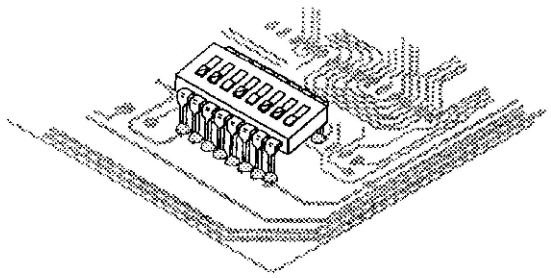
FatMan Desk Top Enclosure

Model 9308C Assembly / Installation Supplement

9308C Packing list is on the last page of this supplement.

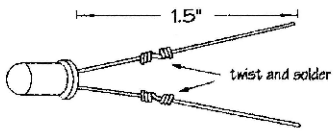


DEFAULT DIP SWITCH INSTALLATION

The Default DIP Switch S2 mounts on the "solder" side of the circuit board so it will be accessible from the bottom of the case.

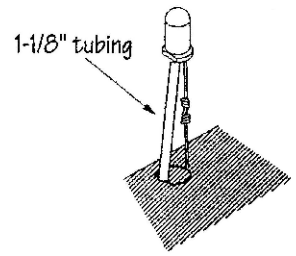
LED INSTALLATION

The LED leads must be extended so the part can reach from the circuit board to the holes in the case top when the board is in place. On each of the three LEDs twist 1-1/4" lengths of the #22 bare wire supplied with the Case kit to the part's lead so that the extended lead's total length is about 1-1/2" and solder the two together. Do not use the smaller #26 bard wire supplied with the FatMan kit.



Use 1-1/4" lengths of bare wire to extend the LED leads by twisting the two together and soldering

To space the LEDs properly and keep their leads from touching one another, cut a 1-1/8" length of the large diameter tubing supplied and slip it over the cathode lead, corresponding to the flat in the base. Push both leads through the holes in the circuit board. Be careful that the polarizing flats on the LED and circuit board graphic match and that the part is directly above the graphic (not skewed at an angle) before soldering in place. Clip excess leads flush with the solder joint.

