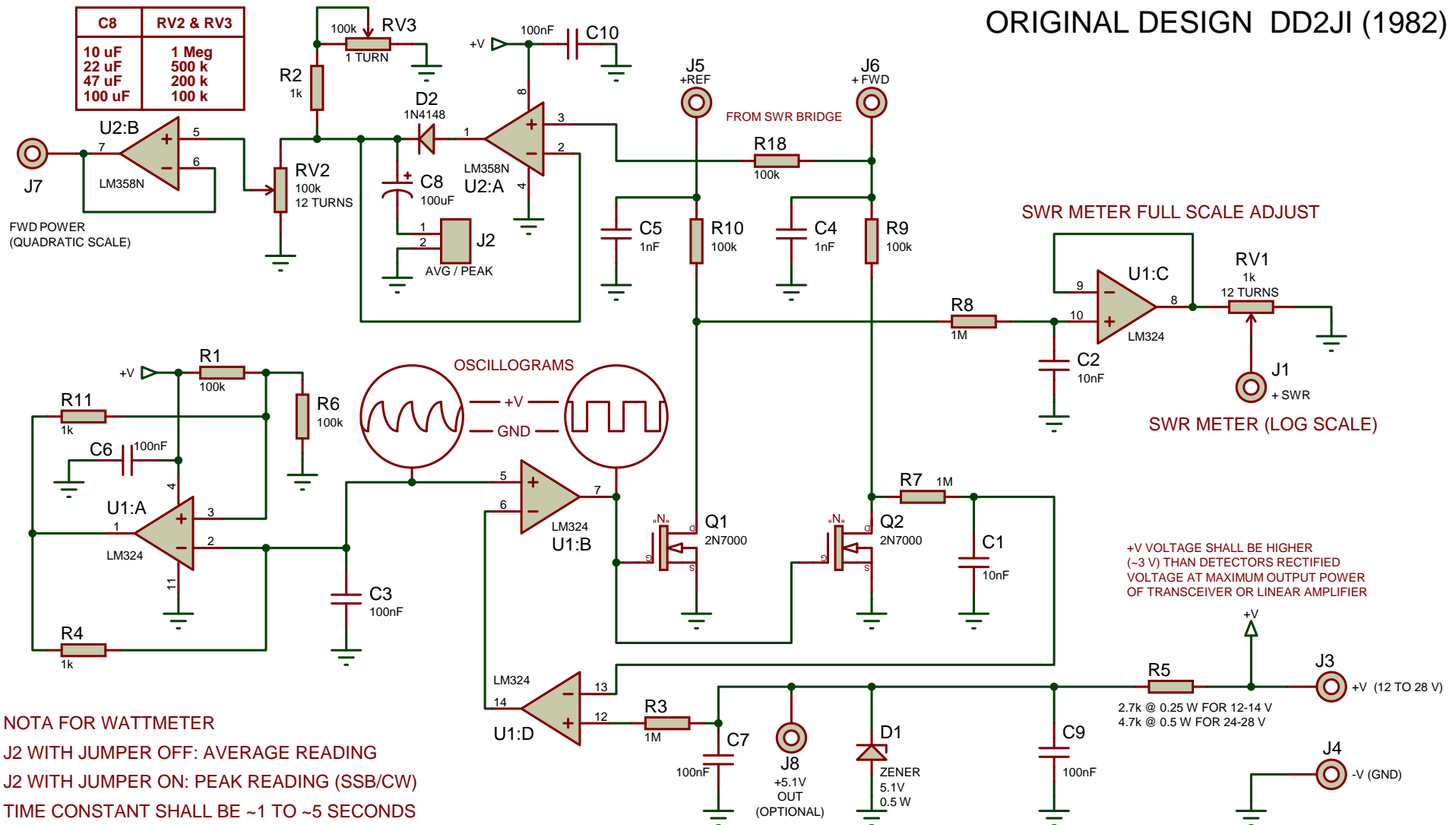


ORIGINAL DESIGN DD2JI (1982)



NOTA FOR WATTMETER

J2 WITH JUMPER OFF: AVERAGE READING

J2 WITH JUMPER ON: PEAK READING (SSB/CW)

TIME CONSTANT SHALL BE ~1 TO ~5 SECONDS

(T BEING = RC >> 50 k // 100 uF = 5 SECONDS)

D2: 1N5711, 1N4148, 1N914 OR EQUIVALENT

Q1, Q2: 2N7000, VN10KM, ZVN4306 ETC....

