

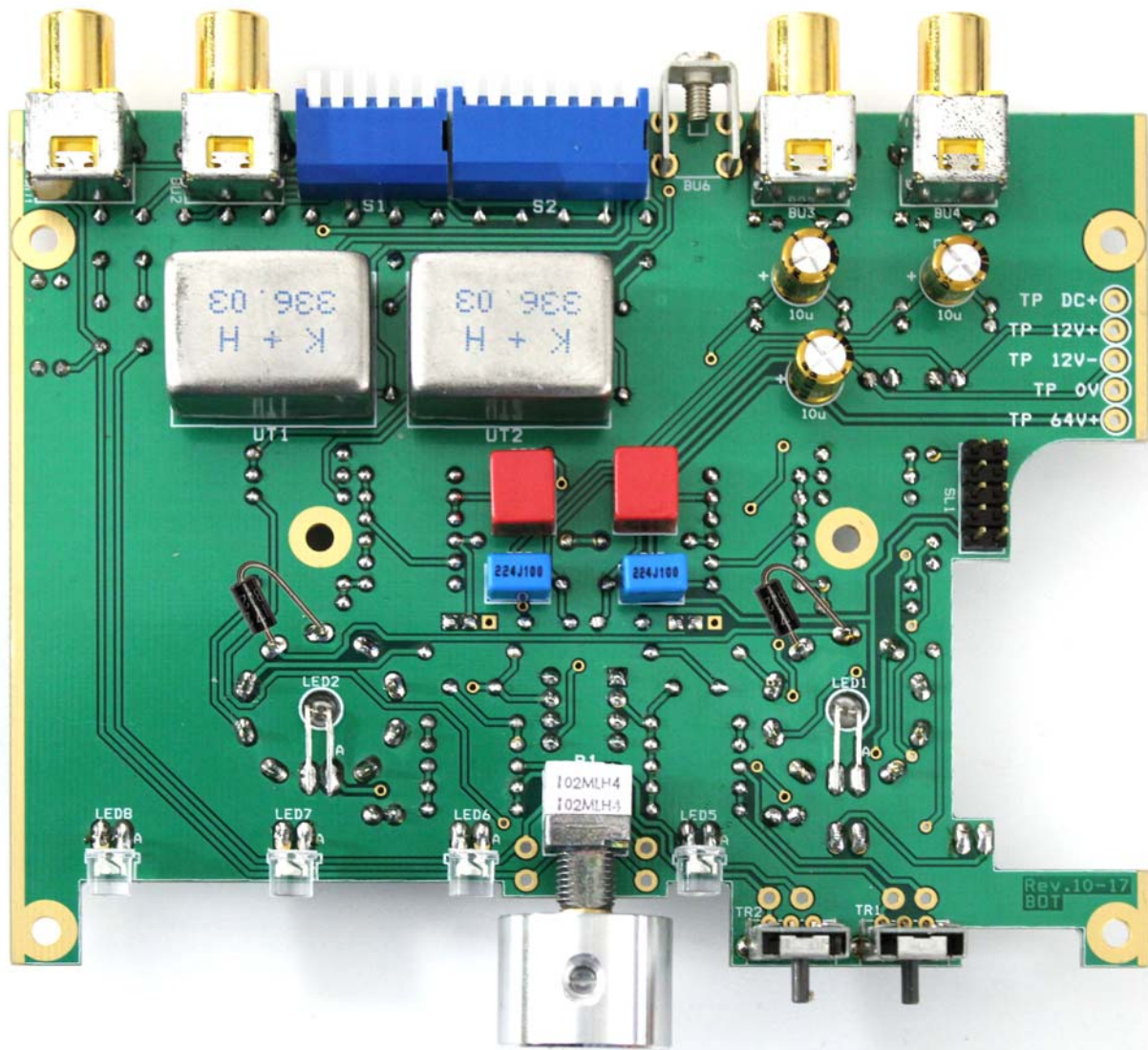
Einlöten von zusätzlichen Transil-Dioden

Die Erfahrung mit der DIGNA hat gezeigt, dass die Heizfäden der beiden ECC8100 und auch der PCC189 Röhren in ihrer Aufheiz-Charakteristik streuen können.

