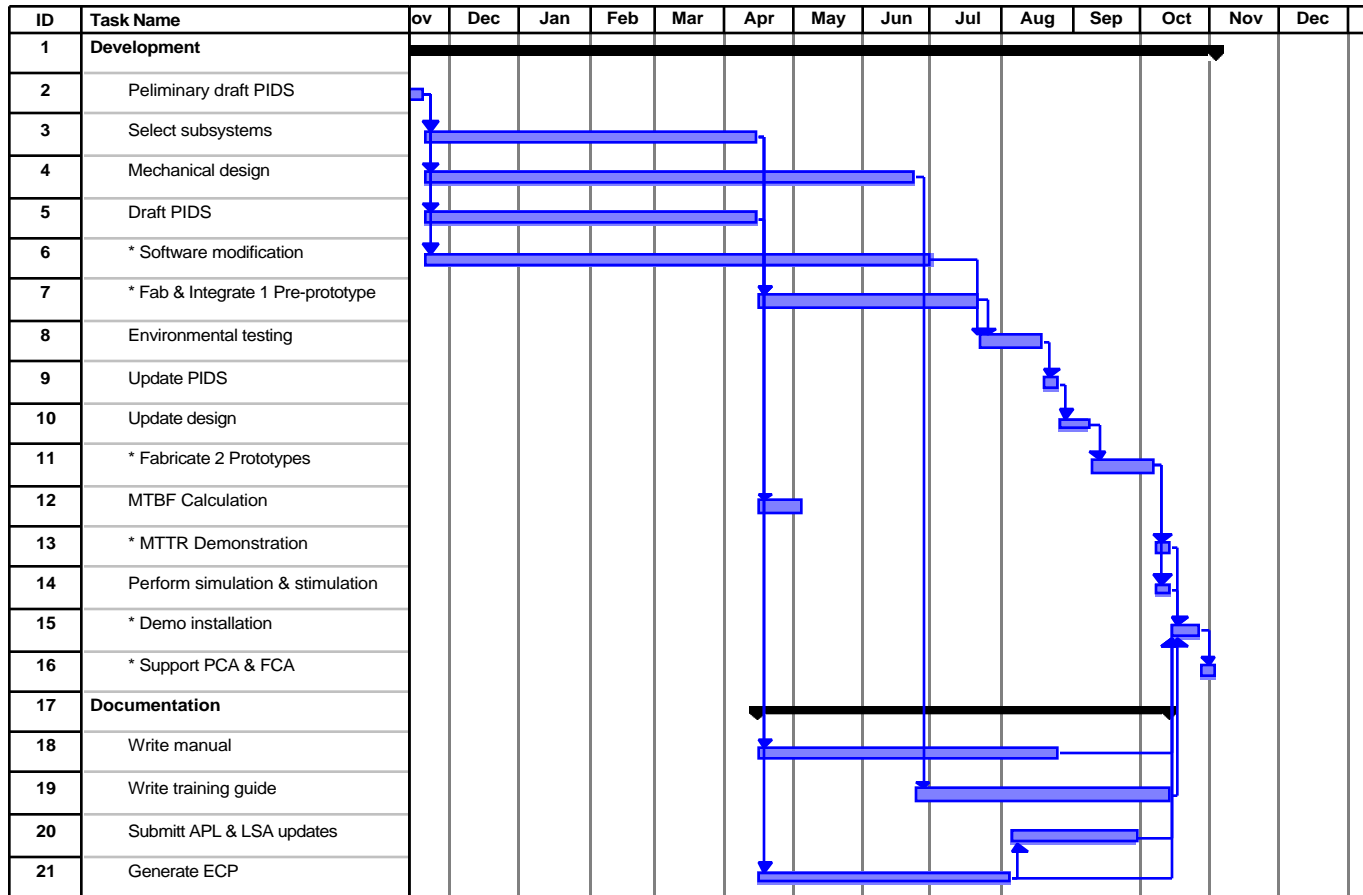


# Appendix D







# Appendix E

## AN/BQH-7/7A EC-3 Requirements Allocation Matrix

Prime Item Development Specification, Outline		AN/BQH-7		7A	SLEP		
SLEP Para. #	BQH-7 Paragraph Number	Title/Description	SSNs	TRIDENT	Surface Ships	Entire fleet	Remarks
1	1.0	Scope	X	X	X	X	
2	2.0	Applicable Documents	X	X	X	X	
2.2	2.1	Government Documents	X	X		X	
2.2.1	2.1	Specifications			X	X	
2.2.1	2.2	Standards			X	X	
2.2.2	2.3	Drawings			X	X	
2.2.2	2.4	Publications			X	X	
3	3.0	Requirements	X	X	X	X	
3.1	3.1	Recorder Description	X	X	X	X	
3.1.1	3.1.1	Functional Description			X	X	

