======= MB-6582 Parts List ======= **Please read the entire construction guide before buying parts or starting to solder anything.** It is important that you understand what options you have for the PSU and sockets before buying parts. Therefore, you should read the [[wilba_mb_6582_base_pcb_construction_guide|MB-6582 Base PCB Construction Guide]] and decide on the PSU option and sockets you plan to use. If you are constructing the base PCB, you will require all the parts listed here, with the exception of: * Parts that are optional and only required by the PSU Option A, B, C or D you are using * Parts that are PCB mounted sockets (if you are not using the PacTec PT-10 case) * 1x PIC18F4685 per Core module (and thus per SID module) * 1 or 2 SID chips per SID module. * 2x 74HC595 per SID module. * 2x or more 24LC512 (one for patches, one for ensembles) To clarify: Each SID module can have 1 or 2 SIDs, each SID module requires a Core module. So if you have less than 8 SIDs, you only //need// the ICs in the Core and SID modules you will use. Thus for each Core/SID module you use, you can buy just 1x PIC18F4658 and 2x 74HC595 (plus 3x 74HC595 for DOUT modules to connect to control surface). **However, please buy enough //other// parts to fully construct all Core and SID modules on the base PCB, including all 8x 74HC595 for the four SID modules, all IC sockets, all other sockets, resistors, capacitors, etc.**. Even if you only want to use less than 4 Core and 4 SID modules, you might get more SIDs in future, and you might also have trouble with one Core/SID module combination. Having other Core/SID modules on the PCB will help solve any problems you might have, because you can test the PIC and SID in another Core/SID module. It really is not much extra time or cost to fully construct the PCB and just not buy (leave out) the PICs and SIDs. For each IC (designators starting with "U"), you will require an IC socket of the same size. Take note that the 28-pin IC socket required for the SIDs come in "narrow" and "wide". You want the "wide" kind. I used the cheap, "dual-wipe" type, but you could use the more expensive "machined pin" type, which looks a little more professional. Here is a quick tally of the ICs and IC sockets: |**Part**|**Required**|**Size**| |6N138|1|8-pin| |24LC512|8|8-pin| |74HC595|11|16-pin| |74HC165|5|16-pin| |SID|8|28-pin (wide)| |PIC18F4685|4|40 pin| Again I remind you to buy all these IC sockets and solder them all to the PCB, even if you don't use them all. I would also advise people buy an extra set of of 28-pin and 40-pin sockets (of the dual-wipe kind), so you can use an //extra IC socket// in between the IC and the IC socket on the PCB. This allows easy insertion and removal of the PICs and SIDs while testing, and while constructing you can easily pull out all the PICs and SIDs before doing more soldering! You will want to test one "working" PIC and SID in each socket first, so extra IC sockets makes this easy with no chance of bending pins during testing. I have listed all headers, some are single in-line (SIL) headers, some are dual row. 18 of the 5-pin single inline (SIL) headers can be replaced with 9 dual inline (DIL) 5-pin headers. (J8, J9, J6_COREx/J7_COREx and J8_COREx/J9_COREx). It is cheaper to get 40-pin headers strips and cut to the sizes required. You probably will not need any connectors for the headers other than one for the LCD (J15_CORE1, 8-pin dual row) which should be an IDC connector (crimps onto ribbon cable). If you are planning to connect analog inputs (i.e. joysticks, sliders, etc.) or connect analog outputs (i.e. CV-controlled external filters, FX units, etc.) then refer to