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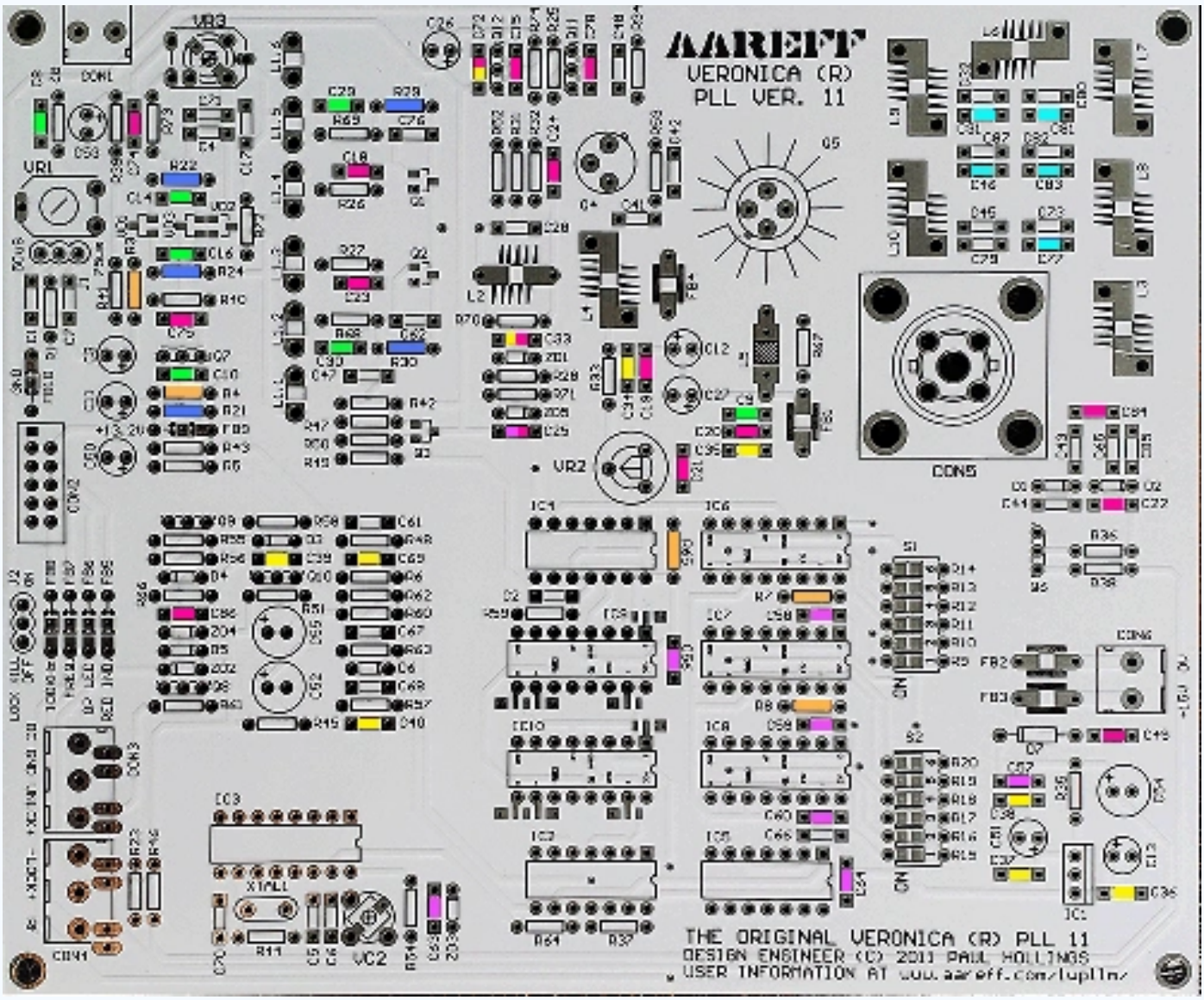
User Manual - Original Veronica® 1W PLL 11

1W PLL previous versions: PLL10 PLL11 PLL12 PLL14.4.

PCB LAYOUT



COMPONENTS (all models)

(b149) (b148)

SMALL SMD	VALUE
C15, C33, **C17**, C18, C18, C23, C23, C19, C20, C21, C22, C24, C25, C49, C72, C72, C74, C75, C78, C84, C86	1n (b159)
C33, C34, C35, C36, C37, C38, C39, C40, C72, C72	10n (b196)
C56, C58, C59, C60, C63, C64, **C69**, C25	100n (b197)
C8, C9, C10, C29, C29, C30, C14, C16	100p (b158)

C31, C46, C77, C81, C83	39p (b154)
C44, C76, C62	2p2 (b238)
C41, C42	47p (b155)
C6, C30,	15p (b180)
C2	2n2 (b164)
C47	33p (b153)
C66	150p (b69)
C70	82p (b157)
C79	27p (b152)
C85	22p (b154)
C28	10p
C71	5p6
S1, S2	10K 0805 (0850-10k)
L1.1, L1.2, L1.3, L1.4, L1.5, L1.6	27nH (1210-27n)
Q1, Q2, Q3	BFR93AW (b97)
VD1, VD3	BB201 (b98)

AXIAL	VALUE
R21, R22, R24, R29, R30	3K3 (b29)
R3, R4, R7, R8, R65	10K (b35)
R5, R6, R39, R41, R42	15K (b37)
R58, R59, R66	2K2 (b27)
R26, R27, R31, R38	150R (b14)
R68, R69, R52	1K (b23)
R32, R56, R57, R74	5K6 (b32)
R54, R70	220R (b15)
R36, R37	1K5 (b25)
R71, R34, R35	22R (b4)
R2, R53	47R (b8)
R28, R50, R51	100R (b12)
R62, R63	12K (b36)
R1, R48	33K (b40)
R60, R33	270R (b16)
R23	680R (b21)
R61	10R (b2)
R46	15R (b3)
R45	33R (b6)
R49	390R (b18)
R64	1K8 (b26)
R25	4K7 (b31)
R40	6K8 (b33)

