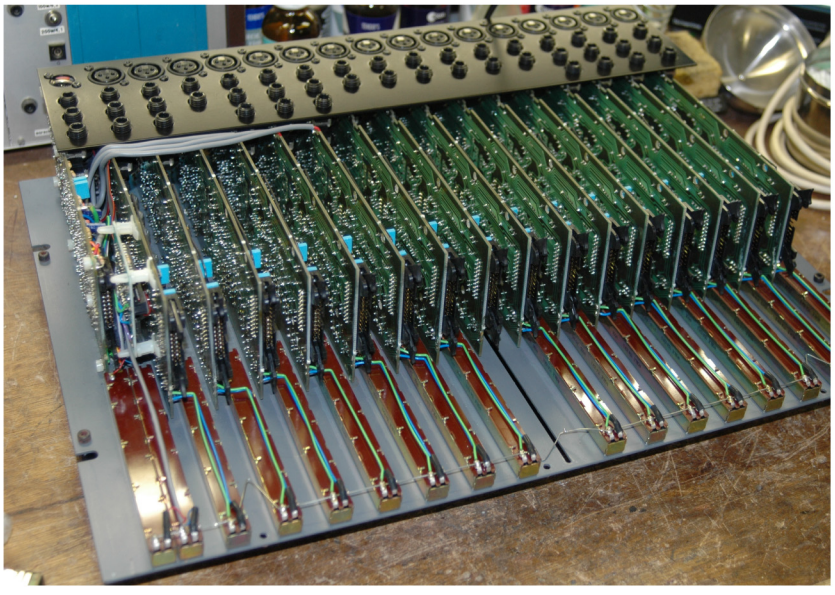
This Information counts for retrofitting a Hill Multimix mixer with much better faders than the original ones. I would like to thank Tony from MTR ltd for supplying these faders. I saw the picture on their site and was thinking of getting new faders as replacement for the old noble faders in my multimix.
But:

Will this fit ? Yes
Will this work? Yes
Easy job? Not quite
Things to remove? None
Things to add? None
Difficult? Nah

One thing is that the footprint of the MTR ltd faders is the same as the Noble faders.
They will fit into a Hill Multimix, although it seems that it's gonna touch a lot of parts, but really, if you follow my instructions you will be very happy after this retrofit.
Some other points of interest follows right after the faders

First of all you need to know what you have to do before you start disassemble this beauty.
For each channel:
A: We need to remove one (blank) wire and replace it with a slightly longer one.
B: We need to bend away two transistors.
C: We need to cut a little of the pegs which holds the (peak) led.
D: We need to make a new "gnd" line to interconnect all faders, about a meter of blank wire will do.

This is the procedure for all the channels, except for the master output. That is a little more tricky.



