IF AMPLIFIER

CORRECTIONS

11 september 2003

1 On the board, C10 and C43 have to be swapped, C10 should be 100nF – in the parts list it is 100pF.

2 **To:** CDG2000@yahoogroups.com
Subject: [CDG2000] CDG2000 Commercial IF board

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Please note that some samples of this board may have an error. Please
check
that the pad of R13 does not short out with the thick track
adjoining.
Failure to check may result in the loss of two expensive AD600!!!
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Regards
G3OGQ

3 C47 on the board is C46 in the schematic and in the paper lay-out.

4 R62 is 1k5 in the schematic and 4k7 in the parts list. 1K5 is correct.

5 R59 is 8k2 in the schematic and 47k in the parts list. 8K2 is correct.

6 R24, 25 is missing in the parts list. They are both 47 ohm, 1 W.

7 Cz2, 3, 4 at the bottom site of the board are 100nF SMD - They are not on the parts list.

8 C8 should also be 100nF, is 10nF in the parts list.

9 C11 should be 270nF, is 270pF in the parts list.

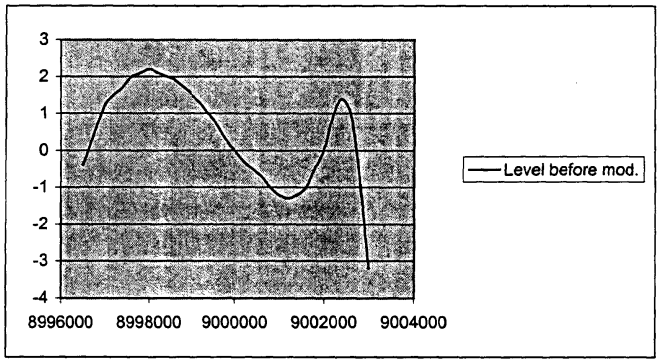
10 Wire size for T2: appr. 0,3 mm

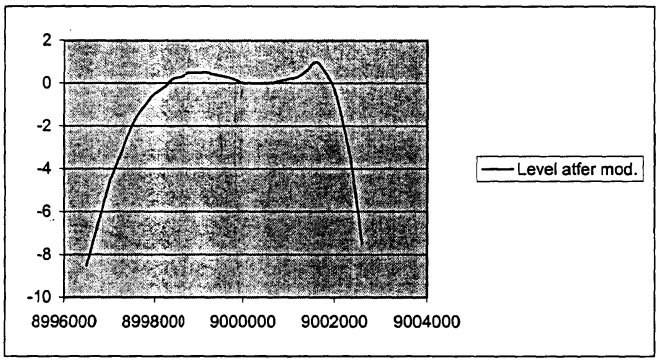
11 It would have helped, if the orientation of Q3 had been drawn correct on the board layout and if the connections to T1 and T2 had been shown with numbers on the schematic and on the board. The info can be found in the original QST-article, but anyway.....