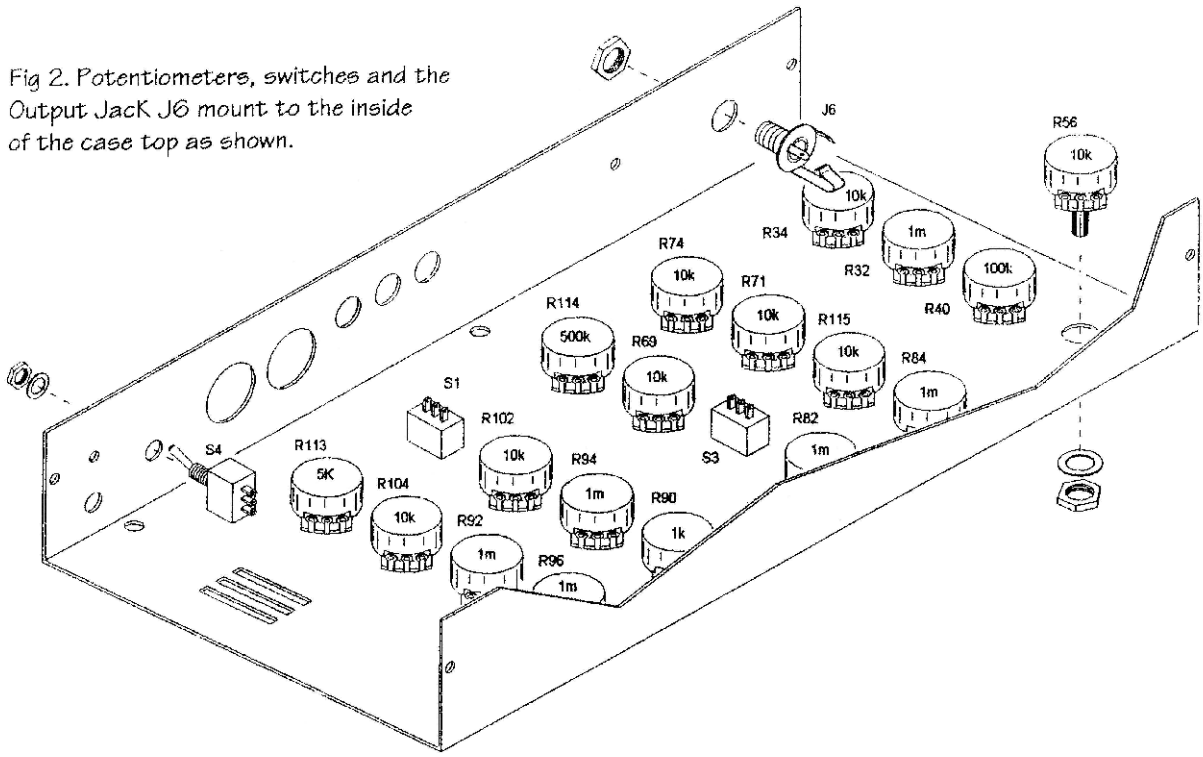


CIRCUIT BOARD FLYING WIRES

PC POINT		WIRE LENGTH	PC POINT		WIRE LENGTH
( )	"A"	9-1/2"	( )	"T"	5-3/4"
( )	"B"	9"	( )	"U"	10"
( )	"C"	10"	( )	"V"	10"
( )	"D"	7-1/2"	( )	"W"	10-1/2"
( )	"E"	8"	( )	"X"	9-1/2"
( )	"F"	5-3/4"	( )	"Y"	10"
( )	"G"	4"	( )	"Z"	9-1/2"
( )	"H"	6"	( )	"AA"	10"
( )	"I"	8"	( )	"AB"	9"
( )	"J"	10"	( )	"AC"	8-1/2"
( )	"K"	7-3/4"	( )	"AD"	10-3/4"
( )	"L"	7-1/2"	( )	"AF"	11"
( )	"M"	7-1/2"	( )	"AG"	10-3/4"
( )	"N"	9-1/2"	( )	"AH"	9"
( )	"O"	8-1/2"	( )	"AI"	8"
( )	"P"	7"	( )	"AJ"	10"
( )	"R"	8"	( )	"AK"	6-1/2"
( )	"S"	8"	( )	"DG"	11-1/2"

Wire lengths from the circuit board to the panel controls change in the Desk Top Enclosure. Follow the schedule to the left rather than the one on page 11 of the 9308K assembly manual.

Fig 2. Potentiometers, switches and the Output JacK J6 mount to the inside of the case top as shown.



