

Small Capacitor Error

Small capacitors are pulsed on the buckeye chips to assure they are working properly. Both pulse channel peaks and adjacent channels are checked to make sure they are within acceptable ranges. Four patterns are shifted through. The first pattern pulses channels 1,5,9,13 on each chip. The second pattern pulses channels 2,6,10,14 on each chip, and so on.

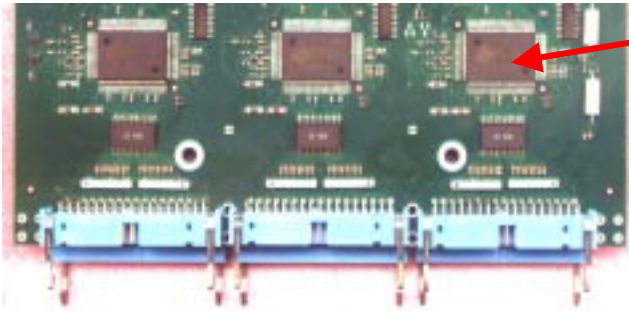
ERROR File

For each pattern all channel peaks are displayed pedestal subtracted. This is followed by a mask showing which channels were marked as bad. A 2 in the mask means the pulsed channel did not get pulsed. A 1 in the mask means an adjacent channel had to large a pulse on it.

In the case shown below small capacitors in chip 0,1,2,3,4 did not get pulsed. The bad channels are properly displayed in the mask.

```
SMALL CAPACITOR pattern 1
-001 0000 -001 -001 0000 -001 -004 -002 -003 -002 -004 -001 -002 -003 -004 -001 chip 0
-002 -001 -001 -006 0001 -001 -005 -004 -002 0000 -003 -004 -003 -004 -002 -003
0000 -002 -005 -001 0000 -001 -004 -003 -003 -002 -003 -001 -001 -002 -004 -002
0001 0002 -003 0002 -002 0000 -003 0000 -001 -002 -002 0001 0001 0000 -002 -001
2717 -003 0001 0000 -002 -003 -001 -002 -001 -002 -005 -003 -003 0000 -003 -001
1846 -008 -008 -007 1836 -008 -005 -004 1841 -008 -001 -003 1837 -010 -010 -008 chip 5
2000200020002000 chip 0 channel ... 14 15
2000200020002000
2000200020002000
2000200020002000
2000200020002000
0000000000000000 chip 5
0... channel ... 15
SMALL CAPACITOR pattern 2
-001 -001 -003 -004 -002 -001 -001 0001 -001 -003 -002 -001 0000 0002 -001 0000
-001 -003 0000 0000 -001 -002 -002 0000 -002 -001 -003 -002 -003 -003 0001 -001
0000 0000 -006 0000 -004 -003 -003 -001 -002 -001 -003 0000 -003 0000 -003 0000
0000 0000 -005 -002 -004 -002 -005 0001 -001 -002 -004 -002 -002 -002 -002 -003
2715 -005 -002 0000 -003 -001 -003 -003 -003 -002 -005 -003 -001 -002 -002 -001
-005 1845 -011 -006 -006 1836 -008 -007 -008 1849 -006 -009 -010 1840 -009 -006
0200020002000200
0200020002000200
0200020002000200
0200020002000200
1200020002000200
0000000000000000
```

Scope Debugging



BUCKEY
GXCALIN pin 33
GXINJ pin 44
GXINJBAR pin 43

- 1) Check for shorted inputs into the Buckeye.
- 2) Check calibration signals are making it to the Buckeye.

Buckeye 0 Buckeye 2 Buckeye 4 TOP
Buckeye 1 Buckeye 3 Buckeye 5 Bottom