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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)									DATE February 1999	
BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0303140A Information Systems Security Program						
COST (In Thousands)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	11406	11338	9426	8178	8897	9325	9700	10470	Continuing	Continuing
D491 Command and Control (C2) Protect Development	8151	10177	8123	6884	7757	8044	8300	9000	Continuing	Continuing
D501 Army Key Management System (AKMS)	3255	1161	1303	1294	1140	1281	1400	1470	Continuing	Continuing

A. Mission Description and Budget Item Justification: The Communications Security Equipment Program develops Information Systems Security (ISS) equipment and techniques required to combat threat Signal Intelligence capabilities and to insure the integrity of data network. This program will also develop, integrate, and demonstrate C2 Protect Common Tools into C4I systems that consist of hardware, software, and applications which can manage, protect, detect and react to C2 system vulnerabilities, threats, reconfigurations, and reconstitution. The Army's RDTE ISS program objective is to implement National Security Agency (NSA) developed security technology in Army information systems. The Communications Security Equipment Technology (COMSEC) insures total signals and data security of all Army information systems, to include any operational enhancement and specialized Army configurations. The Army Key Management System (AKMS) automates key generation and distribution while supporting joint interoperability. It provides communications and network planning with key management. AKMS is a part of the management/support infrastructure for the Warfighter Information Network (WIN) program. Additional modifications to the AKMS baseline shall be required to support the emerging WIN architecture. System security engineering, integration of available information security (INFOSEC) products, development (when required), and testing are services provided to ensure that C4I systems are protected against malicious or accidental attacks by our enemies or friends. Modeling, simulation, and risk management tools will be used to develop C2 Protect capabilities that will enable the warfighter to distribute complete and unaltered information while maintaining a dynamic, continuous synchronous operational force. Several joint service/NSA working groups exist in the area of key management to avoid duplication and to assure interoperability between all Services' systems to include standards and testing. For the emerging multilevel network security, the Defense Information Systems Agency (DISA) Multi-Level Security (MLS) working group coordinates the Services different technology efforts.

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BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0303140A Information Systems Security Program

B. Program Change Summary	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Previous President's Budget (<u>FY 1999</u> PB)	11771	7433	7433	8174
Appropriated Value	12147	11433		
Adjustments to Appropriated Value				
a. Congressional General Reductions	-376	-95		
b. SBIR / STTR	-295			
c. Omnibus or Other Above Threshold Reductions	-98			
d. Below Threshold Reprogramming	28			
e. Rescissions				
Adjustments to Budget Years Since <u>FY 1999</u> PB			+1993	+4
Current Budget Submit (<u>FY 2000 /2001</u> PB)	11406	11338	9426	8178

Change Summary Explanation: FY2000 funds in project D491 increased for Electronic Key Management System (EKMS) Tier 1 - A joint effort with NSA and the Navy.

