



*mcHF SDR QRP Transceiver* **N8NN**

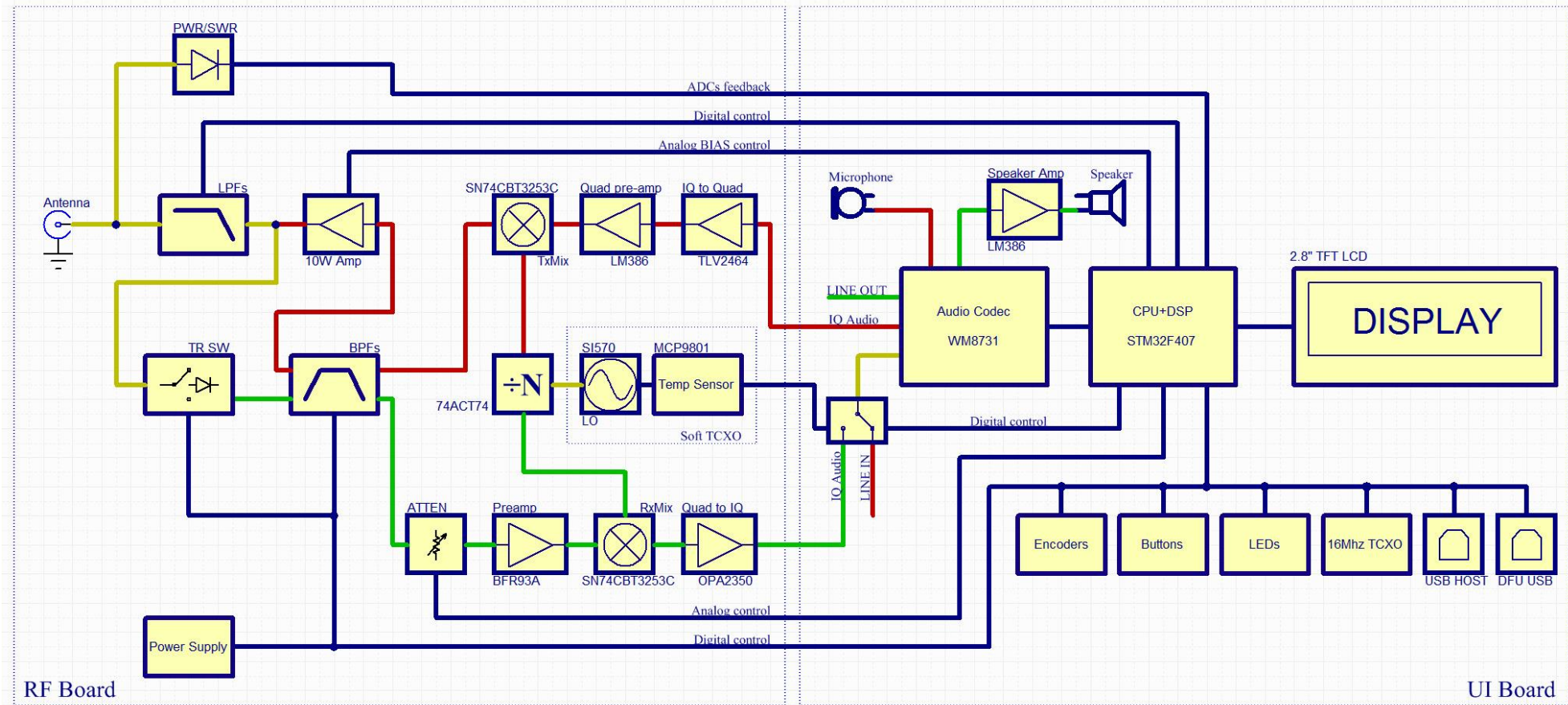


## mcHF Features ver. 6.3

- Ham Bands (160) 80, 60, 40, 30, 20, 17, 15, 12, 10 meters, 5-10 watts
- General coverage 2-30 MHz
- SSB/CW/AM/SAM/FM/RTTY/PSK/Digital/Digital Voice
- Dual VFOs, split T/R, RIT, Dynamic Tuning
- DSP Noise Reduction, Noise Blanker, Auto-notch, Manual-notch, Peak, NR+Notch
- Receiver Bandwidth 300 Hz to 10 KHz, four presets per mode, adjustable
- 2.8-inch Color Display, Timeout function, Dimming
- S-meter, SWR, Power, Audio, ALC
- Transverter Offsets, FM Tone, CTSS
- CW Keyer, adjustable Speed, Weight, Tone, Iambic A/B
- CW Keyboard send, on-screen Decode, programmable Macros
- RTTY/PSK Keyboard send, on-screen Decode, programmable Macros
- FT8, other digital with Line In/Out
- Mic Equalizer, Receiver bass and treble
- Computer Control as FT-817



# mcHF SDR QRP Transceiver **N8NN**



mcHF Block Diagram



## *mcHF SDR QRP Transceiver* **N8NN**



### mcHF Kit

- Version 6.3
- Ctrl/DSP (left)
- RF (right)
  
