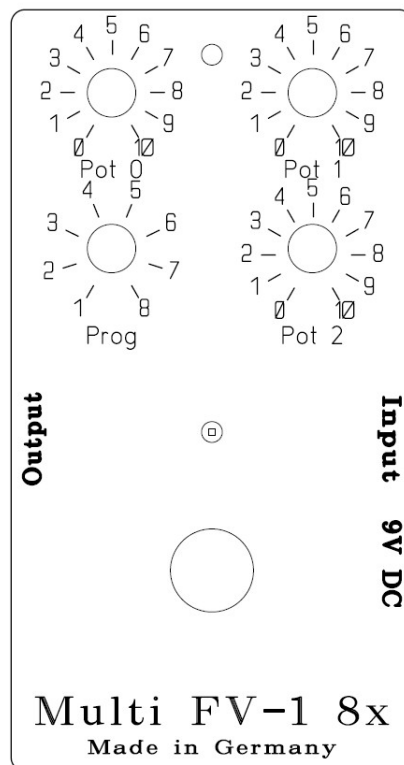


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Manual for Main board DB-VF-1 8xx for enclosure 1590B or 27134

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Thank you for purchasing a kit from our company. The kit has been compiled and checked with care. Should any inconsistencies arise with regard to quality or errors in the description, we would like to ask you to inform us of this: [mailto: \(technik@uk-electronic.de\)](mailto:technik@uk-electronic.de)

Short circuit:











The construction kit described below is based on the construction of a multi-effect device, which can be equipped with different modules (DB-FV1-8xx). Each of these modules contains 8 different programs. The modules use as DSP the FV-1 chip and the programs are in an external EEprom. The FV-1 board is a DSP controller which works with an external program chip (24LC32), all components D / A and A / D conversion are integrated in the DSP chip. The module requires only a voltage of + 5V to + 9V. The required 3.3V is generated on the board of the FV-1-8xx.

The active components are a 2-pole OPV TL072, a PIC 12F683, which represents an 8 to 3 decoder by means of the program, and an ATTINY13 for the bypass. The push button uses a PHAP 3320, which is switched via a switch actuator. Four potentiometers are available for operation, where 3 of the program (depending on the program) take on different tasks (see the respective program set of the module). For the program selection, the potentiometer "PROG" with which the corresponding effects are selected. **An output clip is also available for the FV-1 board, on which an LED is connected to + 5V with the anode.**

Due to the compact through-connection board, the design is almost relatively simple for a 1590B housing and is described on the following pages. A battery operation is not provided for the kit!

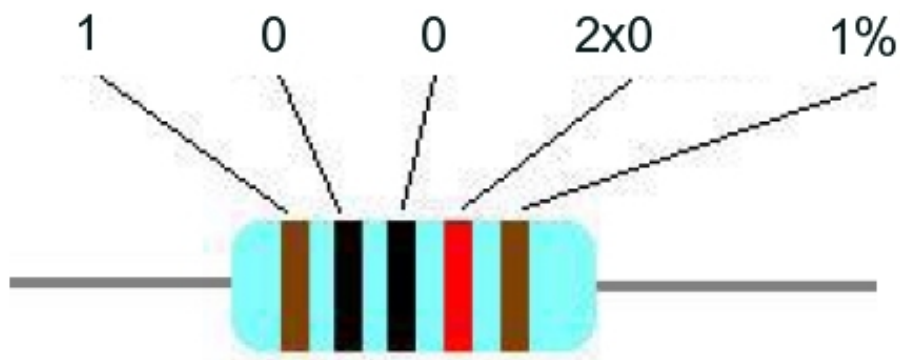
Color table for resistors MF207 FTE52 1% and a example

