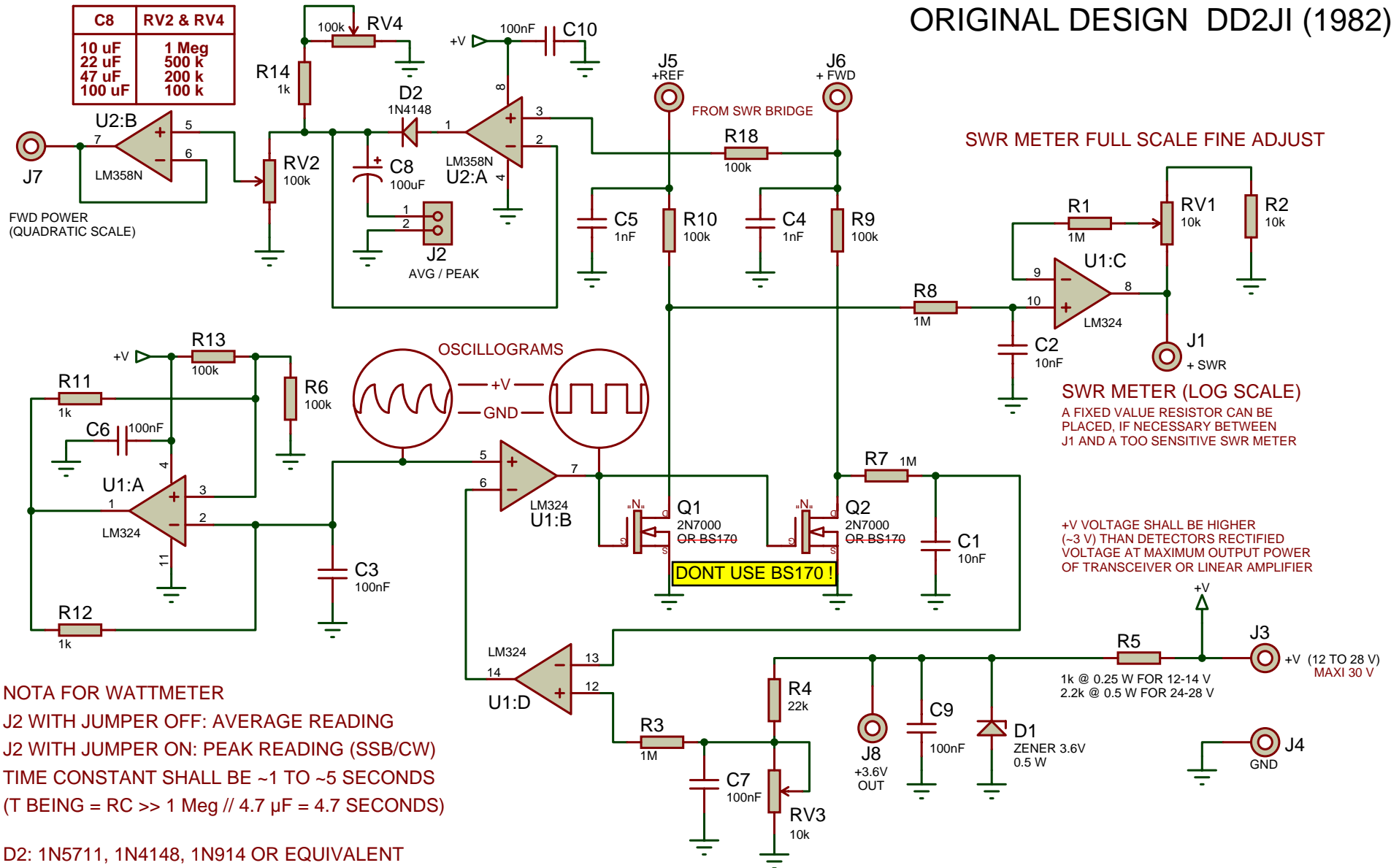