R55	47K (b42)
R44	100K (b46)
R47	22K (b38)
D1, D2, D3, D4, D5, D6	1N4148 (b58)
D7	1N4004 (b64)
ZD3, ZD5	11V (b62)
ZD4, R43	5V1 (b60)
ZD1, ZD2	7V5 (b61)
FB5, FB6, FB7, FB8, FB9	1t 22awg (301838)(b216) + 1n (b159)
FB1, FB2	1t 22awg (b216)
FB3	10R x 3 (b2) parallel
FB4	2t 28awg (b216)
FB10	1t 22awg (301838)

FLAT	**VALUE**
IC6, IC7, IC8	74LS193 (b79)
IC2	74LS86 (b85)
IC3	CD4060 (b84)
IC4	74ALS74 (b83)
IC5	CD4013 (b86)
VR1	10K (b12)

RADIAL	**VALUE**
Q6, Q8, Q9, Q11, Q12	BC549 (b97)
Q7, Q10	BC558 (b96)
Q4	2N4427 (b76)
Q5	SD1127 (b75)
IC1	7805 (b118)
C11, C12, C27	47u (b171)
C3, C26, C53, C52, C54, C55	220u (b170)
C13, C51	1u (b168)
C2, C68	220n (b198)
C67	4n7 (b195)
C17	10u
C57	1000u
S1, S2	6w dip (b81)
VR2	500R (b91)
VC2	10p/15p/22p (b89)
XTAL1	6.4 MHZ (b71)

CONNECTORS	**VALUE**

CON1, CON6	b116
CON2	b87 x 10
CON3, CON4	b147
CON5	N-Female (b222)
J2	b87 x 3 + b88

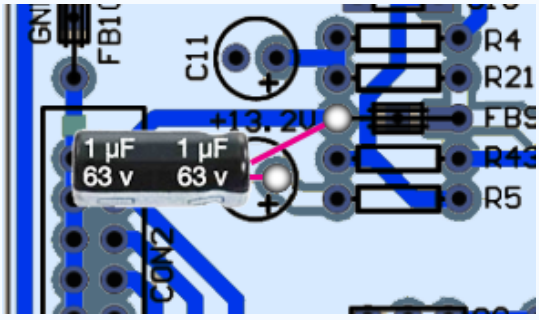
COILS	VALUE
L2	7mm x 5t 22awg (301838)
L3, L6, L7, L8, L9, L10	7mm 5t 16awg (1230996)
L4	5mm 4t 16awg (1230996)
L5	2K2 9t 28awg (845-460)

OTHER ITEMS	VALUE
m3 x 5 mm aluminium spacers (b221)	4
m3 nuts nyloc (b142)	4
m3 x 16mm screw (b115)	4
m3 spring washer (b107)	4
m3 plain washer (b113)	4
Push-On Black Heatsink (b109)	1
Red and Black DC Cable 50cm (xs69a)	1
PLL 11 PCB (pcb-1wpllm)	1

NOT FITTED
Q12
C1, C4, C5, C7, C32, C45, C61, C65, C73, C80, C82, C87, C48
R67, R72
VR3
VD2

SPECIAL MODIFICATION

C50 1uF (b168)



COMPONENTS (TRIMMER OPTION)

COMPONENT	VALUE
VR3	22p (b89)
VD2	NOT FITTED
C17	NOT FITTED

R72	NOT FITTED
R73	NOT FITTED

COMPONENTS (VR3 OPTION)

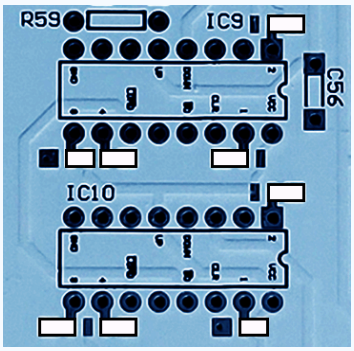
COMPONENT	VALUE
VR3	10K (b12)
VD2	BB201 (b98)
C17	1n (b159), 10u (b169)
R72	4K7 (b31)
R73	2K2 (b27)

COMPONENTS (MPX/MONO OPTION)

COMPONENT	VALUE
C1	1n5 (b162)
C7	2n2 (b164)
J1	B87 x 3 + B88

COMPONENTS (FREQ. COUNT. OPTION)

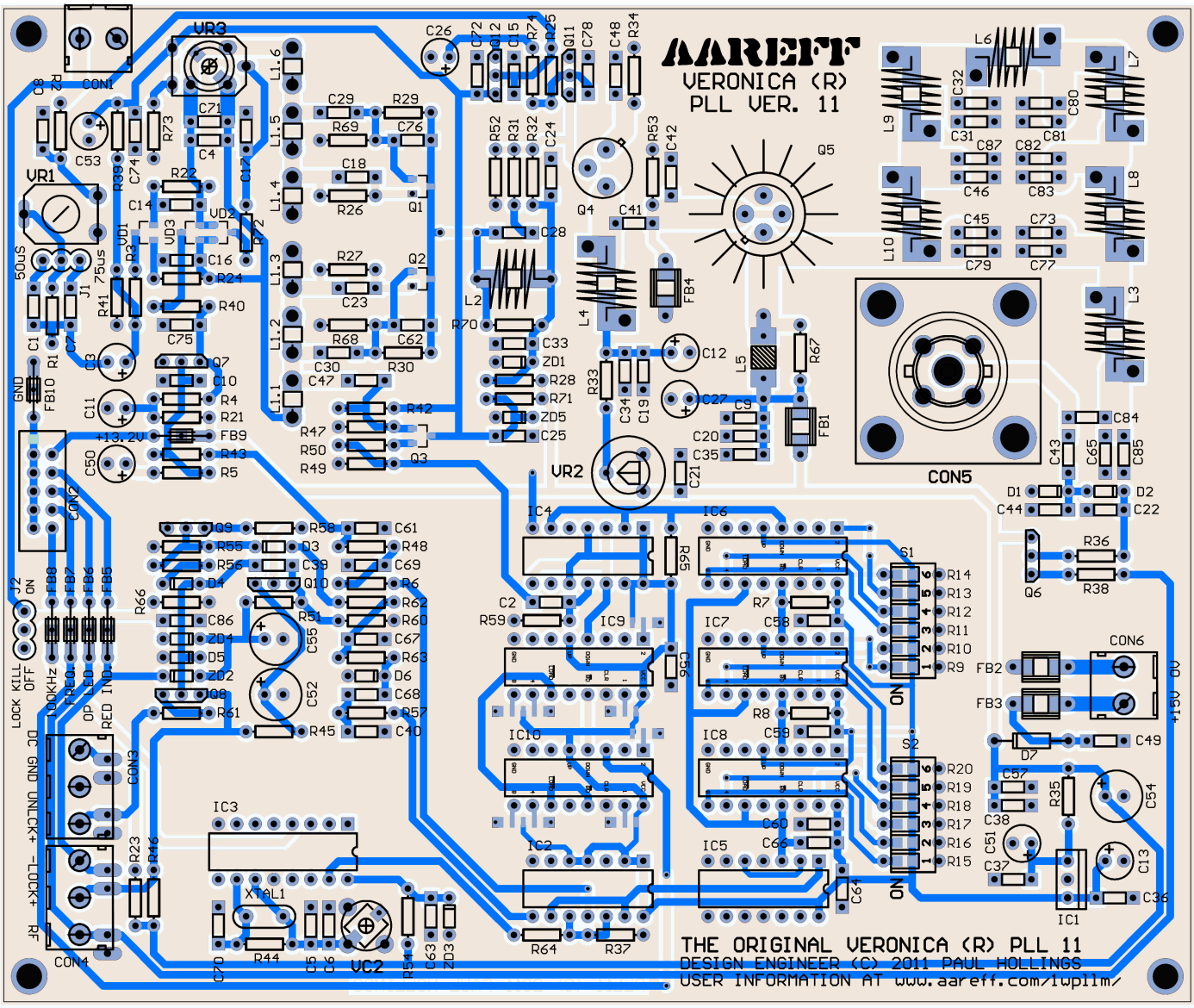
COMPONENT	VALUE
C1	1n5 (b162)
IC9, IC10	74LS193 (b79)



