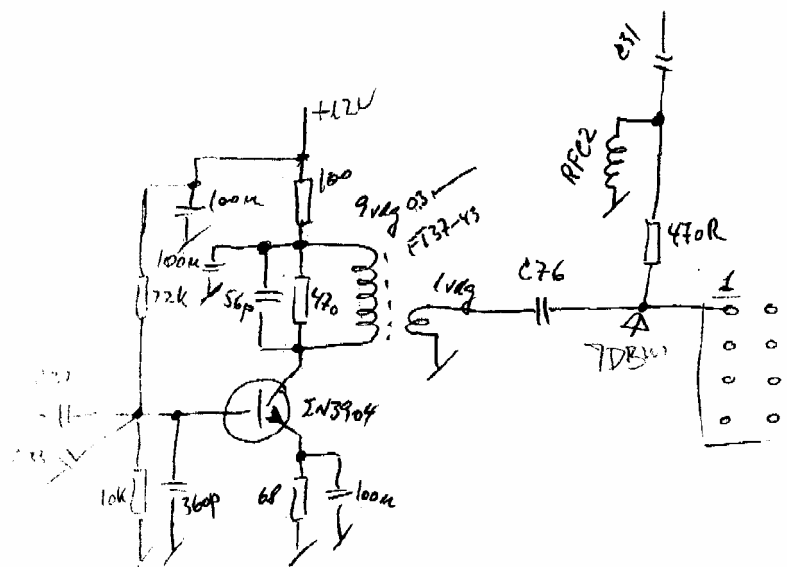


TRANSMIT EXCITER

Corrections

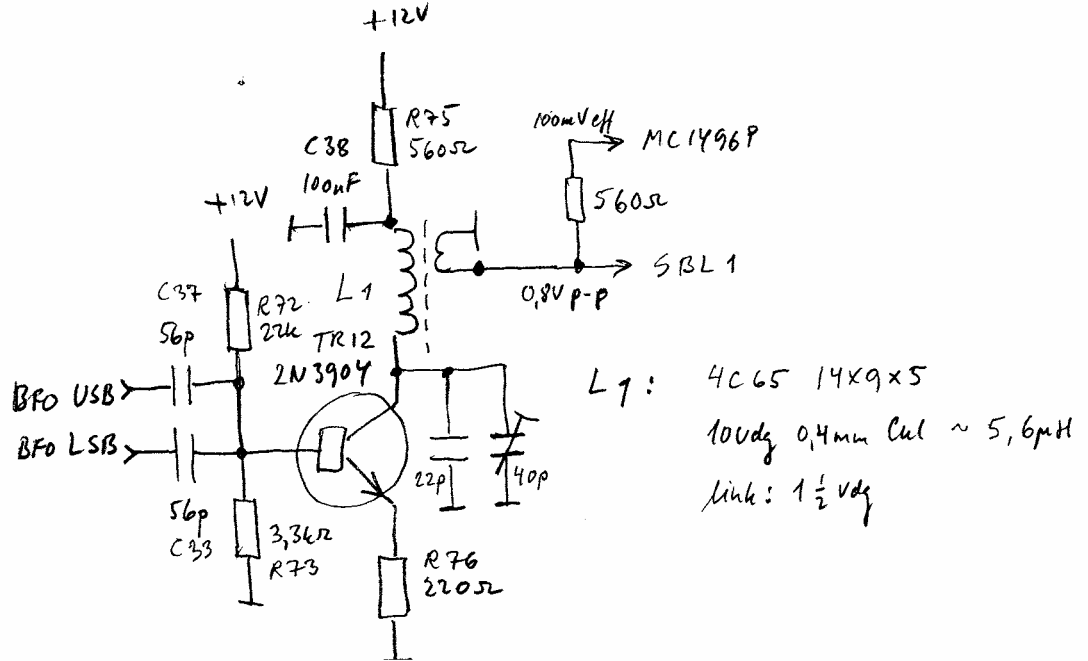
28 JULY 2004

- 1 R18 not to ground, but to +12v
- 2 R77 is R15 with the value 1k, R77 located between R15/R16 and basis of TR13 (MP5A13)
- 3 In series with C7 and to ground is added a resistor (10k)
- 4 C9 and C22 to be removed
- 5 C17 not shown on schematic - is 10u according to parts list – and goes to ground.
- 6 C45 not shown on schematic – is 220n according to parts list.
- 7 R69 on schematic near LSB osc is R67 on pcb.
- 8 On the schematic 2 transistors are named 4 – the one in the USB/CW osc is TR11.
- 9 R56 on the schematic near USB/CW osc is R69 on the board and R56 is not in the schematic – placed between R69 and R55/C34
- 10 A resistor is added (470R) between C31 and RFC2
- 11 OZ9FW changes around TR12:



OZ9MO proposal to BFO-buffer.