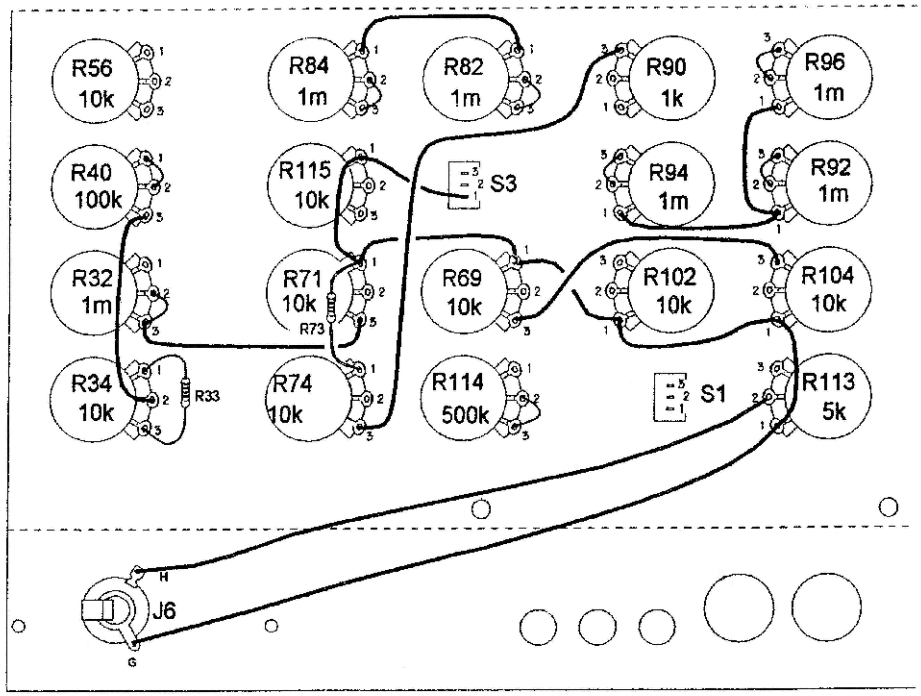
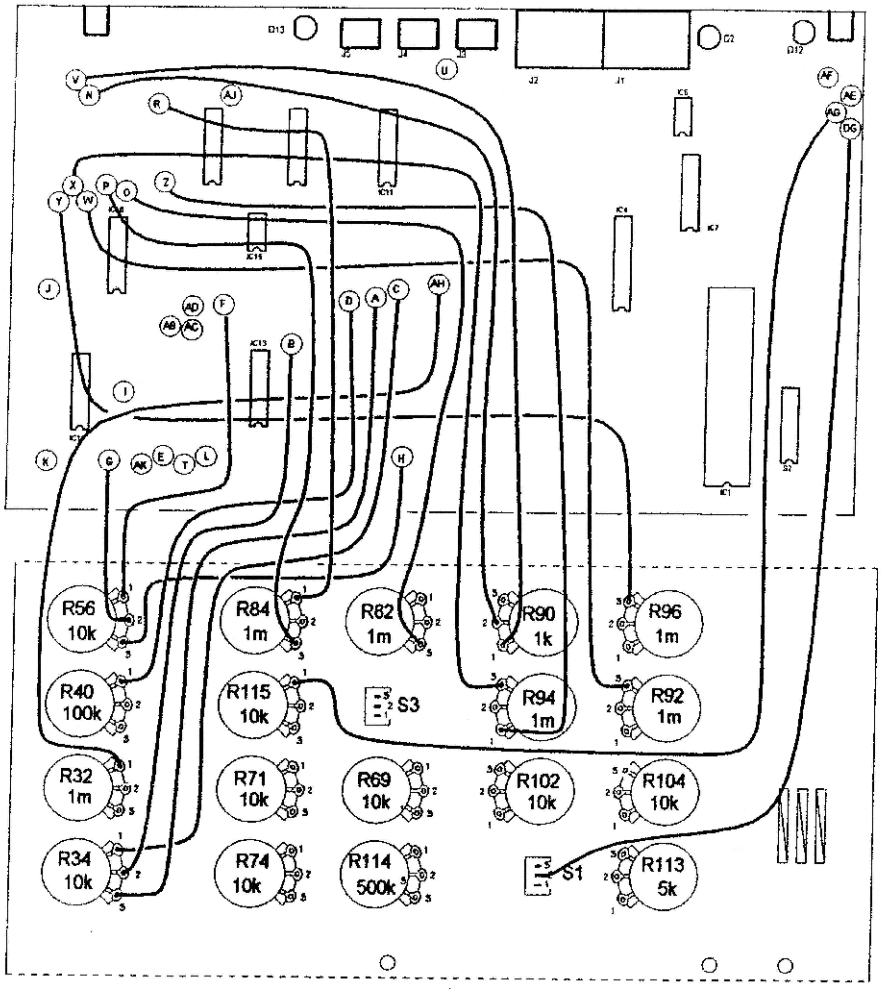


Fig 3. Point to point wiring of panel conrols is done before making connections to the circuit board. Follow the wiring schedule on the facing page in place of the one on page 13 of the 9308K Assembly Manual.

