AUDIO AMPLIFIER

EARPHONE
R 3
RN 5
T 2
TN 4
S 1
GND
J1

NOT ON PCB

RIG_AF_OUT 1
J5

RV1 1k

AF_IN

6 – 12 V
RIG_VCC

C1 100n
C2 100u/16..25V
GND

C6 470n

C3 10n

RV2 10k

680 R1

680 R9

C7 1n
C17 470n
C18 1n

U1 LM386M-1
6
+ V+ 7
3
2 Gnd V- 5
4 1 8

C4 10u/16V
GND

C9 10u/16V
R3 1.8k

C5 100u/16..25V
C8 100n
10 R2

NOT ON PCB
Speaker 8R/0.5W
2
1
J2

GND

NOT ON PCB

ZERO BEAT INDICATOR

U2 LM3480-5.0
VIN VOUT
2 GND 1
3
RIG_VCC
C10 2.2u
C11 2.2u
GND

AF_IN

C12 10u/16V
GND

C13 100n

RV3 20k

4.7k R8

C16** 47n U2J
GND

U3 LMC567
3 INPUT VCC 4
5 TIM_R OUTPUT 8
6 TIM_RC LP_FLT_C 2
7 GND OFLT_C 1

22k R4
D1
180 R5
ZERO_BEAT (blue)

C14* 1u X7R
C15 2.2u
390k R7

Mind ground loops!
-> connect only one side of the coax shield

RIG_AF
AF_IN 2
GND 1
J3
GND

RIG_VCC
RIG_VCC 2
RIG_GND 1
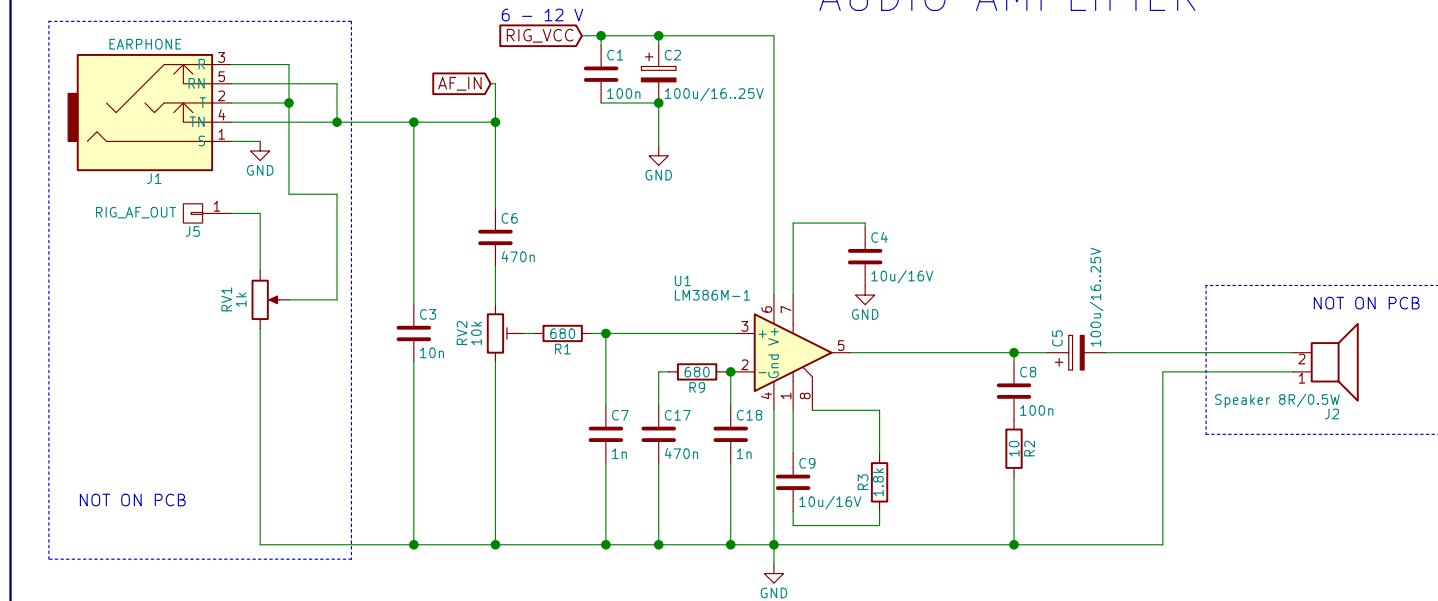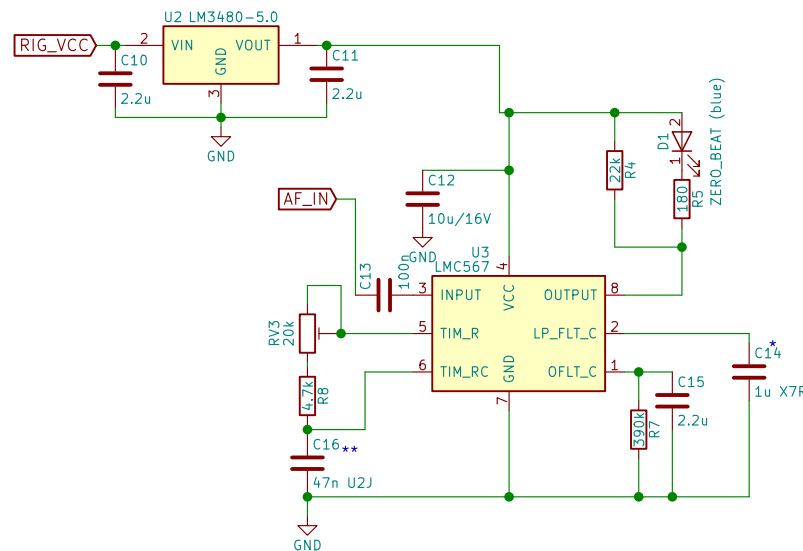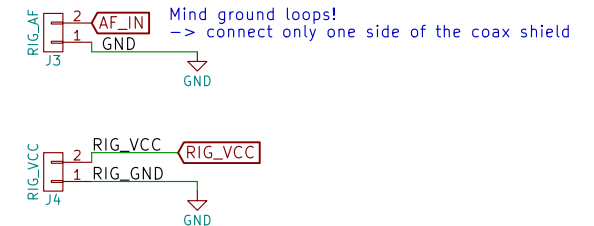J4
GND

* Reducing the value of C14 may be necessary to broaden the detection bandwidth, because the best tuning of the MTR can be up to 25 Hz off frequency due to the 50 Hz tuning steps.

** Use high-quality capacitors (e.g. U2J), because their stability determines the frequency stability of the circuit.

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by Martin Hepp, DK3IT
Sheet: /
File: go-box-audio.sch
Title: MTR GoBox: Audio Amplifier and Zero Beat Indicator
Size: A4   Date: Rev: 1.1
KiCad E.D.A. kicad 4.0.6   Id: 1/1