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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | | | | DATE February 2000 | | |
|--|----------------|------------------|------------------|---|------------------|------------------|------------------------------|--------------------------|------------|
| BUDGET ACTIVITY 05 - Engineering and Manufacturing Development | | | | PE NUMBER AND TITLE 0604012F Joint Helmet Mounted Cueing System (JHMCS) | | | | PROJECT 654789 | |
| COST (\$ in Thousands) | FY 1999 Actual | FY 2000 Estimate | FY 2001 Estimate | FY 2002 Estimate | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | Cost to Complete | Total Cost |
| 654789 Joint Helmet Mounted Cueing System (JHMCS) | 0 | 2,931 | 1,312 | 2,926 | 2,944 | 3,004 | 3,063 | 0 | 16,179 |
| Quantity of RDT&E Articles | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 22 |

(U) **A. Mission Description**
 In FY00 , JHMCS was extracted from PE 0604201F Integrated Avionics Planning and Development and transitioned into its own separate program element. This Joint program with the United States Navy (USN) will develop a helmet display system, capable of depicting aircraft heading data, pilot's viewing perspective, target indication graphics and digital information. Consolidating this information on the pilot's visor allows the pilot to quickly align sensors and weapons on targets and engage threats using high off-boresight angle weapons such as the AIM-9X. The JHMCS includes a helmet with a mounted visor display capability, a helmet-vehicle interface cable, and several other components.

(U) **FY 1999 (\$ in Thousands)**
 (U) \$0 Activity reported in PE 0604201F Integrated Avionics Planning and Development
 (U) \$0 Total

(U) **FY 2000 (\$ in Thousands)**
 (U) \$2,231 Continue JHMCS Engineering and Manufacturing Development (EMD) Contract
 (U) \$278 Continue Air Force Flight Test Center (AFFTC) Test Support
 (U) \$422 Continue Program Management Support
 (U) \$2,931 Total

(U) **FY 2001 (\$ in Thousands)**
 (U) \$919 Initiate Pre-Planned Product Improvement Air to Ground Enhancements
 (U) \$393 Continue Program Management Support
 (U) \$1,312 Total

(U) **B. Budget Activity Justification**
 This program is in budget activity 5 - EMD, Phase II, Research Category 6.4 because of the development nature of this program.

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|---|--|----------------|-------------------|-----------------|-------------------|---------------------------|-----------------|-----------------|-----------------|-------------------|
| | | February 2000 | | | | | | | | |
| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT | | | | | | | | |
| 05 - Engineering and Manufacturing Development | 0604012F Joint Helmet Mounted Cueing System (JHMCS) | 654789 | | | | | | | | |
| (U) C. Program Change Summary (\$ in Thousands) | | | | | | | | | | |
| | | <u>FY 1999</u> | <u>FY 2000</u> | <u>FY 2001</u> | <u>Total Cost</u> | | | | | |
| (U) Previous President's Budget (FY 2000 PBR) | | 0 | 2,970 | 1,325 | 16,345 | | | | | |
| (U) Appropriated Value | | | 2,970 | | | | | | | |
| (U) Adjustments to Appropriated Value | | | | | | | | | | |
| a. Congressional/General Reductions | | | | | | | | | | |
| b. Small Business Innovative Research | | | | | | | | | | |
| c. Omnibus or Other Above Threshold Reprogram | | | -20 | | | | | | | |
| d. Below Threshold Reprogram | | | | | | | | | | |
| e. Rescissions | | | -19 | | | | | | | |
| f. Other | | | | | | | | | | |
| (U) Adjustments to Budget Years Since FY 2000 PBR | | | | -13 | | | | | | |
| (U) Current Budget Submit/FY 2001 PBR | | | 2,931 | 1,312 | 16,179 | | | | | |
| (U) <u>Significant Program Changes:</u> | | | | | | | | | | |
| * FY 1998 and FY 1999 program funding are described in PE 0604201F Integrated Avionics Planning and Development. | | | | | | | | | | |
| (U) D. Other Program Funding Summary (\$ in Thousands) | | | | | | | | | | |
| | | <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> | <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>Complete</u> | |
| (U) RDT&E, BA 5, PE 0604201F, Integrated Avionics Planning and Development | | 9,356 | 0 | 0 | 0 | 0 | 0 | 0 | | 9,356 |
| (U) E. Acquisition Strategy | | | | | | | | | | |
| JHMCS is an ACAT III joint USAF/USN program (USAF - executive service). The contract structure is a Cost Plus Award Fee (CPAF) contract awarded in a competitive source selection environment. The CPAF contract is through Boeing - St. Louis for integration into the F-15 and F/A-18. Lockheed Martin will integrate JHMCS into the F-16 and F-22. Boeing has subcontracted to Vision Systems International (VSI) to provide JHMCS subsystems hardware/software. VSI is a partnership between Elbit (an Israeli company based in Ft Worth, TX) and Kaiser Electronics. The Joint Program Office is using a unique approach of developing common hardware as Contractor Furnished Equipment (CFE) to minimize platform integration risk. Milestone III Production Decision is scheduled for Sep 00. | | | | | | | | | | |
| Project 654789 | | | Page 2 of 5 Pages | | | Exhibit R-2 (PE 0604012F) | | | | |

