

2. Amendment/Modification No. 60	3. Effective Date 2001JAN05	4. Requisition/Purchase Req No. SEE SCHEDULE	5. Project No. (If applicable)
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6. Issued By TACOM-ROCK ISLAND AMSTA-LC-CAC-C ROCK WOODSTOCK (309)782-7237 ROCK ISLAND IL 61299-7630 EMAIL: WOODSTOCKR@RIA.ARMY.MIL	Code	W52H09	7. Administered By (If other than Item 6) DCMC BIRMINGHAM BURGER PHILLIPS CENTER 1910 3RD AVE NORTH ROOM 201 BIRMINGHAM AL 35203-2376	Code	S0101A
			SCD A PAS NONE ADP PT HQ0338		

8. Name And Address Of Contractor (No., Street, City, County, State and Zip Code) PEI ELECTRONICS INC 110 WYNN DRIVE HUNTSVILLE AL 35807-0929 TYPE BUSINESS: Large Business Performing in U.S.	<input type="checkbox"/>	9A. Amendment Of Solicitation No.
	<input type="checkbox"/>	9B. Dated (See Item 11)
	<input checked="" type="checkbox"/>	10A. Modification Of Contract/Order No. DAAE20-98-G-0004/0004
Code 24290 Facility Code		10B. Dated (See Item 13) 1998SEP30

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in item 14. The hour and date specified for receipt of Offers is extended, is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing items 8 and 15, and returning _____ copies of the amendments; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. **FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER.** If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. Accounting And Appropriation Data (If required)
NO CHANGE TO OBLIGATION DATA

13. THIS ITEM ONLY APPLIES TO MODIFICATIONS OF CONTRACTS/ORDERS

KIND MOD CODE: G **It Modifies The Contract/Order No. As Described In Item 14.**

<input type="checkbox"/>	A. This Change Order is Issued Pursuant To: The Contract/Order No. In Item 10A.	The Changes Set Forth In Item 14 Are Made In
<input type="checkbox"/>	B. The Above Numbered Contract/Order Is Modified To Reflect The Administrative Changes (such as changes in paying office, appropriation data, etc.) Set Forth In Item 14, Pursuant To The Authority of FAR 43.103(b).	
<input checked="" type="checkbox"/>	C. This Supplemental Agreement Is Entered Into Pursuant To Authority Of:	
<input type="checkbox"/>	D. Other (Specify type of modification and authority)	

E. IMPORTANT: Contractor is not, is required to sign this document and return _____ copies to the Issuing Office.

14. Description Of Amendment/Modification (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

SEE SECOND PAGE FOR DESCRIPTION

Except as provided herein, all terms and conditions of the document referenced in item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. Name And Title Of Signer (Type or print)	16A. Name And Title Of Contracting Officer (Type or print) SUZANNE C. YACKLEY YACKLEYS@RIA.ARMY.MIL (309)782-1466		
15B. Contractor/Offeror _____ (Signature of person authorized to sign)	15C. Date Signed	16B. United States Of America By _____ /SIGNED/ (Signature of Contracting Officer)	16C. Date Signed

Name of Offeror or Contractor: PEI ELECTRONICS INC

SECTION A - SUPPLEMENTAL INFORMATION

1. This modification revises the M1A1 Embedded Diagnostics Work Directive applicable to CLIN 0013AA. This CLIN was established in Delivery Order modification #41 and the original M1A1 Embedded Diagnostics Work Directive was defined in Delivery Order modification #44.

2. There is no cost associated with this modification.

3. All other terms and conditions remain unchanged.

4. The text of the revised M1A1 Embedded Diagnostics Work Directive is as follows:

M1A1 Embedded Diagnostics Work Directive (Revision A.)

I. Objective: Develop embedded M1A1 Built in Test / Fault Isolation Test (BIT/FIT) Software and hardware replacing STE-M1/FVS IAW with paragraph A-5 of the STS Scope of Work.

II. BIT/FIT Software Requirements Portion of the Test Program Set (TPS):

1. Operate in conjunction with the redesigned Turret Networks Box (RTNB), Hull Networks Box (RHNB), and Upgraded Tank Commanders Panel (UTCP), and all existing Line Replaceable Units (LRU) with SidecarTM. LRUs requiring SidecarTM are: Gunners Primary Sight (GPS), Power Control Unit (PCU), Line of Sight (LOS), Gun Turret Drive (GTD), Hull Power distribution Unit (HPDU), Digital Electronic Control unit (DECU), Drivers Instrument Panel (DIP), Drivers Master Panel (DMP), Fire Suppression System Amplifier (FSSA), Shift Select Assembly (SSA), Drivers Alert Panel (DAP), Thermal Receiver Unit (TRU), and Computer Electronics Unit (CEU).

