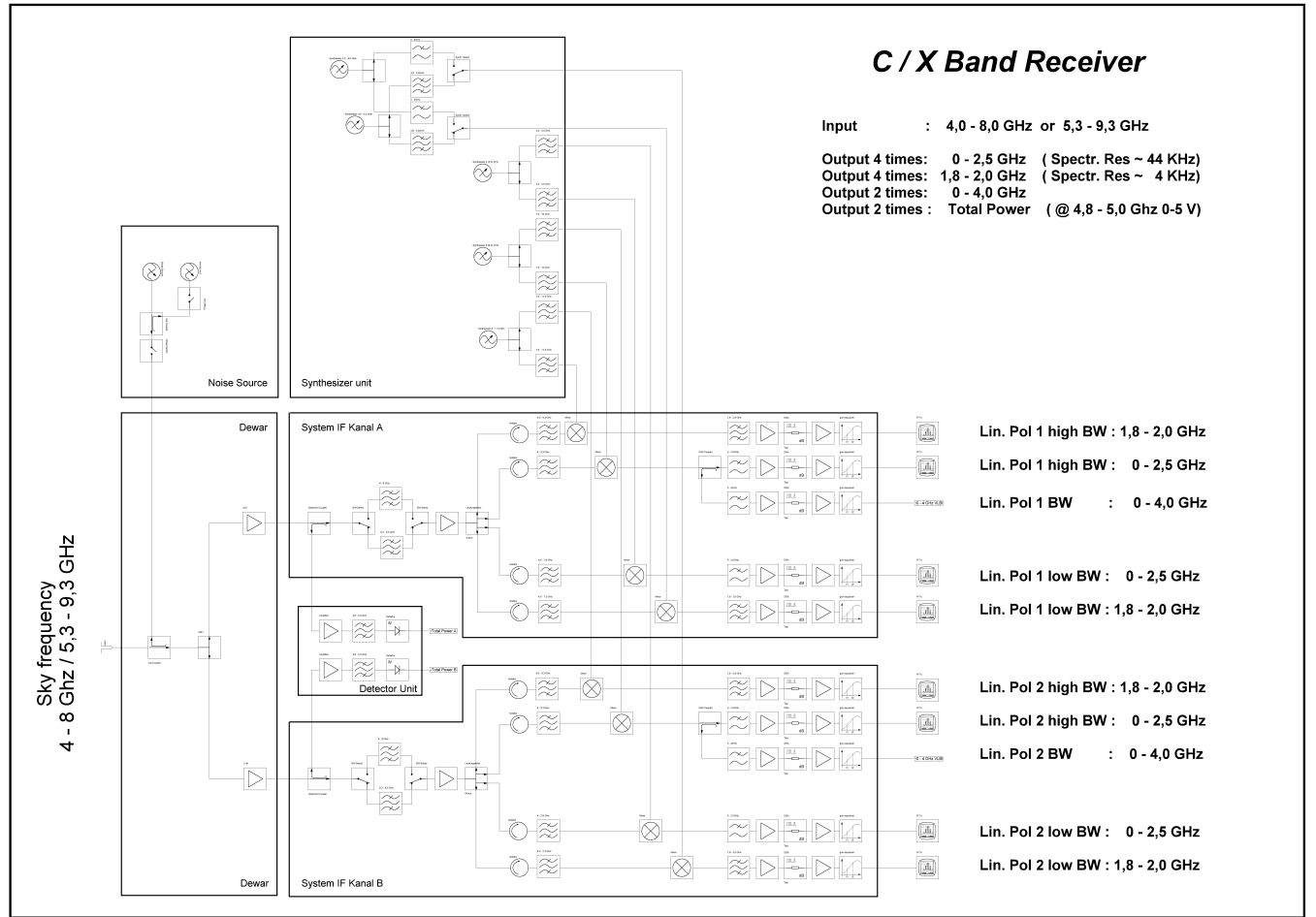


Technical Documentation of the C/X-Band Receiver 4 - 9.3 GHz (S45mm)

Type	HEMT cooled		
Channels	8	upper/lower broad- and narrowband of 2 polarizations	
Receiver Noise	20K		
Frequency range	4 GHz - 9.3 GHz	4 - 8 GHz (C-Band) / 5.3 - 9.3 GHz (X-Band)	
Polarization	2x linear	single horn	
Calibration	Noise diode	5 MHz phase cal	
IF lower band	0 - 4 GHz	0 - 2.5 GHz	1,8 - 2.0 GHz
IF upper band		0 -2.5 GHz	1,8 - 2.0 GHz
Synthesizer frequency for fsky at center of:	4 GHz IF	2.5 GHz IF	200 MHz IF
Highband (Ch.1, 2, 5, 6):	fsynth.4 = 8.0/9.3GHz	fsynth.4 = 8.0/9.3GHz	fsynth.5 = fsky + 1.9GHz
Lowband (Ch.3, 4, 7, 8):		fsynth.3 = 4.0/5.3GHz	fsynth.1/2 = fsky - 1.9GHz (1: fsky = 4 - 6 GHz / 2: fsky = 5.9 - 7.3 GHz



Simplified [Block Diagram](#) of the complete receiver, (CK on 30.1.2018)

[Block Diagram](#) of the IF conversions, (CK on 30.1.2018)

[Block Diagram](#) of the calibration unit, (CK on 30.1.2018)

Block Diagram of the total power detector unit, (CK on 30.1.2018)

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_s45mm&rev=1605606469

Last update: **2020/11/17 10:47**

