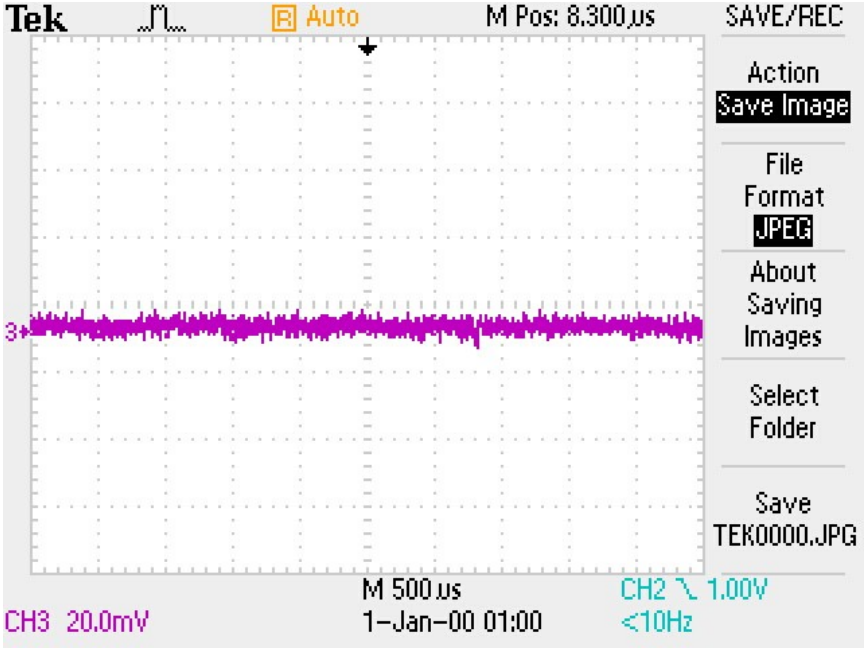
RD50-MPW3 NOISE MEASUREMENTS

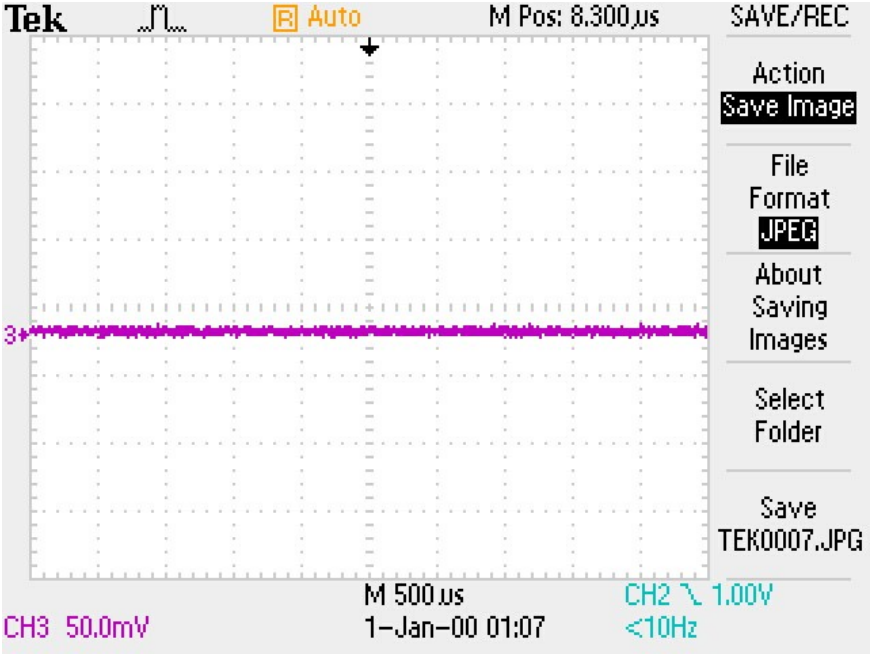
19/01/23

RD50-MPW3 – Vth 1.5V

Helmut's standalone firmware



