RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE FEBRUARY 2006
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 2	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160402BB Special Operations (SO) Advanced Technology Development/S200

COST (Dollars in Millions)	FY05	FY06	FY07	FY08	FY09	FY10	FY11		Cost to Complete	Total Cost
PE1160402BB	110.060	143.111	80.402	19.735	16.251	11.412	11.662		Cont.	Cont.
S200, SO SPECIAL TECHNOLOGY	110.060	143.111	80.402	19.735	16.251	11.412	11.662		Cont.	Cont.

A. Mission Description and Budget Item Justification:

This program element conducts rapid prototyping and Advanced Technology Demonstrations. It provides a means for demonstrating and evaluating emerging/advanced technologies in as realistic an operational environment as possible by Special Operations Forces (SOF) users. Evaluation results are included in a transition package, which assists in the initiation of or insertion into an acquisition program. The program element also addresses projects that are a result of unique joint special mission or area-specific needs for which a few-of-a-kind prototypes must be developed on a rapid response basis, or are of sufficient time sensitivity to accelerate the prototyping effort of a normal acquisition program in any phase.

B. Program Change Summary:

	FY05	FY06	FY07
Previous President's Budget	99.689	104.315	91.459
Current President's Budget	110.060	143.111	80.402
Total Adjustments	10.371	38.796	-11.057
Congressional Reductions		-21.574	
Congressional Increases	1.000	60.370	
Reprogrammings	9.371		0.032
SBIR Transfer			

Funding:

FY05 Net increase of $10.371M is a net result of $1.000M reprogrammed from U.S. Navy for the Tactical Radio Frequency Environmental Monitor (TREX) Congressional add; $0.959M reprogrammed from SOF Operational Enhancement for TREX; $9.200M reprogrammed from the MC-130H Combat Talon Program for the Special Operations Precision Guided Munitions (SOPGM) program; and a decrease of $0.788M that was reprogrammed to other command higher priority requirements.

FY06
Reflects $60.370 for Congressionally added programs as follows:

- Snapshot Synthetic Aperture Radar ($1.000M)
- Army Drama/Composer Integration and Development ($1.700M)
- Surveillance Augmentation Vehicle ($1.800M)
- Smart Site, Remote Video Weapon Site ($1.500M)
- Advanced Multi-Purpose Micro Display System ($5.100M)
- C-130 Advanced Tactical Airborne C4ISR System ($1.250M)
- Airborne Threat Detection Capability Expansion ($1.000M)
- Long Range Biometric Target ID System ($1.500M)
- Autonomous Navigation Sensor Suite ($2.380M)
- Satellite Synthetic Aperture Radar ($2.550M)
- Counter Sniper & Surveilance Detection System ($2.125M)
- MK V Patrol Replacement Craft ($1.500M)
- Digital Camera Rifle Scope ($0.500M)
- Field Experimentation Program for SOF ($1.000M)
- Foxhound Arabic Software Testing and Evaluation($1.350M)
- High Altitude Long Endurance Airships ($1.050M)

- Integrated Cyber Command and Control ($1.000M)
- Improved Special Operations Information Transfer ($3.400M)
- Improved Materials for Fireproof Protective Clothing ($1.275M)
- Improved Special Operations Fast Rope Kit ($1.700M)
- Improved Special Operations Reconnaissance Kits ($2.250M)
- Mobile Electrical Power Utilizing Energy Harvesting ($1.300M)
- Magnum Universal Night Sight ($1.000M)
- SF Personnel and Equipment Survivability Activity ($1.260M)
- SO Airborne Intelligence and Reconnaissance Program ($1.700M)
- SOCOM Tactical Systems Development ($1.700M)
- SOF Portable Power Source ($3.500M)
- SOF Unmanned Vehicle Targeting ($1.700M)
- Three Dimensional Imaging Technology Development ($3.230M)
- UAV Certification and Support ($1.700M)
- UAV Synthetic Aperture Radar ($2.550M)
- Urban Tactical Warfare Planning Tool ($1.000M)
- Voice Activated Handheld Translator ($1.100M)
- Waterway Threat Detection Sensor System($1.700M)

Congressional reductions include (-$1.446M) for global 1% reduction, (-$0.628M) for Section 8125 reduction, Advanced Tactical Laser ($12.000M), and SOST Program Growth ($7.500M).

FY07 Net decrease (-$11.057M) resulted in increased funds (+$1.126M) for inflation rate changes and decrease of (-$12.183M) reprogrammed to support higher command priorities.

Schedule: None.
Technical: None.

Exhibit R-2a, RDT&E Project Justification	Date: February 2006
Appropriation/Budget Activity RDT&E BA # 3	Special Operations Special Technology Project S200

Cost ($ in millions)	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Special Operations Special Technology	110.060	143.111	80.402	19.735	16.251	11.412	11.662
RDT&E Articles Quantity							

A. Mission Description and Budget Item Justification: This project conducts rapid prototyping, Advanced Technology Demonstrations (ATDs), and Advanced Concept Technology Demonstrations (ACTDs). It provides a means for demonstrating and evaluating the utility of emerging/advanced technologies in as realistic an operational environment as possible by SOF (SOF) users. This project integrates efforts with each other and conducts technology demonstrations in conjunction with joint experiments and other assessment events. Evaluation results are included in a transition package, which assists in the initiation of or insertion into an acquisition program. The project also addresses unique, joint special mission or area-specific needs for which a few-of-a-kind prototypes must be developed on a rapid response basis, or are of sufficient time sensitivity to accelerate the prototyping effort of a normal acquisition program in any phase. Efforts include:

- SOF Command, Control, Communications, Computers, and Intelligence (C4I) ATDs. Exploit emerging technologies to conduct ATDs that provide SOF with a robust C4I capability to ensure uninterrupted information exchange, influence situations to support mission accomplishment, and reduce an adversary's ability to use information. Exploit emerging technologies to conduct ATDs that provide SOF with increased sensory performance. Exploit emerging technologies to locate and track targets or items of interest. Exploit emerging technologies to produce new and improved capabilities in information operations and psychological operations.