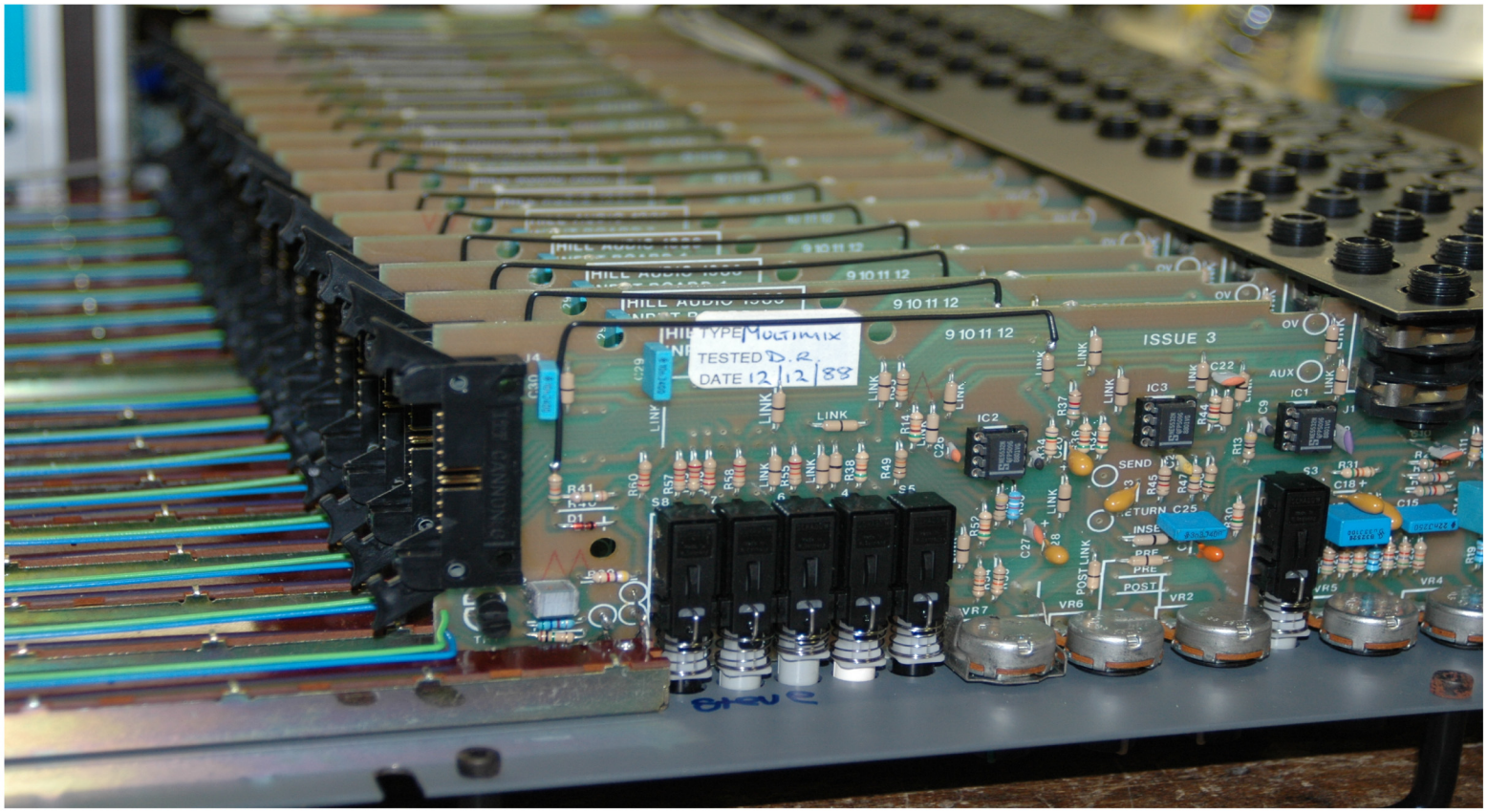
As you can see this is the inside of the Hill Multimix. It is build like the bigger brothers. Note the ribbon cable is already off.

You'll need a good matching screwdriver to unscrew all the fader srews. Some of them can be a pain.
Do not remove the faders yet.

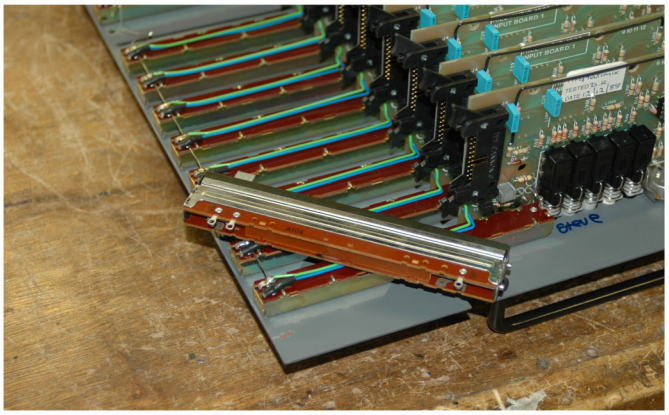
You have to remove the black plate which holds everything together.

Get all knobs off, and remove all the nuts from each channel except for 1 or two each channel (you don't want your channel to drop out)

unsolder all the wires on all the faders.
For your information: Green is "gnd", blue is "out" and the blank (on the other side of the fader is "in"
Now that all wires, except the blank ones, are loose, remove the last nut(s) from the top of the first channel. Unsolder the blank wire, the fader should come out now. BE VERY CAREFUL WITH THE LED ! it is glued and breaks easily. (that wouldn't be that bad, glue does miracles, but you'd rather be careful) Unsolder the wires of the led. The channel strip should come out now and folded away backwards.
Do this for all channels (yes it takes a lot of time)
I spend around nine hours retrofitting my multimix. and that was faders only.

