

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2008**

|  |                  |  |                  |                  |                  |                  |                              |                  |            |  |
|--|------------------|--|------------------|------------------|------------------|------------------|------------------------------|------------------|------------|--|
| <b>BUDGET ACTIVITY</b><br><b>4 - Advanced Component Development and Prototypes</b> |                  | <b>PE NUMBER AND TITLE</b><br><b>0603850A - Integrated Broadcast Service</b> |                  |                  |                  |                  | <b>PROJECT</b><br><b>472</b> |                  |            |  |
| COST (In Thousands)  | FY 2007 Estimate | FY 2008 Estimate   | FY 2009 Estimate | FY 2010 Estimate | FY 2011 Estimate | FY 2012 Estimate | FY 2013 Estimate             | Cost to Complete | Total Cost |  |
| 472 INTEGRATED BROADCAST SERVICE (MIP)   | 1131             | 38213  | 11238            | 1500             | 1000             |                  |                              |                  | 53082      |  |

**A. Mission Description and Budget Item Justification:** The Joint Tactical Terminal (JTT) Product Management Office (PMO) supports all Joint services and Special Operations Command (SOCOM). The Integrated Broadcast Service (IBS) is the worldwide Department of Defense (DoD) standard network for transmitting tactical and strategic intelligence and targeting data to all echelons of Joint Service operational users. The JTT PMO's role is to consolidate and replace existing IBS terminal functionality and capability with a "common family" of Integrated Broadcast Service-Modules (CIBS-M) - both hardware and software - and to expedite execution of the IBS Technical Transition Plan (TTP). The JTT family of systems currently consists of the JTT-Senior, JTT-Briefcase, JTT-IBS and Embedded National Tactical Receiver (ENTR) CIBS-M IBS broadcast receiver/transceiver devices. The TTP is a comprehensive refresh effort of the entire IBS network focused on rearchitecting the broadcast from its current multi-broadcast, multi-data format structure, to a single broadcast (Common Interactive Broadcast - CIB) and single data format (Common Message Format - CMF). The JTT/CIBS-M family of systems is a critical component of the TTP as these systems are the only IBS receiver/transceiver devices in the DoD being modernized to support both the new consolidated broadcast architecture and the National Security Agencies (NSA) crypto modernization mandate. The JTT family of system upgrades is imperative/essential to execute the over-the-air broadcast portion of the TTP in the near term, and ultimately lead to a complete cessation of IBS data flow via the existing over-the-air IBS broadcast networks. The JTT program leverages early tech-based efforts initiated by organizations such as the National Reconnaissance Office (NRO) for the ENTR CIBS-M. Management control for JTT/CIBS-M efforts that contribute to increased value in performance or sustainment will transition to the JTT PMO. These capabilities will be integrated into the JTT/CIBS-M family of hardware and software modules. The JTT/CIBS-M family of modules will be the official IBS producer, ensuring continued IBS interoperability to a variety of tactical receivers across DoD and the services throughout the TTP implementation period and beyond. This program funds the design, development, test and evaluation of JTT/CIBS-M hardware and software modules, as well as implementing performance enhancements to the family of JTT equipment. This is necessary to ensure crypto modernization compliance and to facilitate migration to a rearchitected CIB and CMF-based IBS broadcast structure. Funds also support JTT/CIBS-M training, equipping and supporting the Warfighter with improved Joint Readiness and Interoperability.

FY09 Funds support the development of the Common Interactive Broadcast (CIB) waveform for migration to the IBS Worldwide standard DoD Network. Development for JTT Sr upgrade kit (COMSEC and SBC). Development of objective ENTR.

| <u>Accomplishments/Planned Program:</u>  | <u>FY 2007</u> | <u>FY 2008</u> | <u>FY 2009</u> |
|--|----------------|----------------|----------------|
| Develop Integrated Broadcast Service (IBS) Common Message Format (CMF) to support migration to the IBS Worldwide standard DOD Network. | 1131           |                |                |
| Sierra Chip COMSEC Algorithms Integration (NRE)  |                | 5213           | 738            |
| COMSEC Refresh JTT Sr (NRE-CDR)  |                | 7000           | 1500           |
| Objective ENTR Development   |                | 10000          | 2000           |
| JTT Sr CIB Network Refresh Devel & Integration   |                | 2500           | 2500           |