U1: MUST BE LM224N OR LM324N

U2: MUST BE LM 258N OR LM358N

ALL 1 MEGHOM & 100 k RESISTORS: 1%

C1 & C2: <10%, OR PAIRED IF POSSIBLE.

SCHEMATIC DIAGRAM AUTOMATIC SWR & PEAK POWER METERS

Rev 7: Modified U1C & RV1 wiring, & Zener value.

DOC N°: AMATEUR RADIO

BY: f1frv@sfr.fr

<http://f1frv.free.fr>

DATE: 23/09/19

REV: 7

PAGE:1/2

Bill Of Materials

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Design: AUTOMATIC SWR & PEAK POWER METER

Doc. no.: AMATEUR RADIO

Revision: 7

Author: flfrv@sfr.fr

Created: 23/01/04 Modified: 13/09/19

QTY	PART-REFS	VALUE	PACKAGE
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Resistors			

5	R1,R6,R9,R10,R18	100k 1%	RES 0.25W
3	R2,R4,R11	1k	RES 0.25W
3	R3,R7,R8	1M 1%	RES 0.25W
1	R5	2.7k (for 12-14 V supply)	RES 0.25W
Capacitors			

2	C1,C2	10nF	PITCH 2.54
5	C3,C6,C7,C9,C10	100nF	PITCH 2.54
2	C4,C5	1nF	PITCH 2.54
1	C8	100uF	PITCH 2.54
Integrated Circuits			

1	U1	LM224	DIL14
1	U2	LM358N	DIL08
Transistors			

2	Q1,Q2	2N7000	TO92
Diodes			

1	D1	ZENER 5.1 V 500 mW	DO35
1	D2	1N4148	DO35
Miscellaneous			

4	Jx	Terminal blocks	CONN-VIS2
1	J2	AVG / PEAK	CONN-SIL2
1	RV1	1k	CERMET3266W
1	RV2	100k	CERMET3266W
1	RV3	100k	POT 1 TURN

AUTOMATIC SWR METER & PEAK WATTMETER (AVERAGE WATTMETER BY REMOVING J2)

DATE: 08/2019 REV: 7
BY: F1FRV@SFR.FR
DOC Nr: AMATEUR RADIO

AUTOMATIC SWR METER ADJUSTEMENT PROCEDURE

CONNECT CIRCUIT TO DC SUPPLY (12 TO 28 V)
CONNECT TOGETHER J5 AND J6 TO AN OTHER TEST
SUPPLY, MAX VOLTAGE = DC SUPPLY - 3 VOLTS
ADJUST RV1 FOR SWR METER FULL SCALE

DISCONNECT J5 AND J6 FROM TEST SUPPLY

WITH THE SAME TEST DC SUPPLY, APPLY ANY DC VOLTAGE
(MAXI = DC SUPPLY - 3 V) ON J6 AND HIS EXACT HALF ON J5
METER SHALL INDICATE PRECISELY MID SCALE (SWR = 3)

