

**REDD EQ**

**Design and Assembly Information**

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## **Introduction**

The REDD EQ is a passive EQ PCB based on the famous bass and treble boost/cut found in the classic EMI REDD consoles, combined with the 'brilliance' boost/cut provided by the EMI RS127 passive EQ unit. The bass and treble curves have been designed to closely follow the Classic curves published in the 'Recording The Beatles' book. The RS127 curves have been designed to match those found by measurement of a software plug-in which itself is said to be derived from measurements of an original RS127. (Thanks to Dylan for taking these measurements).

This document provides all the design and assembly information needed to successfully build and use this PCB.

## BOM

Component	Value	Component	Value	Component	Value
R1	56k	C1	6.8nF	L1	VTB9043
R2	39k	C2	10nF	L2	VTB9044
R3	27k	C3	15nF	L3	10mH
R4	15k	C4	22nF	L4	2.2mH
R5	6k8	C5	56nF	L5	10mH
R6	47k	C6	47nF	L6	1mH
R7	22k	C7	2.2nF	L7	10mH
R8	10k	C8	68nF	L8	3.3mH
R9	3k3	C9	6.8nF	L9	10mH
R10	470	C10	47nF	J1	16W header
R11	1k4	C11	10nF		
R12	400	C12	22nF		
R13	500	C13	none		
R14	700	C14	18nF		
R15	900	C15	15nF		
R16	1k2	C16	10nF		
R17	5k5	C17	6.8nF		
R18	5k	C18	3.9nF		
R19	4k	C19	1nF		
R20	3k	C20	1.5nF		
R21	3k	C21	2.2nF		
R22	1k5	C22	3.3nF		
R23	2k	C23	4.7nF		
R24	2k7	C24	3.3nF		
R25	4k3	C25	1.8nF		
R26	7k5	C26	10nF		
R27	18k	C27	3.3nF		
R28	56k	C28	10nF		
R29	18k	C29	1nF		
R30	8k2	C30	18nF		

<b>Component</b>	<b>Value</b>	<b>Component</b>	<b>Value</b>	<b>Component</b>	<b>Value</b>
R31	3k3	C31	none		
R32	1k5				

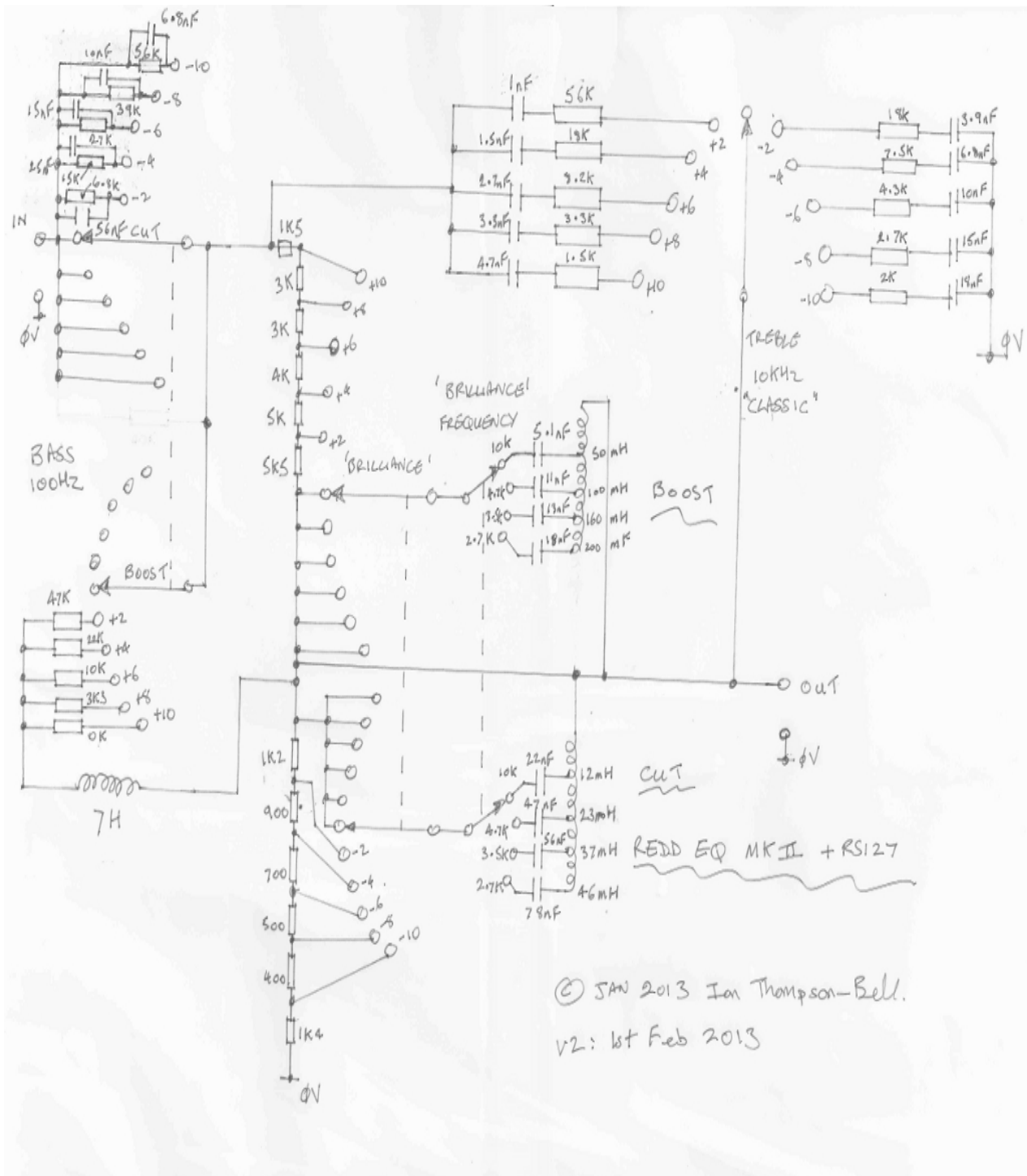
All the resistors are 0.125W or 0.25W metal film types. All the capacitors are metallised film types and should be rated at 50V or more. WIMA and Panasonic parts are recommended. Inductors L1 and L2 are standard Carnhill parts available from Audio Maintenance. The inductors L3 to L9 are EPCOS B82145A series leaded inductors available from Farnell as follows:

