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AUTHORITY

AGO ltr 29 apr 1980

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DEPARTMENT OF THE ARMY
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WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGDA (M) (4 Sep 69) FOR OT UT 691227

11 September 1969

SUBJECT: Operational Report - Lessons Learned, Headquarters, 972d Signal Battalion, Period Ending 31 January 1969

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1. Subject report is forwarded for review and evaluation in accordance with paragraph 5b, AR 525-15. Evaluations and corrective actions should be reported to ACSFOR OT UT, Operational Reports Branch, within 90 days of receipt of covering letter.

2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:


ROBERT E. LYNCH
Colonel, AGC
Acting The Adjutant General

1 Incl
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DEPARTMENT OF THE ARMY
HEADQUARTERS 972D SIGNAL BATTALION (CA)
APO San Francisco 96394

SCCPV-SG-FS-CO

14 February 1969

SUBJECT: Operational Report of 972d Signal Battalion for Period Ending
31 January 1969, RCS CSFOR-65 (R1)

SEE DISTRIBUTION

1. Section 1. Operations: Significant Activities.

a. Span of Report. This is the first Operational Report Lessons Learned submitted by the 972d Signal Battalion since its reactivation; it will therefore cover all significant activities of the battalion from its formal reactivation to the present. The battalion was operational during the entire 92 day period of 1 November 1968 through 31 January 1969.

b. Activation and Training.

(1) The 972d Signal Battalion was activated by General Order #6A-83 at Fort Lewis, Washington, on 1 June 1968. Only the Headquarters and Headquarters Company were assembled, with additional units to be added later. The battalion was given the initial mission of preparing for overseas movement. At the time of its activation the 17th Signal Platoon (Cable Construction) was also activated and attached to the 972d Signal Battalion for administration and training.

(2) The battalion could not begin formal training until 70% of its TOE strength was on hand. The shortages of personnel postponed the start of training from 10 June 1968 until 15 July 1968. Between 15 July 1968 and 12 September 1968 the 972d Signal Battalion underwent nine weeks of intensive training, which included four field training exercises plus a graded 72 hour Army Training Test on 9-12 September 1968. The formal and informal training of the battalion lasted a total of ninety-five days.

(3) Generally, the training went smoothly. Some difficulties were experienced that should be mentioned: (a) Although 70% of the total personnel strength was on hand, key Non-Commissioned Officers such as the Sergeant Major, the First Sergeant for Headquarters Company, the Operation Sergeant for the S-3 section, and a number of other E-7's and E-6's were missing. These individuals did not arrive until mid-August. The training program by this time was near completion. The senior officer and non-commissioned officer cadre should be assigned and on hand prior to the arrival of the lower grades. The lack of experienced enlisted personnel resulted in time consuming mistakes and an initial problem in organization.

FOR OT UT

69/227

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(b) There was insufficient coordination between the arrival of the battalion's equipment and the arrival of the troops for training. Equipment was being received throughout the training period. Some of the equipment did not arrive until after the ATT. Fortunately, sufficient equipment was borrowed from the 78th Signal Battalion to initiate and conduct training. Had equipment not been available from other sources the unit would not have been able to meet its scheduled movement dates. (c) Although the 972d Signal Battalion was a D-1 unit, it had no priority for ranges and other training facilities at Fort Lewis. This forced repeated changes in the training program, as facilities were not available when needed. To avoid this in the future, the headquarters which orders the activation of a unit on D-1 status should insure that D-1 status units have priority for facilities at the post on which the training is to be conducted. (d) The Army Training Test (11-86) used to test the 972d Signal Battalion was outdated in the area of tactics and movement, especially for a unit bound for Vietnam. The ATT should be revised to more adequately depict operations in unconventional type warfare.

e. Overseas Movement. After successfully completing the ATT, the 972d Signal Battalion began packing its equipment for overseas shipment. Upon completion of the packing the battalion was given a final POM inspection by the Headquarters Fort Lewis G-4 on 18-20 September. Personnel in the battalion were then released for a three-week leave on 1 October 1968, to return to Fort Lewis on 22 October 1968. The main party flew out of McChord AFB on 27 October 1968 and arrived in RVN on 29 October 1968. The advance party consisting of the Battalion Commander, S-3 and S-4 had arrived on 19 October 1968. A total of twenty-seven days were spent in preparing the battalion for movement and moving overseas.

d. Assignments in RVN.

