

12 AUGUST 2003

SECTION C

STATEMENT OF WORK

FOR REPAIR OF THE

AUTOMATIC FIRE CONTROL SYSTEM (AFCS) XXI

AND

PROGNOSTIC/DIAGNOSTIC (PDIU) INTERFACE UNIT

Prepared by

TANK-AUTOMOTIVE & ARMAMENTS COMMAND - ROCK ISLAND

CENTER FOR FIELD ARTILLERY & MORTAR SYSTEMS

AMSTA-LC-CSFQ

1. SCOPE.

This requirement covers repair of the Automatic Fire Control System XXI and Prognostic/Diagnostic Interface Unit.

2. APPLICABLE DOCUMENTS.

2.1. Military Specifications.

None.

2.2. Military Standards.

MIL-STD-129 Standard Practice for Military Marking

MIL-STD-2073-1 Standard Practice for Military Packaging

2.3. Industry/Commercial.

ANSI/ISO/ASQ Q9001-2000 Quality Management Systems - Requirements

ASTM D3951-95 Standard Practice for Commercial Packaging

ASTM D4169-96 Standard Practice for Performance Testing of Shipping Containers and Systems

ASTM D4332-89 Standard Practice for Conditioning Containers, Packages, or Packaging Components for Testing

2.4. Regulations.

FAR Federal Acquisition Regulation

2.5. Other.

DoD 4160-21-M-1 Defense Demilitarization Manual

Paladin Automatic Fire Control System (AFCS) XXI Specification, Rev. D; dated 19 April 1996.

PRF12979825 ACU Specification; dated 14 May 2003

PRF12554020 Prognostic/Diagnostic Interface Unit Specification; dated 10 June 1996

3. REQUIREMENTS.

3.1. Major Item/Components.

3.1.1. The AFCS XXI (part number (PN) 6125100, ordnance number 12979825, national stock number (NSN) 7021-01-440-2127) consists of:

Nomenclature	PN	NSN
TCIM Board	6125930	5998-01-422-2044
Disk Drive	6125130	7025-01-440-3472
Discrete I/O CCA	6125300	5998-01-440-5944
Servo Controller CCA	6125400	5998-01-440-5941
1553 CCA	6125500	5998-01-440-5943
Connector Panel	6125600	1290-01-441-3111
Processor/Memory CCA	6125700	5962-01-440-5934
Power Supply Assembly	6125950	6130-01-487-3093
Backplane Assembly	6125200	5998-01-440-5942

3.1.2. The PDIU (PN 12554020, NSN 1025-01-294-3341) consists of:

Signal Protection/Multiplexer CCA	12554029	5998-01-294-2104
Input/Output CCA	12554025	5998-01-294-2108
Processor CCA	12554041	5998-01-294-2105
768K Memory CCA	12562730	5998-01-367-9685
EMI Filter CCA	12562755	5998-01-369-2814
Power Supply	12554010	6130-01-384-2700

3.2. Scope. The contractor shall supply the necessary labor, parts, material, equipment, services, and facilities needed to return any Government-owned AFCS XXI/PDIU/component to condition code A (serviceable - issuable without qualification) IAW the requirements contained herein.

3.3. Estimated Quantities. The approximate repair quantities are as follows:

	1st YR	2nd YR	3rd YR	4th YR	5th YR
ACU	20	20	20	20	20
TCIM Board	20	20	20	20	20
Disk Drive	20	20	20	20	20
Discrete I/O CCA	20	20	20	20	
Servo Controller CCA	10	10	10	10	10
1553 CCA	10	10	10	10	10
Connector Panel	10	10	10	10	10
Processor/Memory CCA	35	35	35	35	35
Power Supply Assembly	35	35	35	35	35
Backplane Assembly	5	5	5	5	5
PDIU	2	2	2	2	2
Signal Protection/Multiplexer CCA	3	3	3	3	3
Input/Output CCA	3	3	3	3	3
Processor CCA	3	3	3	3	3
768K Memory CCA	3	3	3	3	3
EMI Filter CCA	3	3	3	3	3
Power Supply	3	3	3	3	3