Fig 4a. Wiring from controls to circuit board uses #22 stranded insulated wire. Connections are listed on pg 14 of the 9308K manual



Panel Wiring (replaces schedule on page 13 of 9308K manual)

	FROM	TO	LENGTH
( )	R113-1 (ns)	J6-G (s1)	8-1/4"
( )	R113-2 (s1)	J6-H (s1)	8-1/4"
( )	R113-1 (s2)	R104-1 (ns)	2-1/2"
( )	R104-1 (s2)	R102-1 (ns)	2-1/2"
( )	R102-1 (s2)	R69-1 (ns)	2"
( )	R104-3 (s1)	R69-3 (ns)	3-3/4"
( )	R69-1 (s2)	R71-1 (ns)	2-3/4"
( )	S3-1 (s1)	R115-1 (ns)	2"
( )	R115-1 (ns)	R71-1 (ns)	2"
( )	R71-3 (ns)	R32-3 (ns)	3-1/4"
( )	R32-3 (s2)	R32-2 (s1)	Clipping

	FROM	TO	LENGTH
( )	R114-2 (s1)	R114-3 (ns)	Clipping
( )	R96-1 (s1)	R92-1 (ns)	2"
( )	R96-2 (s1)	R96-3 (ns)	Clipping
( )	R90-3 (s1)	R74-3 (ns)	5-1/2"
( )	R92-2 (s1)	R92-3 (ns)	Clipping
( )	R92-1 (s2)	R94-1 (ns)	2-1/2"
( )	R94-2 (s1)	R94-3 (ns)	Clipping
( )	R82-1 (s1)	R84-1 (ns)	2-1/2"
( )	R82-2 (s1)	R82-3 (ns)	Clipping
( )	R84-2 (s1)	R84-3 (ns)	Clipping
( )	R40-1 (ns)	R40-2 (s1)	Clipping
( )	R40-3 (s1)	R34-2 (ns)	3-3/4"