- SOF Mobility ATDs. Exploit emerging technologies to conduct ATDs that provide SOF with survivable mobility capabilities in high threat areas and with enhanced situational awareness. Exploit emerging technologies to conduct ATDs that provide SOF mobility assets with a reduction in logistic support requirements. Exploit emerging technologies to rapidly deploy and extract SOF personnel and craft. Exploit technologies to allow reconnaissance and conduct direct action in high threat areas using unmanned systems. Exploit technologies to reduce cost or enhance the performance of existing SOF platforms.

- SOF Weapons ATDs. Exploit emerging technologies to conduct ATDs that provide SOF with multi-role/multi-purpose weapons and demolitions with a broader range of potential effects and increased accuracy. Demonstrate capabilities of smart munitions and fire-and-forget capability. Exploit technologies to increase standoff from threat weapons systems. Decrease cost and logistic support requirements for SOF weapons systems.

- SOF Sustainment/Warrior ATDs. Exploit emerging technologies to conduct ATDs that provide SOF with increased survivability and performance. Exploit emerging technologies to counter the threat of electro-optical devices and devices that detect human presence, and to enhance individual operator capabilities.

- Technology Exploitation Initiative. Exploit emerging technologies to meet critical SOF requirements and encourage industry and government lab participation in identifying enhancements to SOF in critical areas.

- Advanced Tactical Laser (ATL) ACTD. The ATL ACTD was started in FY 02 through funding provided by DUSD (AS&C) and the Joint Non-Lethal Weapons Directorate. The intent of the ATL ACTD is to evaluate the military utility of a tactical directed energy weapon on the battlefield to provide direct support to the warfighter. A directed energy weapon has an inherent performance capability (i.e., extremely precise covert strike, selectable effects and lethality, and multi-axis engagement) that has the potential to enhance the effectiveness of SOF operators. The ATL ACTD will develop and employ a modular, high-energy laser weapon system on a C-130 platform, capable of conducting ultra-precision strike engagements to enhance mission accomplishment of the warfighter and conduct a military utility assessment of this weapon system.

The steps toward assessing the military utility of a high-energy laser weapon are:

a. Demonstrate weaponization of the sealed-exhaust Chemical Oxygen Iodine Laser in a modular system, capable of employment on a C-130.
b. Demonstrate the ability to acquire and engage tactical targets in an air-to-ground system test.
c. Utilize joint/service exercises to the fullest extent possible, focusing on matching the objectives of the ACTD with those of the desired exercises and demonstrations.

At the completion of the ACTD, leave behind one fully-operational laser system consisting of the laser and beam director, surveillance and acquisition sensors to support employment of the laser system, software, an operator workstation, and portable ground support equipment. The system will include documentation required to operate and maintain the ATL system.

- Psychological Operations (PSYOP) “Global Reach” ACTD. Seeks technologies that will transform current PSYOP capabilities through two major objectives: 1) extension of PSYOP product dissemination to reach target audiences in denied areas at a range up to 800 Nautical Miles (NM), and 2) automation (software and hardware) of the PSYOP planning and analysis process.

- PSYOP Modernization. This initiative will explore emergent technologies available in the marketplace to modernize the PSYOP Broadcast System (POBS), the PSYOP Print System (POPS), and Next Generation Loudspeaker System [formerly Family of Loudspeakers (FOL)].

- Standoff Precision Guided Munition (SOPGM) ACTD. The objective of the SOPGM ACTD is to evaluate the military utility of adding a precision guided munitions capability to the AC-130 Gunship. The SOPGM is based on a modified Army Viper Strike munition. The assessment will be based on ground and flight demonstrations of a SOPGM weapon system employed from an AC-130 against representative gunship targets. The ACTD will be executed in two Phases. The first phase will provide an Initial Proof-of-Concept (IPOC) of the SOPGM weapon system and an interim Military Utility Assessment (MUA). During the second Phase, the SOPGM weapon system capability will be expanded to facilitate Tactical Proof-of-Concept (TPOC) demonstrations to support generation of a final MUA. Phase 2 will culminate with the assembly and delivery of 20 TPOC configured Viper Strike munitions, 2 TPOC capable battle management systems, residual aircraft integration components, and associated training and technical data to facilitate a potential extended user evaluation .

itionally, the project executes the following efforts ed by Congress:

- Land and Sea Special Operations (LASSO) Mobility System. Design, integrate, build and evaluate advanced soldier mobility and rural terrain vehicle prototypes.

- Remote Sensor Power Source. Battery-free system to provide long-term, reliable power for a variety of remote sensors and other remote operations that support command and control.

- Foreign Language Translator. Enhance voice command function, integrate versatile headset capability, and develop an operator level capability, to build mission specific translations.