### AN/BQH-7/7A EC-3 Requirements Allocation Matrix

Prime Item Development Specification, Outline			AN/BQH-7		7A	SLEP	
SLEP Para. #	BQH-7 Paragraph Number	Title/Description	SSNs	TRIDENT	Surface Ships	Entire fleet	Remarks
N/A	3.1.1.1	Combined CPU/Memory Function			X		Replaced by MK 12 Oceanographic Data Acquisition System
3.2	3.1.1.1	XBT Function				X	
3.2	3.1.1.2	XSV Function			X	X	
3.2		XCTD Function				X	New function/added capability for improved data in littoral areas
3.3.2	3.1.1.3	NTDS Fast			X	X	
3.3.1		NTDS Slow				X	
3.3.3		RS-232			X	X	EC-2 provided this capability to TAGOS class ships
3.4	3.1.2	Operator/Maintainer Interface			X	X	
N/A	3.1.2.1	Chart Recorder			X		Replaced by Video Graphics Adapter (VGA) Display
3.4.1		Keyboard				X	
N/A	3.1.2.2	Tape Cassette Recorder			X		Replaced by Floppy Disc Drive (increased storage capabilities)

Appendix E

### AN/BQH-7/7A EC-3 Requirements Allocation Matrix

Prime Item Development Specification, Outline			AN/BQH-7		7A	SLEP	
SLEP Para. #	BQH-7 Paragraph Number	Title/Description	SSNs	TRIDENT	Surface Ships	Entire fleet	Remarks
3.4.1		Trackpad				X	Replaces Analog controls/interfaces with VGA Display
3.3.2	3.1.2.3	NTDS Fast Assembly			X	X	
3.4.2		LCD Display				X	Replaces Analog Strip Chart Recorder of AN-BQH-7/7A
3.5	3.1.2.4	Equipment Characteristics			X	X	
3.4.3.1		Floppy Disk Drive				X	Replaces Tape Cassette to provide increased data storage
3.4.3.1		Hard Disk Drive				X	
3.3.2		NTDS Fast Function				X	
3.3.1		NTDS Slow Function				X	
3.3.3		RS-232 Function				X	EC-2 provided this capability to TAGOS class ships
3.2	3.2	Expendable Unit Interface	X	X	X	X	
3.2.1	3.2.1	Interface Requirements for Submarine BTs	X	X		X	
3.2.2		Interface Requirements for Surface Ship BTs				X	Addressed in a sub-paragraph for clarity
N/A		Description of Expendable Devices				X	Not applicable. This PIDS is for the Recorder.
N/A	3.2.1	XBT Device			X	X	Not applicable. This PIDS is for the Recorder.
N/A	3.2.2	XSV Device			X	X	Not applicable. This PIDS is for the Recorder.
N/A		XCTD Device				X	Not applicable. This PIDS is for the Recorder.
N/A		SSXBT/UISSXBT Device				X	Not applicable. This PIDS is for the Recorder.
N/A		SSXSV/UISSXSV Device				X	Not applicable. This PIDS is for the Recorder.
N/A		SSXCTD/UISSXCTD Device				X	Not applicable. This PIDS is for the Recorder.

### AN/BQH-7/7A EC-3 Requirements Allocation Matrix

Prime Item Development Specification, Outline			AN/BQH-7		7A	SLEP	
SLEP Para. #	BQH-7 Paragraph Number	Title/Description	SSNs	TRIDENT	Surface Ships	Entire fleet	Remarks
N/A	3.2.2	Submarine Expendable Probe Descent Equation	X	X			Not applicable. This PIDS is for the Recorder.
N/A	3.2.3	Surface Ship XBT Descent Equations	X	X			Not applicable. This PIDS is for the Recorder.
N/A	3.2.3	Surface Ship XBT/XSV Descent Equations			X		Not applicable. This PIDS is for the Recorder.
N/A	3.2.3.1	XBT Device Probe			X		Not applicable. This PIDS is for the Recorder.
N/A	3.2.3.2	XSV Device Probe			X		Not applicable. This PIDS is for the Recorder.
N/A		Descent Equations				X	Not applicable. This PIDS is for the Recorder.
3.2		XBT Probes				X	Not applicable. This PIDS is for the Recorder.
3.2		XSV Probes				X	Not applicable. This PIDS is for the Recorder.
3.2		XCTD Probes				X	Not applicable. This PIDS is for the Recorder.
3.2		SSXBT/UISSXBT Probes				X	Not applicable. This PIDS is for the Recorder.
3.2		SSXSV/UISSXSV Probes				X	Not applicable. This PIDS is for the Recorder.
3.2		SSXCTD/UISSXCTD Probes				X	Not applicable. This PIDS is for the Recorder.
3.3	3.3	External System Output	X	X	X	X	
3.2	3.3.1	Depth Data Performance	X	X	X	X	
3.2	3.3.2	Temperature Data Performance	X	X	X	X	
3.2	3.3.3	Sound Velocity Data Performance			X	X	
3.2		Conductivity Data Performance				X	New function/added capability for improved data in littoral areas
3.3.1	3.3.3	Parallel Data External Interface (NTDS Slow)	X			X	



