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| ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)   |               |                  |                   |   |                  |                  |                           | DATE<br>February 1999  |                  |            |
|--|---------------|------------------|-------------------|---|------------------|------------------|---------------------------|------------------------|------------------|------------|
| BUDGET ACTIVITY<br><b>5 - Engineering and Manufacturing Development</b>  |               |                  |                   | PE NUMBER AND TITLE<br><b>0604739A JTT/CIBS-M (TIARA)</b> |                  |                  |                           | PROJECT<br><b>D702</b> |                  |            |
| COST (In Thousands)  | FY1998 Actual | FY 1999 Estimate | FY 2000 Estimate  | FY 2001 Estimate  | FY 2002 Estimate | FY 2003 Estimate | FY2004 Estimate           | FY2005 Estimate        | Cost to Complete | Total Cost |
| D702 Common Integrated Broadcast Service-Modules   | 4215          | 4400             | 4552              | 6096  | 1490             | 1374             | 1965                      | 1962                   | Continuing       | Continuing |
| <p><b>A. <u>Mission Description and Budget Item Justification:</u></b> The Integrated Broadcast Service (IBS) is the worldwide, DoD standard network for transmitting tactical and strategic intelligence and targeting data. The Common Integrated Broadcast Service - Modules (CIBS-M) Joint Program (all services and Special Operations Command (SOCOM) was created to consolidate and replace existing IBS receiver functionality/capability, inherent with the duplicative existing systems, with a “common family” of IBS modules (both hardware and software). This is required to implement the IBS plan and consolidate/eliminate duplication of effort previously spread across multiple PEs/SSNs DoD wide. This program funds design, development, test and evaluation of initial CIBS hardware and software modules, as well as implementing performance expanding modifications to the family of Joint Tactical Terminal(JTT) equipment.</p> <p><b>FY 1998 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>• 1103 Development of Cornfield Based Crypto Module</li> <li>• 637 Designed/Developed CIBS Interface to Commander’s Tactical Terminal (CTT) and Multi Mission Advanced Tactical Terminal (MATT)</li> <li>• 753 CIBS-Module prototype design</li> <li>• 666 Initiated Joint Tactical Control Client</li> <li>• 624 Reduced Size JTT Design Concept</li> <li>• 432 MATT/CTT Migration Plan</li> </ul> <p>Total 4215</p> <p><b>FY 1999 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 1343 CIBS-M Software Development (Continuous Phase Modulation, JTT Control Client)</li> <li>• 100 MATT/CTT Migration Support</li> <li>• 840 Operational Test (OT) Readiness Support, OT Host Integration Support, Training, Verification &amp; Validation</li> <li>• 1700 CIBS-M Hardware Development (Stand Alone CIBS-M Cryptographic Module (SACM), Cornfield)</li> <li>• 300 SPAWAR Systems Center (Engineering &amp; Test Support)</li> <li>• 117 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs</li> </ul> <p>Total 4400</p> <p><b>FY 2000 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 1935 Continue Common Integrated Broadcast Service (CIBS-M) Software Development (Integrated Broadcast Service (IBS) Interoperability)</li> </ul> |               |                  |                   |   |                  |                  |                           |                        |                  |            |
| Project D702   |               |                  | Page 1 of 5 Pages |   |                  |                  | Exhibit R-2 (PE 0604739A) |                        |                  |            |

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- 1832 Continuing CIBS-M Hardware Development (Cornfield)

**FY 2000 Planned Program: (continued)**

- 125 CIBS-M Interoperability Testing with Multi Mission Advanced Tactical Terminal and Tactical Receive Equipment (TRE)
  - 540 Initiate "Over the Air" Software Download Capability
  - 120 Conduct Initial Operational Test & Evaluation (IOT&E)
- Total 4552

**FY 2001 Planned Program:**

- 1625 IBS Format Implementation (Tactical Data Information Link, Version J (TADIL-J))
  - 1295 Global Broadcast Service (GBS) Interface
  - 1025 Joint Communication Information Terminal (JCIT) CIBS-M Development
  - 2151 Continue CIBS-M Software Development (IBS Interoperability)
- Total 6096

| <b>B. Program Change Summary</b>              | <u>FY 1998</u> | <u>FY 1999</u> | <u>FY 2000</u> | <u>FY 2001</u> |
|---|----------------|----------------|----------------|----------------|
| Previous President's Budget (FY 1999 PB)      | 4360           | 4447           | 4426           | 4409           |
| Appropriated Value                            | 4499           | 4447           |                |                |
| Adjustments to Appropriated Value             |                |                |                |                |
| a. Congressional General Reductions           | -139           | -47            |                |                |
| b. SBIR / STTR                                | -109           |                |                |                |
| c. Omnibus or Other Above Threshold Reduction | -36            |                |                |                |
| d. Below Threshold Reprogramming              |                |                |                |                |
| e. Rescissions                                |                |                |                |                |
| Adjustments to Budget Years Since FY 1999 PB  |                |                | 126            | 1687           |
| Current Budget Submit (FY 2000/2001 PB))      | 4215           | 4400           | 4552           | 6096           |

| <b>C. Other Program Funding Summary</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>FY 2004</u> | <u>FY 2005</u> | To<br><u>Compl</u> | Total<br><u>Cost</u> |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------|----------------------|
| V29600 JTT/CIBS-M (Tiara)                        | 13808          | 10312          | 24262          | 26946          | 12115          | 12661          | 15104          | 13245          | Cont               | Cont                 |
| BA1081 Integrated Broadcast Terminal Mod (Tiara) | 373            | 6469           | 0              | 0              | 0              | 0              | 0              | 0              | 0                  | 5671                 |