- Snapshot Synthetic Aperture Radar. Demonstrate a radar array processor fabricated from COTS micro-processors.

- ANGELFIRE Active Protection. Investigate, develop and demonstrate prototype system for Full-Spectrum, Close-in Active Protection (FCLAS) that will protect SOF assets from Rocket Propelled Grenades (RPGs) using counter-munitions.

- Surveillance Augmentation Vehicle. Integrate ultra-wide band intrusion detection sensors that can be deployed to provide an ad-hoc network for image/data/voice communications and the ability to cordon an area to protect and monitor any intrusions or device tampering.

- Remote Video Weapon Site. A Phase III SBIR contract will be awarded for the continued development of a Remote Video Weapon Site.

- Advanced Multi-Purpose Micro-Display System. Integrate highly efficient display component technology into several SOF applications.

- SOF Experimental Technology Integration. Develop and demonstrate a prototype integrated system to support SOF unique missions in low to moderate threat environments.

- Mark V Patrol Boat Replacement Craft Prototype. Develop composite combatant craft design/fabrication techniques.

- Tactical Computer (TACTICOMP). Integrate laser range-finding and precision inertial navigation into commercial PDAs.

- Foliage Penetrating Solid State Synthetic Aperture Radar. Develop and demonstrate on an RC-12M aircraft a purpose-built radar to detect and identify buried objects.

- Maritime Tagging, Tracking & Locating. Demonstrate and evaluate available technologies to support and enable SOF maritime tagging, tracking and locating capabilities.

- Autonomous Navigation Sensor Suite. Sensor development program coupled with laboratory evaluation of unique sensor types for robotic vehicles.

- Compact Three-Dimensional Imaging. Provide robust target identification capability, and develop technology for individual user to interpret and take advantage of 3D imaging.

- SOF Teletraining System (SOFTS). SOFTS is a means of delivering training using personal computers and broadband internet connections.

- Rotary Wing Unmanned Aerial Vehicle (UAV). Enhance intelligence gathering and dissemination capabilities for urban and complex terrain environments.

- Affordable Access to Night Vision Equipment (NVE). Calibrate, standardize and characterize night vision capabilities for the SOF Community.

- Dual Band Universal Night Sight (DUNS). Demonstrate integrated image and long-wave infrared fused system within the same aperture.

- Light Reconnaissance Vehicle. Develop and validate system concept for a family of SOF reconnaissance vehicles, incorporating integrated local and global networks linked to other manned/unmanned platforms and C4I architectures.

- SOF Unmanned Vehicle Technology Integration. Support unmanned vehicle development and integration efforts at the Prototype Maintenance Facility supporting USSOCOM projects.

- Special All Terrain Vehicle. Obtain and modify commercial personal mobility vehicles that incorporate commercially available diesel engines.

- Advanced Target Identification. Explore electronic signature target analysis and passive acoustic reflective device technologies for AC-130U Gunship.

- Dominant Vision. Explore advanced situational awareness and fusion technologies to enhance of various platforms' ability to navigate and identify targets through adverse weather and obscured visual situations.

- Naval Special Warfare (NSW) Craft. Explore technologies to support future combatant craft development.

- Synthetic Aperture Radar Millimeter Forward Looking Infrared Radar (FLIR). Provide a ground map plan position indicator view that can be changed to a high resolution image using synthetic aperture radar techniques.

- SOCOM Multipurpose Antenna, X-Band (SMAX). Provide a low profile, hybrid steered antenna for easy mounting on a C-130 or CV-22.

- Long Range Biometric Target Identification System. Provide a deployable system to positively identify personnel, in all light conditions, at ranges beyond 500 meters.

- Tactical Radio Frequency Environmental Monitor (TREX). TREX was used in conjunction with Small UAV, test and evaluate network centric electronic warfare systems and their support for SOF applications.

- Army DRAMA/COMPOSER Integration & Development. Evaluate advanced protocols to make more efficient use of network bandwidth and prioritization schemes.

- Autonomous Navigation Sensor Suite. Significantly reduce the size, weight, power and cost of sensors associated with unmanned systems through novel materials and manufacturing techniques.

- C-130 Advanced Tactical Airborne C4ISR System (ATACS). Demonstrate the ability to rapidly equip any C-130 aircraft with sophisticated sensors, processing, communications and self-defense capabilities through standardized hardware, software, and resource interfaces.

- Airborne Threat Detection Capability Expansion. Provide for time-critical protection of platforms and crews using new sensors and communication packages.

- Counter-Sniper & Surveillance Detection System. Research and develop tactical, mobile, and unmanned sniper detection systems that utilize optical detection and location techniques.

- Digital Camera Rifle Scope. Enhance unmanned ground system sensor optics for improved situational awareness.

- Field Experimentation Program for SOF (FEPSO). Prototype and evaluate manned-unmanned platform and sensor networks to articulate new concepts of operation and employment for SOF.

- Foxhound Arabic Software Testing & Evaluation. Evaluate automated transliteration and link-analysis software for SOF communication and intelligence applications.

- High Altitude Long Endurance Airships. Develop a fully-automated synthesis device for producing electronically and optically active nanostructures for high altitude airship electronics and sensors.

- Integrated Cyber Command & Control. Develop network security for SOF tactical networks using modified Commercial Off-the-Shelf (COTS) products.

