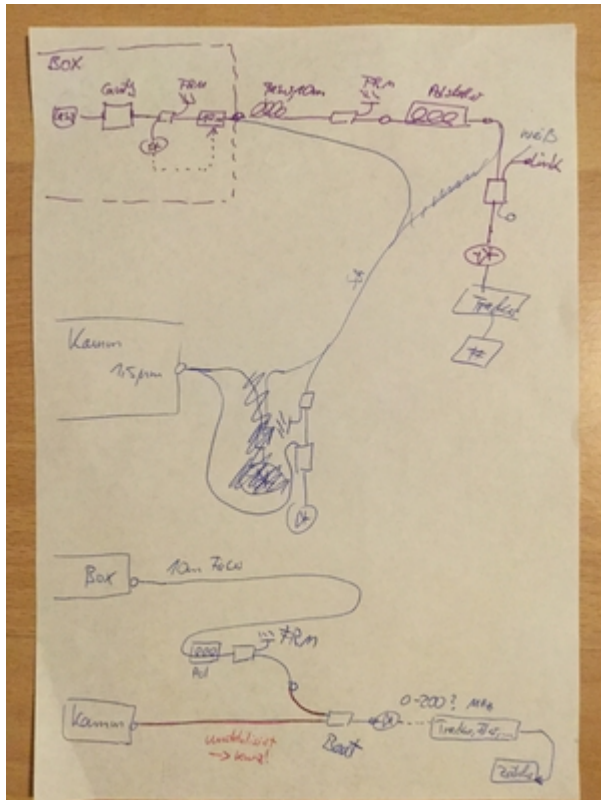


Three Corner Head Measurement

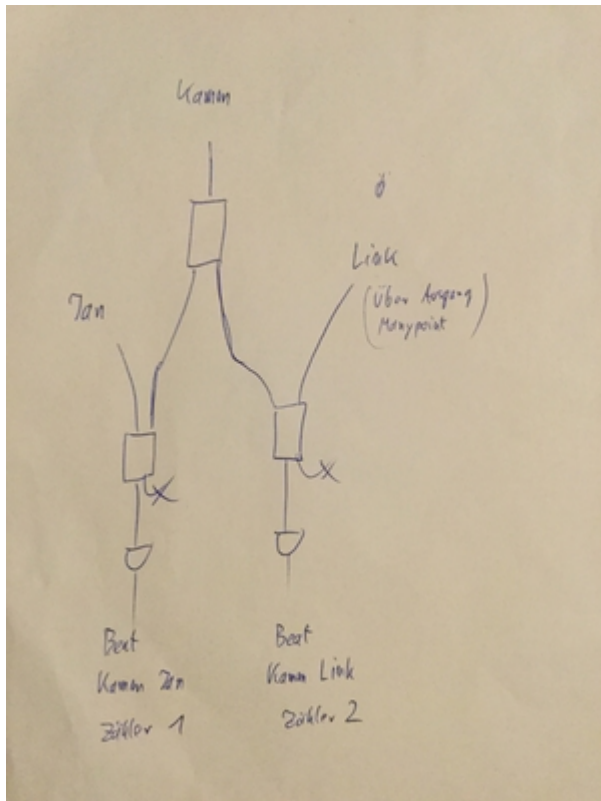
First measurement ideas

Jan's laser vs. Comb Hannover



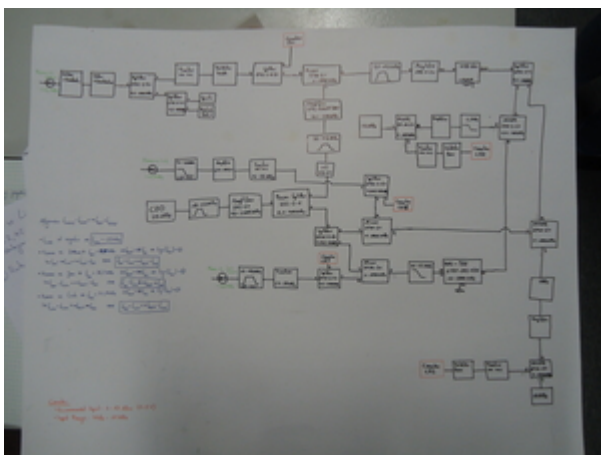
- purple = current setup (06.10.2016)
- blue = setup for measurement
- red = unstabilized fiber → keep it short!

Jan's laser vs. Comb Hannover and Link vs. Comb Hannover



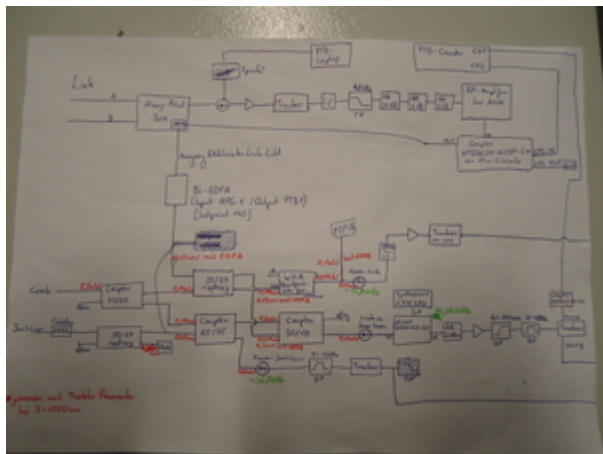
- Shift the ManyPointBox and Link to the optical table

