

<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)</b>	DATE <b>February 1999</b>
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<b>BUDGET ACTIVITY</b> <b>7 - Operational System Development</b>	<b>PE NUMBER AND TITLE</b> <b>0303601F MILSATCOM Terminals</b>	<b>PROJECT</b> <b>2487</b>
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COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
2487 MILSTAR (AF Terminals)	15,320	2,159	7,026	14,955	14,121	34,638	80,137	91,563	157,154	2,291,019
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

**(U) A. Mission Description**

Military Satellite Communications (MILSATCOM) provides world-wide communications to strategic and tactical warfighters. The MILSATCOM Terminals Program contains efforts to develop equipment for Air Force users to communicate over military satellites, including Milstar, Ultra High Frequency (UHF) satellites, and Defense Satellite Communication System (DSCS). Global Broadcast Service (GBS) is a joint program to implement a world-wide, high-capacity satellite broadcast information system that will provide a continuous, high speed, one-way flow of high volume classified and unclassified data, imagery and other information to forces in garrison, deployed, or on the move. Milstar ground and airborne Command Post Terminals (CPT) enhancements are continuing in addition to system-level testing in support of Milstar IOCH. Also included are the development of Air Force Terminals ROADMAP to support the DoD Architecture Working Group, efforts to prototype an EHF/GBS receive antenna for airborne platforms, and the design of a reprogrammable terminal architecture for wideband SATCOM. New Airborne EHF and CPT replacement will begin in 03. The Air Force's Milstar tactical terminals, the Single Channel Anti-Jam Manportable (SCAMP) and the Secure, Mobile, Anti-Jam, Reliable, Tactical Terminal (SMART-T), are funded by the Air Force and procured by the Army. Increasing requirements for UHF satellite capacity, coupled with limited channel capacity, led the Joint Staff to mandate new standards for UHF users that are designed to improve satellite access and efficiency by utilizing Demand Assigned Multiple Access (DAMA) techniques. Development efforts in the UHF SATCOM program are primarily focused on the Network Control System (NCS) and ground and airborne DAMA terminals design and implementation. These efforts will be complete in FY99. DSCS terminal procurement efforts sustain and modernize the Ground Mobile Forces terminal and the Jam-Resistant Secure Communications (JRSC) subnet of DSCS.

**(U) FY 1998 (\$ in Thousands):**

- (U) \$ 3,529 Continued basic activities to support MILSATCOM terminals
- (U) \$ 6,378 Continued CPT upgrades and processor modifications
- (U) \$ 900 Continued Milstar Wright Lab testing activities
- (U) \$ 600 Upgraded Network Control System
- (U) \$ 3,913 Concept/Prototype Demonstrations/MILSATCOM Terminals roadmap
- (U) \$ 15,320 Total

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BUDGET ACTIVITY  
**7 - Operational System Development**

PE NUMBER AND TITLE  
**0303601F MILSATCOM Terminals**

(U) FY 1999 (\$ in Thousands):

- (U) \$ 1,032 Continue MILSATCOM terminals support activities
- (U) \$ 1,065 Continue CPT upgrades/begin contractor test and operations support
- (U) \$ 62 Identified as a source for SBIR
- (U) \$ 2,159 Total

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

- (U) \$ 1,260 Continue MILSATCOM terminals support activities
- (U) \$ 4,766 Continue contractor test and operations support
- (U) \$ 1,000 Continue Milstar Wright Lab testing activity
- (U) \$ 7,026 Total

(U) FY 2001 (\$ in Thousands):

- (U) \$ 1,792 Continue MILSATCOM terminals support activities
- (U) \$ 6,563 Continue contractor test and operations support
- (U) \$ 1,000 Continue Milstar Wright Lab testing activity
- (U) \$ 5,600 Begin Advanced Wideband Architecture and Roadmap development
- (U) \$ 14,955 Total

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

This effort is funded in Budget Activity 7 Operational System Development because the program has completed a Milestone III review and is in production.

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 <b>(U) C. <u>Program Change Summary (\$ in Thousands)</u></b>										
	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost</u>					
(U) Previous President's Budget (FY1999 PB)	11,450	2,352	15,736	30,140	1,937,934					
(U) Appropriated Value	12,871	2,352	15,736	30,140						
(U) Adjustments to Appropriated Value										
a. Congressional General Reductions	-1,421	-193								
b. SBIR										
c. Omnibus and Other Above Threshold Reprogram	-76									
d. Below Threshold Reprogramming (BTR)	3,946									
(U) Adjustments to Budget Years Since FY1999 PB			-8,710	-15,185						
(U) Current Budget Submit/FY2000 PB	15,320	2,159	7,026	14,955	2,291,019					
 (U) Significant Program Changes: FY98 BTR funded Air Force MILSATCOM Terminals roadmap. FY00 and FY01 adjustments removed funding for Ultra High Frequency Demand Assigned Multiple Access radio integration on the B2. This integration is funded by a FY98 Congressional add under the B2 program element. FY99: \$62K identified as a source for SBIR										
 <b>(U) D. <u>Other Program Funding Summary (\$ in Thousands)</u></b>										
	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY2004</u>	<u>FY2005</u>	<u>To</u>	<u>Total</u>
(U) Appn 10, BPAC 119992, Aircraft Procurement	15,462	10,172	19,454	19,554	49,801	44,962	42,961	67,350	Cont	Cont
(U) Appn 16, BPAC 836780, MILSATCOM Space	17,819	27,383	46,257	36,148	38,172	43,731	60,741	48,578	Cont	Cont
 <b>Related RDT&amp;E:</b> PE 64479F Milstar LDR/MDR Satellite Communications PE 33110F Defense Satellite Communications System (DSCS) PE 63854F Global Broadcast Service PE 63432F Polar EHF PE 63430F Advanced EHF										
Project 2487			Page 3 of 6 Pages			Exhibit R-2 (PE 0303601F)				

