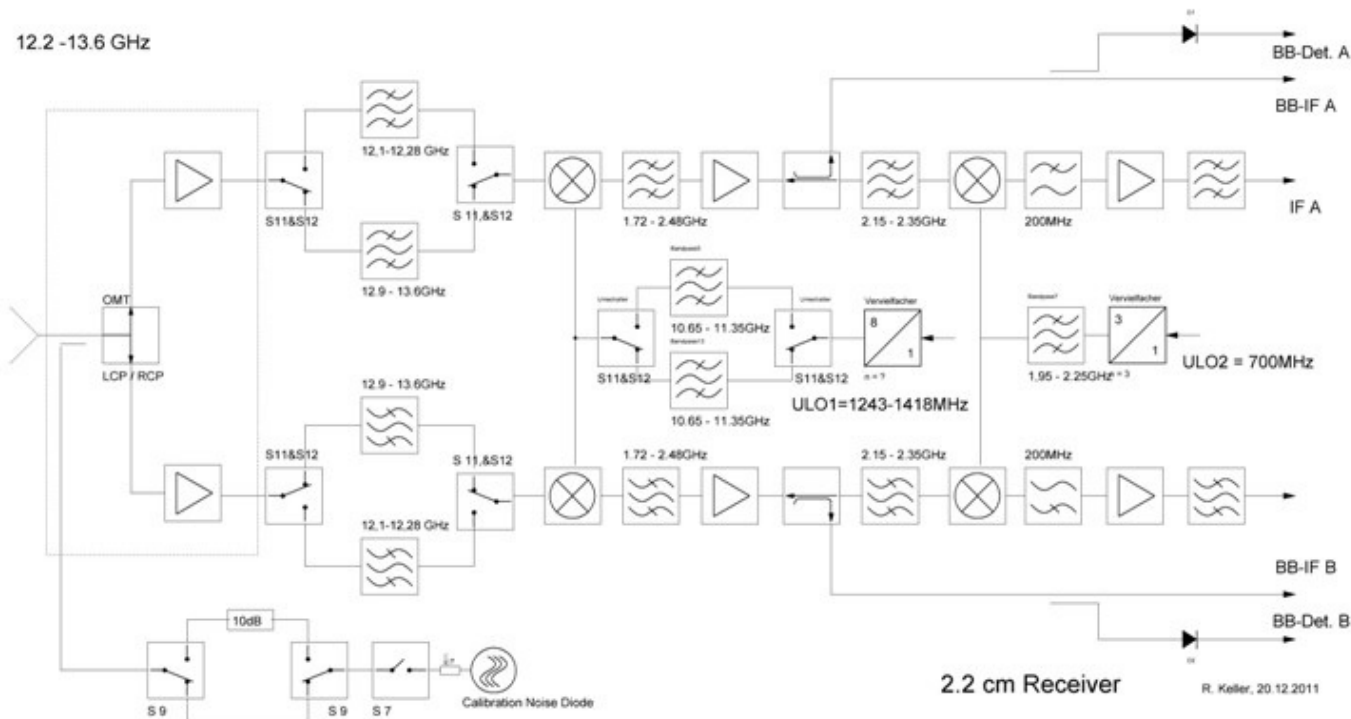


Technical Documentation of the 22mm Receiver 12.1 - 13.6 GHz (P22mm)

Type	HEMT ,Cooled
Channels	2
Receiver Noise Temperature	40-50 K
Frequency Range	12.1 - 13.6 GHz
Bandwidth RF-Filters	12.1 - 12.28 GHz / 12.9 - 13.6 GHz
Polarization	LHC and RHC
Calibration	Noise Diode
feed	Prime Focus Horn
1. Oscillator	ULO1 (x8) 1.331 - 1.418 GHz
1. IF	1.72 - 2.48 GHz
2. Oscillator	ULO2 (x3) 2.1 GHz
2. IF	100 - 200 MHz

Block Diagram



Recievers Detail Blockdiagram [22mm_receiver.pdf](#)

Charts

Sky Frequency	Tcal Channel A	Tcal Channel B
13.04GHz	21.0K / 1.8K	22.7K / 1.9K

13.25GHz	20.8K / 12.1K	22.3K / 2.1K
13.45GHz	17.7K / 1.4K	20.1K / 1.9K

Comments

The 13.25 GHz system is a total power receiver with cooled HEMT preamplifiers. It is mainly constructed for spectroscopy measurements. There is no polarimeter available.

The broadband IF output is prepared to be connected via optical link. The V/F-Converters at the broadband detectors have a maximum frequency of 5 MHz to give enough resolution for pulsar work. This system is part of the Primary Focus Multi Frequency Box #2 (PM 2).

From:
<https://eff100mwiki.mpifr-bonn.mpg.de/> - **Effelsberg 100m Teleskop**

Permanent link:
https://eff100mwiki.mpifr-bonn.mpg.de/doku.php?id=electronics:rx:techinfo:documentation_p22mm 

Last update: **2019/12/13 12:03**