

SOP for GAB Power Equalisation Using Detector

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Introduction:

GAB power is measured with the help of detector. Detector gives voltage with respect to the input power. In this program present attenuation and voltage for the input is read using mcm. From the read value of detector voltage power in dBm is calculated. Using calculated power and current attenuation, Required attenuation is calculated to get desired output. Command file is generated which can be used to set attenuation using online.

Description:

GAB system consists of Receiver, BroadBand filter, Synthesizer and Control and monitoring sub systems. Front end signal is given to receiver PIU, Its output is connected to BB FILTER has directional coupler at the output of filter. Coupled output is given to detector.

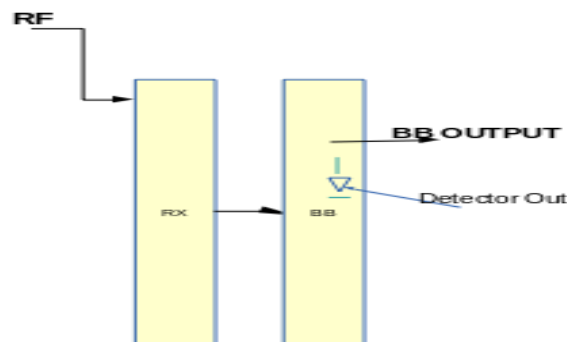


Illustration 1: PIU OF RX and BB filter

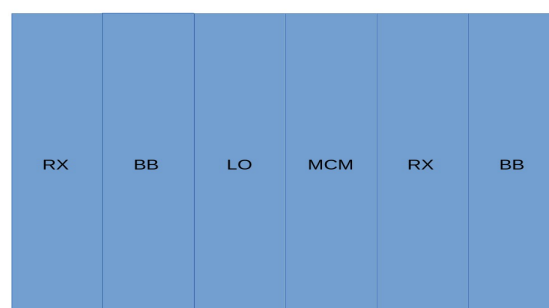


Illustration 2: Various PIU's in Subrack of GAB

Program name: ***gabpowereq*** // program file.
Files : ***gabattn.set*** // command file
: ***gabattn.cur*** // antenna names abc number and attenuation values.


Procedure :

Login to online machine as observer.

SET Default Optical Fiber Systsem attenuation Values.

Do default settings of FE and GAB system for respective band.

Login to online machine as observer.



Antenna	Select/Deselect	CH-1 Attenuation	CH-2 Attenuation
C03	0	9.0	8.5
C12	0	1.0	0.0
C04	0	31.5	7.0
C09	0	16.0	2.0
C02	0	31.5	25.0
C01	1	24.5	17.0
C00	0	31.5	7.0
W01	0	10.5	7.5
C11	0	3.5	6.5
C14	0	8.5	8.5
C13	0	2.5	9.5
C10	0	0.5	13.5
W02	0	23.5	9.0
W03	0	23.0	10.0
W04	0	7.0	9.5
W05	0	31.5	8.0
E02	0	31.5	8.0
E03	0	31.5	10.0
C05	0	31.5	20.0
C06	0	31.5	6.0
E04	0	31.5	6.0
E05	0	31.5	5.0
E06	0	31.5	7.0

gabattn.cur file.

1. Select antenna or group of antenna from file *gabattn.cur*.
2. This file has 4 column as shown in fig.
1st column: antenna name, 2nd column :select/deselect, 3rd and 4th column has previous attenuation value.
3. Column 2 can be edited as per requirement. It has two possible values, 1/ 0.
1 means select
0 means unselect,

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4. Issue a command; gabpower_eq which has two command line arguments

-h will show the help and

-g/G to give desired GAB out power.

Example:

To equate the power at -20.0 dBm.

gabpowereq -g -20.0

5. As a result of this program it will generate file name ***gabattn.set***.

Either past this file in online command window or issue run gablev command.

If required step no 3 and 4 can be repeated for once or twice other wise there is a problem in mcm communication or in gab system.

GAB MONITORING TOOL

A program gabmon is monitoring tool to see all the important parameters such as attenuation values, gabout power, selected local oscillator frequency and source such as signal generator or fsw, bb filter bandwidth, Temperature and power supply status.

gabmon have few arguments.

Usage: gabmon -t|-a|-G<AvgNo>|-l|-p|-h

-t Temperature Status

-a Important parameters list

-G GABOUT and Attenuation <argument is averaging number>

-l Local Oscillator Status

-p Power Supply Status

-f antenna selection file name(abcno.txt not implemented)

-h (Print Help)