other documentation about these options. FYI, the ports on the Core modules //should have// identical pinouts to SmashTV's Core PCB. All the resistors I used on the prototype were metal film 1% tolerance (except 10K resistor networks, I don't know what type they are). But carbon resistors work just as well. The bypass capacitors and most other capacitors are monolithic (anything else might not fit the PCB). The spacing of non-electrolytic capacitors is 5.08mm (200mil) to better deal with the different sizes. Trim potentiometers are horizontal type, I think they are pretty standard, they are **not** the multiturn type. **If none of this is making much sense and you're stuck identifying what parts you need to buy, then you can wait for SmashTV to prepare a complete "parts kit" of the base PCB components, or ask for help on the forum from more experienced MIDIboxers building this PCB, or wait for the step-by-step-with-photos construction guide which I will write as I construct one of the base PCBs myself. However, I encourage everyone to go and read the documentation about each MIDIbox module (Core, SID, DIN, DOUT, BankStick) and how they fit together (i.e. into a MIDIbox SID Synthesizer V2).** Here is the full parts list. ====== Base PCB ====== |**Designator**|**Description**|**Value**|**Notes**|**Image**| |B1|Bridge Rectifier|W04

400V 1.2 Amp|Optional: See Note 1| |C1|Electrolytic Capacitor (Radial)|2200µF, 25V|Optional: See Note 1|{{mb-6582:2200uf.jpg?50x50}}| |C2|Monolithic Capacitor|330nF|Optional: See Note 1|{{mb-6582:330nf.jpg?50x50}}| |C3|Electrolytic Capacitor (Radial)|2200µF, 25V|Optional: See Note 1|{{mb-6582:2200uf.jpg?50x50}}| |C4|Monolithic Capacitor|100nF|Optional: See Note 1|{{mb-6582:100nf.jpg?50x50}}| |C11|Electrolytic Capacitor (Radial)|10µF|Optional: See Note 1|{{mb-6582:10uf.jpg?50x50}}| |C12|Monolithic Capacitor|100nF|Optional: See Note 1|{{mb-6582:100nf.jpg?50x50}}| |C13|Electrolytic Capacitor (Radial)|10µF|Optional: See Note 3|{{mb-6582:10uf.jpg?50x50}}| |C14|Monolithic Capacitor|100nF|Optional: See Note 3|{{mb-6582:100nf.jpg?50x50}}| |C16|Monolithic Capacitor|100nF|-|{{mb-6582:100nf.jpg?50x50}}| |C17|Monolithic Capacitor|100nF|-|{{mb-6582:100nf.jpg?50x50}}| |C18|Monolithic Capacitor|100nF|-|{{mb-6582:100nf.jpg?50x50}}| |C19|Monolithic Capacitor|100nF|-|{{mb-6582:100nf.jpg?50x50}}| |C20|Monolithic Capacitor|100nF|-|{{mb-6582:100nf.jpg?50x50}}| |C21|Monolithic Capacitor|100nF|-|{{mb-6582:100nf.jpg?50x50}}| |C22|Monolithic Capacitor|100nF|-|{{mb-6582:100nf.jpg?50x50}}| |C23|Monolithic Capacitor|100nF|-|{{mb-6582:100nf.jpg?50x50}}| |C24|Electrolytic Capacitor (Radial)|100µF|Bend leads and mount flat against PCB|{{mb-6582:100uf.jpg?50x50}}| |D1|Diode|1N4148|-| |J1|DIN Socket, 7-Pin|-|Optional: See Notes 1, 4| |J1A|Header, 4-Pin|-|Optional: See Notes 1, 4| |J2|Header, 2-Pin|-|Power LED connects here, uses R81 for current limiting| |J3|Header, 2-Pin|-|-| |J4|Header, 4-Pin|-|-| |J8|Header, 5-Pin|-|Optional, combine with J9 in 5x2 DIL header| |J9|Header, 5-Pin|-|Optional, combine with J8 in 5x2 DIL header| |J11|Header, 4-Pin, Dual row|-|Use jumper to select which PIC connects to MIDI Out (for uploading apps)| |J12|DIN Socket, 5-Pin|-|-| |J12A|Header, 3-Pin|-|-| |J13|DIN Socket, 5-Pin|-|-| |J13A|Header, 3-Pin|-|-| |J21|Stereo Phono Jack with Switch|-|Optional: See Note 11| |J22|Stereo Phono Jack with Switch|-|Optional: See Note 11| |J23|Stereo Phono Jack with Switch|-|Optional: See Note 11| |J24|Stereo Phono Jack with Switch|-|Optional: See Note 11| |J21B|Header, 3-Pin|-|-| |J22B|Header, 3-Pin|-|-| |J23B|Header, 3-Pin|-|-| |J24B|Header, 3-Pin|-|-| |J25|Header, 2-Pin|-|-| |J70|Header, 3-Pin|-|-| |J71|-|-|Bridge