(1) In Vietnam the 972d Signal Battalion was assigned to the 2d Signal Group, with headquarters at Long Binh. On 1 November 1968 the 107th Signal Company was assigned to the 972d Signal Battalion. This company is a National Guard unit from Providence, Rhode Island. The 107th Signal Support Company had been activated on 13 May 1968 by General Order 1A-78 at Fort Devens, Massachusetts and assigned to the 46th General Support Group. The company's seven weeks of formal training began on 19 June 1968 and ended with an ATT on 7-10 August 1968. The main party of the 107th Signal Support Company left Fort Devens on 12 October 1968 and arrived in RVN on 14 October 1968. The company was temporarily assigned to the 36th Signal Battalion for administrative support before being transferred to the 972d Signal Battalion.

(2) On 15 November 1968, the 267th Signal Company (Cable Construction) and the 327th Signal Company (R/R) were assigned to the 972d Signal Battalion for administrative control. The 267th Signal Company

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and 327th Signal Company had been assigned to the 39th Signal Battalion and the 36th Signal Battalion, respectively, before being brought under the direct control of the 2d Signal Group on 1 October 1968. Upon removal from the 39th Signal Battalion, the 267th Signal Company had moved from Bear Cat to Long Binh. Operational control of these companies remained with Headquarters, 2d Signal Group.

(3) On 15 January 1969, the 972d Signal Battalion lost its administrative control over the site locations of the 327th Signal Company. The personnel and equipment at these sites were attached to other signal battalions of the 2d Signal Group. These attachments were made to better align the communications responsibilities.

e. Activities and Problems in RVN.

(1) Shortly after its arrival in Vietnam, the 972d Signal Battalion was given the twofold mission of (a) providing the contingency force for the 1st Signal Brigade and (b) providing communication in support of the III and IV Corps Tactical Zones, as directed by the Commanding Officer, 2d Signal Group. The latter mission involved sending men and equipment from Headquarters Company and the 107th Signal Company to sites in the Mekong Delta in support of Operation "SPEEDY EXPRESS". The 972d Signal Battalion was also given responsibility for operation of the signal facilities at II Field Force Headquarters and the 199th Light Infantry Brigade. This task was subsequently assigned to the 107th Signal Company. In addition to these missions the 972d Signal Battalion participated in the establishment of communications for a prisoner exchange which was held near Tay Ninh on 1 January 1969.

(2) The lack of timely intelligence reports concerning the enemy and friendly situations has been a hardship on this battalion in planning for its contingency mission. The rapid response required by any contingency force requires that it know and plan for potential problem areas. Many of these could be determined if up-to-date reports were received on a daily basis. Recent efforts to obtain III Corps daily intelligence reports has not with some success. These reports provide a little more insight into the tactical situation.

f. Present Status of 972d Signal Battalion. At present the assigned personnel strength of the 972d Signal Battalion is 95% filled, and there are no serious shortages in any MOS's. The battalion has suffered no casualties over the past quarter. As of this report the 972d Signal Battalion has been assigned one contingency mission by the 1st Signal Brigade. Elements of the Headquarters Company and the 107th Signal Company are kept in readiness for this and other missions by continuous training at Long Binh. In addition, 972d Signal Battalion has sites in the III and IV Corps zones, which continue to provide communications

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support for tactical units throughout these areas.

2. Section 2. Lessons Learned: Commander's Observations, Evaluations, and Recommendations.

a. Personnel. None

b. Operations.

(1) Notting Difficulties in Radio Sets.

(a) OBSERVATION. It has been found that when using secure transmission radio sets AN/GRC-122 and AN/GRC-142 will not net with radio set AN/GRC-26D without a special adjustment of equipment.

