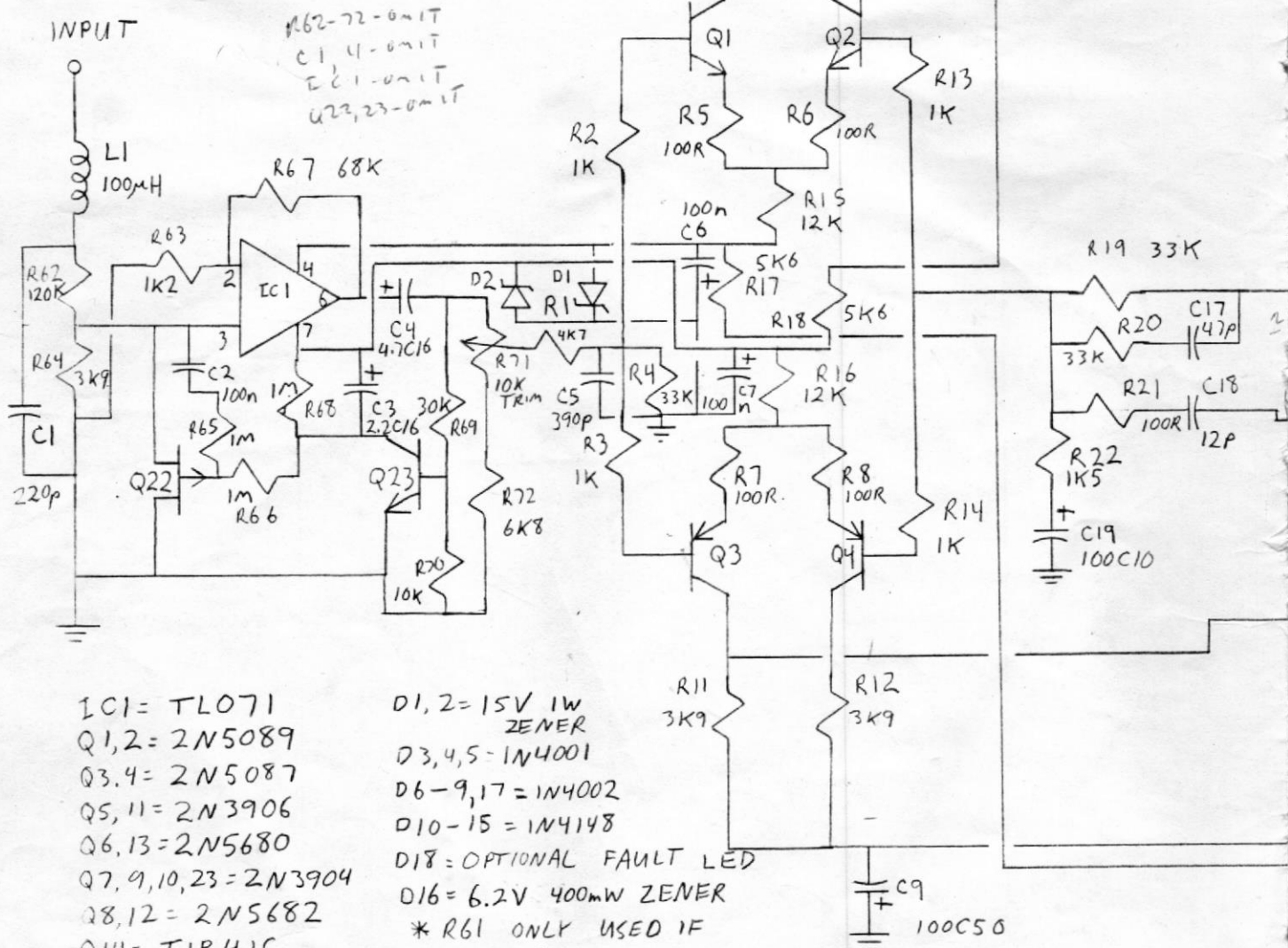


# UPA-2 POWER AMPLIFIER

DRAWN AUG. 2, 1982

David Frase

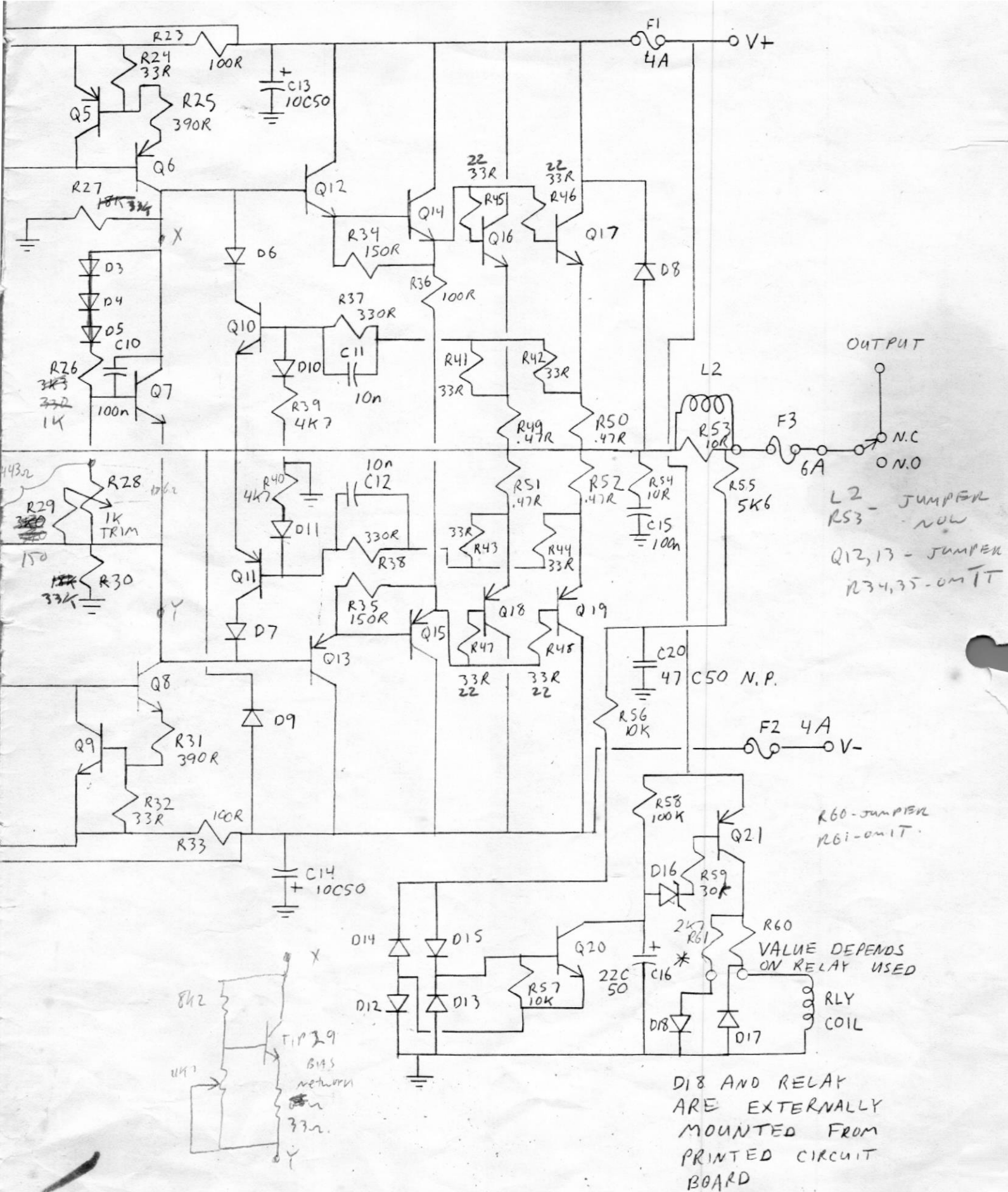
FRASER ELECTRONICS  
WEST VANCOUVER, B.C.



IC1 = TL071  
 Q1,2 = 2N5089  
 Q3,4 = 2N5087  
 Q5,11 = 2N3906  
 Q6,13 = 2N5680  
 Q7,9,10,23 = 2N3904  
 Q8,12 = 2N5682  
 Q14 = TIP41C  
 Q15 = TIP42C  
 Q16,17 = MJ15015  
 Q18,19 = MJ15016  
 Q20 = 2N3568  
 Q21 = TIP30A  
 Q22 = 2N4360

D1,2 = 15V 1W ZENER  
 D3,4,5 = 1N4001  
 D6-9,17 = 1N4002  
 D10-15 = 1N4148  
 D18 = OPTIONAL FAULT LED  
 D16 = 6.2V 400mW ZENER  
 \* R61 ONLY USED IF  
 LED (D18) IS USED

R29 - WITH 8 OHM LOAD CONNECTED  
 AND INPUT SHORTED - SET FOR  
 .5mV TO 1mV ACROSS R49 OR R51  
 R71 - WITH 4 OR 8 OHM LOAD CONNECTED  
 DEPENDING ON APPLICATION FEED A  
 1KHZ SINE WAVE OF 1.5 TO 2.5  
 VOLTS RMS TO THE INPUT. SET  
 R71 SO THAT THE OUTPUT IS  
 CLIPPED VERY SLIGHTLY AND THE  
 BACK OFF THE SETTING SO THAT  
 THE CLIPPING JUST DISAPPEARS.



D18 AND RELAY  
 ARE EXTERNALLY  
 MOUNTED FROM  
 PRINTED CIRCUIT  
 BOARD