Daher kann beim Einschalten eine Röhre kurzzeitig hell aufglühen.

Um dies zu verhindern, löten Sie bitte vor dem Zusammenbau der Leiterplatten die beiliegenden zwei Transil-Dioden jeweils parallel zu Pin 4 und 5 der Röhren (Heizung) ein; die Polarität spielt keine Rolle.

Diese Dioden verhindern, dass die Spannung beim Aufheizen auf über 7.5 V ansteigt.



Soldering of additional Transil diodes

Experience with DIGNA has shown that the filaments of both ECC8100 and PCC189 tubes can vary in their heating characteristics.

Therefore one tube may glow brightly for a short time during switching on.

To prevent this, please solder the enclosed two Transil diodes parallel to pin 4 and 5 of the tubes socket (heater) before assembling the circuit boards; their polarity is negligible. These diodes prevent the voltage from increasing above 7.5 V when heating up.

Foreword

Dear audio friend,

Thank you for purchasing this state-of-the-art phono preamp DIY kit. You have purchased a product that captivates as a DIY version a component quality and choice of materials that is unique in the market and many industrially manufactured high-end products should attract warm themselves .

However, this also means that you should not "cobble together" this kit in record time. Take a quiet evening and about four hours time to build.

Also, you should already have the necessary equipment and knowledge to be able to build such a high-quality DIY kit without complications. The resulting success will definitely reward you for your effort and stamina.

The instructions assume electronic fundamentals, i.e. you already know that ICs, LEDs and electrolytic capacitors are poled components and may not be soldered in reverse polarity. Furthermore, the usage of a temperature-controlled soldering station with max. 1 mm wide tip and correspondingly fine electronic solder as well as appropriate tools (multimeter, TX10 screwdriver, side cutter, tweezers, magnifying glass, etc.) are advised.

Please follow the steps and tips and hints in this manual. These are all tried out and tested and allow you a trouble-free setup.

Important Safety Instructions

During installation, commissioning and measurements and repair special care is required! Assembling of the circuit is at your own risk. The functionality can not be guaranteed, nor the suitability for certain purposes. The user himself has to check this and is responsible for this suitability. No liability can be accepted for damages arising during or as a result of the assembly or operation, in particular for damages resulting from a lack of electronic skills.

The phono preamplifier may only be operated in a touch-proof housing in dry indoor environment. Operation without or with defective tubes is not permitted!

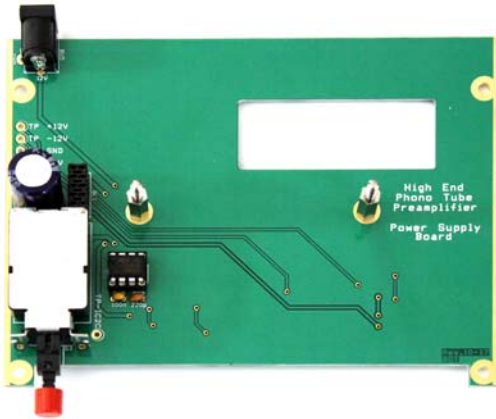
The person who has completed a kit or has made an assembly ready by extension or enclosure installation, is according to VDE 0869 a manufacturer and therefore provided to supply all documents when selling the device and also give his name and address. Devices which are assembled from kits themselves are to be considered as an industrial product in terms of safety.

And now, my friend - fire your soldering station now ...

Power Supply Board

We'll start by assembling and checking the power supply board first. The SMD components are already assembled and soldered on the solder side, so that our work is limited to the assembly of the few through hole components and the two M3 x 13 spacers, which are fixed from the solder side with two Torx screws M3 x 4.