(b) EVALUATION. The radio set AN/GRC-26D, when utilizing secure transmission operates on frequency shift key (FSK). Radio sets AN/GRC-122 and AN/GRC-142 have a single side band operation, which can operate either on the upper or lower side band. If the FSK setting on the AN/GRC-26D does not match the side band setting on the AN/GRC-122 or 142, the two sets will not net.

(c) RECOMMENDATION. Operators will be instructed that if the AN/GRC-122 or 142 does not net with the AN/GRC-26D, the toggle switch on the modem MD-522/GRC should be pushed to the opposite position. (NOTE: On the plain model the switch is located on the chassis. On model "A" it is located on the front of the panel.)

(2) Crosstalk in the Multiplexer MK-106.

(a) OBSERVATION. It has been found that crosstalk can be introduced into radio equipment from an outside source.

(b) EVALUATION. On one of the tropo systems operated by the 327th Signal Company crosstalk was encountered. The problem could not be attributed to multiplexer alignment, level alignment, or R.F. equipment between stations. It was then discovered that when the system became noisy and had crosstalk, a VHF system supplying circuits to the MK-106 was off the air. The trouble was caused by an increase in noise level from the VHF channels tied into the multiplexer MK-106. The noise was feeding over into adjacent channels, putting noise on the system.

(c) RECOMMENDATION. Operators on tropo systems should monitor at the bridge jack on the line side. Using the monitor amplifier and a VTVM, the operator can insure that the level does not exceed -50db. Contact can be made with the appropriate control to block the source of the noise until acceptable inputs are resumed. This will safeguard circuit quality on the remaining tropo circuits.

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(3) Trouble Shooting Ringing Circuits.

(a) OBSERVATION. Control facilities on microwave systems have reported circuits inoperable because the channel modem will not ring through on 20hz ringing circuits. In many cases the channel pulse has been dropping as it should, but the subscriber has failed to receive a ring.

(b) EVALUATION. It is standard practice in RVN to trouble shoot the circuits of a microwave system by attaching a field phone (TA-43/PT or TA-312/PT) to the terminal on the back of the AN/TCC-13. It has been found that by removing the TA-312/PT from the channel the ringing problem is corrected. No problem exists with the TA-43/PT. The TA-312/PT has a low impedance ringing circuit, which loads down the ringing circuit of the TCC-13 and thus degenerates the ring to the terminating party.

(c) RECOMMENDATION. The TA-312/PT should not be used to test 20hz drop channel circuits from the terminals of the AN/TCC-13.

(4) Wire Color Coding for AN/TRC-97B.

(a) OBSERVATION. Installers of AN/TRC-97B equipment have experienced difficulties in connecting the AN/TRC-97B van to generator.

(b) EVALUATION. After trial and error experimentation, it was discovered that the AN/TRC-97B van and its generator have a different color coding. In the generator switch box, pin D (neutral) has a green wire. The "neutral" wire in the AN/TRC-97B power cable, however is white.

(c) RECOMMENDATION. Both the white "neutral" wire in the generator switch box and green "neutral" wire in the AN/TRC-97B van should have the ends painted red, and the operators should be made aware of this modification.

(5) Ring Problems During Circuit Installation of AN/TRC-97B Circuit Installation.

(a) OBSERVATION. When installing circuits between the AN/TRC-97B van and switchboard separated by over $\frac{1}{4}$ mile of cable, there was some difficulty installing circuit rings.

(b) EVALUATION. Two procedures were discovered which enhanced installation. First, when ringing a switchboard the AN/TRC-97B operator must not have his jack plug in the monitor position. Secondly,

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the operator must attach the 2600hz ring from the monitor panel to the circuit instead of pressing the monitor button for the ring. Failure to follow either procedure will result in no ring.

(c) RECOMMENDATION. Due to a difference between the ringing impedance of the AN/TRC-97B and that of most Army communications equipment, AN/TRC-97B operators must be informed of the above special procedure which must be followed for a proper ring. At higher levels, a study should be made to modify the ringer and ring impedance of the AN/TRC-97B.