- Includes all software pre-installed





## mcHF SDR QRP Transceiver **N8NN**



### mcHF Case

- Outer case
- End panels
- Shield
- Speaker
- Buttons
- Hardware



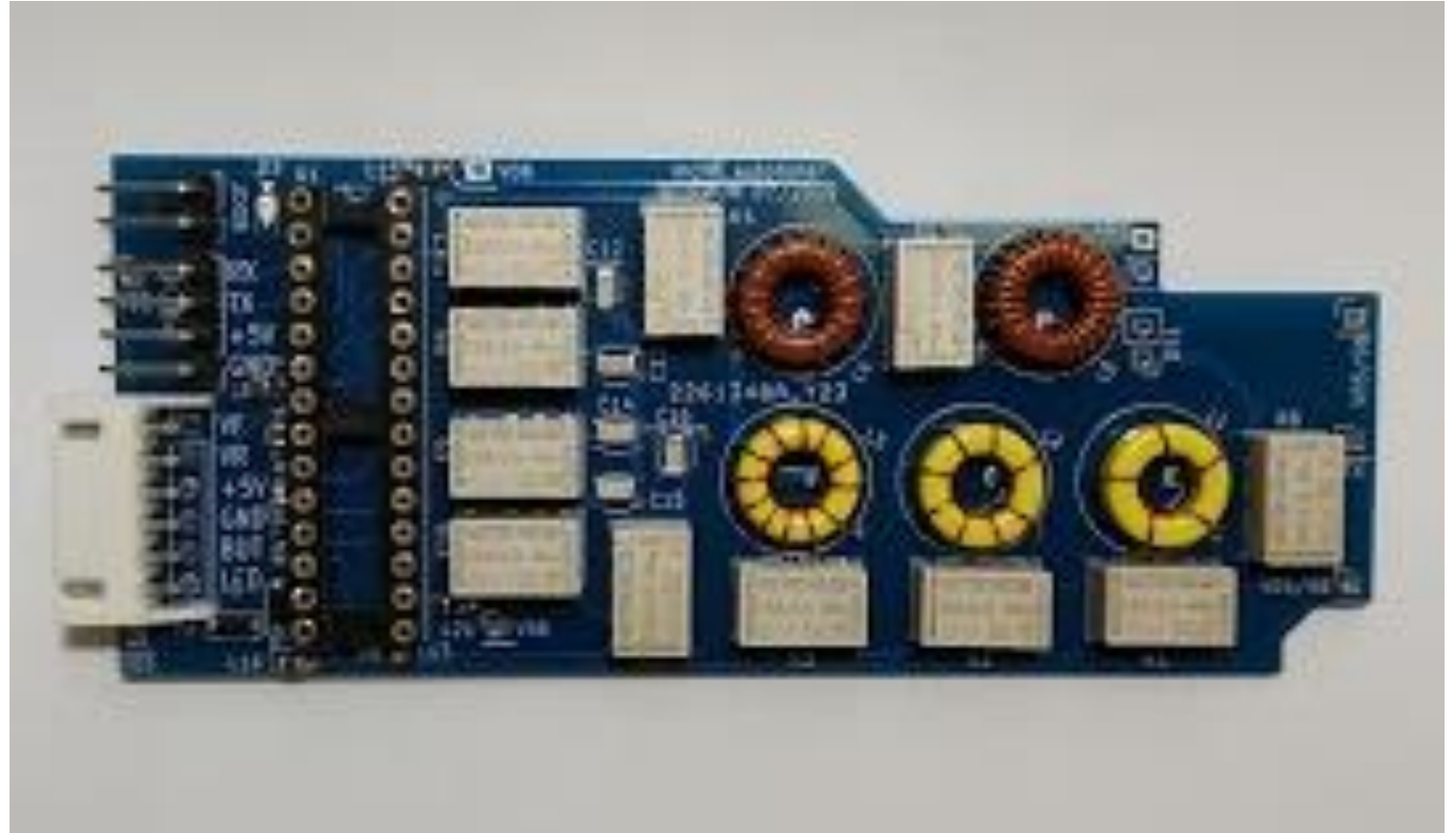


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## mcHF Antenna Tuner

