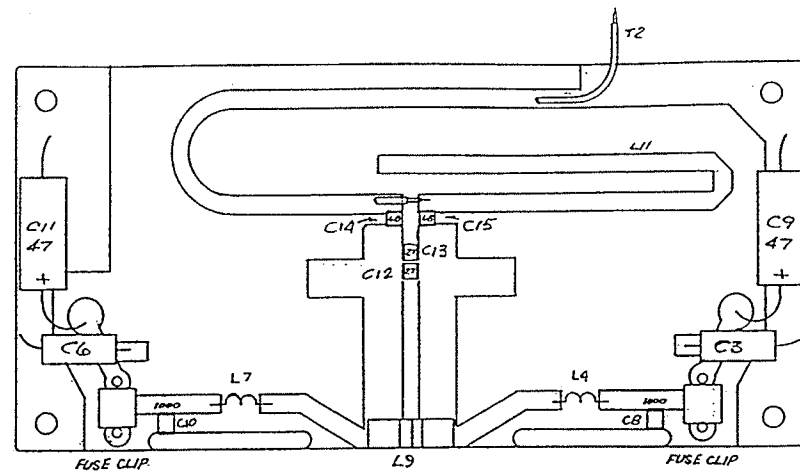


1. LOW POWER TEST - 1/P LEVEL 0dBm TO MEASURE GAIN & RESPONSE ACROSS BAND
2. HIGH POWER TEST - LED ADJUSTED FOR GAIN
  - CALCULATE GAIN
  - CUTBACK FOR VSWR PROTECTION
  - CALCULATE  $\eta$  EFFICIENCY =  $\frac{RF\ OUT}{DC\ IN} \approx 55\%$

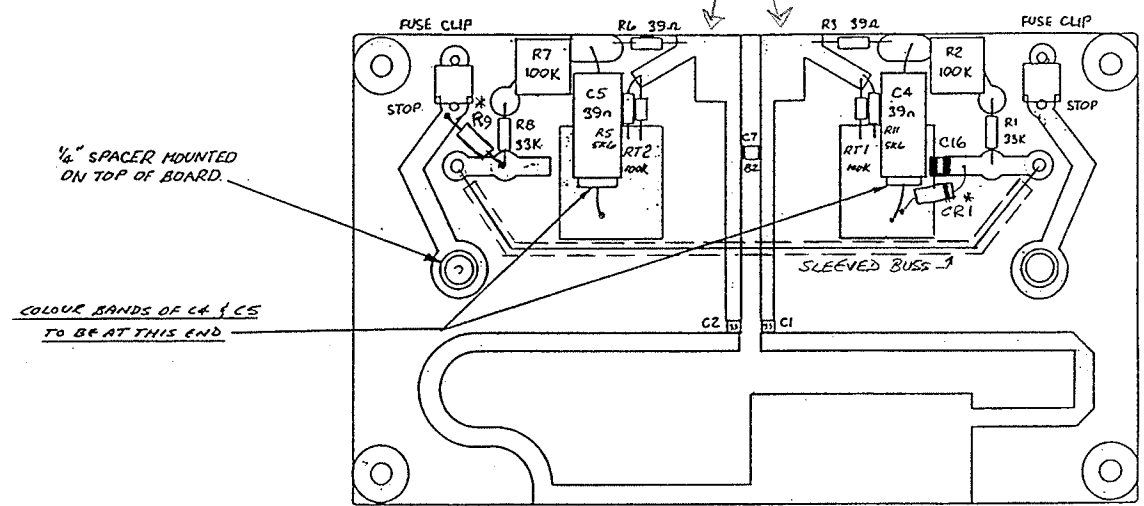
- TURN R2/R7 TO MAX WHEN REPAIRING FETS
- THEN ADJ BIAS.
- SHORT GATES OF OPPOSITE FET TO GROUND WHEN MEASURING 500 mA CURRENT OTHERWISE L9 PROVIDES BIAS & MEASUREMENT NOT ACCURATE.
- TERMINATE RF INPUT & OUTPUT FOR MEASUREMENTS



