

<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)</b>									DATE <b>February 2003</b>	
BUDGET ACTIVITY <b>07 - Operational System Development</b>					PE NUMBER AND TITLE <b>0101113F B-52 SQUADRONS</b>					
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
Total Program Element (PE) Cost	65,025	54,712	28,649	16,633	34,352	71,361	28,500	0	Continuing	TBD
4810 Avionics Midlife Improvement (AMI)	36,608	32,274	28,649	0	0	0	0	0	Continuing	TBD
4875 Situational Awareness Defensive Improvement	28,417	22,438	0	0	0	0	0	0	0	70,925
4876 B-52 Global Air Traffic Management (GATM)	0	0	0	0	0	0	0	0	Continuing	TBD
5039 B-52 Modernization	0	0	0	16,633	34,352	71,361	28,500	0	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	Continuing	TBD
<p>(U) <b><u>A. Mission Description</u></b>            The B-52 is one of two bomber weapon systems which supports conventional and nuclear taskings. It employs the most diverse weapons load and is the only long range bomber weapon system that can employ the Advanced Cruise Missile (ACM), Air Launched Cruise Missile (ALCM) and Conventional Air Launched Cruise Missile (CALCM). The current service life extends beyond 2040. The Avionics Midlife Improvement (AMI) modification replaces unsupportable mission critical parts of the Offensive Avionics System, which controls navigation and weapons delivery. The Situational Awareness Defensive Improvement (SADI) modification provides improved situational awareness and electronic countermeasure system control by increasing memory and through-put, providing in flight reprogramming, and adding a new integrated display. The Global Air Traffic Management (GATM) spiral upgrade will allow the B-52 to meet Federal Aviation Agency and ICAO avionics requirements which will reduce airspace congestion and increase safety. B-52 Modernization upgrade provides communications improvements for enhanced command and control, an in flight CALCM mission planning system, and increased carriage of GPS guided gravity and standoff weapons. Air Force Material Command's Oklahoma Air Logistics Center has program management responsibility. The prime contractor for these projects is Boeing, McDonnell Defense located in Wichita, Kansas.</p> <p>(U) <b><u>B. Budget Activity Justification</u></b>            This program is in budget activity 7 - Operational System Development - as it supports an operational system.</p>										

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(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	66,205	55,794	47,157	TBD
(U) Appropriated Value	66,874	55,794		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-669	-590		
b. Small Business Innovative Research	-2,156			
c. Omnibus or Other Above Threshold Reprogram		-492		
d. Below Threshold Reprogram	1,294			
e. Rescissions	-318			
(U) Adjustments to Budget Years Since FY 2003 PBR	0		-18,508	
(U) Current Budget Submit/FY 2004 PBR	65,025	54,712	28,649	TBD

(U) Significant Program Changes:

(U) FY04 Adjustments to Budget Years (-18,508): B-52 Modernization Program deferred by one year--originally planned to start in FY 04. Program will now be an FY05 start.

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07 - Operational System Development

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0101113F B-52 SQUADRONS

PROJECT

4810

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
4810 Avionics Midlife Improvement (AMI)	36,608	32,274	28,649	0	0	0	0	0	Continuing	TBD

(U) **A. Mission Description**

The B-52H Offensive Avionics System (OAS) has several subsystems which must be replaced. The Inertial Navigation System (INS) utilizes 1960 unsupportable spinning mass gyro technology. The Avionics Control Unit (ACU) is a computer system with limited processing capability and memory. The Data Transfer Unit Cartridges (DTUCs) are bulky, unreliable, and obsolete. The AMI program will use non developmental components and technology to replace these subsystems and their associated software, significantly increasing OAS reliability, maintainability, supportability. Reliability and DMS deficiencies and performance improvements to the OAS are also addressed in this program. Funding is provided for engineering and planning studies for potential future weapon system enhancements (weapons, sensors, and avionics) and for weapon system operation/safety, supportability, maintainability, reliability, and Total Ownership Cost (TOC) improvements.

This program is in budget activity 7 - Operational System Development - because it supports a currently operational system.