- Optional
- Mounts on RF board
- Requires surgery on the RF board



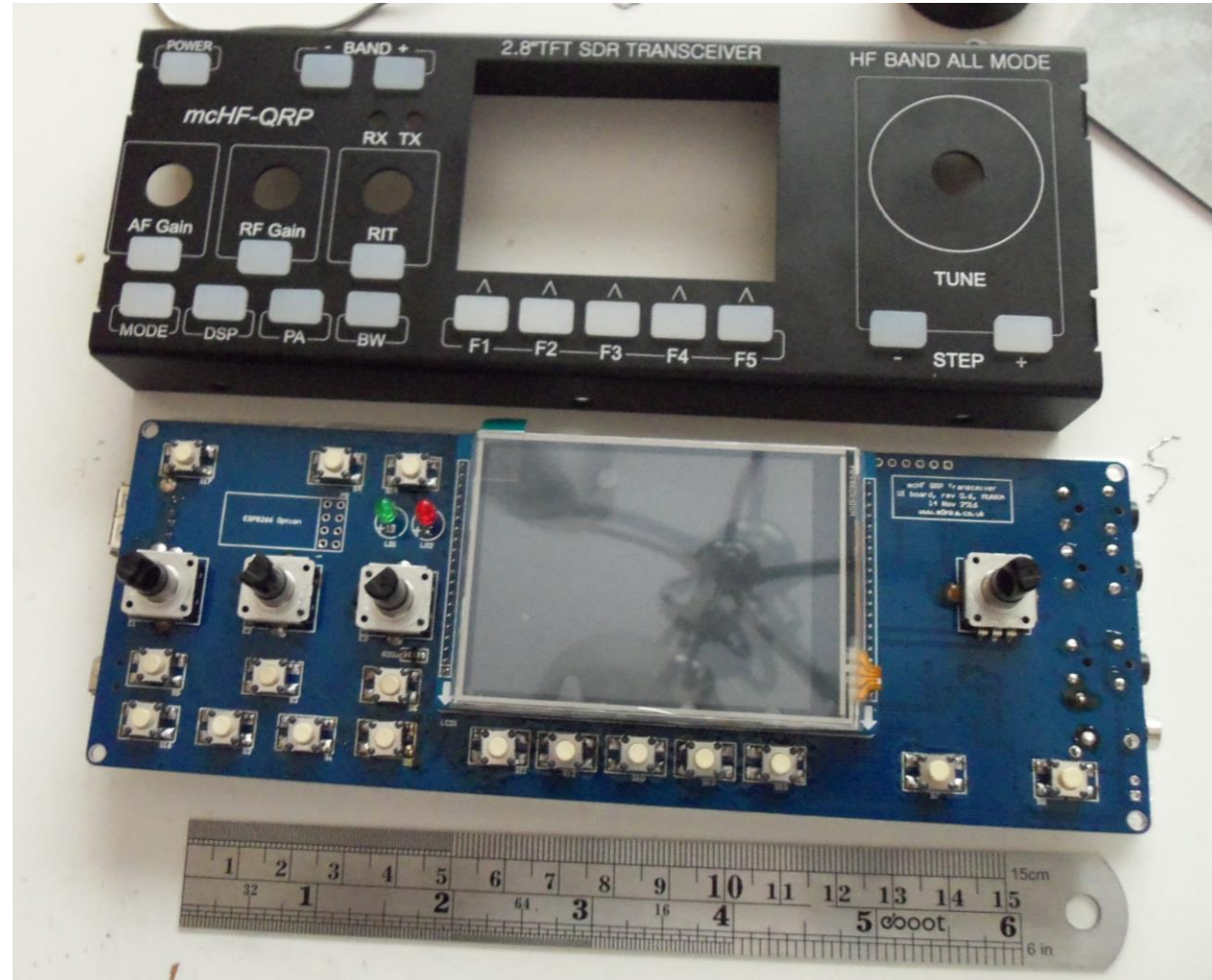


## mcHF SDR QRP Transceiver **N8NN**



### mcHF Ctrl/Display/DSP

- User interface
- 4 Encoders
- 17 Pushbuttons
- TFT Display requires modification



