OPENHPSDR

FOR BEGINNERS

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WHAT IS OPENHPSDR?

- ☐ Non-commerical
- ☐ Open source
- ☐ High performance
- ☐ Experimenter's Platform

PROJECT ORGANIZATION

- ☐ Non-commercial group of open source hardware and software developers

- ☐ Self-appointed project leaders take care of individual projects

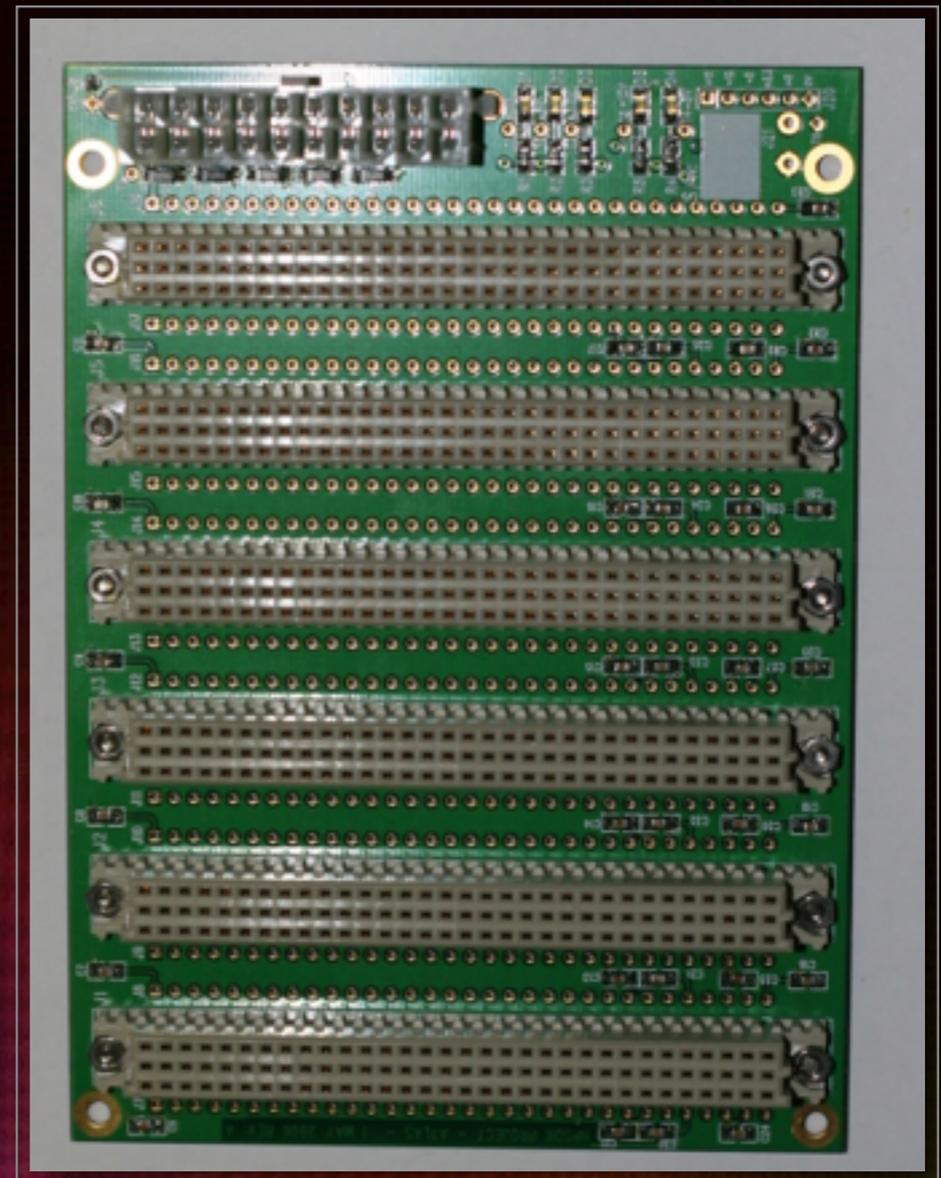- ☐ TAPR provides manufacturing, development and logistical support as necessary

