

CRITICAL ITEM LIST

PROJECT: EMD

SYSTEM: CCA

ASSEMBLY NOMENCLATURE: INTERFACE CABLE

ASSEMBLY P/N: 166476

FMEA REF	REV	NAME, QTY., DRAWING REF. DESIGN	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	HOW/TIME 3/2 MS RATIONALE FOR ACCEPTANCE CRITICALITY
03-3		Interface Cable P/N 166476	<p><u>MODE:</u> Fails to pass audio signals. Loss of ear-phone and/or microphone functions.</p>	Loss of communication	<p><u>DESIGN FEATURES:</u> The interface cable wiring meets the requirements of NSTS 8080, Standard 95. The wiring is enclosed in Nomax sleeving with a line inside with the wires to provide strain relief.</p>
05-3		Interconnector Wiring QTY-2	<p><u>CAUSE(S):</u> Electrical wire failure (open or short circuit)</p>		<p>The sleeving and line is attached to the summing module and interface connector. Any force applied will be on the sleeving and line, and not the wires.</p>

CRITICAL ITEM LIST

PROJECT:

SYSTEM: CCA

ASSEMBLY NOMENCLATURE: INTERFACE CABLE

ASSEMBLY P/N: 1664/G

FMEA REF	REV	NAME, QTY., DRAWING REF. DESIGN	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	ADDM/FUNC 3/2 HQ CRITICALITY RATIONALE FOR ACCEPTANCE
03-3					<p>ACCEPTANCE TEST:</p> <p>The acceptance testing verified that all measurable performance characteristics meet the requirements of the end-item specifications. Acceptance testings were performed on the end-item (CCLH).</p>
05-3					

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PROJECT: LMD

SYSTEM: CCA

ASSEMBLY NOMENCLATURE: INTERFACE CABLE

ASSEMBLY P/N: 106476

QML REF	REV	QML, QTY., DRAWING REF. DESIGN	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	QML REF/FORM 3/2 HB CRITICALITY RATIONALE FOR ACCEPTANCE
03-3					<p><u>QUALIFICATION TESTS:</u> The CCA was subjected to a qualification test to demonstrate its capability to perform in or after being exposed to the environment. It is required to operate as specified in NAS9-13132, Exhibit C, paragraph 5.16.2.1.2. The qualification testing consist of the following test:</p> <p><u>IMPIDITY:</u> MIL-STD-883B, Method 507, Procedure 1, was conducted except that the minimum temperature was 68 degrees F, and maximum temperature was 120 degrees F.</p> <p><u>SINCE:</u> MIL-STD-883B, Method 516, Procedure I and IV, Procedure 1, was 20µs for II milliseconds and Procedure IV was 53µs for 10 milliseconds.</p> <p><u>ATMOSPHERIC COMPATIBILITY:</u> The CCA was operated in an atmosphere of 100% oxygen at a continuous pressure of 6.2 psia for 24 hours. The temperature was maintained at ambient level for 16 hours and then raised to 120 degrees F and maintained for 0 hours. The same procedure was repeated for a pressure level 16.5 psia.</p>
05-3					

CRITICAL ITEM LIST

PROJECT: EMU

SYSTEM: UCA

ASSEMBLY NOMENCLATURE: INTERFACE CABLE

ASSEMBLY P/N: 166476

FMEA REF	REV	NAME, QTY., DRAWING REF., DESIGN	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	THREAT/UNC 3/2 HD CRITICALITY RATIONAL FOR ACCEPTANCE
03-3					QUALIFICATION TEST (Continued): TEMPERATURE: High and Low-High Temperature MIL-STD-883C, Method 501, Procedure 1, applied except the temperature was raised to 150 degrees F and maintained for a period of not less than 4 hours after stabilization of the CCM. Low Temperature - MIL-STD-883C, Method 501, Procedure 1, applied. The temperature was lowered to 0 degrees F and maintained for a period of not less than 4 hours after stabilization. VIBRATION: Vehicle Dynamics Flight Axis (3-40 Hz @ 3 Oct/Hrn.) 3-7 Hz @ 1.3g Peak 15-20 Hz @ 0.11 Inch D.A. Disp. 20-40 Hz @ 2.3g Peak Lateral Axes (2-20 Hz @ 3 Oct/Hrn.) 2-10 Hz @ 0.14g Peak 10-20 Hz @ 0.035g Peak Sinusoidal Evaluation (20-2000 Hz @ 1 Oct/Hrn.) 20-100 Hz @ 0.0007 Inch D.A. Disp. 100-2000 Hz @ 1.5g Peak
05-3					

