# TR-707 ROM Expansion Cymbals Board

# Installation Instructions

HKA Design
www.hkadesign.org.uk
October 2023

# Installation

Follow the instructions for the main TR-707 ROM Expansion kit to the point where you have the voicing board removed from the case. If you're installing both the main kit and the Cymbals Board at the same time it's slightly easier to install the Cymbals Board first, but it doesn't make much difference – nor does it matter if the machine already has the ROM Expansion board installed.
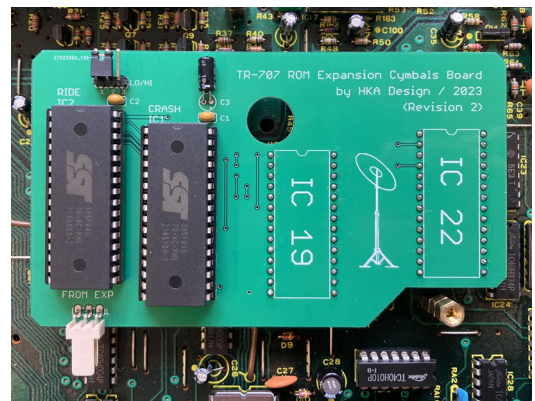
**IMPORTANT NOTE ABOUT THE MIXER BOARD:**
**The mixer board is connected to the voicing board with two flat cables. These are unfortunately quite weak and repeated flexing will break the wires, usually at the mixer board end where they are soldered with no strain relief. At the voicing board end they are clamped with spring-loaded connectors – pushing down on the connector housing releases the wires. Be very careful when working on the mixer board and avoid flexing these cables any more than necessary.**

**If any wires do break, you will either need to re-terminate the broken end of the flat cable (use a knife to separate the wires a couple of cm, then strip each individually), or replace the flat cables and connectors entirely using individual wires and JYK headers or similar.**

1. Remove the 5 screws which secure the mixer board to the voicing board. Carefully fold it over for access to IC19 and IC22 underneath. If there is metal shield installed in the middle of one of the standoffs, this will need to be removed as it will get in the way of the Cymbals Board. Unscrew the standoff from below and separate the two halves to free it, then reassemble and replace the standoff. De-solder and remove both IC19 and IC22.
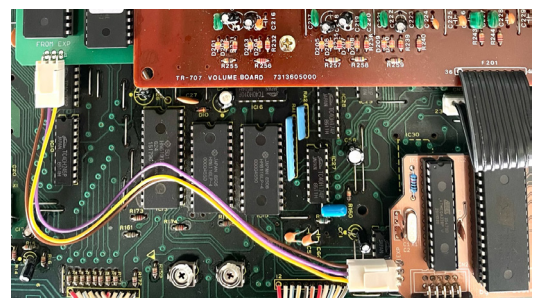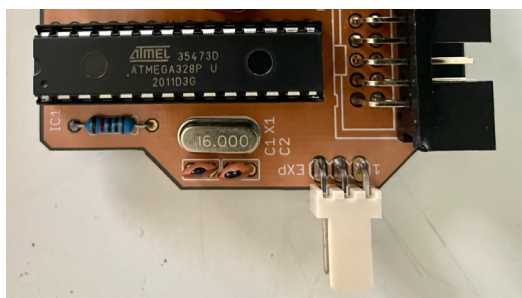


Metal shield - remove if present



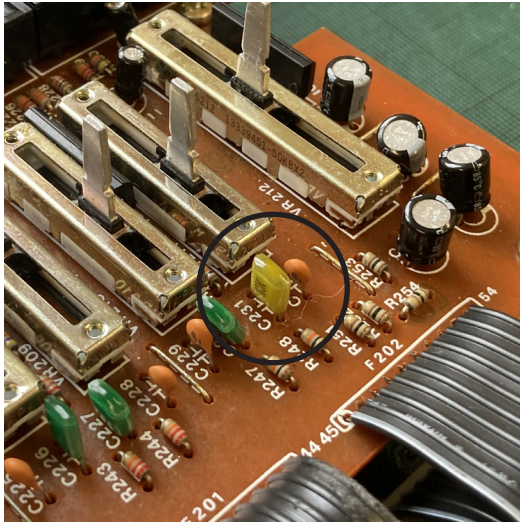Install Cymbals Board in place of IC19 & IC22

2. Notice that there are 2 IC sockets which are already pressed onto the pins of the Cymbals Board. Solder the sockets, still attached to the pins, onto the voicing board where IC19 and IC22 were originally installed. This ensures that the pins locate properly with the sockets when they're soldered to the board.

3. Solder the included 3-way JYK header to the main ROM Expansion board and plug in the connecting cable between it and the header on the Cymbals Board:
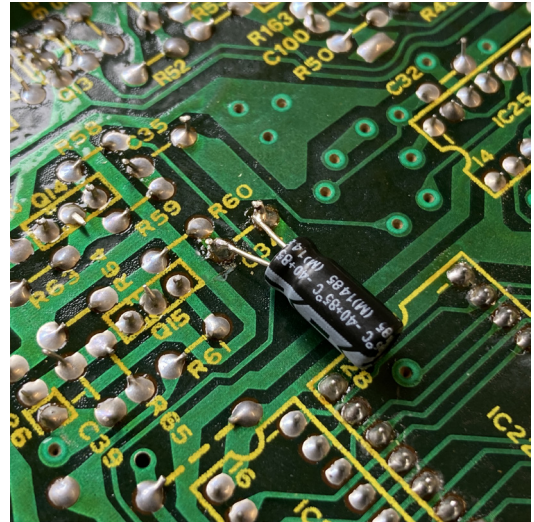
# Installation

**4.** If you're installing the Cymbals Board in a TR-707, you can now replace the mixer board. **If you're installing it in a TR-727**, you may want to do an optional component change on the mixer board first to improve the frequency response on the star chime voice.

This is because the TR-727 has a much more pronounced hi-pass filter on its star chime voice than the TR-707 does on its equivalent ride cymbal voice, and ride cymbals played back on the TR-727 end up sounding very thin. These changes make the filtering the same as the TR-707's ride cymbal voice.



Replace C231 (2.2nF) on mixer board with 10nF polyester or mylar film type.



Fit 1uF electrolytic capacitor across C34 on solder side of voicing board (negative on left).

**5.** Continue with the installation instructions for the TR-707 ROM Expansion kit – obviously you can skip the steps which cover actually installing it if you've already done so.

**ADDENDUM - LO/HI JUMPER:**
As standard this jumper is in the 1-2 position. Move it to the 2-3 position if your TR-707/TR-727 has been modified with adjustable pitch controls. Doing so enables an alternate version of the TR-909 bank, where the exact original cymbals from the TR-909 are used, rather than resampled versions of them.

The reason that these were resampled for the standard setting is that with the pitch knobs at the 12 o'clock position on a TR-909, these sounds play back at approximately 32kHz sample rate. The sample rate on an unmodified TR-707 is fixed at 25kHz, so it would result in them playing lower in pitch than is probably useful – try it if you like.