### AN/BQH-7/7A EC-3 Requirements Allocation Matrix

Prime Item Development Specification, Outline			AN/BQH-7		7A	SLEP	
SLEP Para. #	BQH-7 Paragraph Number	Title/Description	SSNs	TRIDENT	Surface Ships	Entire fleet	Remarks
	3.3.3.1	Timing Characteristics	X			X	
	3.3.3.2	Electrical Characteristics	X			X	
3.3.2	3.3.4	Parallel Data External Interface (NTDS Fast)			X	X	
	3.3.4.1	Control/Data Lines			X	X	
	3.3.4.2	Data Word Format			X	X	
	3.3.4.3	Timing Characteristics			X	X	
	3.3.4.4	Electrical Characteristics			X	X	
3.3.3	3.3.4	Serial Data External Interface (RS-232)	X	X		X	
	3.3.4.1	Timing Characteristics	X	X		X	
	3.3.4.2	Serial Interface Test Routine	X	X		X	
	3.3.4.3	Electrical Characteristics	X	X		X	
3.4	3.4	Operator/Maintainer Interface	X	X	X	X	
3.4.1	3.4.1	Controls	X	X	X	X	
3.4.1		On/Off Switch				X	Previously addressed under "Controls"
		Floppy Disk Drive				X	New requirement for SLEP
3.4.1		Keyboard				X	New requirement for SLEP
3.4.1		Trackpad				X	New requirement for SLEP
N/A		Connector Box/Hand-Held Launcher				X	Previously addressed under 3.2
N/A	3.4.1.1	Cycle Push-button Switch			X		Not Applicable, SLEP uses a menu

### AN/BQH-7/7A EC-3 Requirements Allocation Matrix

Prime Item Development Specification, Outline			AN/BQH-7		7A	SLEP	
SLEP Para. #	BQH-7 Paragraph Number	Title/Description	SSNs	TRIDENT	Surface Ships	Entire fleet	Remarks
N/A	3.4.1.2	Probe Select Switch			X		Not Applicable, SLEP uses a menu
N/A	3.4.1.3	Strip Chart Output Switch			X		Not Applicable, SLEP uses a menu
3.4.2	3.4.2	Indicators	X	X	X	X	
3.4.2		Power Light				X	Previously addressed under 3.4.2
3.4.2		Video Graphics Adapter Display ( VGA )				X	New requirement for SLEP (replaces the Chart Recorder)
3.3.5		Connector Box				X	Addresses "Reload" and Launch" indicators
N/A	3.4.2.1	Measurement Status Error			X		Previously addressed under 3.4.2
N/A	3.4.2.2	3 Digit Hexadecimal Display			X		Previously addressed under 3.4.2
3.4.3	3.4.3	Modes of Operation	X	X	X	X	
3.4.3.1		Acquisition				X	Nomenclature clarification
3.4.3.2		Post-Acquisition				X	Nomenclature clarification
3.4.3.1	3.4.3.1	Measuring Mode	X	X	X		Replaced by "Acquisition"
N/A	3.4.3.2	Tape Playback Modes	X	X	X		Replaced by "Post-Acquisition"
3.4.3.3	3.4.3.3	Test Mode	X	X	X	X	
N/A	3.5	Strip Chart Recorder	X	X	X		Not Applicable. Replaced by VGA Display
3.2	3.5.1	Depth Data Performance	X	X			
3.2	3.5.2	Temperature Data Performance	X	X			
3.2	3.5.3	Sound Speed Data Performance	X	X			
N/A	3.5.4	Strip Chart Paper	X	X			Not Applicable. Chart is shown on display.

