CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februai	ry 2003
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEME	NT NUMBER AND	NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-05	0604507N / Enhand	ced Modular Signa	Processor (EMSP))	Q1440 / Enhanced	Modular Signal Pre	ocessor	
COST (\$ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	0.972	0.502	1.006	1.085	1.103	0.000	0.000	0.000
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The objective of this Program Element (PE) is to improve Navy Signal Processing Hardware and Software Capabilities.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justific	cation			DATE:	
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER		PROJECT NUMBER AND	February 2003	
T&E, N / BA-05	0604507N / Enhanced Modular S	Signal Processor (EMSP	Q1440 / Enhanced Modula	r Signal Processor	
Accomplishments/Planned Program					
	FY 02	FY 03	FY 04	FY 05	
AN/UYS-X Portable Test Set	0.880	0.502			
RDT&E Articles Quantity					
·	·				
	of a portable AN/UYS-X test set to support			grandin den mide.	
	FY 02	FY 03	FY 04	FY 05	
VSIPL Version 1.02					
	FY 02				
VSIPL Version 1.02 RDT&E Articles Quantity	FY 02 0.092	FY 03			
VSIPL Version 1.02	FY 02 0.092	FY 03			
VSIPL Version 1.02 RDT&E Articles Quantity	FY 02 0.092	FY 03			
VSIPL Version 1.02 RDT&E Articles Quantity	FY 02 0.092	FY 03			
VSIPL Version 1.02 RDT&E Articles Quantity	FY 02 0.092	FY 03			
VSIPL Version 1.02 RDT&E Articles Quantity	FY 02 0.092 (VSIPL) Application Programming Interface	FY 03 e (API) version 1.02.	FY 04	FY 05	
VSIPL Version 1.02 RDT&E Articles Quantity Delivered Vector Signal Processing Library	FY 02 0.092	FY 03	FY 04	FY 05	
VSIPL Version 1.02 RDT&E Articles Quantity	FY 02 0.092 (VSIPL) Application Programming Interface	FY 03 e (API) version 1.02.	FY 04	FY 05	

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Portable Digital Signal Processing Operating System (PDOS), associated tool set that support development of reusable signal processing application software.

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EXHIBIT R-2a, RDT&E Project Justific	cation			DATE: February 2003	
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUI	MBER AND NAME	PROJECT NUMBER AND		
OT&E, N / BA-05	0604507N / Enhanced Mod	ular Signal Processor (EMS	SP Q1440 / Enhanced Modula	r Signal Processor	
Accomplishments/Planned Program (Cont	:.)				
	FY 02	FY 03	FY 04	FY 05	
Legacy Host Computer Replacement of ANA	/UYS-1/2/2A		0.776	0.835	
RDT&E Articles Quantity					

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:	
						February 2003
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NU			PROJECT NUME		
RDT&E, N / BA-05	0604507N / Enhanced Mod	dular Signal Proces	sor (EMSP)	Q1440 / Enhance	ed Modular Signal Processor	
C. PROGRAM CHANGE SUMMARY:						
Previous President's Budget: (FY03 Pres Controls Current BES/President's Budget: (FY04 President Total Adjustments): 1 Controls) 0	2002 FY 2003 .093 0.513 .972 0.502 .121 -0.011	FY 2004 1.335 1.006 -0.329	1.341 1.085		
Summary of Adjustments Congressional program reductions Congressional undistributed reductions Congressional rescissions		0.014 -0.006				
SBIR/STTR Transfer Economic Assumptions/Rate Adjustme Reprogrammings Congressional increases	-0 	-0.002 -0.005	-0.022 -0.307	-0.235		
Subtotal	-0	.121 -0.011	-0.329	-0.256		
Schedule:						
Not Applicable						
Technical:						
Not Applicable						
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Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 4 of 13)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EI	LEMENT NUM	BER AND NAM	ИΕ	PROJECT NU	MBER AND N	AME	Februa	ry 2003	
RDT&E, N / BA-05		0604507N / E	nhanced Modu	ılar Signal Proc	essor (EMSP)	Q1440 / Enha	nced Modular	Signal Process	sor		
D. OTHER PROGRAM FUNDING SUMMARY: Line Item No. & Name 2980 / Items Less Than \$5M (N61 NSP portion only)	<u>FY 2002</u> 1.3	<u>FY 2003</u> 0.0	<u>FY 2004</u> 0.3	<u>FY 2005</u> 0.4	<u>FY 2006</u> 0.6	<u>FY 2007</u> 0.0	<u>FY 2008</u> 0.0	<u>FY 2009</u> 0.0	To <u>Complete</u> 0.0	Total <u>Cost</u> 2.6	

E. ACQUISITION STRATEGY:

Development work in this project is performed primarily by NAWC/Pax River and NAVSEA/Crane.

