

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	
END ITEM EFFECTIVITY: OV102, OV103, OV104, OV105, AND SUBS.		APPROVAL DATE: SUPERCEDES REV: N/A DATE: N/A	
PREPARED BY: Nanci A. Olson		DATE: 12/17/96	
APPROVAL:		DATE: -	
SR&MA:		DATE: 5-2-00	
DESIGN:		DATE: 5-2-00	
SSCS PROJECT MANAGER: <i>Wally Chang Mark Chavez</i>		DATE: 5-2-00	
CRITICALITY(H/F): 2/2		INTACT ABORT MODE CRIT: N/A	
REDUNDANCY SCREENS: A-N/A B-N/A C-N/A			
FMEA REFERENCE: SSOR-07			
NAME: SSOR			
DRAWING REFERENCE: SED16102581, SID16102642, SID16102612			
QUANTITY: 1			

CIL #	REV	FUNCTION	FAILURE MODE AND CAUSE	FAILURE EFFECT	RATIONALE FOR ACCEPTABILITY
SSOR-07	BASIC	<p>(1) Provides RF duplex voice comm between Orbiter and EMU's.</p> <p>(2) Receives biomed and telemetry from EMU</p> <p>(3) Provides RF duplex voice comm between Orbiter and Station</p> <p>(4) Provides RF command to Space Station and telemetry from Space Station</p>	<p>FAILURE MODE: Audio output open/short</p> <p>CAUSE: Contamination, vibration, shock, EEE parts failure, or temperature cycle</p> <p>MISSION PHASES: Pre EVA EVA Post EVA Station Rendezvous</p>	<p>SUBSYSTEM: Loss of Receive Voice Communications from Station and EMUs. No effect on biomed and telemetry from EMUs or on command and telemetry to/from Station</p> <p>INTERFACING SUBSYSTEMS: None</p> <p>MISSION: Terminate EVA. No effect on Station rendezvous</p> <p>CREW/VEHICLE: No effect.</p> <p>SUCCESS PATHS REMAINING AFTER FIRST FAILURE: 0</p> <p>TIME TO EFFECT: minutes</p>	<p>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.</p> <p>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.</p> <p>The high, low, and shield audio output 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.</p> <p>TEST:</p> <p>CERTIFICATION: One time test on Qual SSOR. Audio verified before, during, and after exposure to environments.</p> <p>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.</p>

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 SHEET 2 OF 4

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

PREPARED BY: Nanci A. Olson

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