

Sheet: Filters

File: filters.sch

Sheet: Amplifiers

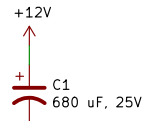
File: amplifiers.sch

Sheet: AF Amplifier

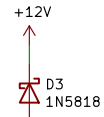
File: af-amplifier.sch

Sheet: Power Amplifier

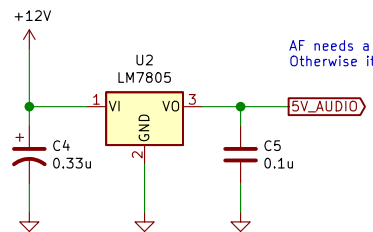
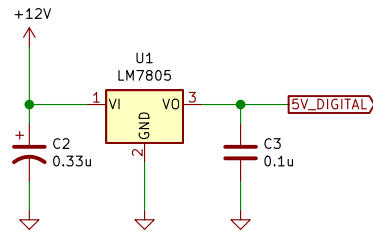
File: power-amplifier.sch



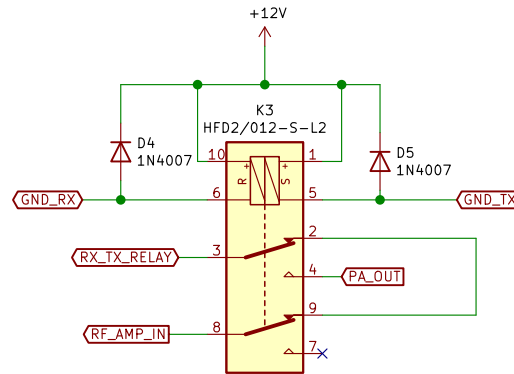
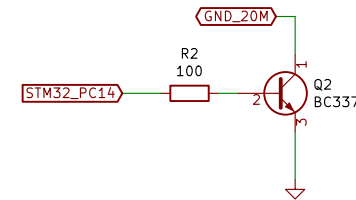
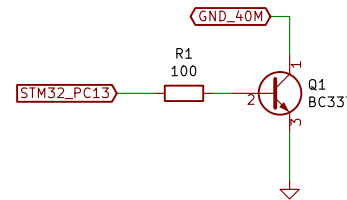
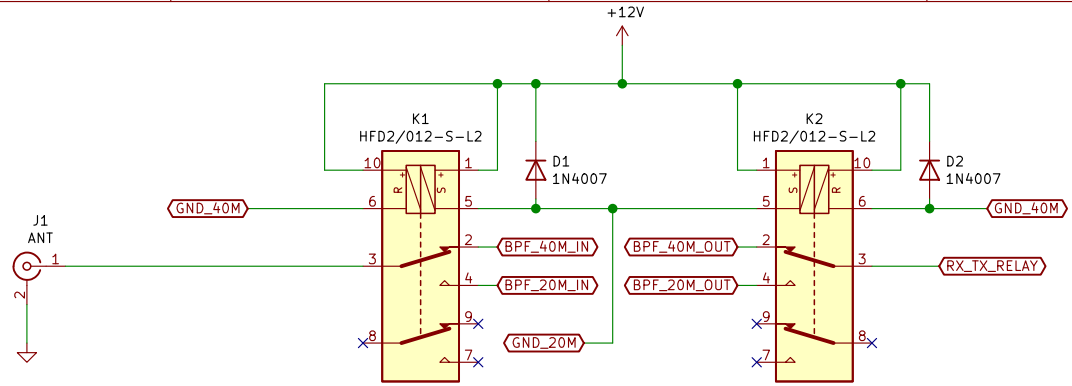
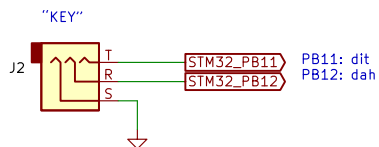
Some power supplies go into short circuit protection when the rig switches from RX to TX, which reboots the MCU. This capacitor prevents this from happening.