I can not get the 7 dBm out of the buffer, because the SBL1 limits at appr. 0 dBm. Without the SBL1 and with 50 ohm load the buffer delivers the required 7 dBm. Notice the series resistor to MC1496. I am using 560 ohm to get 100 mV eff to the 1496. I am using only 47 uH as RFC2. The 270 uH is a large value with the risk of having self resonance under the working frequency.

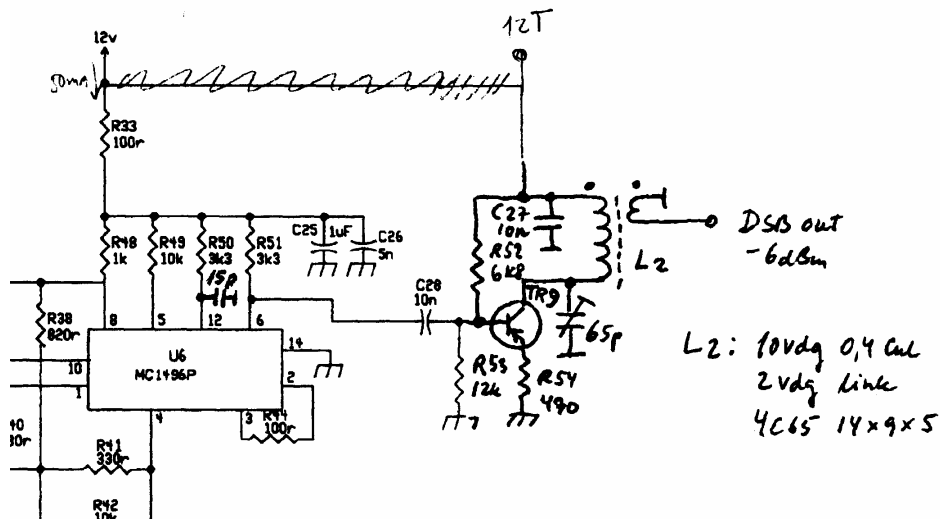


Ny BFO-buffer

18/3-03 OZ9MO

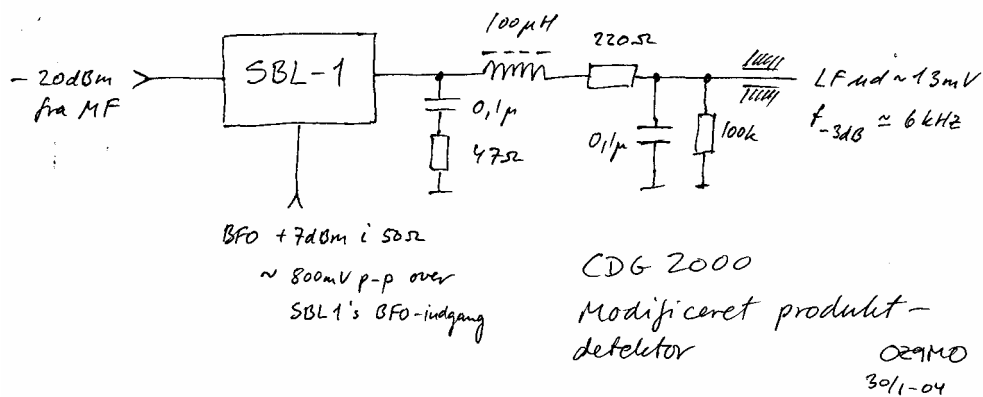
- 12 12T controls only TR9 with 12v and not U6.
- 13 Added a 100K resistor to ground.
- 14 The TX modulator was followed by an ordinary emitter-follower (TR9), but this one can not drive a 50 ohm load without distortion at levels over appr. -20dBm.