Resistor color code

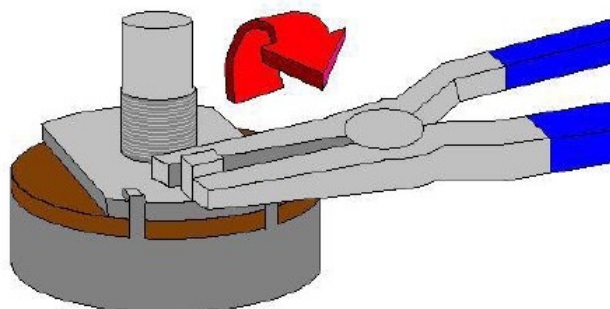
									
0	1	2	3	4	5	6	7	8	9

Example: Resistor MF207 10K 1%

Value: 10000 Ohm = 10KOhm



Breaking nose at the potentiometer
Nase am Poti mit einer Flachzange abbrechen



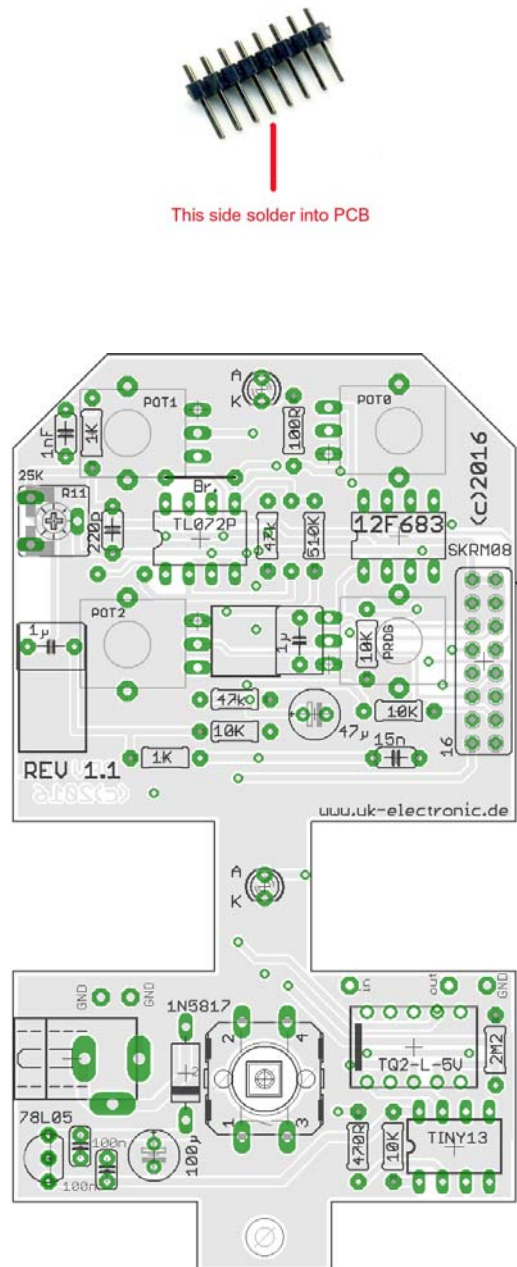
Bill of material

Quantity	Description
Resistor	
1	100R (brown/black/black/black/brown) – R16
1	470R (yellow/violet/black/black/brown) – R32
2	1K (brown/black/black/brown/brown) – R14, R18
4	10K (brown/black/black/red/brown) – (R6 empty), R7, R9, R15, R31
1	18K (red/black/black/red/brown) – R5 (empty!)
2	47K (yellow/violet/black/red/brown) – R1, R2
1	510K (green/brown/black/orange/brown) – R4
1	2M2 (red/red/black/yellow/brown) – R3
1	Trim pot CA6V 25K – R11 10K changed to 25K
Capacitors	
1	Ceramic cap 100pF (101) – (C1 empty)
1	Ceramic cap 220pF (221) – C10
1	MKT 1nF= 0.001µF (102) – C11
1	MKT 15nF= 0.015µF (153) – C12
2	Multi layer cap 100nF= 0.1µF (104) RM2.5 – C4, C8
2	MKT 1µF = (105)/ Epcos 1µF/63V or ECQV – C2, C5
1	Elektrolytic cap RASM 47µF/16V – C3
1	Elektrolytic cap RASM 100µF/16 – C9
Dioden/Transistoren	
1	Schottky-Diode 1N5718 or 5718 (Katode = line), – D1
1	LED 3mm Red Low current (Katode = short leg) – LED2
1	LED 3mm blue (Katode= short leg) – Clip – LED1
Integrated circuit	
1	DB-FV-1 G1 Board complete SMD (Variant 8G1, 8G2 oder 8R)
1	Voltage regulator 78L05 TO92 – IC4
1	2-pole OPV TL072 – IC2
1	Pre programmed Decoder 12F683 (DIP8) – IC1 Label PRG
1	Pre programmed ATTINY 13 (Bypass) DIP8 – IC3 Label RBY
Potentiometer	
3	9mm Potentiometer 10K-B (linear) – Pot0 to 2
1	9mm Potentiometer 25K-B (linear) – PROG
Mechanik	
1	Mainboard DB-FV1 8X DKL
2	Audio jack Lumberg KLBM3 (Mono- Output/ Input)
1	Relay Zettler AZ850P1-5 latching
1	Momentary switch PHAP 3320
1	Switch Actuator with feather
2	LED spacer 9mm
3	socket LC08
1	Self adhesive spacer 9.5mm
1	Header 16pole

Soldering PCB

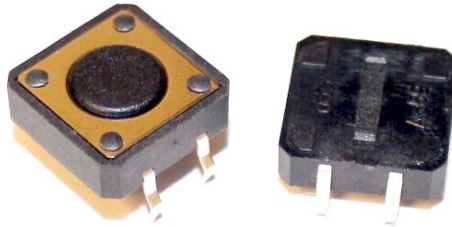
To begin , we should be start with the lowest components, i.e. As first the resistors, diode then the capacitors. Next, the IC sockets, the voltage regulator, relay, the trim pot. The two 1μF film capacitors are soldered lay down the circuit board. One simply bends the legs by 90 °. **In the final version, 3 components were missing, which are not listed here, but are still labeled on the pcb. These are not included in the package!**

Note! The 16pole Header must soldering with the long legs into the pcb, see the illustration.