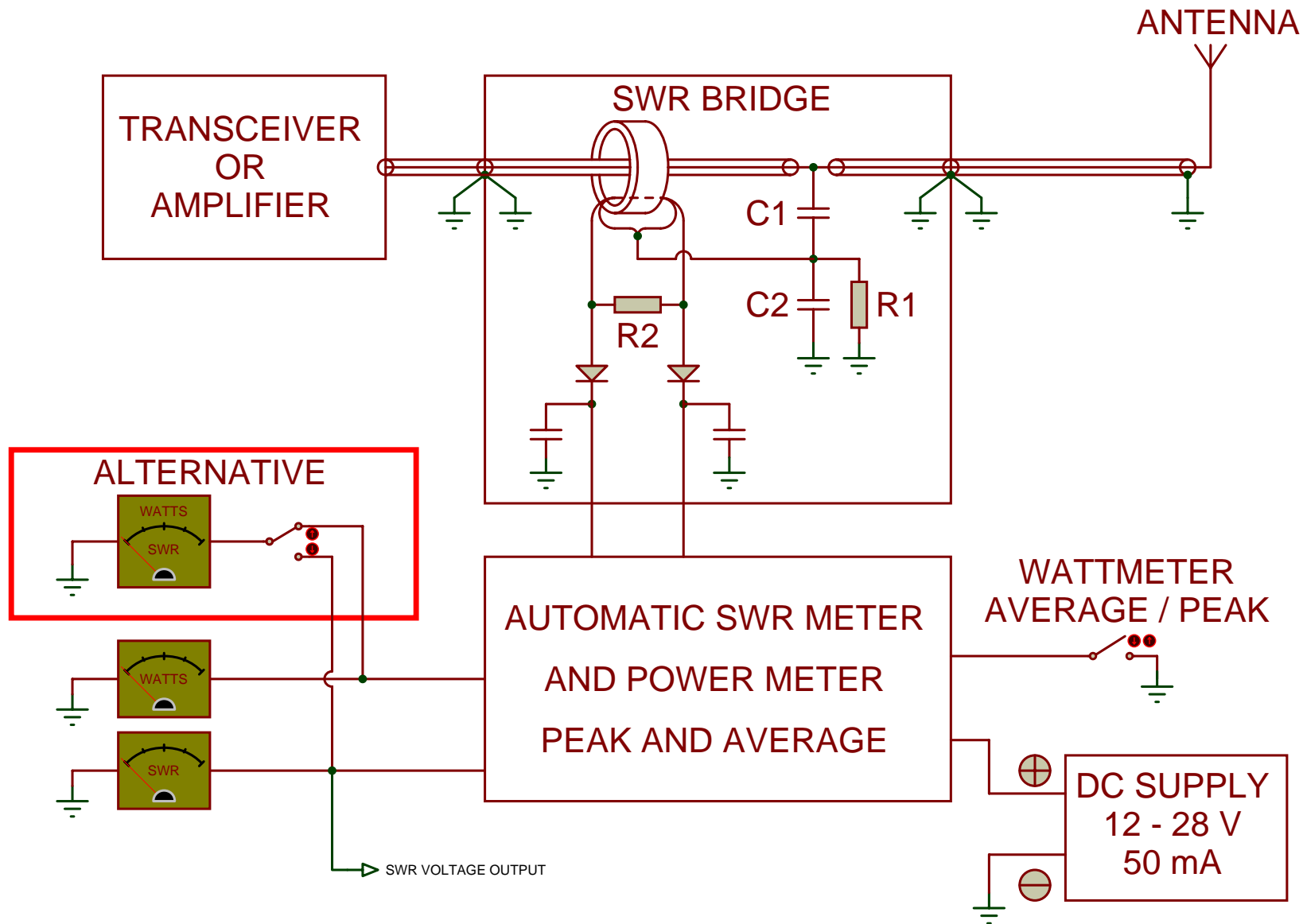