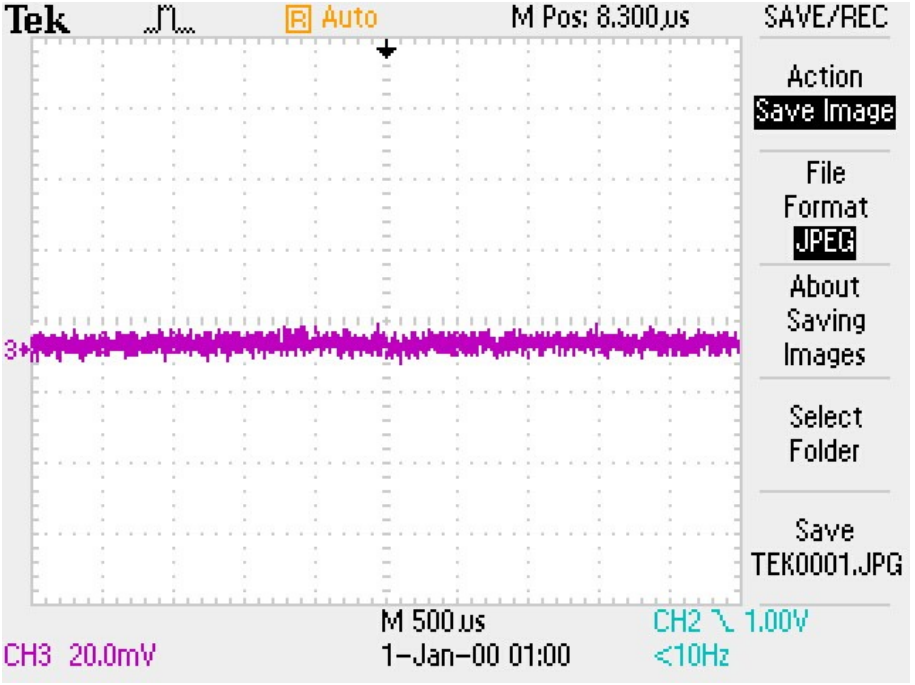
Bernhard's peary firmware



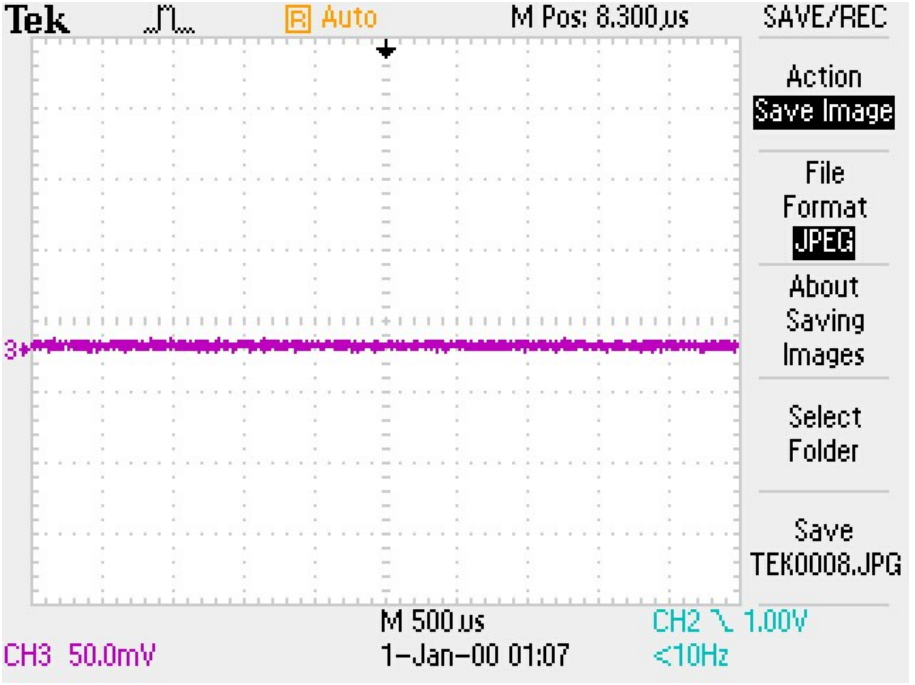
- Comparison of SFOUT (analogue output) noise between the 2 firmwares as a function of threshold voltage