Tip: Please solder only one pin of the 10-pin header BL1 first and align it exactly vertically. Also, press the S3 switch all the way down to the PCB before soldering it. Also keep care about the correct polarity of the 1000µF electrolytic capacitor.



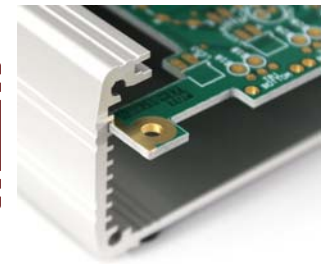
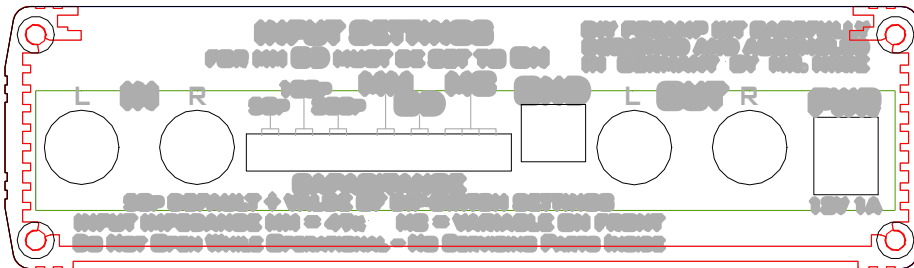
Now check how the power supply

Connect the module to the supplied 12V power supply and switch on. Now use a multimeter to measure the voltage at the test points against TP GND: A tolerance of 5% at the 12 V measuring points and 3% at the 64 V measuring point is in order. If the voltages differ significantly more strongly, then please check the assembly - also SMD - for any errors or cold solder joints.

Do not continue as long as the power supply module does not work properly!
Now disconnect the 12V power supply and set aside the power supply module.

We will build an assembly aid for the mainboard

Pick up the black frame for the rear and the engraved silvery rear frame and peel off the protective films. Carefully fit these two parts precisely to each other - note the drawing below and that the rectangular cutout in the black frame has a greater distance at the top, but do not yet press both parts firmly. Now take the black aluminium profile (a natural colored anodized profile is used in this manual for the photos) and the four M3 x 10 Torx screws. Put the combined rear frames on the profile and screw it tight. It might be that the U-profile is a little bit "bent" by the casting process and you get it "in shape" by tighten the screws.



Next fit on the bottom of the aluminium profile the four black adhesive feet to the corners of the large flat surface. Now slide the mainboard into the second groove from above as shown in the picture.

We will start by assembling the CFM55 resistors. As you've already noticed, these brown audio-grade resistors do not have a color code, but the resistance value is printed directly in plain text.

