

Exhibit R-2, RDT&E Budget Item Justification				Date: February 2003				
Appropriation/Budget Activity RDT&E,DW/BA-5				R-1 Item Nomenclature: Common Joint Tactical Information 0604771D8Z/P771/P773				
Cost (\$ in millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	16.328	10.399	10.633	18.536	19.797	19.064	19.581	20.058
Link 16 - P771								
Subtotal Cost	5.470	3.567	5.029	15.200	19.797	19.064	19.581	20.058
Multifunctional Information Distribution System-Low Volume Terminal (MIDS-LVT) - P773								
Subtotal Cost	10.858	6.832	5.604	3.336				

A. Mission Description and Budget Item Justification:

This program funds ongoing system level engineering for Joint interoperability of Link 16, development of the Multifunctional Information Distribution System (MIDS), and the evolutionary development of advanced terminals. Link 16 system level engineering responsibilities include spectrum issues and Joint initiatives to enhance Link 16 networks. Joint initiatives planned for Link 16 include Dynamic Network Management (DNM), Time Slot Reallocation (TSR), Over The Air Re-key (OTAR), Enhancements, Gateways, Joint Interface Control Officer (JICO) Toolset, Relative Navigation, Link 16 Weapons Applications and improvements to Link 16 Track Quality, Time Slot Synchronization, Target Correlation / Decorrelation, Geodetic Data Registration, Common Time Reference, and Combat ID. MIDS-LVT is a joint and international cooperative program involving U.S., France, Italy, Germany and Spain. Designed for tactical combat applications and environments, MIDS provides a highly jam-resistant, secure digital (voice and data) information distribution system, enabling rapid integrated communications, navigation, and identification among tactical and command and control warfare elements. The MIDS-LVT makes Link 16 more affordable for a larger population of U.S. platforms and systems and will be interoperable with previously developed and produced Link 16 equipment, JTIDS Class 1 and 2. Affordability is being achieved through the implementation of open and commercial architecture standards and parts that allows the tailoring of production configurations to the minimum needs of different U.S. platforms and missions. This program funds the U.S. cost share of MIDS development, fabrication, and test of EMD terminals and terminal level pre-operational support for U.S. platforms which are implementing MIDS. Funds also provide for studies, analyses, and specification development for a MIDS Joint Tactical Radio System (JTRS) Software Communication Architecture (SCA) that enables additional waveforms, enhanced throughput, crypto modernization, and frequency remapping. The MIDS SCA efforts in FY 2003/2004 include support for Link 16 development in the various JTRS Clusters.

This program is funded under BA-5, Engineering and Manufacturing Development, because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.

B. Program Change Summary:				
	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
Previous President's Budget	16.572	10.797	10.863	18.859
Current BES/President's Budget	16.328	10.399	10.633	18.536
Total Adjustments	-.244	-.398	-.230	-.323
Congressional program reductions	-.244	-.283		
Inflation adjustments		-.115	-.230	-.323
Congressional increases				
Reprogramming				

Change Summary Explanation:
FY 2002: Undistributed reduction -.127; Cross-cutting congressional adjustment (section 8123) -.117.
FY 2003: Congressional program reduction .283 million; non-pay purchase inflation adjustment -.115.
FY 2004: non-pay purchase inflation adjustment -.230.
FY 2005: Non-pay purchase inflation adjustment -.323.