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BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0303140A Information Systems Security Program					PROJECT D491	
COST (In Thousands)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
D491 Command and Control (C2) Protect Development	8151	10177	8123	6884	7757	8044	8300	9000	Continuing	Continuing
<p>A. <u>Mission Description and Budget Item Justification:</u> Project D491 – Command and Control (C2) Protect Development: Project implements National Security Agency (NSA) developed security technology in Army information systems. Project objectives are to provide systems security mechanisms through encryption, trusted software or standard operating procedures to protect the information and to integrate these mechanisms into specified systems so secure operations are as transparent as possible to the users. This entails performing architecture studies and modeling, development models, system integration and testing, installation kits and certifications and accreditation of Automation Information Systems. Project will also assess, develop, integrate and demonstrate C2 Protect Common tools (hardware and software) that will provide protection for fixed infrastructure post, camp and station networks. Results of this effort are also leveraged into and complement the Tactical C2 Protect ATD in PEs 0602782A and 0603006A.</p> <p>FY 1998 Accomplishments:</p> <ul style="list-style-type: none"> • 1360 Army contribution to NSA TACLANE program • 1080 Continued the merger of TEED Internet Security Manager (TISM) to include both FASTLANE and TACLANE Security Management capabilities. (TISM is now a joint Army-NSA Program, “TACLANE/FASTLANE Internet Security Manager”) • 619 Embed COMSEC into Multi-Media Communications System (MMCS) and Radio Access Point (RAP) programs; supported all KY-100 AIRTERM testing and prepared and coordinated Type Classification (TC) Package for the KY-100. Designed new installation kits for employment of KY-100 in Army aircraft. • 2341 Support Defense Health Care Information Assurance Program (DHIAP) • 2751 Initiated development of Common Tools Set for C2 Protect (Information Operations/Warfare) by accomplishing the following tasks; <ul style="list-style-type: none"> Investigated and evaluated four COTS/GOTS tools for Network Access Control Investigated and evaluated six COTS/GOTS tools for Intrusion Detection Systems Investigated and evaluated six COTS/GOTS tools to protect against host machine vulnerabilities (Eight of the sixteen tools investigated/evaluated went into the tool box.) Leveraged results into Tactical C2 Protect ATD by recommending solutions which also had applicability to FBCB2. <p>Total 8151</p> <p>FY 1999 Planned Program:</p> <ul style="list-style-type: none"> • 650 Complete the development of TACLANE/FASTLANE Internet Security Manager (TISM). • 200 Provide support to NSA TACLANE program. 										
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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
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<ul style="list-style-type: none"> • 447 Complete KY-100 AIRTERM Type Classification and design of installation kits; start Type Classification action on TACLANE; perform Evaluation on latest NSA INFOSEC crypto chips. <p>FY 1999 Planned Program: (continued)</p> <ul style="list-style-type: none"> • 4761 Supported development and evaluation of Common Protect Tools by doing the following; <ul style="list-style-type: none"> Investigation and evaluation of Network Access Control, Network Mapping and Password Generation/Authentication COTS/GOTS Products Investigation and evaluations of Network Intrusion Detection System. Investigation and evaluations of Host systems in the area of Anti-Viruses, purge tools and vulnerabilities. Initiate investigation and evaluation of COTS/GOTS products for Risk Management Initiate investigation of techniques for Audit Analysis • 3869 Continue Demonstration Program for Military Health Care Information Protection. • 250 Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) Programs <p>Total 10177</p> <p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 1097 Perform in-house evaluations and integration of INFOSEC NDI equipment into both trusted and untrusted computer Computer platforms and secure applications. • 470 In-house support for TACLANE/FASTLANE by doing development of installation kits and providing engineering support during system fielding. • 250 Perform in-house study/evaluation for Secure Gateway (SEGAT) providing seamless, secure connectivity between major Army tactical communications networks and different security levels. • 4306 Complete development and evaluation of Common Protect Tools by doing the following; <ul style="list-style-type: none"> Complete investigation and evaluation of Network Access Control, Network Mapping and Password Generation/Authentication COTS/GOTS Products. Complete investigation and evaluation of Network Intrusion Detection System Complete investigation and evaluation of Host systems in the area of Anti-Viruses, purge tools and vulnerabilities Complete investigation and evaluation of COTS/GOTS products for Risk Management. • 2000 Support for Electronics Key Management System (EKMS) Tier One <p>Total 8123</p> <p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • 980 Support development efforts on Secure Gateway program. • 1000 Support in-house evaluations of NDI and NSA INFOSEC devices and chips, provide engineering/fielding support to TACLANE and ATM encryption program with development of necessary installation kits. • 4904 Continue the development and evaluation of Common Protect Tools by doing the following: 		
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BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303140A Information Systems Security Program	PROJECT D491
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- Advanced C2 Protect operation assessment
- Validate security solutions

FY 2001 Planned Program: (continued)

- Complete systems integration into Tactical Internet
- Validate/Evaluate C2 Protection through Field Demonstrations

Total 6884

C. <u>Other Program Funding Summary</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To</u> <u>Comp</u>	<u>Total</u> <u>Cost</u>
OPA TA0600	21440	33621	28750	29766	25997	25270	19488	21584	cont'd	cont'd

D. Acquisition Strategy: The object of the C2 Protect Program is to develop, integrate, and validate hardware and software tools that will secure the Tactical Internet (TI) in the First Digitized Division (FDD). The FY 1998 focus is on developing and evaluating tools for the Force XXI Battle Command Brigade and Below (FBCB2)-lower Tactical Internet. FY 1999 and beyond will focus on completing development and evaluation of C2 Protect tools for the FDD that will support the procurement of C2 Protect tools that will secure the TI for the lower and upper levels of the Tactical Internet.

