

# 1.3cm double beam secondary focus receiver (18000-26000 MHz)

**The receiver will be installed soon into the telescope. It is not yet available!**

This is a two horn system for continuum, spectroscopy and 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
normalized Gain curve ( $G = A0 + A1 \cdot Elv + A2 \cdot Elv^2$ )							Observed in	confirmed			
A0 =		A1 =		A2 =							

### Comments:

- Note that the system temperature at this frequency depends strongly on weather conditions!
- Zenith tau values can range from 0.05 to 0.2.

## Version description for OBSINP

RX Name	Wavelength [cm]	Frequency (center) [GHz]	Nr. of Horns
<b>S13mm Double Beam RX</b>	1.3	18.0-26.0 (22.0)	2
<b>Version:</b>	<b>Comment</b>		
1. Continuum (BW: 2 GHz)	Broad Band Continuum		
<b>Horn offsets [arcsec]</b>	Horn 1:-95.6,735; 2: 95.6,734.2		

## 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 "OnlPlot 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	BB	LCP	TP A
2	BB	RCP	TP B

## Spectroscopy modes and resolution

BW	nchan	nu	Df	Dv	dv
MHz		MHz	kHz	km/s	km/s
100	32768	22000	3.1	0.042	0.048
100	32768	23000	3.1	0.040	0.046
100	32768	24000	3.1	0.038	0.044
500	32768	22000	15.3	0.208	0.241
500	32768	23000	15.3	0.199	0.231
500	32768	24000	15.3	0.191	0.221

BW ... band width

nchan ... number of spectral channels

nu ... center frequency

Df ... Channel separation (in frequency)

Dv ... Channel separation (in velocity)

dv ... Velocity resolution ( $dv=1.16 \cdot Dv$ )

## Tcal measurements

to be done

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