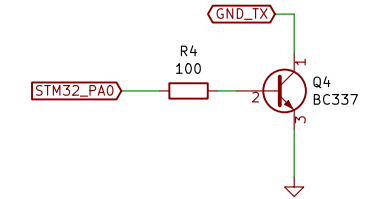
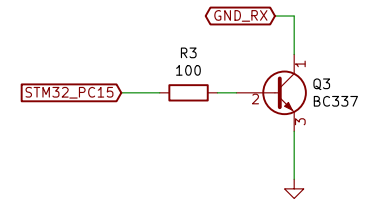
Simple reverse-polarity protection. Use with an external 2A fuse.



AF needs a separate power regulator Otherwise it catches noise from the digital part



This arrangement gives 6 dB better isolation on TX than when using a single contact group.



Sheet: /
File: alpha-yankee-november.sch

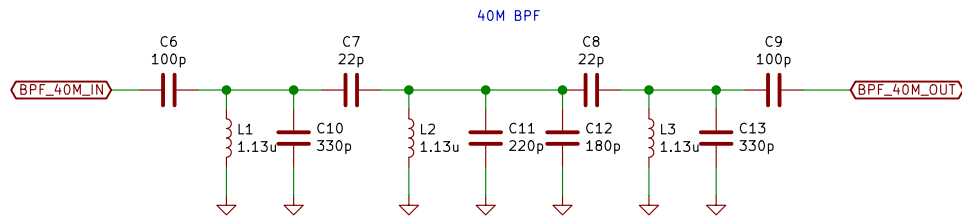
Title: AYN1 TRX ::: <https://eax.me/alpha-yankee-november/>

Size: A4 Date: 2021-04-18

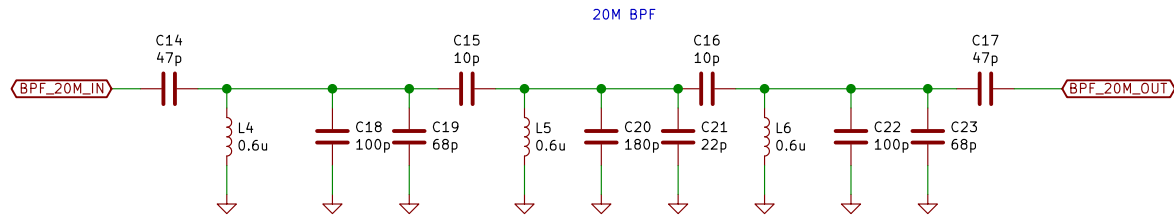
KiCad E.D.A. kicad (5.1.6-0-10_14)

Rev:

Id: 1/5

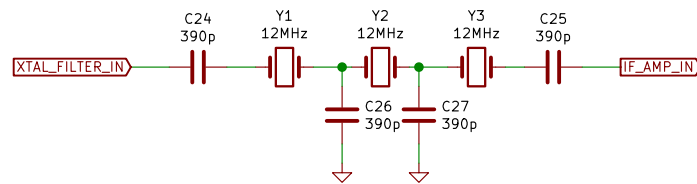


1.13u = 15T @ T50-6



0.6u = 10T @ T50-6

11.0592 xtals can be used with the same capacitance values.
In this case IF should be changed in the firmware.



