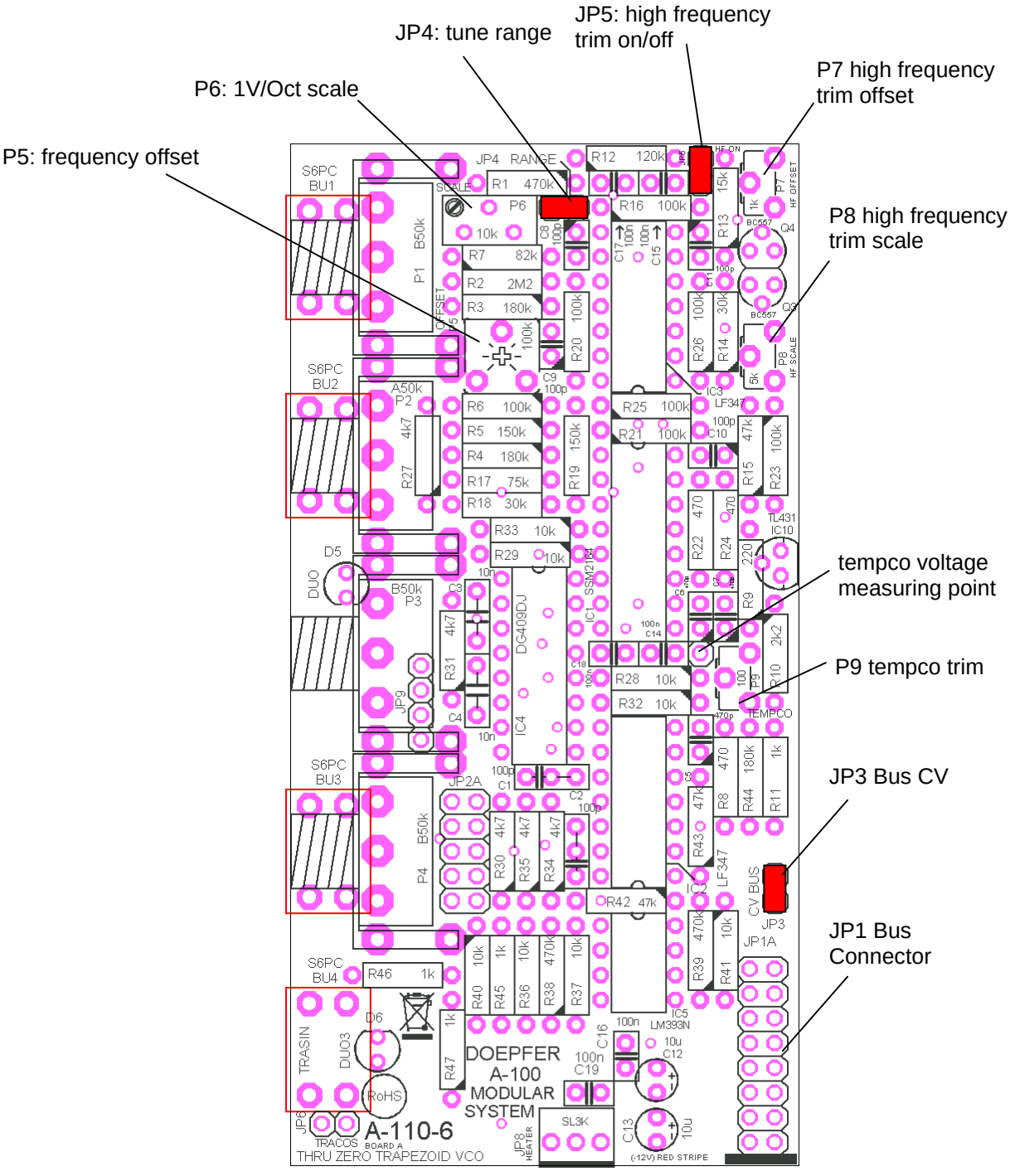
DOEPFER MUSIKELEKTRONIK GMBH

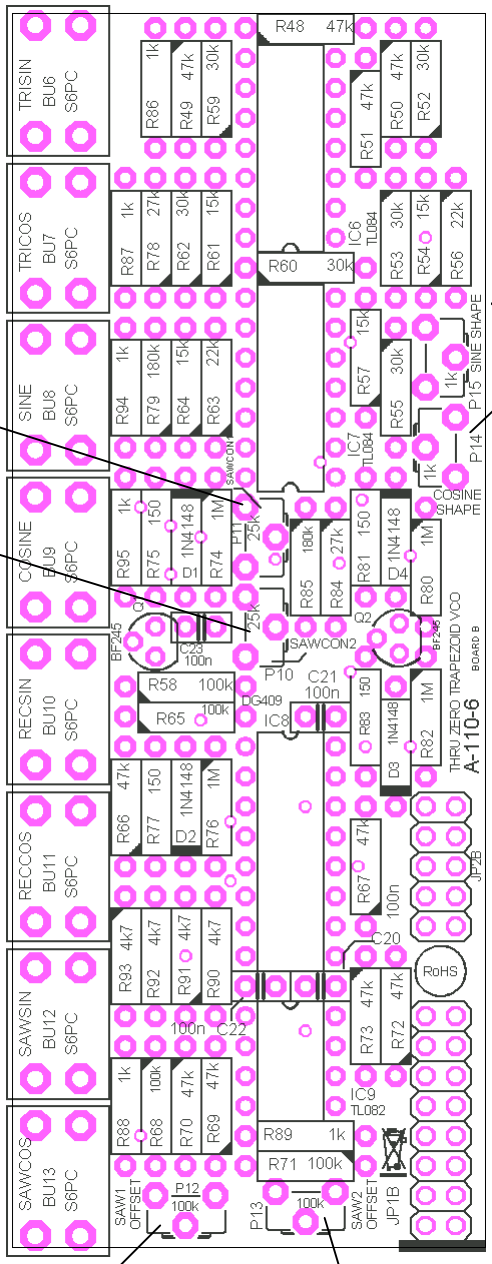
A-110-6 Trapezoid Thru Zero Quadrature VCO

Position und Funktion der Trimmpotentiometer, Steckbrücken und Stiftleisten
Position and function of the trimming potentiometers, jumpers and pin headers

Board A



Board B



P15: SINE shape

P14: COSINE shape

P11: SAWSIN shape / continuity

P10: SAWCOS shape / continuity

P12: SAWSIN dc offset

P13: SAWCOS dc offset

Notes

P5: frequency offset

P5 is used to adjust the absolute pitch after the 1V/octave scale has been adjusted with P6 (and P7/P8 for higher frequencies as described below).

P6: 1V/oct scale

Adjustment of the scale for the exp. CV input (1V/Oct.) with LFrq control fully CW
P6 has to be adjusted so that a difference of 1.00V at the CV input corresponds to one octave (2.00V → 2 octaves, 3.00V → 3 octaves, 4.00V → 4 octaves and so on).

Typical frequencies without high frequency trim:

Control Voltage	Exakt frequency [Hz]	Measured frequency without HF correction [Hz]	Error [Hz]
0,00V	16,0	15,9	-0,1
1,00V	32,0	31,9	-0,1
2,00V	64,0	64,0	0
3,00V	128,0	128	0
4,00V	256,0	256	0
5,00V	512,0	511	-1
6,00V	1024,0	1018	-6
7,00V	2048,0	2022	-26
8,00V	4096,0	4002	-94

The red numbers show unacceptable deviations from the correct values which have to be corrected with the high frequency trim.

P7/P8: high frequency trim

