

5-cm primary focus receiver (5750-6750 MHz)

This is a 2-channel system mostly used for spectroscopy and (spectral line-) VLBI. Channel A has a slightly higher T_{sys} than B.

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
6.032	A	LCP	3.6	40	1.5	26	53	1.9	79	132	Jul 2008
6.032	B	RCP	3.4	32	1.5	20	53	1.9	79	132	Jul 2008
6.140	A	LCP	3.1	37	1.5	24	53	1.9	78	129	Jul 2008
6.140	B	RCP	3.2	30	1.5	23	53	1.9	78	129	Jul 2008
6.650	A	LCP	2.8	39	1.5	26	53	1.9	78	121	Jul 2008
6.650	B	RCP	2.9	33	1.5	24	53	1.9	78	121	Jul 2008
normalized Gain curve ($G = A0 + A1 \cdot \text{Elv} + A2 \cdot \text{Elv}^2$)								Observed in confirmed			
A0=0.96098		A1=1.5518E-3		A2=-1.5381E-5		Jul 2008					

Comments:

- None

Version description for OBSINP

RX Name	Wavelength [cm]	Frequency (center) [GHz]	Nr. of Horns
P50mm 4-Box (5,75-6,75 GHz)	5.0	5.75-6.75 (6.25)	1
Version:	Comment		
1. Cont./Line (BW: 100 MHz)	Continuum and spectroscopy version		
2. 10dB Atten. Cont./Line (BW: 100 MHz)	Continuum and spectroscopy version for very bright maser sources		
3. Cont. (BW: 1 GHz)	Broad band Continuum		
4. Line (BW: 500 MHz)	VLBA IF spectroscopy/VLBI version		
Horn offsets [arcsec]	-690.6, 421.5		

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

optical: optical fibre with 4 GHz of band width

BW: band width

TP: total power

5.0cm PFK (Multi-RX-Box II)			
Channel	IF	Pol.	Comment
1	SB	LCP	TP A
2	SB	RCP	TP B

Spectroscopy modes and resolution

BW	nchan	nu	Df	Dv	dv
MHz		MHz	kHz	km/s	km/s
100	32768	5800	3.1	0.158	0.183
100	32768	6000	3.1	0.152	0.177
100	32768	6200	3.1	0.148	0.171
100	32768	6400	3.1	0.143	0.166
100	32768	6600	3.1	0.139	0.161
500	32768	5800	15.3	0.789	0.915
500	32768	6000	15.3	0.762	0.884
500	32768	6200	15.3	0.738	0.856
500	32768	6400	15.3	0.715	0.829
500	32768	6600	15.3	0.693	0.804

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 and Tsys measurements

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Tcal and Tsys



Opacity and beam width



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