bottom/inside



You may, optionally, connect an earth wire from wire 2 to the chassis. Solder one end to 2 and twist the bare end around the jack socket before tightening.

It doesn't add any safety, and actually might introduce a tiny chance of shorting in unusual circumstances, but it can help reduce noise if you use single coils or high gain.

1. Solder wire 1 to the three HS50 resistors at bottom

2. Solder Wire 2 to the two earth pins of jack sockets

3. Solder wire 3 to the top of the left and middle HS50 resistors and also join it to wire 2 (solid wire) or the jack socket earth.

4. Solder wire 4 to the left (input) socket tip and to wire 1 (solid wire) or to any one of the bottom pins of the HS50

5. Solder wire 5 from the top of the right HS50 to the right (output) socket tip pin.

TESTING!!!!

Testing is SUPER IMPORTANT!!!!

Connect a speaker to the output.
Connect a multi-meter to the input.
If the reading is too low or high

RE-CHECK EVERYTHING BEFORE USING!!!!

Unit	Reading
16 ohms	13 to 18 ohms on multi-meter
8 ohms	6 to 10 ohms on multi-meter
4 ohms	3 to 5 ohms on multi-meter