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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)							DATE February 2000			
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604770A Joint Surveillance/Target Attack Radar System				PROJECT D202		
COST (In Thousands)	FY1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost	
D202 Army Joint STARS (TIARA)	5316	25676	17898	17713	12833	14372	11527	Continuing	Continuing	
<p>A. Mission Description and Justification: The Joint Army/Air Force program objective is to develop a radar, datalink, ground station, and airframe that will provide the capability to locate, track and classify tracked and wheeled vehicles beyond ground line-of-sight during the day, night and under most weather conditions. Radar data from the E-8 Joint STARS aircraft is broadcast to multiple Common Ground Stations (CGS) via a secure surveillance and control data link (SCDL). The rapidly deployable CGS is housed in a Standard Integrated Command Post Shelter (SICPS) and mounted on a High Mobility Multi-Purpose Wheeled Vehicle (HMMWV). The CGS acquisition approach is predicated on an aggressive spiral development approach. This spiral development has and will expand the number and quality of sensor inputs to the CGS and also will expand the CGS' ability to disseminate information to tactical intel and fire support nodes. In addition to receiving Joint STARS Moving Target Indicator (MTI) & Synthetic Aperture Radar (SAR) radar data, the baseline CGS receives Hunter Unmanned Aerial Vehicle (UAV) video, intel broadcasts and National Imagery and disseminates message based information to Army intel and fire support nodes. Block 10 CGS will additionally provide UHF SATCOM connectivity to the E-8 Joint STARS aircraft, receipt of Predator UAV video, direct links for receipt of Airborne Reconnaissance Low (ARL) and U2 MTI radar data and DII COE level 6 compliance. Block 20 CGS will additionally provide accreditation to System High mode to address growing security and information assurance (IA) concerns, integration of the CGS with the ABCS TOC LAN to improve and expand dissemination of CGS products and replacement of the legacy CTT with the objective Joint Tactical Terminal (JTT) to assure continued and improved receipt of intel broadcast data. Beyond Block 20, the CGS spiral development will include direct links (TCDL) with the Predator UAV and Tactical UAV to reduce reliance on UAV ground stations and to reduce the overall TOC footprint IAW CSA medium force initiatives. TCDL will also provide more timely receipt of MTI and SAR radar data from ARL and the follow on Aerial Common Sensor (ACS). Longer term, the CGS will include improved data links and processing to exploit the sensor improvements associated with the Joint STARS Radar Technology Improvement Program (RTIP). The net result of the CGS spiral development will be to integrate signal, imagery, and other intelligence processing into a single ground station, resulting in enhanced battle management as well as significant cost savings. The CGS spiral development will require upgrade of existing data links and addition of data links to improve and expand CGS sensor connectivity and will also require improvements to the CGS software and ADP suite to process the increased intelligence data generated by the JSTARS aircraft and other sensors. The Joint Service Work Station (JSWS) is a variant of the CGS and will use the hardware and software design, analyses and logistics data from the CGS as the basis for its configuration. The CGS supports Land Forces in Joint, Combined and Multinational Formations for a variety of missions. It is deployable, agile, versatile, lethal, survivable, sustainable, affordable and capable of resolving conflicts decisively. The actual radar enhancements and all associated modifications to the Joint Stars air platform are fully funded within the USAF RDT&E PE 060440F.</p> <p>FY 1999 Accomplishments:</p> <ul style="list-style-type: none"> • 2802 Conducted Operational Reliability Demonstration Test (ORDT). • 597 Prepared Information Security (INFOSEC) evaluation report. • 600 Integrated Ground Data Terminal (GDT) Built in Test (BIT) into CGS. • 1317 Developed CGS Army Battle Command System (ABCS) data interchange prototype. 										
Project D202		Page 1 of 5 Pages				Exhibit R-2 (PE 0604770A)				

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<p>Total 5316</p> <p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 3100 Initiate Integration of the Tactical Control Data Link (TCDL) to interface with ARL. • 1600 Joint Services Wide Band Data Link Risk Reduction Effort • 10300 Surveillance Control Data Link (SCDL), the principal data link to the Air Force E8 Aircraft, System Improvement Program (SIP 3). • 8569 Block 20 Preplanned Product Improvement (P3I) Development (System High Accreditation, Joint Common Database (JCDB), MTI/Track Overlay, And VSTARS Capabilities) • 1435 Common Tactical Ground Station (CTGS) Systems Engineering/Software Tools Prototype • 672 Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) Programs <p>Total 25676</p> <p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • 5471 Initiate CGS mods for integration of Data Link Enhancement. • 5935 Continue Integration and Testing of TCDL. • 830 Integrate Modeling and Simulation of the Enhanced Radar Modes for Ongoing Operator Training. • 1205 Continue SCDL Improvement Program • 1557 Joint Service Work Station (JSWS) Battle Lab Support • 2900 Conduct Common Tactical Ground Station Software Prototype Demo <p>Total 17898</p>																																														
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Project D202	Page 2 of 5 Pages	Exhibit R-2 (PE 0604770A)																																												