HARDWARE COMPONENTS

- ☐ Each named for a mythological character

- ☐ Designed for flexibility

- ☐ Each uses an Altera Cyclone FPGA

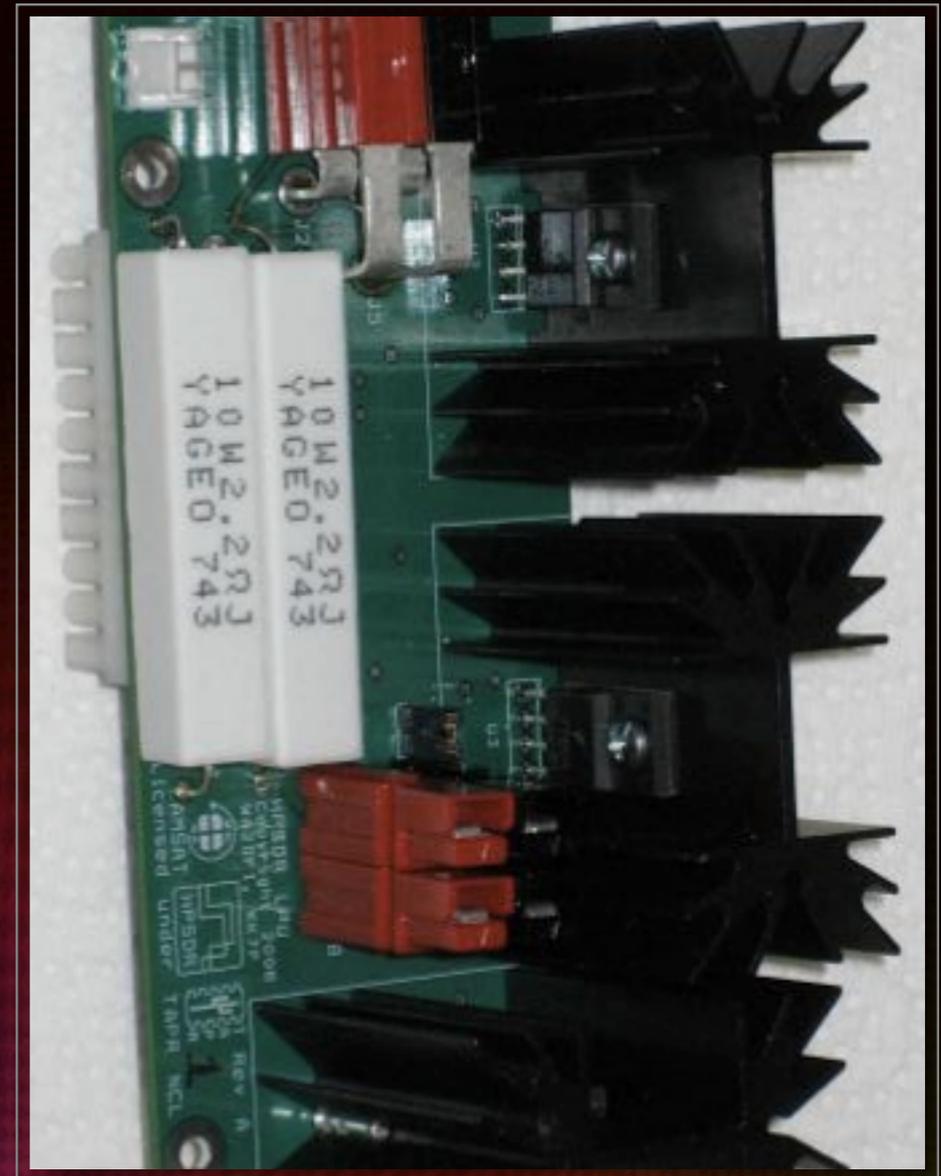- ☐ Like Legos, there are instructions but you can use however you want