RD50-MPW3 – Vth 1.4V

Helmut's standalone firmware

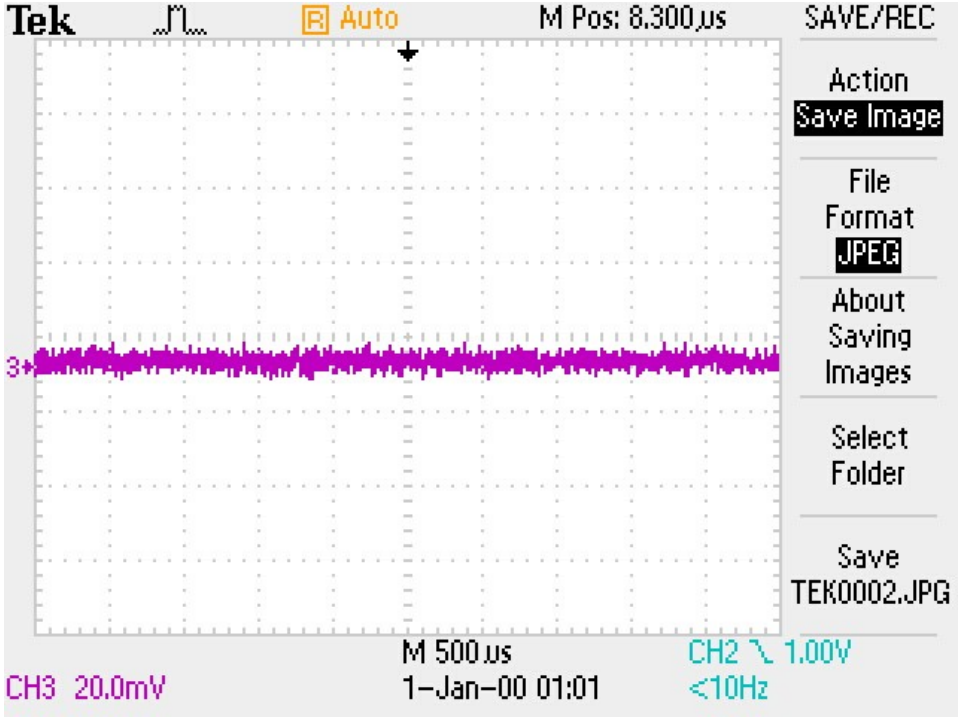


Bernhard's peary firmware

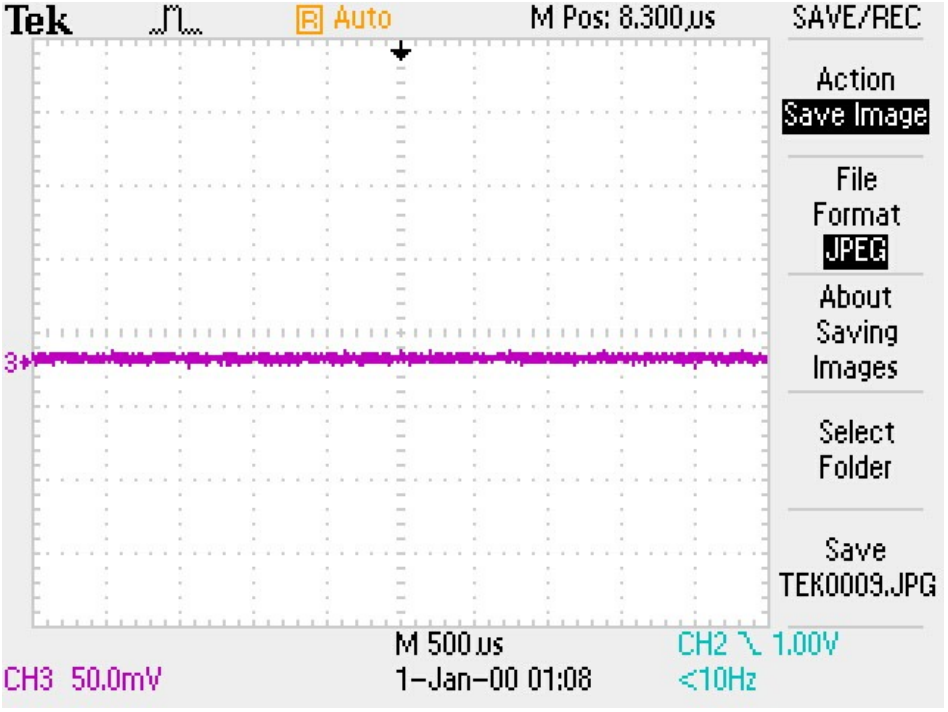


RD50-MPW3 – Vth 1.3V

Helmut's standalone firmware

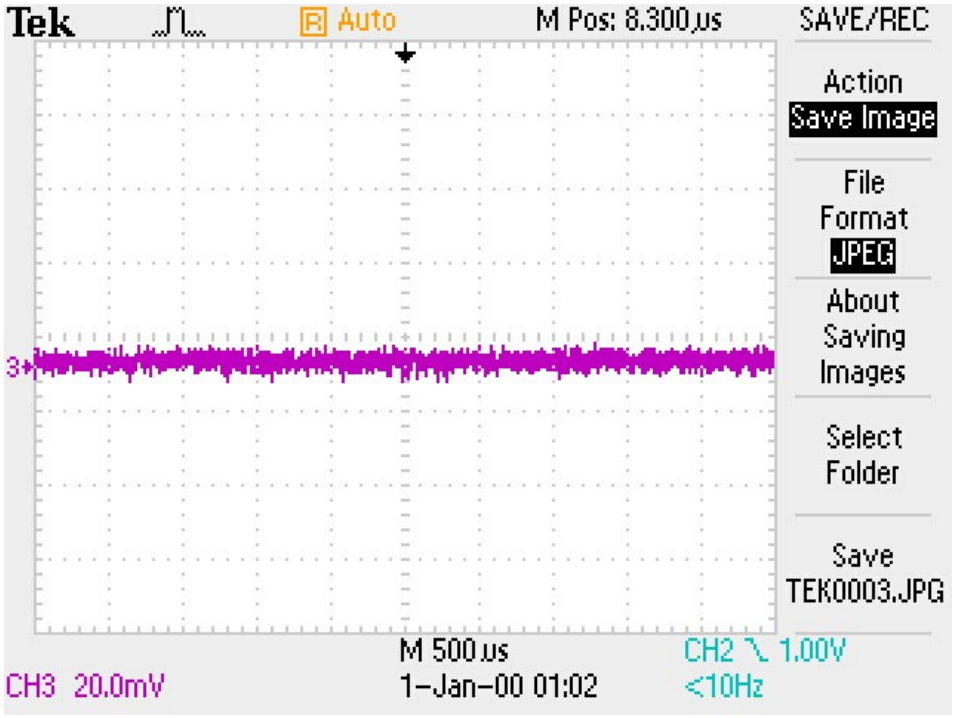


Bernhard's peary firmware