### AN/BQH-7/7A EC-3 Requirements Allocation Matrix

Prime Item Development Specification, Outline			AN/BQH-7		7A		SLEP
SLEP Para. #	BQH-7 Paragraph Number	Title/Description	SSNs	TRIDENT	Surface Ships	Entire fleet	Remarks
N/A	3.5.4.1	Chart Printing Format	X	X			Not Applicable. Chart is shown on display.
3.8	3.5.4.2	Environmental Requirements	X	X			
N/A	3.6	Digital Cassette Recorder	X	X	X		Not Applicable. Replaced by Floppy disc Drive
N/A	3.6.1	Digital Tape Cassettes			X		Not Applicable. Replaced by Floppy disc Drive
N/A	3.6.2	Magnetic tape format			X		Not Applicable. Replaced by Floppy disc Drive
3.5	3.7	Physical Characteristics	X	X	X	X	
3.5.1	3.7.1	Weight	X	X	X	X	
3.5.2	3.7.2	Size	X	X	X	X	
3.5.3	3.7.3	Location	X	X	X	X	
3.5.4	3.7.4	External Connectors	X	X	X	X	
3.5.4	3.7.4.1	Receptacle Mounting	X	X	X	X	
3.5.4	3.7.4.2	Pin Assignments	X	X	X	X	
N/A	3.7.5	Shields and Spare Lead Termination's	X	X	X	X	Included in connector assembly drawing.
3.9	3.8	Design, Construction, and Workmanship			X	X	
3.6	3.8	Reliability Program	X	X		X	
3.6	3.8.1	Reliability Program	X	X		X	
3.6.2	3.8.2	Mean-Time-Between-Failures	X	X		X	
3.6.3	3.8.3	FDCACA Program	X	X		X	
N/A	3.9	Item Baseline Identification			X	X	Will be provided by BOM.

### AN/BQH-7/7A EC-3 Requirements Allocation Matrix

Prime Item Development Specification, Outline			AN/BQH-7		7A	SLEP	
SLEP Para. #	BQH-7 Paragraph Number	Title/Description	SSNs	TRIDENT	Surface Ships	Entire fleet	Remarks
3.7	3.9	Maintainability	X	X		X	
3.7.1	3.9.1	Maintainability Program	X	X		X	
N/A	3.9.1	Functional Baseline			X	X	Will be provided by BOM.
3.7.2	3.9.2	Scheduled Maintenance on Patrol	X	X			No more than one hour per month
N/A	3.9.2	Product Baseline			X	X	Will be provided by BOM.
3.7.3	3.9.3	Unscheduled Maintenance on Patrol	X	X			No more than a 20-minute mean-time-to-repair
3.7.4	3.9.4	Maintainability Construction and Workmanship	X	X		X	
3.7.4	3.9.4.1	Maintenance Design	X	X		X	
N/A	3.9.4.2	External Test Equipment	X	X			No External Test Equipment Require for SLEP
N/A	3.9.4.3	Special Test Device and Tools	X	X			None Require for SLEP
N/A	3.9.4.4	Test Points	X	X			No internal test points in SLEP
N/A	3.10	Documentation			X		Applicable to AN/BQH-7A Only
3.8	3.10	Environmental Characteristics	X	X		X	
3.8.1	3.10.1	Operating Temperature Range	X	X		X	
	3.10.2	Non-Operating Temperature Range	X	X		X	
3.8.3	3.10.3	Shock	X	X		X	
3.8.4	3.10.4	Vibration	X	X		X	
3.8.5	3.10.5	Airborne and Structureborne Noise	X	X		X	

### AN/BQH-7/7A EC-3 Requirements Allocation Matrix

Prime Item Development Specification, Outline			AN/BQH-7		7A	SLEP	
SLEP Para. #	BQH-7 Paragraph Number	Title/Description	SSNs	TRIDENT	Surface Ships	Entire fleet	Remarks
3.8.6	3.10.6	Electromagnetic Interference	X	X		X	
3.8.7	3.10.7	Magnetic Field Environment	X	X		X	
3.8.2	3.10.8	Humidity	X	X		X	
3.8.8	3.10.9	Inclination	X	X		X	
3.8.9	3.10.10	Salt Fog (Spray)	X	X		X	
3.8.10	3.10.11	Storage Life	X	X		X	
3.9	3.11	Design, Construction, and Workmanship	X	X		X	
3.9.1	3.11.1	Modular Construction	X	X		X	
3.9.2	3.11.2	Workmanship	X	X		X	
3.9.3	3.11.3	Safety	X	X		X	
3.9.3	3.11.3.1	Safety Design Review	X	X		X	
3.9.3	3.11.3.2	Safety Criteria and Considerations	X	X		X	
3.9.3	3.11.3.3	Safety Precedence	X	X		X	
3.9.3	3.11.3.4	Safety Check List	X	X		X	
3.9.3	3.11.3.5	Safety Analysis	X	X		X	
3.9.3	3.11.3.6	Safety Design Criteria	X	X		X	
3.9.4	3.11.4	Human Engineering	X	X		X	
3.9.5	3.11.5	Identification and Marking	X	X		X	
3.9.6	3.11.6	Electrical Design and Construction	X	X		X	