(6) AN/TRC-97B and AN/TRC-90 Interference Problems.

(a) OBSERVATION. When the AN/TRC-97B and AN/TRC-90 were interfaced, circuits could not be established in such a way that the AN/TRC-97B would ring the AN/TRC-90 with 20hz ring.

(b) EVALUATION. The AN/TRC-90 has 600 ohm termination, while the AN/TRC-97B has a 20hz ringer requiring 1200 ohms for termination.

(c) RECOMMENDATION. Operators should be informed that the AN/TRC-97B and the AN/TRC-90 cannot, by themselves, be interfaced for circuit ring. To interface the two, either the AN/TRC-97B ringer must be modified or else an impedance matching device, such as TA-182 ring converter, must be used.

(7) Antenna Stakes for AN/TRC-97B.

(a) OBSERVATION. The metal stakes which are provided with the AN/TRC-97B are too short for guying in most Vietnam applications.

(b) EVALUATION. The guy stakes now provided need to be approximately thirty-six inches longer than at present, to be sufficient for conditions in Vietnam.

(a) RECOMMENDATION. Until this change in the length of the stakes can be made, installers should be instructed to use additional stakes to insure the stability of the antenna. Two stakes should be driven in at a 45° angle to each stake provided with the AN/TRC-97B.

c. Training. None

d. Intelligence. None

e. Logistics

(1) Maintenance of AN/TRC-97

(a) OBSERVATION. A unit of this battalion, the 327th Signal Company has been tasked with providing equipment for AN/TRC-97 tropo

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signal sites. The AN/TRC-97 is a relatively new type of signal equipment to the Army and normal supply channels have not yet been established.

(b) EVALUATION. The AN/TRC-97 has presented innumerable problems of supply and maintenance. Any exchange of parts must be made with the Air Force which in turn orders them from Clark Air Force Base in the Philippines. This has resulted in an intolerably long wait for parts and repair work. As a makeshift measure to maintain reliable communications systems, two AN/TRC-97 vans in the company area were used to provide a maintenance flow of emergency parts.

(c) RECOMMENDATION. That all efforts be made to bring the AN/TRC-97 into the Army's regular supply and maintenance channels as soon as possible.

f. Organization. None

g. Other. None

1 Incl

~~1. Organizational Structure
of 972d Signal Battalion~~

Incl wd Hq, DA

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- 8 copies CO, 2d Signal Group, APO 96491



DONALD W. CARMICHAEL

LTC, SigC
Commanding

SCCPV-SG-CO (14 Feb 69) 1st Ind
SUBJECT: Operational Report of Headquarters, 972d Signal Battalion for
Period Ending 31 January 1969, RCS CSFOR-65 (R1)

DA, HQ, 2d Signal Group, APO SF 96491 28FEB1969

THRU: Commanding General, 1st Signal Brigade (USASTIATCOM), ATTN:
SCCPV-OP, APO SF 96384
Commanding General, USARV, ATTN: AVHGC-DST, APO SF 96375
Commander-in-Chief, USARPAC, ATTN: GPOP-DT, APO SF 96558

TO: Assistant Chief of Staff for Force Development, Department of
the Army (ACSFOR, DA), Washington, D.C. 20310

1. Subject report is forwarded in accordance with 1st Signal Brigade Regulation 1-19, dated 12 July 1968 as changed.
2. The report has been reviewed by this Headquarters and is concurred with.

