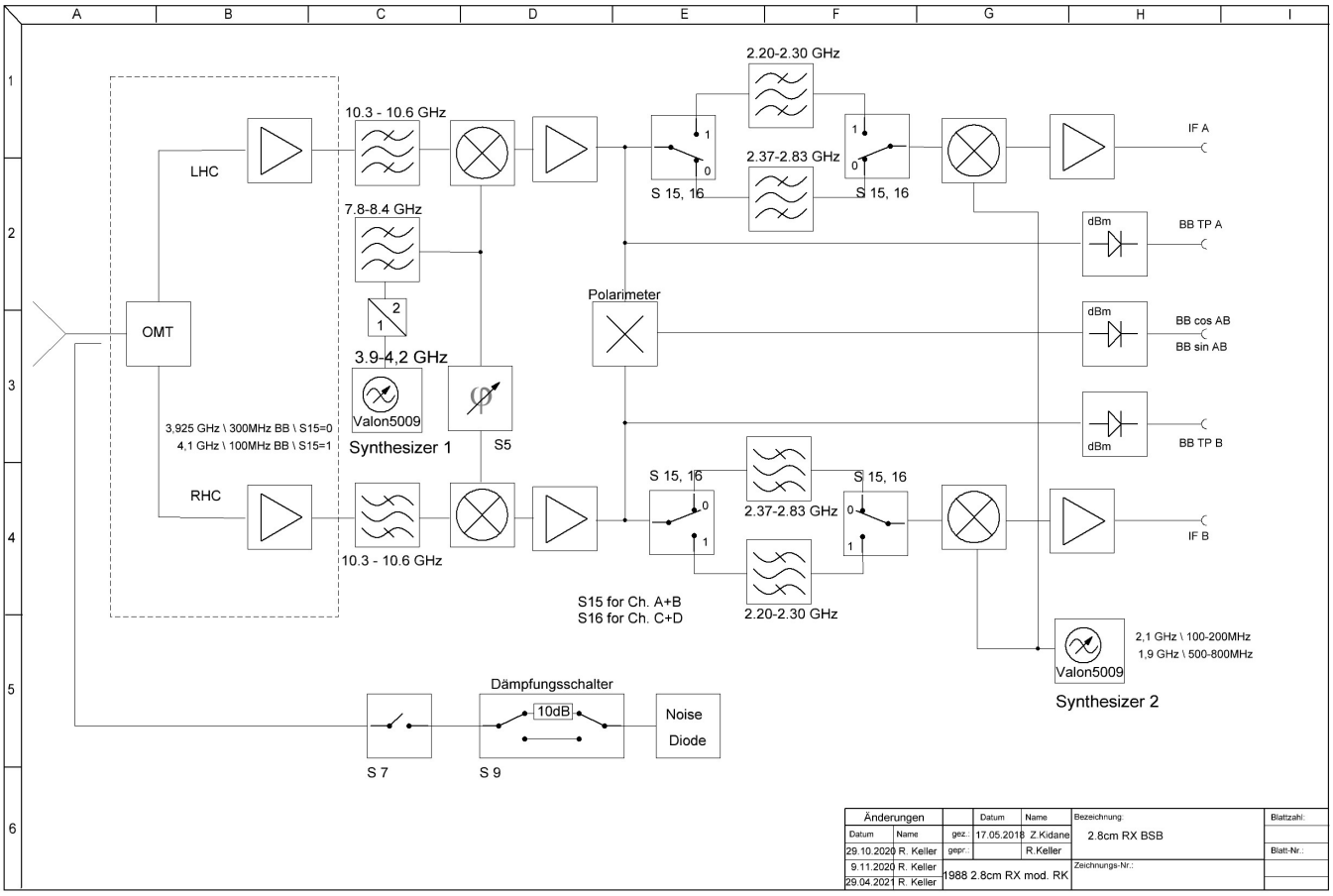
Technical Documentation of the 2.8 cm Receiver 10.3 - 10.6 GHz (S28mm)

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	2.4 - 2.8 GHz
LO1	Valon 5009	fsynt.1 = 4.15 GHz x 2	fsynt.1 = 3.925 GHz x 2
2nd IF		100 - 200 MHz	600 - 900 MHz
LO2	Valon 5009	fsynt.2 = 2.1 GHz	fsynt.2 = 1.85 GHz



Simplified Block Diagram of the receiver, (RK on 14.4.2021)

Here
you can find a table with the settings needed to get access to the IF (in German).

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.