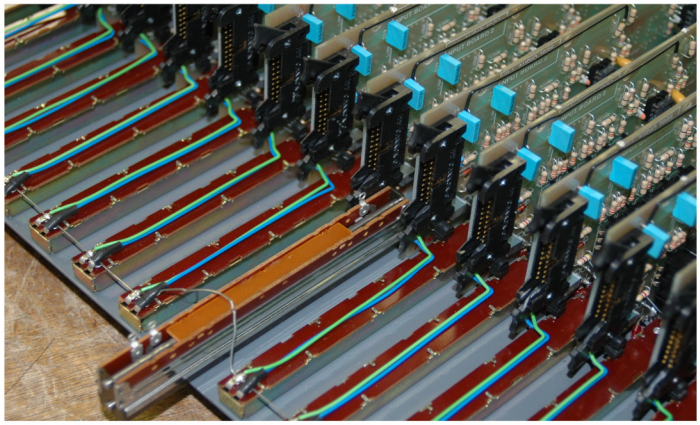


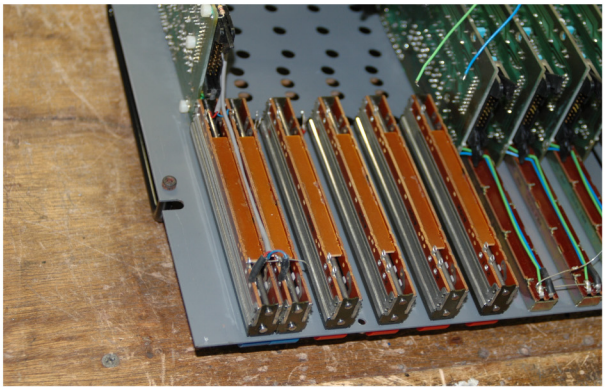
This is channel 1 seen upside down and still as it was original. You can see the black (computer) connector at the left end of the pcb. Under there are two transistors who are in the way when sliding in the new fader. We are going to bend those with their face / back to the pcb to create sufficient space. A thin screwdriver can help making an angle to bend the transistors more easy.
To the right of the two transistors is a silver capacitor, to the right of that you see three white circles. The top one is the input of the fader. You need to solder this wire out and replace it with a longer (blank) one. Two times the original length is fine, you will cut to size to the new fader anyway.
The two lower ones are the pegs to which the peak led is soldered. Cut a little of the pegs.
You don't need to remove much, about a quarter or so, so you can still solder the led to the pegs.



Uhmm yep, the new one is not bigger (it has excactly the same footprint) but is much higher as you can see.

And man was i lucky that i noticed that the new faders will fit perfect with the connector. It touches it, but this is also good safeguarding for the pegs of the peak led. they will never touch.





This is the master section and the four subgroups. The master board is still in place but all subgroup boards have been removed.
You don't need to remove the master board. Only the board which hold the little pcb can be a slight pain. What I did was burn a little of the plastic peg that was in the way, that was enough for a "snug" fit. (yes it is a very tight fit)

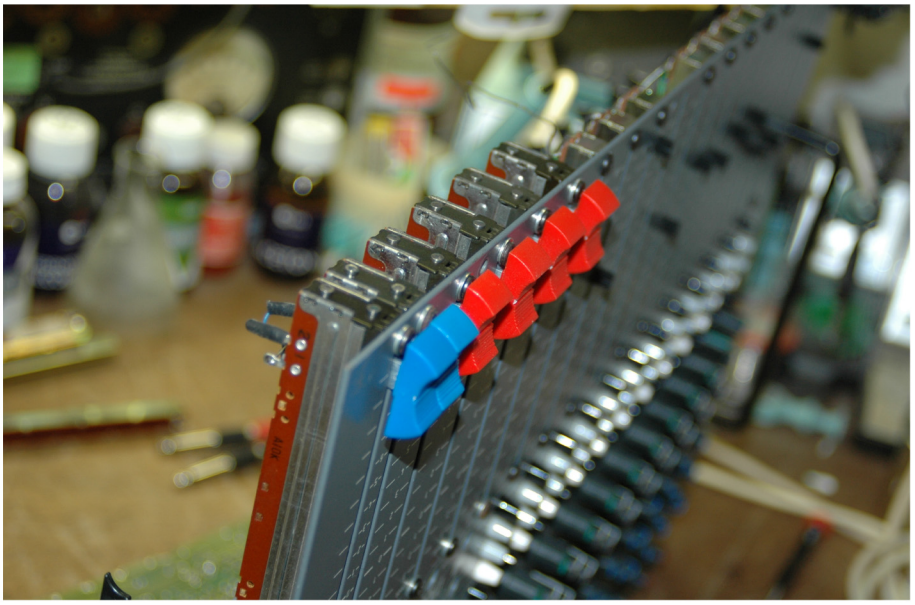
Yeah baby !