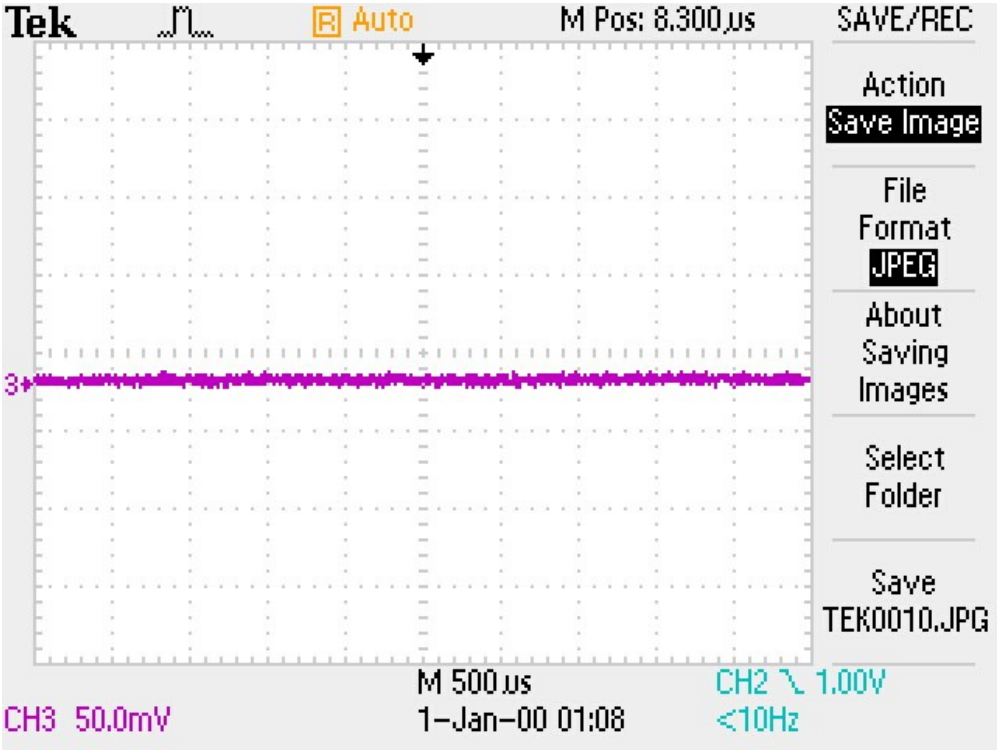


RD50-MPW3 – Vth 1.2V

Helmut's standalone firmware

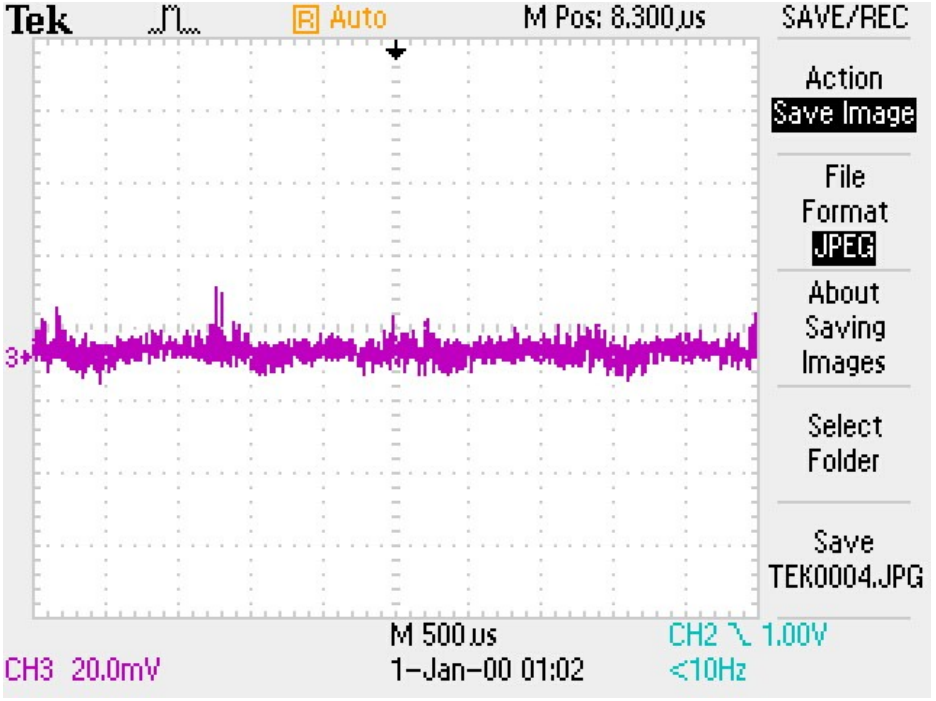


Bernhard's peary firmware

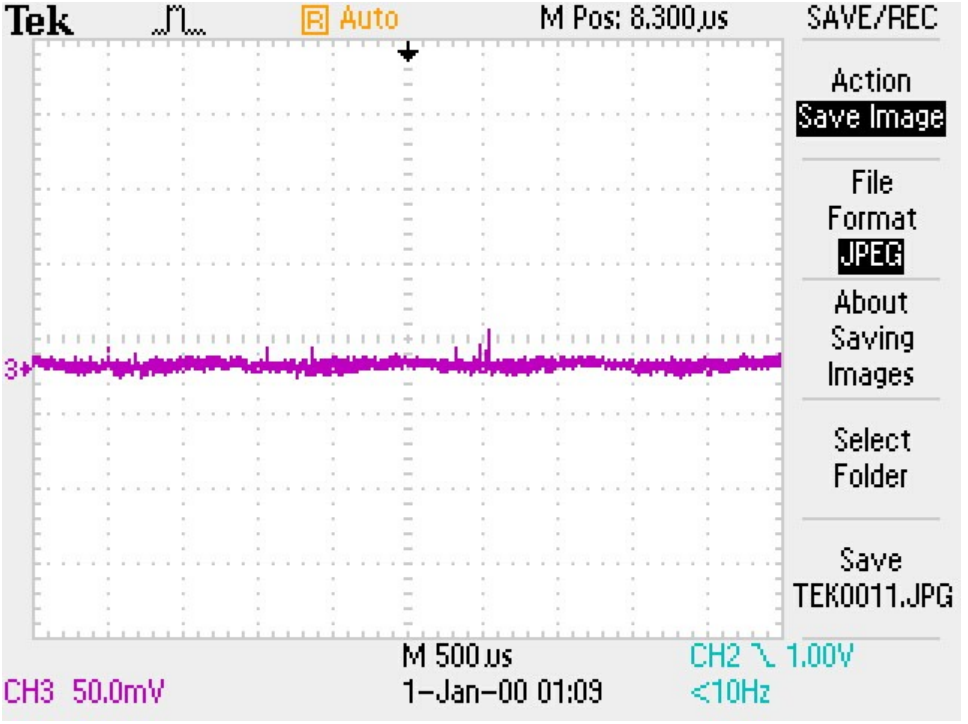


RD50-MPW3 – Vth 1.1V

Helmut's standalone firmware