# ORIGINAL DESIGN DD2JI (1982)



SCHEMATIC DIAGRAM  
AUTOMATIC SWR & POWER METER

DOC N°: AMATEUR RADIO  
BY: f1frv@sfr.fr <http://f1frv.free.fr>  
DATE: 10/05/13 REV: 6 PAGE: 1/2



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

DATE: 05/2013 REV: 6  
BY: F1FRV@SFR.FR  
DOC Nr: AMATEUR RADIO

## AUTOMATIC SWR METER ADJUSTEMENT PROCEDURE

CONNECT CIRCUIT TO DC SUPPLY (13 TO 28 V)  
CONNECT TOGETHER J5 AND J6 TO AN OTHER TEST  
SUPPLY, MAX VOLTAGE = DC SUPPLY - 3 VOLTS  
ADJUST RV1 & RV3 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

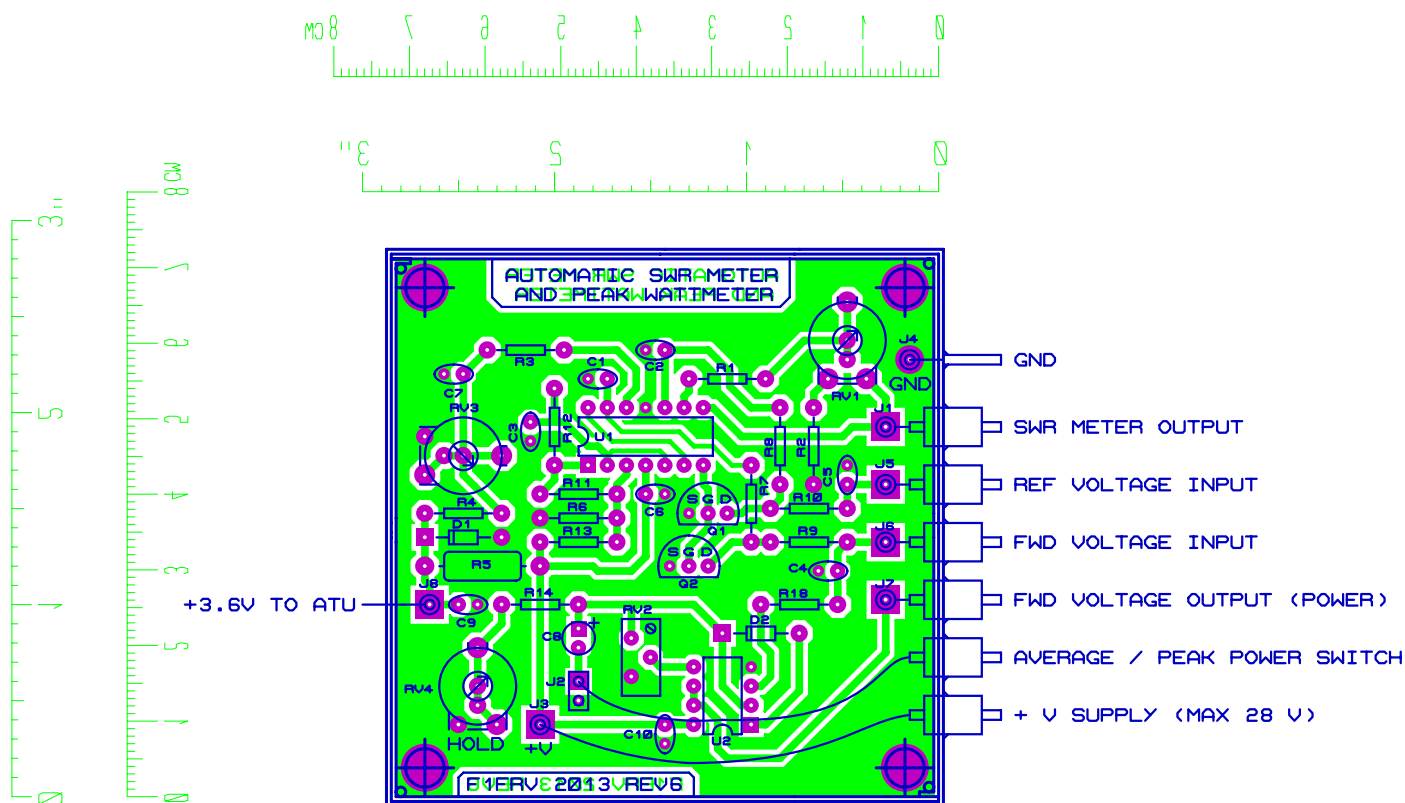
ADJUST RV2 FOR POWER METER SCALE, BY COMPARISON WITH  
AN ACURATE POWER METER ON 50 OHMS DUMMY LOAD  
TO HAVE PWR INDICATION, USE QUADRATIC METER SCALE  
WITH 25% AT MID SCALE AND 100% FULL SCALE