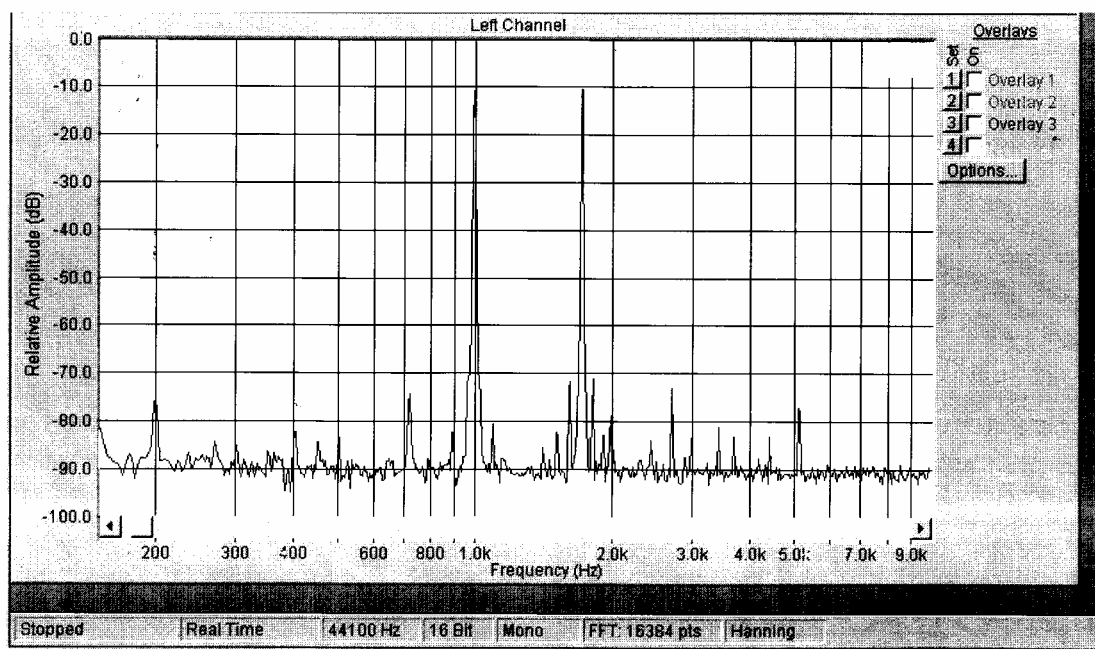
Another solution has been found, that can be mounted on the board. Now we can deliver - 6 dBm into 50 ohm with - 35 dB 2. order IM.



Notice the 15 pF that has been added to U6 pin 12. The carrier-suppression is now more constant at different levels of AF.

- 15 D4 and D5 are turned 180 degrees wrong on the board.
- 16 TR4 gets 12 volt via R70 on 47r, not shown on schematic.
- 17 Remember ground at R43
- 18 The Produktdetektor has been modified. The roll-off of the AF started at too low frequency. The resistor (R61) has been replaced with a 100uH choke. This correction will be changed later!!!
- 19 Proposal from OZ9MO to improve the product detector. In the proposal notice that the emitter on the AF amplifier in front of the volume control has been removed. (C19 on the CW OSC/ AF board).





Mätning på modifiererat produkt-detektor. Målt över volumentpotmeter.
 Input: 2x9MHz-signaler à -26dBm.

029100
 25-01-04

20

The I2C bus connection to J1 should via U3 the PCF8574 control the Vox ON/OFF. The circuit do not work

As far as I can see, the output (pin 9 of U3) will either force pin 2 of U4A to 0V or 5-10V. In both positions there will be no possibility for the Vox signal to pass to U4C. In the original circuit the Vox OFF will create a "High" at the output – but a high means Vox ON !!

So a solution to the above problems will be to add a transistor.

The change is easy to do.....

Remove the strap from U3 pin 9 to U4a pin 2.

Add a transistor the following way.....

