II FIELD FORCE VIETNAM
VIETNAM

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53d Signal Battalion

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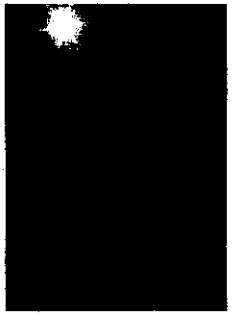
THE HURRICANE

SIGNAL SPECIAL

FEW AREAS IN THE WORLD CAN DISPLAY THE VARIETY AND COMPLEXITY OF COMMAND COMMUNICATIONS BETTER THAN THE III CORPS TACTICAL ZONE. HERE, IN THE PROVINCES SURROUNDING SAIGON, II FIELD FORCE TACTICAL NETS MERGE WITH AREA AND WORLD-WIDE COMMUNICATIONS SYSTEMS. THE MEN, EQUIPMENT, ORGANIZATIONS, AND TECHNIQUES THAT MAKE UP THESE COMMUNICATIONS ARE THE SIGNAL SPECIAL.



● The front cover (far left) was snapped by Specialist 4 John Skiffington, a photographer with the 53d Sig Bn. The trooper is Specialist 4 Herman Hanens of M Co, 75th Rangers, 199th Lt Inf Bde.

● The Hurricane Tower, shown on the back cover, was taken by Specialist 5 Tim Fease, another 53d Signalman.

CATEGORIES OF COMMUNICATIONS—ELECTRONICS SUPPORT

GENERAL

Providing the Commanding General, II Field Force Vietnam, and the OPCON unit commanders with reliable, high quality command and control communications is the challenge facing the tactical communicator, from the II Field Force Signal Officer down to the Radio Telephone Operator in the squad.

Army communicators are acutely aware of their responsibility to provide reliable, responsive and flexible communications to their commander. This is especially true in Vietnam where the commander's ability to communicate is measured in lives.

The purpose of this publication is to share our experiences—our successes and failures—in the hope that the lessons learned will be a valuable asset in the communicator's constant endeavor to provide his commander with the best possible communications.

Communications-Electronics (C-E) support within the III Corps Tactical Zone may be divided into three broad categories: Tactical, Area and DCA.

The difference in respective missions and methods of operation is the basis for the separation. However, in numerous cases, mobile/transportable equipment overlaps from one category to another.

TACTICAL COMMUNICATIONS

Tactical communications embraces all of the organic communications capability of the tactical maneuver elements from II Field Force Vietnam (Corps) down to the squad. Tactical C-E mission is to provide command and control communications support for all echelons of the headquarters, and down to subordinate forces, OPCON, assigned or attached.

The Signal Officer or Communications Officer is responsible for providing the command and control links utilizing manportable, vehicular, or semi-fixed equipment to insure responsive communications, especially in support of forces engaged in combat operations.

New tactical communications equipment is continually being tested and developed to improve existing capabilities, including new secure voice devices, new aircraft radios, and multi-channel VHF in 1/4 ton and 3/4 ton configurations to increase their mobility and adaptability to combat operations in Vietnam.

AREA COMMUNICATIONS

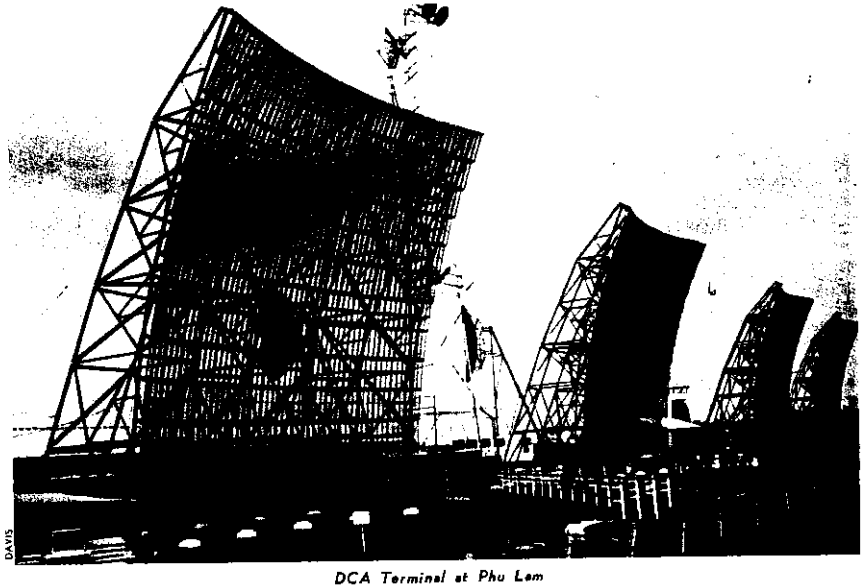
Area communications support is designed to meet regional requirements of units employed throughout Vietnam. The area systems are established, operated and maintained by the 1st Signal Brigade. They link the tactical command and control networks with the long-haul DCA system. At static and semi-permanent tactical headquarters they carry most of the administrative and logistical traffic between base camps and to the greatly extended maneuver element. Area communications support systems are installed utilizing the AN/TRC-29 microwave, the AN/MRC-102 (GRC-50) and AN/ TRC-111 multi-channel equipment or even the older generation tactical TRC-24 VHF equipment. In addition to the multi-channel interconnect links provided, the 1st Signal Brigade also provides highly specialized and dedicated communications support systems.