for PSU Option| |J72|-|-|Bridge for PSU Option| |J73|Header, 2-Pin|-|Optional: See Note 2| |J74|Header, 2-Pin|-|Optional: See Note 2| |JD1|-|-|Optional: See Note 5| |JD2|-|-|Optional: See Note 5| |JD3|-|-|Optional: See Note 5| |JD4|-|-|Optional: See Note 5| |JD5|-|-|Optional: See Note 5| |JD6|-|-|Optional: See Note 5| |JD7|-|-|Optional: See Note 5| |JD8|-|-|Optional: See Note 5| |JD9|-|-|Optional: See Note 5| |P1|Potentiometer|10K|-| |R3|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R4|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R5|Resistor|5.6K|-|{{mb-6582:5k6.jpg?*x50}}| |R7|Resistor|220 Ohm|-|{{mb-6582:220.jpg?*x50}}| |R8|Resistor|220 Ohm|-|{{mb-6582:220.jpg?*x50}}| |R11|Resistor|220 Ohm|-|{{mb-6582:220.jpg?*x50}}| |R13|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R14|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R15|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R16|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R17|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R18|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R19|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R20|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R30|Resistor network (5-pin or 6-pin)|10K|Dot indicates pin 1, which goes in square pad|{{mb-6582:6Pnetwork.jpg?*x50}}| |R31|Resistor network (5-pin or 6-pin)|10K|Dot indicates pin 1, which goes in square pad|{{mb-6582:6Pnetwork.jpg?*x50}}| |R32|Resistor network (5-pin or 6-pin)|10K|Dot indicates pin 1, which goes in square pad|{{mb-6582:6Pnetwork.jpg?*x50}}| |R33|Resistor network (5-pin or 6-pin)|10K|Dot indicates pin 1, which goes in square pad|{{mb-6582:6Pnetwork.jpg?*x50}}| |R34|Resistor network (5-pin or 6-pin)|10K|Dot indicates pin 1, which goes in square pad|{{mb-6582:6Pnetwork.jpg?*x50}}| |R35|Resistor network (5-pin or 6-pin)|10K|Dot indicates pin 1, which goes in square pad|{{mb-6582:6Pnetwork.jpg?*x50}}| |R36|Resistor network (5-pin or 6-pin)|10K|Dot indicates pin 1, which goes in square pad|{{mb-6582:6Pnetwork.jpg?*x50}}| |R37|Resistor network (5-pin or 6-pin)|10K|Dot indicates pin 1, which goes in square pad|{{mb-6582:6Pnetwork.jpg?*x50}}| |R38|Resistor network (5-pin or 6-pin)|10K|Dot indicates pin 1, which goes in square pad|{{mb-6582:6Pnetwork.jpg?*x50}}| |R39|Resistor network (5-pin or 6-pin)|10K|Dot indicates pin 1, which goes in square pad|{{mb-6582:6Pnetwork.jpg?*x50}}| |R40|Resistor|220 Ohm|Solder last, must match LED

brightness|{{mb-6582:220.jpg?*x50}}| |R41|Resistor|220 Ohm|Solder last, must match LED brightness|{{mb-6582:220.jpg?*x50}}| |R42|Resistor|220 Ohm|Solder last, must match LED brightness|{{mb-6582:220.jpg?*x50}}| |R43|Resistor|220 Ohm|Solder last, must match LED brightness|{{mb-6582:220.jpg?*x50}}| |R44|Resistor|220 Ohm|Solder last, must match LED brightness|{{mb-6582:220.jpg?*x50}}| |R45|Resistor|220 Ohm|Solder last, must match LED brightness|{{mb-6582:220.jpg?*x50}}| |R46|Resistor|220 Ohm|Solder last, must match LED brightness|{{mb-6582:220.jpg?*x50}}| |R47|Resistor|220 Ohm|Solder last, must match LED brightness|{{mb-6582:220.jpg?*x50}}| |R48|Resistor|220 Ohm|Solder last, must match LED brightness|{{mb-6582:220.jpg?*x50}}| |R49|Resistor|220 Ohm|Solder last, must match LED brightness|{{mb-6582:220.jpg?*x50}}| |R50|Resistor|220 Ohm|Solder last, must match LED brightness|{{mb-6582:220.jpg?*x50}}| |R51|Resistor|220 Ohm|Solder last, must match LED brightness|{{mb-6582:220.jpg?*x50}}| |R52|Resistor|220 Ohm|Solder last, must match LED brightness|{{mb-6582:220.jpg?*x50}}| |R53|Resistor|220 Ohm|Solder last, must match LED brightness|{{mb-6582:220.jpg?*x50}}| |R54|Resistor|220 Ohm|Solder last, must match LED brightness|{{mb-6582:220.jpg?