

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER				PROJECT 4777		
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
4777	E-4B Aircraft Modernization	27,275	23,126	47,867	64,094	38,534	24,246	296	Continuing	TBD
Quantity of RDT&E Articles		0	0	0	0	0	0	0	0	0
<p>Quantity of RDT&E Articles includes prototype procurements for E-4B Update Program Block 5A and Block 5B items (formerly known as the E-4B Modernization Program) as well as prototype procurements of GATM Phase II and GATM Phase III and Senior Leaders Communication System (SLCS). In FY02, \$20M was provided to the 'National Airborne Command Post' under the general category of Improved Command and Control. The E-4B weapon system (PE: 0302015F) received \$18.2M of these funds; \$7.2M R&D [GATM (\$1.2M) and SLCS (\$6.0M)], \$3.0M AP,AF for Defense Messaging System upgrades; and \$8.0M O&M (for depot work). The remaining \$1.8M was provided to the NAOC Ground Command Communications Network (PE: 0302052F). All the E-4B related DERF funds were spent in support of operation HOMELAND DEFENSE. This funding is not reflected in the FY02 program total.</p> <p>(U) <u>A. Mission Description</u></p> <p>This program encompasses modernization of National Airborne Operational Center (NAOC) essential infrastructure, mission equipment, battlestaff and conferencing facilities reconfiguration and interior noise reduction, as well as mandated Global Access, Navigation, and Safety/Global Air Traffic Management (GANS/GATM) modifications to the E-4B aircraft. The Senior Leaders Communication System (SLCS) will provide the capability for Direct Broadcast Service, Global Broadcast System, full motion point-to-point video; video teleconferencing capability, access to Defense Information System Network and Public Switch Network for voice, video and data. The NAOC supports the National Command Authority (NCA) and Joint Chiefs of Staff with a worldwide, survivable and enduring node of the National Military Command System (NMCS) for the exercise of their national security responsibilities throughout the full spectrum of conflict. These modifications funded by this project are vital in order to maintain mission effectiveness and efficiency. The upgrades: 1) replace the increasingly hard-to-support 1960s era communications and computer equipment (telecommunications switch, multiplexor, messaging systems, etc) on the aircraft with modern, reliable, digital systems that will be supportable for the planned life of the platform; 2) make the commander's console and battle staff workstations compatible with Global Command and Control System (GCCS) architecture and software; 3) provide sound dampening to eliminate the severe ambient noise problems that prevent normal communications in the briefing room, conference room, and battle staff area without using intercom headsets; and 4) provide GANS/GATM equipment, integration and testing. Commencing FY02, conduct engineering and cost trade studies pertaining to the implementation of worldwide coverage of high bandwidth data streaming capabilities to/from the E-4B aircraft. The warfighter's need date for an improved E-4B system requires that Block 5A begin in FY03. The Block 5A modification meets the user's most immediate sustainment and capability needs with an IOC of 3QFY04. The SLCS requirement will provide the NCA broadband information to perform their duties as</p>										
Project 4777		Page 1 of 7 Pages					Exhibit R-2 (PE 0302015F)			