The Automatic Secure Voice Communications (AUTOSEVOCOM) Network and the Emergency Action Console (EAC) telephone system provides dedicated rapid response telephone service to key commanders throughout the III Corps Tactical Zone.

DCA COMMUNICATIONS

The Defense Communications Agency (DCA) communications network is a dedicated and switched common user telephone and data system supporting all U.S., Free World Military Forces and government agencies in RVN.

It consists of high circuit capacity systems providing a network of long



DCA Terminal at Phu Lam

lines interconnects up-country, to Thailand, and to the Philippines. Requirements by Army units are approved by MACV for installation.

The long haul network includes the latest developments in fixed microwave, semi-fixed or transportable tropo and off shore cable systems. The expansion of the DCA network will greatly increase the quality as well as the capacity of the existing area paths and provide alternate routing capability throughout the entire III Corps area. Responsibility for the installation, operation and maintenance of the DCA long lines network in Vietnam again rests with the 1st Signal Brigade.

The USA Regional Communications Group (Vietnam), a subordinate command of the 1st Signal Brigade (USASTRATCOM), is responsible for the operation and maintenance of the Defense Communications System (DCS) and other long line systems in support of U.S. Military and other government activities throughout Vietnam. In addition to the long lines interconnects, the Regional Communications Group operates and maintains the Joint Overseas Switchboard (JOSS) located at Phu Lam . The JOSS provides the means for telephonic communications out-of-country. The two major long lines sites in III Corps are the Phu Lam Long Lines Detachment and the Tan Son Nhut Site.

PHU LAM SITE

The Phu Lam site is located in the southwest section of Saigon on a communications complex with the Phu Lam Signal Battalion. Long Lines Detachment—Phu Lam is one of the largest sites in Vietnam and was one of the first sites constructed in 1962.

TAN SON NHUT SITE

The Tan Son Nhut Site is located in the northern section of Saigon on Tan Son Nhut Air Base. It is the largest long line site in Vietnam or Thailand. Tan Son Nhut is the "Hub" of all long lines communication links between the DMZ and Delta Regions.

II FFORCEV / III CTZ AREA OF OPERATIONS

TACTICAL SIGNAL UNIT LOCATIONS

Figure 1

II FFORCEV SIGNAL SECTION

II FIELD FORCE VIETNAM is based on the conventional corps in mission and structure. Primarily a tactical headquarters, it has minimum logistical responsibility. The headquarters, or command post, has evolved into a semipermanent installation with the employment of a forward command post only as required. In Vietnam the tactical environment imposed by the absence of a front line, the great mobility, dispersion, and lack of a reserve all dictate methods of operation radically different from corps-level engagements in the past. The Signal Officer's responsibilities reflect this change:

1. Operational control of assigned and attached signal units.
2. Coordination of command and control communications systems supporting the major combat units in III CTZ.
3. Advise and assist Commanding General and his staff on communications-electronics matters.
4. Publish Signal Annexes to all operations and contingency plans.
5. Publication of the II FFORCEV Signal Operating Instructions (SOI) and the Standing Signal Instructions (SSI).
6. Controls the allocation and assignment of FM radio frequencies for III CTZ and IV CTZ.

The II FFORCEV Signal Section organizational structure and functions are in accordance with the standard Corps Headquarters (TOE/MTOE 52-IT). However, some modification in the organizational structure was required to provide the necessary personel to meet the complex communications requirements of II FFORCEV. The addition of an Assistant Signal Officer for Plans and a Radio Frequency Engineer Officer has improved the overall effectiveness of the section.