Collector to Pin 2 of U4A

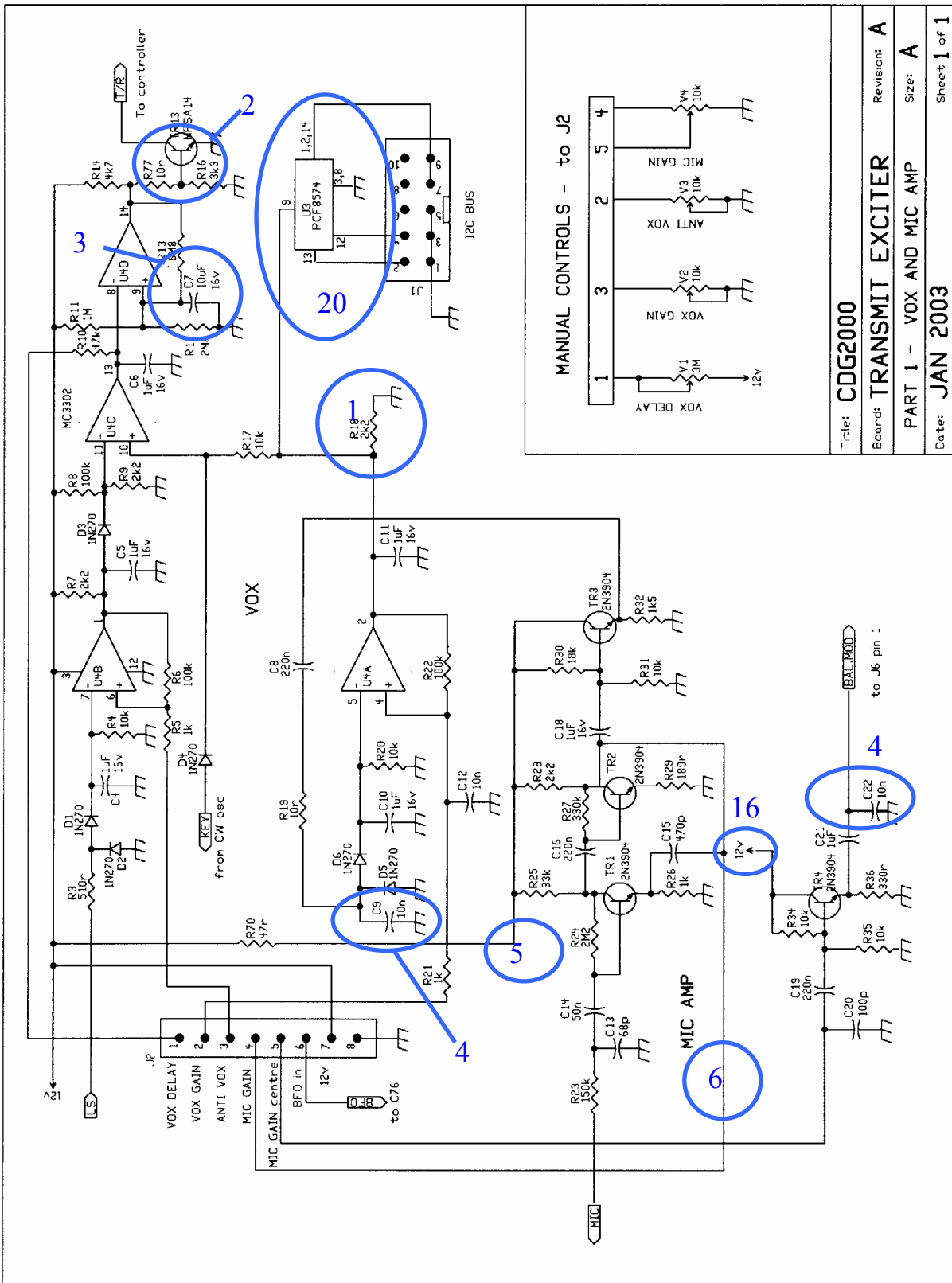
Emitter to Ground

Basis to pin 9 of U3 via a resistor (e.g. 1k5)

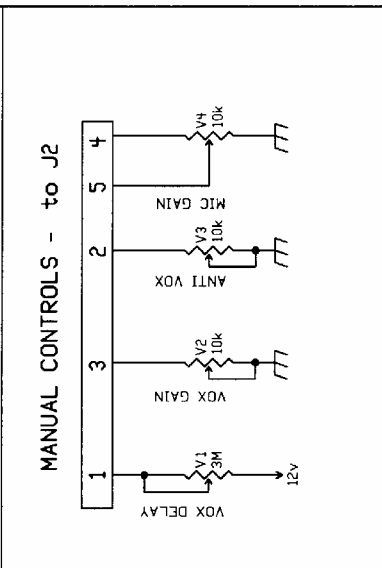
I used a BC337.