3.4. Turn-ins. Government personnel in the field will examine a defective AFCS XXI/PDIU/component and ascertain whether it requires repair to be performed by the contractor. If necessary repairs warrant the return of an AFCS XXI/PDIU/component, it will be packed in a Government-approved container and forwarded to the contractor for repair. This Government-approved container shall also be used for return shipment of the AFCS XXI/PDIU/component. Any unserviceables will be forwarded to the contractor with the Tank-automotive and Armaments Command (TACOM) document number W52H09.

3.5. Incoming Inspection. A Government representative will witness on-site inspection of the items received at the contractor or subcontractor for repair.

3.6. Repairs. Repair of all items shall be accomplished at the contractor or subcontractor site. The repair will include, as necessary, unpacking, disassembly, inspection, diagnosis, removal and replacement of subassemblies/component parts, reassembly, cosmetic work (when necessary to prevent further deterioration), calibration, final testing/inspection, and packing for shipment.

3.7. Repair Parts.

3.7.1. Mandatory Replacement Parts. There are no mandatory replacement parts.

3.7.2. Replacement of Missing Parts. The contractor shall replace any missing components of the end item.

3.7.3. Government Furnished Materiel (GFM). Ordering procedures by MILSTRIP are described in Addendum I, Electronic Requisition Submittal Procedure and Data Item No. A001 (DI-MGMT-80408B), Request for Government Furnished Materiel. Addendum II contains "List Of Authorized Government Furnished Materiel (GFM)" by National Stock Number (NSN), Part Number (PN), Nomenclature, Unit of Issue (UI), Unit Price (UP), and Total Authorized Quantity. Data Item No. A002 (DI-MGMT-80438B), Government Furnished Materiel (GFM) Consumption Report contains instructions for preparing the consumption report. (See Addendum I)

3.7.4. Configuration Updates. Any item received shall be upgraded to the latest configuration.

3.8. Maintenance Expenditure Limit (MEL). The contractor is authorized to start repair diagnosis immediately upon receipt of a unit with proper documentation, i.e. a TACOM document number W52H09. Repair shall be made to any AFCS XXI/PDIU/component provided that the repair cost does not exceed the MEL, i.e. 75% of the current acquisition cost as follows:

ACU	7021-01-440-2127	\$19,042.50	
TCIM Board	5998-01-422-2044	3,555.00	
Disk Drive	7025-01-440-3472	734.25	
Discrete I/O CCA	5998-01-440-5944	969.00	
Servo Controller CCA	5998-01-440-5941	1,761.00	
1553 CCA	5998-01-440-5943	1,806.00	
Connector Panel	1290-01-441-3111	2,874.75	
Processor/Memory CCA	5962-01-440-5934	3,630.75	
Power Supply Assembly	6130-01-487-3093	1,547.25	
Backplane Assembly	5998-01-440-5942	637.50	
PDIU	1025-01-294-3341		23,285.25
Signal Protection/Multiplexer CCA	5998-01-294-2104	1,384.81	
Input/Output CCA	5998-01-294-2108	2,197.31	
Processor CCA	5998-01-294-2105	2,596.50	
768K Memory CCA	5998-01-367-9685	959.02	
EMI Filter CCA	5998-01-369-2814	7,585.68	
Power Supply	6130-01-384-2700	3,011.31	

Any AFCS XXI/PDIU/component whose repair cost exceeds the MEL shall be retained by the contractor as Government-owned property until instructions are received from the Contracting Officer (CO) concerning repair or disposition. The contractor shall dispose of non-repairable items IAW applicable federal, state and local regulations when directed by the CO.