SIGNAL OFFICER

The II Field Force Vietnam Signal Officer is the principal advisor to the Commanding General on signal matters, including transmission and cryptographic security, signal communications, locations of signal units, and the use of signal activities for deception. He is responsible for the planning, installation, operation and maintenance of the command control and combat support signal communications systems provided by II FFORCEV units. The Signal Officer has operational control over all signal units assigned, attached, or under operational control of II FFORCEV. He is responsible for planning, requesting, and coordinating communications support provided by 1st Signal Brigade. Other duties include technical supervision over signal and communications activities and supervising the training of signal units throughout the command.

Col Geraci (left), confers with Ltc Rogers (right), 25th Div Signal Officer

ASST SIGNAL OFFICER

The Assistant Signal Officer is the Signal Officer's representative at all conferences, inspections, and ceremonies and assumes all duties of the Signal Officer in his absence. He may be designated as the Signal Officer of any alternate headquarters established by the II FFORCEV Commander. Additionally, he coordinates and supervises the activities of the Signal Section as directed by the Signal Officer.

ADMIN DIVISION

The Signal Section Chief, the Sergeant

Major, is charged with the supervision of the Administrative Division including the supervision, preparation, and distribution of all correspondence. He maintains the journal records for historical purposes and coordinates all personnel actions or other records as directed by the Signal Officer.

OPERATIONS DIVISION

The Operations Officer plans, directs, and supervises the installation, operation and maintenance of all signal communication facilities of Headquarters, II FFORCEV. He supervises and coordinates the activities of the Radio, Radio Frequency Engineer, Wire, and Communications Center Officers. The Operations Officer is the primary coordinator with the staffs of USARV C-E and 1st Signal Brigade to insure adequate communications support of II FFORCEV and II FFORCEV OPCON units requiring support from the Army Area or DCA commnications systems. He also insures close coordination is established between U.S. and ARVN signal units to reduce frequency interference problems.

PLANS DIVISION

The Plans Officer is responsible for development of operational contingency plans to provide continuity of communications under all circumstances. He is the principal advisor to the Signal Officer on communications support of all tactical contingency plans developed by the II FFORCEV staff. Planning activities are coordinated with the Operations Officer and the personnel of the Operations Branch to insure continuity and capatibility of planned communications with existing communications systems.

RADIO BRANCH

The Radio Branch is composed of the Radio Officer, Radio Frequency Engineering Officer, and Radio NCO. This branch is concerned with all phases of VHF, FM, and HF radio communications in II FFORCEV and the OPCON units. The radio officer is primarily concerned with the employment, installation, maintenance, and operation of the various radio systems and nets, and exercises staff supervision in these area. The II FFORCEV SOI and SSI are prepared by the Radio Officer, assisted by the Radio NCO.

The Radio Frequency Engineering Officer's primary task is the assignment and control of FM and VHF frequencies. FM frequencies are assigned for both III and IV Corps and VHF frequencies for III Corps only. HF and UHF frequencies are not directly assigned by II FFORCEV. In order to solve frequency interference problems, the Radio Frequency Engineering Officer maintains close coordination with all major units in III and IV Corps. The FM retransmission stations on the key terrain features of Nni Ba Den, Nui Ba Ra, and Nui Chua Chan are closely monitored by the Frequency Officer. The radio NCO assists in all of these areas in addition to maintaining appropriate records and files.

COMMCENTER BRANCH

The Commcenter Branch is responsible for staff supervision of commcenter service to all assigned, attached and OPCON units of II FFORCEV. The Commcenter Branch publishes II FFORCEV regulations and directives on address indicating groups, courier service, commcenter operations, special message handling and Message Review Board activities. The OIC of the branch serves as the recorder with the Assistant Signal Officer serving as the president of the II FFORCEV Message Review Board. The minutes are promulgated, under a cover letter signed by the Chief of Staff to all suhscribers to the II FFORCEV Commcenter.

Because of increased emphasis on the usage of FM secure voice equipment, the Signal Section has become increasing involved with logistical, security and utlization management of this equipment. Under the guidance and supervision of the Signal Officer, an extensive operations plan has been developed to

expedite the implementation of FM secure voice equipment throughout the II FFORCEV Command. Additionally, the Commcenter Officer serves as the COMSEC Custodian for II FFORCEV.