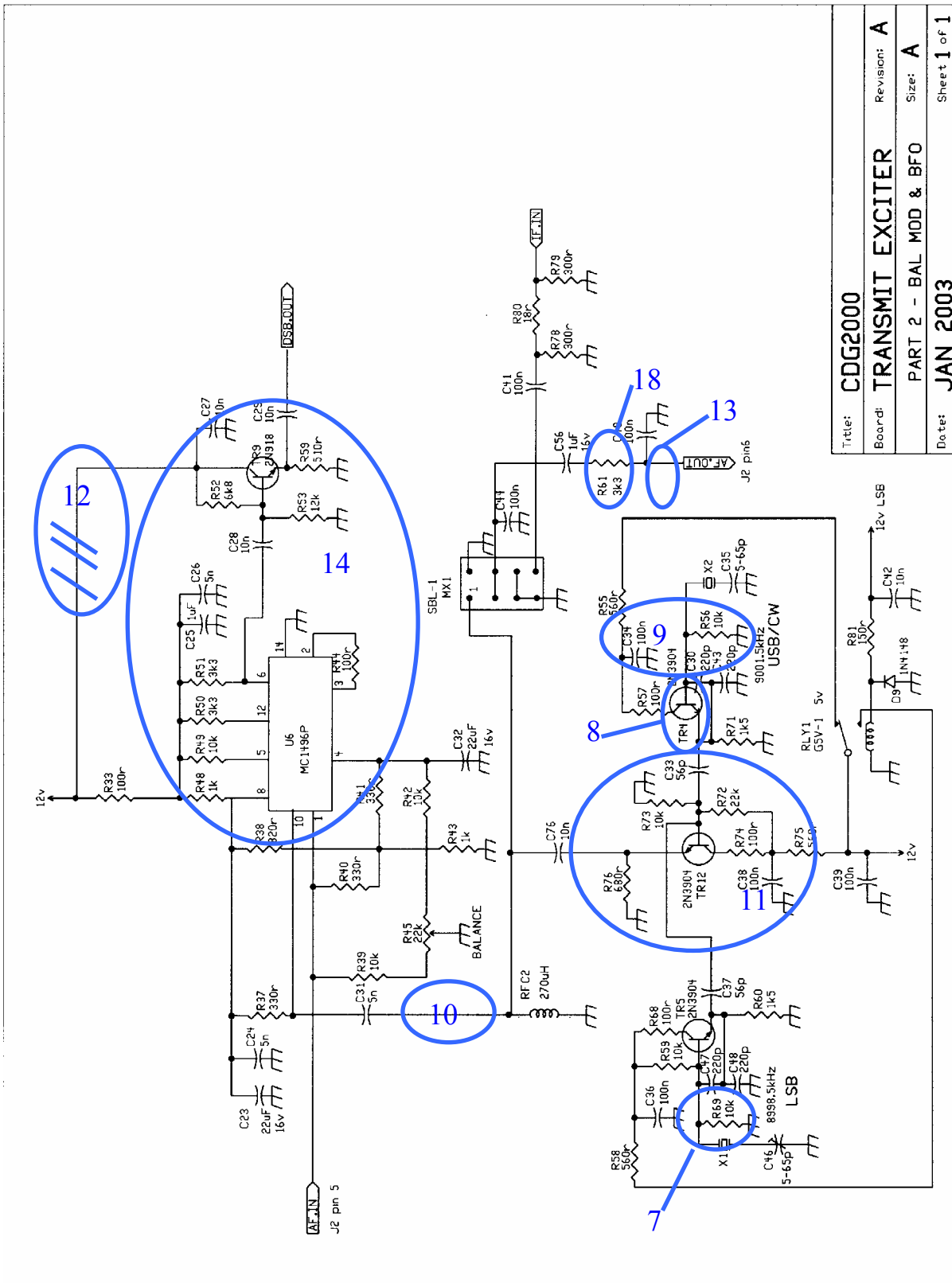
Now in position OFF a "high" from U3 will force the output of U4A to ground and no Vox is possible. In position ON a 0V output from U3 just means that the transistor is off (not conducting) and we have Vox as normal.

