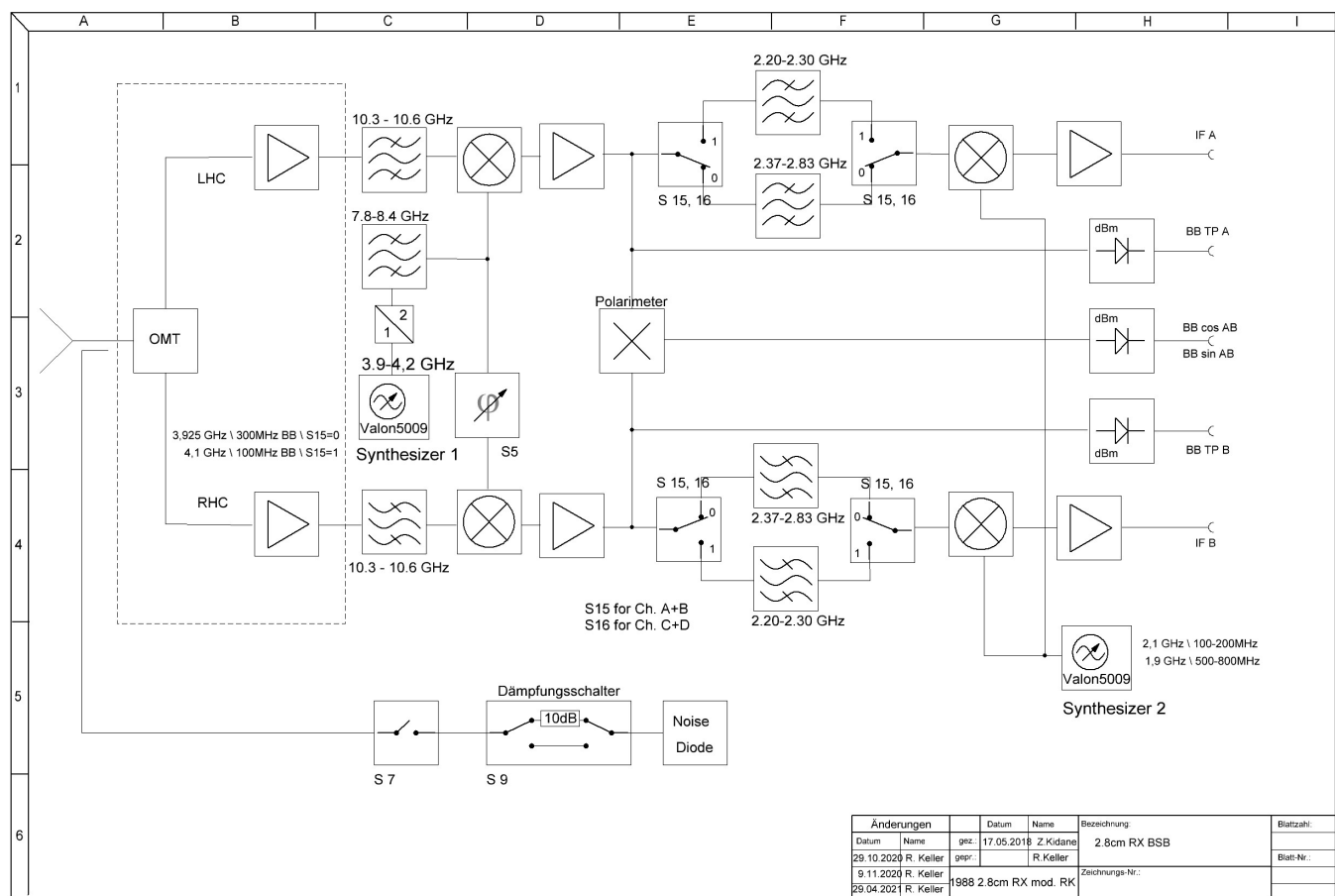


Technical Documentation of the 2.8 cm Receiver 10.3 - 10.6 GHz (S28mm)

|                 |                       |                        |                  |  |
|-----------------|-----------------------|------------------------|------------------|--|
| Type            | HEMT cooled           |                        |                  |  |
| Channels        | 4                     |                        |                  |  |
| Receiver Noise  | 50K                   |                        |                  |  |
| Frequency range | 10.3 - 10.6 GHz       |                        |                  |  |
| Polarization    | LHC/RHC               | 2 horns                |                  |  |
| Calibration     | Noise diode           |                        |                  |  |
| Polarimeter     | Broadband Polarimeter |                        |                  |  |
| 1st IF          | 2.2 - 2.3 GHz         |                        |                  |  |
| LO1             | Valon 5009            | fsynt.1 = 4.15 GHz x 2 | (preset 8.3 GHz) |  |
| 2nd IF          | 100 - 200 MHz         |                        |                  |  |
| LO2             | Valon 5009            | fsynt.2 = 2.1 GHz      | (preset 2.1 GHz) |  |



Simplified [Block Diagram](#) of the receiver, (RK on 24.4.2018)

Comment

The system comprises 2 feeds, 4 channels and 2 Broadband Polarimeters. 8 data channels, 2 total power and 2 polarization signals per feed are recorded. This total power system is being used in a "software beamswitching" mode to observe extended sources. The feeds are mounted in a row in azimuth direction, having a distance of approximately 3 arcmin. The frequency scheme is fix, the receiver has built-in local oscillators that can't be changed. The RF-filter is essential to protect against TV-satellites. The system needs special offline reduction programmes.

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