- Improved Information Transfer. Apply real-time knowledge management tools using information technologies and cognitive science to meet urgent Special Operations intelligence requirements.

- Improved Materials for Fireproof Clothing. Develop new and revolutionary flameproof textile materials for SOF applications.

- Improved SOF Fast Rope Kit. Improve the safety of CV-22 fast rope operations using high performance materials and structures.

- Improved Special Operations Reconnaissance Kits. Prototype and evaluate new software, hardware, and sensors that significantly enhance present capabilities.

- Mobile Electric Power Utilizing Energy Harvesting. Rapidly prototype and field small, lightweight generators and other power concepts to power multiple voltages required by Special Operations electronics with little logistical support.

- Magnum Universal Night Sight (MUNS). Enhance the MUNS performance by reducing weight and power requirements.

- SOF Personnel and Equipment Survivability Activity. Design and evaluate approaches to minimize the detectability and maximize survivability and recoverability of SOF personnel and materiel.

- Special Operations Airborne Intelligence and Reconnaissance Program. Develop roll-on/off and plug-and-play system for C-130's that provide real-time command and control, micro-target detection, intelligence gathering and improvised explosive device detection.

- Special Operations Command Tactical Systems Development. Research and develop environmentally hardened tactical system components in support of SOF direct action and reconnaissance operations.

- Special Operations Portable Power Source. Research and develop Solid Oxide Fuel Cell (SOFC) technology for SOF power needs.

- Satellite Synthetic Aperture Radar. Design, develop, assemble, and test components for a synthetic aperture radar satellite in space

applications for SOF.

- Remote Video Weapon Smart Sight. Continue development of a Remote Video Weapon Smart Sight.

- SOF Unmanned Vehicle Targeting. Develop concepts and architectures for rapid unmanned vehicle SOF targeting.

- Three Dimensional Imaging Technology Development. Provides significantly enhanced level of detail to determine specific target discrimination data via 3-D imaging.

- UAV Certification and Support. Characterize the capability and develop operational employment concepts for a rotary-wing UAV.

- UAV Synthetic Aperture Radar. Develop on board processing so that only a low data rate bit map is transmitted via either low data rate satellite link or UHF digital radio to the dismounted war fighter.

- Urban Tactical Warfare Planning Tool. Design and develop a simulator tool that aids in the development of urban warfare training, tactics, and doctrine, and is compatible with the SOF Special Reconnaissance Simulator.

- Voice Activated Handheld Translator. Prototype a one-way language translation device, and research possibilities of achieving true two-field, expedient two-way real-time translation capability for SOF applications.

- Waterway Threat Detection Sensor System. Research and develop a lightweight sonar system for the detection of swimmers, unmanned underwater vehicles, mines and ships.

B. Accomplishments/Planned Program

	FY05	FY06	FY07	
SOF C4I ATDs	1.224	2.683	2.763	
RDT&E Article Quantity				

FY05 Continued development and evaluation of FY04 efforts. Completed Enhanced Tactical Antenna Suite prototype and Conformal Load Bearing Antenna structures prototypes and evaluation. Conducted Tactical Networking experiment. Initiated Sea Eagle ACTD. Initiated transition of Pathfinder ACTD.

FY06 Continue development and evaluation of FY05 efforts. Continue to exploit emerging technologies to conduct ATD that provide SOF with a robust C4I capability to ensure uninterrupted information exchange, influence situations to support mission accomplishment, and reduce an adversary's ability to use information. Continue to exploit emerging technologies to conduct ATDs that provide SOF with increased sensory performance. Continue to exploit emerging technologies to locate and track targets or items of interest. Initiate Digital Direct Action Unmanned System C4I, Modular Reconnaissance and Surveillance Equipment, and Radio Frequency Tools.
FY07 Continue development and evaluation of FY06 efforts. Continue to exploit emerging technologies to conduct ATD that provide SOF with a robust C4I capability to ensure uninterrupted information exchange, influence situations to support mission accomplishment, and reduce an adversary's ability to use information. Continue to exploit emerging technologies to conduct ATDs that provide SOF with increased sensory performance. Continue to exploit emerging technologies to locate and track targets or items of interest.

	FY05	FY06	FY07	
SOF Mobility ATDs	1.267	2.697	2.766	
RDT&E Article Quantity				

FY05 Continued development and evaluation of FY04 efforts. Completed prototype and evaluation of the surface planning wet submersible. Continued testing of advanced technology small combatant craft. Designed and prototyped night vision compatible heads up display system for riverine craft.
FY06 Continue development and evaluation of FY05 efforts. Exploit emerging technologies to conduct ATDs that provide SOF mobility assets with a reduction in logistic support requirements. Exploit emerging technologies to rapidly deploy and extract SOF personnel and craft. Exploit technologies to allow reconnaissance and conduct direct action in high threat areas using unmanned systems. Exploit technologies to reduce cost or enhance the performance of existing SOF platforms. Initiate Miniature Inertial Navigation Underwater, Virtual Display for Combatant Craft.
FY07 Continue development and evaluation of FY06 efforts. Exploit emerging technologies to conduct ATDs that provide SOF mobility assets with a reduction in logistic support requirements. Exploit emerging technologies to rapidly deploy and extract SOF personnel and craft. Exploit technologies to allow reconnaissance and conduct direct action in high threat areas using unmanned systems. Exploit technologies to reduce cost or enhance the performance of existing SOF platforms.