3.9. Demilitarization. Electronic components and assemblies that are beyond economical repair and that are coded with a demilitarization (DEMIL) code of "D" will be rendered unfit for their intended use in accordance with Defense Demilitarization Manual DoD 4160.21-M-1.

3.10. Turnaround Time. The contractor shall establish an average turnaround time of 60 days for repair of a unit. Turnaround time is defined as the time in days from receipt of a unit at the contractor's dock to the time it is ready for shipment.

3.11. Quality.

3.11.1. Quality Control. Imperfections such as scratches, blotches, or runs in the paint, and minor dents or nicks shall not be used as rejection criteria for repaired assemblies or components.

3.11.2. Acceptance. Acceptance for the AFCS XXI shall be based on requirements outlined in Performance Specification PRF12979825, Item Specification for Automatic Fire Control System (AFCS) XXI Computer Unit (ACU), dated 14 May 2003. ACU PRF12979825 dated 14 May 2003 incorporates ERRs applied to PRF12979825 from ECPs H7P5000 (the initial ACU specification) and H8P2004 and H9P2016. Acceptance for the PDIU will be based on requirements outlined in Paladin Prognostic/Diagnostic Interface Unit (PDIU) Specification PRF12554020; dated 10 June 1996.

3.12. Deliverables.

3.12.1. Repair Reports. The contractor shall maintain records of repairs on all items sent in for repair during the life of the contract. This report shall be delivered IAW Data Item No. A005 (DI-ILSS-80386). Any PN changes due to obsolescence (of parts replaced during the repair) shall be indicated in the report. For those reporting periods in which there are no inductions, cite: "No activity in this reporting period." Each item stored temporarily due to part(s) shortage shall be listed by document number on the monthly report and annotated: "Temporarily stored due to repair part(s) shortage".

3.12.2. Accountability Requirements. Accountability requirements for normal repair of Army assets are described at Addendum I. Web-based Commercial Asset Visibility (CAV) will be used (requirements attached).

3.12.3. Performance and Cost Report. A Performance and Cost Report shall be delivered IAW Data Item No. A006 (DI-FNCL-80912).

3.13. Software Upgrade. Repair shall include installation of software versions AFCS V11.M and PDIU V9G or any subsequent versions supplied by the Government.

3.14. Phaseout. Work under this contract may be ordered at any time prior to the contract's expiration. To the extent necessary to complete the last work order, a phaseout period of up to 60 days shall be added. This phaseout period will provide for:

- a. Completion of work in process.
- b. Transfer of Government accountable property to a Government facility.
- c. Delivery of monthly reports throughout the phaseout period.

ADDENDUM I

Accountability Instructions

1. The Government is required to retain property accountability for all assets being repaired upgraded, or modified. Therefore, applicable Army regulations rather than the Federal Acquisition Regulation (FAR) govern the practices and procedures necessary for recording receipts, discrepancies, inventories, adjustments, and shipments by the contractor.

2. Point of contact for accountability.

Associate Deputy, GSIE/TACOM-RI
Site Manager
ATTN: AMSTA-LC-CIAI
Rock Island, IL 61299-7630
Commercial Phone: 309-782-5291

3. Materiel Receipt by Contractor.

a. General. If assets are received with a document number other than W52H09___, contact the POC listed below for assignment of a document number prior to induction for repair, upgrade, or modification.

Associate Deputy, GSIE/TACOM-RI
Site Manager
ATTN: AMSTA-LC-CIMD
Rock Island, IL 61299-7630
Commercial Phone: 309-782-6396
E-mail: noel@ria.army.mil

b. Discrepancy Reporting. Discrepancies shall be distinguished and reported as one of the following:

(1) Transportation-type Discrepancy. This discrepancy is evident when material received disagrees with the condition, quantity or type from that property described on the bill of lading or other transportation documents. A report of discrepancy shall be delivered IAW Data Item No. A003 (DI-MGMT-80554A).