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

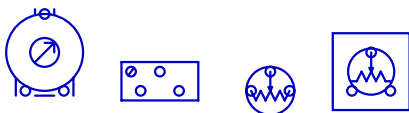
THAT'S ALL FOX !!!!

(AVERAGE WATTMETER BY REMOVING J2)

PCB SINGLE SIDE: 71 x 71 mm (2.8" x 2.8") WITH 113 HOLES  
TINY BOX SCHUBERT 74x74x30 mm



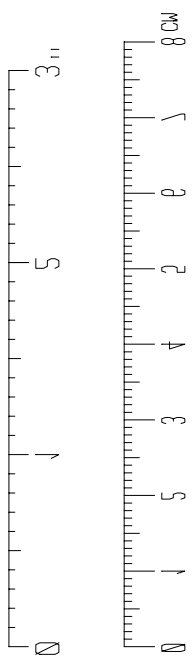
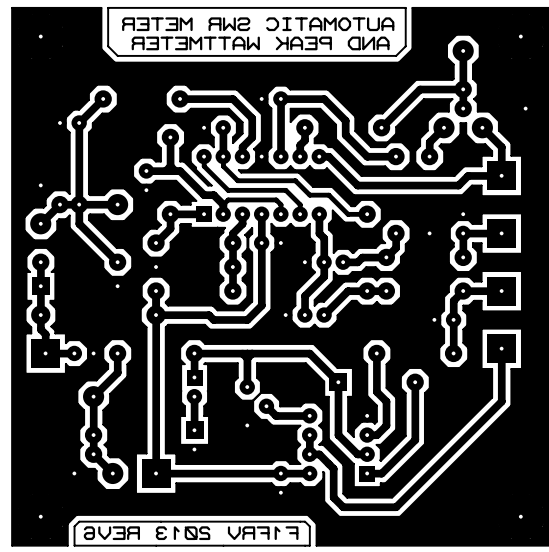
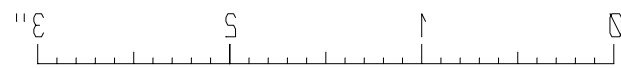
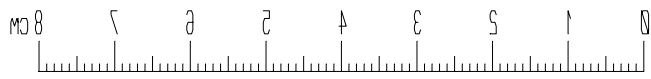
THESE TYPES OF VARIABLE  
RESISTORS CAN BE USED



USE PREFERABLY 5 OR 10 TURNS FOR RV2

FED THRU CAPACITORS 1nF  
FOR BOX INLETS/OUTLETS





# BILL OF MATERIALS

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Design: AUTOMATIC SWR & POWER METER  
 Doc. no.: AMATEUR RADIO  
 Revision: 6  
 Author: flfrv@sfr.fr  
 Created: 06/11/04 Remplacé BS170 par 2N7000

QTY	PART-REFS	VALUE	PACKAGE
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Resistors			
-----			
4	R1,R3,R7,R8	1M	0.25W
1	R2	10k	0.25W
1	R4	22k	0.25W
4	R5,R11,R12,R14	1k	0.25W
5	R6,R9,R10,R13,R18	100k	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 16V	PITCH 2.54
Integrated Circuits			
-----			
1	U1	LM324	DIL14
1	U2	LM358N	DIL08
Transistors			
-----			
2	Q1,Q2	2N7000	TO92
Diodes			
-----			
1	D1	BZX79C3V6	DO35
1	D2	1N4148	DO35
Variable Resistors			
-----			
2	RV1,RV3	10k	1 TURN
1	RV2	100k	CERMET3266W
1	RV4	100k	1 TURN