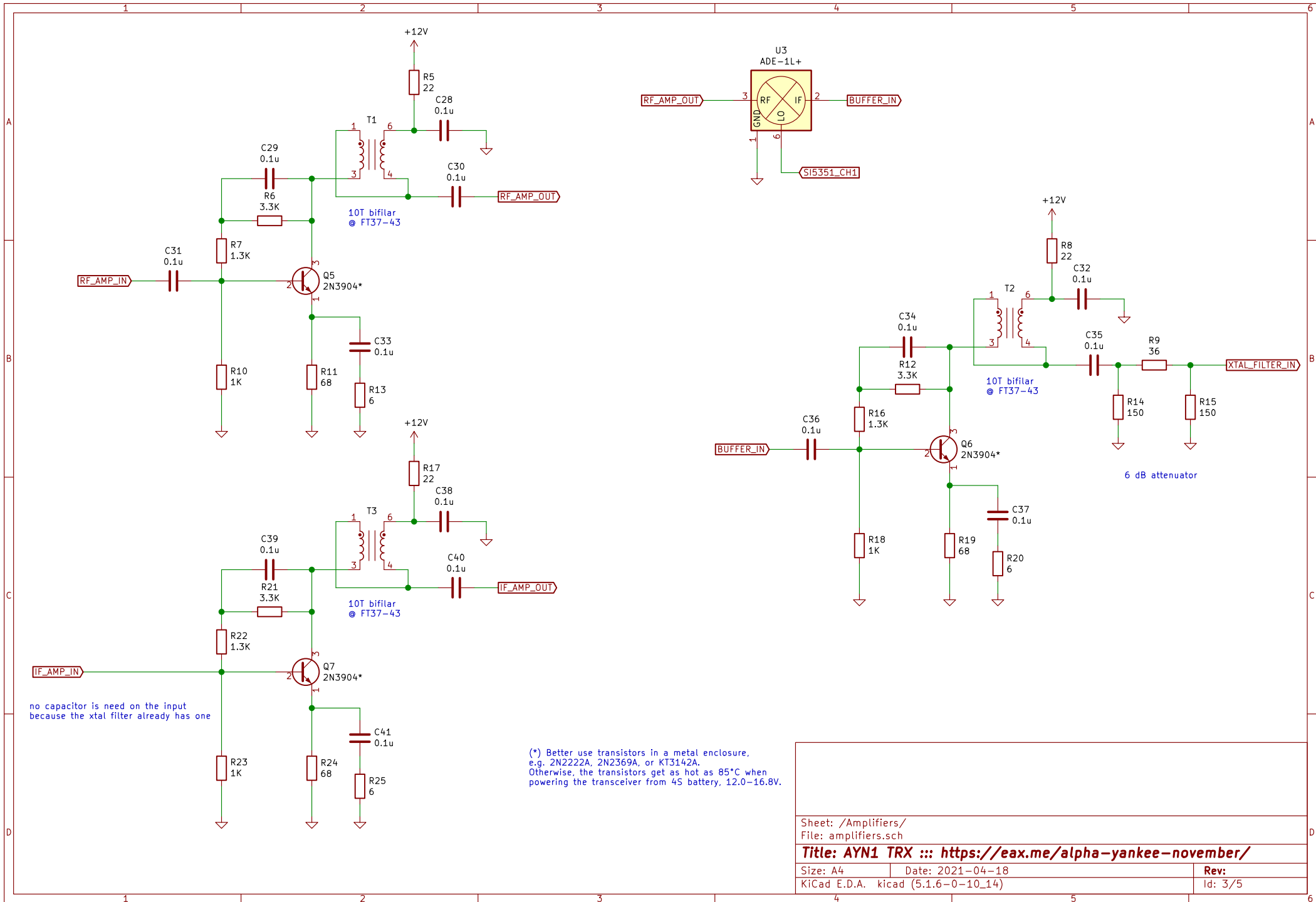
Sheet: /Filters/
File: filters.sch

Title: AYN1 TRX ::: <https://eax.me/alpha-yankee-november/>

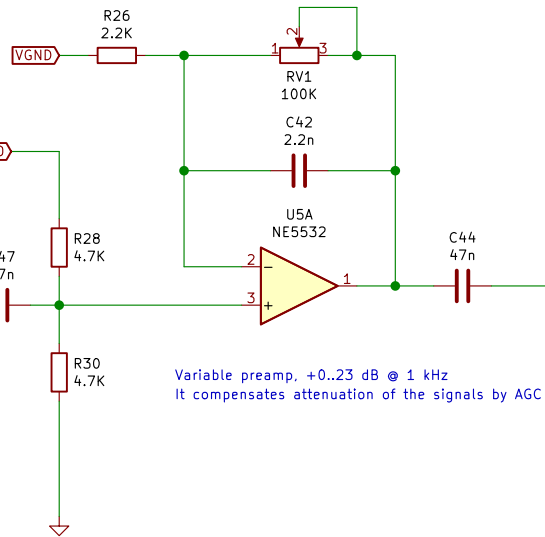
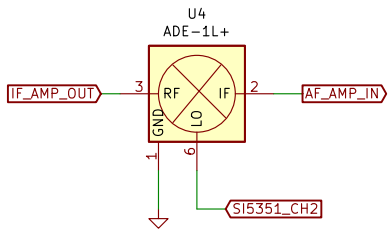
Size: A4 Date: 2021-04-18