	FY05	FY06	FY07	
SOF Weapons ATDs	1.355	2.307	2.465	
RDT&E Article Quantity				

FY05 Continued development and evaluation of FY04 efforts. Initiated Enhanced Performance Long Range Ammunition Project. Completed

Enhanced Small Arms technology project to define future weapons requirements.
FY06 Continue development and evaluation of FY05 efforts. Continue to exploit emerging technologies to conduct ATDs that provide SOF with multi-role/multi-purpose weapons and demolitions with a broader range of potential effects and increased accuracy. Exploit technologies to increase standoff from threat weapons systems. Decrease cost and logistic support requirements for SOF weapons systems. Initiate SOF Combat Assault Rifle Technology.
FY07 Continue development and evaluation of FY06 efforts. Continue to exploit emerging technologies to conduct ATDs that provide SOF with multi-role/multi-purpose weapons and demolitions with a broader range of potential effects and increased accuracy.

	FY05	FY06	FY07	
SOF Sustainment/Warrior ATDs	1.200	1.946	2.193	
RDT&E Article Quantity				

FY05 Continued development and evaluation of FY04 efforts. Completed prototype freefall navigation system and evaluation.
FY06 Continue development and evaluation of FY05 efforts. Continue to exploit emerging technologies to conduct ATD's that provide SOF with increased survivability, performance and countermeasures technologies. Continue evaluation of alternative power sources. Initiate Night Vision Electro-Optics Enhancement Project and Wide Field of View Goggles. Rebaseline Underwater Adhesives Project, and conduct mark survey of available technology. Transition Battery Recharging initiatives. Transition SOF Warrior Technology, and Improved Cratering Device.
FY07 Continue development and evaluation of FY06 efforts. Continue to exploit emerging technologies to conduct ATD's that provide SOF with increased survivability, performance and countermeasures technologies. Continue evaluation of alternative power sources.

	FY05	FY06	FY07	
Technology Exploitation Initiative (TEI)	.692	.750	.800	
RDT&E Article Quantity				

FY05 Continued to exploit emerging technology to meet critical SOF requirements and encourage industry and government lab participation in identifying enhancements to SOF in critical areas. Initiated emerging technology project in the areas of tagging, tracking and locating of view goggles.
FY06 Continue to exploit emerging technology to meet critical SOF requirements and encourage industry and government lab participation in identifying enhancements to SOF in critical areas.
FY07 Continue to exploit emerging technology to meet critical SOF requirements and encourage industry and government lab participation in identifying enhancements to SOF in critical areas.

	FY05	FY06	FY07	
ATL/ACTD	23.639	49.114	45.000	
RDT&E Article Quantity				

FY05 Continue to procure hardware and complete initial software development. Begin testing the ATL ACTD subsystems and continue the Military Utility Assessment. Begin component integration (e.g., optics module and laser generation module), component testing, and subsystem integration and testing. Begin ATL ACTD test aircraft modification. Begin Integrated Battle Management and Optical Control Systems ground tests. Begin the high-power flight test laser module ground assembly, integration and test. Continue integration and test facilities modifications .

FY06 Continue the Military Utility Assessment. Complete the low-power flight test configuration build-up, integration and ground test and integrate the low-power system on the C-130 test aircraft. Conduct low-power flight tests. Continue high-power laser assembly, integration and subsystem tests. Demonstrate high-power laser "first light." Complete integration and test facilities modifications.

FY07 Complete high-power flight test laser module build-up, integration and ground test and integrate the entire ATL ACTD system on the C-130 host aircraft. Complete integrated ATL system ground verification tests. Conduct high-power flight tests and demonstrate system performance in the Design Reference Missions. Complete the Military Utility Assessment and deliver the system residuals required for operational forces to operate and maintain the ATL system in a potential extended user evaluation.

	FY05	FY06	FY07	
PSYOP "Global Reach" ACTD	2.878	5.896	5.981	
RDT&E Article Quantity				

FY05 Continue management of the spiral design, engineering, technical integration and demonstrations of multiple technologies for UAV payloads, scatterable media (to include hardened/air-droppable satellite radios, miniaturized AM/FM broadcast transmitters, miniaturized loudspeakers, talking leaflets, and media such as internet broadcast and cellular telephones), and PSYOP Planning and Analysis System.

FY06 Continue management of the spiral design, engineering and technical integration of multiple technologies culminating with military utility assessments for UAV payloads, scatterable media, and a PSYOP Planning and Analysis System.

FY07 Continue management of the spiral design, engineering and technical integration of multiple technologies as the variants become more robust, culminating with further military utility assessments for UAV payloads, scatterable media, and a PSYOP Planning and Analysis System.

	FY05	FY06	FY07	
PSYOP Modernization	4.129	9.812	5.981	
RDT&E Article Quantity				

FY05 Explore emergent technologies to modernize and to extend the reach of USSOCOM PSYOP products and their distribution channels. Such technologies may include Long Range Broadcast Systems, Scatterable Media, Telephone and Internet Broadcast Media, space-based dissemination systems, and other technologies that will modernize PSYOP capability and give USSOCOM a stand-off capability to deliver multi-media PSYOP products to target audiences in denied areas or over long range distances (over 850 miles) in near-real-time.
FY06 Continue exploration of emergent technologies to modernize and extend USSOCOM PSYOP product reach.
FY07 Continue exploration of emergent technologies to modernize and extend USSOCOM PSYOP product reach.