Second Try



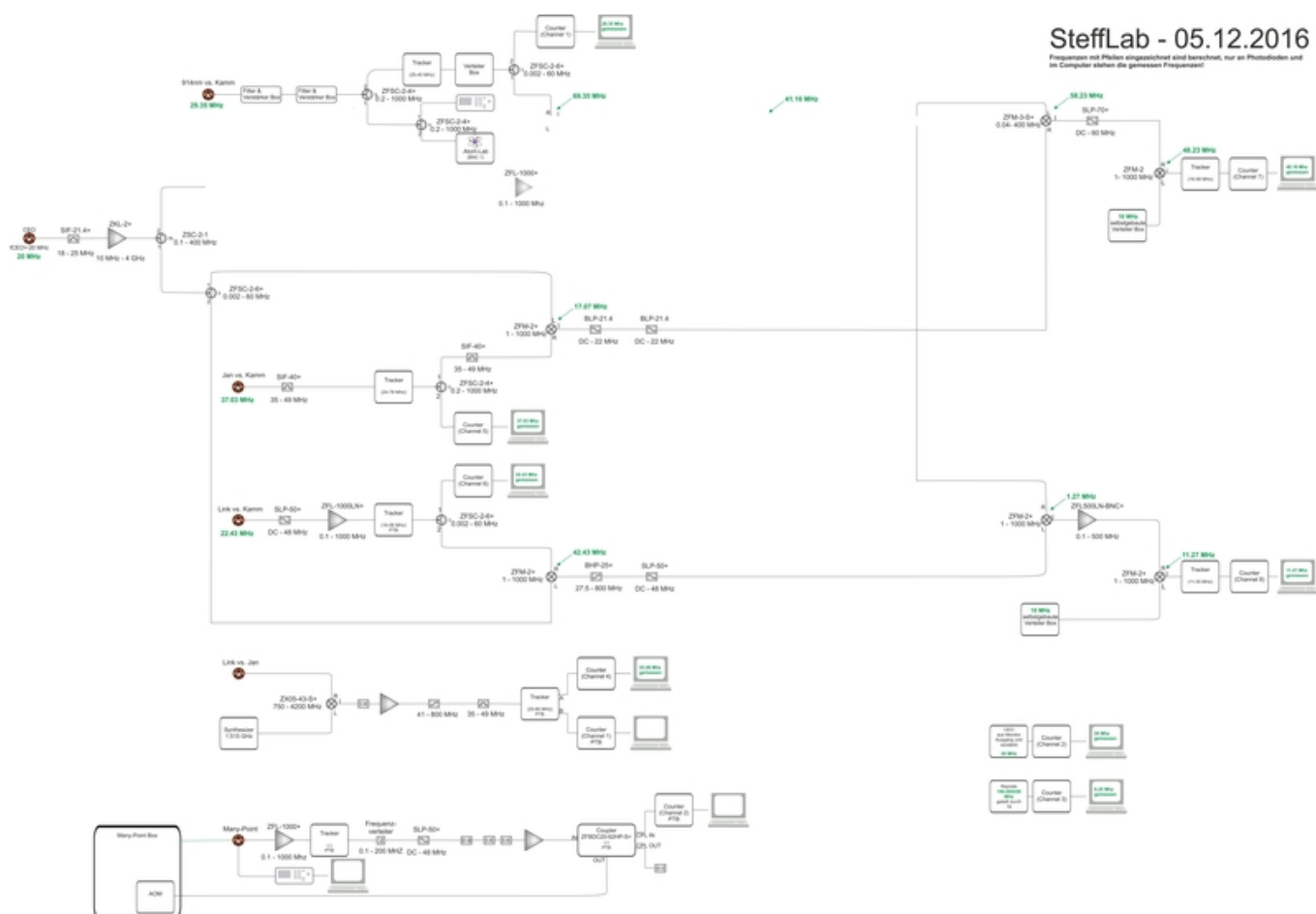
Final Setup

Optical part



Electronic part

Three Corner Head Measurement - PDF-version



Frequencies

- Jan's Laser = 194.401.549 MHz (fine with Protocolbook 194.401.556 MHz).
- 916nm clock laser: 327.5291 THz (accuracy maybe worse than 100 MHz)

Measured with wavemeter in PTB (accuracy: ± 30 MHz):

- 194.400.001 MHz Laser
- -47 MHz Regel-AOM
- +36 MHz Manypoint-extraktion-AOM

→ 194.399.990 MHz

Jan's transportable laser has a higher frequency:

- Mixer in Hannover run with +1515 MHz
- Beat is +44 MHz
- Jan's Laser = 194.401.549 MHz (fine with Protocolbook 194.401.556 MHz)

DDS-Programming

Ratio: $N = n_{916}/n_{Link} = 3275292/1944000 = 1.684820987654321...$

Inverted Ration: $N' = 1/N$

For DDRS: $M = (N') * 2^{48} = 167065212727755.34375$ (dez) = 97f1e6a8b1cb.58 (hex) $\sim$ = **97f1e6a8b1cb** (hex)

Alte Berechnung (Es wurden die Frequenzen geteilt und nicht die Modennummern)

1. → ratio of $\sim 1,684807$
2. → 474231011086950,203392
3. [Hex]: 1AF4F82F51266
4. → Inverted Ratio: 0,5935397770762964267907798116259
5. $0,5935397770762964267907798116259 * 2^{48} = 167066594929398,49071775301797611$
6. 167066594929398 [Deg] entspricht 97F2390B6AF6 [Hex]

→ Type 97F2390B6AF6 into the divider!!!

From:
<https://iqwiki.iqo.uni-hannover.de/> - IQwiki

Permanent link:
https://iqwiki.iqo.uni-hannover.de/doku.php?id=groups:mg:three_corner_head_measurement&rev=1492168939

Last update: 2017/04/14 11:22