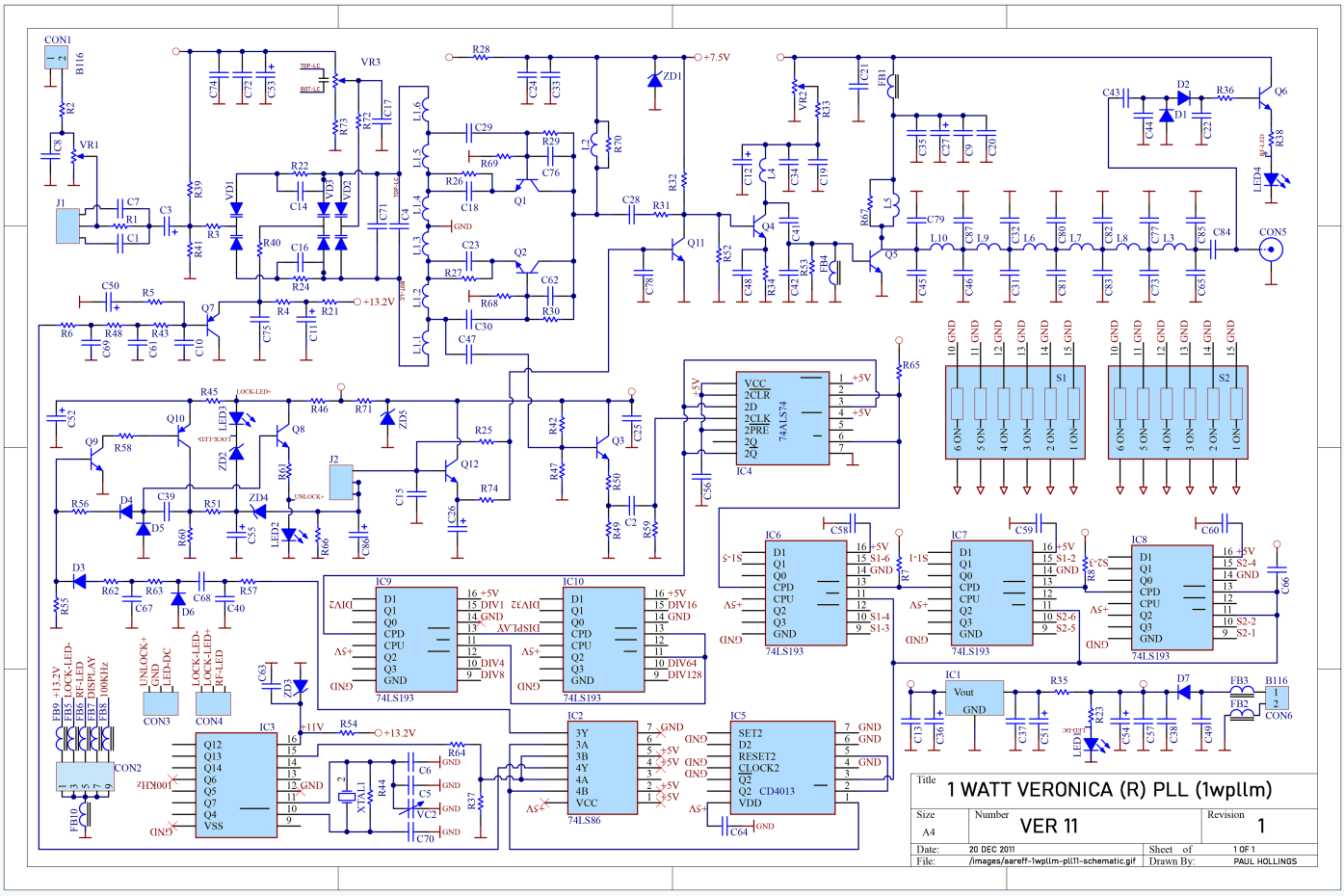
COMPONENTS (MODULE ONLY OPTION)

COMPONENT	VALUE
LED1	5mm LED BLUE DC IND. (b177)
LED2	5mm LED RED UNLOCK IND. (b174)
LED3	5mm LED BLUE LOCK IND. (b177)
LED4	5mm LED BLUE RF IND.(b177)