### AN/BQH-7/7A EC-3 Requirements Allocation Matrix

Prime Item Development Specification, Outline			AN/BQH-7		7A	SLEP	
SLEP Para. #	BQH-7 Paragraph Number	Title/Description	SSNs	TRIDENT	Surface Ships	Entire fleet	Remarks
3.9.6.1	3.11.6.1	Electrical Power Characteristics	X	X		X	
3.9.6.2	3.11.6.2	Electrical Overload Protection	X	X		X	
3.9.6.3	3.11.6.3	Internal Adjustments	X	X		X	
N/A	3.11.6.4	Printed Wiring	X	X		X	Not Applicable. All boards are COTS.
3.9.6.4	3.11.6.5	Electrical Bonding and Grounding	X	X		X	
N/A	3.11.6.6	Internal Wiring and Cabling	X	X		X	Not Applicable. All boards are COTS.
3.9.7.4	3.11.6.7	Mounting of Parts	X	X		X	
3.9.7	3.11.7	Mechanical Design and Construction	X	X		X	
3.9.7.1	3.11.7.1	Construction	X	X		X	
3.9.7.2	3.11.7.2	Accessibility	X	X		X	
3.9.7.3	3.11.7.3	Enclosure	X	X		X	
3.9.7.4	3.11.7.4	Mounting Requirements	X	X		X	
3.9.7.5	3.11.7.5	Front Panel Design, Controls, and Indicators	X	X		X	
3.9.7.6	3.11.7.6	Thermal Design and Survey	X	X		X	
3.9.8	3.11.8	Parts, Materials and Processes	X	X		X	
3.9.8.1	3.11.8.1	Selection	X	X		X	
3.9.8.2	3.11.8.2	Derating	X	X			Not Applicable to COTS. Will use best commercial practices
3.9.8.3	3.11.8.3	Interchangeability	X	X		X	
3.9.8.4	3.11.8.4	Parts	X	X		X	

### AN/BQH-7/7A EC-3 Requirements Allocation Matrix

Prime Item Development Specification, Outline			AN/BQH-7		7A	SLEP	
SLEP Para. #	BQH-7 Paragraph Number	Title/Description	SSNs	TRIDENT	Surface Ships	Entire fleet	Remarks
3.9.8.5	3.11.8.5	Materials	X	X		X	
3.9.8.6	3.11.8.6	Processes	X	X		X	
3.9.9	3.11.9	Protection Against Electrostatic Discharge (ESD)	X	X		X	
N/A	3.12	Item Baseline Identification	X	X		X	Will be provided by BOM.
N/A	3.13	First Article Unit	X	X		X	Will be a Production Unit for SLEP
N/A	3.14	Documentation	X	X			Covered by initial contract N00024-87-C-6046
4	4.0	Quality Assurance Provisions	X	X	X	X	
4.3	4.1	Responsibility for Inspection	X	X	X	X	
4.3.1	4.1.1	Contractor's Quality Control System	X	X	X	X	
4.3.2	4.1.2	Government Verification	X	X	X	X	
N/A	4.2	Classification of Inspection	X	X	X	X	Not Used.
N/A	4.2.1	First Article Inspection	X	X		X	Will be a Production Inspection Unit for SLEP
4.2	4.2.2	Production Quality Conformance Inspection	X	X		X	
4.4	4.3	Examination and Test Plan	X	X		X	
4.4.1	4.3	Test Procedures			X	X	
4.4.1	4.3.1	Test Procedures	X	X		X	
4.4.3	4.3.1	Test Data Form			X	X	
4.4.2	4.3.2	Test Equipment List	X	X		X	