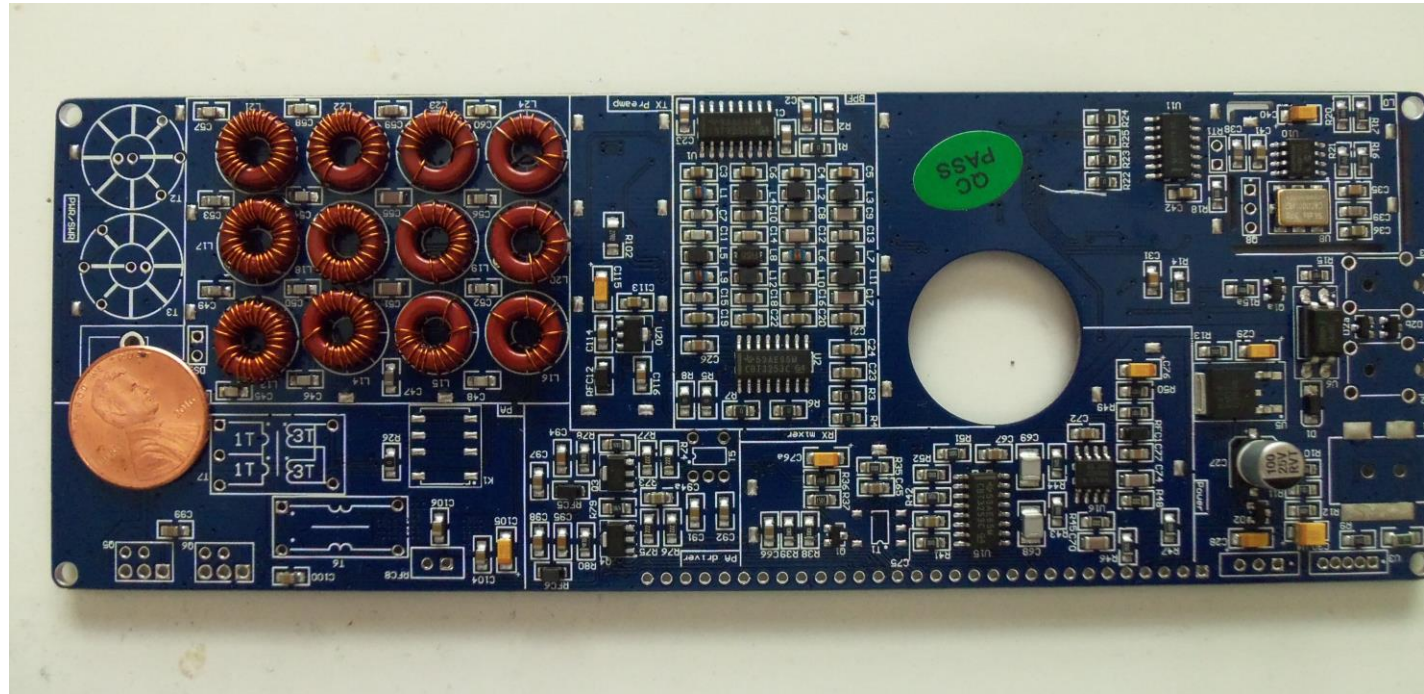


# mcHF SDR QRP Transceiver **N8NN**



## mcHF RF Board

- Under construction
- Hole is for speaker
- Penny for size comparison





# mcHF SDR QRP Transceiver **N8NN**



## mcHF CW Decoding







*mCHF SDR QRP Transceiver* **N8NN**



## mCHF SDR Software

- **Software is now pre-installed...!!!**
- **Open source (free) on GitHub.**
- **Requires two software programs:**
  - **Bootloader – Tells the CPU how it can operate.**  
**Enables the CPU to load the firmware.**  
**The bootloader is loaded once.**
  - **Firmware – The program that gets things done.**  
**The firmware changes with each upgrade.**
- **Search YouTube and GitHub to learn about the mCHF transceiver.**
- **Visit <https://n8nn.us> to view this presentation.**



*mcHF SDR QRP Transceiver* **N8NN**



## mcHF References

1. Hardware <http://www.m0nka.co.uk/>
2. Software <https://df8oe.github.io/UHSDR/>
3. Documentation <https://github.com/df8oe/UHSDR/wiki>
4. Operating Manual <https://github.com/df8oe/UHSDR/wiki/Operating-Manual>
5. Video Instructions <https://youtu.be/lcS1HGN9yAQ>



*Hardrock 50 Amplifier*

**N8NN**

## Hardrock 50 Amplifier

- Ham Bands 160, 80, 40, 30, 20, 17, 15, 12, 10, 6 meters.  
60 meters with optional antenna tuner.
- 50 watts on 160-10 meters, 35 watts on 6 meters.
- 1 to 2 watts for full power.
- Optional antenna tuner, optional QSK.
- Keying Modes: Carrier operated, PTT, Computer, By-pass.
- Antenna Tuner and SWR/Power meters operate in By-pass Mode.
- Auto Band Select: Elecraft KX2/3, Computer USB, Kenwood CAT
- SWR meter, Power meter, Temperature.
-