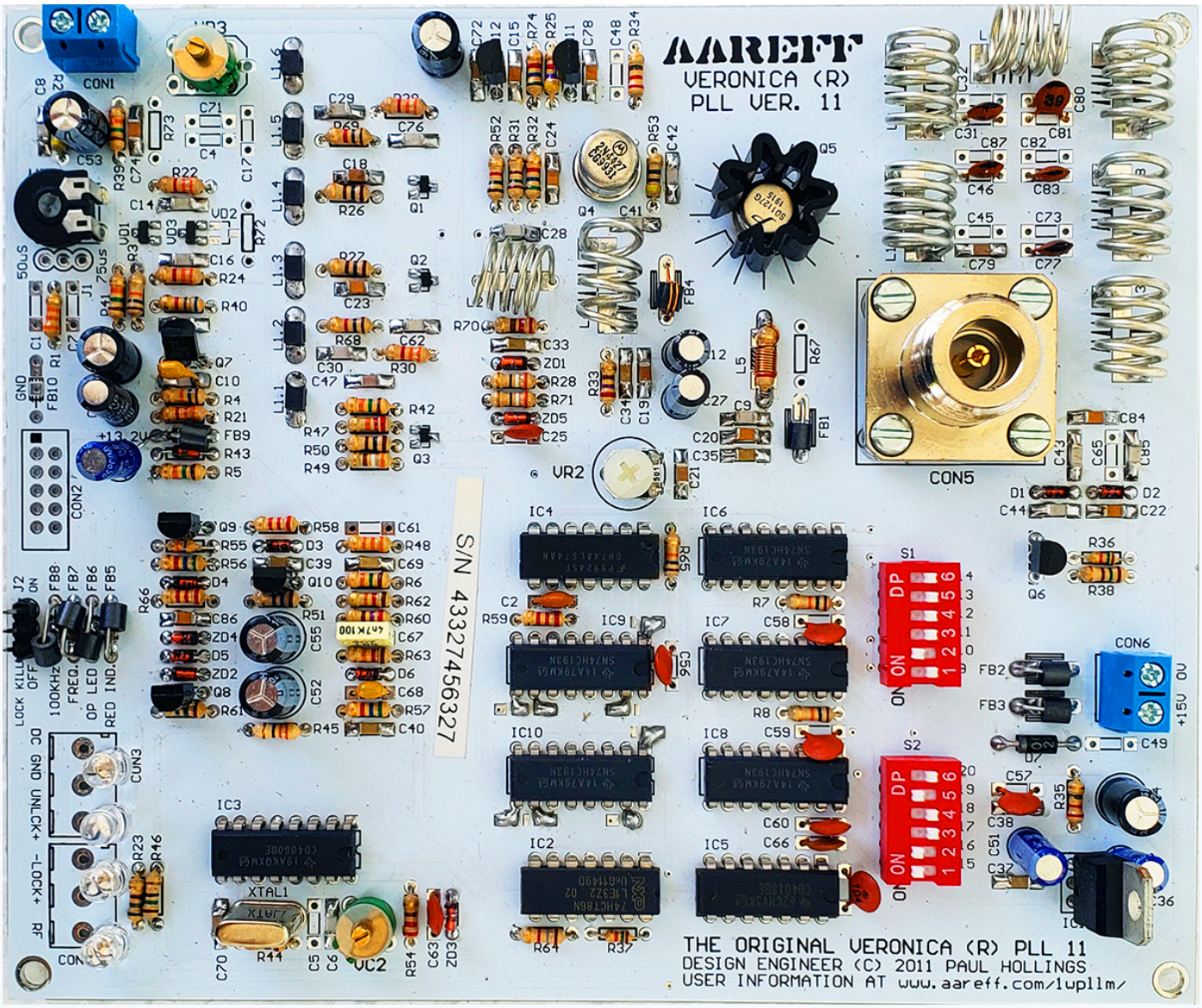
PCB LAYOUT / FAULT FINDING



SCHEMATIC (PLL11)



PCB LAYOUT / COMPONENTS FITTED



INTENDED USE / LEGAL ADVICE

This product is not intended for use on a 'stand alone' basis, it is sold as spare part/module sub assembly and is intended as a component for use in a fully assembled transmitter and/or transmission system that as a whole complies with the engineering requirements of ETS 300 384 and ETS 300 447. Use of this product on a 'stand alone' basis will in most countries of the world contravene the EMC compatibility regulations. It is the customer's responsibility to check relevant laws, directives and regulations before putting this product into service with an antenna system. You, the customer agree to defend, indemnify and hold harmless Aareff Systems Limited, it's employees and agents, from and against any claims, actions or demands, including without limitation legal and accounting fees, alleging or resulting from improper or unlawful use of this product.

CIRCUIT TESTING

If the 1 watt PLL is connected to a Veronica / Aareff Limiter Compressor or a Stereo Coder, pre-emphasis is not required. To disable the pre-emphasis, do not select 50uS or 75uS and remove the jumper completely. Store the jumper in a safe place just in case you need to restore the pre-emph for another application at a later date.

The 1W PLL features out of lock shutdown, this is always required for legal use when the transmitter is connected to a radiating antenna. The diagram above shows how to set the jumper to activate it.

1. Plug in a 50 ohm dummy load to the RF output OR Reduce the power to zero by turning VR2 fully anticlockwise.

2. Apply between 12 and 16 volts to the PCB position marked +15V (+) and 0V (-). DO NOT EXCEED 16V DC.

3. Choose a frequency from the attached LOOK-UP table and select the appropriate code on the transmitter DIP switches.

4. Adjust VR3 slowly until the RED LED starts to dim. Continue adjusting VR3 even more slowly, the RED LED will dim further or flicker, then the BLUE LED will illuminate. The BLUE LED indicates a locked condition.

5. Experiment with the adjustment of VR3 to find centre lock repeating step 4.

6. Apply audio at line level to CON1. Adjust the VR1 for correct FM deviation.

7. Remove the 50 ohm dummy load from the output OR Increase the power to full by turning VR2 fully clockwise. You are now ready to install the 1W PLL into your transmission system.

SPECIFICATIONS

The following tests were taken at 15V DC and the worst case measurement was recorded over the range -20 to +50 deg C.