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| BUDGET ACTIVITY  | PE NUMBER AND TITLE                            | PROJECT      |              |
|--|--|--------------|--------------|
| <b>4 - Advanced Component Development and Prototypes</b> | <b>0603850A - Integrated Broadcast Service</b> | <b>472</b>   |              |
| JTT IBS CIB Network Refresh Devel & Integration          |  | 2500         | 2500         |
| SBC NRE Redesign (JTT Sr)                                |  | 11000        | 2000         |
| <b>Total</b>   | <b>1131</b>                                    | <b>38213</b> | <b>11238</b> |

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| <b>BUDGET ACTIVITY</b><br><b>4 - Advanced Component Development and Prototypes</b> | <b>PE NUMBER AND TITLE</b><br><b>0603850A - Integrated Broadcast Service</b> |         |         | <b>PROJECT</b><br><b>472</b> |
| <b><u>B. Program Change Summary</u></b>  | FY 2007  | FY 2008 | FY 2009 |                              |
| Previous President's Budget (FY 2008/2009)   | 1123   | 38213   | 11238   |                              |
| Current BES/President's Budget (FY 2009)   | 1131   | 38213   | 11238   |                              |
| Total Adjustments  | 8  |         |         |                              |
| Congressional Program Reductions   |  |         |         |                              |
| Congressional Rescissions  |  |         |         |                              |
| Congressional Increases  |  |         |         |                              |
| Reprogrammings   | 8  |         |         |                              |
| SBIR/STTR Transfer   |  |         |         |                              |
| Adjustments to Budget Years  |  |         |         |                              |

|  |         |         |         |         |         |         |         |            |            |
|--|---------|---------|---------|---------|---------|---------|---------|------------|------------|
| <b><u>C. Other Program Funding Summary</u></b>       | FY 2007 | FY 2008 | FY 2009 | FY 2010 | FY 2011 | FY 2012 | FY 2013 | To Compl   | Total Cost |
| V29600 Other Procurement, Army - JTT/CIBS-M (Tiara), | 1821    | 3560    | 8632    | 2900    | 1430    |         |         | Continuing | Continuing |

Comment:

**D. Acquisition Strategy** Modifications for the design, development and delivery to JTRS JPO of JTRS SCA compliant legacy IBS waveforms has been awarded to Boeing under an existing Air Force contract, to complete ongoing work funded by USAF Airborne Intelligence System Program Office. The CMF development has been awarded to the JTT Original Equipment Manufacturer (OEM). As the broadcast networks continue to evolve and modify their formats and protocols, the JTT program will support IBS and various existing and future radios and host systems. Funds support the development of the Common Interactive Broadcast (CIB) waveform for migration to the IBS Worldwide standard DoD Network. Development for JTT Sr upgrade kit (COMSEC and SBC). Development of objective ENTR.

