



PFR-48 Title: DFE low gain at –55 deg C

Assembly : SST	SubAssembly : DFE
Component : C11, D33, D34, P10 (AmpTek)	5/9/05
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Failure Occurred During (Check one ✓)

☐ Functional test ☒ Qualification test ☐ S/C Integration ☐ Launch operations

Environment when failure occurred:

☐ Ambient ☐ Vibration ☐ Shock ☐ Acoustic
☒ Thermal ☒ Vacuum ☐ Thermal-Vacuum ☐ EMI/EMC

Problem Description

(In this section it is important to document the specific symptoms which exhibited the problem. In the event we see it happen again, we would like to know as much as possible.)

The voltage gain of the 'O' channel is slightly lower than other channels at –55 deg C. While it may be marginally acceptable, it is an out-of-family response. The gain is normal at other temperatures.

Analyses Performed to Determine Cause
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(How do we know how the failure happened? Was it a bad part, bad handling, what?)

The problem was discovered by direct measurement at –55 deg C. By deduction, capacitor C11 or amplifier P10 behave marginally at –55 deg C.

Corrective Action/ Resolution

(How do we fix the unit? And how do we make sure it doesn't happen again?)

C11 & P10 have been replaced, as well as diodes D33 & D34 since they may have been stressed during rework. The unit was re-tested at ambient temperature and meets requirements.

Acceptance:

MAM: Ron Jackson _____ ; MSE: Ellen Taylor _____

PM: Peter Harvey _____ ; Cognizant Engineer _____

Date of Closure _____