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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE February 2000 |
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| | | |
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| BUDGET ACTIVITY 05 - Engineering and Manufacturing Development | PE NUMBER AND TITLE 0604012F Joint Helmet Mounted Cueing System (JHMCS) | PROJECT 654789 |
|---|--|---------------------------------|

(U) F. Schedule Profile

| | <u>FY 1999</u> | | | | <u>FY 2000</u> | | | | <u>FY 2001</u> | | | |
|--|----------------|---|---|---|----------------|---|---|---|----------------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| (U) Production Decision | | | | | | | | | X | | | |
| (U) Pre-Planned Product Improvement | | | | | | | | | X | X | X | X |
| X - Planned event * - Completed event Note - Efforts in FY 1999 and earlier are described in PE 0604201F | | | | | | | | | | | | |

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| RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3) | | | | | | | DATE February 2000 | | | | |
|---|---------------------------------|-----------------------------|----------------------------|--|-----------------------|-------------------------------|-----------------------|-----------------------|-----------------------|---------------------------|----------------------|
| BUDGET ACTIVITY | | | | PE NUMBER AND TITLE | | | | PROJECT | | | |
| 05 - Engineering and Manufacturing Development | | | | 0604012F Joint Helmet Mounted Cueing System (JHMCS) | | | | 654789 | | | |
| (U) A. Project Cost Breakdown (\$ in Thousands) | | | | | | | | | | | |
| | | | | | | FY 1999 | | FY 2000 | | FY 2001 | |
| (U) | EMD Effort | | | | | 0 | | 2,231 | | 0 | |
| (U) | Pre-Planned Product Improvement | | | | | 0 | | 0 | | 919 | |
| (U) | Test Support (AFFTC) | | | | | 0 | | 278 | | 0 | |
| (U) | Program Management Support | | | | | 0 | | 422 | | 393 | |
| (U) | Total | | | | | 0 | | 2,931 | | 1,312 | |
| * These costs are described in PE 0604201F | | | | | | | | | | | |
| (U) B. Budget Acquisition History and Planning Information (\$ in Thousands) | | | | | | | | | | | |
| (U) Performing Organizations: | | | | | | | | | | | |
| | <u>Contractor or Government</u> | <u>Contract Method/Type</u> | <u>Award or Obligation</u> | <u>Performing Activity</u> | <u>Project Office</u> | <u>Total Prior to FY 1999</u> | <u>Budget FY 1999</u> | <u>Budget FY 2000</u> | <u>Budget FY 2001</u> | <u>Budget to Complete</u> | <u>Total Program</u> |
| | <u>Activity</u> | <u>Vehicle</u> | <u>Date</u> | <u>EAC</u> | <u>EAC</u> | | | | | | |
| <u>Product Development Organizations</u> | | | | | | | | | | | |
| | MDA/LMTAS | CPAF | 2/97 | 14,416 | 14,416 | 0 | 0 | 2,231 | 919 | 11,102 | 14,252 |
| <u>Support and Management Organizations</u> | | | | | | | | | | | |
| | Various | Various | 2/97 | 1,651 | 1,651 | 0 | 0 | 422 | 393 | 834 | 1,649 |
| <u>Test and Evaluation Organizations</u> | | | | | | | | | | | |
| | Various | Various | 2/97 | 278 | 278 | 0 | 0 | 278 | 0 | 0 | 278 |
| (U) Government Furnished Property: | | | | | | | | | | | |
| | <u>Item</u> | <u>Contract Method/Type</u> | <u>Award or Obligation</u> | <u>Delivery</u> | | <u>Total Prior to FY 1999</u> | <u>Budget FY 1999</u> | <u>Budget FY 2000</u> | <u>Budget FY 2001</u> | <u>Budget to Complete</u> | <u>Total Program</u> |
| | <u>Description</u> | <u>Vehicle</u> | <u>Date</u> | <u>Date</u> | | | | | | | |
| <u>Product Development Property</u> | | | | | | | | | | | |
| <u>Support and Management Property</u> | | | | | | | | | | | |
| <u>Test and Evaluation Property</u> | | | | | | | | | | | |

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| RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3) | | | DATE February 2000 | | | |
|---|--|----------------|-----------------------|----------------|------------------|----------------|
| BUDGET ACTIVITY | PE NUMBER AND TITLE | | | PROJECT | | |
| 05 - Engineering and Manufacturing Development | 0604012F Joint Helmet Mounted Cueing System (JHMCS) | | | 654789 | | |
| | <u>Total Prior</u> | <u>Budget</u> | <u>Budget</u> | <u>Budget</u> | <u>Budget to</u> | <u>Total</u> |
| <u>Subtotals</u> | <u>to FY 1999</u> | <u>FY 1999</u> | <u>FY 2000</u> | <u>FY 2001</u> | <u>Complete</u> | <u>Program</u> |
| Subtotal Product Development | 0 | 0 | 2,231 | 919 | 11,102 | 14,252 |
| Subtotal Support and Management | 0 | 0 | 422 | 393 | 834 | 1,649 |
| Subtotal Test and Evaluation | 0 | 0 | 278 | 0 | 0 | 278 |
| Total Project | 0 | 0 | 2,931 | 1,312 | 11,936 | 16,179 |