



NOTE: 20K tested working ok

**REPAIR TIPS FOR ORIGINAL MODULE**

- To test-bypass the HB41, jumper a wire from YM3014 pin 2 to the main power AMP input (LA4460 audio input=pin2). Music should be audible (level is too hot so distortion is normal). If yes the HB41 module is faulty. Alternatively join a wire from the module pins 5 and 16 to bypass the LM4558 chip. If still no audio the LM324 chip is also faulty.
- If game music is missing check the YM3014 on the PCB pin 2 using an oscilloscope. If no activity the YM3014 or other Yamaha sound chip(s) are faulty. If there is activity when music is playing the HB41 module LM4558 chip is faulty. Check with the bypass test. The chip can be removed using a knife with break-off segments. SLOWLY scrape away at the black coating and uncover the LM4558 chip. When the knife becomes blunt break off a segment and continue until the chip is completely visible. Remove it using hot air then replace it with a new chip. If the module traces 'disappear' you must rebuild them using small wires.
- The HB41 contains several tantalum capacitors. They are only powered by 5V so are rare to fail but still possible. Tantalum caps can be uncovered and replaced using the same method as replacing the LM4558. Ensure polarity is correct otherwise the tantalum capacitor will blow up (sparks/fire etc).

- NOTES**
1. All tantalum capacitors are minimum 10V. 16V or 20V is ok.
  2. Module pinout based on SEIBU/TAD Blood Bros PCB.
  3. Rev 1B - Changed tantalum cap footprint to match original module so parts can be salvaged from the original module.
  4. Rev 1B - Changed footprint and value of some resistors and capacitors to match original module.

# SEIBU HB-41

Reverse-Engineered By:

GURU  
<https://gurudumps.blogspot.com>