This Joint Program is also related to Air Force RDT&E/Production Funding

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**D. Acquisition Strategy:** The CIBS-M family of modules will be the sole provider of IBS Modules to a variety of IBS receivers across all DOD component agencies. The Joint Program will competitively develop hardware and software modules and procure the required modules for integration into host receiver systems. Additionally, this line provides for necessary modifications to IBS modules as the broadcast networks continue to evolve and modify their formats and protocols. The R&D program will fund the design and development of P3I (priority to those objective requirements in the JTT ORD that have not been satisfied). It is intended that R&D funds will be used on Firm Fixed Price Time & Material contract vehicles.

| <b>E. Schedule Profile</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>FY 2004</u> | <u>FY 2005</u> |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Award CIBS-M Development Mod                         | 2Q             |                |                |                |                |                |                |                |
| CIBS-M S/W Development CCPM,JCC,IBS Interoperability |                | 1Q,2Q          | 2Q             | 1Q             |                |                |                |                |
| CIBS-M H/W Development(SACM,Cornfield)               |                | 2Q             | 1Q             |                |                |                |                |                |
| JTT Developmental Test (DT)                          |                | 3Q             |                |                |                |                |                |                |
| Initial CIBS-M Integration into other terminals      |                | 4Q             |                |                |                |                |                |                |
| JTT Initial Operational Test and Evaluation          |                |                | 1Q             |                |                |                |                |                |
| JTT Milestone III                                    |                |                | 2Q             |                |                |                |                |                |
| JCIT CIBS-M Development                              |                |                |                | 1Q             |                |                |                |                |
| IBS Operational Test                                 |                |                |                | 2Q             |                |                |                |                |

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| <b>ARMY RDT&amp;E COST ANALYSIS (R-3)</b>                               |                        |                                |                |              |   |              |                    |              |                    | DATE<br><b>February 1999</b> |            |                          |
|---|------------------------|--------------------------------|----------------|--------------|---|--------------|--------------------|--------------|--------------------|------------------------------|------------|--------------------------|
| BUDGET ACTIVITY<br><b>5 - Engineering and Manufacturing Development</b> |                        |                                |                |              | PE NUMBER AND TITLE<br><b>0604739A JTT/CIBS-M (TIARA)</b> |              |                    |              |                    | PROJECT<br><b>D702</b>       |            |                          |
| <b>I. Product Development</b>   |                        |                                |                |              |   |              |                    |              |                    |                              |            |                          |
|   | 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. P3I  | FFP&C/PFF              | RSC, St Petersburg, FL         | 2891           | 3143         | 2Q  | 3429         | 2Q                 | 5029         | 2Q                 | CONT                         | 14492      |                          |
| a. Modeling & Simulation  | FFRDC                  | MITRE, Eatontown, NJ           | 268            | 60           | 1Q  | 70           | 1Q                 | 70           | 1Q                 | CONT                         | 468        |                          |
| b. SBIR/STTR  |                        |                                |                | 117          |   |              |                    |              |                    |                              | 117        |                          |
| Subtotal Product Development:   |                        |                                | 3159           | 3320         |   | 3499         |                    | 5099         |                    |                              | 15077      |                          |
| <b>II. Support Costs</b>  |                        |                                |                |              |   |              |                    |              |                    |                              |            |                          |
|   | 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 |
| c. Matrix Support   | MIPR                   | Ft. Monmouth                   | 159            | 114          | 1QTR  | 120          | 1QTR               | 125          | 1QTR               | CONT                         | 518        |                          |
| d. Software Support   | T&M                    | Ft. Monmouth                   | 119            | 100          | 1QTR  | 120          | 1QTR               | 120          | 1QTR               | CONT                         | 459        |                          |
| b. Network Support  | MIPR                   | ABIO, Ft Huachuca, AZ          | 125            | 245          | 1Q  | 445          | 1Q                 | 495          | 1QTR               | CONT                         | 1310       |                          |
| Subtotal Support Costs:   |                        |                                | 403            | 459          |   | 685          |                    | 740          |                    |                              | 2287       |                          |
| <b>III. Test and Evaluation</b>   |                        |                                |                |              |   |              |                    |              |                    |                              |            |                          |
|   | 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. CTT 3 Upgrade  | MIPR                   | DET 2                          | 443            |              |   |              |                    |              |                    |                              | 443        |                          |
| b. Engineering Support  | MIPR                   | SPAWAR Support Ctr             | 3984           | 500          | 2Q  | 120          | 1Q                 | 120          | 2Q                 |                              | 4724       |                          |
| c. IOT&E Support  | MIPR                   | Various                        |                |              | 1Q  | 120          |                    |              |                    |                              | 120        |                          |
| Subtotal Test and Evaluation:   |                        |                                | 4427           | 500          |   | 240          |                    | 120          |                    |                              | 5287       |                          |
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| 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. Program Management         |                        | Ft. Monmouth                   | 425            | 121          | 1Q                 | 128          | 1Q                 | 137          | 1Q                 | CONT             | 811        |                          |
| Subtotal Management Services: |                        |                                | 425            | 121          |                    | 128          |                    | 137          |                    |                  | 811        |                          |
| Project Total Cost:           |                        |                                | 8414           | 4400         |                    | 4552         |                    | 6096         |                    |                  | 23462      |                          |

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