Frequency	100KHz steps from 87.5 to 108MHz
RF Power Output	1000mW to 1400mW into 50 Ohm load
Deviation Sensitivity Stability	+/-2% max
Spurious Emissions	>75dB rtc
Harmonic Emissions	>63dB rtc
Out of Lock RF Muting	>63dB rtc
Freq Stability	+/- 1 KHz max., typ. +/-300Hz
Freq Fine Adj (VC2)	> +/- 1000Hz
RF Output Connector	N type Female
Audio Input Sensitivity	0.775 V rms for +/- 75 KHz
Signal To Noise Ratio	80 dBu
Frequency Response	Flat from 30 Hz to 76 KHz
Pre-emphasis	(50uS/ 75uS/ None) Selectable
Audio Distortion	Better than 0.2 % THD
Audio Input Connector	Terminal Block
Power Supply	15V DC Regulated 650mA max.

DIL SWITCH (S2 and S1)

MHz	**1**	**2**	**3**	**4**	**5**	**6**		**1**	**2**	**3**	**4**	**5**	**6**
87.5	ON	ON	OFF	OFF	ON	OFF		OFF	ON	OFF	ON	OFF	ON
87.6	ON	ON	OFF	OFF	ON	OFF		OFF	ON	OFF	ON	OFF	OFF

MHz	1	2	3	4	5	6		1	2	3	4	5	6
87.7	ON	ON	OFF	OFF	ON	OFF		OFF	ON	OFF	OFF	ON	ON
87.8	ON	ON	OFF	OFF	ON	OFF		OFF	ON	OFF	OFF	ON	OFF
87.9	ON	ON	OFF	OFF	ON	OFF		OFF	ON	OFF	OFF	OFF	ON
88	ON	ON	OFF	OFF	ON	OFF		OFF	ON	OFF	OFF	OFF	OFF
88.1	ON	ON	OFF	OFF	ON	OFF		OFF	OFF	ON	ON	ON	ON
88.2	ON	ON	OFF	OFF	ON	OFF		OFF	OFF	ON	ON	ON	OFF
88.3	ON	ON	OFF	OFF	ON	OFF		OFF	OFF	ON	ON	OFF	ON
88.4	ON	ON	OFF	OFF	ON	OFF		OFF	OFF	ON	ON	OFF	OFF
88.5	ON	ON	OFF	OFF	ON	OFF		OFF	OFF	ON	OFF	ON	ON
88.6	ON	ON	OFF	OFF	ON	OFF		OFF	OFF	ON	OFF	ON	OFF
88.7	ON	ON	OFF	OFF	ON	OFF		OFF	OFF	ON	OFF	OFF	ON
88.8	ON	ON	OFF	OFF	ON	OFF		OFF	OFF	ON	OFF	OFF	OFF
88.9	ON	ON	OFF	OFF	ON	OFF		OFF	OFF	OFF	ON	ON	ON
89	ON	ON	OFF	OFF	ON	OFF		OFF	OFF	OFF	ON	ON	OFF
89.1	ON	ON	OFF	OFF	ON	OFF		OFF	OFF	OFF	ON	OFF	ON
89.2	ON	ON	OFF	OFF	ON	OFF		OFF	OFF	OFF	ON	OFF	OFF
89.3	ON	ON	OFF	OFF	ON	OFF		OFF	OFF	OFF	OFF	ON	ON
89.4	ON	ON	OFF	OFF	ON	OFF		OFF	OFF	OFF	OFF	ON	OFF
89.5	ON	ON	OFF	OFF	ON	OFF		OFF	OFF	OFF	OFF	OFF	ON
89.6	ON	ON	OFF	OFF	ON	OFF		OFF	OFF	OFF	OFF	OFF	OFF
89.7	ON	ON	OFF	OFF	OFF	ON		ON	ON	ON	ON	ON	ON
89.8	ON	ON	OFF	OFF	OFF	ON		ON	ON	ON	ON	ON	OFF
89.9	ON	ON	OFF	OFF	OFF	ON		ON	ON	ON	ON	OFF	ON
90	ON	ON	OFF	OFF	OFF	ON		ON	ON	ON	ON	OFF	OFF
90.1	ON	ON	OFF	OFF	OFF	ON		ON	ON	ON	OFF	ON	ON
90.2	ON	ON	OFF	OFF	OFF	ON		ON	ON	ON	OFF	ON	OFF
90.3	ON	ON	OFF	OFF	OFF	ON		ON	ON	ON	OFF	OFF	ON
90.4	ON	ON	OFF	OFF	OFF	ON		ON	ON	ON	OFF	OFF	OFF
90.5	ON	ON	OFF	OFF	OFF	ON		ON	ON	OFF	ON	ON	ON
90.6	ON	ON	OFF	OFF	OFF	ON		ON	ON	OFF	ON	ON	OFF
90.7	ON	ON	OFF	OFF	OFF	ON		ON	ON	OFF	ON	OFF	ON
90.8	ON	ON	OFF	OFF	OFF	ON		ON	ON	OFF	ON	OFF	OFF
90.9	ON	ON	OFF	OFF	OFF	ON		ON	ON	OFF	OFF	ON	ON
91	ON	ON	OFF	OFF	OFF	ON		ON	ON	OFF	OFF	ON	OFF
91.1	ON	ON	OFF	OFF	OFF	ON		ON	ON	OFF	OFF	OFF	ON
91.2	ON	ON	OFF	OFF	OFF	ON		ON	ON	OFF	OFF	OFF	OFF
91.3	ON	ON	OFF	OFF	OFF	ON		ON	OFF	ON	ON	ON	ON
91.4	ON	ON	OFF	OFF	OFF	ON		ON	OFF	ON	ON	ON	OFF

