

2cm secondary focus receiver (13600-15600 MHz)

This is a 2-channel system mainly for VLBI observations.

Calibration Information

Frequency [GHz]	Channel	Polarisation	Tcal [K]	Tsys [K]	Sensitivity [K/Jy]	SEFD [Jy]	Aperture Eff. [%]	TMB/S [K/Jy]	Main Beam Eff. [%]	FWHM [arcsec]	Last update
14.60	A	LCP	3.8	50	1.14	44	43	2.2	51	50.8	Okt 2017
14.60	B	RCP	3.8	49	1.14	44	43	2.2	51	49.5	Okt 2017
normalized Gain curve ($G = A0 + A1 \cdot \text{Elv} + A2 \cdot \text{Elv}^2$)						Observed in confirmed					
A0 = 0.96053		A1 = 2.4319E-3		A2 = -3.7304E-5		Mar 2002					
A0 = 0.97099		A1 = 1.8327e-03		A2 = -2.8674e-05		Feb 2007					

Comments:

- The new gain curve (Feb 2007) was corrected for opacity.
- If no other information about the opacity is available a typical zenith tau value of about 0.022 should do a good job.

Version description for OBSINP

RX Name	Wavelength [cm]	Frequency (center) [GHz]	Nr. of Horns
S20mm Multifrequency RX	2.0	13.6-15.6 (14.60)	1
Version:	Comment		
1. Continuum (BW: 2 GHz)	Broad Band Continuum		
2. Line (BW: 100 MHz)	Spectroscopy/Continuum using narrow band IF + VLBI IF Polarimeter		
3. Line (BW: 500 MHz)	Spectroscopy/Continuum using VLBA IF + VLBA IF Polarimeter		
4. Pulsar (BW: 500 MHz)	Pulsar 500 MHz BW Version		
Horn offsets [arcsec]	-761.5,56.5		

Channel assignment in the MBFITS data files

Note that the narrow line and VLBA IF channels are usually only available when the specific line version of the receiver was selected. In addition for most receivers with narrow line channels the cables at the patch board need to be connected by the receiver group.

To select different channel numbers in OBSINP, the online plot, or the toolbox the numbers have to be specified like c(1)+c(2) to add channel 1 and 2. E.g. channel 1 and 2 contain the LCP and RCP broadband channels, then "OnPlot pen='c(1)+c(2)'" or "toolbox use='c(1)+c(2)'" will select these channels. In OBSINP the pen can be directly specified in the receiver selection menu.

Abbreviations:

SB: narrow band channel (Schmalband-Kanal), 100 MHz band width

BB: digital broad band channel (Breitband-Kanal), band width varies for different receivers

VLBA: VLBA IF, 500 MHz band width

BW: band width

TP: total power

2cm SFK single horn receiver			
Channel	IF	Pol.	Comment
1	SB	LCP	TP A
2	SB	RCP	TP B
3	SB	cross	cos AB
4	SB	cross	sin AB
5	VLBA	LCP	TP A
6	VLBA	RCP	TP B
7	VLBA	cross	cos AB
8	VLBA	cross	sin AB
9	BB	LCP	TP A
10	BB	RCP	TP B

Tcal and Tsys measurements



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