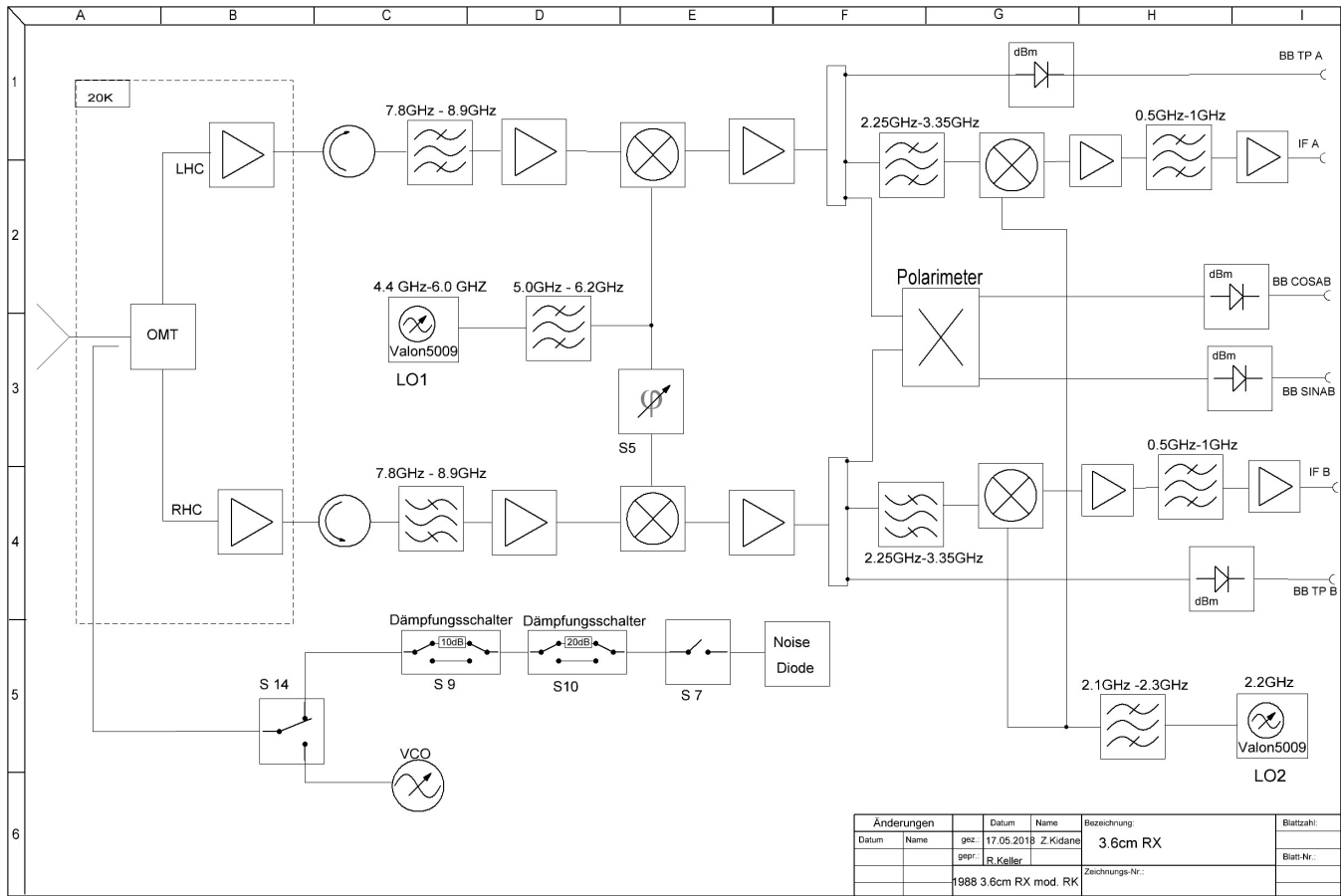


Technical Documentation of the 3.6cm Receiver 7.95 - 9.15 GHz (S36mm)

Type	HEMT cooled			
Channels	2			
Receiver Noise	4K			
Frequency range	7.95 - 9.15 GHz			
Polarization	LHC/RHC	single horn		
Calibration	Noise diode	phase cal for VLBI		
1st IF	2.2 -3.2 GHz	Synthesizer 1 =		
	LO1	Valon 5009	fsynt.1 = 4.4 - 6 GHz	(preset 5.55 GHz)
2nd IF	0 - 1 GHz			
	LO2	Valon 5009	fsynt.2 = 2.2 GHz	



Simplified [Block Diagram](#) of the complete receiver, (RK on 19.3.2019)

Comment

The 8.6 GHz system is a secondary focus receiver with cooled HEMT amplifiers and a cooled polarization transducer. The system is set up for receiving both circular polarizations. Since the calibration signal is injected through the directional coupler directly following the horn, it is linearly polarized. The feed is fed through the inner part of the 2.3 GHz offset paraboloid feed system to form a S/X-band receiver for VLBI observations.

The receiver is extended to 1.1 GHz instantaneous bandwidth in the VLBI IF. To use the full bandwidth the LOs have to set to the following values:

Synth.1 = 5.646 MHz

Synth.2 = 2.204 MHz

Only with these fixed settings the full bandwidth can be accessed (see also block diagram).

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Last update: **2019/12/13 11:56**