The 4 potentiometers and the 2 LEDs (with spacer) are mounted from the bottom side with spacers.

The button PHAP3320 is prepared according to the photo, simply by bending the legs by 180 °. The black contact point then lies precisely in the bore provided for this purpose after assembly on the board. This is necessary to get a corresponding longer path to the Switch Actuator.



One should make the thing quiet and prefer to look more, because it is not easy for inexperienced in a double side circuit board to change a component.

The blue LED for the clip and the red LED for the effect On / Off are not yet soldered, but only once plugged in and fixed by slightly bending the connecting legs. If the PCB sits in the enclosure, the LED is easily inserted into the hole provided in the enclosure and then soldered. Pay attention to the cathode and anode in the wiring diagram, the position of the anode and the cathode is also marked.

The presoldered SMD module is then stacked only at the location of the 16-pin connector. (was changed in the last version – male/female). The wiring of the external jacks is only child's play. After that, the first test is no longer available.

The 25K trimmer is used to adjust the volume between the effect and the original signal. In the sample device it was about the middle position in which the trimmers are delivered.

Drill diameter:

Potentiometer : 7.5 to 8mm

Audio jacks : 9 to 9.5mm

switch: 12 to 13mm

DC-jack: 8 to 8mm

LED's 3mm

As knobs which is used for 6.35mm diameter and most preferably not greater than 16 to 20mm in the diameter.

Programme DB-FV1 8G3

Program	Name	Pot0	Pot1	Pot2
1	Oktaver	Mix Up/Down	Oct. Up	Oct. Down
2	1000ms Delay	Feedback	Delay Time	Rep. Dumping
3	Chorus	Depth	Width	Rate
4	Flanger	Delay	Sweep Width	Sweep Rate
5	Phaser	LFO Speed	Sweep width	Stages 4,6,8,10
6	Tremolo+Rev	Reverb	Rate	Tremolo Level
7	Vibrato	Reverb	Rate	Width
8	Autowah	Reverb	Sensetivity	Level/ Filter Q

Programme DB-FV1 8G2

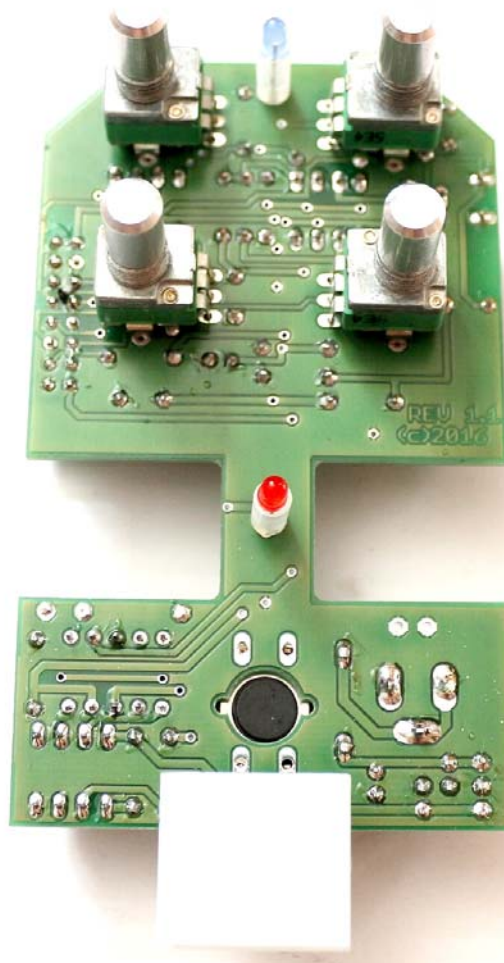
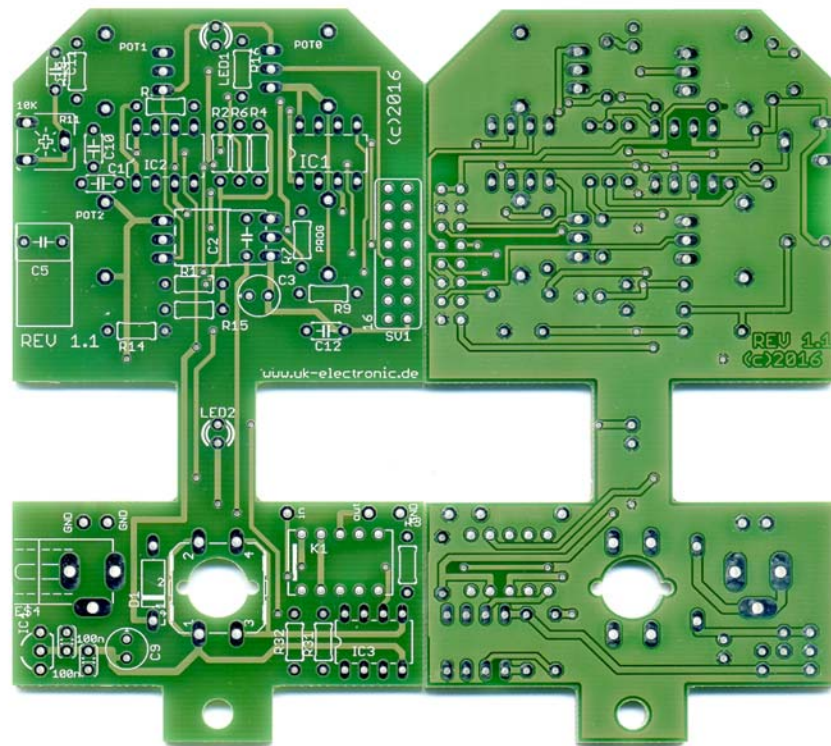
Program	Name	Pot0	Pot1	Pot2
1	700ms Delay	Feedback	Delay Time	Rep. Dumping
2	Oktaver	Mix Up/Down	Oct. Up	Oct. Down
3	Echo rep.+Rev	Reverb	Delay Time	Delay Level
4	Chorus	Depth	Width	Rate
5	Flanger	Delay	Sweep Width	Sweep Rate
6	Phaser	LFO Speed	Sweep width	Stages 4,6,8,10
7	Vibrato	Reverb	Rate	Width
8	Autowah	Reverb	Sensetivity	Level/ Filter Q