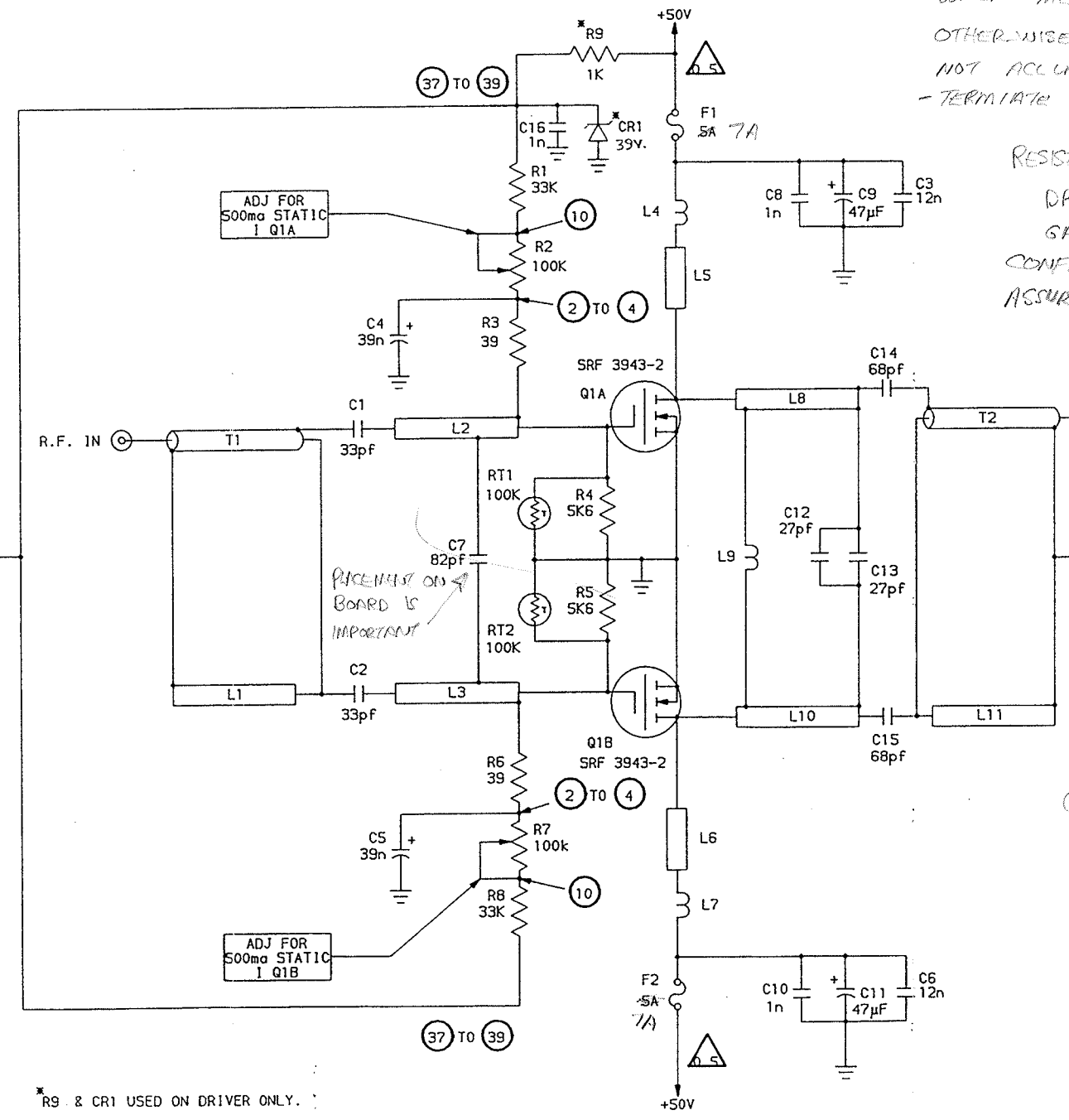
OUTPUT PC BOARD  
Drawing 30C1002

\*\* TO VSWR BOARD  
39V

SHORT THIS POINT FOR BIAS ADJUSTMENT



INPUT PC BOARD  
Drawing 30C1003



\* R9 & CR1 USED ON DRIVER ONLY.  
\*\* PA ONLY.