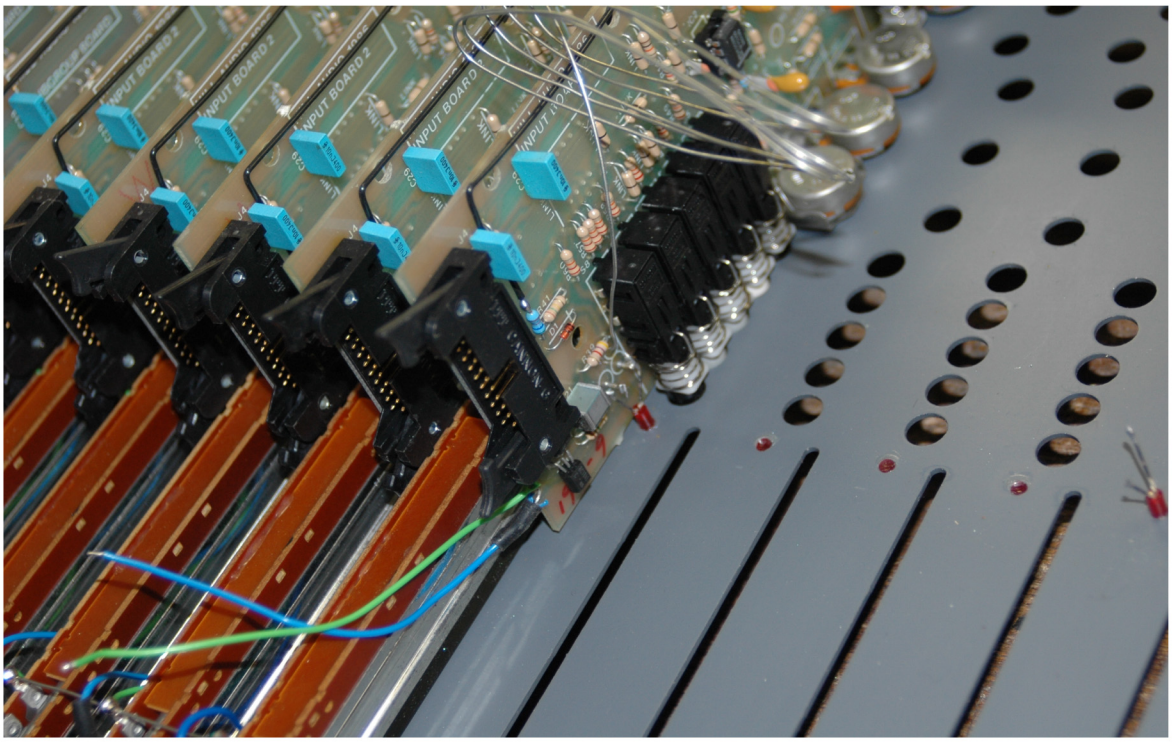
The original screws for the faders are a little too long. I have used two m3 washers to coop with it for now.

Even the original knobs will fit if you cut 2mm of the top ends.

Doesn't it look cool ?

Note the difference in height between the new faders and the original nobles





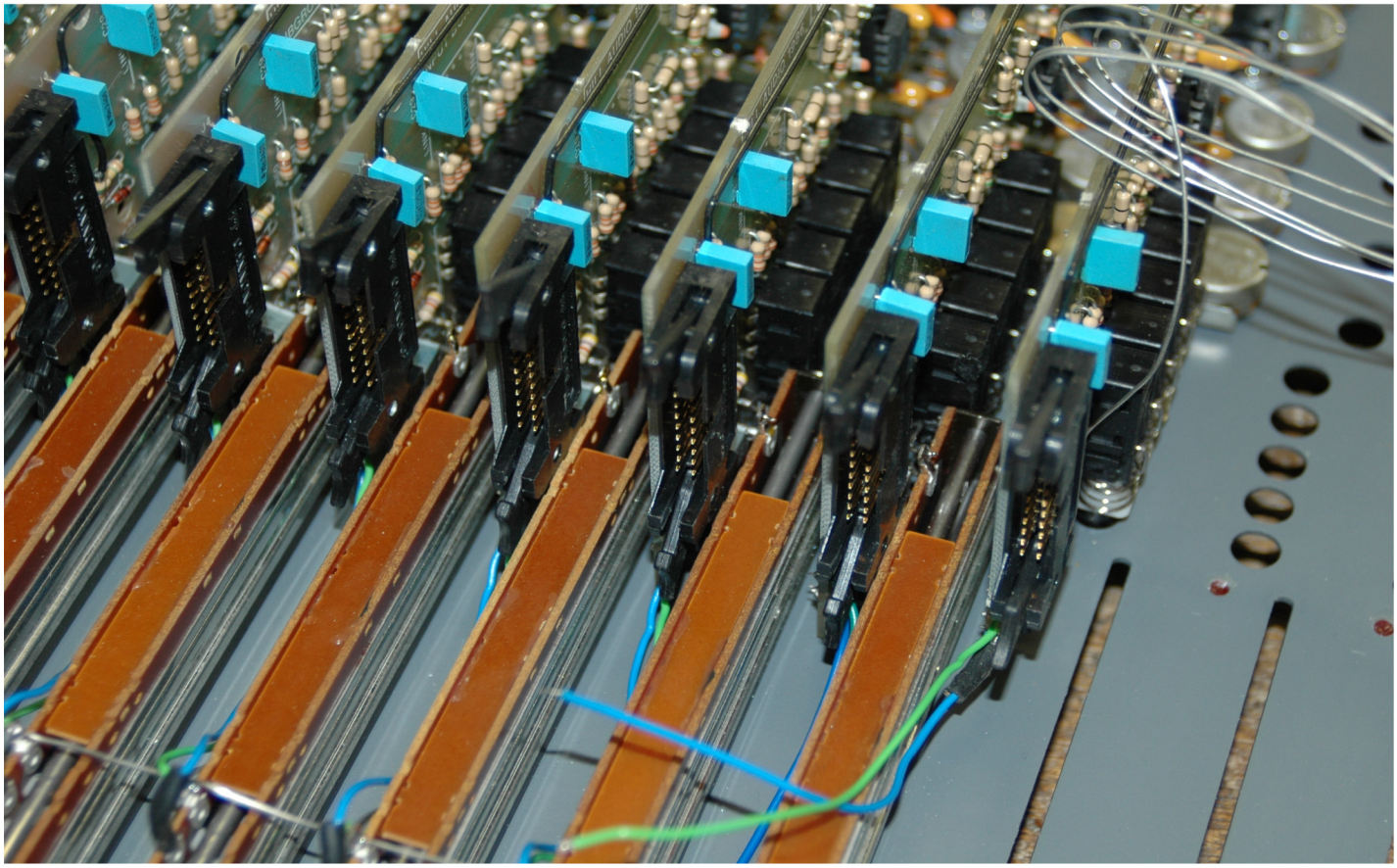
Here you can see the cutoff pegs to the peak led clearly.