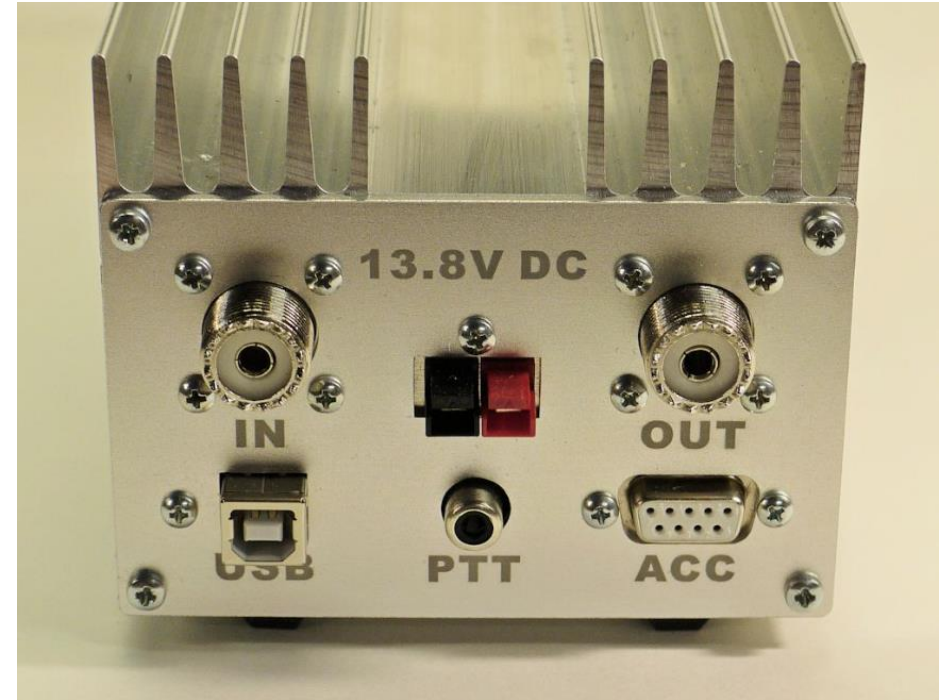


*Hardrock 50 Amplifier*

**N8NN**



## Hardrock 50 Amplifier



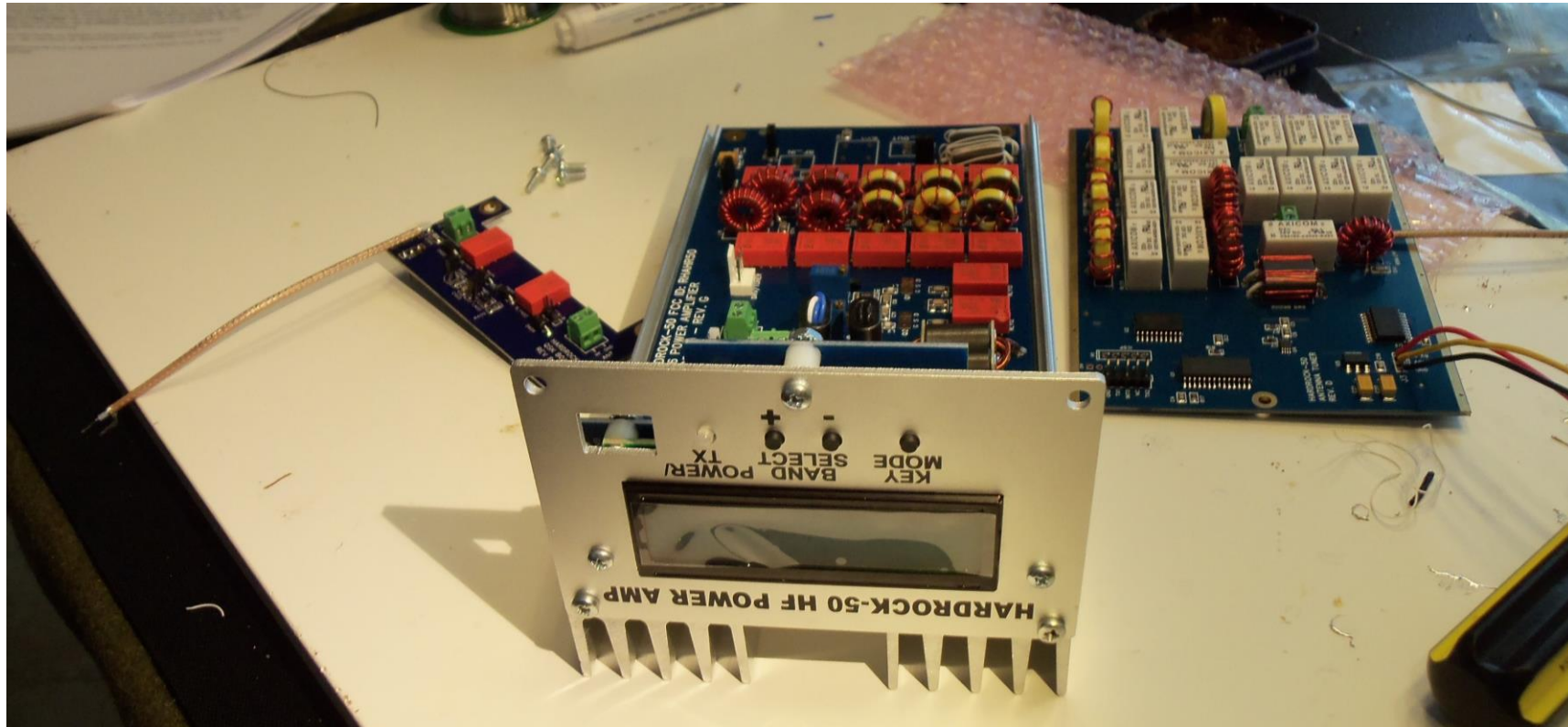


*Hardrock 50 Amplifier*

**N8NN**



## Hardrock 50 Amplifier

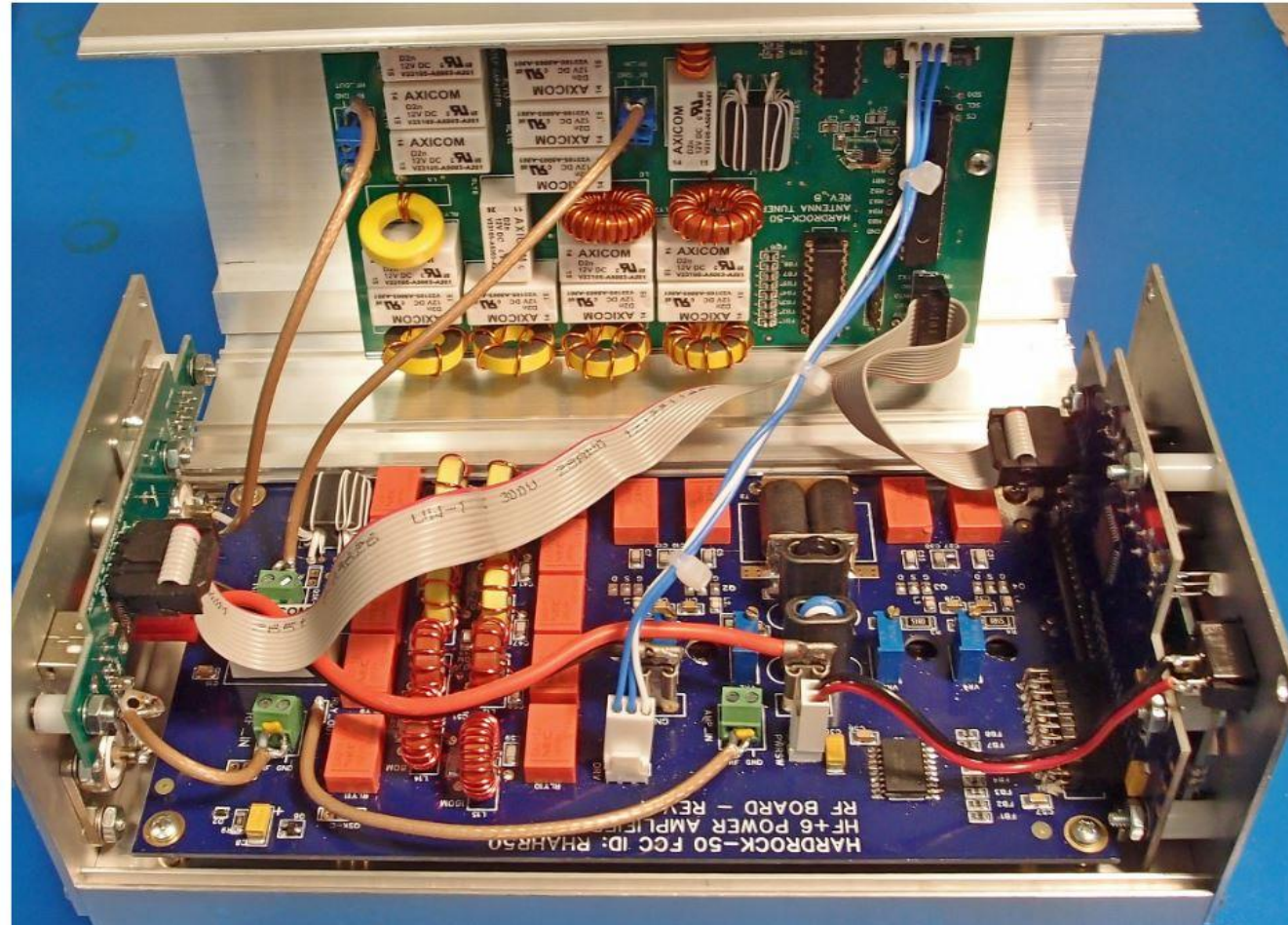




*Hardrock 50 Amplifier*

***N8NN***

**Hardrock 50 with Antenna Tuner**

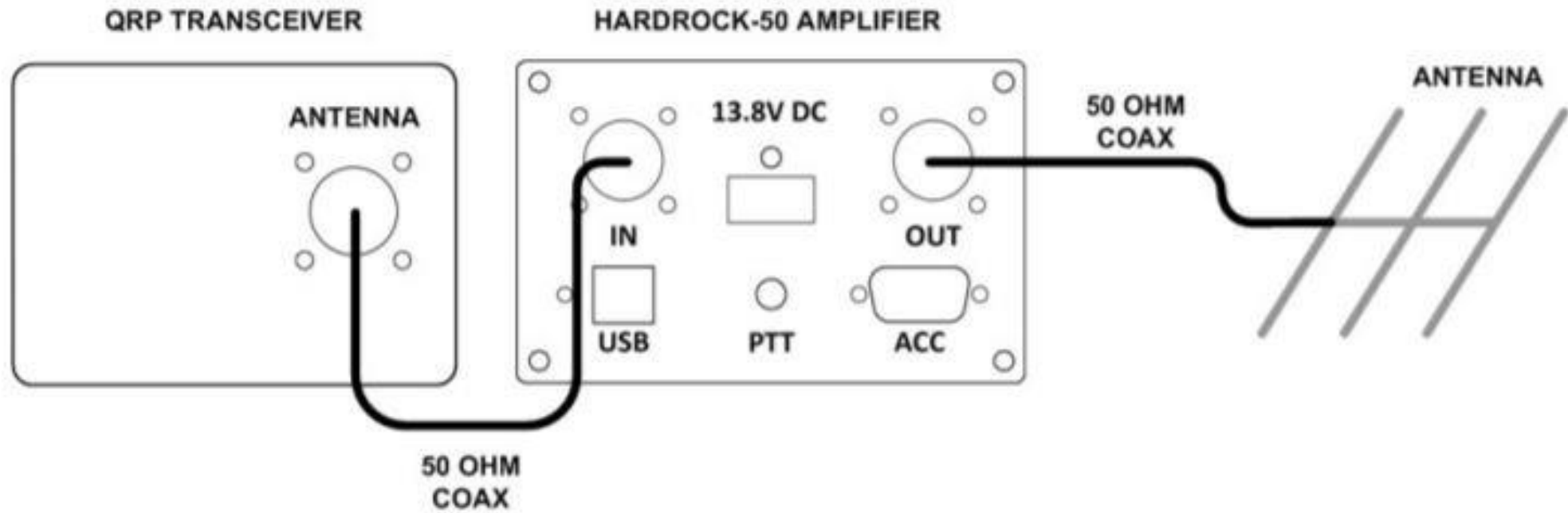