*x50}}| |R55|Resistor|220 Ohm|Solder last, must match LED brightness|{{mb-6582:220.jpg?*x50}}| |R57|Resistor|10K|Not required if R38 is 6-pin|{{mb-6582:10k.jpg?*x50}}| |R58|Resistor|10K|Not required if R36 is 6-pin|{{mb-6582:10k.jpg?*x50}}| |R59|Resistor|10K|Not required if R34 is 6-pin|{{mb-6582:10k.jpg?*x50}}| |R60|Resistor|10K|Not required if R32 is 6-pin|{{mb-6582:10k.jpg?*x50}}| |R61|Resistor|10K|Not required if R30 is 6-pin|{{mb-6582:10k.jpg?*x50}}| |R70|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R71|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R72|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R73|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R74|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R75|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R76|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R77|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R80|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R81|Resistor|220 Ohm|Current limiting resistor for power LED connected to J2|{{mb-6582:220.jpg?*x50}}| |S1|Double-Pole, Single-Throw Switch|-|Optional: See Notes 1, 6| |T1|BC337|-|-| |T2|BC547|-|Optional: Current sinking for LED and switch matrix| |T3|BC547|-|Optional: Current sinking for LED and switch matrix| |T4|BC547|-|Optional: Current sinking for LED and switch matrix| |T5|BC547|-|Optional: Current sinking for LED and switch matrix| |T6|BC547|-|Optional: Current sinking for LED and switch matrix| |T7|BC547|-|Optional: Current sinking for LED and switch matrix| |T8|BC547|-|Optional: Current sinking for LED and switch matrix| |T9|BC547|-|Optional: Current sinking for LED and switch matrix| |U2|6N138 Optocoupler|-|-| |U4|24LC512|-|-| |U5|24LC512|-|-| |U6|24LC512|-|-| |U7|24LC512|-|-| |U8|24LC512|-|-| |U9|24LC512|-|-| |U10|24LC512|-|-| |U11|24LC512|-|-| |U16|74HC165|-|-| |U17|74HC165|-|-| |U18|74HC165|-|-| |U19|74HC165|-|-| |U20|74HC165|-|-| |U21|74HC595|-|-| |U22|74HC595|-|-| |U23|74HC595|-|-| |V1|7809 Voltage Regulator|-|Optional: See Notes 1, 10| |V2|7809 Voltage Regulator|-|Optional: See Notes 2, 10| |V3|7812 Voltage Regulator|-|Optional: See Notes 2, 10| |V4|7805 Voltage Regulator|-|Optional: See Notes 3, 10| ====== Core Modules ====== |**Designator**|**Description**|**Value**|**Notes**|**Image**| |D1_CORE1|Diode|1N4148|-| |D1_CORE2|Diode|1N4148|-| |D1_CORE3|Diode|1N4148|-| |D1_CORE4|Diode|1N4148|-| |C1_CORE1|Ceramic Capacitor|33pF|-|{{mb-6582:33pf.jpg?50x50}}| |C1_CORE2|Ceramic Capacitor|33pF|-|{{mb-6582:33pf.jpg?50x50}}| |C1_CORE3|Ceramic Capacitor|33pF|-|{{mb-6582:33pf.jpg?50x50}}| |C1_CORE4|Ceramic Capacitor|33pF|-|{{mb-6582:33pf.jpg?50x50}}| |C2_CORE1|Ceramic Capacitor|33pF|-|{{mb-6582:33pf.jpg?50x50}}| |C2_CORE2|Ceramic Capacitor|33pF|-|{{mb-6582:33pf.jpg?50x50}}| |C2_CORE3|Ceramic Capacitor|33pF|-|{{mb-6582:33pf.jpg?50x50}}| |C2_CORE4|Ceramic Capacitor|33pF|-|{{mb-6582:33pf.jpg?50x50}}| |C3_CORE1|Monolithic Capacitor|100nF|-|{{mb-6582:100nf.jpg?50x50}}| |C3_CORE2|Monolithic Capacitor|100nF|-|{{mb-6582:100nf.jpg?50x50}}| |C3_CORE3|Monolithic Capacitor|100nF|-|{{mb-6582:100nf.jpg?50x50}}| |C3_CORE4|Monolithic Capacitor|100nF|-|{{mb-6582:100nf.jpg?50x50}}| |J11_CORE1|Header, 2-Pin|-|-| |J11_CORE2|Header, 2-Pin|-|-|

