

Instructions for older Brown PCB motherboard on WM-D6C

These are my interpretation of the LeKos instructions. Be sure to check his first. I hope these are useful but any errors are MINE not his.

Be sure to have a copy of the WM-D6C schematic and board layout in the Service Manual up to Supplement 1 (Brown PCB)
All references to pads or wires below are to that schematic or board layout diagram

Remove:

- All components within blue line in "Removed Components.png"
- NOTE: Desolder resistors, capacitors and IC601 but DO NOT remove any wires yet

Swap resistors:

- Replace R604 with 300k resistor
- Replace R603 with 330k resistor.

New capacitor added:

- Add a 270pF cap between pins 5 and 8 of IC701 on Auto OFF board for proper working of quartz lock mode.

Move some wires from the main PCB to the new board

- Move Red wire from motor and connect to the main PCB at the same place as brown wire #18. (i.e. to 6V rail)
- Move White wire from motor and connect to "M-" pad on new board.
- One at a time move Black FG wires on main PCB to "FG+" and "FG-" pads on new board. (FG- is ground)
- Move Blue wire #17 from main PCB to "Blue" pad on new board.
- Move Brown wire #15 from main PCB to "Brown" pad on new board.
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Add new wires:

- Wire from "GND" pin on new board connects to the same place as black wires #4, 25, 43, 44. (i.e. to 0V or Negative

battery terminal)

- - Wire from "+10V8" pin on new board connects to the same place as orange wires #14, 11. (i.e. to 10V8 rail)
- - Wire from "+5V" pin on new board connect to pad for pin 5 of IC601.
- - Wire from "To pin 4 of CX20084" connect to pad for pin 4 of IC601.

After installation:

In the following LeKos seems to say follow the "Tape speed adjustment" instructions in service manual, but do steps 5-9 first, then 1-4

- - Turn Speed Tune switch to ON
(Steps 5-9 from Service manual?)
 - - set RV602 to center position (indent).
 - - adjust RV603 for correct speed
- - Turn Speed Tune switch to OFF
(Steps 1-4 from Service manual?)
 - - Adjust RV601 for minimum W&F. This is the same adjustment as described in "Tape speed adjustment" in service manual, but I`m not sure about proper speed. In my unit, with "Tape speed" solder joint removed, I have speed about 3240 Hz on 3000 Hz test tape. Be careful - instead of original, in my current schematic this adjustment have smaller area, in which PLL lock works properly and stable.
- - (If you can't obtain stable small W&F, try to increase R715 on Auto OFF board, decreasing additional capacitor's value from 270p. I have the same stable results with R715 changed to 3.3 MOhm and 120p capacitor. Also you can try to increase a value of R603 and decrease RV601 - theoretically it should simplify the adjustment.
- - All of this is more tricky than original procedure, and I can`'t guaranty that it will work. In my case it works perfectly, but if in you case it don't, just replace R603 by 300k, remove "Tape speed" solder joint and adjust speed by RV601 to obtain correct tape speed. Quartz lock will be disabled, but unit should work stable.

In attachment there are pictures with instructions, BOM and gerber-files. Gerber files are the same as before, attached them here so that everything - instructions and gerbers - was in one place.