

**FAILURE MODES EFFECTS ANALYSIS (FMEA) -- NON-CIL HARDWARE
NUMBER:05-6PK-20310B -X**

**SUBSYSTEM NAME: EPD&C-COMMUNICATION & TRACKING:CLOSED CIRCUIT TV
REVISION: 0 05/31/00**

PART DATA

	PART NAME VENDOR NAME	PART NUMBER VENDOR NUMBER
LRU	:PANEL A7A1	V070-730356
SRU	:RESISTOR,CURRENT LIMITING	RWR80S1211FR

**EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
RESISTOR, CURRENT LIMITING, 1/2 WATTS, 1.2 K-OHMS.**

REFERENCE DESIGNATORS: 36V73A7A1A8R2

QUANTITY OF LIKE ITEMS: 1

**FUNCTION:
PROVIDE CURRENT LIMITING PROTECTION FROM SHORT IN SWITCH S58 OR THE
CONNECTED WIRING.**

REFERENCE DOCUMENTS: ECN 105-25016B DATED 2-25-99

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NUMBER: 05-6PK-20310B-02

REVISION#: 0 05/31/00

SUBSYSTEM NAME: EPD&C-COMMUNICATION & TRACKING:CLOSED CIRCUIT TV

LRU: PANEL A7A1

CRITICALITY OF THIS

ITEM NAME: RESISTOR,CURRENT LIMITING

FAILURE MODE: 1R3

FAILURE MODE:

SHORT END-TO-END

MISSION PHASE:

- PL PRE-LAUNCH
- LO LIFT-OFF
- OO ON-ORBIT
- DO DE-ORBIT
- LS LANDING/SAFING

VEHICLE/PAYLOAD/KIT EFFECTIVITY:

- 102 COLUMBIA
- 103 DISCOVERY
- 104 ATLANTIS
- 105 ENDEAVOUR

CAUSE:

STRUCTURAL FAILURE(MECHANICAL STRESS, VIBRATION), ELECTRICAL STRESS, THERMAL STRESS, PROCESSING ANOMALY

CRITICALITY 1/1 DURING INTACT ABORT ONLY? NO

REDUNDANCY SCREEN

- A) PASS
- B) PASS
- C) PASS

PASS/FAIL RATIONALE:

A)

SHORT END-TO-END FAILURE DETECTABLE DURING GROUND TURNAROUND USING BREAKOUT BOX.

B)

SHORT END-TO-END FAILURE DETECTABLE IN ORBIT SINCE THIS FAILURE WOULD RESULT IN LOSS OF CONTROL BUS BC1.

C)

- FAILURE EFFECTS -

(A) SUBSYSTEM:

LOSS OF CURRENT LIMITING PROTECTION TO THE CONTROL BUS BC1.

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(B) INTERFACING SUBSYSTEM(S):

POSSIBLE LOSS OF CRITICAL COMMANDS TO ANY SUBSYSTEMS USING CONTROL BUS BC1.

(C) MISSION:

POSSIBLE LOSS OF CREW/VEHICLE AFTER THREE FAILURES SEE (D) FOR SCENARIO.

(D) CREW, VEHICLE, AND ELEMENT(S):

POSSIBLE LOSS OF CREW/VEHICLE AFTER THREE FAILURES:

- (1) CURRENT LIMITING RESISTOR R2 SHORTS END-TO-END
- (2) TOGGLE SWITCH S58 SHORTS TO GROUND RESULTING IN POSSIBLE LOSS OF CONTROL BUS BC1. ALL CRITICAL FUNCTIONS ON BUS BC1 HAVE BACKUP.
- (3) LOSS OF CRITICAL FUNCTION BACKUP MAY CAUSE LOSS OF CREW/VEHICLE.

(E) FUNCTIONAL CRITICALITY EFFECTS:

SHORT END TO END OF RESISTOR R2 MAY CAUSE LOSS OF CREW/VEHICLE.

- APPROVALS -

SS&R ENGINEERING
DESIGN ENGINEERING

: K.E.RYAN/C.S.PUTCHA
: G.J.SCHWARTZ

: *K.E. Ryan* *C. Chandra Putcha*
: *G.J. Schwartz* *6-6-00*