2. Health Check Diagnostic software shall run continuously in the back ground when tank power is on. The software shall have the ability to detect and store faults and intermittent faults for later review and/or download. The program shall continuously overwrite the oldest data.

3. The primary goal is to achieve fault isolation to a single Line Replaceable Unit (LRU) 100% of the time and limit ambiguity groups to one LRU using interactive SidecarTM Diagnostics and alternate troubleshooting procedures.

4. Leverage TED and TED Onboard or similar organizational level diagnostic capability.

5. Alert crew when a mission critical fault is detected.

6. Display fault messages in both plain English and Technical Manual (TM) alpha numerical fault codes. Display faults and fault codes on both the RTNB and an alternate display such as the Soldiers Portable On-system Repair Tool (SPORT). The SPORT and/or Laptop computer shall be the primary display for organizational level maintenance procedures and tasks. The RTNB readout window shall be the primary display for crew level faults.

7. The RTNB display shall have the ability to display all system faults and associated fault codes. An alternate maintenance computer such as the SPORT shall have the capability to display system parameters such as a fault log or measurement history log.

8. The Embedded Diagnostic software shall be a browser based embedded diagnostic IETM incorporating Alternate Troubleshooting Procedures (ATP) up to the point of removal and replacement (R&R). When appropriate, the IETM shall replicate the R&R and alternate troubleshooting procedures of the -20 TM.

9. Replace alternate troubleshooting procedures with BIT/FIT when feasible.

10. Eliminate automatic cable testing. Alternate cable troubleshooting procedures utilizing the break out box and multi-meter shall be retained, but will be migrated to the IETM.

III. BIT/FIT Hardware requirements Portion of the Test Program Set (TPS).

1. BIT/FIT Hardware TPS will be permanently installed in the tank.

2. Unique sidecar configurations shall be minimized to the fullest extent feasible. The preferred configuration is a common SidecarTM with unique "pig-tail" cables that connect the SidecarTM to each LRU.

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Name of Offeror or Contractor: PEI ELECTRONICS INC

3. A militarized Sidecar™ cable using a high-speed serial bus shall be used to link all Sidecars™.
4. Deleted.
5. Deleted.
6. A Sidecar™ Embedded Diagnostics hardware interface installation kit shall be developed.
7. EMI / environmental requirements must meet same as M1A1 vehicle base system environmental requirements called out in the Environmental Requirements for the M1 Tank Program, SB-X10001B.
8. Develop an Embedded Diagnostics solution for the RTNB and RHNB to include embedding Sidecars™ and developing the wiring harness interconnect and I/O flexes.
9. Commercial part numbers may be used provided the parts meet the temperature and functionality requirements of the Environmental Requirements for the M1 Tank Program, SB-X10001B.

IV. Logistics Products

1. Provisioning data shall be developed in accordance with MIL1552 and delivered to TACOM. TACOM POCs are: TACOM Warren, Chuck Konn, (810) 574-7341; TACOM Rock Island, Gordy Bieri, (309) 782-2189.
2. Technical Manual (TM) change source data shall be developed, validated / verified and delivered in accordance with the attached flow chart. Embedded Diagnostic organizational TM data shall be in IETM format and be an integral part of the Test Program Set (TPS).
3. Modification Work Order (MWO) and MWO kit documentation source data shall be developed, validated / verified and delivered to the government.
4. Training packages shall be developed for Crew and Organizational maintenance. A Train the Trainer training package shall be developed and taught to New Equipment Training (NET) personnel. NET training will be conducted by PEI at a site to be determined by the government.

V. Quality Assurance

PEI will follow the currently approved ISO-9001 and the CP2 QA system of Policies and Procedures concerning Hardware Design, Software development and Manufacturing including but not limited to Qualification Testing, Final ATP and Delivery.

1. Software:

PEI Software Quality Assurance will monitor all phases of the program from concept through design, testing and product shipment. SQA will accomplish this by assuring that the program follows the assigned plans and procedures that are placed on the program. As a minimum these include an SQA Plan in accordance with PEI Procedure PEI-033, System Software in accordance with PEI Procedure ENG-02 and TPS in accordance with PEI Procedure ENG-11.

2. Hardware Quality Assurance:

Hardware Quality Assurance will participate through out all the phases of the program and ensure contract terms and requirements are complied. As a minimum Hardware Design will be in accordance with PEI Procedure ENG-12, Qualification Test Plans and Procedures will be in accordance with PEI Procedure ENG-21. Soldering will be in accordance with ANSI/J-Std-001 and Workmanship in accordance with IPC-A-610.

*** END OF NARRATIVE A 060 ***