METER INDICATES RATIO OF FWD/REF VOLTAGES
TO HAVE SWR INDICATION, USE LOGARITHMIC METER SCALE

YOU CAN NOW CONNECT TO YOUR SWR BRIDGE AND ENJOY

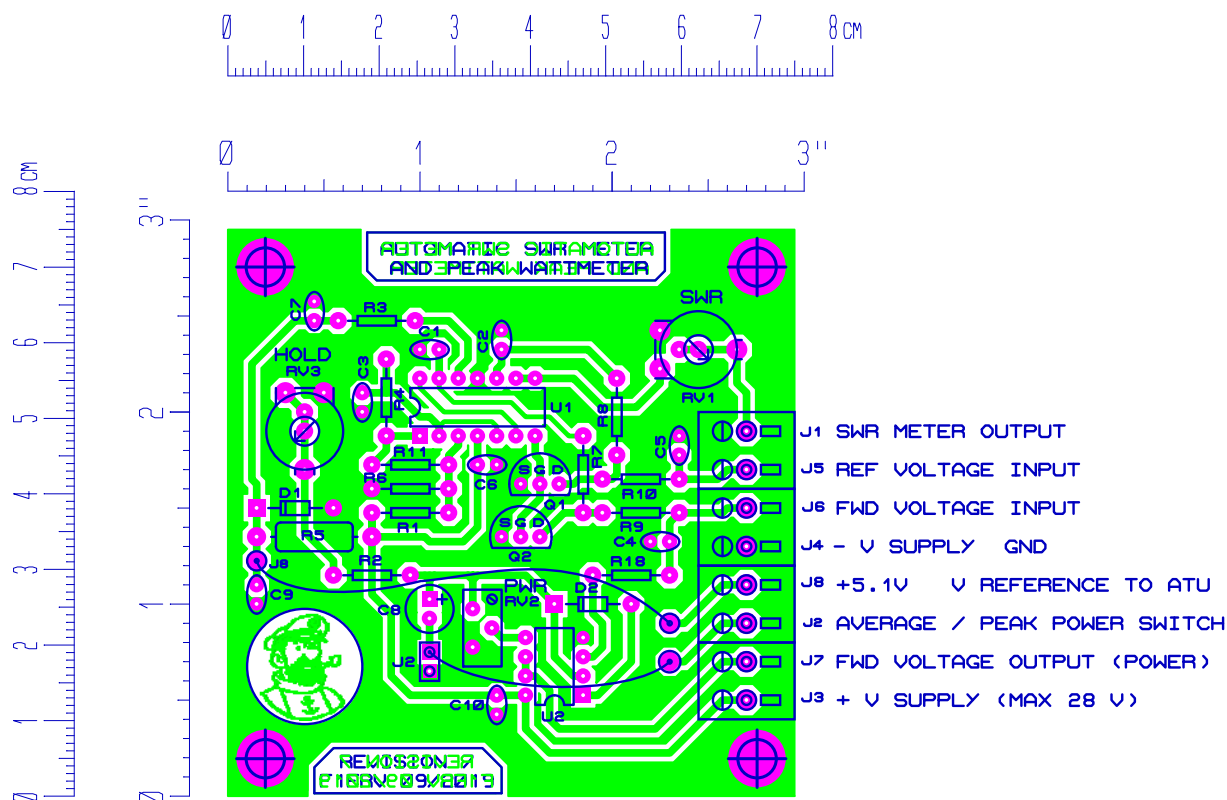
ADJUST RV2 FOR POWER METER SCALE, BY COMPARISON WITH
AN ACURATE POWER METER ON 50 OHMS DUMMY LOAD
TO HAVE PWR INDICATION, USE QUADRATIC METER SCALE
WITH 25% AT MID SCALE AND 100% FULL SCALE

TO DRAW YOUR OWN METER SCALE, YOU CAN USE F5BU's
FREEWARE "GALVA" AT: <http://f1frv.free.fr> PAGE "LINKS"

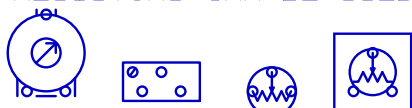
THAT'S ALL FOX !!!!

(AVERAGE WATTMETER BY REMOVING J2 JUMPER)

PCB SINGLE SIDE: 75 x 75 mm (2.95" x 2.95") WITH 106 HOLES
FIXATION: 4 x 3.2 mm DIA, AXIS 65 x 65 mm (2.56" x 2.56")