WIRE BRANCH

The Wire Branch is responsible for the coordination and validation of all wire communications requirements in support of Headquarters, II FFORCEV and its OPCON units. One of the primary funcions of the branch is to coordinate communications requirements which the tactical units cannot provide within their organic assets. Request for circuits are reviewed and validated. Routing of circuits is planned over organic systems. If assets are not available, the request must be endorsed to higher headquarters for installation over the Army Area Communications System.

The Wire Officer also has supervisory responsibility for the control and assignment of overseas control numbers within II FFORCEV Headquarters and for the publication of the tactical telephone directory for Hurricane Switchboard subscribers.

53D SIGNAL BATTALION (CORPS)

The II FFORCEV Signal Officer has operational control over the assigned 53d Signal Battalion (C) and the attached 16th Signal Detachment (Photo) to fulfill the communications and photographic support requirements of Headquarters, II FFORCEV.

The 53d Signal Battalion is employed throughout the III CTZ as directed by the Signal Officer to provide command and control communications links between the Commanding General, II FFORCEV and the OPCON unit commanders. (See Figure 2.)

The Battalion's mission in support of II FFORCEV is:

- To provide command and control communications.
- To provide photographic service (except aerial photo).
- To provide ground messenger service.

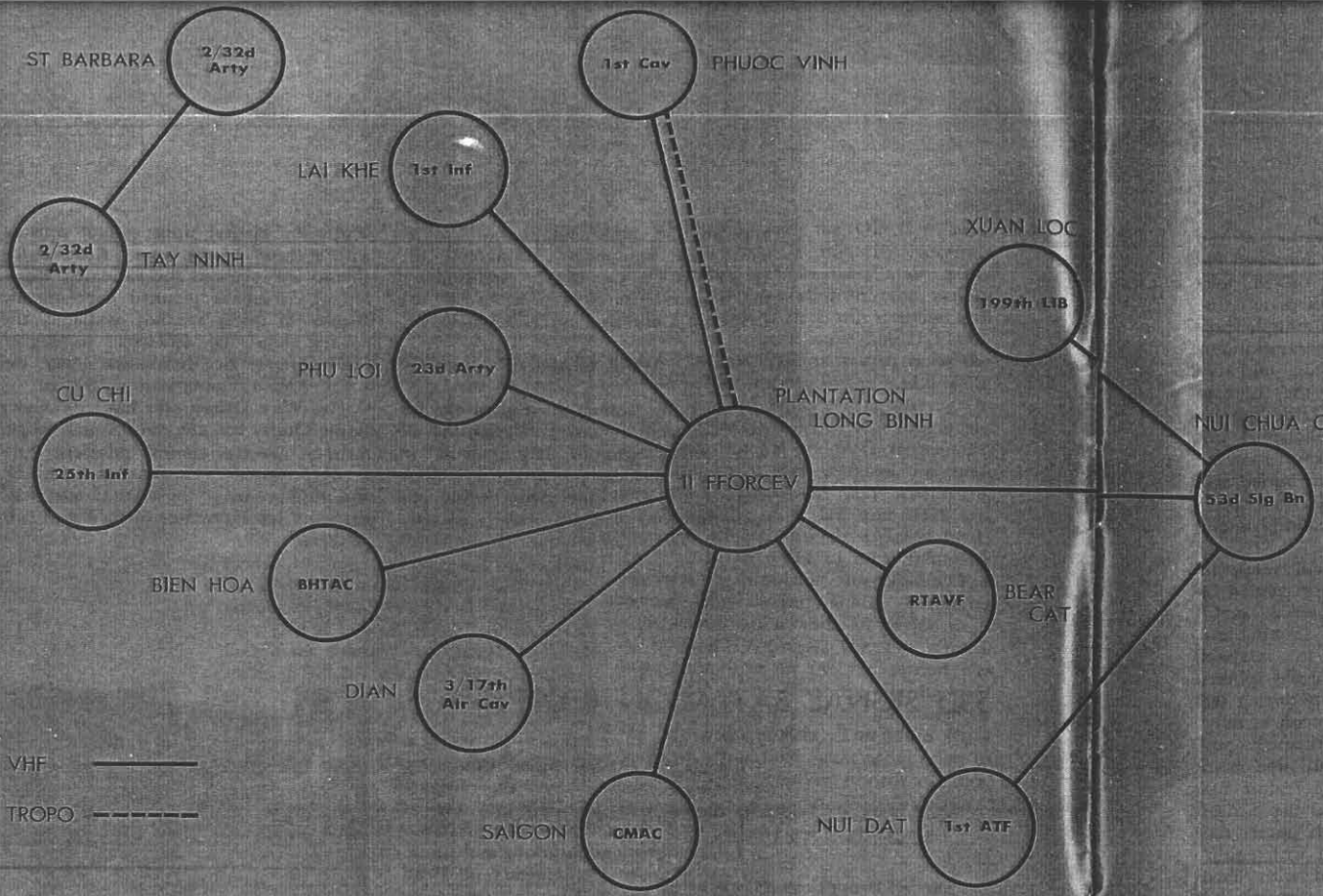
The 53d Signal Battalion located at Plantation is organized under the conventional Corps Signal Battalion TO&E. Slight modification to meet specific requirements has been necessary to support signal operations over extended distances and to maintain isolated signal sites.