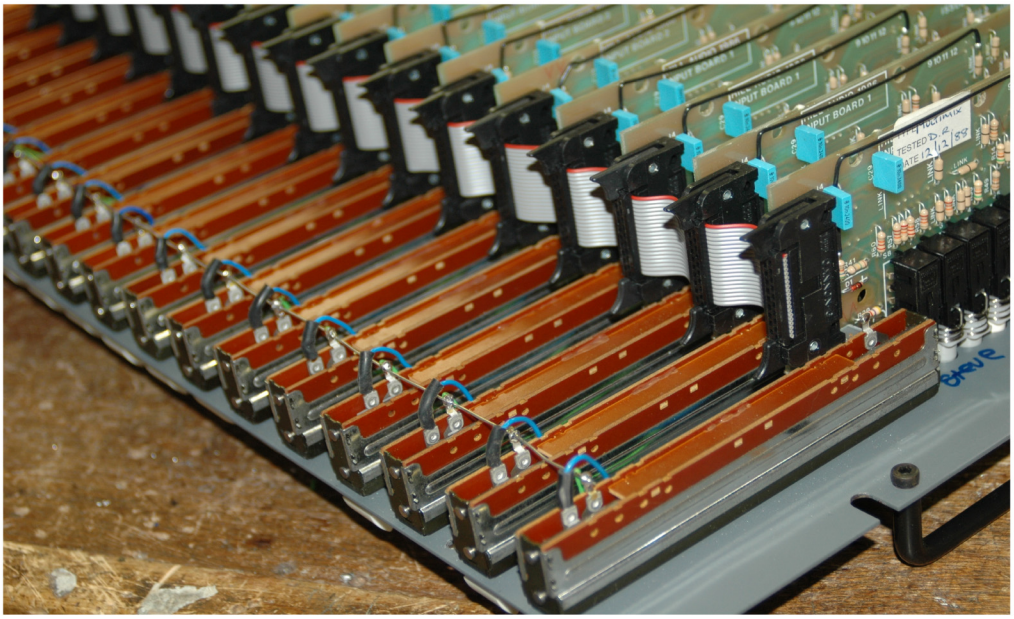
The tranisistors are bend flat to the pcb as you can see.

The long blank wire is the one that you need to replace with a longer one. I just use it all and cut it to lenght when soldering.

Just take your time and be sure to have a break so now and then, or spread it over a day or two.
A bucket of coffee will help too :-)

Here's a "halfway" photo. I couldn't believe they would go in . But they do as if they were made for it





Notice that you can use the original wiring, including the isolation.

It even looks as if they were in there since 1988, they year of manufacturing of this, now very desirable, mixer.