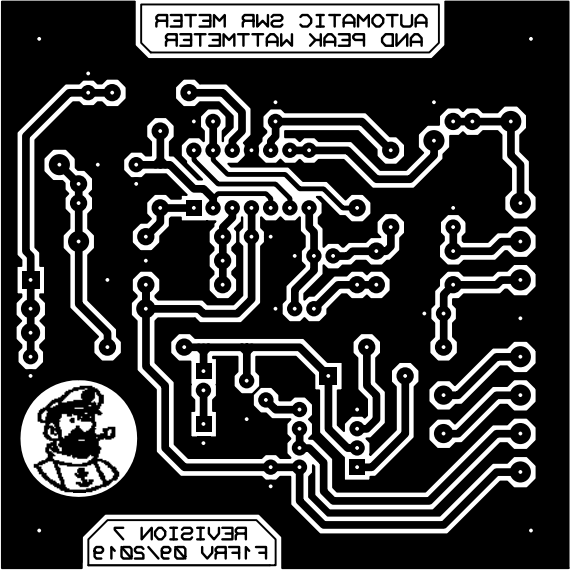


THESE TYPES OF VARIABLE
RESISTORS CAN BE USED

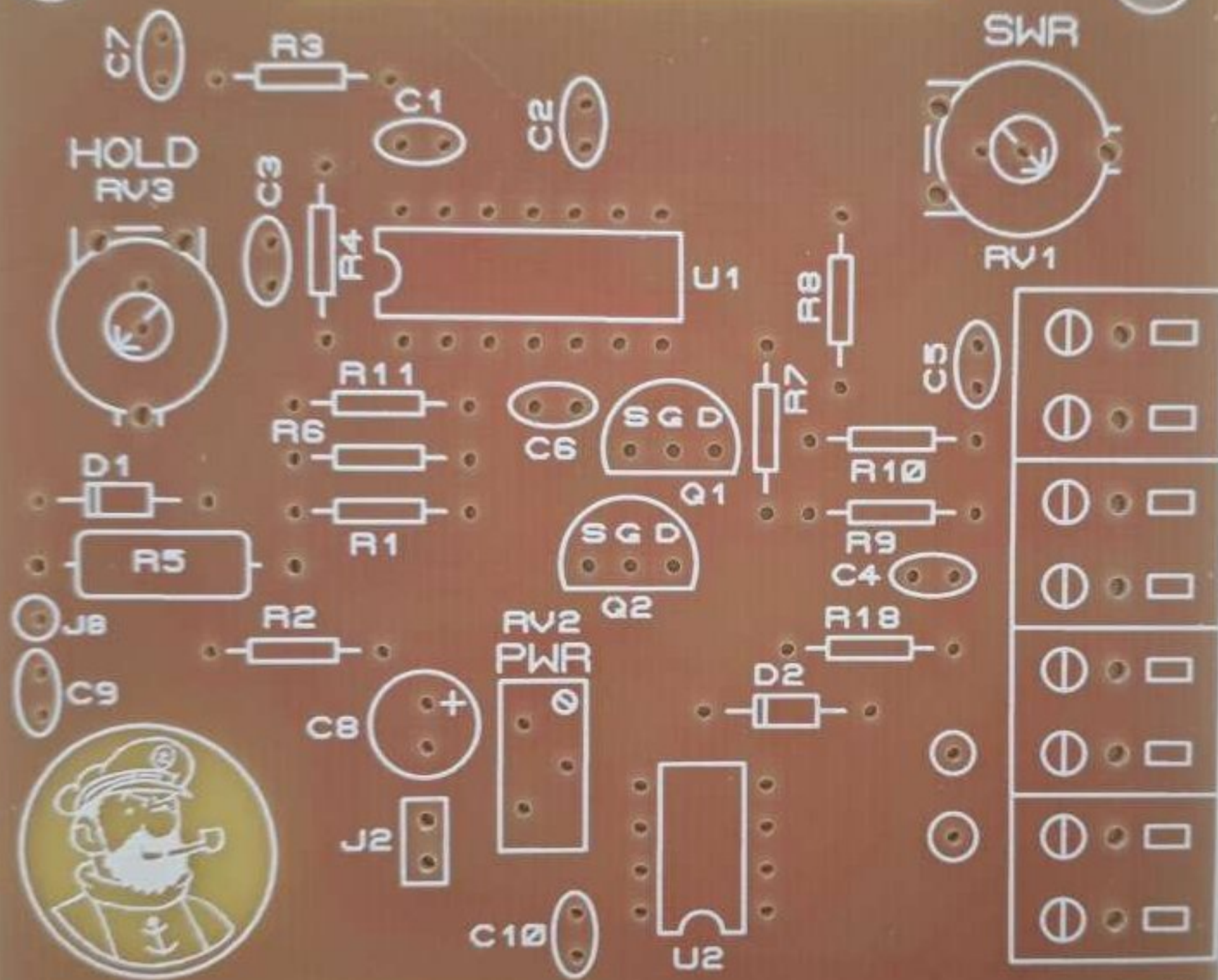