F. MAJOR PERFORMERS:

Naval Air Warfare Center/Patuxent River (NAWC/Pax River): EMSP Computer Program Support Activity (CPSA), Technical Design Agent Naval Sea Systems Command (NAVSEA/Crane): EMSP ISEA/Hardware Support Activity

CLASSIFICATION:

										DATE:					
APPROPRIATIONUSUDGET ACTIVITY PROGRAM ELEMENT G04697N Enhanced Modular Signal Processor (EMSP) O1440 Final Program Processor (EMSP) O1440 Final Processor (EMSP) O1440 O1440	Exhibit R-3 Cost Analysis (pag	e 1)										February 2	2003		
Cost Categories Contract Performing Total Pry S Fy 03 Fy 04 Award Fy 04 Award Fy 05 Date Cost Total Target Fy 05 Styles Cost	APPROPRIATION/BUDGET ACTIVI	TY		PROGRAM E	LEMENT			PROJECT N	JMBER AND	NAME					
Method Activity & PY s FV 3 Award FV 04 Award FV 05 Award Cost Total Total Total Activity & Avard Cost Total Total				0604507N / E				Q1440 / Enha		r Signal Process					
Signal Processor COTS Technology Var. Var. 3.215	Cost Categories		Performing												
Signal Processor COTS Technology Var. Var. 3.215			Activity &												Target Value
Subtotal Product Development WR NAWC/Pax River, MD 3.705 0.345 12/02 0.545 11/03 0.663 11/04 Continuing Continuing Common Processing Var. Var. 0.050 Common Processing Var. Var. 0.050 Common Processing Var. Var. 0.225 Var. 0.225 Var. 0.225 Var. 0.225 Var. 0.225 Var. 0.226 Var. 0.226 Var. 0.227 Var. 0.884 1.683 Continuing Continuing Continuing Continuing Continuing Common Processing Var. Var. 0.050 Var. 0.226 Var. 0.226 Var. 0.226 Var. 0.226 Var. 0.226 Var. 0.226 Var. 0.227 Var. 0.884 Var. 0.050 Common Processing Var. 0.050 Var. 0.							Date	Cost	Date	Cost	Date	· ·			of Contract
Remarks: Software Development WR NAWC/Pax River, MD 3.705 0.345 12/02 0.545 11/03 0.663 11/04 Continuing Continuing	Signal Processor COTS Technology	Var.	Var.		3.215	5			1			0.0	100	3.215	
Remarks: Software Development WR NAWC/Pax River, MD 3.705 0.345 12/02 0.545 11/03 0.663 11/04 Continuing Continuing															
Remarks: Software Development WR NAWC/Pax River, MD 3.705 0.345 12/02 0.545 11/03 0.663 11/04 Continuing Continuing															
Remarks: Software Development WR NAWC/Pax River, MD 3.705 0.345 12/02 0.545 11/03 0.663 11/04 Continuing Continuing															
Remarks: Software Development WR NAWC/Pax River, MD 3.705 0.345 12/02 0.545 11/03 0.663 11/04 Continuing Continuing															
Remarks: Software Development WR NAWC/Pax River, MD 3.705 0.345 12/02 0.545 11/03 0.663 11/04 Continuing Continuing															
Remarks: Software Development WR NAWC/Pax River, MD 3.705 0.345 12/02 0.545 11/03 0.663 11/04 Continuing Continuing															
Remarks: Software Development WR NAWC/Pax River, MD 3.705 0.345 12/02 0.545 11/03 0.663 11/04 Continuing Continuing															
Remarks: Software Development WR NAWC/Pax River, MD 3.705 0.345 12/02 0.545 11/03 0.663 11/04 Continuing Continuing															
Remarks: Software Development WR NAWC/Pax River, MD 3.705 0.345 12/02 0.545 11/03 0.663 11/04 Continuing Continuing															
Remarks: Software Development WR NAWC/Pax River, MD 3.705 0.345 12/02 0.545 11/03 0.663 11/04 Continuing Continuing															
Remarks: Software Development WR NAWC/Pax River, MD 3.705 0.345 12/02 0.545 11/03 0.663 11/04 Continuing Continuing	Subtotal Product Development				3 215	0.000		0.000		0.000		0.	200	3 215	
Hardware Development WR NAVSEA/Crane, IN 0.307 0.132 12/02 0.439 11/03 0.400 11/04 Continuing Continuing Common Processing Var. Var. 0.050<															
Common Processing Var. Var. 0.050 0.050 0.050 <th>Software Development</th> <th>WR</th> <th>NAWC/Pax Ri</th> <th>ver, MD</th> <th>3.705</th> <th>0.345</th> <th>12/02</th> <th>0.545</th> <th>11/03</th> <th>0.663</th> <th>11/04</th> <th>Continu</th> <th>ing</th> <th>Continuing</th> <th></th>	Software Development	WR	NAWC/Pax Ri	ver, MD	3.705	0.345	12/02	0.545	11/03	0.663	11/04	Continu	ing	Continuing	
Common Processing Var. Var. 0.050 0.025	Hardware Development	WR	NAVSEA/Crar	ne, IN	0.307	0.132	12/02	0.439	11/03	0.400	11/04	Continu	ing	Continuing	
Common Processing MIPR ARI, CT 0.225 0.225 Subtotal Support 4.287 0.477 0.984 1.063 Continuing Continuing	Common Processing		Var.												
Subtotal Support 4.287 0.477 0.984 1.063 Continuing Continuing	*				1										
	- J		,												
	Subtotal Support				4 287	0 477		0.984	1	1.063		Continu	ina	Continuing	
Remarks:	Captotal Capport		1		1.207	0.477	ı	0.00	·1	1.000		Continu	91	Continuing	I
	Remarks:														
R-1 SHOPPING LIST - Item No. 114					5 / 61:55										