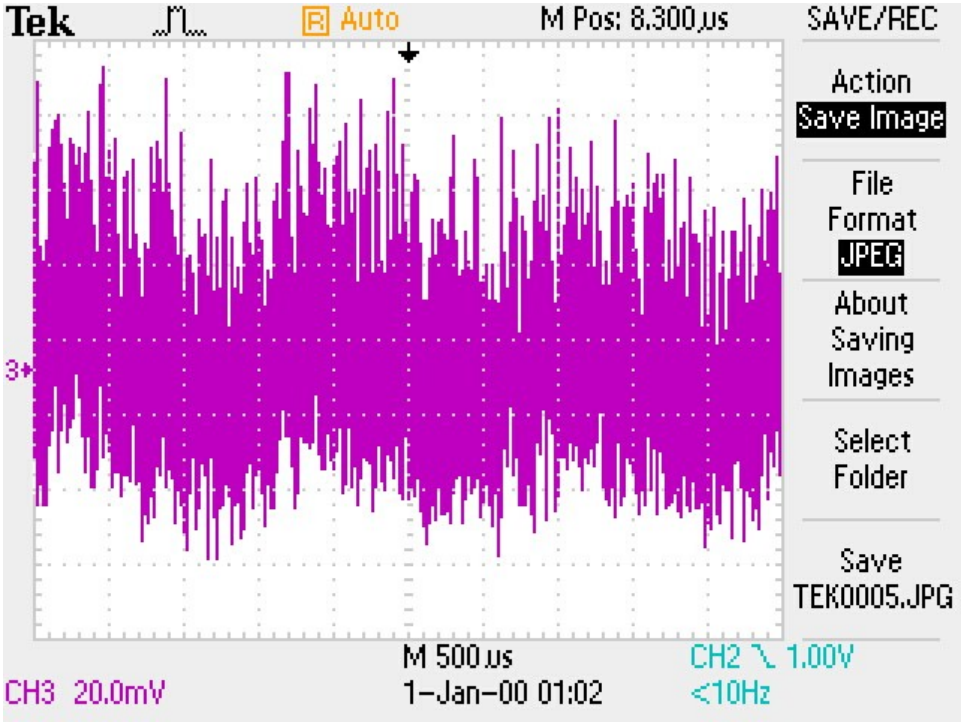


Bernhard's peary firmware

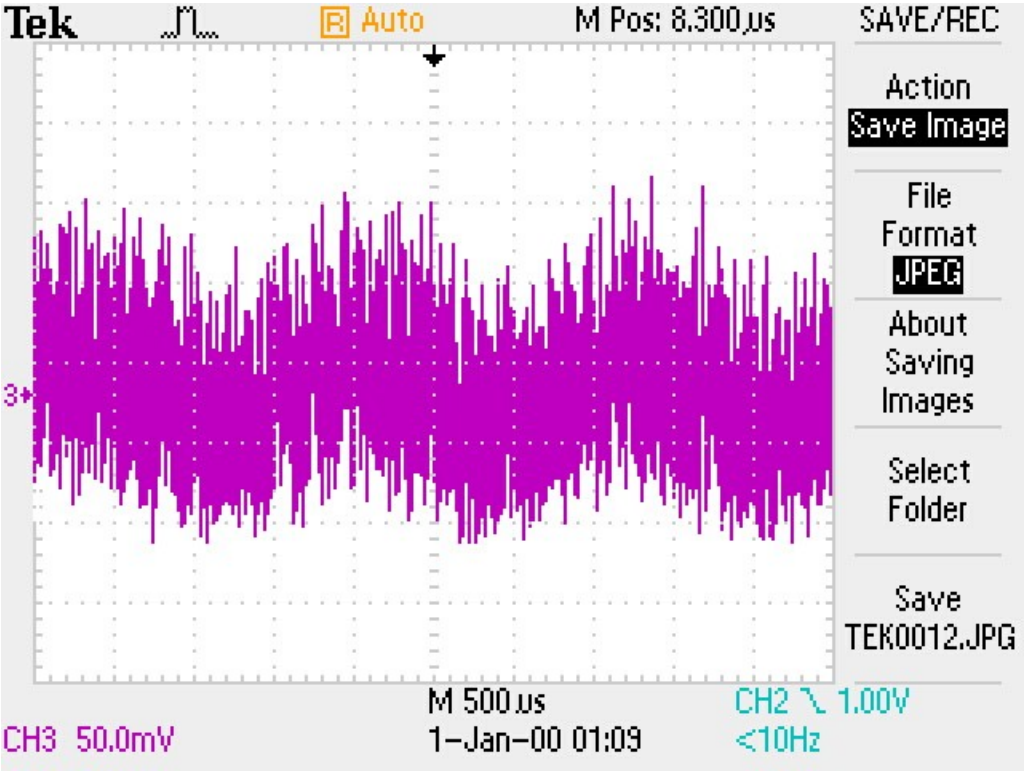


RD50-MPW3 – Vth 1.0V

Helmut's standalone firmware

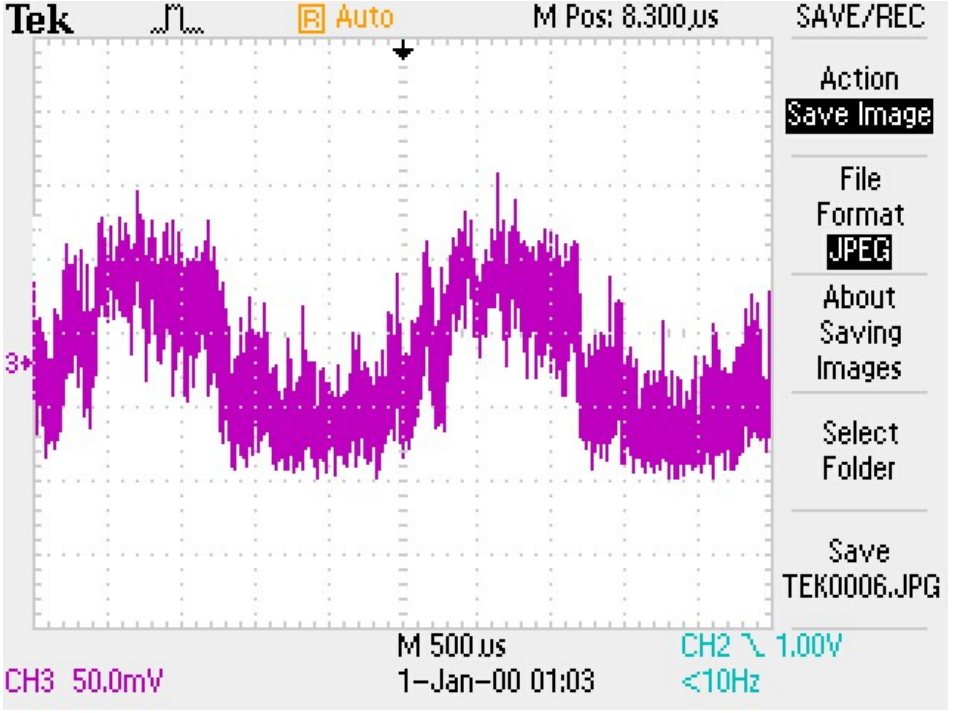


Bernhard's peary firmware

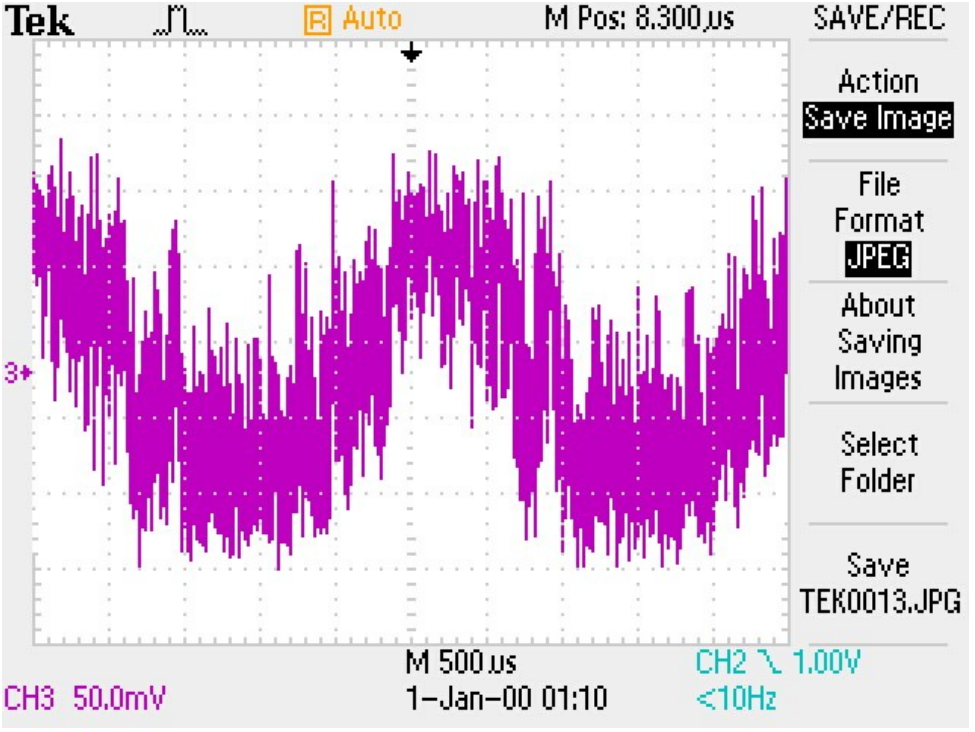


