

## DBBC Command Set

### Description

This chapter describes the basic commands the DBBC is able to recognize with the control console. The structure and the meaning of the different commands is Field System based, so to simplify the dialogue with the FS and minimize efforts on the FS side. Any commands sent to the interpreter from the DBBC console is then identical to the command sent from the Field System environment. Similarly output information issued by any command are reported in FS style.

Commands entered in lower case.

At present 10 commands are defined for the main functionalities:

**DBBCnn = freq, IF, bwdU, bwdL, gainU, gainL, tpint**  
(DownConverterConfiguration)

where

nn => 01, ..,16 indicates the number of CoreModule;

freq => is the base band frequency in MHz, in the range 0010.000000 - 2,048.000000;

IF => A or B or C or D. Any Core2 is connected to a band in the standard communication so this value is only informative.

bwdU => band width of the upper side, in MHz;

bwdL => band width of the lower side, in MHz;

bwdL and bwdU are always the same in a single bbc.

gainU => gain of the upper side in the range 0 - 255, step 1

gainL => gain of the upper side in the range 0 - 255, step 1

this values could normally kept to 1 as the magnitude bit is controlled with a dynamic threshold.

tpint => total power integration time in seconds, in the range 1 - 60, step 1

(1 sec implemented at present).

### **DBBCnn**

reports the setting of the CoreModule nn, including cal tone off.

DBBCnn/freq,IF,bwdU,bwdL,gainU,gainL,tpU/calon,tpL/calon,tpUcaloff,tpLcaloff

### **DBBCIF(A,B,C,D) = input\_ch, gain, filter**

where

input => input channel of the four possible (1,2,3,4) .

gain => the gain of the channel is set in manual mode if a number is indicated in the range -16 to +16 dB, step 0.5 dB. If AGC is indicated the gain is automatically set so to satisfy the optimal level for the analog to digital converter.

filter=> 2 (10-512 MHz), 1 (512-1024 MHz), 3 (ext 1), 4 (1024-1536)

### **DBBCIF**

reports the settings of the IFs modules.

### **DBBCFORM = VSI1 mode, VSI2 mode**

where

VSI1/2mode => is the mapping of the 64 channels in the VSI1/2 interface. Possible predefined values are: GEO, ASTRO.

### **DBBCFORM**

reports the settings of the VSI output mapping.

## **DBBCMON= bnn[u|l]**

set the Digital to Analog Channel source.

nn => 01,2,3 indicates the number of band;

u/l => upper or lower side band

## **DBBCMON**

reports the Digital to Analog Channel source.

## **DBBC\_CAL\_IF**

reports the entire system total power and gain settings in the IF units. The output is:

DBBC\_CAL\_IF=tp\_ifa, gain\_ifa, tp\_ifb, gain\_ifb, tp\_ifc, gain\_ifc,, tp\_ifd,  
gain\_ifd

Not yet active

## **DBBC\_CAL\_CH**

reports the entire system total power and gain settings in the converted channels. The output is:

DBBC\_CAL\_IF=tp\_l1, gain\_l1, tp\_u1, gain\_u1, tp\_l2, gain\_l2, tp\_u2, gain\_u2,  
..., tp\_l16, gain\_l16, tp\_u16, gain\_u16

Not yet active

## **PPS\_SYNC**

Synchronize to external 1pps

## **DBBCGAIN=dbbcnn,gainU,gainL**

Adjust gain level

dbbcnn = 1-16

gainU = 0 - 255  
gainL = 0 -255

## **RESETALL**

System reset

## **RECONF**

System reconfiguration