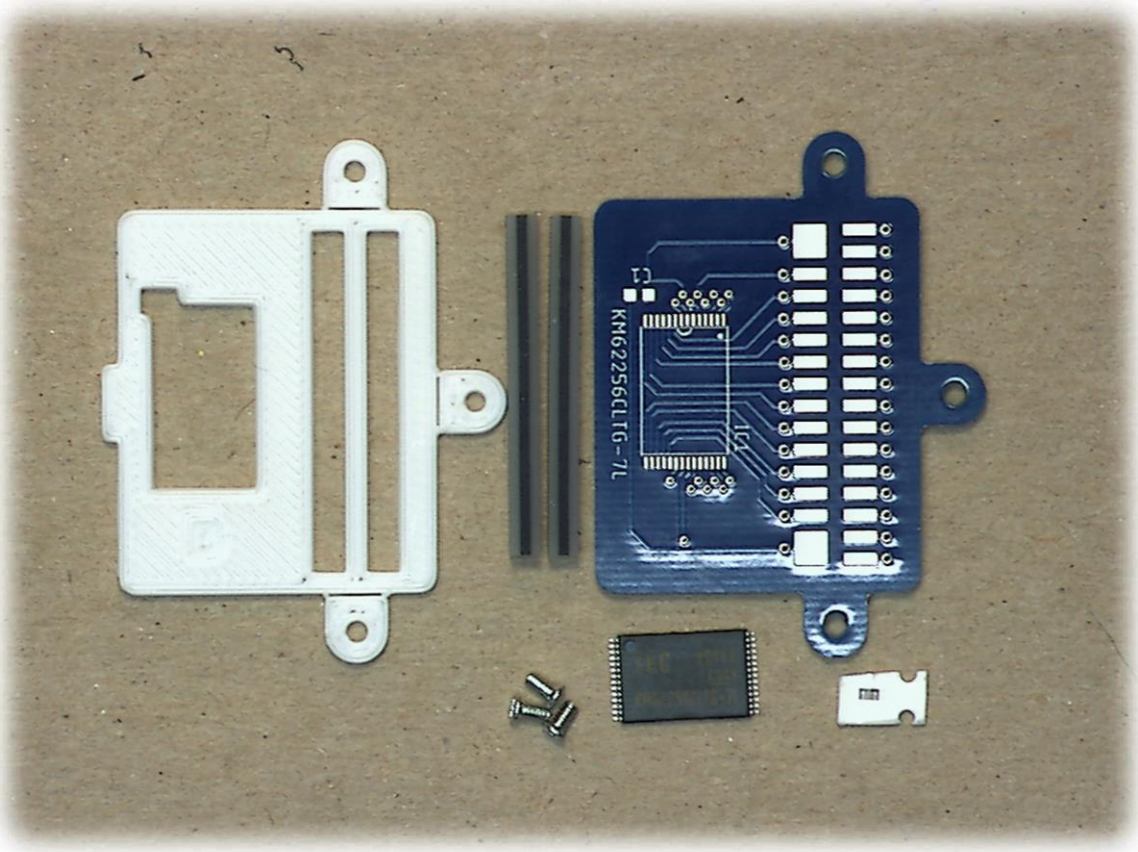
Soigeneris RP-33

Hey Birt! Casio RP-33 Replacement

User's Manual V1.0



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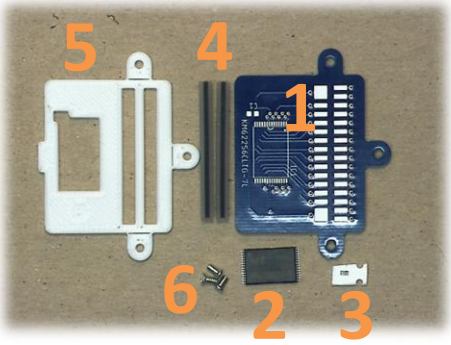
573-647-9294

What's Included in Kit

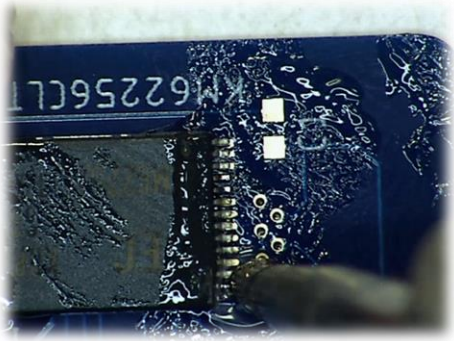


1) PCB
2) KM62256CLTG-7L, low power, TSOP SRAM
3) 0.1uf cap, 0603 pkg
4) Zebra strip, 31mm x 3 x 2.8, 2 pcs
5) 3D Printed Shim
6) Pan head screw, 1.7mm x 0.35 x 3, 3 pcs

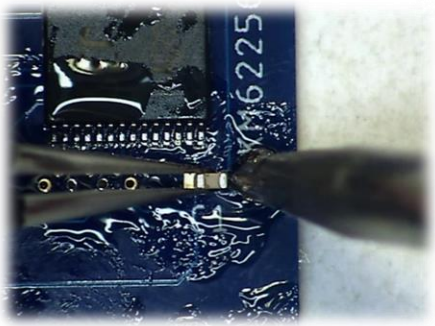
What you need

1) Soldering iron
2) Solder
3) Flux
4) E6000 glue (or similar)
5) #46 (2mm) drill bit, 3 pcs (or similar)
6) A magnifier helps a lot too 😊

Directions



1) Solder SRAM chip onto the PCB taking care not to get any solder onto the Zebra strip contact pads. Use Kapton tap to protect the pads. Note the Pin 1 marking on PCB and on the SRAM chip. Make sure to orient the chip correctly.