|J11_CORE3|Header, 2-Pin|-|-| |J11_CORE4|Header, 2-Pin|-|-| |J4_CORE1|Header, 4-Pin|-|-| |J4_CORE2|Header, 4-Pin|-|-| |J4_CORE3|Header, 4-Pin|-|-| |J4_CORE4|Header, 4-Pin|-|-| |J6_CORE1|Header, 5-Pin|-|Can combine with J7_CORE1 in 5x2 DIL header| |J6_CORE2|Header, 5-Pin|-|Can combine with J7_CORE2 in 5x2 DIL header| |J6_CORE3|Header, 5-Pin|-|Can combine with J7_CORE3 in 5x2 DIL header| |J6_CORE4|Header, 5-Pin|-|Can combine with J7_CORE4 in 5x2 DIL header| |J7_CORE1|Header, 5-Pin|-|Can combine with J6_CORE1 in 5x2 DIL header| |J7_CORE2|Header, 5-Pin|-|Can combine with J6_CORE2 in 5x2 DIL header| |J7_CORE3|Header, 5-Pin|-|Can combine with J6_CORE3 in 5x2 DIL header| |J7_CORE4|Header, 5-Pin|-|Can combine with J6_CORE4 in 5x2 DIL header| |J8_CORE1|Header, 5-Pin|-|Can combine with J9_CORE1 in 5x2 DIL header| |J8_CORE2|Header, 5-Pin|-|Can combine with J9_CORE2 in 5x2 DIL header| |J8_CORE3|Header, 5-Pin|-|Can combine with J9_CORE3 in 5x2 DIL header| |J8_CORE4|Header, 5-Pin|-|Can combine with J9_CORE4 in 5x2 DIL header| |J9_CORE1|Header, 5-Pin|-|Can combine with J8_CORE1 in 5x2 DIL header| |J9_CORE2|Header, 5-Pin|-|Can combine with J8_CORE2 in 5x2 DIL header| |J9_CORE3|Header, 5-Pin|-|Can combine with J8_CORE3 in 5x2 DIL header| |J9_CORE4|Header, 5-Pin|-|Can combine with J8_CORE4 in 5x2 DIL header| |J15_CORE1|Header, 8-Pin, Dual row|-|-| |J15_CORE2|Header, 8-Pin, Dual row|-|-| |J15_CORE3|Header, 8-Pin, Dual row|-|-| |J15_CORE4|Header, 8-Pin, Dual row|-|-| |J5_CORE1|Header, 10-Pin|-|-| |J5_CORE2|Header, 10-Pin|-|-| |J5_CORE3|Header, 10-Pin|-|-| |J5_CORE4|Header, 10-Pin|-|-| |P2_CORE1|Potentiometer|10K|-| |P2_CORE2|Potentiometer|10K|-| |P2_CORE3|Potentiometer|10K|-| |P2_CORE4|Potentiometer|10K|-| |Q1_CORE1|Crystal|10MHz|Low Profile HC49 Type| |Q1_CORE2|Crystal|10MHz|Low Profile HC49 Type| |Q1_CORE3|Crystal|10MHz|Low Profile HC49 Type| |Q1_CORE4|Crystal|10MHz|Low Profile HC49 Type| |R10_CORE1|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R10_CORE2|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R10_CORE3|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R10_CORE4|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R12_CORE1|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R12_CORE2|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R12_CORE3|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R12_CORE4|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R1_CORE1|Resistor|100 Ohm|-|{{mb-6582:100.jpg?*x50}}| |R1_CORE2|Resistor|100 Ohm|-|{{mb-6582:100.jpg?*x50}}| |R1_CORE3|Resistor|100 Ohm|-|{{mb-6582:100.jpg?*x50}}| |R1_CORE4|Resistor|100 Ohm|-|{{mb-6582:100.jpg?*x50}}| |R2_CORE1|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R2_CORE2|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R2_CORE3|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R2_CORE4|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R6_CORE1|Resistor|1.2K|-|{{mb-6582:1k2.jpg?*x50}}| |R6_CORE2|Resistor|1.2K|Not required, but can mount if you want|{{mb-6582:1k2.jpg?*x50}}| |R6_CORE3|Resistor|1.2K|Not required, but can mount if you want|{{mb-6582:1k2.jpg?*x50}}| |R6_CORE4|Resistor|1.2K|Not required, but can mount if you want|{{mb-6582:1k2.jpg?*x50}}| |R9_CORE1|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R9_CORE2|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R9_CORE3|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R9_CORE4|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |U1_CORE1|PIC18F4685|-|-| |U1_CORE2|PIC18F4685|-|-| |U1_CORE3|PIC18F4685|-|-| |U1_CORE4|PIC18F4685|-|-| ====== SID Modules ====== |**Designator**|**Description**|**Value**|**Notes**|**Images**| |U3_SID1|74HC595|-|-| |U3_SID2|74HC595|-|-| |U3_SID3|74HC595|-|-| |U3_SID4|74HC595|-|-| |U4_SID1|74HC595|-|-| |U4_SID2|74HC595|-|-| |U4_SID3|74HC595|-|-| |U4_SID4|74HC595|-|-| |T1_SID1|BC547|-|-| |T1_SID2|BC547|-|-| |T1_SID3|BC547|-|-| |T1_SID4|BC547|-|-| |T21_SID1|BC547|-|-| |T21_SID2|BC547|-|-| |T21_SID3|BC547|-|-| |T21_SID4|BC547|-|-|*marker |C1_SID1|Capacitor|470pF or 22nF|See Note 7|{{mb-6582:470pF.jpg?50x50}} or {{mb-6582:22nF.jpg?50x50}}| |C1_SID2|Capacitor|470pF or 22nF|See Note 7|{{mb-6582:470pF.jpg?50x50}} or {{mb-6582:22nF.jpg?50x50}}| |C1_SID3|Capacitor|470pF or 22nF|See Note 7|{{mb-6582:470pF.jpg?50x50}} or {{mb-6582:22nF.jpg?50x50}}| |C1_SID4|Capacitor|470pF or 22nF|See Note 7|{{mb-6582:470pF.jpg?50x50}} or {{mb-6582:22nF.jpg?50x50}}| |C2_SID1|Capacitor|470pF or 22nF|See Note 7|{{mb-6582:470pF.jpg?50x50}} or

