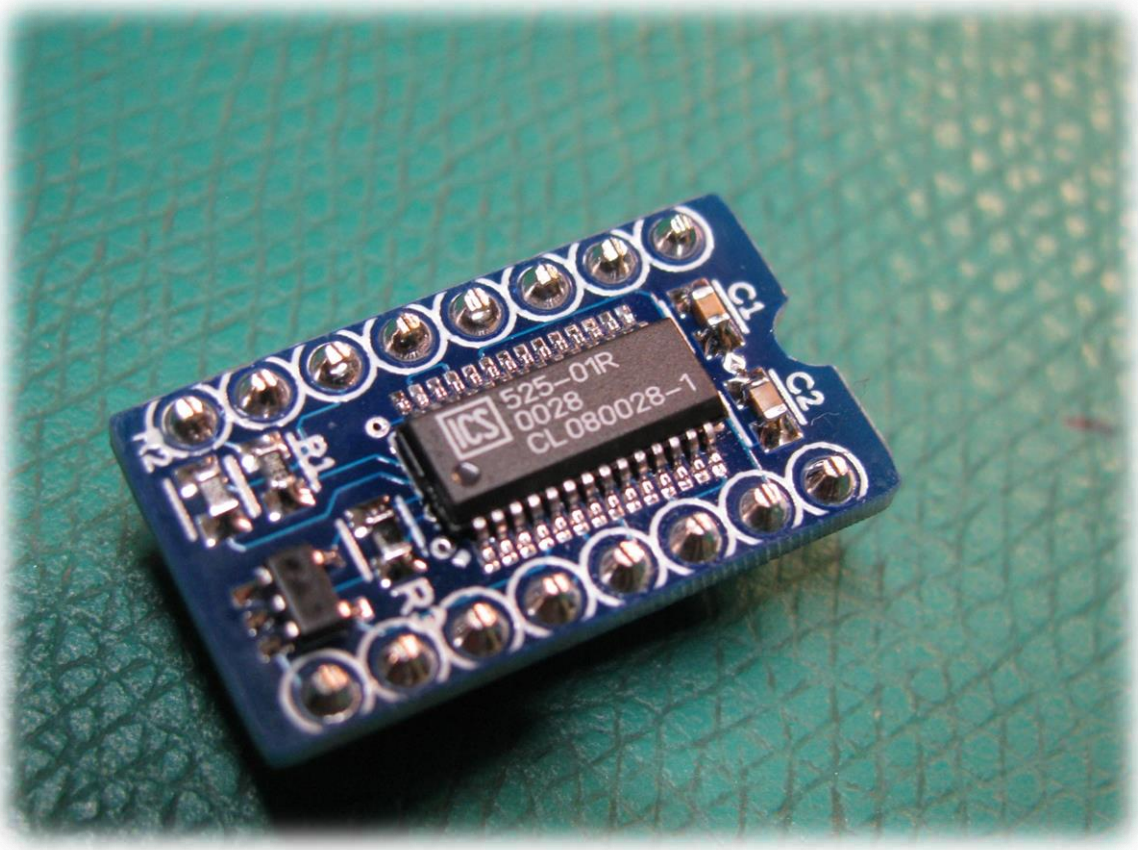
Soigeneris MOS8701\HB

Hey Birt! C64/C128 MOS8701 Replacement

User's Manual V1.0



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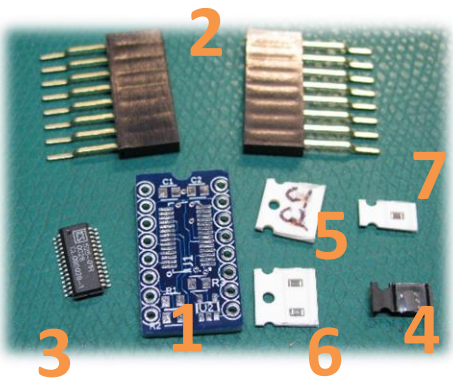
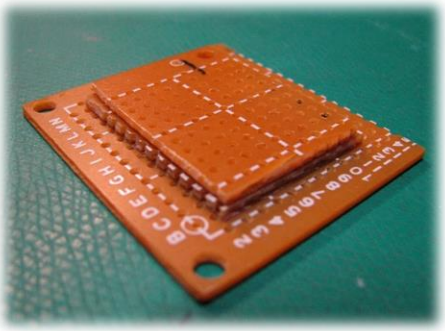
What's Included in Kit