2) Solder on the capacitor. This is a not a polarized part so orientation does not matter.

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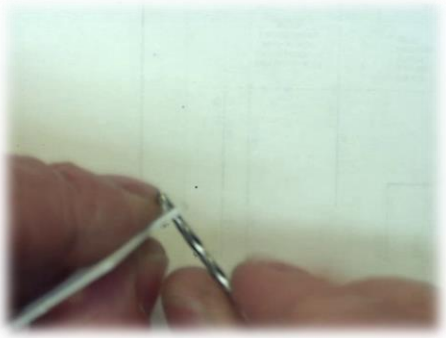
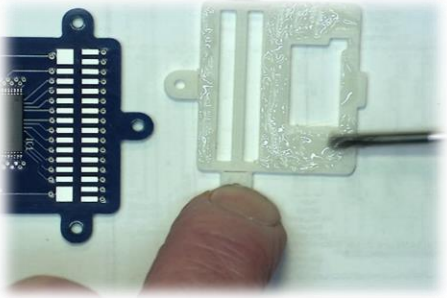
3) Clean the PCB very thoroughly with alcohol and flux/PCB cleaner. The PCB must be Perfectly clean before gluing the shim in place. Let the board dry for a least a few hours.

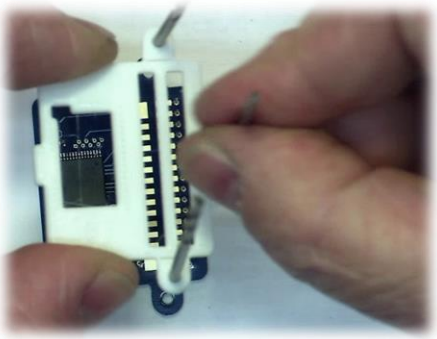
4) Carefully run your #39 drill bit through each hole in the shim until the bit slides through easily. We will use the bits to align the shim to the PCB.



5) Sparingly apply the E600 glue. We want enough to hold the shim on but not enough to ooze out from under shim. Do not apply glue to the center bar separating the Zebra strips.



6) Slip the drill bits about 8mm though the shim. Insert the bits through the PCB holes and slowly slide the shim down and press it onto PCB with moderate force. Let it set 24 hours for glue to cure.



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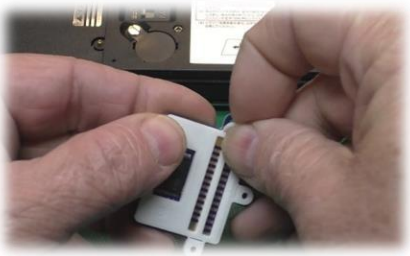
7) Remove drill bits and snap off alignment tabs on shim.



8) Wipe the Zebra strips with alcohol and then install them.

9) Hold VX-4 upside down at angle and place RP-33 up into hold slipping the foot on the shim into place. After the RP-33 has been installed for a while the Zebra strips will stay in place on the RPO-33 if you remove it.

10) Press the RP-33 down and install the screws loosely at first and then snug them all down.

11) Enjoy using the RP-33 you just built! Instructions for resetting and testing below.

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How to reset rest the VX-4 and test the new RAM

Install the AA batteries, install the memory backup battery. Turn the power switch on the back to ON. Use a paperclip, etc. to push the master reset button through the hole in back. Then use the paperclip to press the 'All Reset' button through hole in keyboard.

The screen should now be flashing the RAM amount discovered on power up: 8K + 32K if you have not done the internal memory upgrade, or 32K + 32K if you have done the internal memory upgrade as well. If you see this your RP-33 was recognized. If not turn off the switch on the back and double check your RP-33.

To test the RAM type in SYSTEM* and press EXE. This will bring up a hidden test menu. Items 4, 5, 6 are the RAM tests. Press 4, then any key. This test will take 30 seconds or so to run. If it does not return an error message and goes back to the menu your RP-33 passed the test. Do the same with test 5 and 6.

After doing a RAM test you must press the 'All Reset' from the keyboard side before trying to use the unit. The RAM test writes to every location in RAM which confuses the BASIC editor, etc. Pressing 'All Reset' will initialize the system.

The RP-33 works with: FX-840P, FX-841P, FX-850P, FX-860P, FX-860Pvc, FX-870P, FX-880P, FX-890P, VX-1, VX-2, VX-3, VX-4, Z-1, Z-1GR, PB2000C and AI-1000

A video detailing the design and building of the MOS8701/HB can be found on YouTube at: https://youtu.be/DSXBF3-MclE

This is an open-source project created by Jeffrey T. Birt, a.k.a. 'Hey Birt!' Project files can be downloaded from the link below.

Github repository: https://github.com/Jeff-Birt/Casio_VX-4_RAM_Upgrade