	FY05	FY06	FY07	
Classified	2.661	2.907	6.695	
RDT&E Article Quantity				

FY05 Details provided under separate cover.
FY06 Details provided under separate cover.
FY07 Details provided under separate cover.

	FY05	FY06	FY07	
SOPGM	9.200	5.486	5.758	
RDT&E Article Quantity				

Phase 1 of the ACTD:
FY05 Initiated SOPGM Initial Proof-of-Concept (IPOC) weapon system design and development. Developed a baseline concept to carry and launch the SOPGM from a pylon station of the AC-130U. Initiated safety and seek eagle assessments to determine modifications required to adapt the Viper Strike for carriage and release from manned aircraft. Drafted Integrated Assessment Plan to guide the SOPGM demonstrations and began development of concept-of-operations.
FY06 Complete SOPGM IPOC weapon system development and ground integration and test, including the Viper Strike munition, battle management system (BMS), and the physical, functional, and communication interfaces to integrate the munition and BMS on an AC-130 to safely and effectively employ the munition. Complete development of the Integrated Assessment Plan for the IPOC demonstrations and begin IPOC flight demonstrations.
FY07 Complete IPOC flight demonstrations and compile an Interim Military Utility Assessment (MUA). This will complete Phase 1 of the

ACTD.

	FY05	FY06	FY07	
Rotary Wing UAV	21.086			
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Procured 7 prototype rotary wing aircraft for extensive test, analysis, fix/tactics, techniques, and procedures as per Congressional direction. Supported the SOF Long Endurance ACTD, developed payloads and concepts of operation for the A-160. Continued to support platform development and maturation program through ground and flight evaluation.

	FY05	FY06	FY07	
Long Range Biometric Target Identification System	1.918	1.479		
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Continued to investigate and evaluate biometric feature measurement techniques. Developed a prototype system to remotely validate identities of specified persons. Supported ongoing biometric efforts within the Department of Defense for SOF applications.
FY06 This initiative is a Congressional add. Continue FY05 efforts.

	FY05	FY06	FY07	
Advanced Target ID for AC-130U Gunship	1.247			
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Continued to explore Vibro Electronic Signature Target Analysis (VESTA) and Passive Acoustic Reflective Device (PARD) technologies for enhancement of the AC-130U Gunship target acquisition capability and SOF enhanced beacon systems. Conducted an analysis of VESTA with a more advanced Solid State Synthetic Aperture Radar (SSSAR) for next generation Gunship applications.

	FY05	FY06	FY07	
SMAX	1.631			
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Activity took the brass-board technology demonstration item and fabricated a flight-worthy test article. The test article is integrated with the SSSAR that was developed as an FY02 Congressional add. The new system performance was measured on an RC-12M aircraft for targeting radar risk reduction and radar system procurement option.

	FY05	FY06	FY07	
Land and Sea Special Operations (LASSO) Mobility System	1.631			
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Designed, integrated, built and evaluated advanced soldier mobility and rural terrain vehicle prototypes.

	FY05	FY06	FY07	
Remote Sensor Power Source	1.437			
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Developed a battery-free, self-replenishing, energy management platform that will power remote sensors and other remote operations for over 20 years under severe environmental conditions, such as temperature and pressure extremes. This proposed battery-free system will provide long-term, reliable power for a variety of remote sensors and other remote operations that support command and control.

	FY05	FY06	FY07	
Foreign Language Translator	1.342			
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Conducted improvements based on FY04 military utility assessment and user evaluation of the Voice Response Translator. Effort included enhancing voice command function, integrating versatile headset capability and developing an operator level capability to build mission specific translations. Five initial prototypes underwent lab and field evaluation followed by fifty units in an extended user evaluation in multiple situations.

	FY05	FY06	FY07	
Snapshot Synthetic Apperture Radar	.959	.986		
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Demonstrated a radar array processor fabricated from COTS micro-processors. Micro-processors have evolved to the point that expensive, one of a kind, special purpose array processors can be replaced with much lower cost COTS arrays to perform “typical” radar signal processing.

FY06 This initiative is a Congressional add. Continue FY05 efforts.

	FY05	FY06	FY07	
ANGELFIRE Active Protection	6.709			
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Investigated, developed and demonstrated prototype system, in concert with the U.S. Army Science and Technology Objective for Full-Spectrum, Close-in Active Protection (FCLAS) that will protect SOF and SOF assets from Rocket Propelled Grenades (RPGs) using counter-munitions.

	FY05	FY06	FY07	
Surveillance Augmentation Vehicle	.959	1.774		
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Purchased and integrated real time, tiled mosaic displays that have 10 million mega pixels providing the soldier with the capability of facial and scripted recognition at very long distances. Integrated Ultra wide band intrusion detection sensors that can be deployed to provide an ad-hoc network for image/data/voice communications and the ability to cordon an area to protect and monitor any intrusions or device tampering. Integrated all these cutting edge technologies into a standard military vehicle therefore taking the SOF warrior off the ground of a hostile environment and placing him in a safer and more technologically advanced war fighting vehicle.
FY06 This initiative is a Congressional add. Continue FY05 efforts.

	FY05	FY06	FY07	
Remote Video Weapon Site	1.631	1.479		
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Developed by USSOCOM under a FY03 SBIR Phase II contract. Matured the design of a remote video weapon site to a Technology Readiness Level 7.
FY06 This initiative is a Congressional add. Continue FY05 efforts.