(2) Shipping-type Discrepancy. This discrepancy is evident when freight is opened and the contents do not agree with the supply shipping documents. A report of discrepancy shall be delivered IAW Data Item No. A004 (DI-MGMT-80503).

4. Shipment of Repaired, Upgraded, or Modified Items.

a. General. Upon completion of repair, upgrade, or modification, the contractor shall ship the asset in place and ensure posting to CAV.

b. Disposition. Disposition may be prearranged for delivery to a different location with a provision for exception.

See Microsoft Word document filename: CAV.doc for additional requirements.

5. Consumption of Government Furnished Materiel (GFM).

The contractor shall provide reports of GFM consumption IAW Data Item No. A002 (DI-MGMT-80438A).

6. Inventory Control. The contractor shall maintain custodial inventory records of assets for which TACOM is accountable to enable the calculation of an inventory balance by NSN.

a. Part 45, FAR, contains provisions acceptable to Department of Army accounting requirements for assets wherein accountability rests with TACOM.

b. These requirements are not to be confused with federal requirements wherein accountability for stock does not rest with TACOM and the contractor is required to use Part 45, FAR.

ADDENDUM I

Electronic Requisition Submittal Procedure

1. MILSTRIP requisitions shall be submitted via the Defense Automatic Addressing System Center (DAASC) Web Requisitioning on the Internet. The URL is: <https://day2k1.daas.dla.mil/webreq/>. Once at the Internet address, complete the "Web Requisitioning System Access Request". A Login ID and Password will be assigned for access to Web Requisitioning.

- a) Go to <https://day2k1.daas.dla.mil/webreq/>
- b) Enter your Login ID and Password.
- c) Click on "Submit Login."
- d) Click on "Requisitions and Related Transactions."

2. Input requisitions through Record Entry or Table Entry. The following is data needed to complete a requisition in Web Req:

- a) Document Identifier Code (DIC): A0A
- b) Routing Identifier Code (RIC): A84 (Rock Island), A85 (Warren)
- c) Media and Status Code: S
- d) National Stock Number (NSN):
- e) Unit of Issue (UI):
- f) Quantity to be Requisitioned:
- g) Document Number: Contract assigned DODAAC (CMxxxx), Julian date (yddd), series in sequence starting with: 0M00
- h) Demand Code: Blank
- j) Supplementary Address: Blank
- k) Signal Code: As specified in Contract
- l) Fund Code: As specified in Contract
- m) Distribution Code: S
- n) Project Code: If specified in Contract
- o) Priority: 03
- p) Required Delivery Date: Julian date
- r) Advice Code: 2L
- s) Optional data: If specified in Contract

3. Submit Queue.

4. Any questions about the use of the Web Req should be directed to Ms. Linda Noe (309) 782-6396 or Mr. Charles Schultz (586) 574-6402.

SECTION D

PACKAGING AND MARKING

1. Military Preservation, Packaging and Packing for the items identified below shall be accomplished in accordance with the Special Packaging Instructions (SPI) and all the applicable requirements of MIL-STD-2073-1D.

Nomenclature	NSN	SPI
ACU w/container	7021-01-451-5790	P12927707-7
PDIU w/container	1045-01-409-2631	P12927707-6

2. Each circuit card assembly shall be packaged IAW drawing 9370051.

3. For other subassemblies, the packaging shall be in accordance with ASTM D 3951. The unit package quantity shall be one each. The packaging shall have successfully passed test levels of ASTM D 4169 for Distribution Cycle 18, Assurance level I, Acceptance Criterion 1 and 2. The temperate high humidity atmosphere conditions of ASTM D 4332 shall be used for element I of D 4169. The warehouse stacking height shall be 16 ft. The shipping unit shall be the unit pack. Testing shall be witnessed by the Government Quality Assurance Representative. Packaged gross weight and size shall be included on the test report as well as a detailed description of the packaging. The contractor is exempted from testing if other data can be provided (see paragraph 5.6 of MIL-STD-2073-1D) and is acceptable to the Government. Similar items do not require retesting.