ATLAS

- ☐ "Motherboard" that holds components physically and electrically

- ☐ Provides power to boards via an on-board ATX connector

- ☐ Passive bus

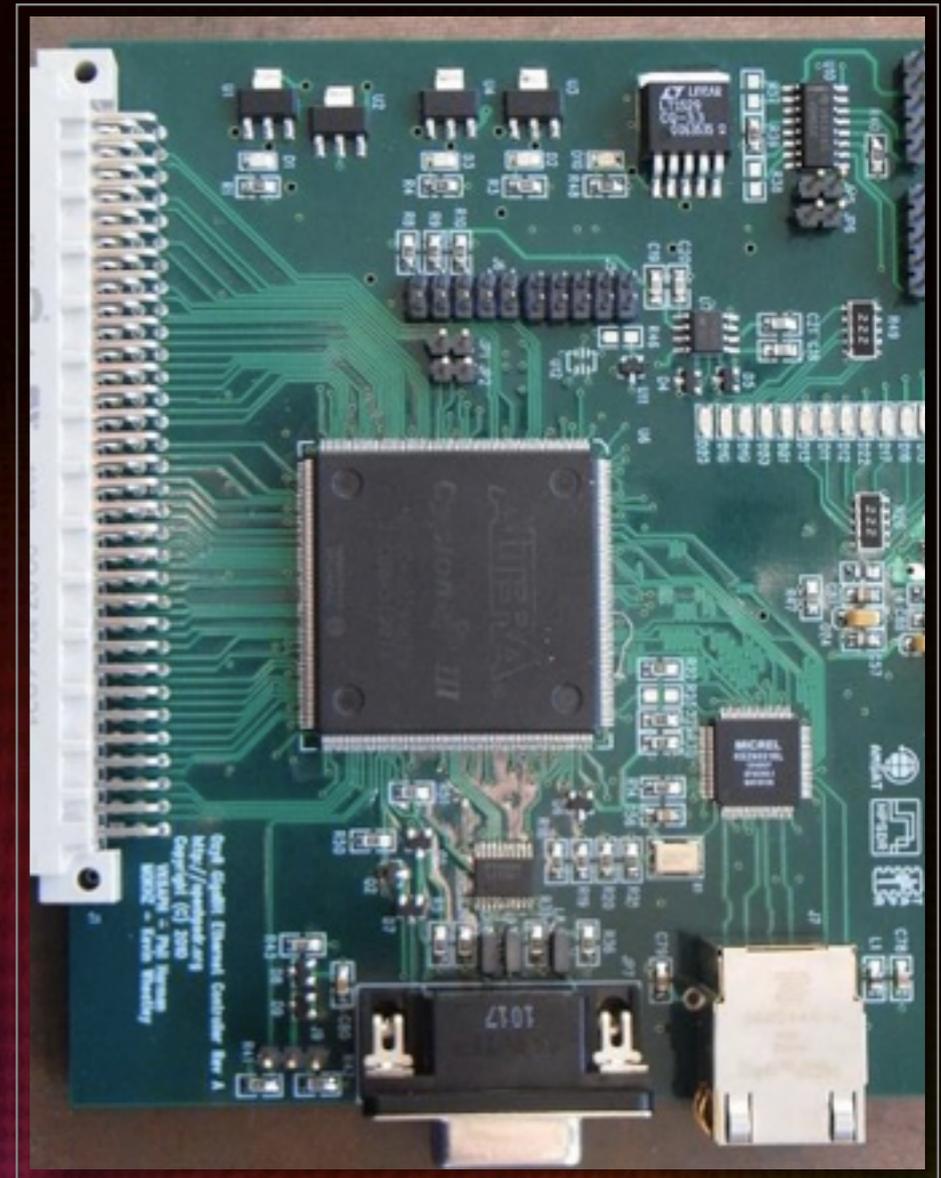- ☐ Board spacing designed for a standard PC case