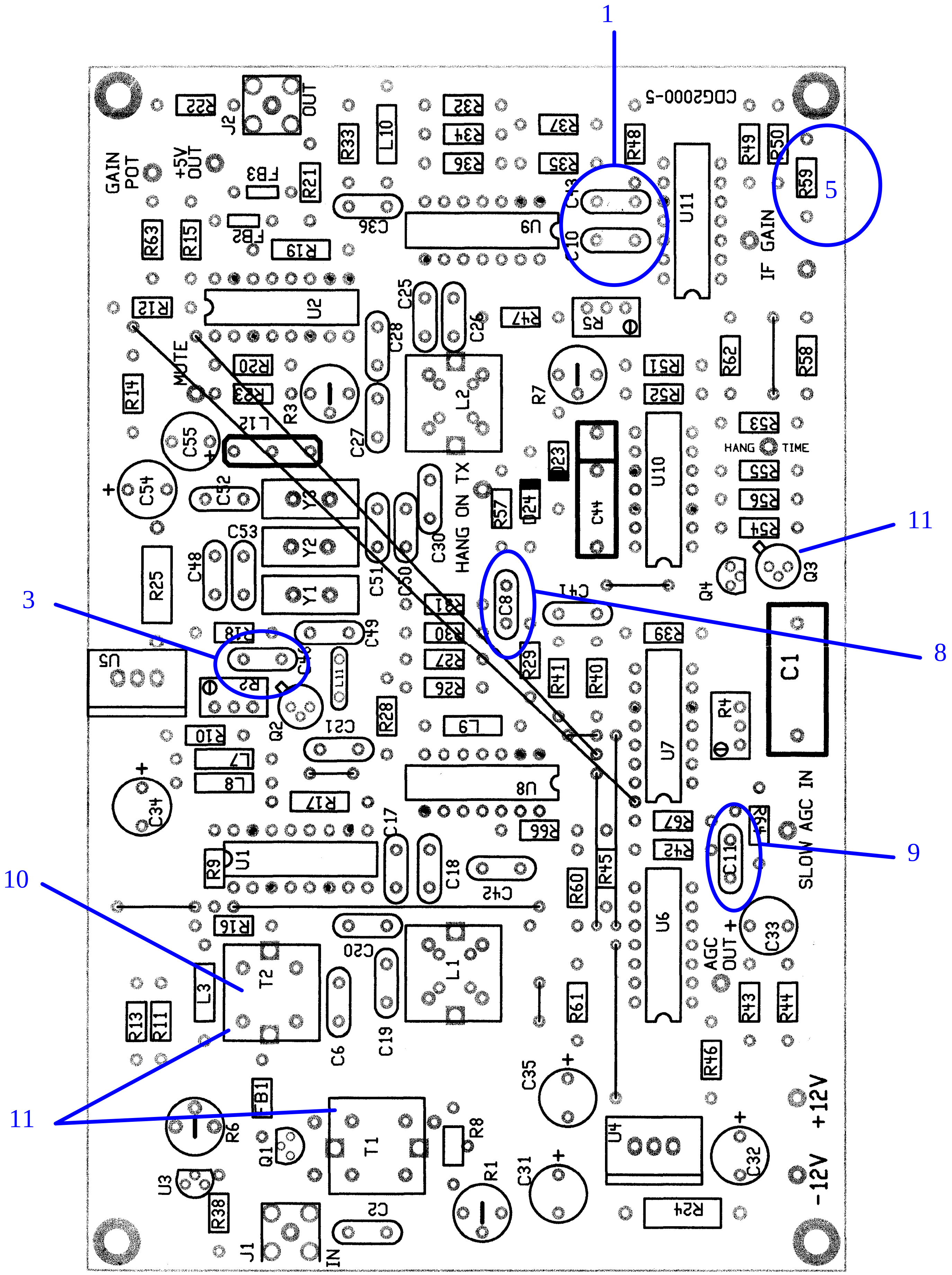
Modification to the IF Amplifier

Noise filter bandwidth and ripple has been measured using original component values.
Result: Too wide and too much ripple
A redesign would need knowledge of the individual x-tals. These figures was not availble so a cut and try methode were used.
A new curve with modified component values are shown below. The result is a filter with smaller bandwidth and less ripple.
Following mods. has been done: C46 +27pF extra, C48 +10pF extra and C50 +5,6pF extra.
The extra capacitors has been soldered on the the solderside of the board.
Because the filter depends on the actual x-tals the mod. may change using your x-tals. Just keep in mind that you will have to check your filter.
The measurements was done with the manual AGC pot. in action avoiding that agc should influence the curves.

