CRITICAL ITEMS LIST

SYSTEM: COMMUNICATIONS AND TRACKING SUBSYSTEM: SPACE TO SPACE COMMUNICATIONS SYSTEM
ASSEMBLY: SPACE TO SPACE ORBITER RADIO (SSOR) ASS'Y P/N: SED16102581

APPROVAL DATE:
SUPERCEDES REV: N/A DATE: N/A
END ITEM EFFECTIVITY: OV102, OV103, OV104, OV105, AND SUBS. SHEET 1 OF 4

PREPARED BY: Nanci A. Olson DATE: 12/17/96

APPROVAL:
SR&MA: _____ DATE: _____
DESIGN: Mark Chavez DATE: 5-7-09
SSCS PROJECT MANAGER: Matt Lemke DATE: 5-3-96

CRITICALITY(H/F): 2/2 INTACT ABORT MODE CRIT: N/A

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

FMEA REFERENCE: SSOR-08

NAME: SSOR
DRAWING REFERENCE: SED16102581, SID16102642, SID16102612
QUANTITY: 1

| CIL # | REV | FUNCTION | FAILURE MODE AND CAUSE | FAILURE EFFECT | RATIONALE FOR ACCEPTABILITY |
|---|---|---|---|---|---|
| SSOR-08 | BASIC | (1) Provides RF duplex voice comm between Orbiter and EMU's.<br><br>(2) Receives biomed and telemetry from EMU<br><br>(3) Provides RF duplex voice comm between Orbiter and Station<br><br>(4) Provides RF command to Space Station and telemetry from Space Station | FAILURE MODE: Audio input open/short<br><br>CAUSE: Contamination, vibration, shock, EEE parts failure, or temperature cycle<br><br>MISSION PHASES:<br><br>Pre EVA<br><br>EVA<br><br>Post EVA<br><br>Station Rendezvous | SUBSYSTEM: Loss of Transmit Voice Communications to Station and EMUs. No effect on biomed and telemetry from EMUs or on command and telemetry to/from Station<br><br>INTERFACING SUBSYSTEMS: None<br><br>MISSION: Terminate EVA. No effect on Station rendezvous<br><br>CREW/VEHICLE: No effect.<br><br>SUCCESS PATHS REMAINING AFTER FIRST FAILURE: 0<br><br>TIME TO EFFECT: minutes | DESIGN: The electrical design of the SSOR is based upon JSC in-house engineering model hardware. Litton is manufacturing the hardware in accordance with the appropriate NHB 5300.4 standards.<br><br>Passive EEE parts are selected from the guidelines of MIL-STD-975. Active EEE are approved by the JSC Engineering Directorate Certified Parts Approval Process.<br><br>The high, low, and shield audio input are on separate pins in a NB7H16-PW connector. M22759 wire is run from the String 1 and String 2 signal processors to the NB7H16-PW connector. Splices are made in accordance with Rockwell specification ME416-0031-1004. Audio circuits on the String 1 and String 2 signal processors are isolated by solid state relays. Cables are laced to avoid strain.<br><br>TEST:<br><br>CERTIFICATION: One time test on Qual SSOR. Audio verified before, during, and after exposure to environments.<br><br>QUALIFICATION THERMAL TEST - 7 cycles from 25F to 135F operating and 1 cycle to -65F non-operating. Audio verified before, during, and after thermal test. |

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APPROVAL DATE:
SUPERCEDES REV: N/A DATE: N/A
END ITEM EFFECTIVITY: OV102, OV103, OV104, OV105, AND SUBS. SHEET 2 OF 4

PREPARED BY: Nanci A. Olson DATE: 12/17/96

APPROVAL:
SR&MA: _____ DATE: _____
DESIGN: _____ DATE: _____
SSCS PROJECT MANAGER: _____ DATE: _____

CRITICALITY(H/F): 2/2 INTACT ABORT MODE CRIT: N/A

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

FMEA REFERENCE: SSOR-08

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SUPERCEDES REV: N/A DATE: N/A
END ITEM EFFECTIVITY: OV102, OV103, OV104, OV105, AND SUBS. SHEET 3 OF 4

PREPARED BY: Nanci A. Olson DATE: 12/17/96

APPROVAL:
SR&MA: _____ DATE: _____
DESIGN: _____ DATE: _____
SSCS PROJECT MANAGER: _____ DATE: _____

CRITICALITY(H/F): 2/2 INTACT ABORT MODE CRIT: N/A

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

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SUPERCEDES REV: N/A DATE: N/A
END ITEM EFFECTIVITY: OV102, OV103, OV104, OV105 AND SUBS. SHEET 4 OF 4

PREPARED BY: Nanci A. Olson DATE: 12/17/96

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SR&MA: _____ DATE: _____
DESIGN: _____ DATE: _____
SSCS PROJECT MANAGER: _____ DATE: _____

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