

# POWER & SWR CURVES LINEARISATION & AUTOMATIC SWR TO BE USED DOWNSTREAM SWR BRIDGE

DATE: 04/2025 REV: 2  
BY: f1frv@sfr.fr  
DOC Nr: AMATEUR RADIO

REV 2: REPLACED OLD R4 820 OHMS BY A 15 V ZENER. R13 BECOMES R4  
PCB DUAL SIDE WITH METALLISED THRU HOLES & SOLDER RESIST  
DIMENSIONS: 71.12 x 71.12 mm (2.8" x 2.8")  
FIXATION: 4 HOLES 3.2 mm DIA, AXIS 64 x 64 mm (2.52" x 2.52")  
PCB CAN BE SOLDERED INSIDE A "SCHUBERT" TINY BOX HEIGHT 30 mm

## AUTOMATIC SWR METER ADJUSTEMENT PROCEDURE

CONNECT CIRCUIT TO DC SUPPLY (12 TO 28 V)

WITH OTHERS TEST DC SUPPLIES, OR BATTERIES, & POTENTIOMETERS,

APPLY ANY DC VOLTAGE  $> \sim 0.2$  V & MAXI = DC SUPPLY - 2 V

EXAMPLE: 5V, ON J3 AND HIS EXACT HALF (2.5V) ON J4

ADJUST RV2 FOR METER ON J7 AT 3 VOLTS (SWR = 3)

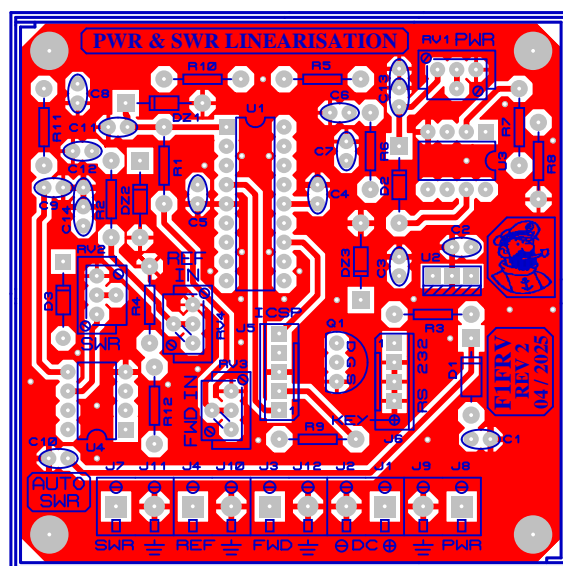
THEN, APPLY ANY DC VOLTAGE  $> \sim 0.2$  V & MAXI = DC SUPPLY - 2 V

EXAMPLE: 5V, ON J3 AND CONNECT J4 AT GROUND

YOU SHOULD SEE 1 VOLT ON J7 (SWR = 1)

YOU CAN NOW CONNECT TO YOUR SWR BRIDGE AND ENJOY

RF POWER ADJUSTMENT MUST BE MADE IN STEADY CW CARRIER OR FM.  
ADJUST RV1 FOR POWER METER SCALES, BY COMPARISON WITH AN ACCURATE  
POWER METER ON 50 OHMS DUMMY LOAD, TO HAVE PWR INDICATION ON J8 IN kW.  
SELECT VALUE FOR C12 & C13, TO HAVE ~STABLE METER DISPLAY WITH  
PULSED CW, OR SSB, AND NOT TOO LONG NEEDLE DECREASE TIME AT RF  
TRANSMISSION STOP WHEN PTT IS OFF.



SWR OUTPUT 0-10 V  
GND  
REF PWR INPUT  
GND  
FWD PWR INPUT  
GND  
-V SUPPLY IN  
+V SUPPLY IN  
GND  
PWR METER OUTPUT

FOR USE WITH SCHUBERT BOX 74 x 74, REPLACE SCREWED TERMINAL BLOCS  
BY PRESS FIT PINS "VERO" DIA 1.32 mm FOR WIRES SOLDERING  
OTHER POSSIBILITY: USE SCHUBERT BOX 74 x 111

J5, J6, R3, DZ3, Q1 ARE ONLY NEEDED FOR DEBUGGING.  
THEY ARE NOT NEEDED & NOT INSTALLED FOR NORMAL OPERATION.