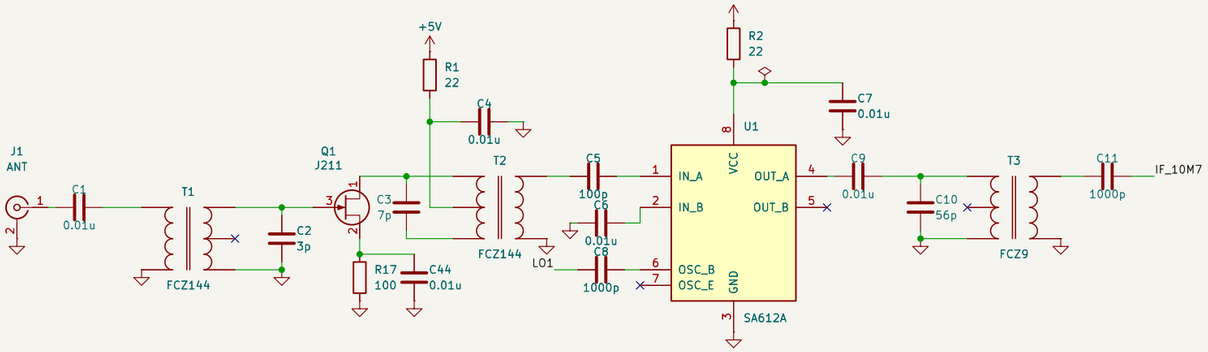
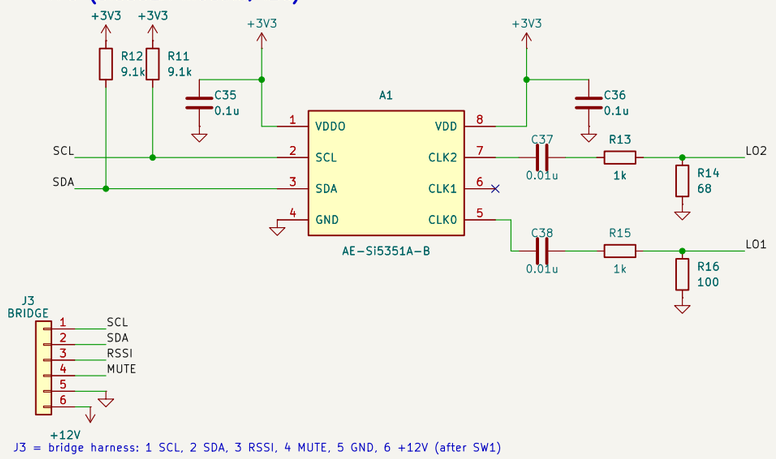
RF AMP



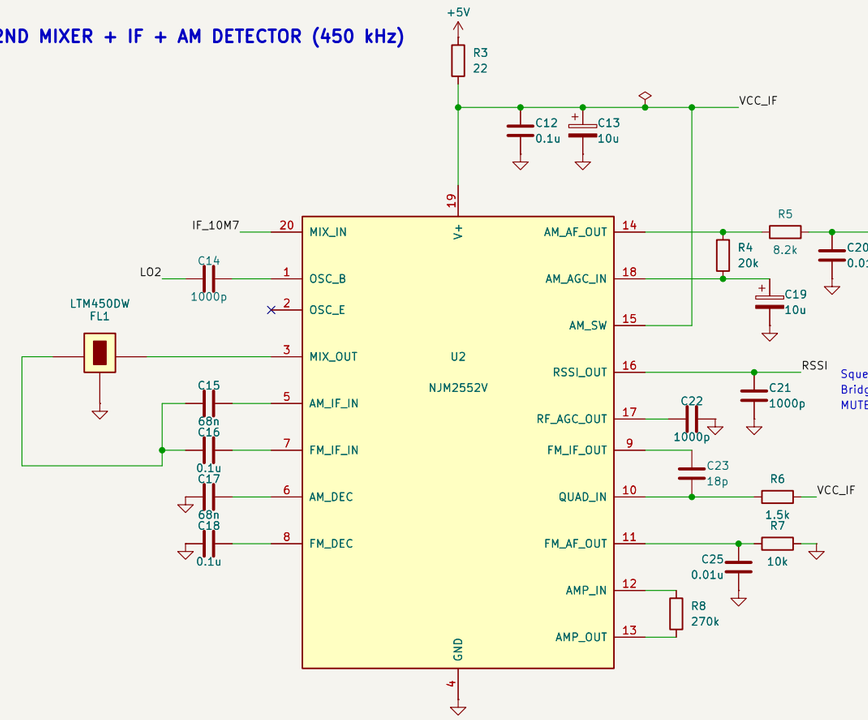
1ST MIXER (10.7 MHz)