The greatest modification to the organization of the Battalion was brought about by the operational requirement for Chua Chan Mountain (Hill 837). Company C (provisional) provides logistical and administrative support for the Infantry, Engineer, Signal, Artillery, MACV and ARVN troops operating various radio relay and retransmission stations on the hill.

53d Signal's radio teletype site

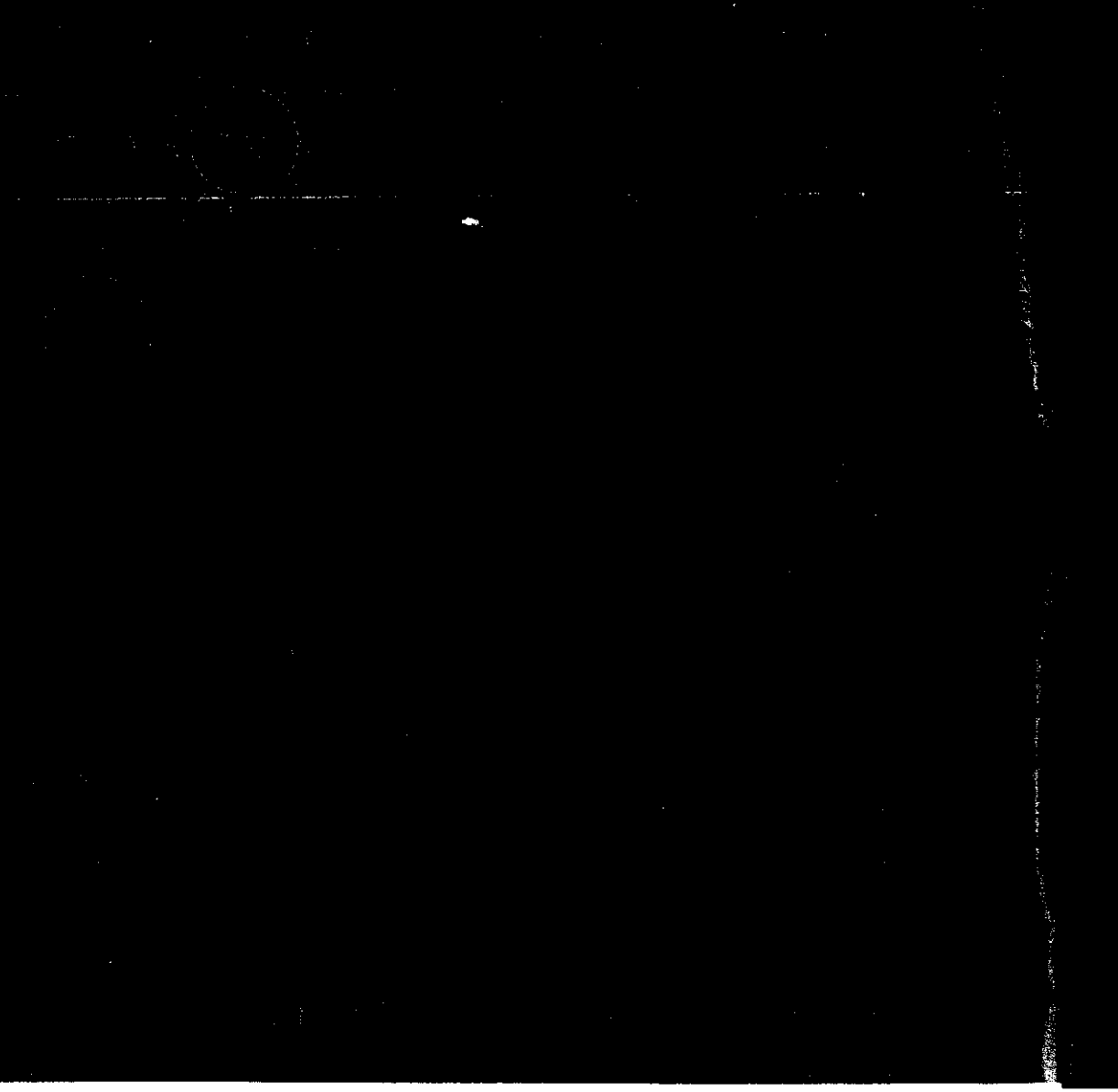
The present tactical environment in the III Corps Tactical Zone reflects the need to greatly extend the wire communicaions network with VHF radio relay across the miles that separate the division base camps from II FFORCEV Headquaters. Multi-channel systems are extended to lower levels than ever before to insure adequate command and control of dispersed elements.