MHz	1	2	3	4	5	6		1	2	3	4	5	6
91.5	ON	ON	OFF	OFF	OFF	ON		ON	OFF	ON	ON	OFF	ON
91.6	ON	ON	OFF	OFF	OFF	ON		ON	OFF	ON	ON	OFF	OFF
91.7	ON	ON	OFF	OFF	OFF	ON		ON	OFF	ON	OFF	ON	ON
91.8	ON	ON	OFF	OFF	OFF	ON		ON	OFF	ON	OFF	ON	OFF
91.9	ON	ON	OFF	OFF	OFF	ON		ON	OFF	ON	OFF	OFF	ON
92	ON	ON	OFF	OFF	OFF	ON		ON	OFF	ON	OFF	OFF	OFF
92.1	ON	ON	OFF	OFF	OFF	ON		ON	OFF	OFF	ON	ON	ON
92.2	ON	ON	OFF	OFF	OFF	ON		ON	OFF	OFF	ON	ON	OFF
92.3	ON	ON	OFF	OFF	OFF	ON		ON	OFF	OFF	ON	OFF	ON
92.4	ON	ON	OFF	OFF	OFF	ON		ON	OFF	OFF	ON	OFF	OFF
92.5	ON	ON	OFF	OFF	OFF	ON		ON	OFF	OFF	OFF	ON	ON
92.6	ON	ON	OFF	OFF	OFF	ON		ON	OFF	OFF	OFF	ON	OFF
92.7	ON	ON	OFF	OFF	OFF	ON		ON	OFF	OFF	OFF	OFF	ON
92.8	ON	ON	OFF	OFF	OFF	ON		ON	OFF	OFF	OFF	OFF	OFF
92.9	ON	ON	OFF	OFF	OFF	ON		OFF	ON	ON	ON	ON	ON
93	ON	ON	OFF	OFF	OFF	ON		OFF	ON	ON	ON	ON	OFF
93.1	ON	ON	OFF	OFF	OFF	ON		OFF	ON	ON	ON	OFF	ON
93.2	ON	ON	OFF	OFF	OFF	ON		OFF	ON	ON	ON	OFF	OFF
93.3	ON	ON	OFF	OFF	OFF	ON		OFF	ON	ON	OFF	ON	ON
93.4	ON	ON	OFF	OFF	OFF	ON		OFF	ON	ON	OFF	ON	OFF
93.5	ON	ON	OFF	OFF	OFF	ON		OFF	ON	ON	OFF	OFF	ON
93.6	ON	ON	OFF	OFF	OFF	ON		OFF	ON	ON	OFF	OFF	OFF
93.7	ON	ON	OFF	OFF	OFF	ON		OFF	ON	OFF	ON	ON	ON
93.8	ON	ON	OFF	OFF	OFF	ON		OFF	ON	OFF	ON	ON	OFF
93.9	ON	ON	OFF	OFF	OFF	ON		OFF	ON	OFF	ON	OFF	ON
94	ON	ON	OFF	OFF	OFF	ON		OFF	ON	OFF	ON	OFF	OFF
94.1	ON	ON	OFF	OFF	OFF	ON		OFF	ON	OFF	OFF	ON	ON
94.2	ON	ON	OFF	OFF	OFF	ON		OFF	ON	OFF	OFF	ON	OFF
94.3	ON	ON	OFF	OFF	OFF	ON		OFF	ON	OFF	OFF	OFF	ON
94.4	ON	ON	OFF	OFF	OFF	ON		OFF	ON	OFF	OFF	OFF	OFF
94.5	ON	ON	OFF	OFF	OFF	ON		OFF	OFF	ON	ON	ON	ON
94.6	ON	ON	OFF	OFF	OFF	ON		OFF	OFF	ON	ON	ON	OFF
94.7	ON	ON	OFF	OFF	OFF	ON		OFF	OFF	ON	ON	OFF	ON
94.8	ON	ON	OFF	OFF	OFF	ON		OFF	OFF	ON	ON	OFF	OFF
94.9	ON	ON	OFF	OFF	OFF	ON		OFF	OFF	ON	OFF	ON	ON
95	ON	ON	OFF	OFF	OFF	ON		OFF	OFF	ON	OFF	ON	OFF
95.1	ON	ON	OFF	OFF	OFF	ON		OFF	OFF	ON	OFF	OFF	ON
95.2	ON	ON	OFF	OFF	OFF	ON		OFF	OFF	ON	OFF	OFF	OFF

MHz	1	2	3	4	5	6		1	2	3	4	5	6
95.3	ON	ON	OFF	OFF	OFF	ON		OFF	OFF	OFF	ON	ON	ON
95.4	ON	ON	OFF	OFF	OFF	ON		OFF	OFF	OFF	ON	ON	OFF
95.5	ON	ON	OFF	OFF	OFF	ON		OFF	OFF	OFF	ON	OFF	ON
95.6	ON	ON	OFF	OFF	OFF	ON		OFF	OFF	OFF	ON	OFF	OFF
95.7	ON	ON	OFF	OFF	OFF	ON		OFF	OFF	OFF	OFF	ON	ON
95.8	ON	ON	OFF	OFF	OFF	ON		OFF	OFF	OFF	OFF	ON	OFF
95.9	ON	ON	OFF	OFF	OFF	ON		OFF	OFF	OFF	OFF	OFF	ON
96	ON	ON	OFF	OFF	OFF	ON		OFF	OFF	OFF	OFF	OFF	OFF
96.1	ON	ON	OFF	OFF	OFF	OFF		ON	ON	ON	ON	ON	ON
96.2	ON	ON	OFF	OFF	OFF	OFF		ON	ON	ON	ON	ON	OFF
96.3	ON	ON	OFF	OFF	OFF	OFF		ON	ON	ON	ON	OFF	ON
96.4	ON	ON	OFF	OFF	OFF	OFF		ON	ON	ON	ON	OFF	OFF
96.5	ON	ON	OFF	OFF	OFF	OFF		ON	ON	ON	OFF	ON	ON
96.6	ON	ON	OFF	OFF	OFF	OFF		ON	ON	ON	OFF	ON	OFF
96.7	ON	ON	OFF	OFF	OFF	OFF		ON	ON	ON	OFF	OFF	ON
96.8	ON	ON	OFF	OFF	OFF	OFF		ON	ON	ON	OFF	OFF	OFF
96.9	ON	ON	OFF	OFF	OFF	OFF		ON	ON	OFF	ON	ON	ON
97	ON	ON	OFF	OFF	OFF	OFF		ON	ON	OFF	ON	ON	OFF
97.1	ON	ON	OFF	OFF	OFF	OFF		ON	ON	OFF	ON	OFF	ON
97.2	ON	ON	OFF	OFF	OFF	OFF		ON	ON	OFF	ON	OFF	OFF
97.3	ON	ON	OFF	OFF	OFF	OFF		ON	ON	OFF	OFF	ON	ON
97.4	ON	ON	OFF	OFF	OFF	OFF		ON	ON	OFF	OFF	ON	OFF
97.5	ON	ON	OFF	OFF	OFF	OFF		ON	ON	OFF	OFF	OFF	ON
97.6	ON	ON	OFF	OFF	OFF	OFF		ON	ON	OFF	OFF	OFF	OFF
97.7	ON	ON	OFF	OFF	OFF	OFF		ON	OFF	ON	ON	ON	ON
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98.5	ON	ON	OFF	OFF	OFF	OFF		ON	OFF	OFF	ON	ON	ON
98.6	ON	ON	OFF	OFF	OFF	OFF		ON	OFF	OFF	ON	ON	OFF
98.7	ON	ON	OFF	OFF	OFF	OFF		ON	OFF	OFF	ON	OFF	ON
98.8	ON	ON	OFF	OFF	OFF	OFF		ON	OFF	OFF	ON	OFF	OFF
98.9	ON	ON	OFF	OFF	OFF	OFF		ON	OFF	OFF	OFF	ON	ON
99	ON	ON	OFF	OFF	OFF	OFF		ON	OFF	OFF	OFF	ON	OFF