<b>Inductance</b>	<b>Farnell Part No.</b>
1mH	164-4323
2.2mH	164-4329
3.3mH	164-4330
10mH	164-4325

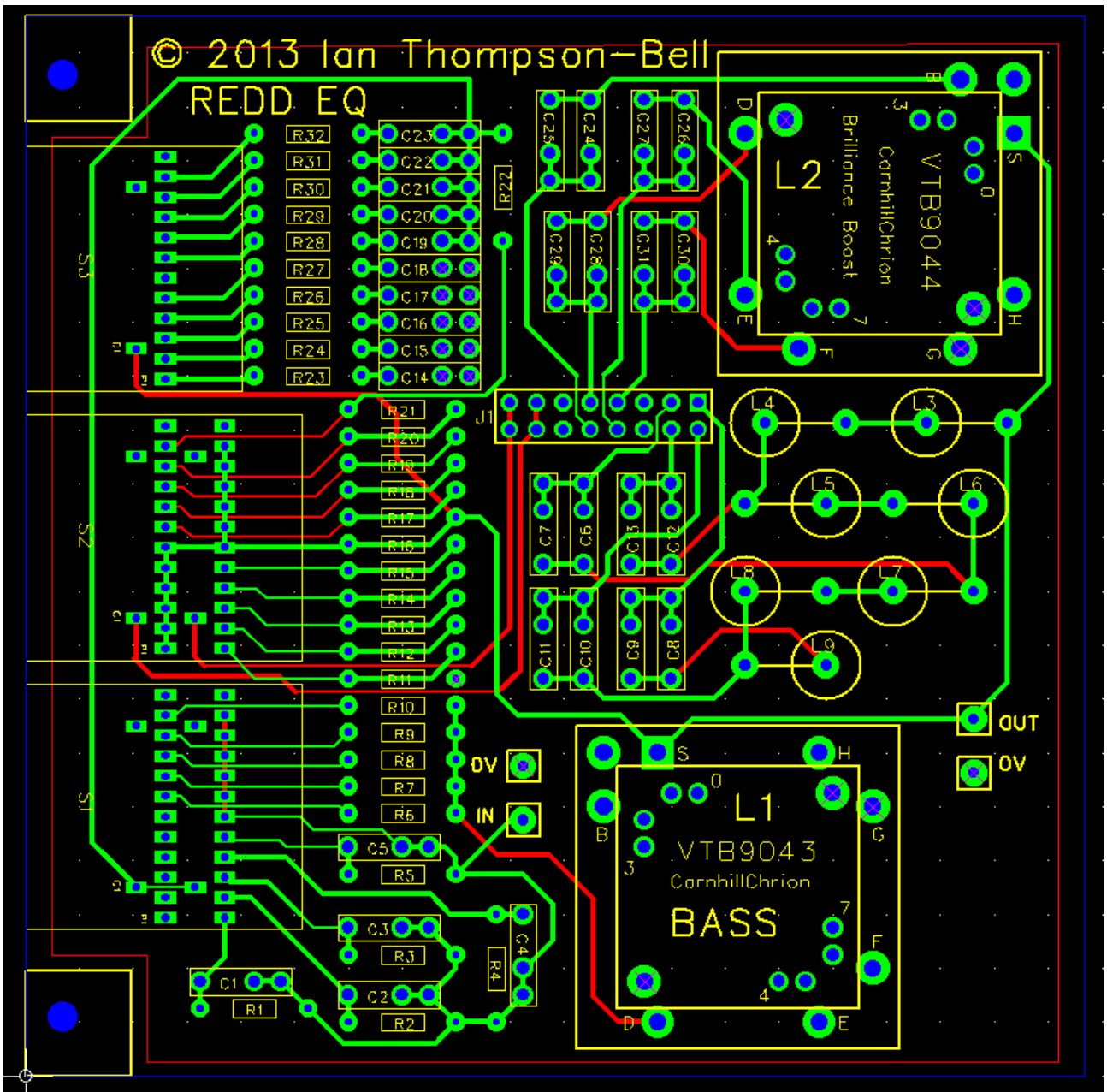
The 16 way 0.1inch pitch header J1 is designed to mate with my Lorlin and Grayhill header PCBs.. You need to use a 2 pole 6 way switch stopped down to 2pole 4 ways.

The three PCB mounted switches are all Grayhills as follows:

S1 and S2: Grayhill 71BDF 30-02-1-AJN (2 pole 12 way)  
S3: Grayhill 71BDF 30-01-1-AJN (1 pole 12 way)



The schematic of the REDDEQ is shown above. Although most of the component values marked on this schematic are correct, the BOM lists the latest values, some of which are different to those on the schematic.



The PCB layout of the REDDEQ is shown above. The component idents correspond to the BOM.