Exhibit R-2a, RDT&E Project Justification							Date: February 2003	
Appropriation/Budget Activity RDT&E,DW/BA-5	Project Name and Number Link 16 P771							
Cost (\$ in millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2008
Link 16 - P771								
Subtotal Cost	5.470	3.567	5.029	15.200	19.797	19.064	19.581	20.058
RDT&E Articles Quantity								
A. Mission Description and Budget Item Justification:								
<p>This program funds ongoing system level engineering for Joint interoperability of Link 16, development of the Multifunctional Information Distribution System (MIDS), and the evolutionary development of advanced terminals. Link 16 system level engineering responsibilities include spectrum issues and Joint initiatives to enhance Link 16 networks. Joint initiatives planned for Link 16 include Dynamic Network Management (DNM), Time Slot Reallocation (TSR), Over The Air Re-key (OTAR), Enhanced Throughput – Low Volume Terminal (ET-LVT), Gateways, Joint Interface Control Officer (JICO) Toolset, Relative Navigation, Link 16 Weapons Applications and improvements to Link 16 Track Quality, Time Slot Synchronization, Target Correlation / Decorrelation, Geodetic Data Registration, Common Time Reference, and Combat ID.</p>								
B. Accomplishments/Planned Program:								
	FY 02	FY 03	FY 04	FY 05				
Accomplishment/ Effort/Subtotal Cost	5.470	3.567	5.029	15.200				
RDT&E Articles Quantity *(as applicable)								
FY 2002 ACCOMPLISHMENTS								
<ul style="list-style-type: none"> • Completed spectrum management efforts, including testing associated with receiving and maintaining frequency certification • Continued Link 16 technical upgrade and support for international users • Continued technical oversight, planning, and coordination of Joint Link 16 initiatives including Time Slot Reallocation, Over the Air Re-key, Enhancements, Dynamic Network Management, Gateways, and the Joint Interface Control Officer Toolset Support System (JSS) 								
FY 2003 PLANS								
<ul style="list-style-type: none"> • Develop/deliver a Joint TDL Migration Roadmap • Develop/deliver a Joint Link 16 Technology Insertion Roadmap • Develop Joint Tactical Data Link Integrated Product Team • Continue Link 16 technical upgrade and support for international users • Continue technical oversight, planning, and coordination of Joint Link 16 initiatives including Time Slot Reallocation, Over the Air Re-key, Enhancements, Dynamic Network Management, Gateways, and the Joint Interface Control Officer Toolset Support System (JSS) 								
FY 2004 PLANS								
<ul style="list-style-type: none"> • Continue refinement and multi-service coordination for the Joint TDL Migration Roadmap (to include reviews and updates as necessary) • Continue refinement and multi-service coordination for the Joint Link 16 Technology Insertion Roadmap (to include reviews and updates as necessary) • Continue Link 16 technical upgrade and support for international users • Continue technical oversight, planning, and coordination of Joint Link 16 initiatives including Time Slot Reallocation, Over the Air Re-key, Enhancements, Dynamic Network Management, Gateways, and the Joint Interface Control Officer Toolset Support System (JSS) 								

- Provide Subject Matter Expertise to support Joint certification of Link 16 Terminals

FY 2005 PLANS

- Continue coordination and implementation of the Joint TDL Migration Roadmap (to include reviews and updates as necessary)
- Continue coordination and implementation of the Joint Link 16 Technology Insertion Roadmap (to include reviews and updates as necessary)
- Continue Link 16 technical upgrade and support for international users
- Continue technical oversight, planning, and coordination of Joint Link 16 initiatives including Time Slot Reallocation, Over the Air Re-key, Enhancements, Dynamic Network Management, Gateways, and the Joint Interface Control Officer Toolset Support System (JSS)
- Provide Subject Matter Expertise to support Joint certification of Link 16 Terminals

C. Other Program Funding Summary: Not applicable

D. Acquisition Strategy: In executing Link 16 tasking, existing cost-plus contracts will be utilized.

E. Major Performers: Galaxy Scientific Corporation, Arlington, VA. Provides systems engineering for Joint Advanced Tactical Data Link Systems.