{{mb-6582:22nF.jpg?50x50}}| |C2_SID2|Capacitor|470pF or 22nF|See Note 7|{{mb-6582:470pF.jpg?50x50}} or {{mb-6582:22nF.jpg?50x50}}| |C2_SID3|Capacitor|470pF or 22nF|See Note 7|{{mb-6582:470pF.jpg?50x50}} or {{mb-6582:22nF.jpg?50x50}}| |C2_SID4|Capacitor|470pF or 22nF|See Note 7|{{mb-6582:470pF.jpg?50x50}} or {{mb-6582:22nF.jpg?50x50}}| |C21_SID1|Capacitor|470pF or 22nF|See Note 7|{{mb-6582:470pF.jpg?50x50}} or {{mb-6582:22nF.jpg?50x50}}| |C21_SID2|Capacitor|470pF or 22nF|See Note 7|{{mb-6582:470pF.jpg?50x50}} or {{mb-6582:22nF.jpg?50x50}}| |C21_SID3|Capacitor|470pF or 22nF|See Note 7|{{mb-6582:470pF.jpg?50x50}} or {{mb-6582:22nF.jpg?50x50}}| |C21_SID4|Capacitor|470pF or 22nF|See Note 7|{{mb-6582:470pF.jpg?50x50}} or {{mb-6582:22nF.jpg?50x50}}| |C22_SID1|Capacitor|470pF or 22nF|See Note 7|{{mb-6582:470pF.jpg?50x50}} or {{mb-6582:22nF.jpg?50x50}}| |C22_SID2|Capacitor|470pF or 22nF|See Note 7|{{mb-6582:470pF.jpg?50x50}} or {{mb-6582:22nF.jpg?50x50}}| |C22_SID3|Capacitor|470pF or 22nF|See Note 7|{{mb-6582:470pF.jpg?50x50}} or {{mb-6582:22nF.jpg?50x50}}| |C22_SID4|Capacitor|470pF or 22nF|See Note 7|{{mb-6582:470pF.jpg?50x50}} or {{mb-6582:22nF.jpg?50x50}}| |C3_SID1|Ceramic Capacitor|1nF|-|{{mb-6582:1nF.jpg?50x50}}| |C3_SID2|Ceramic Capacitor|1nF|-|{{mb-6582:1nF.jpg?50x50}}| |C3_SID3|Ceramic Capacitor|1nF|-|{{mb-6582:1nF.jpg?50x50}}| |C3_SID4|Ceramic Capacitor|1nF|-|{{mb-6582:1nF.jpg?50x50}}| |C23_SID1|Ceramic Capacitor|1nF|-|{{mb-6582:1nF.jpg?50x50}}| |C23_SID2|Ceramic Capacitor|1nF|-|{{mb-6582:1nF.jpg?50x50}}| |C23_SID3|Ceramic Capacitor|1nF|-|{{mb-6582:1nF.jpg?50x50}}| |C23_SID4|Ceramic Capacitor|1nF|-|{{mb-6582:1nF.jpg?50x50}}| |C4_SID1|Ceramic Capacitor|470pF|-|{{mb-6582:470pF.jpg?50x50}}| |C4_SID2|Ceramic Capacitor|470pF|-|{{mb-6582:470pF.jpg?50x50}}| |C4_SID3|Ceramic Capacitor|470pF|-|{{mb-6582:470pF.jpg?50x50}}| |C4_SID4|Ceramic Capacitor|470pF|-|{{mb-6582:470pF.jpg?50x50}}| |C24_SID1|Ceramic Capacitor|470pF|-|{{mb-6582:470pF.jpg?50x50}}| |C24_SID2|Ceramic Capacitor|470pF|-|{{mb-6582:470pF.jpg?50x50}}| |C24_SID3|Ceramic Capacitor|470pF|-|{{mb-6582:470pF.jpg?50x50}}| |C24_SID4|Ceramic Capacitor|470pF|-|{{mb-6582:470pF.jpg?50x50}}| |C5_SID1|Electrolytic Capacitor (Radial)|10µF|-|{{mb-6582:10uF.jpg?50x50}}| |C5_SID2|Electrolytic Capacitor (Radial)|10µF|-|{{mb-6582:10uF.jpg?50x50}}| |C5_SID3|Electrolytic Capacitor (Radial)|10µF|-|{{mb-6582:10uF.jpg?50x50}}| |C5_SID4|Electrolytic Capacitor (Radial)|10µF|-|{{mb-6582:10uF.jpg?50x50}}| |C25_SID1|Electrolytic Capacitor (Radial)|10µF|-|{{mb-6582:10uF.jpg?50x50}}| |C25_SID2|Electrolytic Capacitor (Radial)|10µF|-|{{mb-6582:10uF.jpg?50x50}}| |C25_SID3|Electrolytic Capacitor (Radial)|10µF|-|{{mb-6582:10uF.jpg?50x50}}| |C25_SID4|Electrolytic Capacitor (Radial)|10µF|-|{{mb-6582:10uF.jpg?50x50}}| |C6_SID1|Electrolytic Capacitor (Radial)|1µF|-|{{mb-6582:1uF.jpg?50x50}}| |C6_SID2|Electrolytic Capacitor (Radial)|1µF|-|{{mb-6582:1uF.jpg?50x50}}| |C6_SID3|Electrolytic Capacitor (Radial)|1µF|-|{{mb-6582:1uF.jpg?50x50}}| |C6_SID4|Electrolytic Capacitor (Radial)|1µF|-|{{mb-6582:1uF.jpg?50x50}}| |C26_SID1|Electrolytic Capacitor (Radial)|1µF|-|{{mb-6582:1uF.jpg?50x50}}| |C26_SID2|Electrolytic Capacitor (Radial)|1µF|-|{{mb-6582:1uF.jpg?50x50}}| |C26_SID3|Electrolytic Capacitor (Radial)|1µF|-|{{mb-6582:1uF.jpg?50x50}}| |C26_SID4|Electrolytic