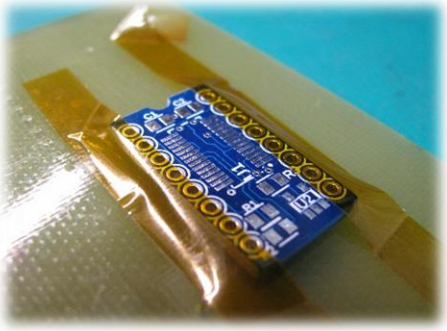
1) PCB
2) 'Z-bend' pins, 2 sets
3) ICS525 Clock Chip
4) Inverter chip, SOT23 package
5) 0.1uf cap, 0603 pkg, 2 pcs
6) 33ohm res, 0603 pkg, 2 pcs
7) 10Kohm res, 0603 pkg

What you need

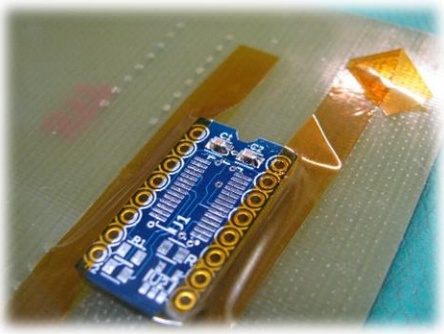


1) Soldering iron
2) Solder
3) Flux
4) Soldering fixture made from perf board

Directions



1) I like to tape the PCB to a larger piece of PCB stock. This holds it in place and prevents getting solder in through holes. It is generally better to start by installing the small parts first. I like to start with C1, C2, R1 and R2. Save R3 for later though.



2) Apply flux to pads, hold part in place with tweezers, with a small bit of solder on the iron's tip tack one end of the part. Then do other end. Apply more flux as needed.

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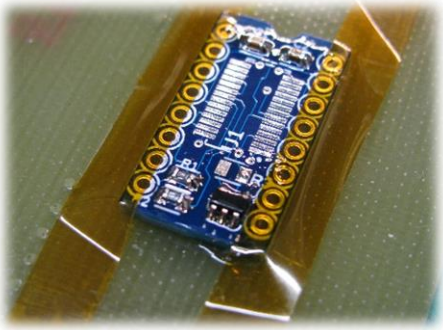
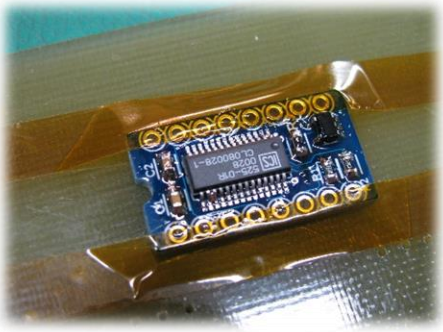
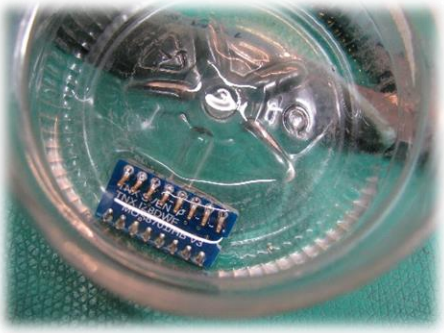
3) Solder U2 in place first followed by R3.