J2 & J8 WIRINGS ARE OPTIONAL
USE 12 TURNS FOR RV1 & RV2

REV 7: 08/2019 Modified SWR output arrangement

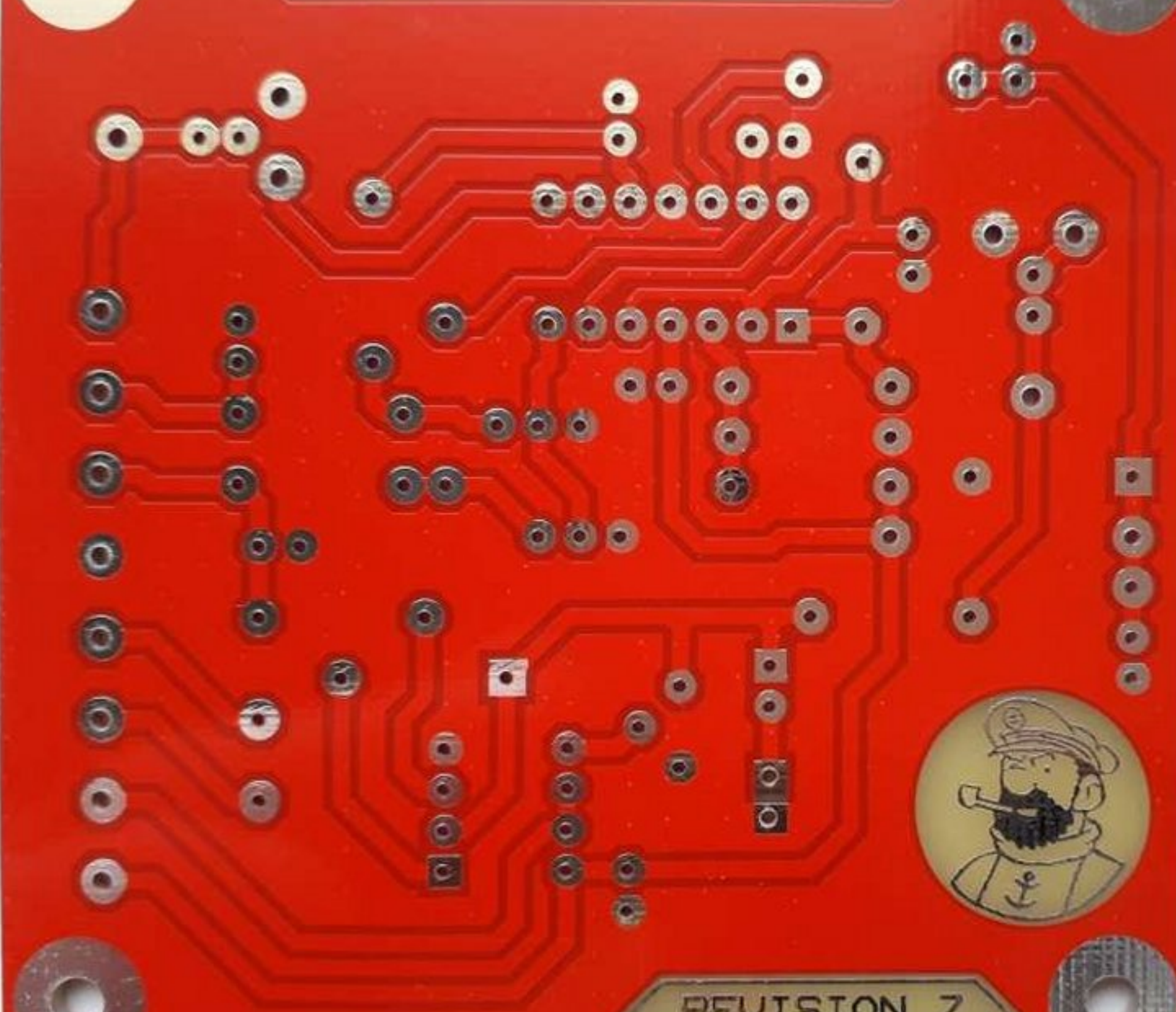