### AN/BQH-7/7A EC-3 Requirements Allocation Matrix

Prime Item Development Specification, Outline			AN/BQH-7		7A	SLEP	
SLEP Para. #	BQH-7 Paragraph Number	Title/Description	SSNs	TRIDENT	Surface Ships	Entire fleet	Remarks
4.4.3	4.3.3	Test Data Forms	X	X		X	
4.5	4.4	Test Reports	X	X	X	X	Commercial Format will be used for SLEP
4.6	4.5	Test Facilities, Chambers, and Apparatus	X	X	X	X	
4.6.1	4.5.1	Test Chamber	X	X		X	
4.6.2	4.5.2	Accuracy of Test Apparatus	X	X		X	
4.6.3	4.5.3	Stabilization of Test Temperature	X	X		X	
4.6.4	4.5.4	Altitude Conditions	X	X		X	
4.7	4.6	Standard Test Conditions	X	X		X	
4.7.1	4.6	Standard Test Conditions and Tolerance			X	X	
4.7.1	4.6.1	Tolerance	X	X		X	
4.9.6	4.7	Production Acceptance Burn-In Test			X	X	
4.8	4.7	Performance of Tests	X	X		X	
4.8.1	4.7.1	Installation of Recorder Under Test in Test Facility	X	X		X	
4.8.2	4.7.2	Pre-performance (Operability) Test	X	X		X	
4.8.3	4.7.3	Performance (Operability) Check During Test	X	X		X	
4.8.4	4.7.4	Visual Examination	X	X		X	
4.8.5	4.7.5	Failure Criteria	X	X		X	
4.9	4.8	Test Methods	X	X		X	



### AN/BQH-7/7A EC-3 Requirements Allocation Matrix

Prime Item Development Specification, Outline			AN/BQH-7		7A	SLEP	
SLEP Para. #	BQH-7 Paragraph Number	Title/Description	SSNs	TRIDENT	Surface Ships	Entire fleet	Remarks
4.9.1	4.8.1	Surface Examination	X	X		X	
4.9.2	4.8.2	Performance Test	X	X		X	
4.9.3	4.8.3	Environmental Tests	X	X		X	
4.9.3.1	4.8.3.1	Low Temperature Test	X	X		X	
4.9.3.2	4.8.3.2	High Temperature Test	X	X		X	
4.9.3.3	4.8.3.3	Thermal Performance Test	X	X		X	
4.9.3.4	4.8.3.4	Shock Test	X	X		X	
4.9.3.5	4.8.3.5	Vibration Test	X	X		X	
4.9.3.6	4.8.3.6	Inclination Test	X	X		X	MIL-STD-2036 60 Degrees
4.9.3.7	4.8.3.7	Magnetic Field Environment Test	X	X			Per SOW testing will be at NUWC with contractor support
4.9.3.8	4.8.3.8	Electromagnetic Interference Tests	X	X			Per Statement of Work Testing will be at NUWC with contractor support
4.9.3.9	4.8.3.9	Airborne and Structureborne Noise Tests	X	X		X	MIL-STD-740-1 & MIL-STD-740-2
4.9.3.10	4.8.3.10	Humidity Test	X	X		X	MIL-STD-810E Method 507.3 Procedure III
4.9.3.11	4.8.3.11	Salt Fog Test	X	X		X	MIL-STD-801 Method 509
4.9.4	4.8.4	Mechanical Tests	X	X			Per SOW testing will be at NUWC with contractor support
N/A	4.8.4.1	Weld Test	X	X			Not Applicable. Case already tested for weld integrity.
N/A	4.8.4.2	Enclosure Test	X	X			Not Applicable. Case already tested for these tests.
4.9.5	4.8.5	Electrical Tests	X	X			Per SOW testing will be at NUWC with contractor support

### AN/BQH-7/7A EC-3 Requirements Allocation Matrix

Prime Item Development Specification, Outline			AN/BQH-7		7A	SLEP	
SLEP Para. #	BQH-7 Paragraph Number	Title/Description	SSNs	TRIDENT	Surface Ships	Entire fleet	Remarks
4.9.5.1	4.8.5.1	Steady State Voltage and Frequency	X	X			Per SOW testing will be at NUWC with contractor support
4.9.5.2	4.8.5.2	Transient Voltage	X	X			Per SOW testing will be at NUWC with contractor support
4.9.5.3	4.8.5.3	Transient Frequency	X	X			Per SOW testing will be at NUWC with contractor support
4.9.5.4	4.8.5.4	Power Interruption	X	X			Per SOW testing will be at NUWC with contractor support
4.9.5.5	4.8.5.5	Power and Power Factor	X	X			Per SOW testing will be at NUWC with contractor support
4.9.6	4.8.6	Production Burn-In-Test	X	X		X	
5	5.0	Preparation for Delivery	X	X	X	X	
		Legend:					
	x	Included in the AN/BQH-7 and AN/BQH-7A specifications; must be included in the AN/BQH-7/7A PIDS>					
		Not included in the AN/BQH-7A specification, but applicable (AN/BQH-7 specification applies)					
		Not applicable.					
		Applicable, but covered in other sections.					
		References:					
		N00024-78-PR-60118, Appendix C to Statement of Work, Recorder, AN/BQH-7					

