

PREPARED ON 02-FEB-2015 15:22  
Pr. LIN: R90451  
Approved: 22-APR-98  
Milestone:  
APC:  
Proponent: 122  
Cost: \$322,127.00

BOIP: C211AA Title: RADIO TERMINAL: LINE OF SIGHT MULTI CHANNEL AN/TRC  
Published: System Date: 14-MAR-00  
Projected: Type Class: 05-NOV-85  
AL: 2 First Unit Equip: 15-SEP-00  
CARDS: 0876 RIC: B16  
NSN: SSN: W7060000GCH  
NETP: CEC97058

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APPROVED NARRATIVE

C211AA-A3 LIN R90451  
Approved: 22 Apr 98  
Amendment 1: Approved Oct 01  
Amendment 2: Approved 25 Jul 11  
Revision: Approved 20 February 14  
Revised: 21 May 2014 Formatting  
Amendment 3: 9 January 2015

A. Description: The Line of Sight Multi-Channel Radio Terminal AN/TRC-190E(V)1 LIN R90451 is a fully synthesized, microprocessor controlled, high capacity, digital UHF radio transmitter-receiver designed for a multichannel tactical role, which provides line-of-sight radio connection to the Joint Network Node. This system is housed in a component S-250 Shelter, LIN S01427, and is mounted on an ASIOE M1097 HMMWV, LIN T07679, that tows an ASIOE trailer mounted 5KW generator specifically configured for TRC-190, LIN G42238 or LIN L26934.

Physical Characteristics:

Length: 107.00 inches  
Height: 71.00 inches  
Width: 80.00 inches  
Weight: 2,600.00 pounds  
Cube: 352.00 cubic feet

Component Lin Items:

LIN	NOMENCLATURE	QTY/Ratio
C63645	Cable Assembly Special Purpose Electrical:	
CX-11230/G	1/4 Mile	1:1
S01427	Shelter: Non-expandable S250	1:1

Component Non-Lin Items:

NSN/PN	NOMENCLATURE	QTY/Ratio
5995-01-128-3944	Handset: H-350/U	1:1
8105-01-354-3949	Bag, Equipment Storage	1:1
5975-00-224-5260	Grounding Rod, MX-148/G	2:1
6150-00-495-1214	Grounding Strap	2:1
09-2733619-1	Cord Set (Cage 67032)	1:1
5975-01-536-5836	Protocol Converter CTM-100C	1:1
5895-01-601-2847	KYB-701 Buffer	1:1
6020-01-208-1147	FIBER OPTIC, 1000M, CX-13295/G	1:1
5895-01-590-8481	IE 3000 Switch	1:1
5965-99-405-9042	Handset, RA-250	1:1
4520-00-177-6198	Heater Space, Electric	1:1
5985-01-297-4145	Antenna Feed	2:1
6130-01-252-9724	Battery Charger:	

PP-8190/G	1:1	
6140-00-446-9554	Battery Storage, Lead Acid	2:1
5995-01-314-1262	Power Cable, AC, Stub, 15 FT CX-13380/T	1:1
5995-01-314-1263	Power Cable, AC, EXT, 35 FT	1:1
5995-01-325-8646	Power Cable, DC	1:1
5995-01-287-6473	Cable, Antenna, 45 FT	6:1
5995-01-287-6472	Cable, Antenna, 65 FT	3:1
5820-20-002-4516	16MB RFU RT-1816 BAND 1&III	1:1
5996-20-002-5333	16 BBU AM-1870A	1:1

The following NSNs must be installed onto the generator trailer to carry TRC-190 15 Meter Mast:

5340-01-417-9868	Generator Antenna Bracket	4:1
3895-01-471-5586	Frame Mounted on Generator	1:1

B. Capabilities: The AN/TRC-190E(V)1 provides UHF Line of Sight radio relay at the Command Post Node (CPN). The addition of new components into an upgraded area common user system (ACUS) assemblage will provide an increased data transmission capacity;

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upgrade trunk group multiplex/de-multiplex TGMD from 8MB to 16MB by replacing the communications modem, the MD-1272/G FOM, 5VDC power supply, signal entry panel (SEP) and legacy cables with the IE 3000 Switch, CH (with SPF modules), CTM-100C, KYB701 and KY-57 buffer, 28VDC to 110 VAC inverter, fiber optic panel, Fortress Encrypter Device (FORTRESS ES 2440) and other mechanical and electrical components. Additionally, it will provide support to the Joint Network Node (JNN) and Expeditionary Signal Battalion (ESB) communications structure.