Mom,

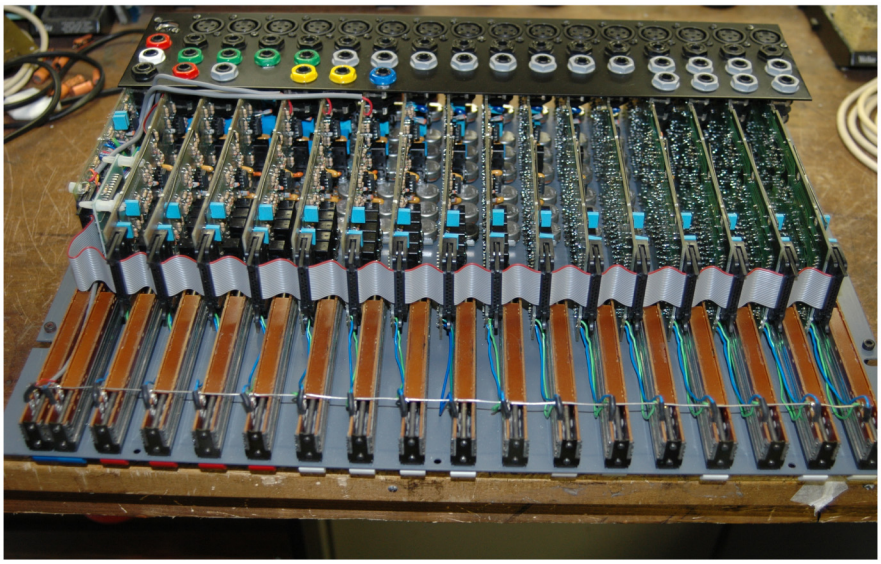
I'm done,

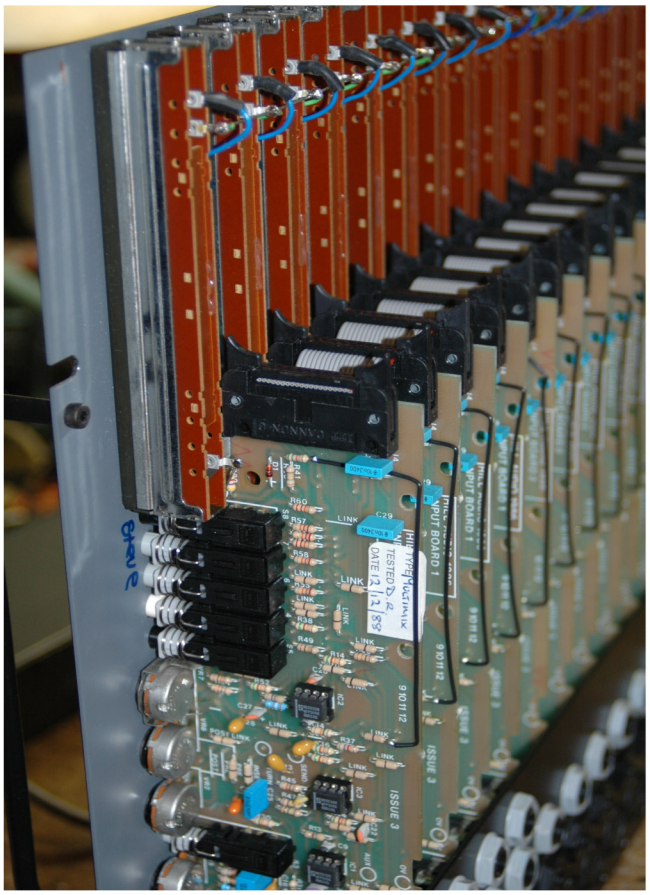
Can I have a beer ?

SWEET !!

As for the master faders, they will fit perfect. Maybe a bit tight on the 4th subgroup board, but if you are a bit handy and have a steady hand, it's fairly easy to make it fit. Just keep looking and looking. Use a lot of light.

The wiring is excactly the same as the for the original noble faders. Just solder the wires over. That's all.





It works like a charm, Those faders give this mixer the professionalism it needs.

There is one catch,
As always there's on catch, and this one is that the lid (casing) doesn't close as easy as before. You need to use a little force to pull it over the faders, but that's the only catch.
Perhaps i'm going to widen the screw holes a bit to give the faders a little slack. They are tight to the casing with their ends. By making the screw holes a bit bigger, it will relief some pressure you have use to put the srews in.