Here at the fairly established Plantation base the most noticable 53d Signal Battalion communications facility is the



II FFORCEV MULTICHANNEL COMMUNICATIONS

Figure 2



extensive Hurricane VHF complex with the red and white towers extending nearly two hundred feet in the air. The AB-216 towers are used extensively throughout the III CORPS tactical zone to greatly extend the range of FM and VHF systems.

VHF RADIO RELAY

The VHF Platoon of Company B is responsible for the installation, operation and maintenance of the radio relay terminals and associated equipment. The primary systems include the tactical AN/TRC-24 12-channel VHF, utilizing AN/MRC-73's and AN/MRC-69's. One 24-channel system has been installed using the tactical AN/TRC-97 Tropospheric Scatter (TROPO) Radio Set. This system has improved the quality and quantity of circuits serving units in the 1st Cav area of operation.

The Main Hurricane VHF facility has been converted to a "fixed station" type of operation. The battalion's equipment was built for mobile tactical operations, and, by design, sacrificed high quality

fixed station features for mobility and durability. By local alteration, the equipment was installed in a semi-permanent, air-conditioned facility, resulting in a high quality, very reliable, multichannel system.

Again, due to the demands of the tactical situation in the III Corps Tactical Zone, the 53d was called upon to assist II FFORCEV Artillery in maintaining vital command/fire direction communications. The VHF Platoon has been called upon to provide a 4-channel VHF system between 2/32d Artillery Battalion at Tay Ninh and one of its firing batteries at Fire Support Base St. Barbara. AN/MRC-112's are utilized as terminal equipment for this non-standard support mission.

WIRE COMMUNICATIONS

The Wire Operations Platoon of Company A installs and maintains telephones for the II Field Force TOC, operates the Hurricane Switchboard and the 53d Signal Battalion's Hallmark Switchboard.

The Hurricane Switchboard provides tactical telephone communications for the Commanding General, II Field Force, and key staff personnel. Over 2000 calls a day are placed through Hurricane Switchboard to 30 directly connected tactical switchboards scattered throughout the II FFV/III CTZ.

Hallmark, the second switchboard operated by the Wire Operations Platoon, provides internal telephone service for the base camp operating and billet area. Hallmark switchboard, handling 1400 calls a day, serves as an excellent training facility for new operators to prepare them for the rapid response and demanding job of operating the Hurricane Switchboard.