C. Employment: The Radio Terminal: Line of Sight Multi-channel AN/TRC-190E(V)1 is employed with the CPN at the Expeditionary Signal Battalion (ESB), Brigade Combat Team (BCT), and DIVARTY HHB.

D. Basis of Issue: Per requirement to provide UHF radio relay to the CPN. Normally:

1. 4 per Brigade Signal Company (SBCT), (ABCT/IBCT)
2. 2 per Brigade Signal Company (MEB/CAB/SB) or (FIB/BFSB)
3. 2 per DIVARTY HHB, LOS Team, Network Extension Sectio

n

4. 24 per Expeditionary Signal Battalion (ESB)
  - a. 5 per Expeditionary Signal Platoon, Expeditionary Signal Company.
  - b. 2 per Heavy Signal Platoon, Joint/Area Signal Company in the ESB.

E. Power Requirements: The external power requirements of this system are 120 VAC, 8.15 amps, at 60Hz; to be provided by the ASIOE PU-797, 5KW generator (LIN L26934 or G42238).

F. Transportation Requirements:

1. Ground: Transported by ASIOE Heavy Variant HMMWV, LIN T07679.
2. Air: Transported by C-130.

G. Personnel/Maintenance Impacts:

1. OPERATOR(s).
- a. Crew size/MOS: Three-25Q Multi-Channel Transmission Systems Operators except as noted below in Special Notes.
- b. Training Requirements:

- (1) NET PLAN NUMBER CEC97508.
- (2) <<https://amtas.army.mil/amtasweb/scripts/login.cfm>>
2. MAINTAINER(s)

a. Field Level: MOS 25U, 94E, and 94F

H. Special Notes:

1. This LIN does not replace any existing LIN. See Special Notes 5.
2. This BOIP does not increase or decrease personnel or equipment.
3. Associated Support Items of Equipment (ASIOE):

LIN	GEN NOMEN	RATIO
L26934	LTT Trailer: PU-2001/5KW/50/ 60HZ MTD	
	on M116A2 PU-797	1:1
M13833	15M MAST: AB-1339A/G	1:1
S01373	Speech Security Equipment: TSEC/KY-571	1:1
T07679	Truck Utility: Heavy Variant HMMWV 4x4	
10000	GVW W/E M1097	1:1
W37388	Tool Kit Electronic Equipment: TK-105/G	1:MOS*
W37483	Tool Kit Electric Equipment: TK-101/GSQ	1:Considered

\* Where authorized by Maintenance MOS

4. MODPATHs CAM008 and CAM458 are used in the application of this BOIP.

5. Summary of Changes:

a. System Upgrades. Modifications to this BOIP include upgrading the AN/TRC-190A(V)1, AN/TRC-190C(V)1 and AN/TRC-190D(V)1 to the AN/TRC-190E(V)1 High Capacity Line of Sight Multichannel Radio Terminal. The modification provides for the addition of the new com

ponents, deletion of existing components and integration of radio terminal components into an upgraded area common user system (ACUS) assemblage.

b. BOI Correction. The BOI for the DIVARTY HHB, LOS Team, Network Extension Section was changed to 2.

6. Previous BOIP Amendments addressed modifications to C211AA TRC-190C(V)1 provided for the integration of radio terminal components into an ACUS assemblage. Each TRC-190C(V)1 crew in the ESB has a MARC Deviation of one 25Q. The approved TRADOC AIMD

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validated requirement was 1:1 where there were CPN assigned; however, due to resource constraints, fielding was IAW the TRADOC approved LOS FDU JR. COA 2 and DA OI Guidance. At the Brigade level, the TRC-190C(V)1 was documented in the Brigade Signal Company Network Extension Platoons. The Basis of Issue at the Brigade level reflected a "pool of resources" and by METT-TC, the Bde S6 will decide which BN CP Node received the TRC-190C(V)1. The operators of those BN CP Nodes operate and maintain 2 per Heavy Signal Platoon of the TRC-190C(V)1. Each TRC-190C(V)1 crew at Brigade Cbt Tm level has a MARC Deviation of 3 25Q. The SBCT/ABCT/IBCT were resourced one operator per system and the (MEB/CAB/SB)(FIB/BfSB) received no personnel. Units use personnel from the TRC-190C(V)3 as needed.

7. Truck Utility: ECV Shelter Troop/Cargo M1152A1 may be substituted upon approval of BOIP T086AA.

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EQUIPMENT REMARKS

RMK DESCRIPTION

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NO EQUIPMENT REMARKS FOUND!

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PERSONNEL REMARKS

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NO PERSONNEL REMARKS FOUND!