D. <u>Schedule Profile</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
AIRTERM (KY-100)								
• OEC Test	4QTR							
• Type Classification (conditional)		4QTR						
• Installation Kit Development		4QTR						
• Installation Kit Test & Evaluation		4QTR						
• Acquisition of Installation Kits			4QTR					
• OEC Test of Wideband Mode of KY-100			4QTR					
• Type Classification Standard (TC Standard)			4QTR					
• Full fielding of AIRTERM				4QTR				
TISM								
• Prototype Development	4QTR							
• Laboratory Testing		4QTR						
Secure Gateway								
• Study			4QTR					
• Prototype Development Initiation				4QTR				

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D. Schedule Profile	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
C2 Protect								
• Network Access Control	4QTR	4QTR	4QTR	4QTR				
• Intrusion Detection Control	4QTR	4QTR	4QTR	4QTR				
• Host Machine Vulnerabilities	4QTR	4QTR	4QTR	4QTR				
• Risk Management		4QTR	4QTR	4QTR				
• Anti-Viruses	4QTR	4QTR	4QTR	4QTR				
• Purge Tools	4QTR	4QTR	4QTR	4QTR				
• Audit Analysis		4QTR	4QTR	4QTR				

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ARMY RDT&E COST ANALYSIS (R-3)										DATE February 1999		
BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0303140A Information Systems Security Program						PROJECT D491		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. TISM	C-CPFF	GTE, Waltham, MA	4978	640	11/15/98					0	5618	
b. System Engineering	PO	CECOM, RDEC	5198	4951	01/01/99	5253	01/01/00	5284	01/01/01	Cont'd	20686	
c. TACLANE	MIPR	NSA	2452							0	2452	
d. SEGATE	CPFF	TBA				250	01/01/00	980	01/01/01	Cont'd	1230	
e. EKMS	MIPR	Navy, Washington				2000	01/01/00			0	2000	
f. Contracted Services												
(1)	C-CPFF	Booz, Allen & Hamilton, Linthicum MD	822	375	02/04/99	375	02/04/00	375	02/04/01	2250	4197	
(2)	C-CPFF	SYTEX, Inc Tinton Falls, NJ	692	245	02/10/99	245	02/10/00	245	02/10/01	1470	2897	
g.	TBD	Army Medical Command	2341	3966	TBD					TBD	6307	
Subtotal Product Development:			16483	10177		8123		6884		3720	45387	
II. Support Costs: not applicable												
III. Test and Evaluation: not applicable												
IV. Management Services: not applicable												
Project Total Cost:			16483	10177		8123		6884		3720	45387	

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BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0303140A Information Systems Security Program					PROJECT D501	
COST (In Thousands)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
D501 Army Key Management System (AKMS)	3255	1161	1303	1294	1140	1281	1400	1470	Continuing	Continuing
<p>A. <u>Mission Description and Budget Item Justification:</u> Project D501 - Army Key Management System (AKMS): This program provides decentralized and automated key generation, distribution and management while enhancing joint interoperability. It eliminates paper encryption key and provides communications network planning with key management.</p> <p>FY 1998 Accomplishments:</p> <ul style="list-style-type: none"> • 3255 Provided software development upgrades for AKMS Workstation to complete development of the “core” module for the ACES modular architecture. <p>Total 3255</p> <p>FY 1999 Planned Program:</p> <ul style="list-style-type: none"> • 1130 Provide software development upgrades for AKMS Workstation to complete development of the general purpose module to support the MILSATCOM satellite terminals. • 31 Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) Programs <p>Total 1161</p> <p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 1303 Provide software development upgrades for AKMS Workstation to complete development of the modules for the aviation communities Army Aviation Command and Control Program. <p>Total 1303</p> <p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • 1294 Provide software development upgrades for AKMS Workstation to support development of software modules for the Land Warrior and Comanche Acquisition Programs. <p>Total 1294</p>										
C. <u>Other Program Funding Summary</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Comp</u>	<u>Total Cost</u>
OPA BA1201	4542	10315	11038	12131	12270	13233	3801	4022	cont'd	cont'd

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BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303140A Information Systems Security Program	PROJECT D501
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D. Acquisition Strategy: AKMS Initial Operational Test and Evaluation (IOTE) occurred in August – September FY97. Direction was provided to separate the Local COMSEC Management Software (LCMS) from the Automated Communication Engineering System (ACES). The IOC for ACES is scheduled for December 2000.

D. <u>Schedule Profile</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
PEO IPR	4Q							
Critical Design Review		2Q						
ACES Software Functional Testing			1Q					
FOT&E			3Q					
Material Release			4Q					
ACES IOC				1Q				
AKMS Material Release for new Army Acquisition Programs					1-4Q	1-4Q	1-4Q	1-4Q

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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Software development	C/T&M	GTC, Tampa, FL	19013	1161	1/99	1303	1/00	1294	1/01	Cont'd	22771	
Subtotal Product Development:			19013	1161		1303		1294			22771	

II. Support Costs: Not applicable

III. Test and Evaluation: Not applicable

IV. Management Services: Not applicable

Project Total Cost:			19013	1161		1303		1294			22771	
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