Capacitor (Radial)|1µF|-|{{mb-6582:1uF.jpg?50x50}}| |C7_SID1|Ceramic Capacitor|1nF|-|{{mb-6582:1nF.jpg?50x50}}| |C7_SID2|Ceramic Capacitor|1nF|-|{{mb-6582:1nF.jpg?50x50}}| |C7_SID3|Ceramic Capacitor|1nF|-|{{mb-6582:1nF.jpg?50x50}}| |C7_SID4|Ceramic Capacitor|1nF|-|{{mb-6582:1nF.jpg?50x50}}| |C27_SID1|Ceramic Capacitor|1nF|-|{{mb-6582:1nF.jpg?50x50}}| |C27_SID2|Ceramic Capacitor|1nF|-|{{mb-6582:1nF.jpg?50x50}}| |C27_SID3|Ceramic Capacitor|1nF|-|{{mb-6582:1nF.jpg?50x50}}| |C27_SID4|Ceramic Capacitor|1nF|-|{{mb-6582:1nF.jpg?50x50}}| |C8_SID1|Monolithic Capacitor|100nF|-|{{mb-6582:100nF.jpg?50x50}}| |C8_SID2|Monolithic Capacitor|100nF|-|{{mb-6582:100nF.jpg?50x50}}| |C8_SID3|Monolithic Capacitor|100nF|-

|{{mb-6582:100nF.jpg?50x50}}| |C8_SID4|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C28_SID1|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C28_SID2|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C28_SID3|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C28_SID4|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C9_SID1|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C9_SID2|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C9_SID3|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C9_SID4|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C29_SID1|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C29_SID2|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C29_SID3|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C29_SID4|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C13_SID1|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C13_SID2|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C13_SID3|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C13_SID4|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C14_SID1|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C14_SID2|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C14_SID3|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |C14_SID4|Monolithic Capacitor|100nF|-
|{{mb-6582:100nF.jpg?50x50}}| |J1_SID1|Header, 3-Pin|-|Optional: See Note 8| |J1_SID2|Header, 3-Pin|-|Optional: See Note 8| |J1_SID3|Header, 3-Pin|-|Optional: See Note 8| |J1_SID4|Header, 3-Pin|-|Optional: See Note 8| |J2_SID1|Header, 3-Pin|-|Optional: See Note 8| |J2_SID2|Header, 3-Pin|-|Optional: See Note 8| |J2_SID3|Header, 3-Pin|-|Optional: See Note 8| |J2_SID4|Header, 3-Pin|-|Optional: See Note 8| |J3_SID1|Header, 3-Pin|-|See Note 9| |J3_SID2|Header, 3-Pin|-|See Note 9| |J3_SID3|Header, 3-Pin|-|See Note 9| |J3_SID4|Header, 3-Pin|-|See Note 9| |J23_SID1|Header, 3-Pin|-|See Note 9| |J23_SID2|Header, 3-Pin|-|See Note 9| |J23_SID3|Header, 3-Pin|-|See Note 9| |J23_SID4|Header, 3-Pin|-|See Note 9| |R2_SID1|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R2_SID2|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R2_SID3|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R2_SID4|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R22_SID1|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R22_SID2|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R22_SID3|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R22_SID4|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R3_SID1|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R3_SID2|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R3_SID3|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R3_SID4|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R23_SID1|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R23_SID2|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R23_SID3|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R23_SID4|Resistor|10K|-|{{mb-6582:10k.jpg?