- ☐ Distributed as a kit

POWER SUPPLY

- [ ] Can use any ATX power supply

- [ ] OpenHPSDR has developed LPU

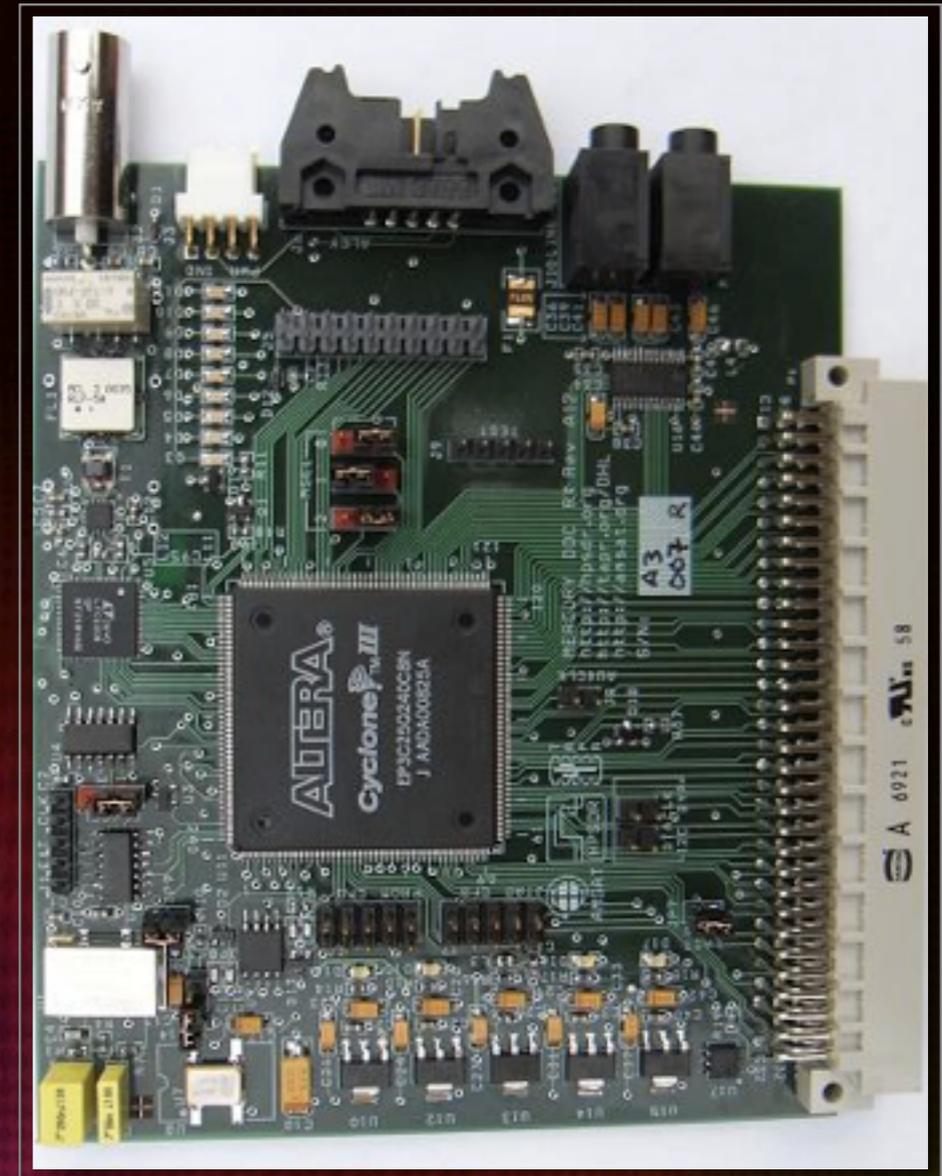- [ ] Others have had good luck with PicoPSU

COMPUTER INTERFACE

- First generation used USB (Ozymandias)

- Second generation uses 1000Base-T ethernet (Metis)

  - UDP communications protocol

  - Supports DHCP and Link Local IP addressing

RECEIVER — "MERCURY"