VFO (Si5351A module, I2C)

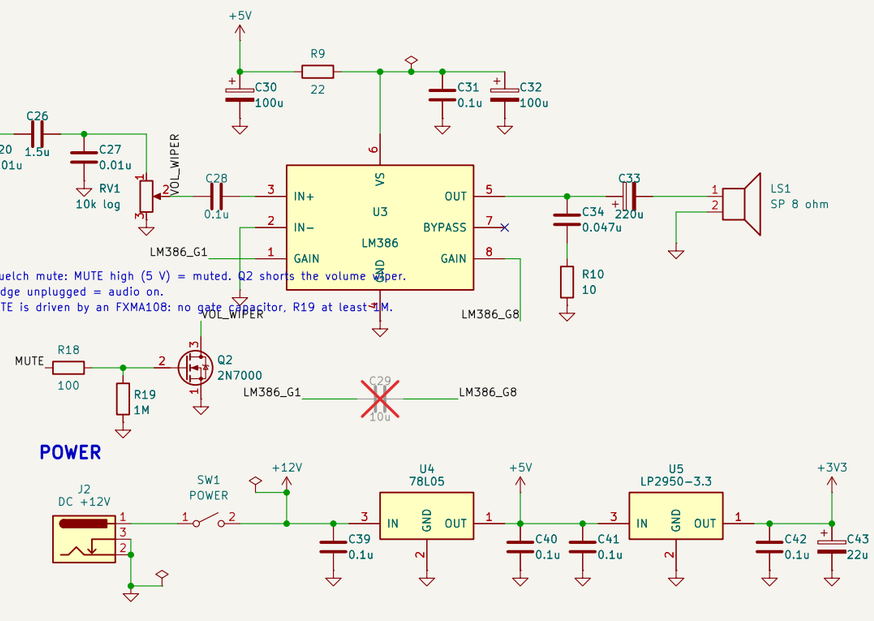


J3 = bridge harness: 1 SCL, 2 SDA, 3 RSSI, 4 MUTE, 5 GND, 6 +12V (after SW1)

2ND MIXER + IF + AM DETECTOR (450 kHz)



AF AMP



POWER

NOTES

1. Based on the henteko.org Air-Band radio (Si5351a VFO). TA7358P replaced by SA612A; LA1600 replaced by NJM2552V; SFU455A and T1 (455 kHz) replaced by a 450 kHz filter.
2. CLK0 = LO1 = RX − 10.7 MHz (107.3–125.3 MHz). Unverified: R15/R16 aim for the SA612A limit of 200–300 mVp-p at U1 pin 6. Measure and adjust.
3. CLK2 = LO2 = 10.25 MHz. Unverified: R13/R14 aim for about 100 mVrms at U2 pin 1 (datasheet test level). The firmware value changes from 10.245 MHz.
4. U2 FM section is biased per the datasheet evaluation circuit, with no discriminator fitted. U2 pin 7 also terminates FL1 and drives RSSI.
5. J3 SCL and SDA are 3.3 V logic (I2C address 0x60). Use a level shifter with a 5 V Arduino. J3 is the 6-wire harness to the bridge board; +3V3 does not leave this board.
6. FCZ pin numbers are logical: check them against the can. C29 (not fitted) sets LM386 gain to 200.
7. Q1 is a J211 JFET (1 D, 2 S, 3 G per the onsemi datasheet) replacing the 2SK241. R17 limits drain current to about 5–11 mA. Measure and adjust.

Built; squelch mute and bridge harness added 2026-11-22
Adapted from the henteko.org Air-Band radio

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File: airband.kicad_sch

Title: Airband receiver: Si5351 VFO, SA612A + NJM2552V

Size: A3	Date: 2026-11-07	**Rev: A**
KiCad E.D.A. 10.0.5		Id: 1/1