RD50-MPW3 – Vth 0.9V

Helmut's standalone firmware

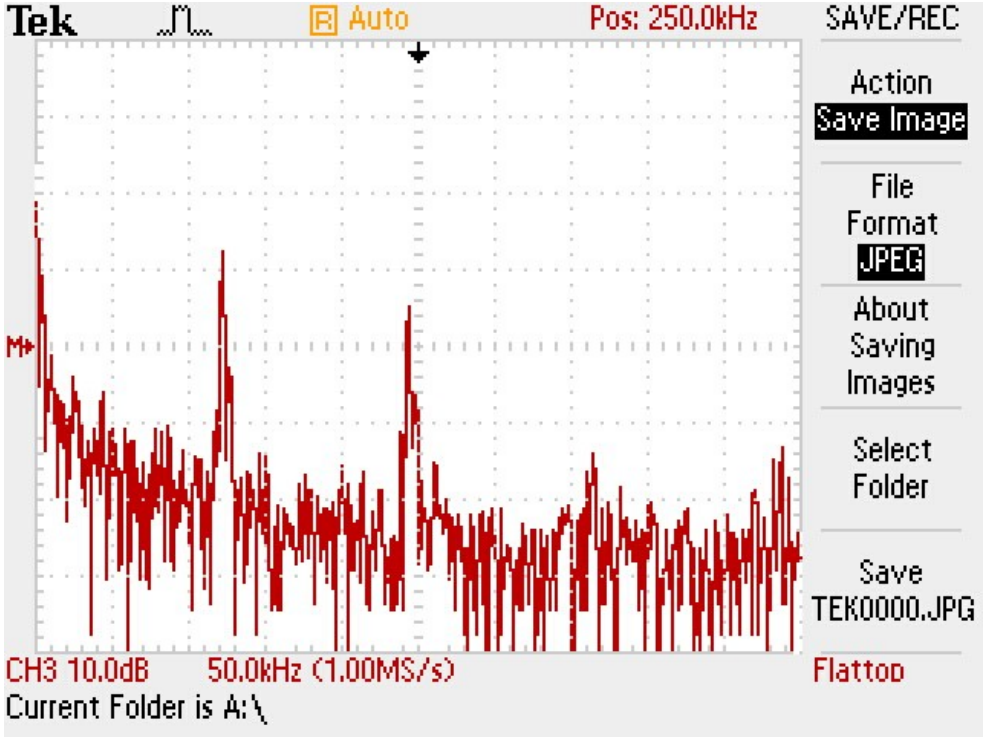


Bernhard's peary firmware

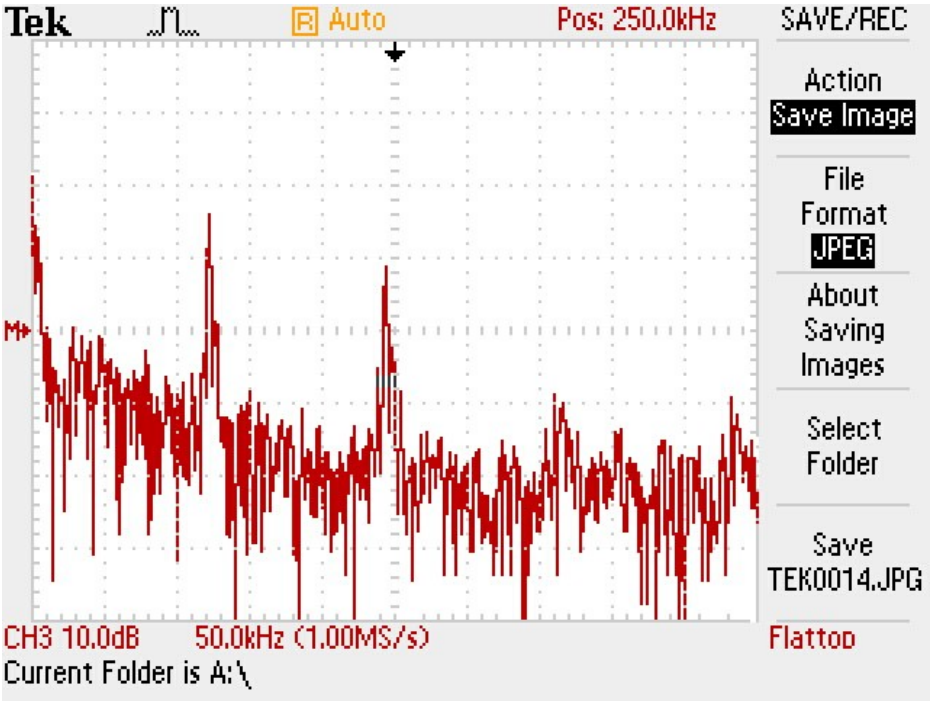


RD50-MPW3

Helmut's standalone firmware



Bernhard's peary firmware



- Comparison of SFOUT (analogue output) noise between the 2 firmwares @0.9V threshold in frequency domain
- Low frequency noise components at approximately the same frequencies for both

RD50-MPW3

- Both firmwares show noise on SFOUT increases as a function of threshold
- Slightly less noise observed in the standalone firmware (only slightly)
- Noise appears to coincide with comparator tiggering (likely pickup from digital activity)
- All bias voltages and power supply levels measured (VDDA, VDDC, 2V5, 1V3 etc) – No significant differences found between voltage levels (all within 45mV)