MHz	1	2	3	4	5	6		1	2	3	4	5	6
99.1	ON	ON	OFF	OFF	OFF	OFF		ON	OFF	OFF	OFF	OFF	ON
99.2	ON	ON	OFF	OFF	OFF	OFF		ON	OFF	OFF	OFF	OFF	OFF
99.3	ON	ON	OFF	OFF	OFF	OFF		OFF	ON	ON	ON	ON	ON
99.4	ON	ON	OFF	OFF	OFF	OFF		OFF	ON	ON	ON	ON	OFF
99.5	ON	ON	OFF	OFF	OFF	OFF		OFF	ON	ON	ON	OFF	ON
99.6	ON	ON	OFF	OFF	OFF	OFF		OFF	ON	ON	ON	OFF	OFF
99.7	ON	ON	OFF	OFF	OFF	OFF		OFF	ON	ON	OFF	ON	ON
99.8	ON	ON	OFF	OFF	OFF	OFF		OFF	ON	ON	OFF	ON	OFF
99.9	ON	ON	OFF	OFF	OFF	OFF		OFF	ON	ON	OFF	OFF	ON
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100.1	ON	ON	OFF	OFF	OFF	OFF		OFF	ON	OFF	ON	ON	ON
100.2	ON	ON	OFF	OFF	OFF	OFF		OFF	ON	OFF	ON	ON	OFF
100.3	ON	ON	OFF	OFF	OFF	OFF		OFF	ON	OFF	ON	OFF	ON
100.4	ON	ON	OFF	OFF	OFF	OFF		OFF	ON	OFF	ON	OFF	OFF
100.5	ON	ON	OFF	OFF	OFF	OFF		OFF	ON	OFF	OFF	ON	ON
100.6	ON	ON	OFF	OFF	OFF	OFF		OFF	ON	OFF	OFF	ON	OFF
100.7	ON	ON	OFF	OFF	OFF	OFF		OFF	ON	OFF	OFF	OFF	ON
100.8	ON	ON	OFF	OFF	OFF	OFF		OFF	ON	OFF	OFF	OFF	OFF
100.9	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF	ON	ON	ON	ON
101	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF	ON	ON	ON	OFF
101.1	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF	ON	ON	OFF	ON
101.2	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF	ON	ON	OFF	OFF
101.3	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF	ON	OFF	ON	ON
101.4	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF	ON	OFF	ON	OFF
101.5	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF	ON	OFF	OFF	ON
101.6	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF	ON	OFF	OFF	OFF
101.7	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF	OFF	ON	ON	ON
101.8	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF	OFF	ON	ON	OFF
101.9	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF	OFF	ON	OFF	ON
102	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF	OFF	ON	OFF	OFF
102.1	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF	OFF	OFF	ON	ON
102.2	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF	OFF	OFF	ON	OFF
102.3	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF	OFF	OFF	OFF	ON
102.4	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF	OFF	OFF	OFF	OFF
102.5	ON	OFF	ON	ON	ON	ON		ON	ON	ON	ON	ON	ON
102.6	ON	OFF	ON	ON	ON	ON		ON	ON	ON	ON	ON	OFF
102.7	ON	OFF	ON	ON	ON	ON		ON	ON	ON	ON	OFF	ON
102.8	ON	OFF	ON	ON	ON	ON		ON	ON	ON	ON	OFF	OFF