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

(U) \$0	Accomplishments/Planned Program
(U) \$2,196	Prototype Hardware
(U) \$30,588	Design, development of replacement software
(U) \$1,639	System Program Office Support
(U) \$385	Program Support/Modeling and Simulation/Studies and Analysis
(U) \$1,800	Ground and Flight Test
(U) \$36,608	Total

(U) **FY 2003 (\$ in Thousands)**

(U) \$0	Accomplishments/Planned Program
(U) \$4,253	Prototype Hardware
(U) \$19,619	Design, development of replacement software
(U) \$7,350	Ground and Flight Test
(U) \$892	System Program Office Support
(U) \$160	Program Support/Modeling and Simulation/Studies and Analysis
(U) \$32,274	Total

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(U) **A. Mission Description Continued**(U) **FY 2004 (\$ in Thousands)**

(U) \$0	Accomplishments/Planned Program
(U) \$0	Prototype Hardware
(U) \$11,875	Ground and Flight Test
(U) \$638	System Program Office Support
(U) \$16,136	Design, development of replacement software
(U) \$28,649	Total

(U) **B. Project Change Summary**(U) **C. 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	36,608	32,274	28,649						Continuing	Continuing
(U) Other APPN										
(U) Aircraft Procurement (BP1100)	0	0	18,611	37,178	36,587	5,591	818		Continuing	Continuing

(U) **D. Acquisition Strategy**

The AMI program will contract with Boeing Wichita for aircraft hardware integration and Flight Management System and the Stores Management Overlay software development. Boeing will work with select vendors which will provide EMD hardware. The Government will subsequently contract with these vendors for production hardware supporting aircraft installations.

(U) **E. 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) Contract Award/Modifications	*				*				X			
(U) Interface Development												
(U) Software Development	*	*	*	*	*	X	X	X				
(U) Test Planning	*	*	*	*	*	X	X	X				
(U) Group A Design												

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(U) E. Schedule Profile Continued

		<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)	Group A Fabrication	*	*	*									
(U)	Trial Install		*	*	*								
(U)	Ground & Flight Test			*	*	*	X	X	X	X	X	X	X
(U)	Milestone III Decision								X				

\* = Complete

X = On going

Note: Profiles with quarterly decision points reflect administration modifications and incremental work.

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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					0101113F B-52 SQUADRONS				4810		
(U) A. Project Cost Breakdown (\$ in Thousands)											
							FY 2002		FY 2003		FY 2004
(U)	Prototype Hardware						2,196		4,253		
(U)	Non-recurring Engineering						30,588		19,619		16,136
(U)	Ground/Flight Test						1,800		7,350		11,875
(U)	System Program Office Support						1,639		892		638
(U)	Miscellaneous						385		160		0
(U)	Total						36,608		32,274		28,649
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<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>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>Product Development Organizations</u>										
	Boeing, Wichita		CONTRACT	FY01	109,100	109,100	26,670	30,588	19,619	9,776	Continuing
	<u>Support and Management Organizations</u>										
	OC-ALC/LH		PMA	FY01	180	180	538	2,285	2,555	498	Continuing
	OC-ALC/LAS		206	FY01	400	400	400	1,435	2,250	500	Continuing
	OO-ALC/LIR		616	Aug 01	100	100	100	200	200	5,700	Continuing
	SER/CASU		MIPR	Aug 01	100	100	100	300	300	300	Continuing
	Miscellaneous		BTR/SIBR	Oct 00							
	<u>Test and Evaluation Organizations</u>										
	419 FLTS		Project Order	Aug 01	30	30	50	1,800	7,350	11,875	Continuing

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<b>07 - Operational System Development</b>			<b>0101113F B-52 SQUADRONS</b>			<b>4810</b>
	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</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>Subtotals</u>						
Subtotal Product Development	26,670	30,588	19,619	9,776	TBD	TBD
Subtotal Support and Management	1,138	4,220	5,305	6,998	TBD	TBD
Subtotal Test and Evaluation	50	1,800	7,350	11,875	TBD	TBD
Total Project	27,858	36,608	32,274	28,649	TBD	TBD

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BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

**07 - Operational System Development****0101113F B-52 SQUADRONS****4875**

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
4875 Situational Awareness Defensive Improvement	28,417	22,438	0	0	0	0	0	0	0	70,925

(U) **A. Mission Description**

This modification preserves B-52 survivability and adds cornerstone architecture for stand off jamming (SOJ) capability in support of Air Force's system of system approach for airborne electronic (AEA) by replacing the AN/ALR-20 Panoramic Receiver System. The SADI system will automatically identify detected threat and early warning (EW) radars on the Radar Warning Receiver (RWR) display. SADI will confirm that onboard jammers are covering the intended threat or EW radar and is required for jammer employment for mission success. The present AN/ALR-20 system, designed in the 1960's, is becoming unsupportable due to vanishing vendors and obsolete technology and has extremely limited SOJ support capability. Funding is provided for engineering and planning studies for potential future weapon system enhancements (weapons, sensors, and avionics) and for weapon system operational/safety, supportability, maintainability, reliability, and Total Ownership Cost (TOC) improvements.