*x50}}| |R4_SID1|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R4_SID2|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R4_SID3|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R4_SID4|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R24_SID1|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R24_SID2|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R24_SID3|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |R24_SID4|Resistor|1K|-|{{mb-6582:1k.jpg?*x50}}| |U1_SID1|SID 6581/6582/8580|-|-| |U1_SID2|SID 6581/6582/8580|-|-| |U1_SID3|SID 6581/6582/8580|-|-| |U1_SID4|SID 6581/6582/8580|-|-| |U2_SID1|SID 6581/6582/8580|-|-| |U2_SID2|SID 6581/6582/8580|-|-| |U2_SID3|SID 6581/6582/8580|-|-| |U2_SID4|SID 6581/6582/8580|-|-| ====== Notes ====== - Parts B1, C1, C2, C3, C4, C11, C12, J1, V1, S1 are for PSU Options A or B. - Parts V2, V3 are for PSU Option B only (for +9v and +12v supplies, mixing 8580/6582 and 6581 SIDs. - Parts C13, C14, J73, J74, V4 are for PSU Option C only. - Use a four-pin SIL header in J1A as an alternative to J1 if using a panel mounted power socket. - JD1, JD2, JD3, JD4, JD5, JD6, JD7, JD8, JD9 are pads to connect to a control surface. If using

the MB-6582 control surface PCB in a PT-10 case (or similar sized case), do not solder SIL headers to these pads, the connection to the control surface PCB is via ribbon cables soldered directly to the pads. Refer to MB-6582 Control Surface Construction Guide. - The switch S1 is the same switch as found in a Commodore 64. You can temporarily use any DPDT switch until a good supply of these switches is located. **The DPDT rocker switch from Mountain Switches which was previously suggested (http://www.mouser.com/catalog/specsheets/MS-100818.pdf) does not suit the rearpanel design.** - These capacitors on the SID control the filter cutoff frequency. For 6581, they should be 470pF. For 8580/6582, they should be 22nF. To allow for interchangeable capacitors (should you wish to swap between 6581 and 8580/6582), solder a strip of 6 machine pins into the pads for these capacitors. Alternately, cut up an IC socket. Even if you plan to only use one type of SID, not soldering the capacitors gives you the opportunity to tweak the capacitors, install better ones later, etc. - If using PSU Option B, 3-pin SIL headers in these pads allow switching the voltage supply to the SID between +9v and +12v. Use a jumper (shunt). If using PSU Option A, bridge between middle pin and "9V" pin with a resistor lead. - These are the SID's audio input and output headers, which can be used to connect feedback pots (like on the rear panel of MB-6582). If not using (or until you connect) feedback pots, use a jumper (shunt) between "IN" and "GND" pins. You can also use these headers to connect audio sockets for external audio input to the SID (but preferably sockets with switch so unused socket will ground the input). - If you plan to use heatsinks on voltage regulators, it is best to attach them first, or you may solder the regulator too close to the PCB. - Audio sockets (jacks) are Neutrik NMJ6HFD2 [[http://www.neutrik.com/fl/en/audio/210_301451/NMJ6HFD2_detail.aspx]] or equivalent (check Neutrik's datasheet for comparison). Other parts (even from Neutrik) are similar enough to fit. Note that some brands of this kind of audio socket have the switch pins on the opposite side and will not work "as is" on the PCB and require bridging the switch pins from the pins normally in contact with the phono plug. Ideally the socket should mount flat against the PCB and only the threaded part extend past the PCB (i.e. so sockets can mount flush with rear panel holes).