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<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)</b>	DATE <b>February 2002</b>
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<b>BUDGET ACTIVITY</b> <b>05 - Engineering and Manufacturing Development</b>	<b>PE NUMBER AND TITLE</b> <b>0604750F Intelligence Equipment</b>	<b>PROJECT</b> <b>2053</b>
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
2053 National Air Intel Center	4,580	1,806	1,326	1,349	1,374	1,400	1,427	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

(U) **A. Mission Description**  
 Intelligence Equipment (IE) provides continuing development and upgrades of threat analysis capabilities of the National Air Intelligence Center (NAIC) and Air Force Information Warfare Center (AFIWC). Both organizations are tasked with providing detailed foreign technology intelligence information to a variety of DOD and non-DOD customers. In the past few years, customers' requirements have been more sophisticated, dictating more detailed and timely intelligence not only in the technology regime but also in the economic, world crisis, and political arenas. IE provides NAIC and AFIWC with the tools necessary to produce timely intelligence of foreign weapon systems and develops the tools to model and assess foreign airborne and aerospace systems. This is the only AF program developing new, or upgraded analysis, modeling and simulation tools focused on intelligence production in support of AF developmental and operational functions. IE directs the engineering and development of specialized hardware and software to conduct Information Operations (IO) with systems which process, integrate, display, and distribute intelligence data/ information for HQ ACC, the Air Intelligence Agency (AIA) -- primarily their NAIC and AFIWC subordinates.

- (U) **FY 2001 (\$ in Thousands)**
- (U) \$257 Completed Advanced Infrared Countermeasures Systems Assessment Model (AIRSAM) Update
  - (U) \$159 Completed Radio Frequency Weapons Modeling Improvements (HEIMDAL v 2.0+)
  - (U) \$168 Continued High Speed Engine Propulsion Modeling (Phase 1: Pulsed-Detonation Engine Model)
  - (U) \$289 Continued Missile System (Phase 1: DIODE Objectives Model [DOM])
  - (U) \$46 Completed Missile System (Phase 2: MiTAS)
  - (U) \$311 Initiated Standard Visualization Solution (SVS) - IVIEW 2000 Upgrade/IView
  - (U) \$3,350 Initiated Radio Frequency Weapon Threat Assessment (RFWA Program) (Congressional Plus-up)
  - (U) \$4,580 Total

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<b>BUDGET ACTIVITY</b>	<b>PE NUMBER AND TITLE</b>	<b>PROJECT</b>
<b>05 - Engineering and Manufacturing Development</b>	<b>0604750F Intelligence Equipment</b>	<b>2053</b>
<b>(U) <u>A. Mission Description Continued</u></b>		
<b>(U) <u>FY 2002 (\$ in Thousands)</u></b>		
(U) \$500	Complete Radio Frequency Weapon Threat Assessment (RFA Program) (Congressional Plus-up)	
(U) \$136	Continue High Speed Engine Propulsion Modeling Tools (Phase 1: Pulsed Detonation Engine Model)	
(U) \$237	Initiate High Speed Engine Propulsion Modeling Tools (Phase 2: Air Turbo-Rocket Engine Model)	
(U) \$137	Initiate High Speed Engine Propulsion Modeling Tools (Phase 3: Turbo-Ramjet Engine Model)	
(U) \$227	Complete Missile System ( Phase 1: DIODE Objectives Model [DOM])	
(U) \$113	Continue Standard Visualization Solution (SVS) - IVIEW 2000 Upgrade/JView	
(U) \$212	Initiate Missile System Upgrades (Phase 3: CRMPS [Computer Requirements Model for Payload Study])	
(U) \$212	Initiate Missile System Upgrades (Phase 4: BRACE [Ballistic Reentry Vehicle Accuracy Estimate] )	
(U) \$32	Initiate Advanced Analysis Capabilities (AAC) - Integrated Avionics Support (IAS)	
(U) \$1,806	Total	
<b>(U) <u>FY 2003 (\$ in Thousands)</u></b>		
(U) \$97	Complete High Speed Engine Propulsion Tools (Phase 1: Pulsed-Detonation Engine Model)	
(U) \$218	Complete High Speed Engine Propulsion Tools (Phase 2: Air-Turbo-Rocket Engine Model)	
(U) \$98	Continue High Speed Engine Propulsion Tools (Phase 3: Turbo-Ramjet Engine Model)	
(U) \$138	Initiate High Speed Engine Propulsion Tools (Phase 4: SCRAM Jet Engine Model)	
(U) \$137	Continue Standard Visualization Solution (SVS) - IVIEW 2000 Upgrade/JView	
(U) \$248	Continue Missile System Upgrades (Phase 3: CRMPS (Computer Requirements Model for Payload Study))	
(U) \$218	Continue Missile System Upgrades (Phase 4: BRACE (Ballistic Reentry Vehicle Accuracy Estimate))	
(U) \$138	Continue Advanced Analysis Capabilities (AAC) -- Integrated Avionics Support (IAS)	
(U) \$34	Initiate Laser Weapons (LODUR) Threat Assessment Tool	
(U) \$1,326	Total	
<b>(U) <u>B. Budget Activity Justification</u></b>		
This effort is Budget Activity 5, Engineering & Manufacturing Development, because the program develops and inserts new technology into existing systems and models to keep existing systems current.		