# ARMY RDT&E COST ANALYSIS (R3)

February 2008

| BUDGET ACTIVITY  |                        |                                | PE NUMBER AND TITLE                            |              |                    |              |                    |              |                    |                  | PROJECT    |                          |
|--|------------------------|--------------------------------|--|--------------|--------------------|--------------|--------------------|--------------|--------------------|------------------|------------|--------------------------|
| <b>4 - Advanced Component Development and Prototypes</b> |                        |                                | <b>0603850A - Integrated Broadcast Service</b> |              |                    |              |                    |              |                    |                  | <b>472</b> |                          |
| I. Product Development                                   | Contract Method & Type | Performing Activity & Location | Total PYs Cost                                 | FY 2007 Cost | FY 2007 Award Date | FY 2008 Cost | FY 2008 Award Date | FY 2009 Cost | FY 2009 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
| JTRS SCA/IBS Modules                                     | MIPR                   | Air Force/Boeing               | 4181   |              |                    |              |                    |              |                    |                  | 4181       | 4181                     |
| Common Message Format                                    | T&M                    | Raytheon, St. Petersburg, FL   | 4346   |              |                    |              |                    |              |                    |                  | 4346       | 4346                     |
| Common Interactive Broadcast Sr                          | CP/FF                  | Raytheon, St. Petersburg, FL   |  |              |                    | 2500         | 1-2Q               | 2500         | 1-2Q               |                  | 5000       | 5000                     |
| Common Interactive Broadcast IBS                         | CP/FF                  | DRS, Dayton, OH                |  |              |                    | 2500         | 1-2Q               | 2500         | 1-2Q               |                  | 5000       | 5000                     |
| COMSEC Refresh JTT Sr                                    | CP/FF                  | Raytheon, St. Petersburg, FL   |  |              |                    | 7000         | 1-2Q               | 1500         | 1-2Q               |                  | 8500       | 8500                     |
| Sierra Chip COMSEC Algorithms Integration                | MIPR                   | NRO/L3 West, San Diego, CA     |  |              |                    | 5213         | 1-2Q               | 738          | 1-2Q               |                  | 5951       | 5836                     |
| SBC NRE Redesign JTT Sr                                  | CP/FF                  | Raytheon, St. Petersburg, FL   |  |              |                    | 11000        | 1-2Q               | 2000         | 1-2Q               |                  | 13000      | 13000                    |
| Objective ENTR Development                               | MIPR                   | NRO/L3 West, San Diego, CA     |  |              |                    | 10000        | 1-2Q               | 2000         | 1-2Q               |                  | 12000      | 12000                    |
| Subtotal:  |                        |                                | 8527   |              |                    | 38213        |                    | 11238        |                    |                  | 57978      | 57863                    |
|  |                        |                                |  |              |                    |              |                    |              |                    |                  |            |                          |
| II. Support Costs  | Contract Method & Type | Performing Activity & Location | Total PYs Cost                                 | FY 2007 Cost | FY 2007 Award Date | FY 2008 Cost | FY 2008 Award Date | FY 2009 Cost | FY 2009 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
| Matrix Support   | MIPR                   | CECOM/RDCOM, Ft. Monmouth, NJ  | 960  | 213          | 1Q                 |              |                    |              |                    |                  | 1173       |                          |
| Subtotal:  |                        |                                | 960  | 213          |                    |              |                    |              |                    |                  | 1173       |                          |
|  |                        |                                |  |              |                    |              |                    |              |                    |                  |            |                          |
| III. Test And Evaluation                                 | Contract Method & Type | Performing Activity & Location | Total PYs Cost                                 | FY 2007 Cost | FY 2007 Award Date | FY 2008 Cost | FY 2008 Award Date | FY 2009 Cost | FY 2009 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|  |                        |                                |  |              |                    |              |                    |              |                    |                  |            |                          |

# ARMY RDT&E COST ANALYSIS (R3)

February 2008

| BUDGET ACTIVITY  |                        |                                | PE NUMBER AND TITLE                            |              |                    |              |                    |              |                    |                  | PROJECT      |                          |
|--|------------------------|--------------------------------|--|--------------|--------------------|--------------|--------------------|--------------|--------------------|------------------|--------------|--------------------------|
| <b>4 - Advanced Component Development and Prototypes</b> |                        |                                | <b>0603850A - Integrated Broadcast Service</b> |              |                    |              |                    |              |                    |                  | <b>472</b>   |                          |
| IOT&E support  | MIPR                   | Various                        | 1402   | 242          | 1Q                 |              |                    |              |                    |                  | 1644         |                          |
| JITC DAMA Certification of JTT                           | MIPR                   | JITC                           | 400  | 231          | 1Q                 |              |                    |              |                    |                  | 631          |                          |
| Certification of CMF                                     | MIPR                   | Various                        | 200  | 250          | 1Q                 |              |                    |              |                    |                  | 450          |                          |
| JTEL Certification of SCA                                | MIPR                   | SPAWAR, CA                     | 200  |              |                    |              |                    |              |                    |                  | 200          |                          |
| Subtotal:  |                        |                                | 2202   | 723          |                    |              |                    |              |                    |                  | 2925         |                          |
|  |                        |                                |  |              |                    |              |                    |              |                    |                  |              |                          |
| IV. Management Services                                  | Contract Method & Type | Performing Activity & Location | Total PYs Cost                                 | FY 2007 Cost | FY 2007 Award Date | FY 2008 Cost | FY 2008 Award Date | FY 2009 Cost | FY 2009 Award Date | Cost To Complete | Total Cost   | Target Value of Contract |
| Program Management                                       | In House               | PM JTT, Ft. Monmouth, NJ       | 1182   | 195          | 1Q                 |              |                    |              |                    |                  |              |                          |
| Subtotal:  |                        |                                | 1182   | 195          |                    |              |                    |              |                    |                  |              |                          |
|  |                        |                                |  |              |                    |              |                    |              |                    |                  |              |                          |
| <b>Project Total Cost:</b>                               |                        |                                | <b>12871</b>                                   | <b>1131</b>  |                    | <b>38213</b> |                    | <b>11238</b> |                    |                  | <b>62076</b> | <b>57863</b>             |
|  |                        |                                |  |              |                    |              |                    |              |                    |                  |              |                          |