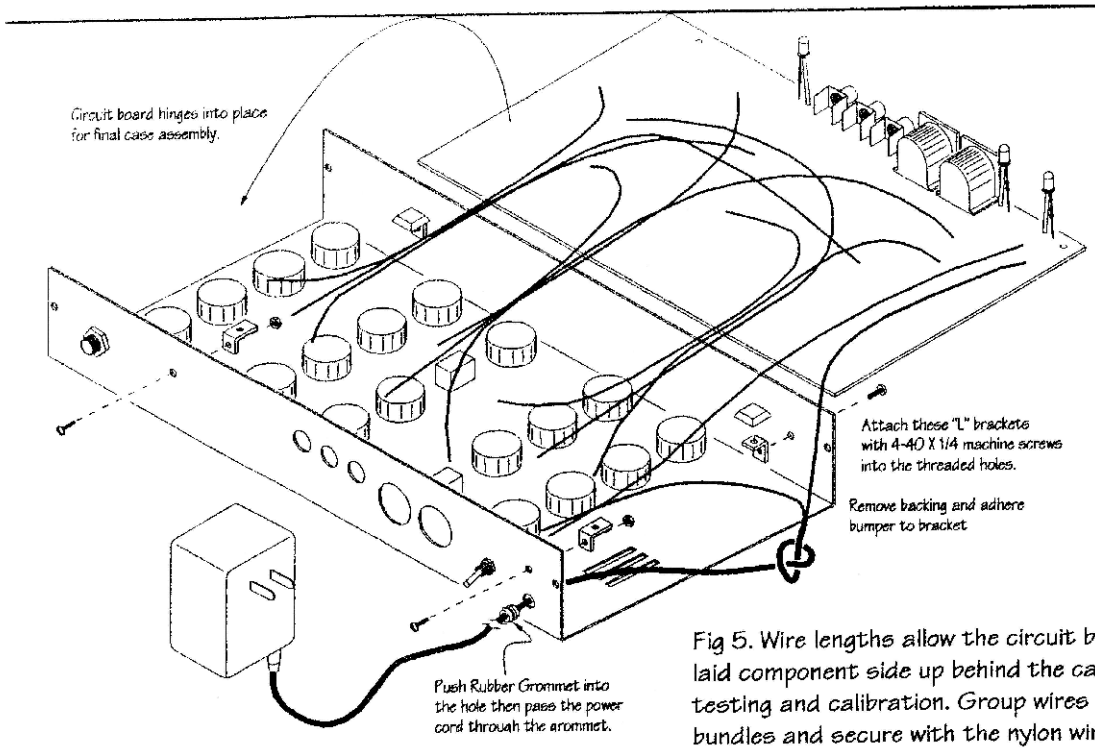


Fig 5. Wire lengths allow the circuit board to be laid component side up behind the case for testing and calibration. Group wires into 3 bundles and secure with the nylon wire ties supplied.

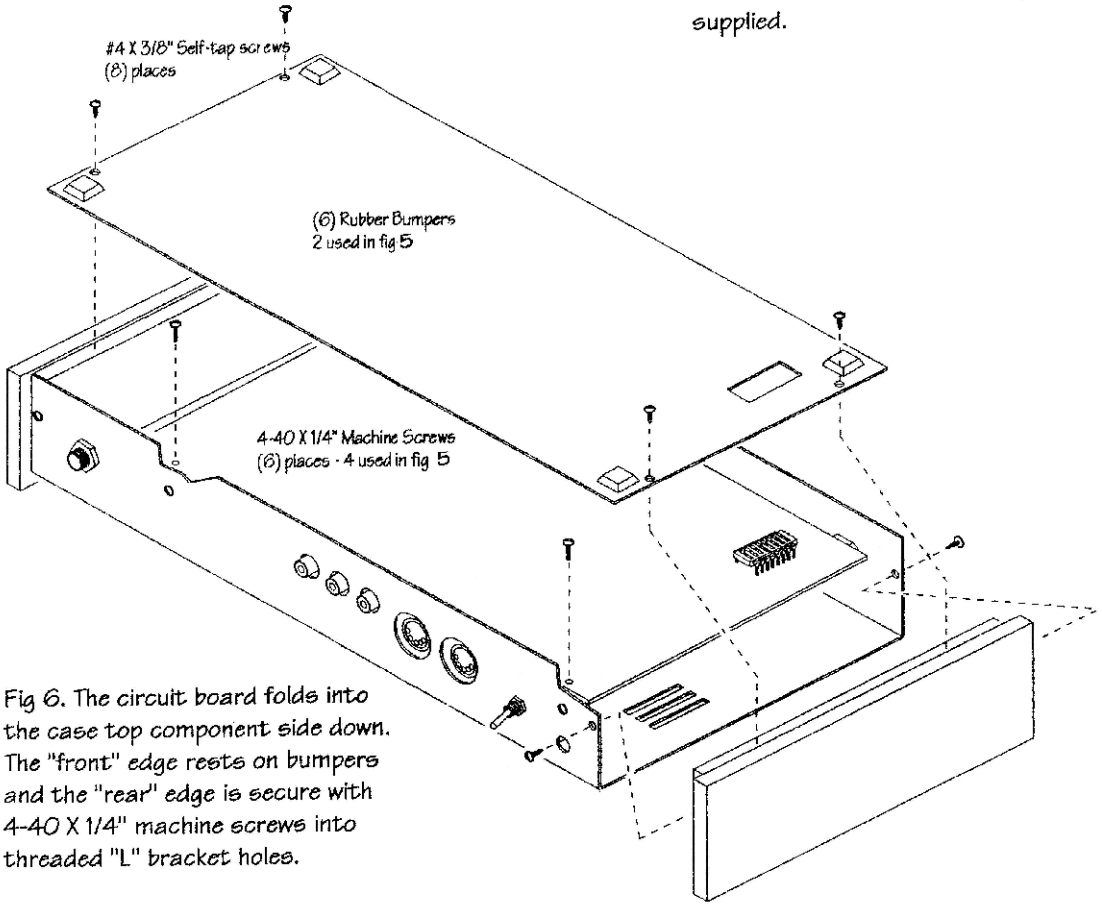


Fig 6. The circuit board folds into the case top component side down. The "front" edge rests on bumpers and the "rear" edge is secure with 4-40 X 1/4" machine screws into threaded "L" bracket holes.