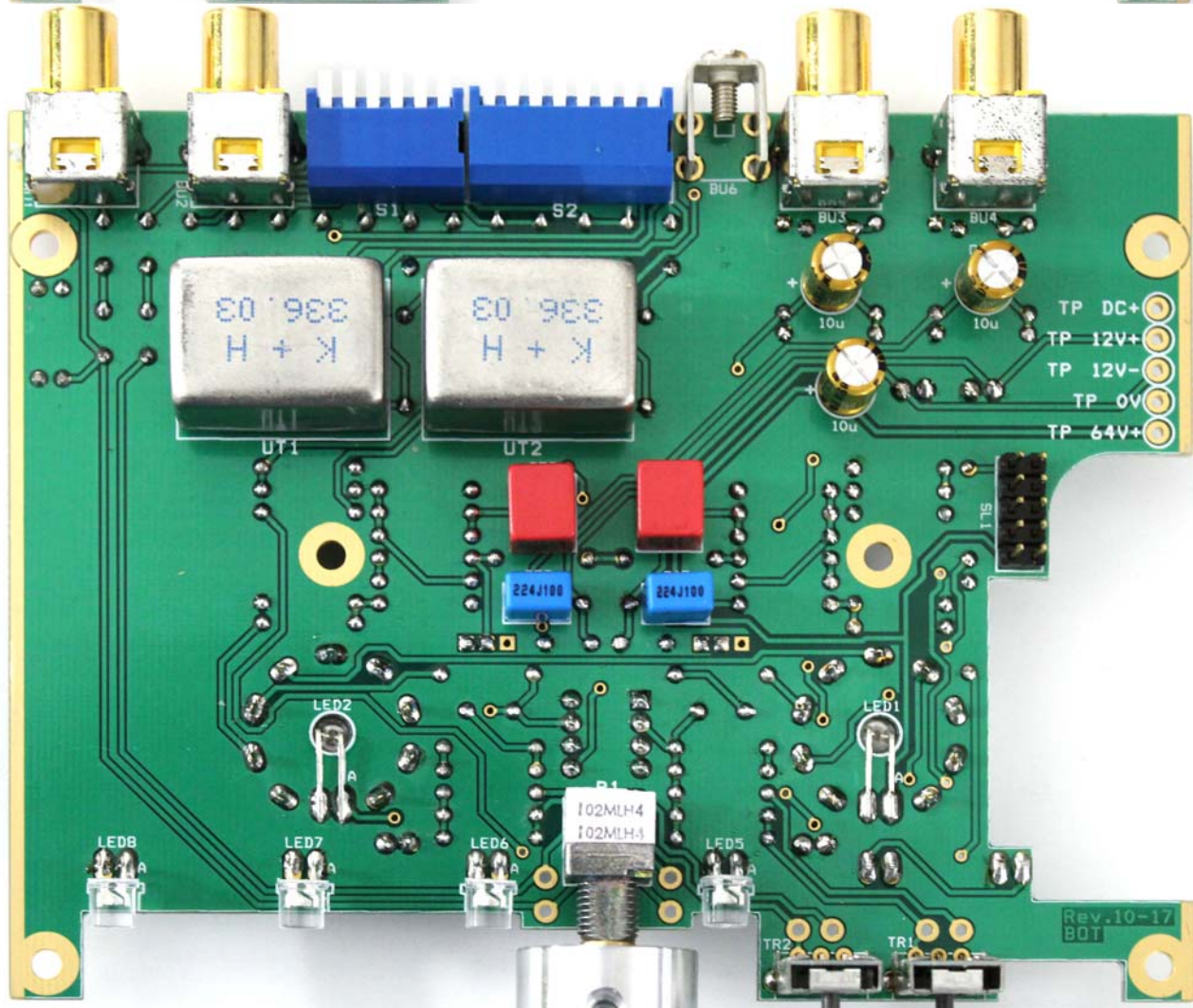
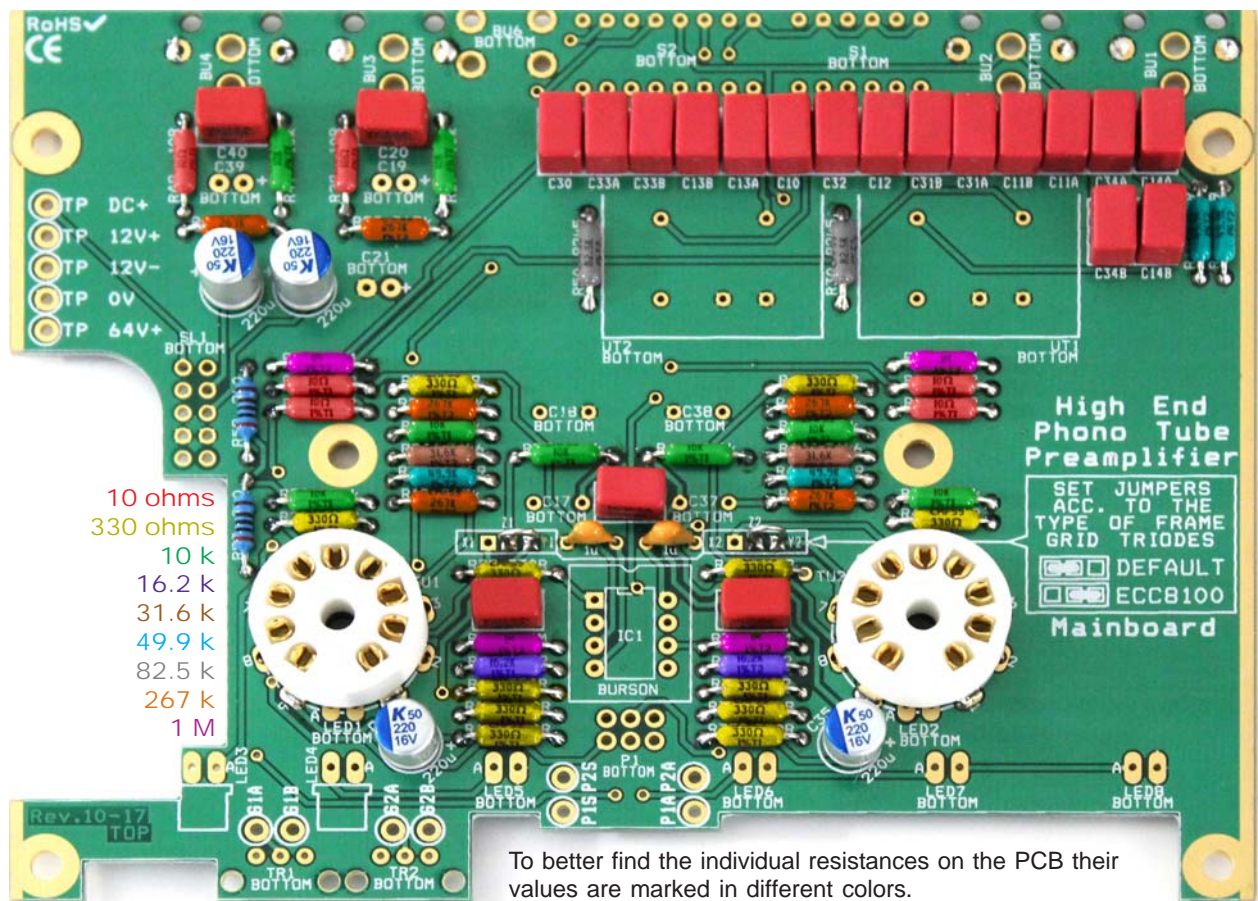
However, this requires that the resistors must be bent in the way before fitting, that their value is still readable from upside.