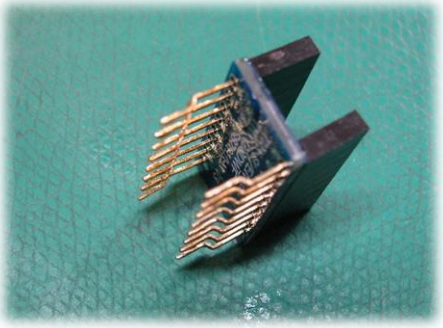
4) Now install the ICS525 clock chip. Note the small dot on PCB indicates pin 1 on the IC. The IC is upside down with respect to the MOS8701 footprint.



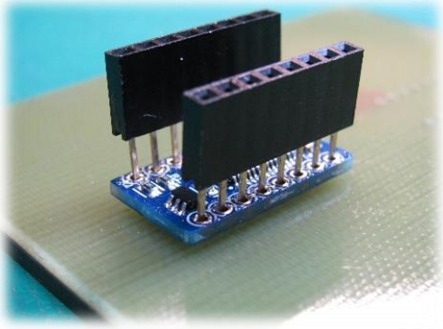
5) Clean PCB with alcohol and carefully check all connections. (Image here is with pins installed but the idea is the same.)



6) Apply flux to both the top and bottom of through holes and insert 'Z-bend' pins so they offset to the middle.



7) Insert assembly into your soldering fixture. Make sure pins are fully seated and PCB is against pins. Solder corners first. About 3-5 seconds with iron and plenty of solder so it flows to bottom of PCB.



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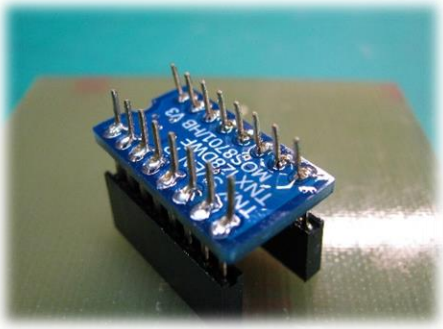
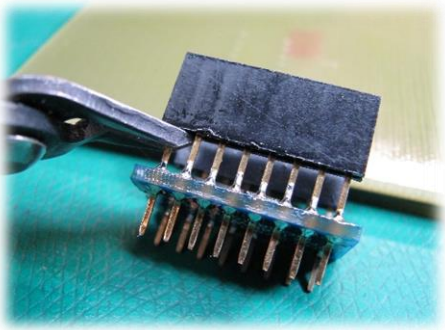
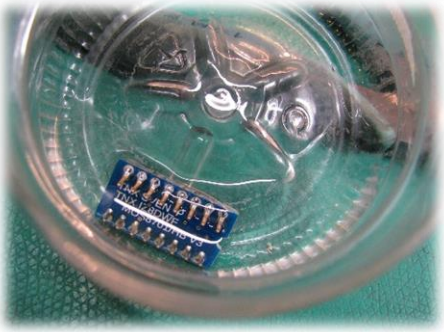
8) Remove from fixture and touch iron to base of each pin to allow solder to flow across elongated bottom pad.



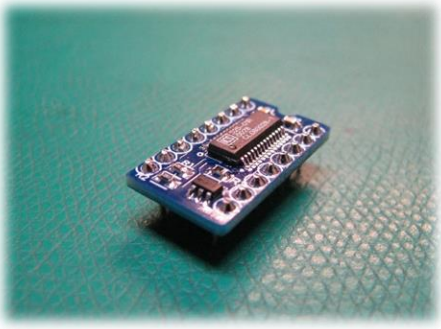
9) Trim top of pins near plastic. Then trim close to PCB



10) Clean thoroughly with alcohol and check all soldering carefully. Ohm across pins 2 and 15, with positive lead on pin 15 should read about 5K ohms.



11) Enjoy using the MOS8701/HB you just built!



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Notes

A video detailing the design and building of the MOS8701/HB can be found on YouTube at: https://youtu.be/e5o8c656j3Q

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/MOS8701_HB