Unclassified

Exhibit R-3 Cost Analysis								Date: February 2003				
APPROPRIATION: RDT&E,DW BUDGET ACTIVITY : 5			PROGRAM ELEMENT: 0604771D8Z					Link 16 P771				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Product Development												
Link 16 Spectrum Support		Various	9.669	1.579	Various							
Link 16 Engineering Support		Various	6.538	3.391	Various	1.910	Various	2.080	Various	Cont.	Cont.	Cont.
Link 16 Support		Various	3.982									
Link 16 Enhancements		Various	.626									
JICO Toolset (JSS) Development*		Various	.529									
Joint Link 16 Initiatives		Various		.500	Various	1.657	Various	2.949	Various	Cont.	Cont.	Cont.
Joint TDL Migration Roadmap												
Joint Link 16 Technology Insertion Roadmap												
TSR												
OTAR												
ET – LVT												
DNM												
Gateways												
Subtotal Product Development			21.344	5.470		3.567		5.029		Cont.	Cont.	Cont.
Remarks:												
Total Cost			21.344	5.470		3.567		5.029		Cont.	Cont.	Cont.

* Engineering participation in the JSS development team was completed prior to FY02. Link 16 oversight participation continues under Link 16 Engineering Support.

Exhibit R-2a, RDT&E Project Justification				Date: February 2003																			
Appropriation/Budget Activity RDT&E, DW/BA-5				Project Name and Number MIDS-LVT P773																			
Cost (\$ in millions)	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09															
MIDS-LVT - P773	10.858	6.832	5.604	3.336																			
Subtotal Cost																							
RDT&E Articles Quantity *(as applicable)																							
<p>A. Mission Description and Budget Item Justification:</p> <p>The Multifunctional Information Distribution System - Low Volume Terminal (MIDS-LVT) is a U.S. joint and international (U.S., France, Germany, Italy, and Spain) cooperative program to develop and produce the next generation Link 16 system. Designed for tactical combat applications and environments, MIDS provides a highly jam-resistant, secure, digital (voice and data) information distribution system, enabling rapid integrated communications, navigation, and identification among tactical and command and control warfare elements. Affordability is being achieved through the implementation of open and commercial architecture standards and parts, which allows tailoring of production configurations to the minimum needs of different U.S. platforms and missions. MIDS-LVT will be interoperable with the earlier generations of Link 16 equipment, JTIDS Class 1 and 2. This Program Element will fund the U.S. cost share of development, fabrication and test of EMD terminals, and terminal level pre-operational support for U.S. platforms implementing MIDS.</p> <p>P773 funds also provide for studies, analyses, and specification development for a MIDS Joint Tactical Radio System (JTRS) Software Communication Architecture (SCA) that enables additional waveforms, enhanced throughput, crypto modernization, and frequency remapping. The MIDS SCA efforts in FY 2003/2004 include support for Link 16 development in the various JTRS Clusters.</p> <p>B. Accomplishments/Planned Program:</p> <table border="1"> <thead> <tr> <th></th> <th>FY 02</th> <th>FY 03</th> <th>FY 04</th> <th>FY 05</th> </tr> </thead> <tbody> <tr> <td>Accomplishment/ Effort/Subtotal Cost</td> <td>10.858</td> <td>6.832</td> <td>5.604</td> <td>3.336</td> </tr> <tr> <td>RDT&E Articles Quantity *(as applicable)</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>1. FY 2002 ACCOMPLISHMENTS/PLANS</p> <ul style="list-style-type: none"> • Continue SE&I support capabilities for EMD terminals and platform test, installation, and integration requirements • Continue software and hardware enhancements/upgrades for EMD terminals • Complete F/A-18 Technical Evaluation • Initiate Army Initial Operational Test and Evaluation and achieve Initial Operational Capability for LVT(2) • Complete first software block cycle upgrade • Coordinate with USAF on JTRS Airborne Cluster • Award MIDS to JTRS Migration studies to industry 										FY 02	FY 03	FY 04	FY 05	Accomplishment/ Effort/Subtotal Cost	10.858	6.832	5.604	3.336	RDT&E Articles Quantity *(as applicable)				
	FY 02	FY 03	FY 04	FY 05																			
Accomplishment/ Effort/Subtotal Cost	10.858	6.832	5.604	3.336																			
RDT&E Articles Quantity *(as applicable)																							