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
<b>05 - Engineering and Manufacturing Development</b>				<b>0604750F Intelligence Equipment</b>				<b>2053</b>		
<b>(U) <u>C. Program Change Summary (\$ in Thousands)</u></b>										
				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>			<u>Total Cost</u>	
(U)	Previous President's Budget			1,298	1,323	1,347			TBD	
(U)	Appropriated Value			4,798	1,323					
(U)	Adjustments to Appropriated Value									
	a. Congressional/General Reductions				483					
	b. Small Business Innovative Research			-147						
	c. Omnibus or Other Above Threshold Reprogram									
	d. Below Threshold Reprogram			-27						
	e. Rescissions			-44						
(U)	Adjustments to Budget Years Since FY 2002 PBR					-21				
(U)	Current Budget Submit/FY 2003 PBR			4,580	1,806	1,326			TBD	
(U)	<u>Significant Program Changes:</u>									
	Funding: Congressional \$.5M add in FY02 for Radio Frequency Weapon Threat Assessment (RFA Program).									
<b>(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u></b>										
		<u>FY 2001</u>	<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>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>Complete</u>	
(U)	Not Applicable									
<b>(U) <u>E. Acquisition Strategy</u></b>										
	All major contracts within this Program Element were awarded after full and open competition.									
<b>(U) <u>F. Schedule Profile</u></b>										
		<u>FY 2001</u>				<u>FY 2002</u>			<u>FY 2003</u>	
		1	2	3	4	1	2	3	4	1
						*				
(U)	Completed Advanced IRCM Systems Assessment Model (AIRSAM) Update									
(U)	Completed Radio Frequency Weapons Modeling Improvements (HEIMDALL-2+)									
(U)	Complete HiSpeed Propulsion(HSP)/Pulsed Detonated Engine Model									
										X
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2002		
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT		
<b>05 - Engineering and Manufacturing Development</b>					<b>0604750F Intelligence Equipment</b>					<b>2053</b>		
<b>(U) <u>F. Schedule Profile Continued</u></b>												
		<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>		
	1	2	3	4	1	2	3	4	1	2	3	4
(U) (Ph 1)												
(U) Begin/Complete HSP/Air-Turbo Rocket Engine Model (Ph 2)						X						X
(U) Begin HSP/ Turbo-Ramjet Engine Model (Ph 3)								X				
(U) Begin HSP/Scramjet Engine Model (Ph 4)											X	
(U) Complete Missile System / Phase 1: DIODE Objectives Model (DOM)								X				
(U) Completed Missile System / Phase 2: MiTAS				*								
(U) Continue IVIEW 2000 Upgrade/JView Std Visualization Solution (SVS)												
(U) Begin Advanced Analysis Capabilities (AAC) - Integrated Avionics Supt								X				
(U) Begin/Complete Radio Frequency Weapon Threat Assessment (RFA)				*				X				
(U) Begin Missile System /Phase 3: CRMPS								X				
(U) Begin Missile System/Phase 4: BRACE								X				
(U) Begin Laser Weapons (LODUR) Threat Assessment Tool												X
Note: * denotes completed event, X denotes planned event.												