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002																																																		
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER																																																			
PROJECT 4777																																																				
<p>(U) <u>A. Mission Description Continued</u> if they were in their home office.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <table style="width:100%;"> <tr> <td style="width:15%;">(U) \$26,016</td> <td>Block 5A and GATM Development</td> </tr> <tr> <td>(U) \$1,259</td> <td>System Engineering and Program Management Support</td> </tr> <tr> <td>(U) \$27,275</td> <td>Total</td> </tr> </table> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <table style="width:100%;"> <tr> <td style="width:15%;">(U) \$3,862</td> <td>Purchase GATM II Prototype Kit</td> </tr> <tr> <td>(U) \$17,964</td> <td>System Engineering (Block 5A/GATM II)</td> </tr> <tr> <td>(U) \$1,300</td> <td>System Engineering and Program Management Support</td> </tr> <tr> <td>(U) \$23,126</td> <td>Total</td> </tr> </table> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <table style="width:100%;"> <tr> <td style="width:15%;">(U) \$18,280</td> <td>Blk 5A System Engineering, prototype kit and install</td> </tr> <tr> <td>(U) \$5,806</td> <td>Blk 5B System Engineering</td> </tr> <tr> <td>(U) \$5,781</td> <td>GATM II Prototype Install</td> </tr> <tr> <td>(U) \$18,000</td> <td>SLCS System Engineering, prototype kit and install</td> </tr> <tr> <td>(U) \$47,867</td> <td>Total</td> </tr> </table> <p>(U) <u>B. Budget Activity Justification</u> This program is in budget activity 7 - Operational System Development, Research Category 6.6 because the program is developing modifications for current operations systems.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:55%;"></th> <th style="text-align: right;"><u>FY 2001</u></th> <th style="text-align: right;"><u>FY 2002</u></th> <th style="text-align: right;"><u>FY 2003</u></th> <th style="text-align: right;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: right;">34,410</td> <td style="text-align: right;">23,359</td> <td style="text-align: right;">9,078</td> <td style="text-align: right;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: right;">34,410</td> <td style="text-align: right;">23,359</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Congressional/General Reductions</td> <td style="text-align: right;">-316</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				(U) \$26,016	Block 5A and GATM Development	(U) \$1,259	System Engineering and Program Management Support	(U) \$27,275	Total	(U) \$3,862	Purchase GATM II Prototype Kit	(U) \$17,964	System Engineering (Block 5A/GATM II)	(U) \$1,300	System Engineering and Program Management Support	(U) \$23,126	Total	(U) \$18,280	Blk 5A System Engineering, prototype kit and install	(U) \$5,806	Blk 5B System Engineering	(U) \$5,781	GATM II Prototype Install	(U) \$18,000	SLCS System Engineering, prototype kit and install	(U) \$47,867	Total		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget	34,410	23,359	9,078	TBD	(U) Appropriated Value	34,410	23,359			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	-316			
(U) \$26,016	Block 5A and GATM Development																																																			
(U) \$1,259	System Engineering and Program Management Support																																																			
(U) \$27,275	Total																																																			
(U) \$3,862	Purchase GATM II Prototype Kit																																																			
(U) \$17,964	System Engineering (Block 5A/GATM II)																																																			
(U) \$1,300	System Engineering and Program Management Support																																																			
(U) \$23,126	Total																																																			
(U) \$18,280	Blk 5A System Engineering, prototype kit and install																																																			
(U) \$5,806	Blk 5B System Engineering																																																			
(U) \$5,781	GATM II Prototype Install																																																			
(U) \$18,000	SLCS System Engineering, prototype kit and install																																																			
(U) \$47,867	Total																																																			
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>																																																
(U) Previous President's Budget	34,410	23,359	9,078	TBD																																																
(U) Appropriated Value	34,410	23,359																																																		
(U) Adjustments to Appropriated Value																																																				
a. Congressional/General Reductions	-316																																																			
Project 4777	Page 2 of 7 Pages	Exhibit R-2 (PE 0302015F)																																																		

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE		
							February 2002		
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development				0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER			4777		
(U) C. Program Change Summary (\$ in Thousands) Continued									
				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>		<u>Total Cost</u>	
	b. Small Business Innovative Research			-1,054					
	c. Omnibus or Other Above Threshold Reprogram								
	d. Below Threshold Reprogram			-5,765					
	e. Rescissions			0	-233				
(U)	Adjustments to Budget Years Since FY 2002 PBR			0		38,789			
(U)	Current Budget Submit/FY 2003 PBR			27,275	23,126	47,867		TBD	
(U)	<u>Significant Program Changes:</u>								
(U) D. Other Program Funding Summary (\$ in Thousands)									
		<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>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)	AF RDT&E								
(U)	Other APPN								
(U)	Aircraft Procurement AF, Budget Activity 5, Weapon System Code E00400, PE 0302015F; Mod 4381 (Blk 5A);4381B (Blk 5B); Mod 9709 (GATM Phase II); 9709D (GATM Phase III); and 4387(SLCS)	0	0	27,246	71,322	24,974	80,841	72,180	296,388
(U) E. Acquisition Strategy									
GATM Modifications will be developed under the Engineering Support Services Contract (ESS) as a Cost Plus Award Fee (CPAF) effort. Prototype and kitproof will also be installed under the ESS contract. Procurement and installation of the production kits will be performed under the E-4B Contractor Logistics Support (CLS) contract as a Firm Fixed Price (FFP) effort. E-4B NAOC Block 5 development will be under the ESS Contract as a CPAF effort. Block 5 prototype install will be accomplished under the CLS contract. Production kit (including Kitproof) procurement and installs will be done under the CLS contract. SLCS will be developed									
Project 4777			Page 3 of 7 Pages			Exhibit R-2 (PE 0302015F)			

