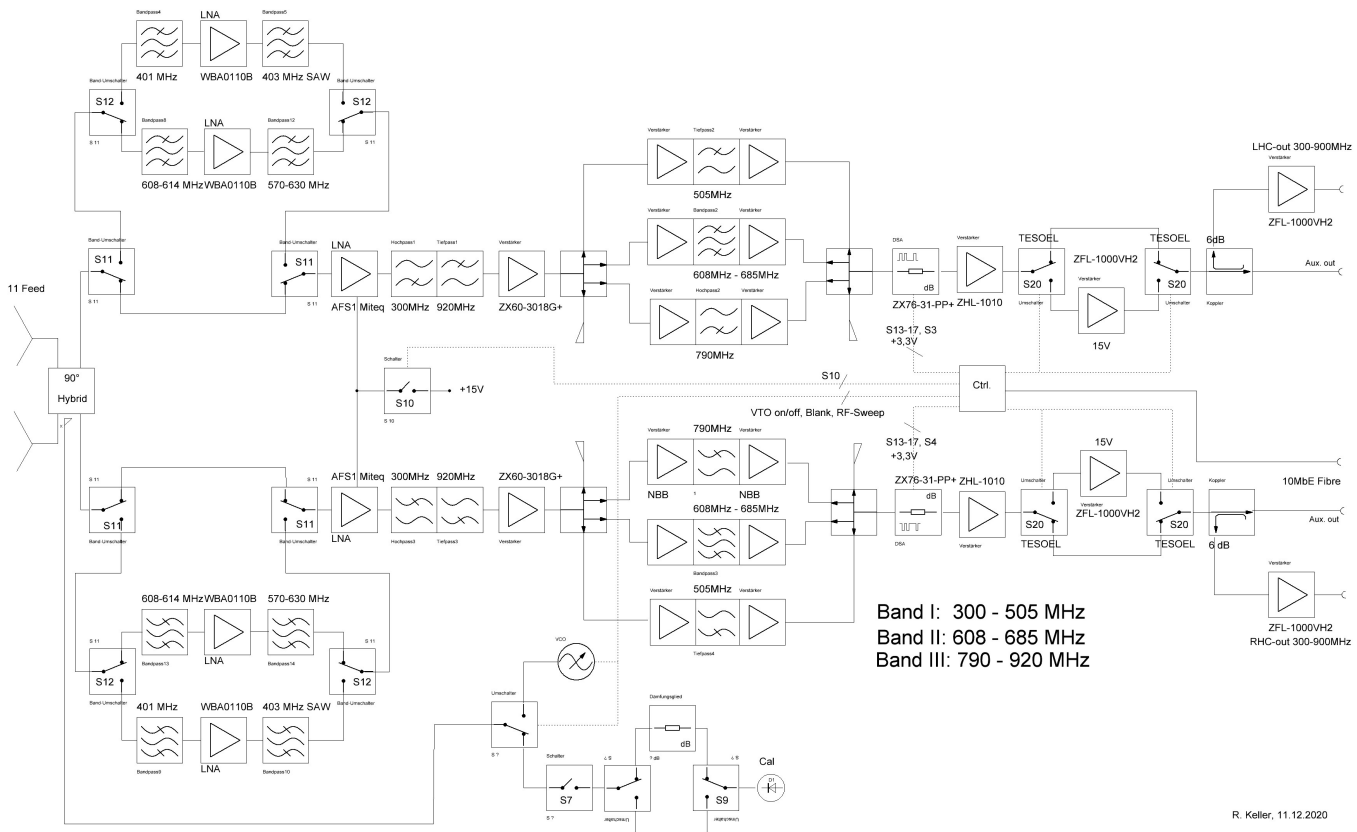


Technical Documentation of 50cm 300-900 MHz (P500)

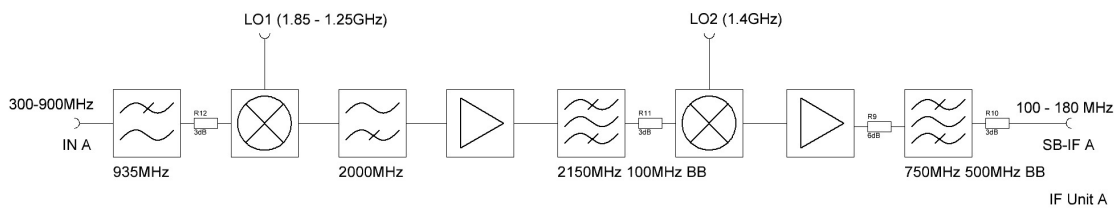
Type	HEMT LNA, unclooled
Channels	2
Tsys	300K(Trec~150K)
RF Frequency Range	300-900 MHz
Band Width RF Filters wide band	300 - 505 MHz
→	608 - 685 MHz
→	790 - 915 MHz, all parallel
Band Width RF Filter 400 MHz band	401 - 405 MHz
Band Width RF Filter 600 MHz band	608 - 614 MHz
1. Local Oscillator	ULO1 = 1250-1850 MHz
1. IF	2100 - 2200 MHz
2. Local Oscillator	ULO2 = 1400MHz fixed
2. IF	500 - 1000 MHz
Polarization	LHC and RHC
Calibration	Noise Diode
Feed	11-Feed from DRAO
Output	300 - 900 MHz direct or 500 - 1000 MHz with IF converter

Block Diagram

Receiver



IF Converter



Comments

This receiver is a straight forward 300 MHz to 900 MHz receiver with no down conversion. Due to intensive RFI in this broad frequency band three filter bands are installed in the main part to prevent the system from saturation by the strongest interferer. Nevertheless, there is much more RFI in the band that has to be filtered in the backend. For dedicated projects, switchable RF filters plus LNAs have been inserted for frequencies around 402 MHz and 611 MHz. The filters have a bandwidth of 7 to 10 MHz. For continuum measurements an analogue filtering down converter module to an IF of 100 MHz to 200 MHz for both channels is available.

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