

DBBC Production and delivery status

- **HAT-Lab is a spin-off company endorsed by INAF, set in July 2009**
- **HAT-Lab main task is to produce DBBC back-ends in close collaboration with IRA and MPI**
- **Production activity is shared between Italy (Catania and Noto) and Germany (Bonn)**
- **Development of new VLBI components and equipment in collaboration with EVN partners**

Pre-HAT-Lab system production
(in red EVN stations):

DBBC2 Noto

DBBC1 Wettzell1

DBBC2 Wettzell2

DBBC2 Wettzell3

DBBC2 Effelsberg

DBBC2 Yebes

DBBC2 Auscope1 (Hobart12M)

HAT-Lab Batch 1 – production and delivery 2009-10

DBBC2 Onsala

DBBC2 SRT

DBBC2 Pico Veleta

DBBC2 APEX

DBBC2 Warkworth12M

DBBC2 Auscope2 (Kath12M)

DBBC2 Auscope3 (Yarr12M)

HAT-Lab Batch 2 – production and delivery 2010-11

DBBC2 Torun

DBBC2 Irbene

DBBC2 Hartebeesthoek1

DBBC2 Hartebeesthoek2

DBBC2 Auscope4 (Ceduna)

HAT-Lab Batch 3 – production and delivery 2011-12

DBBC2 Medicina

DBBC2 Metsahovi

DBBC2 Auscope5 (Hobart26)

HAT-Lab Batch 4 – production and delivery 2012-13

DBBC2 Seshan

DBBC2 Warkworth 2

DBBC2 AVN

EVN Station	DBBC	Comment
Noto	Available (upgrade to DBBC2010 under way)	FILA10G ordered
Effelsberg	Available	FILA10G available + spare to be completed
Onsala	Available	FILA10G ordered (to be completed)
Yebes	Available	FILA10G ordered (to be completed)
Wettzell	Available 3 (usable as DBBC2010)	
Torun	Available	
Metsähovi	Available	FILA10G
Hartebeesthoek	Available 2	FILA10G available 2
Medicina	Available	FILA10G
Westerbork	-	
Jodrell Bank	-	
Cambridge	-	
Svetloe	-	Own semi-digital system
Zelenchukskaya	-	Own semi-digital system
Badary	-	Own semi-digital system
Urumqi	-	Own digital system
Seshan	Available	FILA10G available + own digital system
Arecibo	-	
Robledo	-	
Sardinia	Available	FILA10G available
Ventspils	Available	Second system with FILA10G to be ordered?
Evpatoria	-	Contacts to order a DBBC

Existing Firmware/Functionality

DDC – 4 IF to produce 16 bbs tunable 16-8-4-2-1 MHz

Just introduced 'astro2' mode for systems with 2 IFs and 16 bbs

PFB - 4 IF to produce 15 fixed 32 MHz / IF

Full flexible choice of channels

DSC (Direct Sampling Conversion) - 512 MHz or 1024 MHz

SPECTRA – 4 x 512 MHz, 4 x 4K spectral channels

■ Firmware development :

- All the new DDC firmware development has been moved on the new DBBC3 platform, including 32 – 64 – 128 – 256 – 512 – 1024 MHz
- PFB: 1 GHz Polyphase Filterbank with 16 x 64 MHz channels
in testing on DBBC2
- PFB: Continuous TP in testing on DBBC2