By the way check also that U3 pin 3 and 8 really are grounded. I had to make wires on the solder side to ensure that!!!

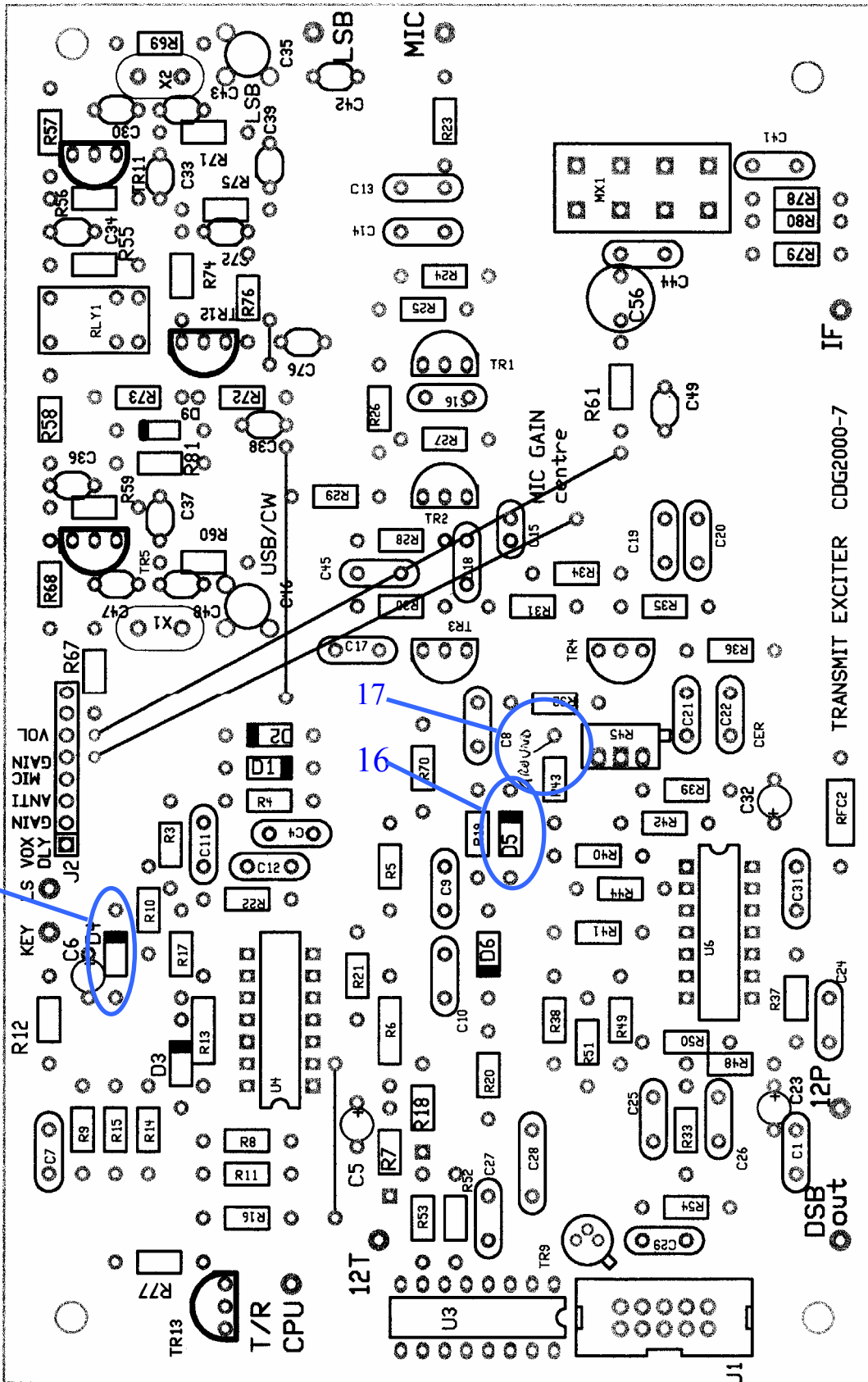