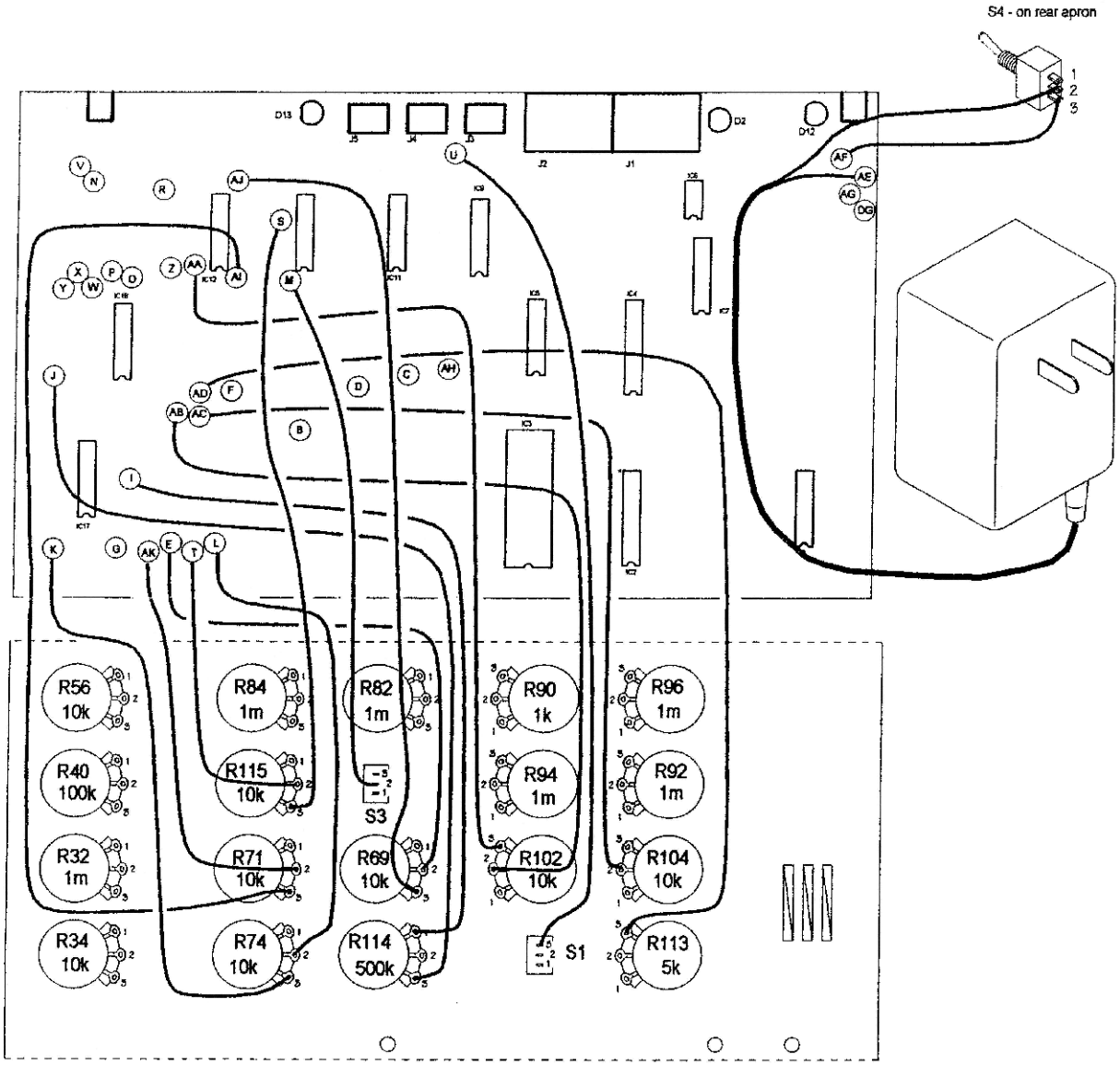
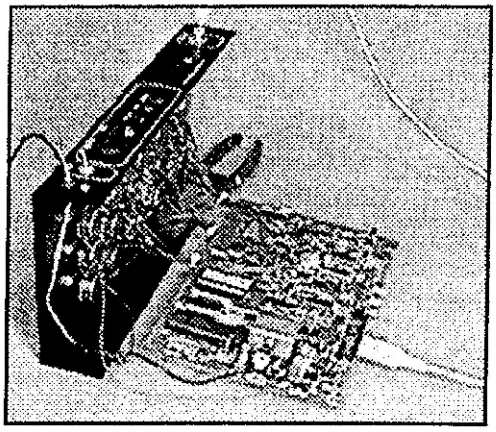