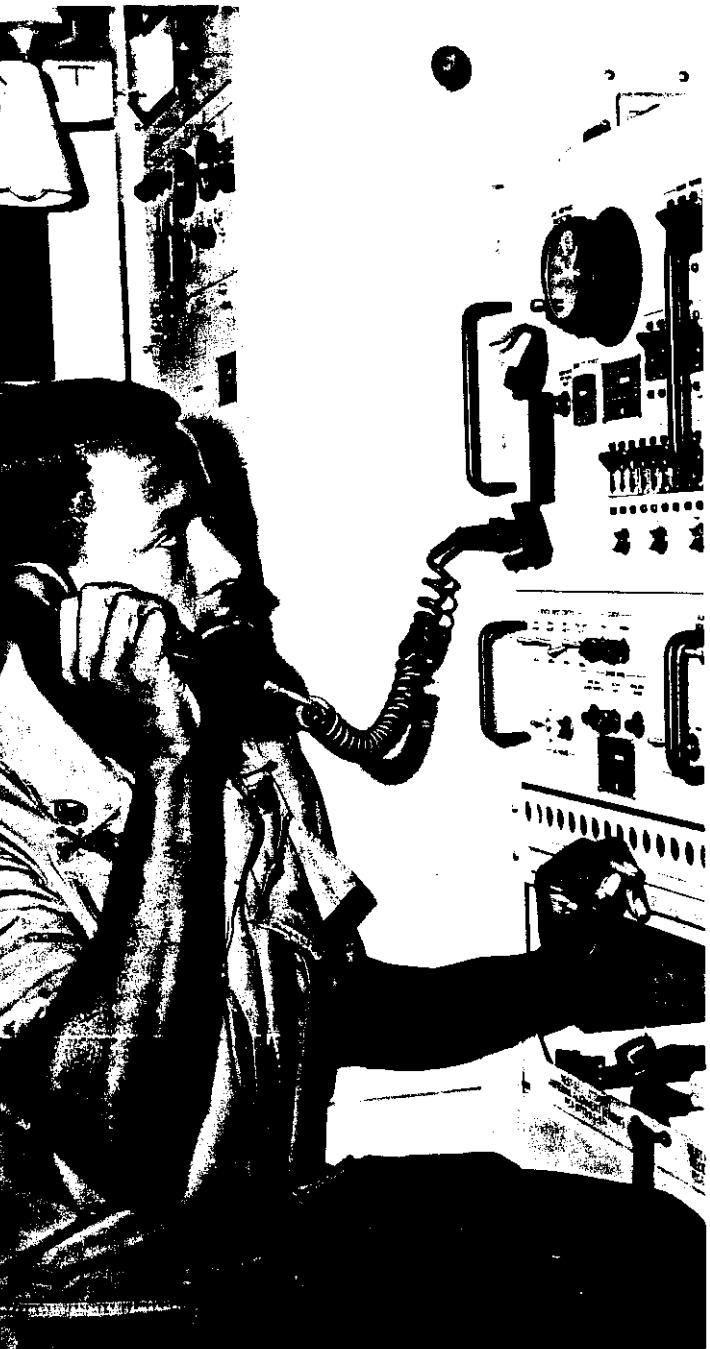
Installing and maintaining the miles of interlaced cable and wire on the Plantation Base Camp is the responsibility of the Cable Platoon of Company B. Conversion from the tactical WD-1 and spiral-4 cable to 300-pair underground cable has not only improved the quality of telephone service but also has improved the overall appearance of the base camp.

TELEPHONE COMMUNICATIONS

The overall telecommunications network within II FFORCEV/III CTZ is a complex of both tactical communications provided by the combat units and area communications provided by the 1st Signal Brigade. Because of the vast dispersal and fragmentation of units within Vietnam, the Corps Area Communications system is relied upon to provide many tactical units with vital links to their higher headquarters.

The integration of the tactical circuits on both tactical and Corps Area Systems has afforded a built-in contingency plan for many of the key tactical circuits, since there is a duplication of circuitry over two diverse systems, thereby insuring an alternate routing between major command and control head quarters. A unique commuuications arrangement has developed requiring extensive coordination on both installation and trouble shooting of circuits. Many of the circuits are routed though three or four different signal units between the two terminals. Many times circuit problems develop as a result of poor coordination between units in trouble shootiug circuits.

The tactical unit commander is afforded multi-access telephone switching throughout the II FFORCEV area of operation. In most cases a 1st Signal Brigade area switchboard is co-located with a main tactical switchboard, which has proven extremely beneficial. This allows the tactical switchboards to be primarily operations oriented, with the administrative and logistical traffic being passed mainly through the area switchboard. The tactical switchboards normally have a trunk to the area board. This interfacing provides the tactical units with the capability of communicating throughout III and IV CTZ. Headquarters, II FFORCEV and all division headquarters are now provided dial telephone service, which reduces the workload on both tactical and area switch-



board operators. The activation of the Tandem Switch has further enhanced the communication capability of all telephone subscribers within Vietnam.

The weather provides a unique problem in the area of wire communications. The rainy season lasting from mid-May to mid-November provides the supreme test on the proficiency of cable splicers and telephone installers. Jobs which are defective are rapidly discovered. Extreme care must be taken with both buried and aerial cable to insure splices are completely water-proof and sheathing is not damaged.

Either of these faults will result in defective cable within a short period of time. In addition, the aerial cable, which is prevalent at most installations, is extremely vulnerable to shrapnel damage. The job for the cable splicers is never completed, especially during the rainy season and increased enemy activity.

Along with the semi-permanent posture of II FFORCEV and division main base camps, another unique feature has resulted in the conversion of the tactical wireman from working with purely tactical equipment to working with equipment and cables associated with fixed plant installations. Out of necessity and security reasons, some of the installers have become involved with installation and trouble-shooting of dial telephones and multi-pair cable.