# Hardrock 50 Amplifier **N8NN**



## Hardrock 50 Basic Installation

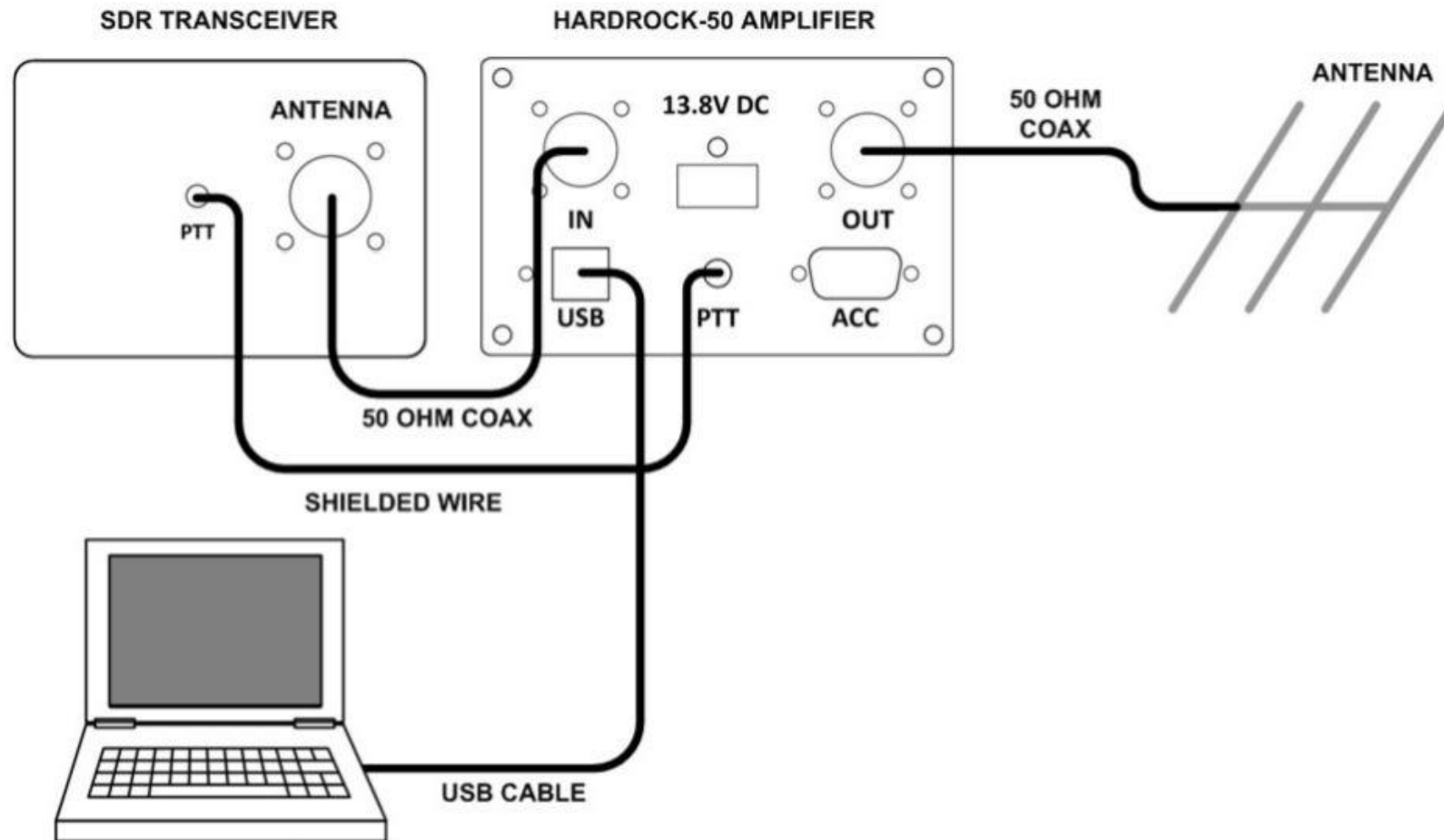




# Hardrock 50 Amplifier **N8NN**



## Hardrock 50 Full Installation



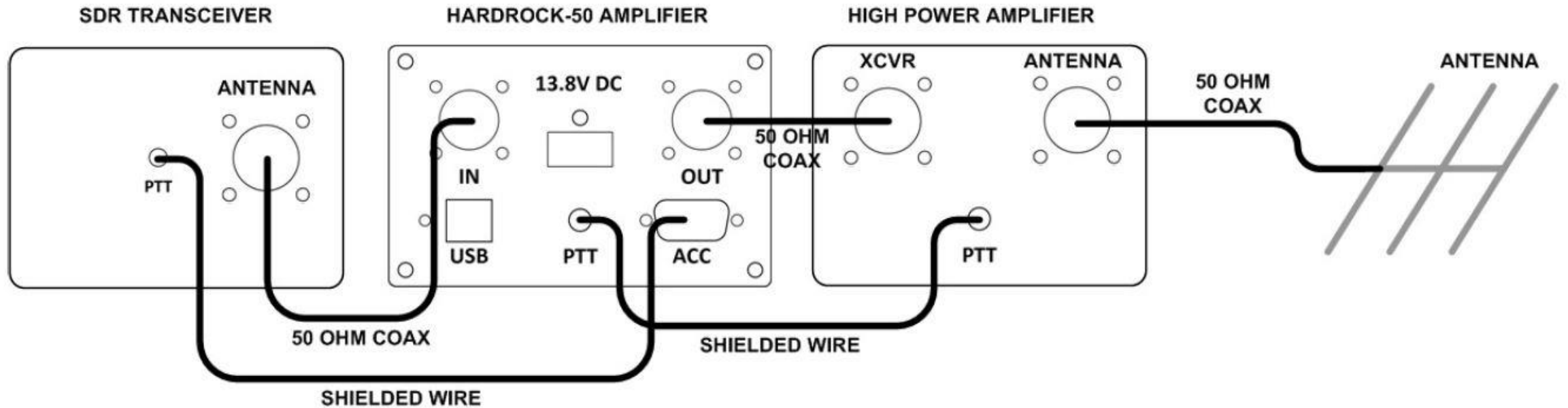




# Hardrock 50 Amplifier **N8NN**



## Hardrock 50 Installation with QRO Amp



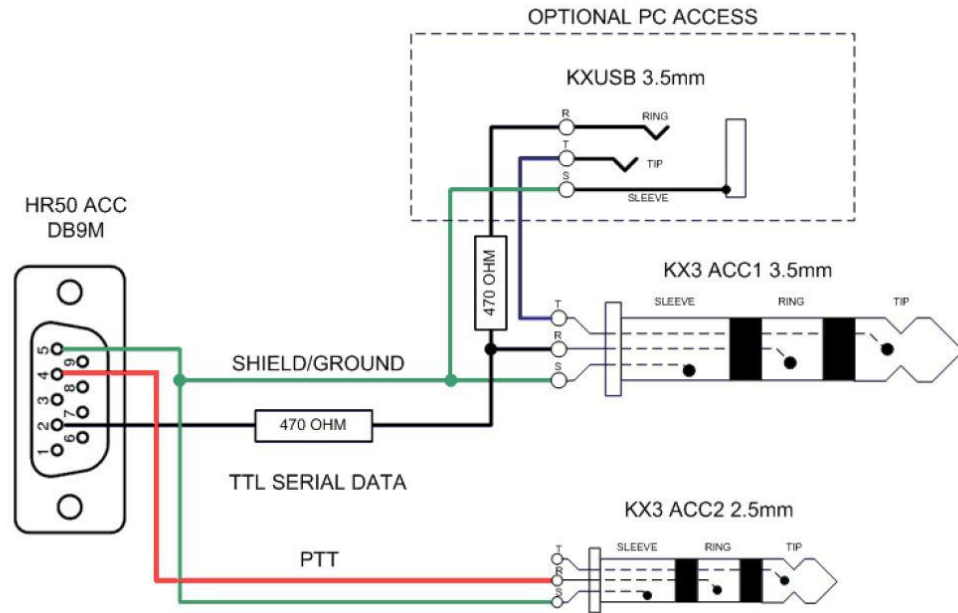