Fig 4b. Panel to circuit board wiring continues as on pg. 14 of the 9308K manual. Previous wiring has been eliminated for clarity.

Testing and Calibration:



Testing and calibration is the same as in the 9308K Assembly and Using manual. The arrangement of FatMan circuit board and case top shown in the photo provides easy access to calibration pots and inspection of all wiring and connections. When you have thoroughly tested and calibrated the FatMan, proceed with final case assembly.

Final Assembly

Flying wires between circuit board and front panel must be bundled using the three nylon wire ties supplied. Group the wires so that approximately the same number of wires are in each bundle. If a wire seems too short, move it to another bundle for a better fit.

When the wires have been bundled, "fold" the circuit board into the case for a trial fit. Do not worry about matching the LEDs with their panel holes yet. Encourage the bundles to bend at about the edge of the circuit board, which is about where the wire ties should be, and look for any serious clearance problems caused by components mounted too high above the circuit board. Larger disk and electrolytic capacitors can be folded over for additional clearance if necessary, but if the components have been mounted fairly close to the board in the first place there should not be problems.

At the "rear" (the apron with the access holes for MIDI and phono jacks, etc.) attach two "L" brackets by passing a 4-40 X 1/4" machine screw through the panel apron and the unthreaded hole in the "L" bracket. Fasten in place with a #4 lockwasher and nut. Orient so the face with the threaded hole is facing up but do not fully tighten in place - some adjustment may be needed when the board is mounted.

At the other, "front" edge of the case attach a pair of "L" bracket by passing a 4-40 X 1/4" machine screw through the case into the threaded hole in the bracket. Orient so the face with the unthreaded hold is up and full tighten in place. Attach a rubber bumper (supplied) to the top face of the "L" bracket.

For final fitting of the circuit board align the LEDs so their leads are straight but tilted slightly toward the edge of the circuit board. Fold the board over so the component side is facing down with the board roughly parallel to the front panel . There is just enough space between the front and rear aprons for full board clearance and installation is easiest when the board is kept more or less parallel to the panel while being lowered into the case. Align the LEDs with the holes provided for them in the case top (you should be able to see them from the open ends of the case and the panel holes themselves) and lower the board vertically into place. When you have lowered the board far enough that the phono jacks engage the holes provided for them slide the board toward you so that the mounting holes in the circuit board and the threaded holes in the "L brackets line up then secure the board with 4-40 X 1/4" machine screws.

Loosen the screws securing the brackets to the rear edge enough to be able to move the board so that phono and midi jacks are approximately centered in the panel holes then retighten securely.