CRITICAL ITEM LIST

PROJECT: EMU

SYSTEM: CCA

ASSEMBLY NOMENCLATURE: INTERFACE CABLE

ASSEMBLY P/N: 1664/G

FMEA REF	REL	NAME, QTY., DRAWING REF, DESIGN	FAILURE MODE AND CAUSE	FAILURE EFFECT OR END ITEM	HOW/FUNC 3/2000 CRITICALITY	RATIONALE FOR ACCEPTANCE
03-3					QUALIFICATION TEST (Continued): High Random (4 Min/Axis, 3 Axes) 20-40 Hz @ +9 db/Oct 40-60 Hz @ 0.2 g ² /Hz 60-310 Hz @ -6 db/Oct 310-750 Hz @ 0.004g ² /Hz 750-1500 Hz @ -6 db/Oct 1500-2000 Hz @ 0.004g ² /Hz Composite - 3.4 grms.	
05-3					Low Random (4 Min/Axis, 3 Axes) 20-40 Hz @ +9 db/Oct 40-60 Hz @ 0.025g ² /Hz 60-310 Hz @ 0.001g ² /Hz 750-1500 Hz @ -6 db/Oct 1500-2000 Hz @ 0.00025g ² /Hz Composite - 1.7 grms	

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PROJECT: EMU

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ASSEMBLY P/N: 166476

FMEA REF	REV	NAME, QTY., DRAWING REF., DESIGN	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	MINOR/MAJOR 3/2 RB RATIONALE FOR ACCEPTANCE CRITICALITY
03-3					<p><u>QUALIFICATION TEST (Continued):</u></p> <p><u>EMI:</u> Test Per SL-C-0002</p> <p>A. CS01 - Limit 1.2 VIMS per Figure 2 of ICDS-1ISD-4-1101B-0C</p> <p>B. CS02 - Limit 0.22 VIMS</p> <p>C. CS06 - Limit 51V per Figure 3 and 4 of ICDS-1ISD-4-000B-0C</p> <p>D. RSO3</p> <p>Tests were also performed in accordance with EMI-MIL-7-26600/EMI 11A.</p>
05-3					<p><u>OPERATIONAL TESTS:</u></p> <p>The following tests verify the microphone has not failed prior to going EVA.</p> <p><u>KSC:</u> On-Orbiter UMISB Y1103</p> <p><u>FLIGHT CHECKOUT:</u> Pre-EVA checkout during a mission.</p>

CRITICAL ITEM LIST

PROJECT: CHU

SYSTEM: CCA

ASSEMBLY NOMENCLATURE: INTERFACE CABLE

ASSEMBLY P/N: 16647G

ITEM REF	REV	NAME, QTY., DRAWING REF., DESIGN	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	TIME/FUNC 3/2 RW RATIONALE FOR ACCEPTANCE CRITICALITY
03-3					<p><u>QA INSPECTION:</u></p> <p>The CCA is manufactured, assembled and tested to flight-approved JSC drawings and procedures. The drawings have been approved by Quality Engineering, Materials and Structures, and are maintained by the JSC Drawing Control Center. Quality controls are exercised throughout design procurement, planning, processing, fabrication, assembly qualification and acceptance testing. Mandatory inspection points are employed as appropriate at various levels of assembly and tests.</p>
05-1					<p>Receiving inspection verifies that the parts and components received are as identified in the procurement documents, that no damage has occurred during shipment, and that appropriate data have been received which provides adequate traceability information and identifies acceptable parts.</p> <p>Parts are inspected, as appropriate, throughout manufacture and assembly.</p>

CRITICAL ITEM LIST

PROJECT: EMU

SYSTEM: CCA

ASSEMBLY NOMENCLATURE: INTERFACE CABLE

ASSEMBLY P/N: 186476

FMEA REF	HEV	NAME, QTY., DRAWING REF. DESIGN	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	HOW/FUNC 3/2 RB NATIONAL FOR ACCEPTANCE CRITICALITY
03-3					<p><u>QA INSPECTION (Continued):</u></p> <p>Pre-acceptance test inspection, which includes an inspection of the lower assemblies on completion, a verification of the as built configuration to the design, etc., (mandatory inspection points).</p> <p><u>FAILURE HISTORY:</u></p> <p>None</p> <p><u>OPERATIONAL EFFECTS:</u></p> <ul style="list-style-type: none"> o None during an EVA o During a planned EVA mission, a spare CCA is available and can be used if failure is detected in the Pre-EVA phase of the mission. o For an unplanned EVA, redundant is lost.
05-3					

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PROJECT: EMD

SYSTEM: CCA

ASSEMBLY NOMENCLATURE: INTERFACE CABLE

ASSEMBLY P/N: 166476

FHA REF	REL	NAME, QTY., DRAWING REF. DESIGN	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	RUMI / UIC 3/2RB NATIONAL FOR ACCEPTANCE CRITICALITY
03-3					<p>CHW TRAINING:</p> <ul style="list-style-type: none"> • Comm Class 2120 • Additional instructions during EVA preparation and post exercise.
05-3					<p>MISSION CONSTRAINT:</p> <p>Loss of redundant communication. Loss of communication if two failures.</p>