# Hardrock 50 Amplifier

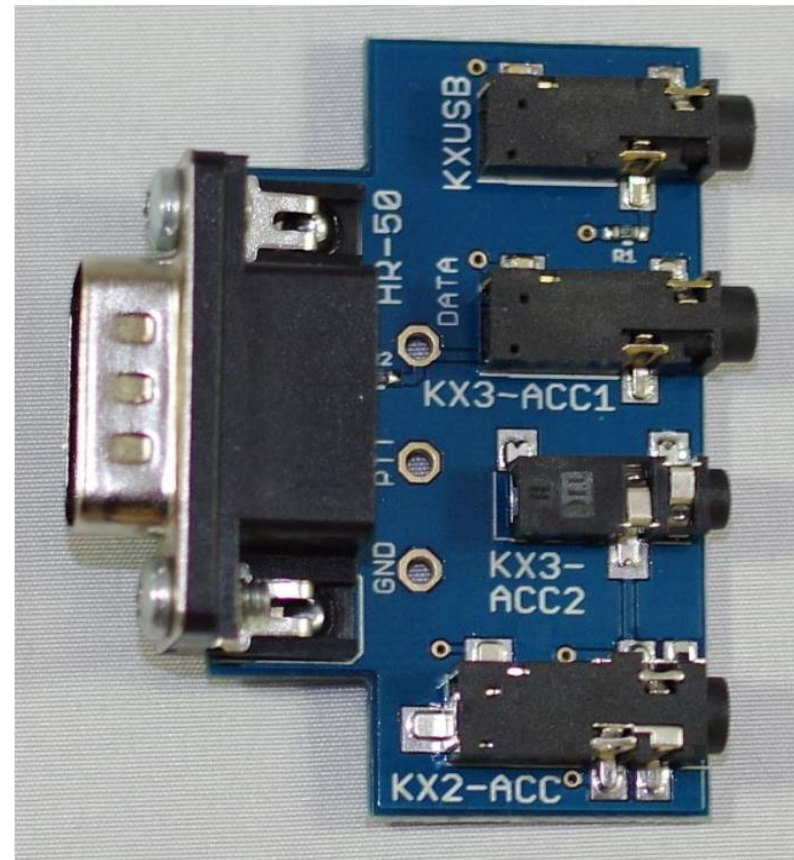
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## Hardrock 50 KX-2/3 Adapter Kit



Includes all cables.





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View at <https://n8nn.us>

## Hardrock 50 References

1. **Hardware** <https://www.hobbypcb.com/>
2. **Software** <https://sites.google.com/site/hardrock50beta/home/firmware-update>
3. **Documentation** <https://sites.google.com/site/hardrock50beta/home>
4. **Operating Manual** <https://sites.google.com/site/hardrock50beta/home/instruction-manual>
5. **Video Review** <https://www.youtube.com/watch?v=NLFFUvVoOf8>

Q & A