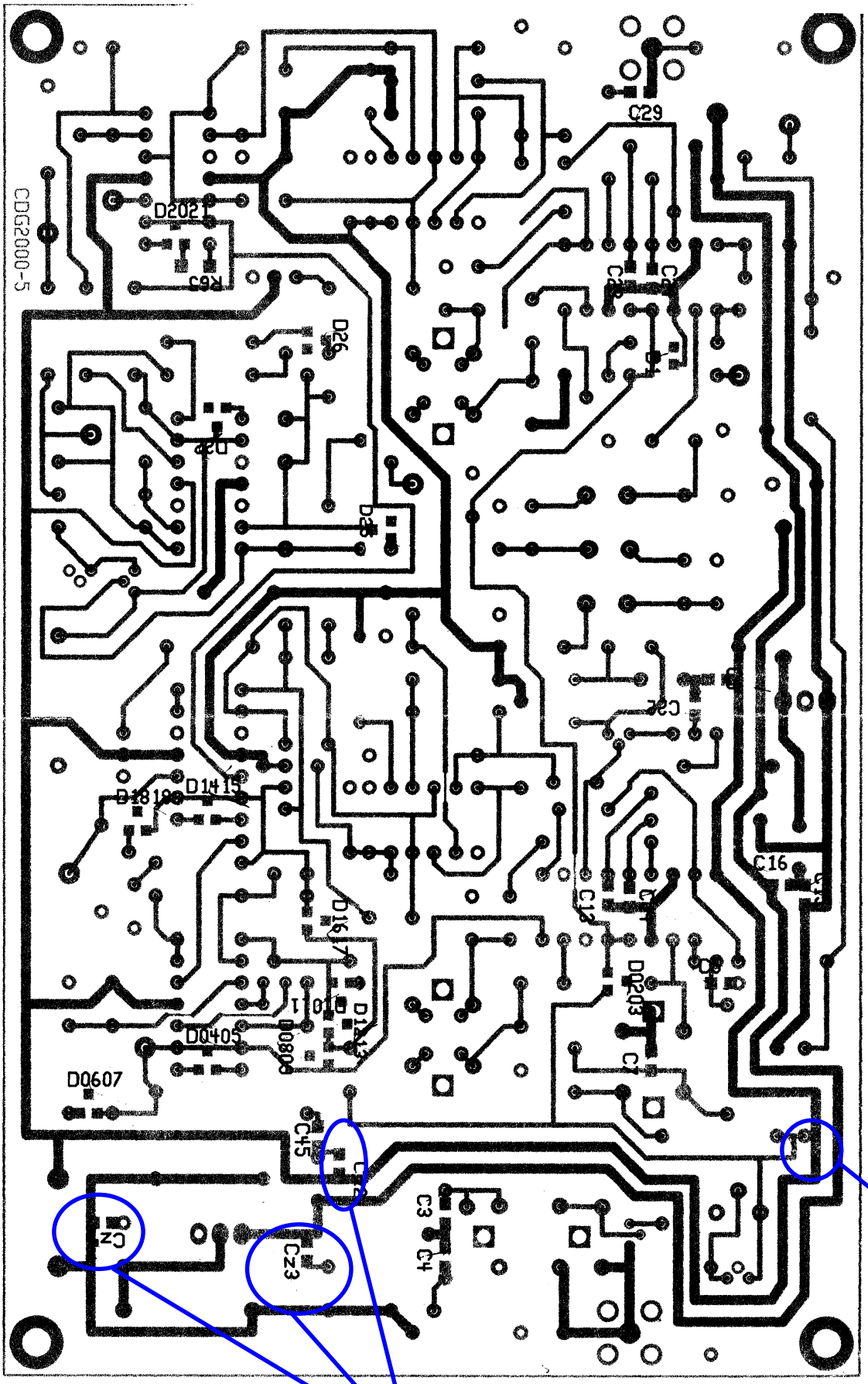
Frequency	Level before mod.	Level atfer mod.
8996500	-0,4	-8,5
8997000	1,2	-4,7
8997200	1,5	-3,6
8997400	1,7	-2,5
8997600	2	-1,6
8997800	2,1	-1
8998000	2,2	-0,5
8998200	2,1	-0,2
8998400	2	0,2
8998600	1,9	0,3
8998800	1,7	0,5
8999000	1,5	0,5
8999200	1,3	0,5
8999400	1	0,4
8999600	0,7	0,3
8999800	0,3	0,2
9000000	0	0
9000200	-0,3	0
9000400	-0,5	0
9000600	-0,7	0
9000800	-1	0,1
9001000	-1,2	0,2
9001200	-1,3	0,3
9001400	-1,2	0,6
9001600	-1	1
9001800	-0,5	0,5
9002000	0	-0,3
9002200	0,9	-2
9002400	1,4	-4,2
9002600	1	-7,5
9002800	-0,7	
9003000	-3,2	







1
5
3
8
11
9
10
11
CDG2000-5
GAIN POT
+5V OUT
OUT
J2
FB3
FB2
R22
R33
L10
R32
R34
R36
R37
R35
R48
R49
R50
R59
R21
R63
R15
R19
C36
U9
C13
C10
U11
IF GAIN
R12
U2
C25
C28
C26
R47
R5
MUTE
R14
R20
R23
R3
L12
L2
R7
R51
R52
R62
R58
C55
C27
R53
HANG TIME
D23
C44
U10
C54
C52
Y3
HANG ON TX
D24
R57
R55
R56
R54
C53
Y2
C30
C48
R25
Y1
C51
C50
R31
C41
C8
Q4
Q3
R18
C49
R30
R39
C1
U5
C46
R2
L11
R27
R29
R41
R40
R26
R4
Q2
C21
R28
L9
R10
L7
U7
U8
C34
L8
R17
SLOW AGC IN
C17
R66
R67
R64
R9
U1
C18
C42
R42
R45
C11
R60
R16
C20
U6
AGC OUT
C33
T2
L1
L3
C6
R13
R11
C19
R61
R43
R44
R46
C35
FB1
R6
Q1
T1
R8
U4
+12V
U3
R1
C31
C32
-12V
R38
C2
R24
J1
IN


CDG2000-5
C29
D2021
R63
D26
C16
C45
Cz1
Cz3
C3
C4
2
7