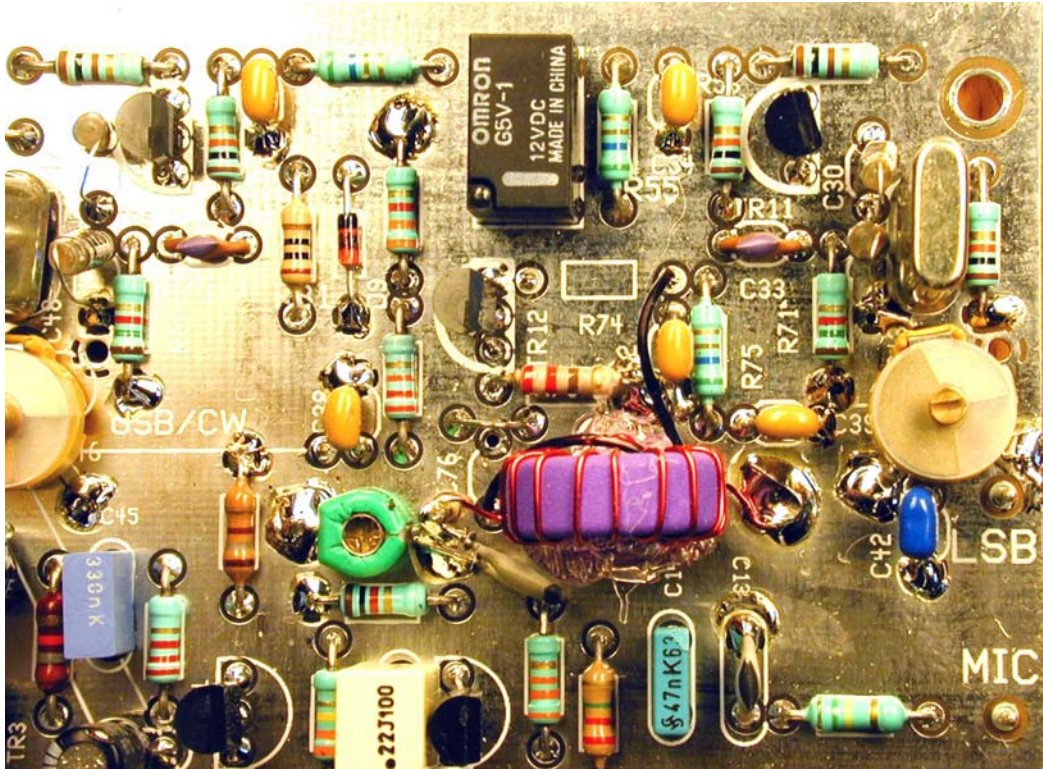
Title:	CDG2000
Board:	TRANSMIT EXCITER
Revision:	A
Part:	PART 1 - VOX AND MIC AMP
Size:	A
Date:	JAN 2003
Sheet:	1 of 1