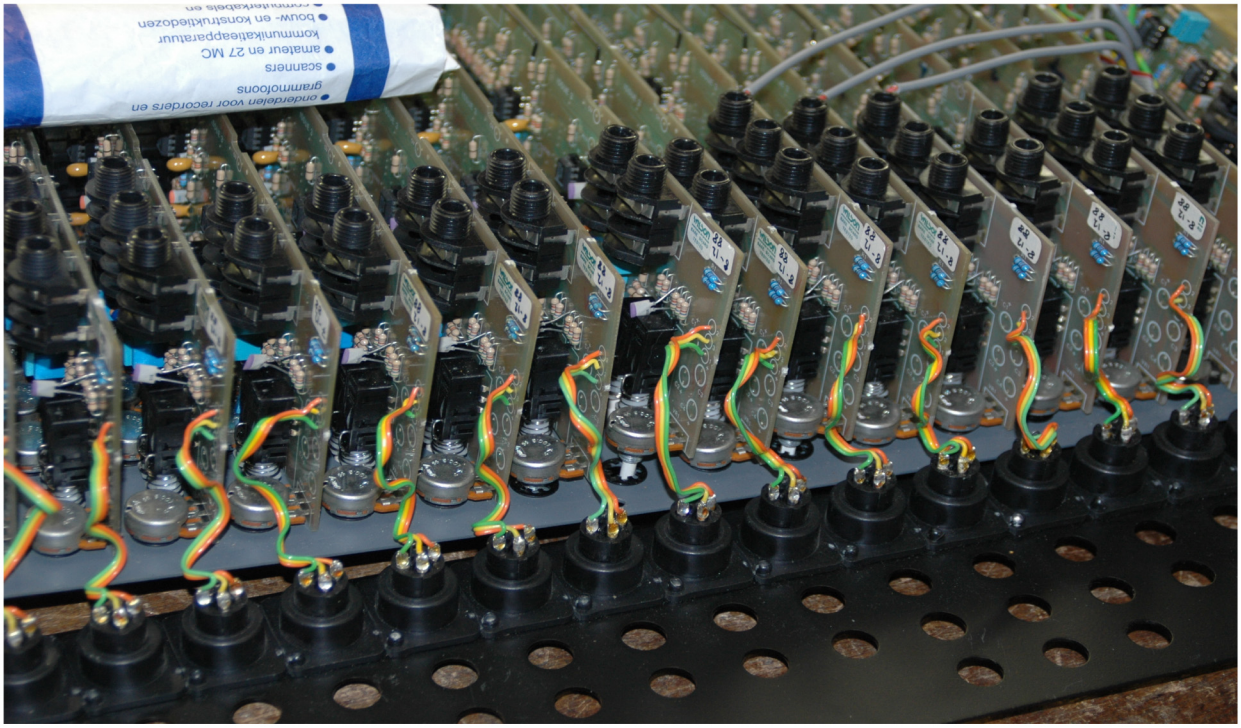
But hey, who cares ? they fit , they fit like a glove.

Retrofitted Hill Multimix with very, very fine faders. The slider of a fader runs on two metal bars and is having the contacts on the side. This is by far a better design for heavy use. The original nobles have plastic sliders and they will break by now as grease and plastic don't go well together. The new faders are metal sliders !

Upgrade: Renew all electrolytic capacitors in the mixer. You need 64 elcos of 100u/63v. And 2x 4,7u/25v for the master channel. Also do your power supply. The Hill is stuffed with 42 NE5532 opamps.
If you are crazy enough: replace all NE5532 by AD826 or OP275, or Burr-Browns opa2604 series. or INA103, Or the new BB series..... ouch.... But it would do your ears so much good.

After all, it's worth the time and expenses.

Photo's taken when starting to "recap"



Getting all the elco's out..... One lovely, time consuming job.

Old vs New

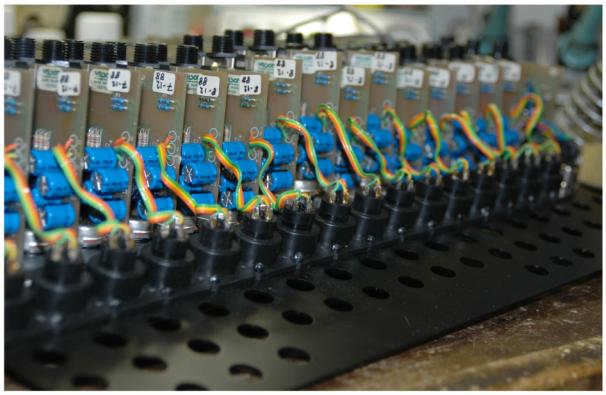
From Orange to Blue in a day

After the rebuild of the power supply, and after recapping the mixer, it is now time to take a look into the internals of this Hill. It is a fairly straight forward design. NE5532 opamps throughout the whole table. There are 42 of them in there (!). I'd love to replace all of them for Burr -Brown OPA2604au. but as said earlier these are with 8 euro each not cheap a t all. So I decided to do it in steps. There's one very important thing here that may not be overlooked, unless you want smoke. Don't replace all the NE with BB without building a new power supply, capable of delivering more current to feed the BB's. The NE5532 uses 4mA per amp. There are two amps inside, so: 8mA. The OPA2604au uses 12mA , not much more but 42x4mA=168mA. Enough to overload the existing power supply (read: stealing your headroom)

What I did as a start was replacing the master-board and the first 2 channels NE with BB's Each RIAA channel uses 3 opamps, 6 in total for stereo. The master-board also uses 6 opamps (not only the master, also the subgroup div. is on this board) So 12 in total x 8 = 96.- euro for having one stereo RIAA channel. 336 euro for the whole table (ouch)

Quite true: A Hill is better then a Behringer. Even a broken Hill is better then a Behringer. What would this Hill be ? Oh yes, mixers like these as it is now, are quite expensive, rather to say "unavailable".