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**(U) E. Acquisition Strategy:**

All eighty-one Milstar Command Post terminals have been procured with investment funds. Software enhancements, testing, EDM repair, program, and technical support are continuing. These efforts will be modifications to existing contracts.

**(U) F. Schedule Profile**

	<u>FY 1998</u>				<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(U) CPT Upgrades Delivery and Production					*	x	x	x	x	x	x	x	x	x	x	x
(U) CPT IOT&E Phase II										x						
(U) Milstar SYS IOC II															x	
(U) SCAMP Deliveries Begin								x								
(U) SMART-T Low-Rate Initial Production						x										
(U) Airborne DAMA Terminal Upgrade																
(U) Contract Award/Option		*				x										
(U) Deliveries			*	*	*	x	x	x	x	x	x	x	x	x	x	x
(U) Ground DAMA Terminal Deliveries	*	*	*	*	*	x	x	x	x	x	x	x	x	x	x	x

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE February 1999	
BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0303601F MILSATCOM Terminals					PROJECT 2487	
<b>(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u></b>											
					<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>			
(U) CPT Upgrades					6,378	1,065	4,766	6,563			
(U) Testing Support/Studies					900	0	1,000	1,000			
(U) SPO Ops (PSA, TDY, Trng, Sup/Equip, Ktr Spt/Conv)					3,529	1,032	1,260	1,792			
(U) Network Control System World Wide system test					600	0	0	0			
(U) Concept/Prototype Demonstrations/MILSATCOM Terminals Roadmap					3,913	0	0	0			
(U) Advanced Wideband					0	0	0	5,600			
(U) Identified as a source for SBIR						62					
(U) Total					15,320	2,159	7,026	14,955			
<b>(U) B. <u>Budget Acquisition History and Planning Information (\$ in Thousands)</u></b>											
<b>Performing Organizations:</b>											
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1998	Budget FY 1998	Budget FY 1999	FY 2000	FY 2001	Budget to Complete	Total Program
<u>Product Development Organizations</u>											
Raytheon Corp	FPIF/FFP	Jun 85	903,255	903,255	879,801	3,769	500	4,766	6,303	7,075	902,214
Rockwell	CPIF	Aug 93	43,068	43,068	43,068	0	0	0	0	0	43,068
Miscellaneous	Various	Various	0	0	651,359	221	0	0	5,600	335,567	992,747
ViaSat	C/FFP	Oct 95	3,041	3,041	2,541	535	0	0	0	0	3,076
Source for SBIR							62				62
<u>Support and Management Organizations</u>											
MITRE	CPAF	Various	N/A	N/A	96,360	5,818	1,185	500	732	14,250	118,845
SPT Contractors	Various	Various	N/A	N/A	154,361	2,260	156	272	526	7,185	164,760
Tecolote	Various	Various	N/A	N/A	1,380	468	0	0	0	0	1,848
Project 2487					Page 5 of 6 Pages				Exhibit R-3 (PE 0303601F)		

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BUDGET ACTIVITY <b>7 - Operational System Development</b>					PE NUMBER AND TITLE <b>0303601F MILSATCOM Terminals</b>					PROJECT <b>2487</b>	
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1998	Budget FY 1998	Budget FY 1999	FY 2000	FY 2001	Budget to Complete	Total Program
Miscellaneous	Various	Various	N/A	N/A	18,997	718	156	488	794	13,536	34,689
<u>Test and Evaluation Organizations</u>											
Wright-Labs	AF-616*	N/A	N/A	N/A	20,638	1,465	100	1,000	1,000	0	24,203
Miscellaneous	Various	Various	N/A	N/A	5,441	66	0	0	0	0	5,507
<u>Government Furnished Property:</u> N/A											
<u>Product Development Property:</u> N/A											
<u>Support and Management Property:</u> N/A											
<u>Test and Evaluation Property:</u> N/A											
Identified as a source for SBIR							62				62
Subtotal Product Development					1,576,769	4,525	500	4,766	11,903	342,642	1,941,105
Subtotal Support and Management					271,098	9,264	1,497	1,260	2,052	34,971	320,142
Subtotal Test and Evaluation					26,079	1,531	100	1,000	1,000	0	29,710
Total Project					1,873,946	15,320	2,159	7,026	14,955	377,613	2,291,019
* An AF-616 is an internal transfer of funds between AF organizations.											