

CRITICAL ITEMS LIST

SYSTEM: EXTRAVEHICULAR MOBILITY UNIT

SUBSYSTEM: SPACE TO SPACE COMMUNICATIONS SYSTEM

ASSEMBLY: SPACE TO SPACE EMU RADIO (SSER) ASSY P/N: SED16102580

END ITEM EFFECTIVITY: OV102, OV103, OV104, OV105 AND SUBS.

APPROVAL DATE:
SUPERCEDES REV: N/A DATE: N/A
SHEET 1 OF 4

PREPARED BY: Nancy A. Olson

DATE: 12/06/96

APPROVAL:

SR&MA:

DESIGN:

SSCS PROJECT MANAGER:

DATE:

DATE: 6/30/00

DATE: 6/30/00

CRITICALITY(H/F): 2/2

INTACT ABORT MODE CRIT: N/A

REDUNDANCY SCREENS: A-N/A B-N/A C-N/A

FMEA REFERENCE: SSER-04

NAME: SSER

DRAWING REFERENCE: SED16102580

QUANTITY: 1

| CIL # | REV | FUNCTION | FAILURE MODE AND CAUSE | FAILURE EFFECT | RATIONALE FOR ACCEPTABILITY |
|---------|-------|--|--|---|---|
| SSER-04 | BASIC | <p>1 Provides RF Duplex voice communications between the EMU and Orbiter, other EMUs, and the Space Station</p> <p>2 Provides telemetry from EMU to Orbiter or Station</p> <p>3 Provides caution and status tone to CCA on command from EMU caution and warning system.</p> <p>4 Provides Hardline voice communication between EMU and Orbiter or Station in Airlock.</p> <p>MISSION PHASE: Pre-EVA, EVA, Post-EVA</p> | <p>FAILURE MODE: Earphone output open/short</p> <p>CAUSE: Contamination, vibration, shock, EEE parts failure, or temperature cycle</p> <p>MISSION PHASES: Pre EVA, EVA, Post EVA</p> | <p>SUBSYSTEM: Loss of receive audio from Orbiter, Station, and other EMUs. Loss of caution and warning tones. Loss of hardline receive audio</p> <p>INTERFACING SUBSYSTEMS: None</p> <p>MISSION: Terminate EVA.</p> <p>CREW/VEHICLE: EVA Crewman has loss of received audio and C&W tones.</p> <p>SUCCESS PATHS REMAINING AFTER FIRST FAILURE: 0</p> <p>TIME TO EFFECT: minutes</p> | <p>DESIGN: The electrical design of the SSER is based upon JSC in-house engineering model hardware. Litton is manufacturing the hardware in accordance with the appropriate NHB 5300.4 standards.</p> <p>Passive EEE parts are selected from the guidelines of MIL-STD-975. Active EEE parts are approved by the JSC Engineering Directorate Certified Parts Approval Process.</p> <p>The high, low, and shield output to the earphone are on separate pins in a Bendix 10-550354-35E miniature guide disconnect, bayonet lock connector. M22759 wire is run from the PRI and ALT signal processors to an FMT filter connector (56-736-003 from Spectrum Control) and then to the Bendix connector. Splices are made in accordance with Rockwell specification ME416-0031-1004. Hardline audio output is run to the PRI and ALT signal processor boards through a SAMTEC SSQ-112-23-S-D stackable connector. Audio circuits on PRI, ALT, and hardline boards are isolated by solid state relays. Cables are laced to avoid strain. The SSER is environmentally sealed to avoid contamination.</p> <p>TEST:</p> <p>CERTIFICATION: One time test on Qual SSER. Audio verified before, during, and after exposure to environments.</p> |

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SUPERCEDES REV: N/A DATE: N/A
SHEET 2 OF 4

END ITEM EFFECTIVITY: OV102, OV103, OV104, OV105 AND SUBS.

PREPARED BY: Nanci A. Olson

DATE: 12/06/96

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CRITICALITY(H/F): 2/2

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PREPARED BY: Nanci A. Olson

DATE: 12/06/96

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| NAME: SSER | | | | | |
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