Install the wood ends using the #4 X 3/8" screws supplied as shown in fig 6. Fit the wood piece in place in the case top and make sure it as flush as possible with the top and side of the case before marking the position of the case hole on the wood piece. 1/32" Pilot holes should be drilled at the locations you marked. If a drill is not available a starter hole should be pressed into the wood with an ice pick or small brad. Reinstall the ends and secure with four #4 X 3/8" screws.

Install the case bottom as shown in fig 6. Remove the vinyl protective covering from the bottom plate and orient so the switch is accessible through the cutout. Notice that there will be an opening between the edges of the bottom plate and the front and back edges of the case for air flow. Drill or press pilot holes and secure the bottom with four #4 X 3/8" screws.

9308C FatMan Desk Top Enclosure
Packing List

6	4-40 X 1/4" Machine Screws
2	#4 nuts
8	#4 X 3/8" Wood Screws
2	#4 Lockwashers
6	Self Adhesive Bumpers
2	#4 "L" Brackets
1	5" length Large Tubing
1	9" length #22 bare wire
2	9308C Wooden Case Ends
1	9308C Case Top and Bottom

Case retrofit notes:

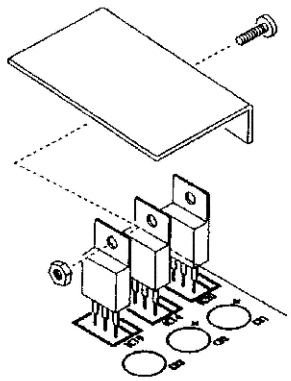
If you have a FatMan circuit board that was previously assembled and mounted behind a Rack Panel there are a few changes that you will need to make to properly fit the board in the Desktop Enclosure. If we knew you were retro-fitting a previously assembled FatMan at the time you placed your order you have received a small bag with a new heat sink fin and a 330k ohm resistor (orange-orange-yellow) to be used as describe below. If you did not receive these parts you can request that they be sent to you at no charge by sending email to **info@paia.com**. *Please include enough info for us to be able to confirm your FatMan order - the name it was ordered under and the address it was shipped to, for example.*

Here is a summary of differences between a Rack Mount and Desktop FatMan:

1) The Default DIP Switch needs to mount on the solder side of the board so as to be accessible through the cut-out in the case bottom plate. Rather than remove the old switch (which isn't easy if you don't have the right tools) you may elect to simply solder a new one on the solder side of the board. This new switch and the old one will be "OR"ed for the final switch setting - be sure all switches are "off" on the original switch.

2) The LED leads need to be made longer as shown on the front page of this manual. The old LEDs can be removed and their leads extended as shown.

3) The old heat sink fins will not fit in the Desktop Enclosure, remove and discard both of them. IC20 (the V+ regulator) will no longer have a fin, it was unnecessarily conservative to have one on it in the first place. IC19 (the Vcc regulator) gets a new right-angle fin as shown in the illustration.



Heat dissipating fin attaches to IC19.

4) The lengths of wires needed to allow the circuit board to "fold out" for easy access to components and controls (see fig 5) are different that those appropriate to Rack Panel mounting. You may want to extend or replace "flying" wires as seems necessary to you.

5) We have made a couple of component changes in the FatMan circuitry to address occasional problems. If you do have not had either of the problems described do not bother with the changes.

a) *R87, which mounted on the panel between the end lugs of the Sustain pot *R90, has been eliminated and with it the "latch up" of the ADSR that was a problem on some FatMans when the uP chip could not deliver enough current to turn on the transistor that controls Release. If you don't have this problem, or have already dealt with it by adding a resistor as previously recommended by PAiA Tech Services, don't bother with this change. If you have this problem, clip *R87 and discard it.

b) R99 on the circuit board has been changed from 470k to 330k to assure that the VCA turns completely off. If you don't notice a steady, very low level tone from your output long after any keys are released don't bother with this change. Otherwise, replace the resistor using your favorite technique (I prefer clipping the leads at the body of the resistor being removed, shortening the leads of the replacement to 1/4" and tinning them slightly then soldering them to the stubs left when the old part was removed).

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