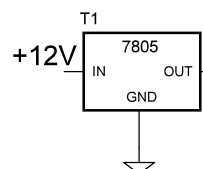
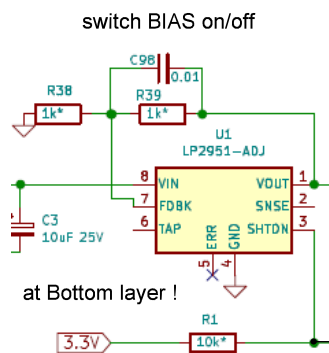


PA switch logics

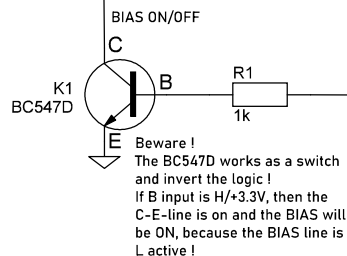
Signal	Transmit	Receive
PTT_out (= BIAS on/off)	L	H
Bypass_relay_upr (=RX/TX relays)	H	L
PTT_RCA	L	H



Vdd = +3.3V
H = HIGH = +3.3V
L = LOW = 0V/GND

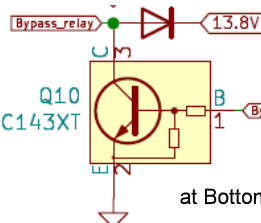


at Bottom layer !



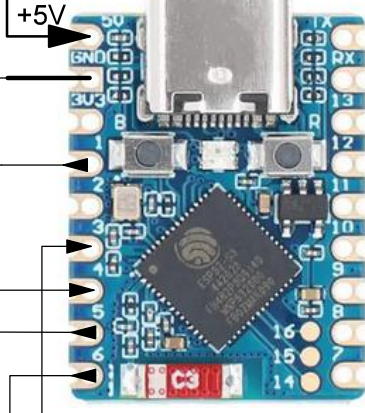
Beware !
The BC547D works as a switch
and invert the logic !
If B input is H/+3.3V, then the
C-E-line is on and the BIAS will
be ON, because the BIAS line is
L active !

switch the RX/TX relays



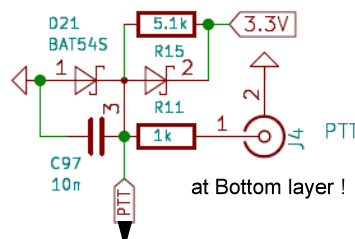
at Bottom layer !

WAVESHARE ESP32-S3 Zero



"test lead" if the Amp is switched ON = ON_LED lights up

PTT input circuit from the RCA socket



at Bottom layer !

Remark:

We don't touch the build-in SoC STM32.

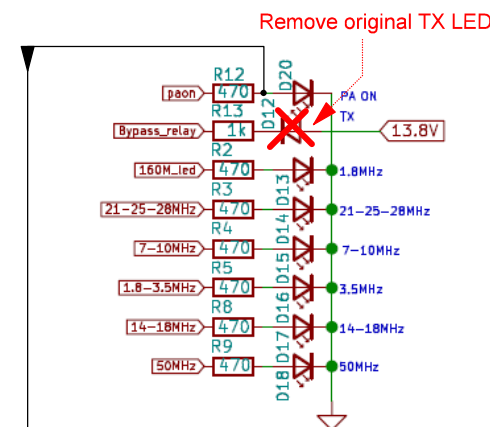
The automatic band select stay intact through the STM32 !

Our ESP32 starts itself if +12V power supply connected to the amp.

To find the split points for our needed signals you need look into the original schematic of Neptune 50W PA !

ALL POINTS except the TX_LED and ON_LED are located AT THE BOTTOM LAYER !

SO YOU HAVE TO SCREW OFF THE MAINBOARD FROM HEATSINK for soldering the wires go to the ESP32 !



Replacing amp control Neptune PA 50W
with an ESP32 SoC (WAVESHARE ESP32-S3 Zero)
especially for stable use with Hermes-Lite 2
idea by DL1BZ & made by DL1BZ in 04/2024

ONLY for use in Amateur Radio !
NOT for commercial use in any case !
WITHOUT ANY WARRANTY !
YOU DO ALL AT YOUR OWN RISK !