

RMS Error

Buckeye sigmas are checked to assure they are inside acceptable limits.

ERROR File

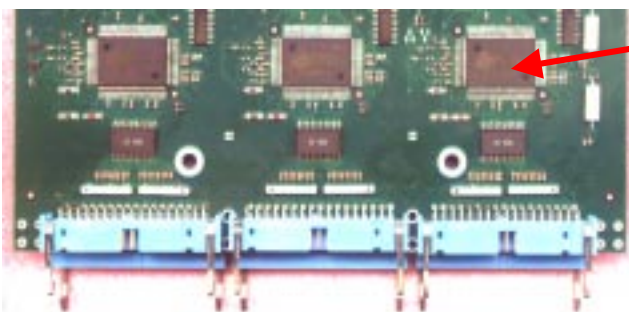
Raw pedestal and sigmas are followed by a bit mask stating which channels did not pass the test. Below is an example of a pedestal error. From the bit mask below it is seen that chip 4 channel 4 is bad. Looking at the raw sigmas you can see the noise is 0.000 which is impossible.

```
***** plane 4
ped  590.153 523.527 581.819 4096.000 530.813 585.729 588.403 590.807
sig   1.642  1.384  1.369  0.000  1.520  1.352  1.290  1.462
sig2  1.540  1.284  1.164  0.000  1.311  1.177  1.117  1.208
num   1600  1600  1600  1600  1600  1600  1600  1600
ped  595.283 589.801 582.692 587.425 584.724 589.674 591.429 590.654
sig   1.389  1.387  1.460  1.347  1.346  1.347  1.301  1.298
sig2  1.147  1.116  1.226  1.149  1.186  1.222  1.128  1.189
num   1600  1600  1600  1600  1600  1600  1600  1600
```

```
***** plane 5 ← Chip number
ped  652.049 661.665 661.737 653.034 655.686 668.576 669.152 661.324
sig   1.574  1.714  1.640  1.615  1.626  1.636  1.617  1.609
sig2  1.484  1.594  1.544  1.512  1.518  1.509  1.529  1.527
num   1600  1600  1600  1600  1600  1600  1600  1600
ped  657.571 672.444 670.513 670.427 655.804 669.776 660.809 675.528
sig   1.646  1.686  1.700  1.680  1.664  1.676  1.676  1.675
sig2  1.552  1.580  1.608  1.547  1.574  1.526  1.573  1.571
num   1600  1600  1600  1600  1600  1600  1600  1600
```

```
PEDESTALS
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 chip 0
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
0 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 0 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 chip 5
0 ...      channel      ... 15
```

Scope Debugging



Buckeye

- 1) Check for shorted inputs into the Buckeye.
- 2) Replace the Buckeye chip.

Buckeye 0
Buckeye 2
Buckeye 4
TOP

Buckeye 1
Buckeye 3
Buckeye 5
Bottom