KiCad E.D.A. kicad (5.1.6-0-10_14)

Rev:
Id: 2/5



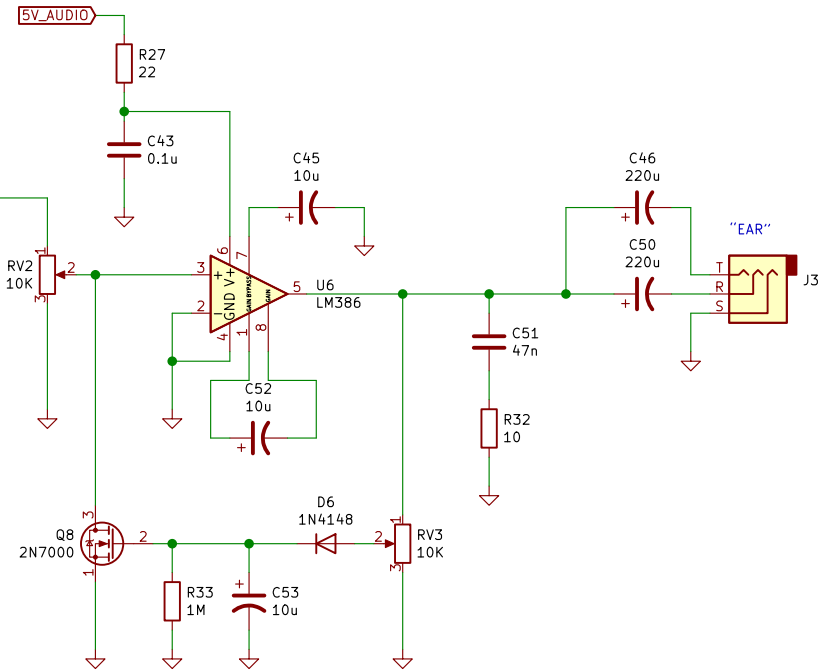
Sheet: /Amplifiers/ File: amplifiers.sch	
Title: AYN1 TRX ::: https://eax.me/alpha-yankee-november/	
Size: A4	Date: 2021-04-18
KiCad E.D.A. kicad (5.1.6-0-10_14)	Rev: Id: 3/5



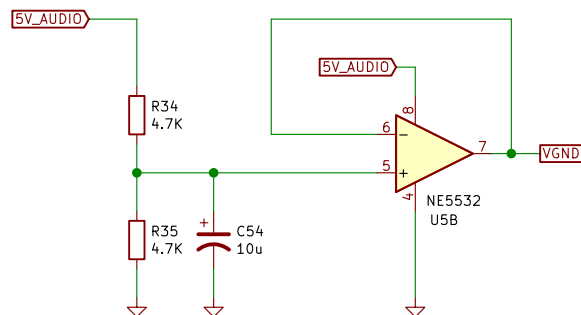
Variable preamp. +0.23 dB @ 1 kHz
It compensates attenuation of the signals by AGC

Simple diplexer:
10n = 5.3KΩ @ 3 kHz
= 0.7Ω @ 24 MHz

RC low-pass filter
-3 dB @ 2.8 kHz



Simple AGC based on a MOSFET



Sheet: /AF Amplifier/
File: af-amplifier.sch

Title: AYN1 TRX ::: <https://eax.me/alpha-yankee-november/>

Size: A4 Date: 2021-04-18

KiCad E.D.A. kicad (5.1.6-0-10_14)

Rev:

Id: 4/5