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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604770A Joint Surveillance/Target Attack Radar System	PROJECT D202
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Change Summary Explanation: FY2000 – Congressional Increase of \$14.5M. \$10M for SCDL, \$3M for new requirements and \$1.5M for the Joint Service Wideband Datalink.
 FY2001 – Funds were realigned from RDTE to OPA to meet requirements in accordance with the Army Cost Position.

C. <u>Other Program Funding Summary</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To Compl	Total Cost
BA1080 Joint STARS (TIARA)	82326	94818	66415	20941	0	10779	6261	Continue	Continue
BS9724 Joint STARS Spares	5894	6131	6179	6864	4367	0	0	0	57721
1001018A NATO AGS C35	2784	0	0	0	0	0	0	0	10038

The Joint STARS Program is also related to Air Force PE 060477

D. Acquisition Strategy: In December 1995, the JSTARS Ground Station Program awarded an eight year [basic plus seven one year options] production contract to acquire the balance of ground stations required to meet Army needs. Initial production quantities are designated Low Rate Initial Production (LRIP), and provide a basic capability. This baseline CGS is enhanced via a spiral development approach that adds additional sensor interface, exploitation tools and operator aids. The CGS contract also includes provisions for the design, development and test of various P3I block improvements. Following P3I prove out, the modifications will be folded into the production contract via fixed price contract revisions. All P3Is will be developed and implemented in accordance with the CGS System Improvement Plan (SIP).

E. <u>Schedule Profile</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
Conduct ORDT	2Q						
Initiate TCDL Integration		2Q					
Initiate SCDL SIP 3 Program		3Q					
Initiate Block 20 P3I Program		1Q					
Milestone III		3Q					
Block 10 Reliability Growth Test		3Q					
Initiate CGS Data Link Enhancement Planning			1Q				
Continue TCDL Integration			1Q				
Continue SCDL Improvement Program			1Q				
Modeling and Simulation			2Q				
Conduct CGS TCDL Testing			3Q				
TCDL Retrofit				2Q			
CTGS Retrofit					1Q		
FOT&E						2Q	

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ARMY RDT&E COST ANALYSIS (R-3)

DATE **February 2000**

BUDGET ACTIVITY
5 - Engineering and Manufacturing Development

PE NUMBER AND TITLE
0604770A Joint Surveillance/Target Attack Radar System

PROJECT
D202

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. TCDL	CPFF	TBD				2800	2Q	4785	1Q	Continue	7585	
b. CGS Data Link Enhance	CPFF	TBD						5021	1Q	Continue	5021	
c. JSWB DL						1500	1Q			Continue	1500	
d. SCDL SIP 3 Development	C/FP	San Diego, CA		600	4Q	10000	3Q	1052	1Q	Continue	11652	
e. P3I Development	C/FP	Motorola, Scottsdale,AZ		597	3Q	8028	1 - 2Q			Continue	8625	
g. Modeling & Simulation	C/FP	Motorola, Scottsdale,AZ						830	2Q	Continue	830	
h. JSWS Battle Lab Spt for M&S	MIPR	TBD						1350	1Q	Continue	1350	
i. CTGS Prototype and Demo	C/FP	TBD				1400	2Q	2700	2Q	Continue	4100	
j. SBIR/STTR						672	2Q				672	
k. Field Support			3826	1017	1Q						4843	
Subtotal Product Development:			3826	2214		24400		15738			46178	

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Matrix Support	MIPR	CECOM	85	187	1Q	655	1Q	675	1Q	Continue	1602	
b. Joint Test Force Support	MIPR	Various	163	30	1Q	35	1Q	200	1Q	Continue	428	
Subtotal Support Costs:			248	217		690		875			2030	

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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. ORDT	MIPR	TEXCOM/OEC	6147	623	2Q						6770	
b. ORDT	C/T&M	Motorola	3425	1962	2Q						5387	
c. TCDL	MIPR	TBD						700	1Q	Continue	700	
Subtotal Test and Evaluation:			9572	2585				700			12857	
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Project Management		PM, JointStars	1024	300	1Q	586	1Q	585	1Q	Continue	2495	
b.												
Subtotal Management Services:			1024	300		586		585			2495	
Project Total			14670	5316		25676		17898			63560	