

## UNCLASSIFIED

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

DATE

June 2001

BUDGET ACTIVITY

07 - Operational System Development

PE NUMBER AND TITLE

0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER PROJECT 4777

COST (\$ in Thousands)	FY 2000 Actual	FY 2001 Estimate	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	10,780	34,094	23,359	9,078	29,577	21,893	0	0	0	128,781
Quantity of RDT&E Articles	0	1	1	0	2	0	0	0	0	0

Quantity of RDT&E Articles includes prototype procurements of both 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 items.

FY03-FY07 budget numbers do not reflect the DoD strategic results.

(U) **A. Mission Description**

This program encompasses modernization of National Airborne Operational Center (NAOC) essential infrastructure, mission equipment, and interior, as well as mandated Global Access, Navigation, and Safety/Global Air Traffic Management (GANS/GATM) modifications to the E-4B aircraft. 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 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.

(U) **FY 2000 (\$ in Thousands)**

(U) \$9,540 Development of E-4B Modernization & GATM Modifications  
 (U) \$0 Software Development; GCCS Integration  
 (U) \$1,240 System Engineering and Program Management Support  
 (U) \$10,780 Total

Project 4777

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(U) **A. Mission Description Continued**(U) **FY 2001 (\$ in Thousands)**

(U)	\$16,004	E-4B Modernization and GATM Development
(U)	\$14,569	Purchase Engineering Prototype (Blk 5A)
(U)	\$0	Install Prototype on A/C #1
(U)	\$2,262	System Integration and Documentation (Blk 5A)
(U)	\$1,259	System Engineering and Program Management Support
(U)	\$34,094	Total

Note: The following transactions are not reflected in the FY01 program total: BTR = -\$4.5M; ATR= 0; SBIR = - \$1.054M. These transactions are not reflected in other sections of the R-docs where an FY01 total is shown.

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

(U)	\$4,095	Purchase GATM 2 Prototype Kit
(U)	\$2,264	System Integration, Testing, and Documentation (Blk 5A/GATM)
(U)	\$15,500	System Engineering (Block 5A/GATM 2)
(U)	\$50	Engineering and cost studies of high bandwidth data streaming capability
(U)	\$1,450	Contractor System Engineering and Program Management Support
(U)	\$23,359	Total

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

This program is in budget activity 7 - Operational System Development, Research Category 6.6 because the program is developing modifications for current operations systems.

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

	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Total Cost</u>
(U) Previous President's Budget (FY 2001 PBR)	12,666	34,410	32,314	128,781
(U) Appropriated Value	12,666	34,410		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions				
b. Small Business Innovative Research	-380			

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PROJECT

4777

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

	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Total Cost</u>
c. Omnibus or Other Above Threshold Reprogram				
d. Below Threshold Reprogram	-326			
e. Rescissions	-50	-316		
(U) Adjustments to Budget Years Since FY 2001 PBR	-1,130		-8,955	
(U) Current Budget Submit/FY 2002 PBR	10,780	34,094	23,359	128,781

(U) Significant Program Changes:

FY02: RDT&E and Procurement funding associated with modernization of E-4B and GATM implementation have been re-phased to accommodate the user's requirement to minimize the number of E-4B aircraft in depot status at any time. Both efforts have been split into two phases. Delays associated with the development of the modernization program(now known as E-4B Block 5 Update Program) have necessitated splitting the prototype installations of Block 5 Update and GATM between two different aircraft in different years.

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

	<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>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>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E										
(U) Other APPN										
(U) Aircraft Procurement AF, Budget Activity 5, Weapon System Code E00400, PE 0302015F; Mod #MN-4381 (Blk 5) plus Mod #MN-9709 (GATM)	0	0	0	28,262	20,139	31,883	7,306	17,292	0	104,882

(U) E. Acquisition Strategy

The E-4B NAOC Block 5 Update (formerly E-4B Modernization Program) and the GATM Modifications will be developed and have the prototype and kit-proof installed under the Engineering Services Contract as a Cost Plus Award Fee (CPAF) effort. Procurement and installation of the production kits will be performed under the E-4B Contractor Logistics Support contract as a Firm Fixed Price (FFP) effort.

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(U) **F. Schedule Profile**

	<u>FY 2000</u>				<u>FY 2001</u>				<u>FY 2002</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Complete Engineering Trade Studies (Blk 5)	*											
(U) Study and Preliminary Design (GATM)					X				X			
(U) Start Systems Engineering (Blk 5A)		*										
(U) Start Systems Engineering (GATM Phase II)									X			
(U) Complete System Engineering (GATM Phase II) 1QFY04												
(U) Complete Systems Engineering (Blk 5A) 4QFY04												
(U) Purchase Prototype Hardware (GATM)												X
(U) Purchase Prototype Hardware (Blk 5A)										X		
(U) Start Prototype Install (GATM Phase II) 1QFY03												
(U) Complete Prototype Install (GATM Phase II) 4QFY03												
(U) Start Prototype Install (Blk 5A) 4QFY03												
(U) Complete Prototype Install (Blk 5A) 2QFY04												
(U) IOC (GATM Phase II) 4QFY03												
(U) IOC (Blk 5A) 3QFY04												
(U) Purchase Blk 5B Prototype Hardware 1QFY05												
(U) Start Prototype Blk 5B Installation 2QFY06												
(U) Purchase GATM Phase III Prototype Hardware 1QFY05												
(U) Start GATM Phase III Prototype Installation 4QFY05												
(U) IOC GATM Phase III 3QFY06												
(U) IOC Blk 5B 2QFY07												

Note: \* Denotes Completed Event. X Denotes Planned Event

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE June 2001																																																																																																																																																					
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(U) Government Furnished Property Continued:Support and Management Property

None

Test and Evaluation Property

None

Subtotals

<u>Total Prior</u> <u>to FY 2000</u>	<u>Budget</u> <u>FY 2000</u>	<u>Budget</u> <u>FY 2001</u>	<u>Budget</u> <u>FY 2002</u>	<u>Budget to</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
0	10,398	32,744	21,959	56,848	121,949
0	382	1,310	1,350	3,650	6,692
0		40	50	50	140
0	10,780	34,094	23,359	60,548	128,781

Subtotal Product Development

Subtotal Support and Management

Subtotal Test and Evaluation

Total Project