Russell R. Curington

RUSSELL R. CURINGTON
Colonel, SigC
Commanding

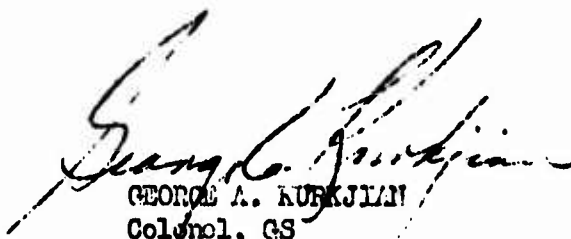
SCCPV-OP-CC (14 Feb 69) 2nd Ind
SUBJECT: Operational Report of 972d Signal Battalion for Period Ending
31 January 1969, RCS CSFOR-65 (RL)

DA, HQ, 1st Signal Brigade (USASTRATCOM), APO 96384 16 March 1969

TO: Commanding General, United States Army Vietnam, ATTN: AVHCC-DST,
APO 96375

1. Subject report is forwarded in accordance with USARV Regulation 525-15.
2. The report has been reviewed by this headquarters and is concurred in with the following comments.
3. This is the first Operational Report of this unit since its arrival in Vietnam.
4. Reference paragraph 2b(6), p.6. This recommendation is valid for four wire circuits only. This headquarters further recommends that USARV task the RCA Technical Representatives to make a complete study of these problems and devise a final solution for the ringer and interface problems presently being encountered.

FOR THE COMMANDER:


GEORGE A. KURBJIAN
Colonel, GS
Chief of Staff

CF:
CG, USASTRATCOM, ATTN: SCC-CIS-RT, Ft. Huachuca, Arizona APO 85613
CO, 2nd Signal Group APO 96491
CO, 972nd Signal Battalion APO 96384

AVHGC-DST (14 Feb 69) 3d Ind
SUBJECT: Operational Report of 972d Signal Battalion for Period Ending
31 January 1969, RCS CSFOR-65 (R1)

HEADQUARTERS, UNITED STATES ARMY, VIETNAM, APO San Francisco 9637530 **MAR 1969**


THRU: Commanding General, United States Army Strategic Communications
Command-Pacific, APO 96557

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT,
APO 96558

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 January 1969 from Headquarters, 972d Signal Battalion (CA).

2. Reference item concerning Ring Problems During Circuit Installation of AN/TRC-97B Circuit Installation, page 5, paragraph 2b(5) and item concerning AN/TRC-97B and AN/TRC-90 Interference problems, page 6, paragraph 2b(6) and 2d Indorsement, paragraph 4; concur. Manufacturers (RCA) and United States Army Electronics Command representatives are studying these problems in RVN. The company is presently redesigning the ringing module.

FOR THE COMMANDER:


W. C. ARNTZ
CPT, AGC
Assistant Adjutant General

Cy furn:
972d Sig Bn
1st Sig Bde

SCCP-OP (14 Feb 69) 4th Ind
SUBJECT: Operational Report of Headquarters 972d Signal Battalion for
Period Ending 31 January 1969

Headquarters, U. S. Army Strategic Communications Command-Pacific, APO
San Francisco 96557 8 AUG 1969


TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT,
APO 96558

1. Subject report is forwarded in accordance with AR 525-15.
2. This headquarters has reviewed subject report and offers the following comments:

- a. Reference item concerning maintenance of AN/TRC-97, paragraph 2e(1), pages 6 and 7. The unsatisfactory maintenance support was due to an earlier misunderstanding of the procedures established by an Inter-service Support Agreement (ISSA) between the U. S. Army and the U. S. Air Force. On 9 May 1969, a conference was held at USARPAC to discuss the AN/TRC-97 maintenance support problems. The procedures have been clarified and if followed by all concerned, appear adequate. In addition, the Army has signed a Basic Ordering Agreement with RCA for repair and return of AN/TRC-97 modules.

- b. Concur with the remainder of the report as indorsed.

FOR THE COMMANDER:


FRANK C. MAHIN
Colonel, GS
Chief of Staff

GPOP-DT (14 Feb 69) 5th Ind
SUBJECT: Operational Report of HQ, 972d Signal Battalion
(CA) for Period Ending 31 January 1969, RCS
CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 15 AUG 69

TO: Assistant Chief of Staff for Force Development,
Department of the Army, Washington, D. C. 20310

This headquarters has evaluated subject report and forward-
ing indorsements and concurs in the report as indorsed.

FOR THE COMMANDER IN CHIEF:



C. L. SHORTJ
CPT, AGC
Asst AG

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