MHz	1	2	3	4	5	6		1	2	3	4	5	6
102.9	ON	OFF	ON	ON	ON	ON		ON	ON	ON	OFF	ON	ON
103	ON	OFF	ON	ON	ON	ON		ON	ON	ON	OFF	ON	OFF
103.1	ON	OFF	ON	ON	ON	ON		ON	ON	ON	OFF	OFF	ON
103.2	ON	OFF	ON	ON	ON	ON		ON	ON	ON	OFF	OFF	OFF
103.3	ON	OFF	ON	ON	ON	ON		ON	ON	OFF	ON	ON	ON
103.4	ON	OFF	ON	ON	ON	ON		ON	ON	OFF	ON	ON	OFF
103.5	ON	OFF	ON	ON	ON	ON		ON	ON	OFF	ON	OFF	ON
103.6	ON	OFF	ON	ON	ON	ON		ON	ON	OFF	ON	OFF	OFF
103.7	ON	OFF	ON	ON	ON	ON		ON	ON	OFF	OFF	ON	ON
103.8	ON	OFF	ON	ON	ON	ON		ON	ON	OFF	OFF	ON	OFF
103.9	ON	OFF	ON	ON	ON	ON		ON	ON	OFF	OFF	OFF	ON
104	ON	OFF	ON	ON	ON	ON		ON	ON	OFF	OFF	OFF	OFF
104.1	ON	OFF	ON	ON	ON	ON		ON	OFF	ON	ON	ON	ON
104.2	ON	OFF	ON	ON	ON	ON		ON	OFF	ON	ON	ON	OFF
104.3	ON	OFF	ON	ON	ON	ON		ON	OFF	ON	ON	OFF	ON
104.4	ON	OFF	ON	ON	ON	ON		ON	OFF	ON	ON	OFF	OFF
104.5	ON	OFF	ON	ON	ON	ON		ON	OFF	ON	OFF	ON	ON
104.6	ON	OFF	ON	ON	ON	ON		ON	OFF	ON	OFF	ON	OFF
104.7	ON	OFF	ON	ON	ON	ON		ON	OFF	ON	OFF	OFF	ON
104.8	ON	OFF	ON	ON	ON	ON		ON	OFF	ON	OFF	OFF	OFF
104.9	ON	OFF	ON	ON	ON	ON		ON	OFF	OFF	ON	ON	ON
105	ON	OFF	ON	ON	ON	ON		ON	OFF	OFF	ON	ON	OFF
105.1	ON	OFF	ON	ON	ON	ON		ON	OFF	OFF	ON	OFF	ON
105.2	ON	OFF	ON	ON	ON	ON		ON	OFF	OFF	ON	OFF	OFF
105.3	ON	OFF	ON	ON	ON	ON		ON	OFF	OFF	OFF	ON	ON
105.4	ON	OFF	ON	ON	ON	ON		ON	OFF	OFF	OFF	ON	OFF
105.5	ON	OFF	ON	ON	ON	ON		ON	OFF	OFF	OFF	OFF	ON
105.6	ON	OFF	ON	ON	ON	ON		ON	OFF	OFF	OFF	OFF	OFF
105.7	ON	OFF	ON	ON	ON	ON		OFF	ON	ON	ON	ON	ON
105.8	ON	OFF	ON	ON	ON	ON		OFF	ON	ON	ON	ON	OFF
105.9	ON	OFF	ON	ON	ON	ON		OFF	ON	ON	ON	OFF	ON
106	ON	OFF	ON	ON	ON	ON		OFF	ON	ON	ON	OFF	OFF
106.1	ON	OFF	ON	ON	ON	ON		OFF	ON	ON	OFF	ON	ON
106.2	ON	OFF	ON	ON	ON	ON		OFF	ON	ON	OFF	ON	OFF
106.3	ON	OFF	ON	ON	ON	ON		OFF	ON	ON	OFF	OFF	ON
106.4	ON	OFF	ON	ON	ON	ON		OFF	ON	ON	OFF	OFF	OFF
106.5	ON	OFF	ON	ON	ON	ON		OFF	ON	OFF	ON	ON	ON
106.6	ON	OFF	ON	ON	ON	ON		OFF	ON	OFF	ON	ON	OFF

MHz	1	2	3	4	5	6		1	2	3	4	5	6
106.7	ON	OFF	ON	ON	ON	ON		OFF	ON	OFF	ON	OFF	ON
106.8	ON	OFF	ON	ON	ON	ON		OFF	ON	OFF	ON	OFF	OFF
106.9	ON	OFF	ON	ON	ON	ON		OFF	ON	OFF	OFF	ON	ON
107	ON	OFF	ON	ON	ON	ON		OFF	ON	OFF	OFF	ON	OFF
107.1	ON	OFF	ON	ON	ON	ON		OFF	ON	OFF	OFF	OFF	ON
107.2	ON	OFF	ON	ON	ON	ON		OFF	ON	OFF	OFF	OFF	OFF
107.3	ON	OFF	ON	ON	ON	ON		OFF	OFF	ON	ON	ON	ON
107.4	ON	OFF	ON	ON	ON	ON		OFF	OFF	ON	ON	ON	OFF
107.5	ON	OFF	ON	ON	ON	ON		OFF	OFF	ON	ON	OFF	ON
107.6	ON	OFF	ON	ON	ON	ON		OFF	OFF	ON	ON	OFF	OFF
107.7	ON	OFF	ON	ON	ON	ON		OFF	OFF	ON	OFF	ON	ON
107.8	ON	OFF	ON	ON	ON	ON		OFF	OFF	ON	OFF	ON	OFF
107.9	ON	OFF	ON	ON	ON	ON		OFF	OFF	ON	OFF	OFF	ON
108	ON	OFF	ON	ON	ON	ON		OFF	OFF	ON	OFF	OFF	OFF

ROHS

All components used in this apparatus are RoHS compliant and do not contain above the specified limits in any of the following restricted substances:

- Lead
- Hexavalent Chromium
- Mercury
- Cadmium
- Polybrominated Biphenyls (PBB's)
- Polybrominated Diphenylethers (PBDE's)

PRODUCT END OF LIFE

This apparatus must NOT be disposed of with other domestic waste.

We are fully committed to maintaining our responsibilities to the environment. Owners of apparatus that has reached the end of it's useful life can return it to us for recycling, recondition, reuse or proper disposal. You will be required to pay lowest cost postal service available to ship the apparatus to us. Before shipping please contact us for more important information.

DECLARATION OF CONFORMITY

AAREFF TRANSMISSION SYSTEMS SL
AVDA ANDALUCIA 1
LA ALFOQUIA-ZURGENA
04661
ALMERIA
ESPANA.

Paul Hollings

In Zurgena, Almería, Spain on 01 of November 2011, the equipment:

Original and Genuine Veronica 1W PLL (1WPLLM) meets the essential requirements of the R&TTE directive

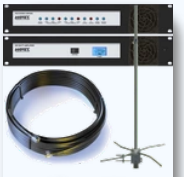
ETS 300 384/A1 ed.1 (1997-2002) Broadcasting Systems Transmitters FM sound broadcasting in very high frequency (VHF)

It should be noted that this cannot be legally used as a standalone unit. This sub assembly is designed and intended to be installed in a fully screened EMC enclosure with or without other sub assemblies. Any final design should be further tested to verify it meets the essential requirements of:

EN 301 489-11 V1.3.1 (2006-05) Electromagnetic compatibility and Radio Spectrum Matters (EMC) for radio equipment and services. Part 11: Specific conditions for transmitting the terrestrial sound broadcasting service.

2006/95/EC DIRECTIVE 2006/95/EC of 12 December 2006 on electrical equipment designed for use within certain voltage limits.

0.066085100174


Complete Systems


FM Transmitters

Studio Equipment


Kits and Modules


Antennas Filters


Other Products

0.066085100174