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (page	e 2)									February 200	3	
APPROPRIATION/BUDGET ACTIVITY	ΓΥ		PROGRAM ELEMENT			PROJECT NU						
RDT&E, N / BA-05 Cost Categories		0	0604507N / Enhanced Modu	ılar Signal Proc	essor (EMSP)	Q1440 / Enha	nced Modular	Signal Process	or			
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award		Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Program Management Support	C/CPFF	TWD & Associate	es, VA 0.328	0.025	01/03	0.022	12/03	0.022	12/04	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			0.328	0.025		0.022		0.022		Continuing	Continuing	
Remarks:												
Total Cost			7.830	0.502		1.006		1.085		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule	Profile																								DATE	:						
APPROPRIATION/BUDGET	ACTIV	ITY							PROG	RAM	FLFM	FNT N	UMBE	R AND	NAMI	F					PRO.I	FCT N	IUMBE	R ANI	D NAM	1F	F	ebrua	ry 20	03		
RDT&E, N /	BA-0													Signal			MSP)										cesso	r				
Fiscal Year		20	02			20	03			20	04			200	05			20	006			200	07			20	80			200) 9	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Portable Test Set																																<u> </u>
Acquisition Milestones																																
Develop/Design System Specs for Portable Test Set																																
Contract for Delivery of COTS Components																																
Develop COTS Version Interfaces																																
Develop SW Device Drivers																																
Develop SW for COTS																															ł	
Fabricate/Integrate Systems																																
Test & Evaluation Milestones																																
Conduct System Test																																
Production Milestones																																
Deliveries							NAV:	SEA/CF	RANE																							

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
							February 20	03
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND N	AME	
RDT&E, N / BA-05	0604507N / E	nhanced Modul	lar Signal Proc	essor (EMSP)	Q1440 / Enha	nced Modular S	Signal Processo	or
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Portable Test Set System Development	1Q							
Portable Test Set System Design	1Q-2Q							
Contract for Delivery of COTS Components	2Q-3Q							
Develp COTS Version Interfaces	2Q-4Q							
Develop Software Device Drivers	4Q							
Develop Software for COTS Components	3Q-4Q	1Q-2Q						
Fabricate and Integrate Systems		1Q-3Q						
Conduct Systems Testing		3Q-4Q						
Delivery to ISEA (NAVSEA/Crane)		4Q						
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CLASSIFICATION:

