

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2005

BUDGET ACTIVITY

5 - System Development and Demonstration

PE NUMBER AND TITLE

06042□0A - Joint Tactical Radio System

PROJECT

162

COST (In Thousands)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
162 JOINT TACTICAL RADIO SYSTEM	128611	117259	156665	110951	80991	35304	0	0	Continuing	Continuing

A. Mission Description and Budget Item Justification: -The mission of the Joint Tactical Radio System (JTRS) program is to provide to the Department of Defense software programmable, reconfigurable digital radio systems to meet Joint Vision 2010/2020 requirements for interoperability, flexibility, adaptability, and information exchange. The program will acquire a family of affordable, scaleable, high-capacity, interoperable Line of Sight (LOS) and Beyond Line of Sight (BLOS) radios to support simultaneous networked voice, data, and video transmissions with low probability of intercept. The program will provide operational forces with an upgraded interoperable communications capability for improved battlespace management and increased warfighter effectiveness. Also, JTRS will contribute to Homeland Security and Defense, providing communications interoperability among civil and local agencies, particularly First Response units. Additionally, interoperability with allied and coalition partners is pursued through international cooperative efforts, including a signed US-Japan Memorandum Of Understanding (MOU) and the signed US-UK Project Arrangement. A Project Agreement with Sweden was signed December 20, 2004. Discussions with Canada, Australia, France, Turkey and within other NATO countries are ongoing.

The JTRS program is a distributed acquisition effort, with acquisition responsibilities divided among Service acquisition agencies. The Joint Program Office (JPO) is responsible for (1) the overall management and oversight of the JTRS program, (2) development, validation, and evolution of a common JTRS Software Communications Architecture (SCA), (3) development, evolution and maintenance of waveform software applications, (4) development of software cryptographic algorithms and cryptographic equipment applications, and (5) testing and certification of JTRS hardware and software products and (6) JTRS networking and network management software components. Service acquisition agencies are responsible for acquiring and fielding host radio hardware, integrating waveform software applications to their respective hosts, and integrating JTRS into platforms to meet specific warfighter needs. This approach promotes commonality, jointness and interoperability, providing cost savings through maximization of software code porting and reuse, technology insertion, and common solutions, while allowing flexibility to meet unique requirements. The Army is the Executive Service for the joint program.

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
Maintain, evolve and provide configuration management of the SCA.	1035	1035	1035	1035
Continue acquisition of required waveforms including development of complex waveforms, Cluster support and other waveform related activities. Continue development of crypto algorithm software and other security related activities.	78909	77630	128124	82594
Hardware and software waveform certification process (SCA compliance testing) to meet program requirements.	9414	11636	10477	10080

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Accomplishments/Planned Program B(continued)	FY 2004	FY 2005	FY 2006	FY 2007
Manage and transition Joint Task Force WARNET.	23000	11000	0	0
Joint Program Office (JPO) technical support, including waveform development, system engineering, spectrum allocation and approval for use, systems security engineering and problem resolution and support of Software Communications Architecture (SCA) activities. Provide technical guidance to Service Program Management Offices (PMOs). Provide oversight for all DoD radio acquisitions to ensure JTRS interoperability.	9574	9843	10112	10415
JPO program support, including administration, program management, international cooperative efforts, legal, contracting, budget execution and cost estimating activities.	6679	6115	6917	6827
Totals	128611	117259	156665	110951

<u>B. Program Change Summary</u>	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2005)	121400	71221	57233
Current Budget (FY 2006/2007 PB)	117259	156665	110951
Total Adjustments	-4141	85444	53718
Net of Program/Database Changes			
Congressional Program Reductions	-1783		
Congressional Rescissions			
Congressional Increases	1000		
Reprogrammings			
SBIR/STTR Transfer	-3358		
Adjustments to Budget Years		85444	53718

Change Summary Explanation: Funding: FY 06/07 - Funding increases for new waveform requirements.