SOURCE GROUND  
N-CHANNEL  
GATE INSULATED FETS  
OPERATE IN ENHANCED MODE  
+ BIAS FOR CONDUCTION  
CLASS AB, QUIESCENT CURRENT 500 mA

RESISTANCE VALUES TO GROUND  
DRAIN 10K $\Omega$  MINIMUM  
GATE 9.5K $\Omega$  MINIMUM  
CONFIRM WITH BIAS ADJUSTMENTS  
ASSURE NO CAPACITORS SHORTED

RT1 & RT2 FOR TEMP COMPENSATION

L9 FOR HIGH BAND ONLY  
ADDS  $\approx$  1-2 dB GAIN  
LOOP AT OUTPUT OF Q1

Q1 MOTOROLA NUMBER MRF-151

ALL PA FUSES ARE 7A

○ DENOTES DC VOLTAGE UNDER STATIC CONDITIONS FOR Q1A AND Q1B  
△ DENOTES BIASING OF Q1A AND Q1B SET TO 0.5 AMPS BY ADJUSTMENTS OF R2 AND R7

ASSEMBLY & SCHEMATIC DIAGRAMS,  
1 kW HB RF MODULE SINGLE STAGE,  
Dwgs 30C1002 rev 0, 30C1003 rev 7,  
and Dwg 30C1000 rev 7.

1. PROVIDES HARD PLUG-IN FACILITY
2. MONITORS GAIN
3. VSWR PROTECTION
4. DEFEATS VSWR FOR SHORT DURATION TO ENABLE MODULE TO PRODUCE POWER WHEN PLUGGED IN.

R21 Adj AT FACTORY - 50V @ 70A REQUIRED  
 - 600 W 50-5L LOAD  
 - COOLING FOR MODULE  
 - TAPWAY METERS AT I/P & O/P

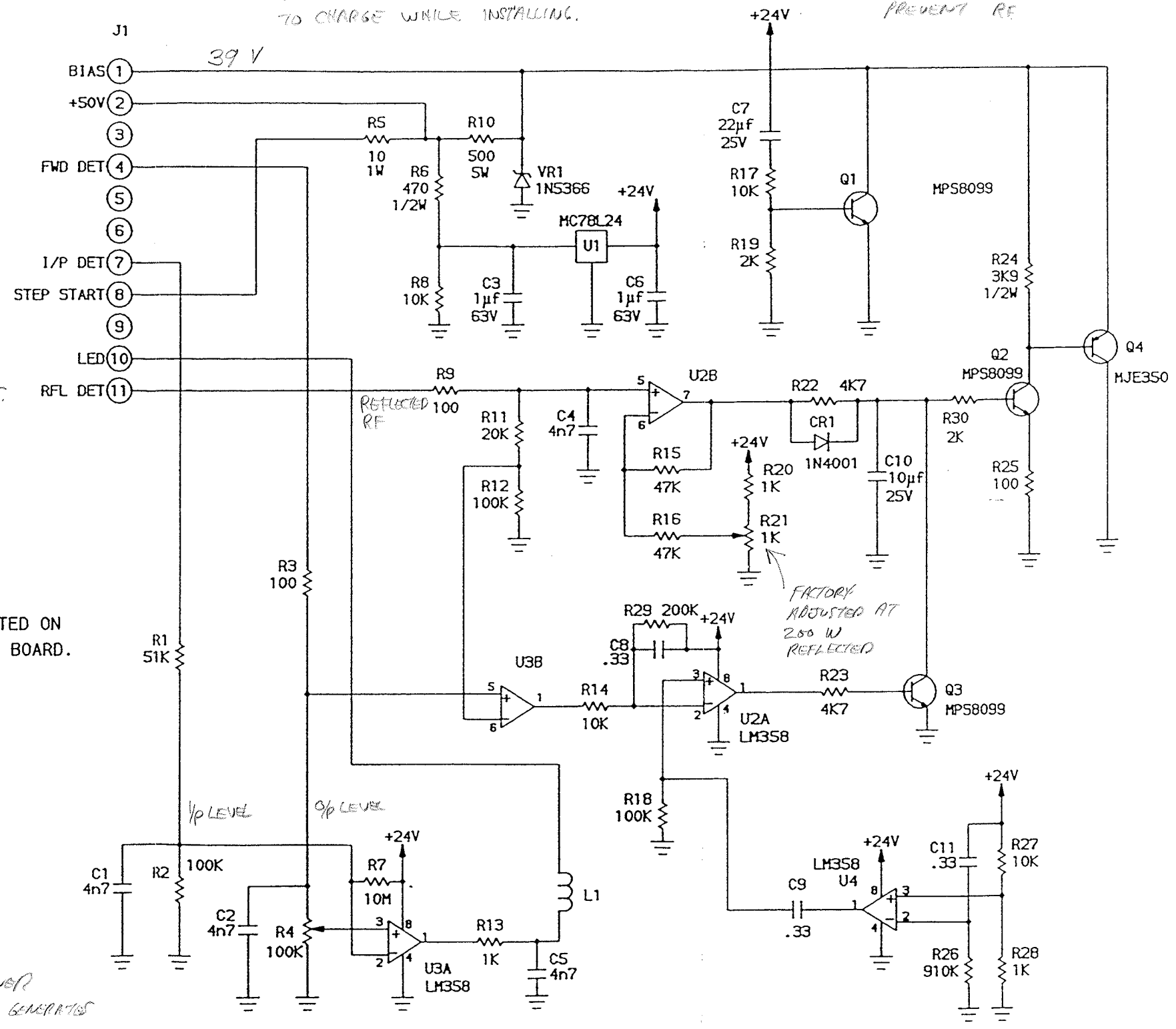
Adj  $\frac{1}{2}$  FOR 200 W RF OUT. OPEN O/P LOAD