Otherwise, a later (hopefully not necessary) troubleshooting is almost impossible!

Start with the most common values, here with the 330R resistors. For non-taped (loose) resistors, cut 2 cm from the wires before assembling. The resistance values which are printed on the board should help you to find them.

When inserted into the profile, you will not find R11 and R31 (49.9k each) because they are hidden by the profile. Therefore, put these two resistors aside. Next, when assembly of the resistors is finished, fit the two tube sockets by first soldering the two outer pads (pins 1 and 9) from components side for fixation. Then pull the module out of the profile and assemble the two remaining resistors R11 / R31 at the top right edge, the red WIMA capacitors, the two 1µF ceramic capacitors, the four 220µF polymer electrolytic capacitors (please keep a gap of 0.5 mm to the PCB) and the two jumpers Z1-Y1 or Z2-Y2 if you use the supplied ECC8100 tubes.

ASSEMBLY MANUAL DIGNA



ASSEMBLY MANUAL DIGNA

Parts assembly on solder side and mounting into the aluminium frame

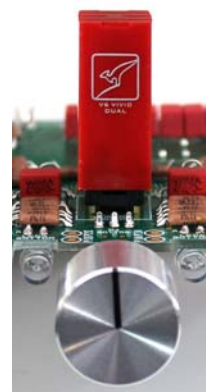
Flip the PCB so you can see the solder side. Solder first the four RCA sockets - and fix them first on the shielding straps - next assemble the ground terminal and the two 6 and 8 pole DIP switches S1 and S2, pay attention to a proper and even assembly.