# Schedule Profile (R4 Exhibit)

February 2008

| Event Name   | FY 07                  |                |                |   | FY 08 |   |   |   | FY 09 |   |   |   | FY 10 |   |   |   | FY 11 |   |   |   | FY 12 |   |   |   | FY 13 |   |   |   |
|--|------------------------|----------------|----------------|---|-------|---|---|---|-------|---|---|---|-------|---|---|---|-------|---|---|---|-------|---|---|---|-------|---|---|---|
|  | 1                      | 2              | 3              | 4 | 1     | 2 | 3 | 4 | 1     | 2 | 3 | 4 | 1     | 2 | 3 | 4 | 1     | 2 | 3 | 4 | 1     | 2 | 3 | 4 | 1     | 2 | 3 | 4 |
|  | <b>CMF Development</b> |                |                |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |
| (1) Certification of CMF                               |                        | ▲ <sub>1</sub> |                |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |
| (2) CMF testing for migration to Objective IBS         |                        |                | ▲ <sub>2</sub> |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |
| <b>CIB Development Sr</b>                              |                        |                |                |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |
| <b>CIB Development IBS</b>                             |                        |                |                |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |
| <b>SBC NRE Redesign Sr</b>                             |                        |                |                |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |
| <b>Objective ENTR Development</b>                      |                        |                |                |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |
| <b>Sierra Chip Comsec Algorithms Integration (NRE)</b> |                        |                |                |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |
| <b>COMSEC Refresh JTT Sr</b>                           |                        |                |                |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |       |   |   |   |

**Schedule Detail (R4a Exhibit)**

**February 2008**

| BUDGET ACTIVITY  |                | PE NUMBER AND TITLE                            |                |                |                |                | PROJECT        |  |
|--|----------------|--|----------------|----------------|----------------|----------------|----------------|--|
| <b>4 - Advanced Component Development and Prototypes</b> |                | <b>0603850A - Integrated Broadcast Service</b> |                |                |                |                | <b>472</b>     |  |
| <u>Schedule Detail</u>                                   | <u>FY 2007</u> | <u>FY 2008</u>                                 | <u>FY 2009</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> | <u>FY 2013</u> |  |
| JTRS SCA Compliant Legacy Waveforms                      |                |  |                |                |                |                |                |  |
| Delivery for JTEL Certification of SCA Modules           |                |  |                |                |                |                |                |  |
| CMF Development  | 1Q - 4Q        | 1Q - 2Q  |                |                |                |                |                |  |
| Certification of CMF                                     | 2Q             |  |                |                |                |                |                |  |
| CMF testing for migration to Objective IBS               | 3Q             |  |                |                |                |                |                |  |
| CIB Development Sr                                       |                | 2Q - 4Q  | 1Q - 4Q        | 1Q - 4Q        |                |                |                |  |
| CIB Development IBS                                      |                | 2Q - 4Q  | 1Q - 4Q        | 1Q - 4Q        |                |                |                |  |
| SBC NRE Redesign Sr                                      |                | 2Q - 4Q  | 1Q - 4Q        | 1Q - 2Q        |                |                |                |  |
| Objective ENTR Development                               |                | 2Q - 4Q  | 1Q - 4Q        | 1Q             |                |                |                |  |
| Sierra Chip Comsec Algorithms Integration (NRE)          |                | 2Q - 4Q  | 1Q - 4Q        | 1Q             |                |                |                |  |
| COMSEC Refresh JTT Sr                                    |                | 2Q - 4Q  | 1Q - 4Q        | 1Q - 2Q        |                |                |                |  |