SET R21 TO REDUCE POWER SO FURTHER INPUT INCREASE DOES NOT DEVELOP FURTHER O/P

\*NOT RECOMMENDED FOR FIELD ADJUSTMENTS

R5 LIMITS BIAS CURRENT  
 + ALLOWS CAPS ON AMP MODULES TO CHARGE WHILE INSTALLING.

Q1 CONTROLLED BY C7, R17, R19  
 MOMENTARILY GROUND BIAS RAIL DURING MODULE INSERTION TO PREVENT RF



SOLDER THESE 2 SPACERS  
 UNDERSIDE ONLY.  
 DO NOT SOLDER  
 OTHER 2 SPACERS.

HIGH REF PWR CAUSES U2B TO GO HIGH  
 Q2 & Q4 TURN ON & REDUCE 39V BIAS.

NOTE-Q4 MOUNTED ON  
 UNDERSIDE OF BOARD.

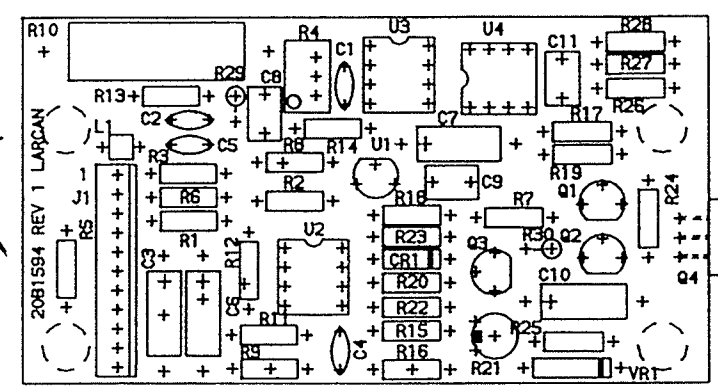
FACTORY  
 ADJUSTED AT  
 250 W  
 REFLECTED

1/2 LEVEL

O/P LEVEL

Adjust R4 to GET LOW AT O/P U3A TO  
 EXTINGUISH LED

REMOVE TWO FUSES & SET FOR LED OFF  
 USED TO INDICATE TWO GATE FAILURES  
 OR ONE TOTAL TRANSISTOR FAILURE



**ASSEMBLY**

WHEN INSTALLING MODULE, REFLECTED RF IS PRESENT FROM OUTPUT COMBINER  
 THIS WILL TURN OFF MODULE THROUGH Q2 & Q4, TO PREVENT THE U4 GENERATES  
 DISABLE SIGNAL & SENT VIA U2 TO Q3. THIS TURNS OFF Q2 & Q4.  
 IN CASE OF REAL PROBLEM DURING DISABLE PULSE U3B OVERRIDES & SHUTS  
 OFF MODULE.

**ASSEMBLY & SCHEMATIC DIAGRAM,  
 1 kW MODULE VSWR CONTROL PCB,  
 Drawings 20B1594 sh 1 rev 1,  
 and 30C1418 rev 4.**