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

(U) \$0	Accomplishments/Planned Program
(U) \$5,790	Group A kit and NRE
(U) \$7,879	Group B kit and NRE
(U) \$1,175	Ground/Flight Test
(U) \$2,925	Program Management
(U) \$3,648	Software
(U) \$7,000	System Concept Studies (Includes System Engineering, System Capability Trades, Modeling and Simulation, and Studies and Analysis).
(U) \$28,417	Total

(U) **FY 2003 (\$ in Thousands)**

(U) \$0	Accomplishments/Planned Program
(U) \$15,438	System Concept Studies (Includes CTD planning, System Engineering, System Capability Trades, Modeling and Simulation, Studies and Analysis, and Subsystem Source Selection).
(U) \$4,000	Support Equipment/NRE
(U) \$3,000	Program Management
(U) \$22,438	Total

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PROJECT

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(U) **A. Mission Description Continued**(U) **FY 2003 (\$ in Thousands) Continued**

The SADI program is being rebaselined due to significant requirement/capability changes to support B-52 SOJ mission. FY03 funding will cover FY04 efforts to ensure program continuity.

(U) **FY 2004 (\$ in Thousands)**

(U) \$0 Not Applicable

(U) \$0 Total

(U) **B. Project Change Summary**

The SADI program is being rebaselined due to significant requirement/capability changes to support B-52 SOJ mission.

(U) **C. 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	28,417	22,438							Continuing	Continuing
(U) Other APPN									Continuing	Continuing
(U) Aircraft Procurement (BP1100)									Continuing	Continuing

(U) **D. Acquisition Strategy**

At the time of R Doc preparation, the B-52 SPO was preparing an FY03 acquisition strategy and spend plan (part of the on going rebaseline effort) which will define the future program and its funding requirements. The proposed spend plan is reflected (in part) in this documentation. The final and approved spend plan will be available prior to staffer day briefings.

(U) **E. 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) Contract Award	*				*							
(U) Interface Development	*	*	*	*								
(U) Test Planning	*	*	*	*	*	X	X	X				
(U) Group A Design	*	*	*	*								

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(U) E. Schedule Profile ContinuedFY 2002FY 2003FY 2004

1	2	3	4	1	2	3	4	1	2	3	4
*	*	*	*								
*	*	*	*								
*	*	*	*								

(U) Group A Fabrication

(U) Group B Design

(U) Group B Fabrication

\* = Complete

X = On going

Note: Profiles with quarterly decision points reflect administration modifications and incremental work.

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BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT		
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(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	Hardware/NRE					13,669					
(U)	Software					3,648					
(U)	Program management					2,925		3,000			
(U)	Ground/Flight Test					1,175					
(U)	System Concept Studies					7,000		19,438			
(U)	Total					28,417		22,438			
(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>Activity</u>		<u>Vehicle</u>		<u>Date</u>		<u>EAC</u>		<u>EAC</u>		<u>to FY 2002</u>	
								<u>Budget</u>		<u>Budget</u>	
								<u>FY 2002</u>		<u>FY 2003</u>	
								<u>FY 2004</u>		<u>Budget to</u>	
								<u>Complete</u>		<u>Total</u>	
										<u>Program</u>	
<u>Product Development Organizations</u>											
Boeing Military Programs,		CPAF		Aug 00		2,793		17,595		24,422	
Wichita Division								19,438		61,455	
<u>Support and Management Organizations</u>											
OC-ALC/LH		PMA		Jun 00		225		N/A		813	
WR/ALC		616		Aug 00		98		N/A		2,069	
OO-ALC/YWT						N/A		N/A		1,590	
HQ ACC/XRA52		MORD		Jun 00		10		N/A		280	
										250	
<u>Test and Evaluation Organizations</u>											
36 EWS//EWF		616		Jun 00		10		N/A		50	
419 FLTS		616		Jun 00		10		N/A		998	
2LG & 49 TES		616		Jun 00		10		N/A		340	
										200	
										50	
										200	

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07 - Operational System Development				0101113F B-52 SQUADRONS				4875		
(U) <u>Government Furnished Property:</u>										
	<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 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>	
<u>Product Development Property</u>										
<u>Support and Management Property</u>										
<u>Test and Evaluation Property</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				17,595	24,422	19,438			61,455	
Subtotal Support and Management				2,325	2,691	2,410			7,426	
Subtotal Test and Evaluation				150	1,304	590			2,044	
Total Project				20,070	28,417	22,438			70,925	

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