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT			
<b>05 - Engineering and Manufacturing Development</b>				<b>0604750F Intelligence Equipment</b>			<b>2053</b>			
<b>(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u></b>										
					<u>FY 2001</u>		<u>FY 2002</u>			<u>FY 2003</u>
(U)	Adv IRCM Systems Assessment Model (AIRSAM) Update				257					
(U)	Radio Frequency Weapon Modeling Improvements (HEIMDALL 2+)				159					
(U)	High Speed Propulsion / P1: Pulsed Detonation Engine Model				168		136			97
(U)	High Speed Propulsion / P2: Air Turbo Rocket Engine Model						237			218
(U)	High Speed Propulsion / P3: Turbo-Ramjet Engine Model						137			98
(U)	High Speed Propulsion / P4: Scram Jet Engine Model									138
(U)	Missile System / Phase 1: DIODE Objectives Model (DOM)				289		227			
(U)	Missile System / Phase 2: MiTAS				46					
(U)	Missile System / Phase 3: CRMPS						212			248
(U)	Missile System/ Phase 4: BRACE						212			218
(U)	IVIEW 2000 Upgrade / JView - Standard Visualization Solution				311		113			137
(U)	Terrorist RF Weapon Threat Assessment				3,350		500			
(U)	Adv Analysis Capability: Integrated Avionics Support Model						32			138
(U)	Laser Weapons (LODUR) Threat Assessment Tool									34
(U)	Total				4,580		1,806			1,326
<b>(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u></b>										
<b>(U) <u>Performing Organizations:</u></b>										
<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 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
Sterling Software, Inc	CPFF	Sep 99	N/A	N/A	281	257			0	538
98-D-0318/06 (AIRSAM)										
Applied Sciences Laboratory	CPFF	26 May 99	N/A	N/A	226	159			0	385
97-C-0036/02 (RF Weapons)										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2002	
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT	
<b>05 - Engineering and Manufacturing Development</b>				<b>0604750F Intelligence Equipment</b>				<b>2053</b>	
<b>(U) <u>Performing Organizations Continued:</u></b>									
<u>Product Development Organizations</u>									
Applied Sciences Laboratory CPFF	31 Jul 01	N/A	N/A	3,350	500		0	3,850	
01-C-0187 (RFWA Program)									
Calspan Veridian Corporation CPFF	31 Jul 98	N/A	N/A	289	227		0	516	
99-DC-0050 (Phase 1: Missile System [(DOM])									
Sterling Software, Inc/Pratt & CPFF	12 Feb 99	N/A	N/A	168	137	97	0	402	
Whitney Corp 98-D-0318/02 (HSP-P-DE) - (Phase 1: High Speed Propulsion /Pulsed Detonation)									
TBD - Phase 2: High Speed	TBD	N/A	N/A		237	218	0	455	
Propulsion (ATR)									
TBD - Phase 3: High Speed	TBD	N/A	N/A		136	98	Continuing	TBD	
Propulsion (T-R)									
TBD - Phase 4: High Speed	TBD	N/A	N/A			138	Continuing	TBD	
Propulsion (Scram-Jet)									
SAIC 99-D-0137/04 (- IDIQ/CPFF)	22 Dec 00	N/A	N/A	46			0	46	
Missile System / Phase 2: MiTAS)									
TBD - Missile System / Phase	TBD	N/A	N/A		212	248	Continuing	TBD	
3: CRMPS									
TBD - Missile System/ Phase	TBD	N/A	N/A		212	218	Continuing	TBD	
4: BRACE									
PAR Govt. Systems 01-F- CPFF	8 Dec 00	N/A	N/A	311	113	137	Continuing	TBD	
5008 & AFRL/IFSB (In-House) -( IVIEW 2000 Upgrade/JView SVS)									
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BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
<b>05 - Engineering and Manufacturing Development</b>				<b>0604750F Intelligence Equipment</b>				<b>2053</b>		
<b>(U) <u>Performing Organizations Continued:</u></b>										
<u>Product Development Organizations</u>										
TBD - Adv Analysis	TBD	TBD	N/A	N/A	32	138	Continuing	TBD		
Capability: Integrated Avionics Support Model										
TBD - Laser Weapons						34	Continuing	TBD		
(LODUR) Threat Assessment Tool										
<u>Support and Management Organizations</u>										
N/A										
<u>Test and Evaluation Organizations</u>										
N/A										
<b>(U) <u>Government Furnished Property:</u></b>										
	<u>Contract</u>									
	<u>Method/Type</u>	<u>Award or</u>								
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>										
N/A										
<u>Support and Management Property</u>										
N/A										
<u>Test and Evaluation Property</u>										
N/A										
					<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 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					507	4,580	1,806	1,326	TBD	TBD
Subtotal Support and Management										
Subtotal Test and Evaluation										
Total Project					507	4,580	1,806	1,326	TBD	TBD
Project 2053					Page 7 of 7 Pages			Exhibit R-3 (PE 0604750F)		