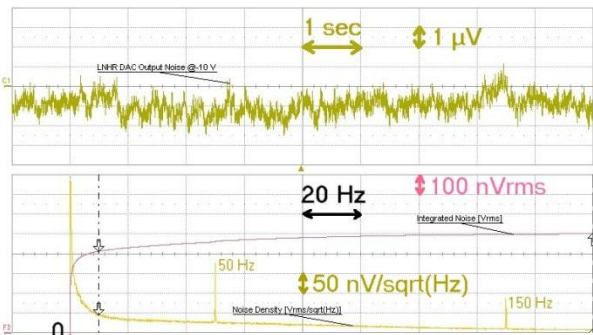


Low Noise / High Resolution DAC



- Physics experiments at cryogenic temperatures, often need low noise and ultra-fine tunable voltages. For such experiments constant DC bias-voltages with very low fluctuations and high resolution sweep-voltages are mandatory.
- Since no such devices are available in the market, we have developed and produced a small series of this LNHR DAC (Physics Basel, SP 927).
- The LNHR DAC combines outstanding noise performance with high resolution and excellent stability.

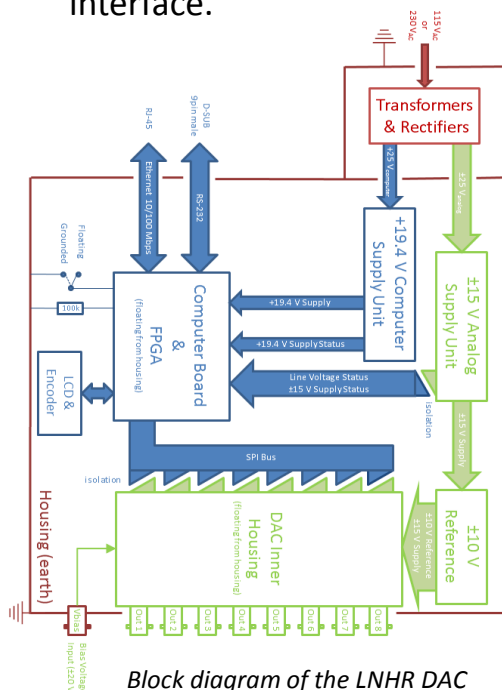


Typical output noise @-10 V_{DC} (time and frequency)

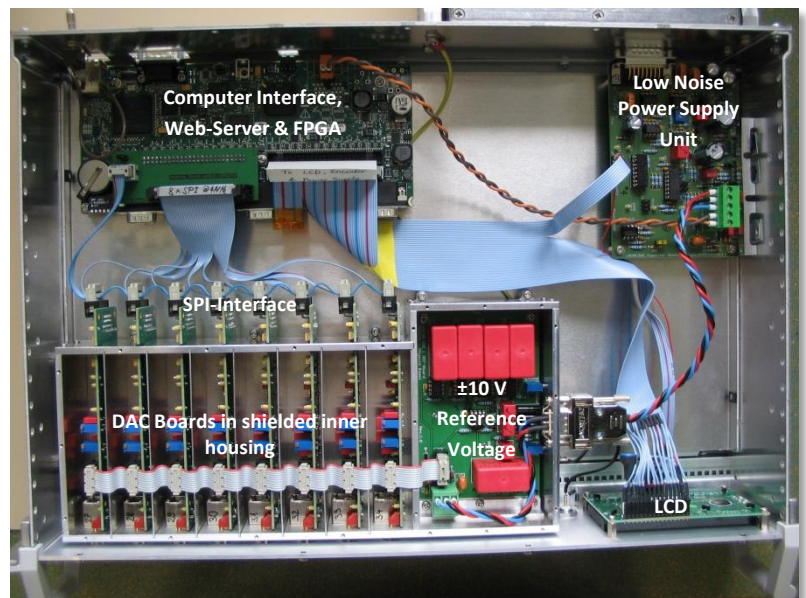
LNHR DAC Features

- Eight DAC voltages with a ± 10 V range
- Typical $0.5 \mu\text{V}_{\text{RMS}} = 3.3 \mu\text{V}_{\text{PP}}$ output noise (0.1-100 Hz)
- 24-bit resolution gives a voltage step size of 1.2 μV
- Channel to channel crosstalk isolation of >140 dB
- 75 Hz output bandwidth
- LC-Display for status display and manual control
- Remote controllable via RS-232 or Ethernet (via a standard web-browser)

- Preventing ground loops is essential for such low noise applications. Therefore, the DAC output ground is galvanic-isolated from the housing (earth) and the computer interface.



Block diagram of the LNHR DAC



Under the hood: The DAC boards are installed in a shielded inner housing