

Calibration Flags

The calibration procedure provides the measurement of the pedestal and of the typical noise fluctuation (sigma) of each channel of the tracker (192*1024 channels). The calibration procedure, and its extensions (like the double-trigger calibration) is also able to distinguish "good" channels - the ones with a reasonable noise - from the bad ones - noisy, dead or not-gaussian channels and assigns a *16-bits status* word to each channels. The status word of a good channel is 0. Bad channels have a status word different from 0. Bad strips are excluded from the data reduction, i.e. a bad strip cannot be the *seed* of a cluster. The meaning of each status bit is:

Bit	Meaning
0	dead strip from sigma raw
1	noisy strip from sigma raw
2	dead strip from sigma
3	noisy strip from sigma
4	non-gaussian strip
5	not assigned
6	bad occupancy from online algorithm
7	not assigned
8	not assigned
9	bad for double-trigger step strip
10	not assigned
11	not assigned
12	not assigned
13	not assigned
14	not assigned
15	user setted bad strip (bad region)

Bits 0-7 are *calibration bits* and are resetted before each calibration. Bit 8-15 are *permanent bits*, and their value doesn't change with time or calibrations. In particular the bit 15 is a user defined bad strip channel. It's meaning is different from the other bits. If a channel is setted with bit 15 the cluster propagation stops there (*bad-region flag*).

Permanent Flags

The permanent flags are reserved areas in the DSP code area. They are untouched from the calibration process. To delete the permanent flags you should make it following one of this two procedures:

Apply the delete permanent flags command (TDR-D 54 3 xxxx).

Make a calibration.

With this procedure you can select the bits you want to delete. xxxx encodes the pattern of bits you want to conserve. If you want to delete only the second step bits (9 bit) you should apply the command **TDR-D 54 3 FDFE**. There are some commands in the JMDCCommander directory able to make this job (ResetPermanentFlags.txt, ResetSecondStepFlags.txt).

OR

Delete all saved FLASH calibrations (one of the two possible names of the saved calibration 7e16, 7e26, or the user defined calibration 7e06).

Reload the DSP code.

This procedure will delete all the permanent bits.

NB: the following procedures will not work.

Apply the delete permanent flags command.

Reload the DSP code.

Make a Calibration.

This is because the board is rebooted a saved calibration will be loaded. In this calibration the permanent bits are setted.

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