Then fit the three 10 μ F MUSE Electrolytic capacitors C19 / C39 / C21, whereby C21 must be the 80 V type, followed by the two 33 nF WIMA capacitors C18 / C38 and the two 220 nF capacitors C17 / C37.

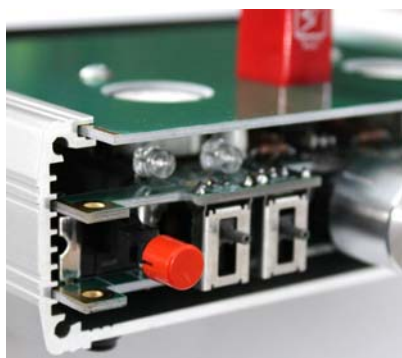
The two small sliders TR1 and TR2 are assembled and next the potentiometer P1. It is very important to ensure a clean right-angled seat. The spring tooth disc and the nut of the potenziometers are not needed.

The wires of the two orange glowing 3 mm LEDs for the tube lighting are bent around 90 ° about 2 mm after exiting the body with tweezers the right way around (the long wire is the anode), then fit these LEDs through the PCB holes in the middle of the tube socket and solder. If you do not want to use the tube lighting, be sure to short the two solder pads for the LED with a piece of wire.

The wires of the six 5 mm flat head UV LEDs are also angled, but only very close to the component body; here a longer thumbnail can serve well. Please note that two LEDs are fitted from the component side and four from the solder side. It is recommended to solder the LEDs from the side from which they were fitted on the PCB.

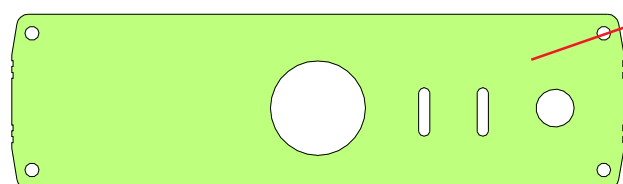


Now plug on the potentiometer knob: To do this, turn the wiper of the potentiometer to a vertical position (12 or 6 o'clock). Fit the knob with the marking pointing exactly after 12 o'clock (ie "upwards" in the direction of the component side). Now fix the knob with its grub screw.



Finally, solder the two transformers UT1 / UT2 and the BURSON operational amplifier. Note the orientation of the BURSON amplifier (the kangaroo emblem must face to the front).

Now connect the motherboard board to the power supply board. Make sure that the 10-pin. header for the power supply will proper flush in the socket strip. Then fix the motherboard with the two M3 x 10 spacers. Now fit the cover PCB, fix it with the two remaining Torx M3 x 4 screws and slide this mounted module into the U-profile as shown in the picture.