	FY05	FY06	FY07	
Advanced Multi-Purpose Micro-Display System	1.437	5.027		
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Integrated highly efficient display component technology into several SOF applications to reduce power consumption while improving readability.

FY06 This initiative is a Congressional add. Contine FY05 efforts.

	FY05	FY06	FY07	
SOF Experimental Technology Integration	1.918			
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Developed and demonstrated a prototype integrated system incorporating unmanned systems, command and control, tactical networks, reconnaissance equipment and user interfaces to support SOF unique missions in low to moderate threat environments.

	FY05	FY06	FY07	
Mark V Patrol Boat Replacement Craft Prototype	2.396	1.479		
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Developed composite combatant craft design/fabrication techniques, using the aluminum-hulled MK V as a benchmark. Quantified through testing advantages in the areas of shock mitigation, sea-keeping, and life cycle cost reduction.
FY06 This initiative is a Congressional add. Continue FY05 efforts.

	FY05	FY06	FY07	
TACTICOMP	1.342			
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Integrated laser range-finding and precision inertial navigation into commercial PDAs providing a compact, wireless, and secure means to provide individual operator network stand-alone and networked communications, situation awareness, and command and control capabilities.

	FY05	FY06	FY07	

Foliage Penetrating Solid State Synthetic Aperture Radar	4.889			
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Developed and demonstrated a purpose-built radar that detects and identifies buried objects on an RC-12M aircraft. Radars pressed into service in Iraq were designed for drug interdiction in the jungle foliage of South America. These systems are not suitable for detecting objects buried in dry, sand environments as they employ very low power and very wide bandwidths. This system will utilize existing radar frequencies that permit very high radiated power to overcome ground losses and provide deeper penetration than existing systems.

	FY05	FY06	FY07	
Maritime Tagging, Tracking & Locating	.959			
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Demonstrated and evaluated available technologies to support and enable SOF maritime tagging, tracking and locating capabilities. The emphasis was on overall system architecture, connectivity with SOF, conventional and national resources, and innovative platforms, sensors and supporting infrastructure.

	FY05	FY06	FY07	
Autonomous Navigation Sensor Suite	1.247	2.346		
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Sensor development program coupled with laboratory evaluation of unique sensors types for robotic vehicles.
FY06 This initiative is a Congressional add. Effort will significantly reduce the size, weight, power and cost of sensors associated with unmanned systems through novel materials and manufacturing techniques.

	FY05	FY06	FY07	
Compact Three-Dimensional Imaging	.959			
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Provided robust target identification capability, developed technology for individual user to interpret and take advantage of 3D imaging.

	FY05	FY06	FY07	

SOF Teletraining	.959			
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. Developed a PC based scenario oriented product that provides the SOF operators a usable group of situational language cultural gestures. The SOF Teletraining System (SOFTS) is a means of delivering training using personal computers and broadband internet connections. This training solution is a PC-based teletraining technology that enables all students and instructors to see each other on screen and hear each other. There are other web-based and on-screen technologies that facilitate document sharing, testing. Additionally, provides pilot courses in target languages to determine the effectiveness of SOFTS as a training delivery means for initial acquisition foreign language training.

	FY05	FY06	FY07	
Tactical Radio Frequency Environmental Monitor (TREX)	1.959			
RDT&E Article Quantity				

FY05 This initiative was a Congressional add. TREX was used in conjunction with Small UAV to test and evaluate network centric electronic warfare systems and their support for SOF applications.

	FY05	FY06	FY07	
Army DRAMA/COMPOSER Integration & Development		1.676		
RDT&E Article Quantity				

FY06 This initiative is a Congressional add. Evaluate advanced protocols to make more efficient use of network bandwidth and prioritization schemes.

	FY05	FY06	FY07	
C-130 Advanced Tactical Airborne C4ISR System (ATACS)		1.233		
RDT&E Article Quantity				

FY06 This initiative is a Congressional add. Demonstrated the ability to rapidly equip any C-130 aircraft with sophisticated sensors, processors, communications and self-defense capabilities through standardized hardware, software, and resource interfaces.

	FY05	FY06	FY07	
Airborne Threat Detection Capability Expansion		.986		

RDT&E Article Quantity				
FY06 This initiative is a Congressional add. Provide for time-critical protection of platforms and crews using new sensors and communication packages.				
	FY05	FY06	FY07	
Counter-Sniper & Surveillance Detection System		2.095		
RDT&E Article Quantity				
FY06 This initiative is a Congressional add. Research and develop tactical, mobile, and unmanned sniper detection systems that utilize optical detection and location techniques.				
	FY05	FY06	FY07	
Digital Camera Rifle Scope.		.493		
RDT&E Article Quantity				
FY06 This initiative is a Congressional add. Enhance unmanned ground system sensor optics for improved situation awareness.				
	FY05	FY06	FY07	
Field Experimentation Program For SOF (FEPSO)		.986		
RDT&E Article Quantity				
FY06 This initiative is a Congressional add. Prototype and evaluate manned/unmanned platform and sensor networks to articulate new concepts of operation and employment for SOF.				
	FY05	FY06	FY07	
Foxhound Arabic Software Testing & Evaluation		1.331		
RDT&E Article Quantity				
FY06 This initiative is a Congressional add. Evaluate automated transliteration and link-analysis software for SOF communication and intelligence applications.				
	FY05	FY06	FY07	
High Altitude Long Endurance Airships		1.035		