- ☐ DDC receiver
  - ☐ No IF
  - ☐ I and Q created digitally
- ☐ Uses LTC 2208 ADC
  - ☐ 122 Msps 16-bit
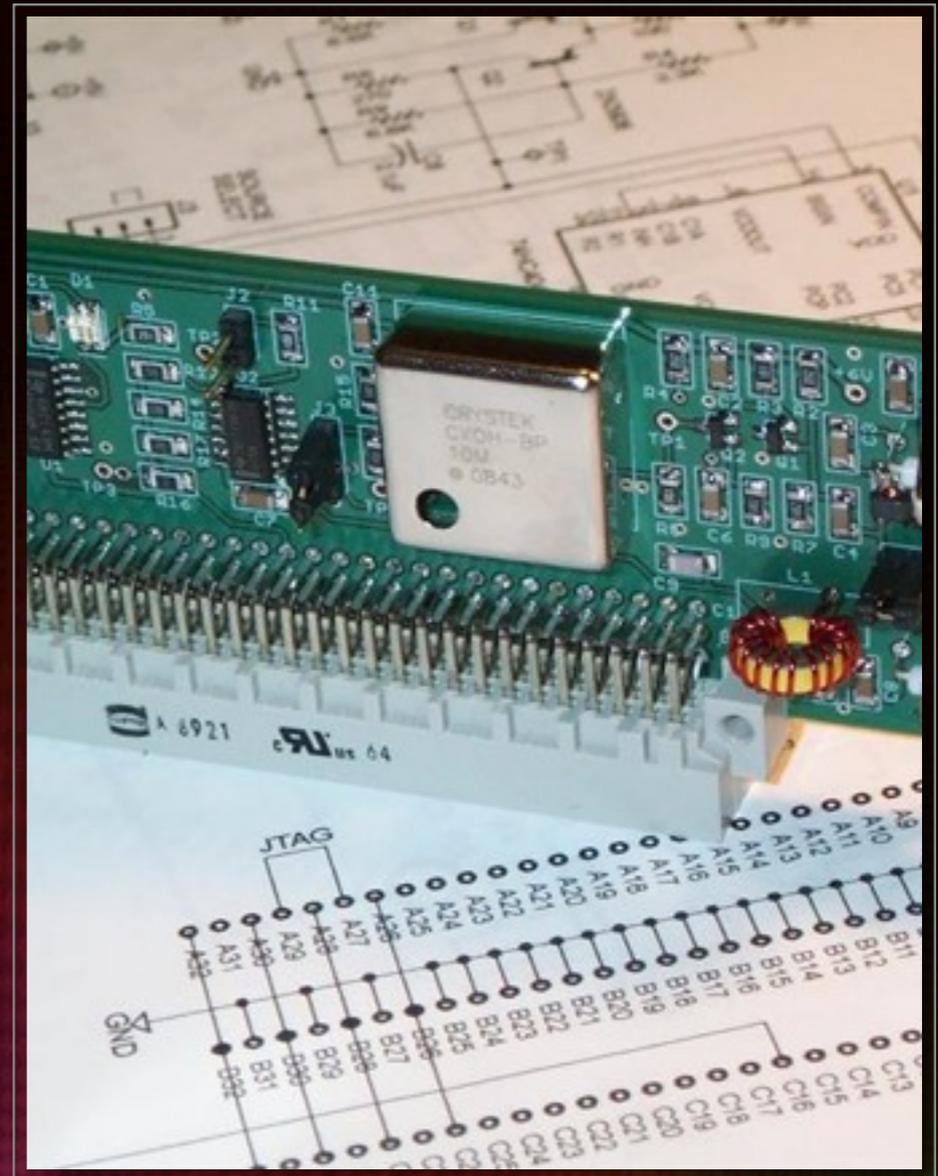- ☐ 119dB BDR
- ☐ > 50 dBm IP3 equivalent

EXCITER — "PENNYLANE"

- Evolution of original "Penelope" board

- 0.5W output DUC

- Uses AD 9744 DAC

  - Run at 122 Msps to mirror Mercury

  - 14 bit

OTHER GOODIES

- ☐ Case: "Pandora"

- ☐ 10MHz Reference: "Excalibur"

- ☐ Filters and antenna switching: "Alexiares"