P7 and P8 have to be adjusted very carefully in turn so that even for frequencies above about 1kHz the 1V/oct scale remains correct. For this a jumper has to be installed on JP5. Without this jumper the high frequency correction is turned off. Installing/removing the jumper can be used to find out if the high frequency trimming has the desired effect.

Typical frequencies with high frequency trim:

Control Voltage	Exakt frequency [Hz]	Measured frequency without HF correction [Hz]	Error [Hz]
0,00V	16,0	15,9	-0,1
1,00V	32,0	31,9	-0,1
2,00V	64,0	64,0	0
3,00V	128,0	128	0
4,00V	256,0	256	0
5,00V	512,0	512	0
6,00V	1024,0	1023	-1
7,00V	2048,0	2047	-1
8,00V	4096,0	4096	0
9,00V	8192,0	8198	+6

After optimal adjustment of the high frequency trimming potentiometers P7/P8 even für higher frequencies the 1V/Oct scale is OK.

P9: tempco adjustment

Has to be adjusted for about 0,27..0,28V at the measuring point next to P9

P10/P11: SAWSIN/SAWCOS continuity

These trimming potentiometers have to adjusted so that the slopes of SAWSIN/SAWCOS are smooth (no jumps).

P12/P13: SAWSIN/SAWCOS DC offset

These trimming potentiometers are used to adjust the DC offsets of SAWSIN/SAWCOS.

P14/P15: SINE/COSINE shape

These trimming potentiometers are used to adjust the shapes of SINE/COSINE.

Recommended trimming sequence

- Tempco (P9)
- 1V/Oct (P6)
- High frequency trimming (P7/P8 and possibly once again P6)
- Frequency offset (P5)
- all other adjustments (P10...P15)