AUTOMATIC SWR METER
AND PEAK WATTMETER



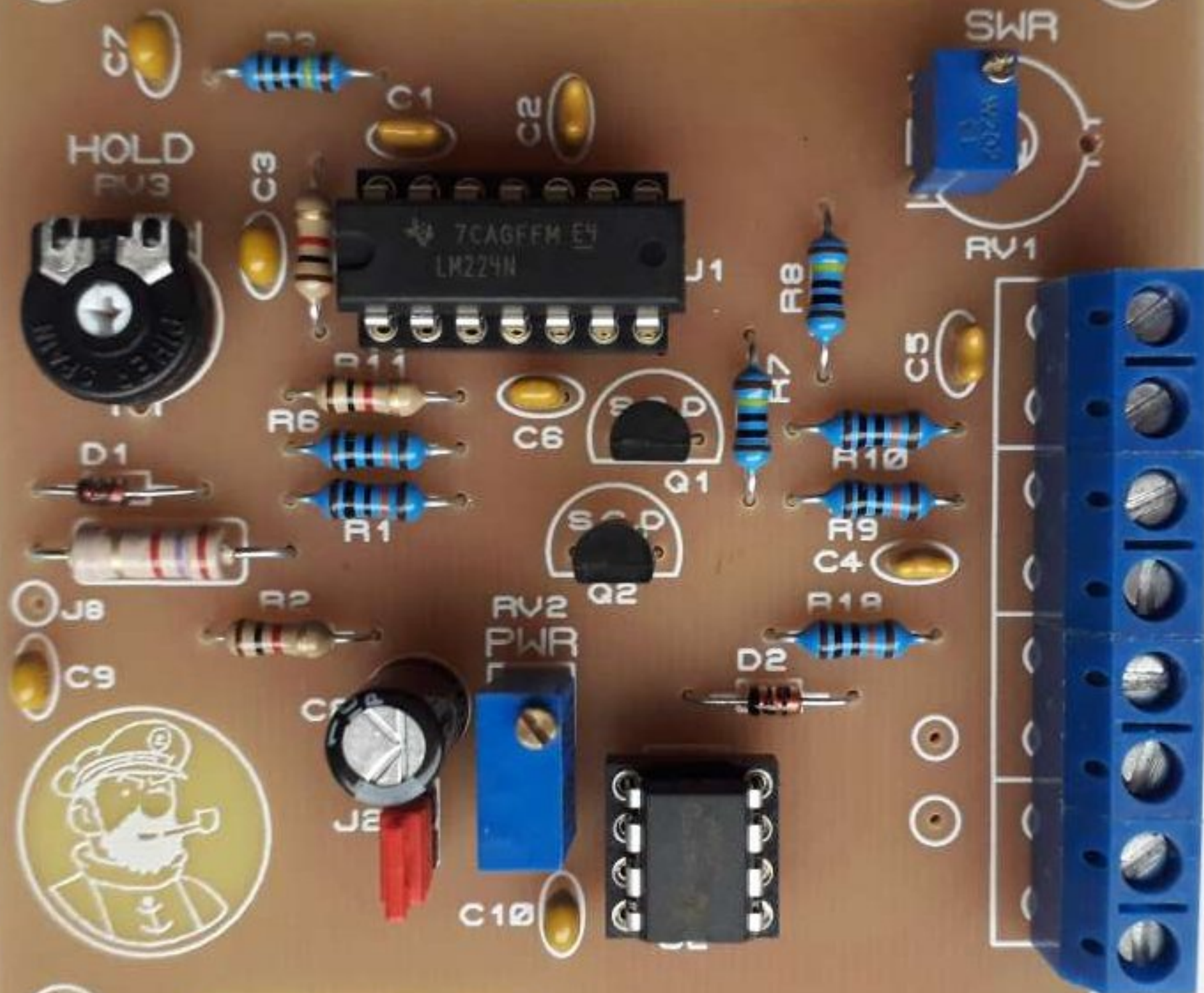
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