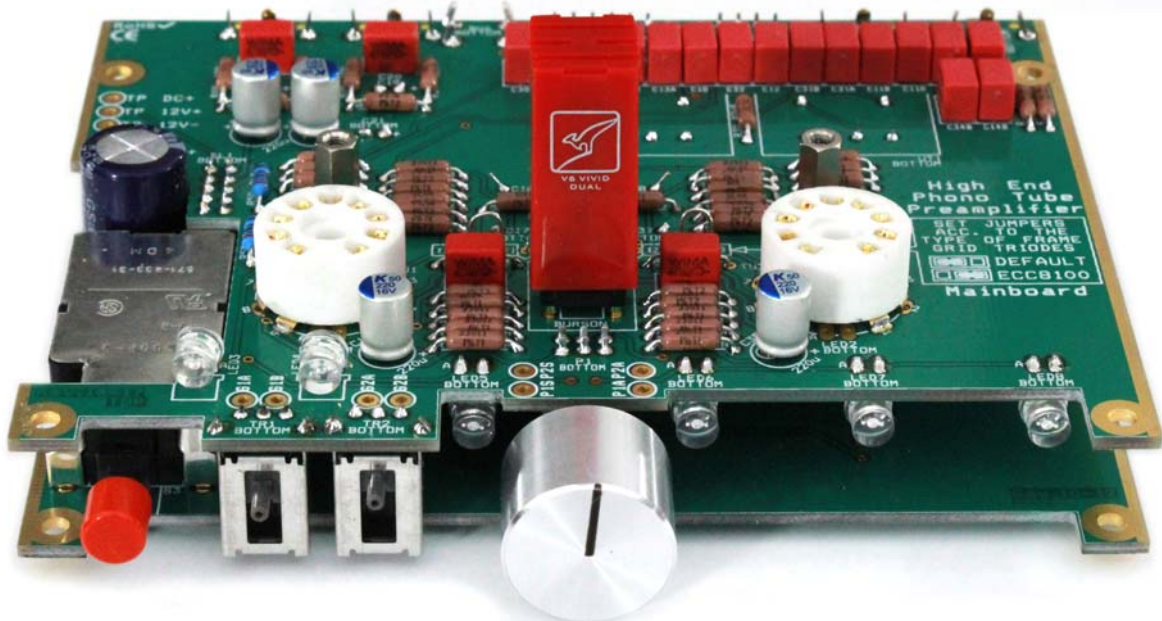
Only remove the protective film from this side

Pick up the green intermediate frame and only remove now the protective film from the rear side (see picture). Flip the intermediate frame (you will now see the front side with protective foil) and fit the engraved front panel after removing its protective foil onto it. Pay attention to the different position of the recesses; there are offset to the "down side". Place the frames on the U-profile and secure with four Torx M3 x 10 screws.

ASSEMBLY MANUAL DIGNA

Now unscrew the two Torx M3 x 4 screws from the top PCB again, pick up the top silver frame and glue it on the top PCB after peeling off the protective foil. You will notice that it gets a little bit "tight" when placed in at the area around the BURSON operational amplifier. This is intended and serves as an additional safeguard against accidental falling out. However, with the help of a fingernail (around the BURSON), the cover can easily be pressed flush.

After re-screwing the two screws and plugging in the tubes, everything is now ready for enjoying your vinyl music. Congratulations.



Anbieter • Vendor

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Dieser DIY Phono Vorverstärker wurde in Deutschland entwickelt und zusammengestellt
This Phono preamplifier kit was carefully engineered and assembled in Germany

DIGNA Phono Tube Preamplifier Rev.10-17

Power Supply Board

SMT components preassembled and soldered

Pos.	Qty	Type	Value/Package	Ref	Remarks
1	17	SS14L / SS16L Schottky Diode	Sub SMA	D1...D17	
2	21	2u2 100V ceramic	1210	C24,C25,C41....C58,C61	
3	1	15V 500mW Zener Diode	MiniMelf	ZD1	
4	1	BCX 51 / 52 / 53	SOT-89	T4	
5	1	BCX 54 / 55 / 56	SOT-89	T3	
6	1	LM317M	D-PAK	IC3	
7	1	MC78M12	D-PAK	IC4	
8	1	MC79M12	D-PAK	IC5	
9	3	300R	MiniMelf	R55,R56,R57	
10	2	15k	MiniMelf	R51,R54	