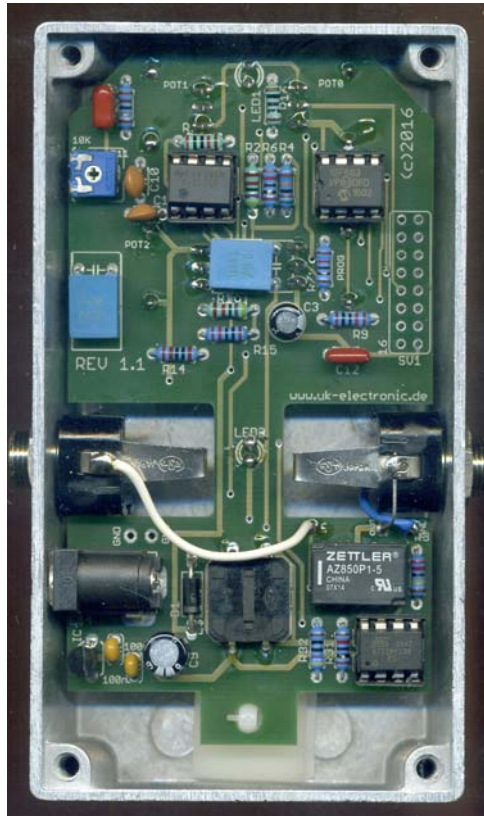
Programme DB-FV1 8G1

Program	Name	Pot0	Pot1	Pot2
1	Echo/ Reverb	Reverb Level	Delay	Echo Level
2	Echo/Rep+Rev	Reverb Level	Delay Time	Echo Level
3	Chorus+Rev	Reverb Level	Rate	Chorus Level
4	Flanger+Rev	Reverb Level	Rate	Flanger Level
5	Phaser+Rev	Reverb Level	Rate	Width
6	Tremolo+Rev	Reverb Level	Rate	Tremolo Level
7	Vibrato+Rev	Reverb Level	Rate	Width
8	Autowah+Rev	Reverb Level	Sensetivity	Level/ Filter Q

Programme DB-FV1 8R

Program	Name	Pot0	Pot1	Pot2
1	Moderate Reverb	Reverb Time	LF Response	HF Response
2	Large Reverb	Reverb Time	LF Response	HF Response
3	Gated Reverb	Predelay 0-100ms	Reverb Time	Damping
4	Hall	Predelay 0-100ms	Reverb Time	Damping
5	Room	Predelay 0-100ms	Reverb Time	Damping
6	Plate Reverb	Reverb Time	LF Loss	HF Loss
7	Mini Reverb	-	-	-
8	Vocal Reverb 3	Reverb Time	Diffusion	Decay Filtering





Here are still the empty components soldered!!



Technische Änderungen vorbehalten!