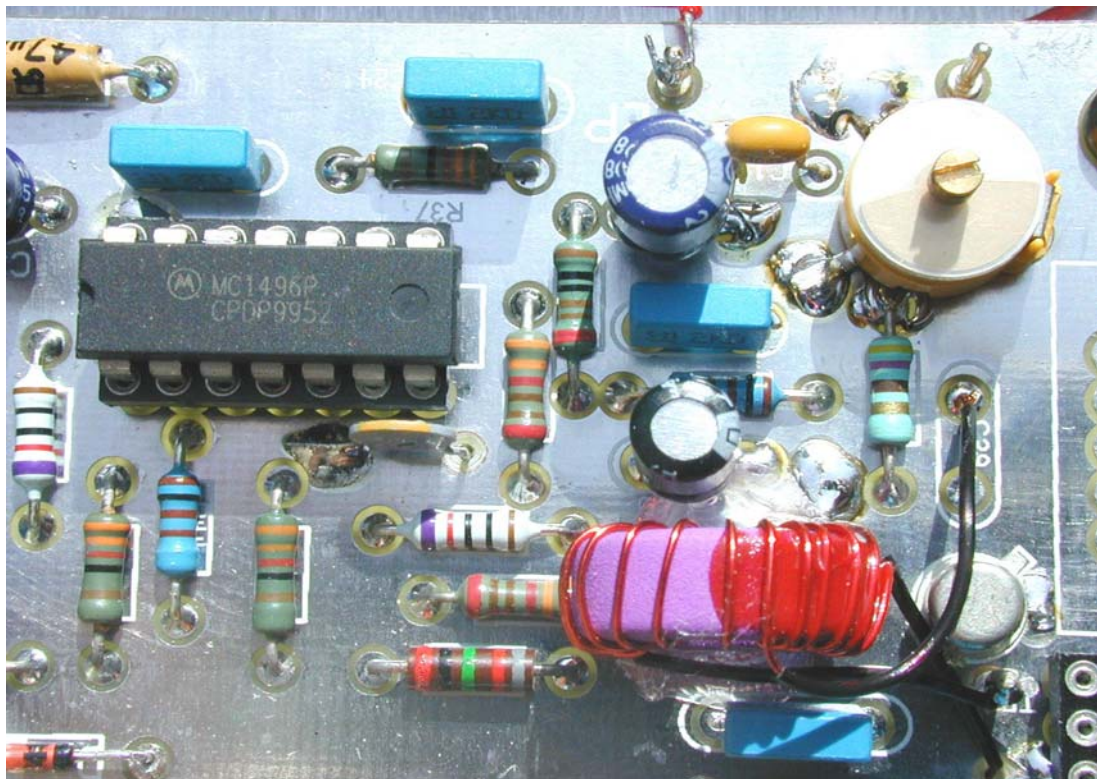
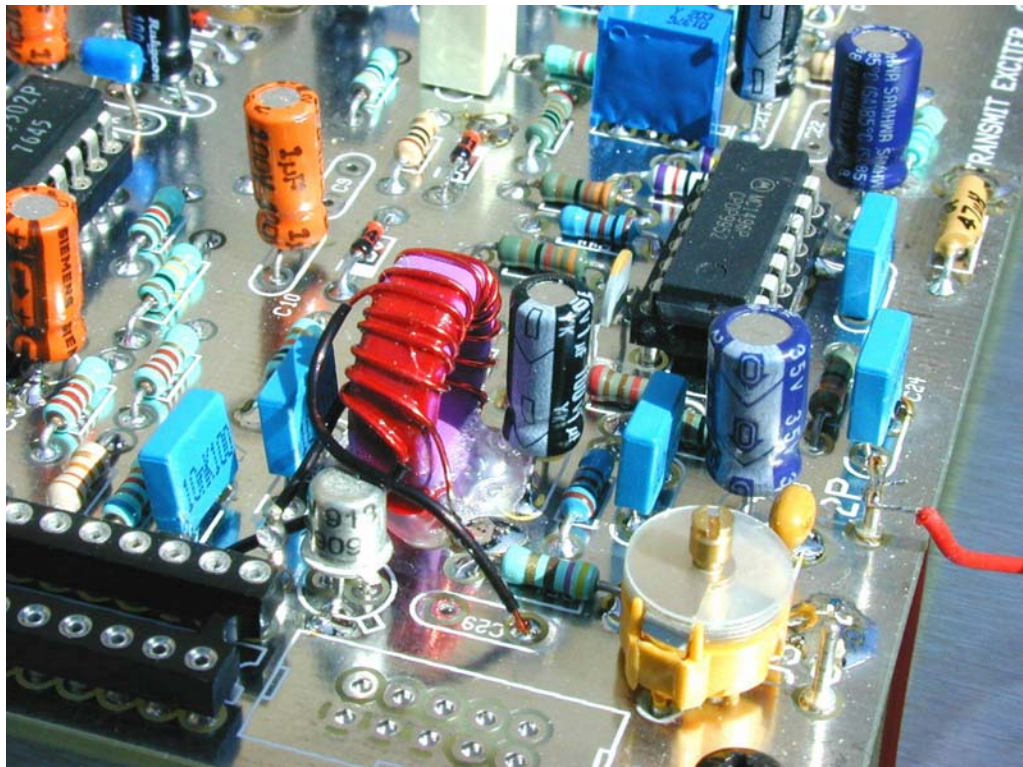


Title:	CDG2000
Board:	TRANSMIT EXCITER
Revision:	A
Date:	JAN 2003
Part:	PART 2 - BAL MOD & BFO
Size:	A
Sheet:	1 of 1





Pictures of OZ9MO's modified BFO-buffer



Pictures of the modified TX modulator