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE		
										February 2002		
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT		
07 - Operational System Development					0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER					4777		
(U) <u>E. Acquisition Strategy Continued</u> with prototype and kitproof installtion accomplished under the ESS contract. Production kit procurement and installation will be done on the CLS contract.												
(U) <u>F. Schedule Profile</u>												
		<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) Complete Engineering Trade Studies (Blk 5) 4QFY99												
(U) Start Study and Preliminary Design (GATM II)	*											
(U) Complete Study and Preliminary Design (GATM II)						X						
(U) Start Systems Engineering (Blk 5A) 1QFY00												
(U) Start Systems Engineering (GATM II)					*							
(U) Complete System Engineering (GATM II)									X			
(U) Complete Systems Engineering (Blk 5A)												X
(U) Purchase Prototype Hardware (GATM II)						X						
(U) Purchase Prototype Hardware (Blk 5A)									X			
(U) Start Prototype Install (GATM II)									X			
(U) Complete Prototype Install (GATM II)												X
(U) Start Prototype Install (Blk 5A)												X
(U) Complete Prototype Install (Blk 5A) 3QFY04												
(U) IOC (GATM II)												X
(U) IOC (Blk 5A) 3QFY04												
(U) Purchase Blk 5B Prototype Hardware 2QFY05												
(U) Start Prototype Blk 5B Installation 2QFY06												
(U) Complete Prototype Blk 5B Install 2QFY07												
(U) Purchase GATM Phase III Prototype Hardware 2QFY05												
(U) Start GATM Phase III Prototype Installation 2QFY06												
(U) IOC GATM Phase III 2QFY07												
(U) IOC Blk 5B 2QFY07												
(U) SLCS Antenna Study								X			X	
Project 4777												

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)											DATE February 2002					
BUDGET ACTIVITY					PE NUMBER AND TITLE						PROJECT					
07 - Operational System Development					0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER						4777					
(U) F. Schedule Profile Continued																
					<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) Start SLCS System Engineering										X						
(U) Purchase SLCS Prototype Hardware													X			
(U) Complete SLCS Systems Engineering															X	
(U) Start SLCS Prototype Install															X	
(U) Complete SLCS Prototype Install/IOC 3QFY04																
Note: * Denotes Completed Event. X Denotes Planned Event																
Project 4777					Page 5 of 7 Pages					Exhibit R-2 (PE 0302015F)						

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development					0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER			4777		
(U) A. Project Cost Breakdown (\$ in Thousands)										
					<u>FY 2001</u>		<u>FY 2002</u>			<u>FY 2003</u>
(U)	System Engineering				26,016		17,964			22,586
(U)	Purchase GATM II Prototype Kit						3,862			
(U)	GATM II Prototype Install									5,781
(U)	SLCS System Engineering, Prototype and Install									18,000
(U)	Contractor System Engineering/ Program Management Support				1,259		1,300			1,500
(U)	Total				27,275		23,126			47,867
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government Performing Activity</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
Boeing	CPAF/T&M	Feb 97	TBD	TBD		26,016	21,704	46,450	Continuing	TBD
<u>Support and Management Organizations</u>										
TRW	T & M	Oct 98	N/A	N/A	0	1,009	1,000	1,000	Continuing	TBD
DISA	MIPR	Various	TBD	TBD	0	250	250	250	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
605 FT	Project Order	N/A	TBD	TBD	0	0	172	167	Continuing	TBD
(U) Government Furnished Property:										
<u>Item Description</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Delivery Date</u>		<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
Project 4777										

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	DATE February 2002
---	------------------------------

BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER
	PROJECT 4777

(U) Government Furnished Property Continued:

<u>Item</u> Description	<u>Contract</u> <u>Method/Type</u> <u>or Funding</u> Vehicle	<u>Award or</u> <u>Obligation</u> Date	<u>Delivery</u> Date	<u>Total Prior</u> to FY 2001	<u>Budget</u> FY 2001	<u>Budget</u> FY 2002	<u>Budget</u> FY 2003	<u>Budget to</u> Complete	<u>Total</u> Program
<u>Product Development Property</u>									
None									
<u>Support and Management Property</u>									
None									
<u>Test and Evaluation Property</u>									
None									
<u>Subtotals</u>				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
				to FY 2001	FY 2001	FY 2002	FY 2003	Complete	Program
Subtotal Product Development					26,016	21,704	46,450	TBD	TBD
Subtotal Support and Management				0	1,259	1,250	1,250	TBD	TBD
Subtotal Test and Evaluation				0	0	172	167	TBD	TBD
Total Project				0	27,275	23,126	47,867	TBD	TBD