2. FY 2003 PLAN
 - Provide limited SE&I support capabilities for EMD terminals and platform test, installation, and integration requirements
 - Continue software and hardware enhancements/upgrades for EMD terminals
 - Complete F/A-18 Operational Evaluation
 - Initiate Follow-On Test and Evaluation for F/A-18
 - Achieve Milestone III decision
 - Continue coordination with USAF on JTRS Airborne Cluster
 - Initiate recommended approach for MIDS to JTRS Migration
 - Develop a new Functional and Allocated Baseline for a MIDS Software Communication Architecture (SCA) terminal
 - Initiate third software block cycle upgrade
 - Complete second software block cycle upgrade

3. FY 2004 PLAN
 - Begin development of the MIDS SCA incorporating additional waveforms, enhanced throughput, and frequency remapping
 - Convert MIDS CSCIs to JTRS Software Communications Architecture
 - Move MIDS architecture to JTRS architecture
 - Initiate companion tactical data link studies, systems engineering analyses, and test and evaluation efforts
 - Provide MIDS SCA spectrum certification support
 - Continue coordination with USAF on JTRS Airborne Cluster

4. FY 2005 PLAN
 - Qualify the MIDS SCA and deliver the Technical Data Package to prepare for production
 - Continue MIDS SCA spectrum certification support
 - Continue coordination with USAF on JTRS Airborne Cluster

C. Other Program Funding Summary:

	<u>FY 02</u>	<u>FY 03</u>	<u>FY 04</u>	<u>FY 05</u>	<u>FY 06</u>	<u>FY 07</u>	<u>FY 08</u>	<u>FY 09</u>	<u>To Complete</u>	<u>Total Cost</u>
Procurement										
APN										
BLI 052500	36.700	48.200	48.200	50.600	43.000	48.900	48.200	50.800	4.200	493.600
BLI 014500		11.800	11.500	12.000	14.100	15.500	11.900	11.900	13.300	115.900
OPN										
BLI 261400		.500	1.300							1.800
APF										
PE 0207133F	31.900	35.000	27.600	22.600	23.000	20.900	6.100			309.400

Proc,DW									
PE 0208864C/5C	1.800	2.300							
PE 0208861C			1.300	1.500	2.600	3.000	1.300		26.000
Related RDTE									
PE 0205604N	20.491	19.723	6.941						309.100
PE 0604270N									1.300
PE 0207133F									3.500
PE 0603883C			.500						
PE 0604240F									2.300

SCN – Funding for MIDS hardware is not separately identified in the SCN budget exhibits.

D. Acquisition Strategy:
 USD(AT&L) approved the FY00 procurement of MIDS terminals based on the favorable LRIP DAB review on 27 April 2000. The approval included procurement of 70 MIDS terminals and associated spares and an additional 11 terminals for emergent lab and test requirements. This decision was consistent with the Acquisition Strategy Report (ASR) approved by USD(AT&L) in November 1999. The FY00 MIDS LRIP terminals were equitably split between the two US-led contracts. FY01 and out-year quantities are being competitively procured. USD(AT&L) has directed that after completion of the US-led and European-led MIDS terminal production qualification efforts, the production requirements of all MIDS participants will be combined and competed among the US and European qualified MIDS manufacturers. For LRIP Lot 2, on 10 August 2001 the OIPT met and approved a two-phased LRIP buy and recommended to USD(AT&L) to proceed with the acquisition without a formal DAB. The first phase was approved for 59 terminals and spares in September 2001. The second phase provided for 60 terminals and emerging requirements, and occurred in November 2001 after USD(AT&L) reviewed DOT&E's assessment. For LRIP Lot 3, USD(AT&L) authorized the procurement of 208 MIDS terminals, plus spares and emergent requirements on 11 June 2002, and delegated the MS III Full Rate Production decision scheduled for July 2003 to ASN(RD&A). The LRIP Lot 3 ADM was signed 26 June 2002. The acquisition strategy for MIDS JTRS migration will be determined after receipt of the JTRS Migration Studies being performed by the three MIDS manufacturers.