Power Supply Board and Main Board

Through hole components

Pos.	Qty	Type	Value/Package	Ref	Remarks
11	1	DC jack	FC681465P	BU6	5.5/2.1 or 2.5 mm
12	1	Female Header	2 x 5-pol.	BL1	
13	1	Male Header	2 x 5 pol.	SL1	
14	4	Cinch jacks	shielded	BU1...4	
15	1	Dip-Switch 6-pol.	MDP-06	S1	
16	1	Dip-Switch 8-pol.	MDP-08	S2	
17	1	Ground Screw	13.42.322	BU6	
18	2	Slider potentiometer	4k7 lin	TR1,TR2	ALPS RD708
19	16	100pF FKP2 2,5%	100V RM 5,04	C10,C11A,C11B,C12,C13A,C13B,C14A,C14B,C30,C31A,C31B,C32,C33A,C33B,C34A,C34B	WIMA
20	1	220pF ceramic "200"	50V RM 2.54	C59	
21	1	100nF ceramic "104"	50V RM 2.54	C60	
22	1	1µF ceramic "105"	rad. 5.08 mm	C26	
23	1	TS555CN	8-pol. DIP	IC2	
24	1	DIP-Socket	8-pol. DIP	for IC2	
25	4	4n7 FKP2 1%	50V RM 5.04	C16,C20,C36,C40	WIMA
26	1	4n7 FKP2 2,5%	50V RM 5,04	C29	WIMA
27	2	33nF FKP2 2,5%	50V RM 5,04	C18,C38	WIMA
28	2	220nF Polyester capacitor	100V RM 5,04	C17,C37	
29	4	220µF Polymer capacitor	16V 6,3 x 8 mm	C15,C22,C23,C35	KEMET
30	2	1µF ceramic capacitor	50V RM 5,04	C27,C28	
31	2	10µF MUSE electrolytic cap.	> 63V	C19,C39	NICHICON
32	1	10µF MUSE electrolytic cap.	80V	C21	NICHICON
33	2	LED orange diffus	3 mm	LED1,LED2	
34	6	UV-LED 405 nm Flat hat 120°	5 mm	LED3...LED8	
35	1	P9A2R100FISX1102ML	2 x 1k +log	P1	VISHAY
36	1	Power Switch	ALPS SDDF	S3	
37	1	Knob for Power Switch	red	for S3	
38	2	Noval socket	18 mm for PCB	TU1,TU2	gold plated
39	1	Potentiometer Knob	20 mm dia	for P1	MENTOR 5226191
40	2	Audio-Transformer	K+H 336.03	UT1,UT2	Haufe GmbH & Co. KG
41	1	Burson Audio V6D Vivid	with DIP Socket	IC1	
42	6	10R 1%	CMF55 axial	R12,R14,R29,R32,R34,R49	VISHAY / DALE
43	12	330R 1%	CMF55 axial	R15A,R15B,R16,R21,R22,R26,R35A,R35B,R36,R41,R42,R46	VISHAY / DALE
44	2	2k0 1%	0207 axial	R58,R59	YAEGO
45	8	10k 1%	CMF55 axial	R20,R23,R25A,R27,R40,R43,R45A,R47	VISHAY / DALE
46	2	16k2 1%	CMF55 axial	R18B,R38B	VISHAY / DALE
47	2	31k6 1%	CMF55 axial	R24A,R44A	VISHAY / DALE
48	4	49k9 1%	CMF55 axial	R11,R24B,R31,R44B	VISHAY / DALE
49	2	82k5 1%	CMF55 axial	R30,R50	VISHAY / DALE
50	6	267k 1%	CMF55 axial	R19,R25B,R28,R39, R45B,R48	VISHAY / DALE
51	4	1M 1%	CMF55 axial	R13,R18A,R33,R38A	VISHAY / DALE
52	2	Dual Triode	ECC8100	TU1,TU2	
53	1	PCB Set	3 pcs.		

Mechanics

54	2	Spacer A-I M3 x 13			
55	2	Spacer I-I M3 x 10			
56	4	Torx M3 x 4			
57	8	Torx M3 x 10 self tapping			
58	4	Bumper 8 x 2.8 mm black			
59	1	Aluminium U frame	GB 83 100 SA		black
60	1	Top cover silvery	1.6 mm		self adhesive
61	1	Front cover engraved silvery	1.6 mm		self adhesive
62	1	Rear cover engraved silvery	1.6 mm		self adhesive
63	1	Front mounting frame	3 mm		LISA green
64	1	Rear mounting frame	3 mm		black matt