RDT&E Article Quantity				
FY06 This initiative is a Congressional add. Develop a fully-automated synthesis device for producing electronically and optically active nanostructures for high altitude airship electronics and sensors.				
	FY05	FY06	FY07	
Integrated Cyber Command & Control.		.986		
RDT&E Article Quantity				
FY06 This initiative is a Congressional add. Develop network security for SOF tactical networks using modified COTS products.				
	FY05	FY06	FY07	
USSOCOM Improved Information Transfer		3.351		
RDT&E Article Quantity				
FY06 This initiative is a Congressional add. Apply real-time knowledge management tools using information technologies and cognitive science to meet urgent Special Operations intelligence requirements.				
	FY05	FY06	FY07	
Improved Materials for Fireproof Clothing		1.256		
RDT&E Article Quantity				
FY06 This initiative is a Congressional add. Develop new and revolutionary flameproof textile materials for SOF applications.				
	FY05	FY06	FY07	
Improved Special Operations Fast Rope Kit		1.676		
RDT&E Article Quantity				
FY06 This initiative is a Congressional add. Improve the safety of CV-22 fast rope operations using high performance materials and structures.				

	FY05	FY06	FY07	
Improved Special Operations Reconnaissance Kits.		2.218		
RDT&E Article Quantity				

FY06 This initiative is a Congressional add. Prototype and evaluate new software, hardware, and sensors that significantly enhance present capabilities.

	FY05	FY06	FY07	
Mobile Electric Power Utilizing Energy Harvesting.		1.281		
RDT&E Article Quantity				

This initiative is a Congressional add. Rapidly prototype and field small, lightweight generators and other power concepts to power multiple voltages required by Special Operations electronics with little logistical support.

	FY05	FY06	FY07	
Magnum Universal Night Sight		.986		
RDT&E Article Quantity				

FY06 This initiative is a Congressional add. Enhance the Magnum Universal Night Sight performance by reducing weight and power requirements.

	FY05	FY06	FY07	
Special Forces Personnel and Equipment Survivability Activity.		1.242		
RDT&E Article Quantity				

FY06 This initiative is a Congressional add. Design and evaluate approaches to minimize the detectability and maximize survivability and recoverability of SOF personnel and materiel.

	FY05	FY06	FY07	
Special Operations Airborne Intelligence and Reconnaissance Program		1.676		
RDT&E Article Quantity				

FY06 This initiative is a Congressional add Develop roll-on/off and plug-and-play system for C-130's that provide real-time command and control, micro-target detection, intelligence gathering and improvised explosive device detection.

	FY05	FY06	FY07	
SOCOM Tactical Systems Development		1.676		
RDT&E Article Quantity				

FY06 This initiative is a Congressional add. Research and develop environmentally hardened tactical system components in support of SOF direct action and reconnaissance operations.

	FY05	FY06	FY07	
SOF Portable Power Source		3.450		
RDT&E Article Quantity				

FY06 This initiative is a Congressional add. Research and develop Solid Oxide Fuel Cell technology for SOF power needs.

	FY05	FY06	FY07	
Satellite Synthetic Aperture Radar		2.514		
RDT&E Article Quantity				

FY06 This initiative is a Congressional add. Design, develop, assemble, and test components for a synthetic aperture radar satellite in space applications for SOF.

	FY05	FY06	FY07	
SOF Unmanned Vehicle Targeting		1.676		
RDT&E Article Quantity				

FY06 This initiative is a Congressional add. Develops concept and architectures for rapid unmanned vehicle SOF targeting.

	FY05	FY06	FY07	
Three Dimensional Imaging Technology Development		3.184		
RDT&E Article Quantity				

FY06 This initiative is a Congressional add. Provides significantly enhanced level of detail to determine specific target discrimination data via 3-D imaging.

	FY05	FY06	FY07	
UAV Certification and Support.		1.676		
RDT&E Article Quantity				

FY06 This initiative is a Congressional add. This project proposes to leverage the ongoing USSOCOM SOF SLED ACTD as the incubator for UAV flight certification.

	FY05	FY06	FY07	
UAV Synthetic Aperture Radar		2.514		
RDT&E Article Quantity				

FY06 This initiative is a Congressional add. Evaluate on board processing so that only a low data rate bit map is transmitted via either low data rate satellite link or UHF digital radio to the dismounted war fighter.

	FY05	FY06	FY07	
Urban Tactical Warfare Planning Tool		.986		
RDT&E Article Quantity				

FY06 This initiative is a Congressional add. Design and develop a simulator tool that aids in the development of urban warfare training, tactics, and doctrine, and is compatible with the SOF Special Reconnaissance Simulator.

	FY05	FY06	FY07	
Voice Activated Handheld Translator.		1.084		
RDT&E Article Quantity				

FY06 This initiative is a Congressional add. Prototype a one-way language translation device, and research possibilities of achieving true two-field expedient two-way real-time translation capability for SOF applications.

	FY05	FY06	FY07	
Waterway Threat Detection Sensor System.		1.676		
RDT&E Article Quantity				

FY06 This initiative is a Congressional add. Research and develop a lightweight sonar system for the detection of swimmers, unmanned

underwater vehicles, mines and ships.

C. Other Program Funding Summary: None.

D. Acquisition Strategy. N/A.