**AN/BQH-7/7A EC-3 Requirements Allocation Matrix**

Prime Item Development Specification, Outline		AN/BQH-7		7A	SLEP		
SLEP Para. #	BQH-7 Paragraph Number	Title/Description	SSNs	TRIDENT	Surface Ships	Entire fleet	Remarks
		Submarine Expendable Bathythermograph (SSXBT) Performance Specification for Specification A001					
		N00024-79-C-6072, R-986, Performance Specification, TRIDENT Sonar System					
		AN/BQQ-6 Bathythermograph Group Unit 76, 28 March 1980					
		N00024-79-C-6215, Performance Specification for Ship Expendable					
		Bathythermograph (XBT)/Sound Velocimeter Data Recorder AN/BQH-7A (supplement to					
		Appendix C to Statement of Work and Modification P00021 Statement of Work,					
		N00024-79-C-6215, SSXBT Performance Specification), 22 January 1987					

**Appendix F**

**AN/BQH-7/7A EC-3 Hardware Functional Allocation Matrix**

	Title/Description	MK-12 Card	PC Motherboard	Software Modules	NTDS Board	Floppy Disk Drive	Hard Disk Drive	LCD Display	Front Panel Assembly	Case and Mounts	Keyboard	Trackpad	Power Supply
1	Scope												
2	Applicable Documents												
2.2	Government Documents												
2.2.1	Specifications												
2.2.1	Standards												
2.2.2	Drawings												
2.2.2	Publications												
3	Requirements	X	X	X	X	X	X	X	X	X	X	X	X
3.1	Recorder Description	X	X	X	X	X	X	X	X	X	X	X	X
3.1.1	Functional Description	X	X	X	X	X	X	X	X	X	X	X	X
3.2	Expendable Probes	X	X	X									
3.3.2	NTDS Fast				X								
3.3.1	NTDS Slow				X								
3.3.3	RS-232		X										
3.4	Operator/Maintainer Interface			X									
3.4.1	Keyboard										X		
3.4.1	Trackpad											X	
3.3.2	NTDS Fast Assembly				X								
3.4.2	LCD Display							X					

**AN/BQH-7/7A EC-3 Hardware Functional Allocation Matrix**

	Title/Description	MK-12 Card	PC Motherboard	Software Modules	NTDS Board	Floppy Disk Drive	Hard Disk Drive	LCD Display	Front Panel Assembly	Case and Mounts	Keyboard	Trackpad	Power Supply	
3.5	Physical Characteristics			<b>Appendix F</b>						X				
3.4.3.1	Floppy Disk Drive						X							
3.4.3.1	Hard Disk Drive							X						











### AN/BQH-7/7A EC-3 Hardware Functional Allocation Matrix

	Title/Description	MK-12 Card	PC Motherboard	Software Modules	NTDS Board	Floppy Disk Drive	Hard Disk Drive	LCD Display	Front Panel Assembly	Case and Mounts	Keyboard	Trackpad	Power Supply
3.9	Design, Construction, and Workmanship	X	X		X	X	X	X	X	X	X	X	X
3.9.1	Modular Construction	X	X		X	X	X	X	X	X	X	X	X
3.9.2	Workmanship	X	X		X	X	X	X	X	X	X	X	X
3.9.3	Safety	X	X		X	X	X	X	X	X	X	X	X
3.9.4	Human Engineering	X	X		X	X	X	X	X	X	X	X	X
3.9.5	Identification and Marking									X			
3.9.6	Electrical Design and Construction	X	X		X	X	X	X					X
3.9.6.1	Electrical Power Characteristics												X
3.9.6.2	Electrical Overload Protection												X
3.9.6.3	Internal Adjustments												
3.9.6.4	Electrical Bonding and Grounding									X			
3.9.7.4	Mounting of Parts									X			
3.9.7	Mechanical Design and Construction								X	X			
3.9.7.1	Construction									X			
3.9.7.2	Accessibility									X			
3.9.7.3	Enclosure									X			
3.9.7.4	Mounting Requirements									X			