Anyone who knows the sound of a bunch of NE's, i've got news. It doesn't sound like before at all. It is so much more quiet with the BB's. And the leap in sound improvement is huge. It is brighter, more clear, doesn't "crisp" anymore, more spacious headroom and above all: from semi-pro to pro. And if someone may think that it is still semi-pro, you didn't hear it after the retrofit, neither felt it. Though if I should think of an application .... high-quality home recording. How about a computer interface ? hmmm no time for that, but hmmm.



every channel hand-crafted, marked, inspected and tested. including the dates and names.

Hill supplied us with two versions of the multimix. The 4-bus one and the 8-bus version I believe. It isn't that difficult to transfer it into an 6 or 8-bus configuration, but the question rises then if it wouldn't be better to get a full-grown mixer. Or get the 8-bus version, if someone has one and wants to sell it.

Aux sends are "pre" connected. I've heard people asking to convert it to "post". It is possible and I can fully understand the need. It is its weak point. Perhaps in time, when I feel the need I will convert it.

Why did I do this ?

Well, to be honest, it is all to MTR ltd, who supplied the faders :-) The right time and place. I could have bought a new mixer from all that money I spend, on the multimix, but no mixer has a sound with enough headroom that sounds so good as this one. (It doesn't count that I have it since 1988 does it?)

A Mackie comes close but is not the mixer for the job. The same with A&H, Yamaha a.o. Which mixer gives you 16 direct outputs ? It's versitality is its strong point. I can live with it's poor aux config if I may say that. The direct outs is what i'm using, and I love It ! Oh, and I love to restore old and fine equipment, something I do for over 25 years now.

If anyone in Holland, or abroad, is interested in having any serious old love having restored you know where to get the info and perhaps the job done.

Here are some specifications:

The Hill MultiMix is a 16 input, semi-modular, 19" rack console. 4 bus design allows the Multimix to be configured in 16:2:1 or 12:4:2:1 or 16:4:2:1 mixer mode. Mixer is 8 rack space...Seperate power supply is 1 rack space 115vac-230vac. 48v Phantom power. 2 Pair RIAA inputs for turntables. 3 band EQ. 2 aux. sends. 100mm faders. 12 segment LED display. Peak LEDs. 16 balanced and unbalanced inputs. 16 direct outs. Unbalanced master outs. Mute, pfl, pad, gain, pan, eq. defeat, buttons, pots. 42x ne5532 Op-Amps in total.
First 4 channels offer RIAA inputs for turntable operation. Super-Quiet, Solid-Construction, Multi-Configuration rack mixer. 16 Direct Outs. 3 band EQ. is very responsive. The Hill Audio LTD. Multimix was an early rack mixer which offered "Pro" features for Live, Recording, On/Off Stage, Main/Sub-Mix use. A used Multimix in good operational condition is a nice mixer for novice or definded semi-pro demands. The mixer has two aux sends, not much but two is enough to run stereo, but you still have the direct outputs. As, like me, you are crazy enough to get much better faders, far better opamps, recapped the table and rebuild the power supply, I think it stays with me for another 20 years. (21 to be excact)

Features:

- 16 Mic/Line inputs plus RIAA phonograph preamps on the first 4 Inputs (for DJs!)
- 4 Group Outs
- Stereo Master
- 3 band EQ on each Input/Sub-Group, with Defeat Switch
- 2 AUX Sends on each Input/Sub-Group
- Stereo Panner (Odd/Even Left/Right) on each Input/Sub-Group
- AUX 1 Pre EQ/Fader, AUX 2 Post EQ/Fader
- MUTE on each Input/Sub-Group
- Pre-Fade Listen (PFL/Solo) each Input/Sub-Group
- Peak LEDS on each Input/Sub-Group
- Direct Outs on the first 12 Inputs
- Group Outs on the last 4 Inputs
- Mono AUX Return to Stereo Master
- 1/4" Stereo Headphone Jack with volume adjust
- Dimensions: 14" H (8U) X 19" W X 3-1/2" D (4-1/4" D including knobs)
- Separate remote AC Power Supply with +48VDC Phantom Power- 1-3/4" H (1U) X 19" W X 5" D