4. Marking shall be IAW MIL-STD-129. In addition, mark each package: "CONTRACTOR REPAIRED."

SECTION E

INSPECTION AND ACCEPTANCE

The contractor shall establish and maintain an inspection system IAW ANSI/ISO/ASQ Q9001-2000 or a Government-approved system. Upon completion of repair work by the contractor or subcontractor, inspection and acceptance of repaired units will be made by Government quality assurance personnel by DD Form 250 at the contractor's (subcontractor's) plant or at the packaging facility. Quality Assurance standards applicable to this order are set forth in Section C - STATEMENT OF WORK.

OZONE DEPLETING CHEMICAL (ODC) STATEMENT

There are no requirements for the use of ODCs in this SOW.

ADDENDUM II

List Of Authorized Government Furnished Materiel (GFM)

NSN	PN	Nomenclature	Unit of Issue	Unit Price	Total Authorized Quantity
5998-01-422-2044	6125930	TCIM Card - 50785	EA	4314.00	100
5998-01-440-5944	6125300	Discrete I/O CCA	EA	1699.00	100
5998-01-440-5942	6125200	Backplane/Motherboard	EA	929.00	100
7025-01-440-3472	6125130	Hard Drive Ass'y	EA	1246.00	100
5915-01-440-5940	6125126	EMI Filter	EA	430.33	100
6150-01-440-3466	6125701	SCSI Cable	EA	136.00	100
6150-01-440-3465	6125702	Keyboard/Mouse LCD C	EA	211.22	100
6150-01-440-3464	6125704	VGA Video Cable	EA	96.21	100
6150-01-440-3462	6125705	Ethernet Cable	EA	89.42	100
6150-01-440-3463	6125706	RS-232 Serial Cable	EA	60.97	100
6150-01-440-3467	6125707	Cable Ass'y	EA	62.33	100
5935-01-440-5939	6125708	MIL CIRC	EA	210.23	100
5935-01-440-3468	6125709	TWINAX2	EA	124.00	100
5962-01-440-5936	6125720	Memory Module, Std in	EA	817.24	100
5998-01-440-5943	6125500	1553 Card	EA	2065.00	100
6130-01-487-3093*	6125950	Power Supply Ass'y	EA	2823.00	100
5998-01-440-5941	6125400	Servo Controller CCA	EA	4065.00	100
1290-01-441-3111	6125600	Connector Panel Ass'y	EA	5393.00	100
5962-01-440-5934	6125700	Computer/Memory Ass'y	EA	6369.00	100
5330-01-442-0163	6125121	Gasket, Top Panel, O-R	EA	26.84	100
5330-01-440-5945	6125122	Gasket, Connector Pan	EA	18.30	100
5342-01-450-9951**	6125750	Shock Mount	EA	827.11	100
5998-01-294-2104	12554029	SP/Multiplexer CCA	AY	2502.00	100
5998-01-294-2105	12554041	Processor CCA	AY	4765.00	100
5998-01-294-2108	12554025	Input/Output CCA	AY	4046.00	100
5998-01-367-9685	12562730	768k Memory CCA	AY	1733.00	100
8145-01-391-4922	12927700-6	Container, PDIU	EA	737.00	100
8145-01-451-6767	12984622	Container, ACU	EA	690.00	100
1025-01-294-3341	12554020	PDIU	EA	50257.00	0
1025-01-409-2631	12927707-6	PDIU with container	EA	50992.00	0
7021-01-440-2127	12979825	ACU	EA	37522.00	0
7021-01-451-5790	12927707-7	ACU with container	EA	42107.00	0
6130-01-384-2700	12554919	PDIU Power Supply	EA	3331.00	100

*Replaced NSN 6130-01-440-3469, PN 6125900

**Replaced MCN 1025-01-M26-5447, PN 6125750