

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 2003

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

07 - Operational System Development

0605024F Anti-Tamper Technology Executive Agent

5066

COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
5066 Anti-Tamper Technology Executive Agent	0	8,808	7,855	7,879	7,806	7,792	7,757	7,715	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) **A. Mission Description**

The Air Force is the Executive Agent for implementing Anti-Tamper (AT) policy as well as for developing AT technology for DoD. As Executive Agent, the Air Force will coordinate the technology development among the Services, DoD Agencies and laboratories, and with industry. The Executive Agent is also charged to develop a technology roadmap, establish a data bank/library, implement policy, provide proper security mechanisms, and conduct effective AT validation.

The Anti-Tamper Technology Development will occur in the following areas: advanced sensor hardware, generic electronic hardware, signature control, access detection & denial, software, and effectiveness. In the advanced sensor hardware area, antenna arrays, focal plane arrays, & T/R modules are areas of importance for AT technology development. AT technology for other advanced sensor hardware will also be developed as required. In the general electronic hardware area, AT technology development will be evaluated first for memory circuits and processors, followed by other electronic hardware. In the signature control area, AT technology development will be evaluated for radar absorbing materials and other low observable techniques. AT technology development for other signature control areas will be evaluated on a case-by-case basis. Measures of Effectiveness (MOEs) and the verification and validation of Anti-Tamper are also areas required further development. The technical support will focus on Sandia National Laboratories (SNL). SNL has been the focal point for Anti-Tamper and the USAF plans to use them as such. This includes leveraging their expertise to assist in educating engineers and program managers about Anti-Tamper, as well as providing technical support to DoD weapon system programs in developing Anti-Tamper technology. The program management activities will coordinate the technology development and establish the Anti-Tamper database/library.

The purpose of developing AT measures is to protect critical technologies in U.S. weapon systems that may be sold to foreign governments or that could possibly fall into enemy hands. AT technology will permit the U.S. to preserve its critical weapons systems lead while also satisfying customer needs. Furthermore, AT will add longevity to critical technologies by deterring efforts to reverse engineer, or develop weapon countermeasures against a system or system component.

(U) **FY 2002 (\$ in Thousands)**

(U) \$0 Accomplishments/Planned Program
 (U) \$0 No Activity
 (U) \$0 Total

Project 5066

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PROJECT

07 - Operational System Development**0605024F Anti-Tamper Technology Executive Agent****5066**(U) **A. Mission Description Continued**(U) FY 2003 (\$ in Thousands)

(U)	\$0	Accomplishments/Planned Program
(U)	\$7,048	Anti-Tamper Technology Development
(U)	\$590	Technical Support
(U)	\$1,170	Program Management Activity (PMA)
(U)	\$8,808	Total

(U) FY 2004 (\$ in Thousands)

(U)	\$0	Accomplishments/Planned Program
(U)	\$6,510	Anti-Tamper Technology Development
(U)	\$245	Technical Support
(U)	\$1,100	Program Management Activity
(U)	\$7,855	Total

(U) **B. Budget Activity Justification**

This program is in Budget Authority (BA) 7 Operational System Development because Anti-Tamper technologies have applicablty to operational systems.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	0	8,000	8,000	TBD
(U) Appropriated Value		9,000		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions				
b. Small Business Innovative Research		0		
c. Omnibus or Other Above Threshold Reprogram		-90		
d. Below Threshold Reprogram				
e. Rescissions		-102		
(U) Adjustments to Budget Years Since FY 2003 PBR			-145	
(U) Current Budget Submit/FY 2004 PBR		8,808	7,855	TBD

(U) **Significant Program Changes:**

Project 5066

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(U) **D. Other Program Funding Summary (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E										
(U) Other APPN										

(U) **E. Acquisition Strategy**

Program Research and Development Announcements (PRDAs) will be used for the Anti-Tamper technology development. A sole source contract will be used for some of the technical support.

(U) **F. Schedule Profile**

	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Anti-Tamper Technology Development PRDAs on contract						X						

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE
										February 2003
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT
07 - Operational System Development					0605024F Anti-Tamper Technology Executive Agent					5066
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
					<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U) AT Technology Development							7,048		6,510	
(U) Technical Support							590		245	
(U) PMA							1,170		1,100	
(U) Total							8,808		7,855	
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>										
(U) <u>Performing Organizations:</u>										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
AFRL/XPJ	PRDA	TBD	7,048	7,048			7,048	6,510	Continuing	TBD
Sandia National Lab	Sole Source	Various	590	590			590	245	Continuing	TBD
<u>Support and Management Organizations</u>										
AFRL/XPJ -PMA	Various	TBD	1,170	1,170			1,170	1,100	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development							7,638	6,755	TBD	TBD
Subtotal Support and Management							1,170	1,100	TBD	TBD
Subtotal Test and Evaluation										
Total Project							8,808	7,855	TBD	TBD
Project 5066										
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