E. Major Performers:
 BAE Systems, Wayne, New Jersey, Systems Engineering & Integration contract awarded June 2000.

	<u>FY 02</u>	<u>FY 03</u>	<u>FY 04</u>	<u>FY 05</u>
	6.7	3.9		

Exhibit R-3 Cost Analysis								Date: February 2003				
APPROPRIATION: RDT&E,DW BUDGET ACTIVITY : 5				PROGRAM ELEMENT: 0604771D8Z				MIDS-LVT P773				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total Pys Cost	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Product Development												
Hardware/Software Development	CPIF	MIDSCO Wayne, NJ	192.440								192.440	192.440
Pre-Operational EMD Terminal Support	CPIF	MIDSCO Wayne, NJ	2.706								2.706	2.706
Software Support	FFP	BAE Systems Wayne, NJ	2.192	.053	Sep 02	2.282	Various				4.527	4.527
EMD Spares	FFP	ViaSat Carlsbad, CA		.627	Sep 02						.627	.627
JTRS Migration Study	FFP	DLS Cedar Rapid, IA		.501	Aug 02						.501	.501
JTRS Migration Study	FFP	ViaSat Carlsbad, CA		.604	Jul 02						.604	.604
JTRS Migration	TBD	TBD				2.000	TBD	5.604	TBD	3.336	10.940	10.940
Subtotal Product Development			197.338	1.785		4.282		5.604		3.336	212.345	212.345
Remarks: The MIDSCO EMD contract period of performance ended 30 June 2000 with the exception of contract closeout activity. A new System Engineering and Integration (SE&I) contract was awarded in June 2000 to complete unfinished EMD work scope and to provide continued EMD terminal support.												
Support												
Production Readiness Mfg Prototyping	FFP	Allied Signal Teterboro, NJ	3.189								3.189	3.189
Production Readiness Mfg Prototyping	FFP	ViaSat Carlsbad, CA	6.346								6.346	6.346
Production Readiness Mfg Prototyping	FFP	DLS Cedar Rapids, IA	1.000								1.000	1.000
Production Readiness Mfg Prototyping	FFP	Thompson Cedex, France	1.000								1.000	1.000
Production Readiness Agreements	WX	SSC SD San Diego, CA	0.795								.795	.795
Subtotal Support			12.330								12.330	12.330
Remarks:												

Unclassified

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation												
System Engineering	WX	SSC SD-Code 64 San Diego, CA	7.239	.499	Various	.219	Jan 04				7.957	7.957
System Engineering	WX	SSC SD-Code 45 San Diego, CA	9.319	.115	Various						9.434	9.434
Software Support	MIPR	Warner Robins Robins AFB, GA	2.492	.143	Various						2.635	2.635
System Engineering	MIPR	MITRE Ft. Monmouth, NJ	2.472	.550	Oct 02	.550	Oct 03				3.572	3.572
System Engineering and Integration	FFP	BAE Systems Wayne, NJ	12.375	6.910	Various	1.650	Jun 03				20.935	20.935
System Engineering	Various	Various	16.687								16.687	16.687
JTRS Migration	WX	Various		.664	Jan 03	.081	Jan 04				.745	.745
Joint Interoperability Certification Testing	MIPR	JITC Ft. Huachuca, AZ	.030	.120	Jul 02						.150	.150
Homeland Defense	IPR	WBB Vienna, VA	.030	.025	Jun 02						.055	.055
Homeland Defense	IPR	MATCOM Alexandria, VA	.130								.130	.130
Subtotal T&E			50.774	9.026		2.500		0		0	62.300	62.300
Remarks:												
Management Services												
Program Management Support	FFP	Vredenburg Carlsbad, VA	2.306								2.306	2.306
Miscellaneous Program Support	FFP/ WX	Various	10.322	.047	Various	.050	Various				10.419	10.419
Contract Services	MIPR	AF Pentagon Washington, DC	1.400								1.400	1.400
Subtotal Management			14.028	.047		.050		0		0	14.125	14.125
Remarks:												
Total Cost			274.470	10.858		6.832		5.604		3.336	301.100	301.100
Remarks:												