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C. Other Program Funding Summary	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	ToCompl	TotalCost
RDTE, 0604805A C3 Systems - Eng Dev; project 615, JTRS Ground Domain Integ (CI 1)	170175	97570	230330	197878	14465	2590	0	0	Continue	Continue
OPA, ARMY, JTRS CLUSTER 1, B90100*	0	109137	0	0	104520	178378	236129	275234	Continue	Continue
RDTE, 0604201A Aircraft Avionics (JTRS) (Cluster 1)	47155	66964	57629	26748	35794	23616	11071	13615	Continue	Continue
APA, JTRS A-Kit Procurement AA0702 (CI 1)	0	0	19058	61545	55083	66189	75602	76310	548100	901887
RDTE, 0604805A C3 Systems - Eng Dev; project 61A, JTRS Cluster 5 Dev	0	96378	144654	111533	54293	19293	9761	8193	0	444105

D. Acquisition Strategy: The JTRS Joint Program Office (JPO) is responsible for common core activities including developing, maintaining, and evolving the JTRS open standards architecture, providing current waveforms to operate on JTRS architecture compliant hardware, and providing a certifying test for hardware/software compliance.

The JTRS JPO is developing Waveforms and Cryptographic Equipment applications (CEAs) for use within the JTRS community.

CEAs will be developed and maintained by the module developer under contract to the JTRS Joint Program Office. Three year IDIQ Contracts were awarded to two vendors in 2002. FY-05 budget supports continued development and NSA evaluation of these software crypto libraries. To use CEAs, additional application-specific code must be written for the cryptographic module to meet embedding requirements. Additional software, located on processors external to the programmable cryptographic module, may also be required.

ARMY RDT&E COST ANALYSIS(R3)									February 2005			
BUDGET ACTIVITY 5 - System Development and Demonstration					PE NUMBER AND TITLE 06042□0A - Joint Tactical Radio System					PROJECT 162		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Architecture Development and Validation; Maintain, Evolve and Provide CM Mgmt of SCA	Various	Various	64839	1035	2Q	1035	2Q	1035	2Q	Continue	67944	Continue
b . Waveform Development; Crypto S/W; Waveform Sustainment Engineering	Various	Various	184056	73791	3-4Q	124169	1-2Q	78521	1-2Q	Continue	460537	Continue
c . Certification (SCA Compliance Testing)	Various	Various	36180	11636	1-4Q	10477	1-2Q	10080	1-2Q	Continue	68373	Continue
d . Technology Advancement/Problem Resolution	Various	Various	8260	0		0		0		0	8260	0
e . JTF WARNET	Various	Various	23000	11000	2-3Q	0		0		0	34000	0
Subtotal:			316335	97462		135681		89636		Continue	639114	Continue

ARMY RDT&E COST ANALYSIS(R3)

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II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . FFRDC - MITRE and Other contracted Technical Support	FFP	Various	38266	9843	1-2Q	10112	1-2Q	10415	1-2Q	Continue	68636	Continue
Subtotal:			38266	9843		10112		10415		Continue	68636	Continue

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . N/A*	N/A	N/A	0	0		0		0		0	0	0
Subtotal:			0	0		0		0		0	0	0

Remarks: *System and operational testing performed by the Services; funded in Service appropriations.

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IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Program Support	Various	Various	29400	9954	1-2Q	10872	1-2Q	10900	1-2Q	Continue	61126	Continue
Subtotal:			29400	9954		10872		10900		Continue	61126	Continue
Project Total Cost:			384001	117259		156665		110951		Continue	768876	Continue

Schedule Profile (R4 Exhibit)

February 2005

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Event Name	FY 04				FY 05				FY 06				FY 0□				FY 0□				FY 0□				FY 10				FY 11			
	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
(1) MS C (PDSS)									MS C (PDSS)																							
Maintain, evolve and provide configuration management of SCA																																
Acquire ORD Waveforms and cryptographic algorithms																																
Certification of JTRS SCA compliance for acquired systems and waveforms																																
(2) DAB Program Review																																
JTF WARNET Transition									JTF WARNET Transition																							
(3) JTeL Full Operational Capability (FOC)																																

Schedule Detail (R4a Exhibit)

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<u>Schedule Detail</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Maintain, Evolve and Provide Configuration Management of SCA	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q		
Address Technology Advancement Issues and Problem Resolution	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q		
Award JPO Waveform Contracts	3Q	4Q	2Q	2Q				
Obtain Milestone C Approval				1Q				
Acquire ORD Waveforms and Cryptographic Algorithms	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q		
JTRS Technology Lab (JTeL) Initial Operational Capability (IOC)								
Provide Certification of JTRS SCA Compliance for Acquired Systems and Waveforms.	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q		
DAB Program Review		2Q						
Manage and transition JTF WARNET	1-4Q	1-4Q						
JTRS Technology Lab (JTeL) Full Operational Capability (FOC)		1Q						

NOTE: All milestones scheduled through 1QFY2004 have been accomplished.