**AN/BQH-7/7A EC-3 Hardware Functional Allocation Matrix**

	Title/Description	MK-12 Card	PC Motherboard	Software Modules	NTDS Board	Floppy Disk Drive	Hard Disk Drive	LCD Display	Front Panel Assembly	Case and Mounts	Keyboard	Trackpad	Power Supply
4.9.4	Mechanical Tests												
4.9.5	Electrical Tests												
4.9.5.1	Steady State Voltage and Frequency												
4.9.5.2	Transient Voltage												
4.9.5.3	Transient Frequency												
4.9.5.4	Power Interruption												
4.9.5.5	Power and Power Factor												
4.9.6	Production Burn-In-Test												
5	Preparation for Delivery												

**Appendix G**



Appendix G

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### Trade Table for Disk Drive Selection

Manufacturer	Model	Storage Capacity	Removable Disc	Computer Interface	Operating Temperature °C		Storage Temperature		Relative Humidity		Shock	Vibration	MTBF	Expected Product Life
					Min.	Max.	Min.	Max.	Min.	Max.				
					omega-Zip Drive	ZIP 100 SCSI	100 MB	Yes	SCSI	N/A				
omega-Zip Drive	ZIP 100 Parallel	100 MB	Yes	Parallel	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100,000	Market?
Fujitsu Re-writable Optical	M2512A	128 MB	Yes	SCSI	5°	45°	-20°	60°	N/A	N/A	N/A	0.3g, 5 to 500Hz, Sine	40,000	Market?
Industrial Computer Source	CDR1460A CD-ROM	8X 680 MB	Yes	SCSI-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	70,000	Market?



Industrial Computer Source	Jaz Series	1070 MB	Yes	SCSI-II	10°	46°	-40°	60°	10%	80%	3 G	0.03" p-p @ 5-10 Hz, 0.5g p-p @ 10-300 Hz, 0.2g p-p @ 300-500 Hz	250,000	5y
Industrial Computer Source	Syquest SQ3270	105 MB	Yes	IDE or SCSI-2	5°	55°	-40°	70°	8%	90%	3 G	0.03" p-p @ 5-10 Hz 0.3 Gs p-p @ 11-500 Hz	100,000	Market?
TEAC 3.5" Floppy Drive	FD-235	1.44 MB	Yes	IDE	4°	51.7°	-22°	60°	20%	80%	5 G	1.5g 10-100 Hz 1.0g 100-200 Hz 0.5g 200-600 Hz	30,000	Market?
Industrial Computer Source	Quantum Fireball	1.2 GB	No	IDE	0°	55°	-40°	65°	10%	90%	70 G, 11 ms	2.0g 5-500 Hz	400,000	1 Y
Industrial Computer Source	TEAC SD-3250N	252 MB	Yes	IDE	5°	55°	-40°	60°	8%	80%	5 Gs	N/A	250,000	Market?
Industrial Computer Source	Flash/SDRAM	2 MB	No		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

## Trade Table for Chassis Source Selection

Manufacturer	Model	Description	External	Size	Operating		Storage		Relative		Shock	Vibration	MTBF	Expected
			Size	Within	Temp. °C		Temp. °C		Humidity					Product
			H*W*D	BQH-7	Min.	Max.	Min.	Max.	Min.	Max.				
Industrial Computer Source	OEMC-04	Open Chassis		Yes	0.0°	50°	N/A	N/A	0%	95%	N/A	N/A	N/A	5 Y
Industrial Computer Source	OEMC-06	Open Chassis	6.5"X7.28"X14.58"	Yes	0.0°	50°	N/A	N/A	0%	95%	N/A	N/A	N/A	5 Y
Industrial Computer Source	9300-06	Closed Chassis	9.8"X7.0"X16.04	NO	10°	50°	-40°	60°	8%	90%	10 G 3 Axis	1.5 G 3 Axis	59,000	5 Y
Texas Micro	4205	5-slot ISA	6.75"X9.35"X16.5"	NO	0.0°	55°	0.0°	70°	5%	95%	1G @ 10 ms Duration	0.25G @ 5-100 Hz	N/A	Market?
Texas Micro	4210RM/DT	10-slot ISA	6.5"X16.9"X17.25"	NO	4.0°	45°	0.0°	55°	10%	90%	1G @ 10 ms Duration	0.50G @ 5-150Hz	N/A	Market?
CyberResearch	MB IPC5	5-Slot ISA	9.7"X4.8"X15.9"	NO	0.0°	50°	N/A	N/A	10%	90%	N/A	N/A	N/A	Market?