EXHIBIT R4, Schedule																									DATI		F	ebrua	ary 20	03		
APPROPRIATION/BUDGET														R AND							PROJ	IECT N	IUMBE	ER AN	ID NAI	ΛE						
RDT&E, N /	BA-0	5			_				06045	507N /	Enhar	nced M	odular	Signal	Proce	ssor (E	MSP)				Q144	0 / Enh	anced	l Modu	ular Siç	nal Pr	rocesso	or	ı			
Fiscal Year		20	02			20	003			20	04			20	05			20	06			20	07			20	800			200)9	
PDOS and Tools	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
PDOS & Tools Development, Research, Investigation																																
Develop PDOS Specification																																
Develop Prototype OS, Tools																																
Develop PDOS test suites Develop Signal Processing benchmark																																
Test & Evaluation Milestones Demonstrated PDOS																																
Production Milestones Work with Industry to Productize PDOS																																
Deliveries																				NAWC	; 											

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	February 20	03
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND NA	AME	
RDT&E, N / BA-05	0604507N / E	nhanced Modul	ar Signal Proce	essor (EMSP)	Q1440 / Enha	nced Modular S	Signal Processo	or
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
PDOS and Tools Development			2Q-3Q					
Conduct Investigation and Research			3Q-4Q					
Develop PDOS Specification			4Q	1Q-2Q				
Publicize PDOS at DSP Conferences				2Q				
Develop Prototype OS and tools				2Q-4Q				
Develop PDOS test suites				3Q-4Q	1Q			
Develop Signal Processing benchmark				4Q	1Q-2Q			
Conduct workshops				4Q	1Q			
Demonstrate PDOS					2Q			
Capture PDOS performance metrics					2Q			
Work with industry to productize PDOS					2Q-4Q			
Delivery to CPSA (NAWC/ Pax River)					4Q			
	+	 			1			
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CLASSIFICATION:

EXHIBIT R4, Schedule	Profile)																							DATE	<u>:</u>						
APPROPRIATION/BUDGET	ACTIV	ITY							PROG	GRAM	ELEMI	ENT N	IUMBE	R AND	NAME	=					PROJ	ECT N	IUMBE	R AN	D NAN	ИE	F	ebrua	ary 20	003		
RDT&E, N /	BA-)5							06045	507N /	Enhan	ced M	lodular	Signal	Proces	ssor (E	MSP)				Q1440) / Enh	anced	Modu	ılar Sig	nal Pr	ocess	or				
Fiscal Year		20	002			20	003			20	04			20	05			20	006			20	07			20	800			200	09	
Legacy Host Compute Replacement	r 1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
AN/UYS-1 Investigate Legacy Computer Replacement																																
AN/UYS-2/2A Investigate Legacy Computer Replacement										_																						
AN/UYS-1 COTS Software Development AN/UYS-2/2A COTS Software Development																																
Test & Evaluation Milestones																																
AN/UYS-1 Validation Testing																																
AN/UYS-2/2A Validation Test																																
Production Milestones																																
AN/UYS-1 Contract for Delivery of Replacement host																																
AN/UYS-2/2A Contract for Delivery of Replacement host																																
Deliveries															AN/UY	′S-1 (N	AWC)		AN/UYS	S-2/2A	(NAWC	;)										
																\triangle																

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2003			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT PROJECT NU					IMBER AND NAME			
RDT&E, N / BA-05	0604507N / Enhanced Modular Signal Processor (EMSP) Q1-				Q1440 / Enha	21440 / Enhanced Modular Signal Processor			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Investigate Legacy Computer Replacement - AN/UYS-1			1Q-2Q						
Contract for delivery of replacement host computer			2Q-4Q						
Develop software for COTS components			3Q-4Q	1Q-2Q					
Validation/Regression testing				2Q-3Q					
Delivery to CPSA (NAWC/Pax River)				4Q					
nvestigate Legacy Computer Replacement - AN/UYS-2/2A				3Q-4Q					
Contract for delivery of replacement host computer				4Q	1Q-2Q				
Develop software for COTS components					2Q-3Q				
Validation/Regression testing					3Q-4Q				
Delivery to CPSA (NAWC/Pax River)					4Q				
•									