- ☐ "Pennywhistle": 20W amp

  - ☐ Needs Alex or other filtering

- ☐ Coming soon — "Cyclops": 0-4.4 GHz spectrum analyzer and tracking generator
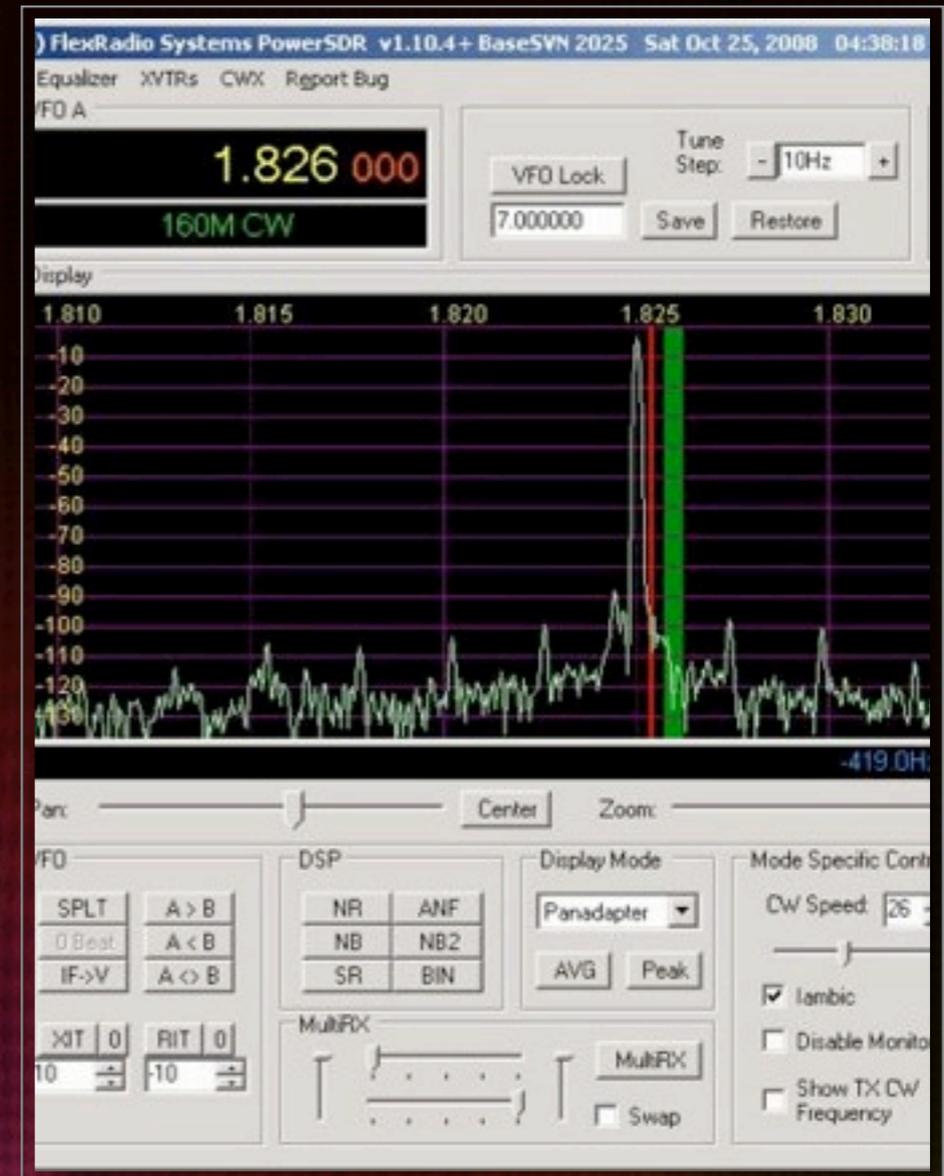
THE CHEATER'S WAY — "HERMES"

- Everything on one board

- Designed with companion "Apollo" for 20W PA, ATU and filtering

- Coming this summer for approx. $895

SOFTWARE

- [ ] Versions of PowerSDR

- [ ] KISS Konsole

- [ ] Heterodyne (Macintosh)

- [ ] gHPSDR

- [ ] cuSDR

QUESTIONS AND COMMENTS

- [ ] Please save lawyer jokes until the break

- [ ] Demo table in hallway

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