In some areas the tactical installers have become involved with key equipment for headquarters. The tactical wireman has been converted to a "jack of all trades" installer, requiring the tactical wiremen to have the capability to comprehend the operation and maintenance of more advanced telephone equipments.

COMMUNICATIONS CENTER

Operated by the Commcenter Platoon of Company A, the main II Field Force Commcenter handles over 1000 operational messages a day. Secure teletype circuits are maintained to all subordinate commands, and circuits also provide access to the world wide Defense Communications System. Early assess-

ment of the communications center requirements for II Field Force Headquarters dictated that a permanent fixed station facility would provide the necessary service. Again, the tactical mobile equipment was dismounted and installed in the Commcenter building for central control, ease of operation, and greatly reduced down time due to environment induced equipment failures.

The Commcenter Platoon operates a second commcenter within the II Field Force TOC and provides direct circuits to major OPCON unit TOC's to handle high precedence tactical messages. In addition the 53d Sig Bn operates two small

Wiremen install a multipair aerial cable

Commcenters in support of the 1st Australian Task Force at Nui Dat and the Royal Thai Army Volunteer Force at Bear Cat.

RADIO

The Radio Platoon of Company A operates the II Field Force Radio Teletype Net as backup communications for the Commcenter. A net control station is operated at Plantation. In addition seven teams from the Radio Platoon operate stations at the major OPCON unit headquarters. The network has recently been converted from the older and less reliable AN/GRC-26D radio to the newer AN/GRC-122.

The most important factor that must characterize tactical communications is reliability. The commander in Vietnam has various means of communications available to him, some more reliable than others. Some of the least reliable means offer the commander other advantages that make their use important as an alternate or primary means of communications. HF communications is generally viewed as being unreliable and serves only as a backup means of communications when VHF-FM or radio relay systems are inoperative or are not available. However, HF systems do have definite advantages in that they can usually become operative faster than radio relay systems and can provide both short distance and long distance communications.

The II FFV Frequency Modulated (FM) Secure Radio Net is controlled by the net control station, also operated by the Radio Platoon. In addition, a non-secure radio wire integration (RWI) station is manned 24 hours a day to provide a link between mobile or fixed radio stations and the Hurricane switchboard.

The last responsibility of the Radio Platoon is the MARS station. The Radio Platoon operates both a MARS station here at Plantation and a mobile truck mounted station which serves outlying units in the Plantation-Bien Hoa area.

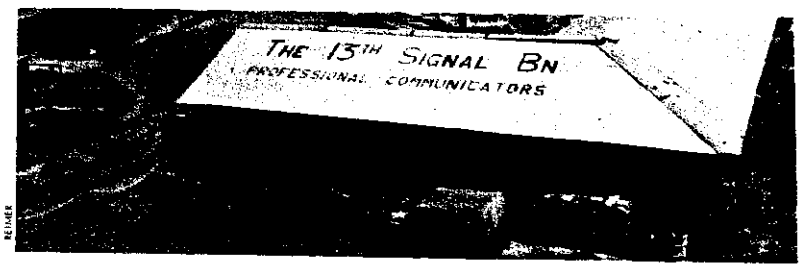
PHOTOGRAPHY

Providing photographic service (except aerial photography) to Headquarters, II FFORCEV is the mission of the Photo Section of HQS & HQS Company and the attached 16th Signal Detachment (Photo). Photo support is furnished the II FFORCEV Information Office and other staff sections.

53d Signal Battalion is one of the primary sources of Department of the Army record photos of tactical operations in the III CTZ. Additionally, 53d photographers travel throughout the four corps areas of Vietnam providing photo coverage in support of *Hurricane* reporters.

TACTICAL COMMUNICATIONS OPERATIONS AT DIVISION LEVEL

Divisions in Vietnam, as the FIELD FORCE, maintain semi-permanent main CP's, or base camps, supplemented by forward command posts as required. Under these circumstances, base camp communications remain essentially intact, and are duplicated again at the forward location. This practice imposes severe strains on organic men and material which are only partially alleviated by the area communications system.



In Vietnam the Division Signal Section is generally organized along TOE lines, and performs the usual functions, such as preparation and distribution of the Division SOI/SSI. In some instances the Assistant Division Signal Officer (ADSO) acts as the Base Camp Signal Officer. The Division Signal Section must coordinate very closely the lateral communications requirements, where interaction with other Free World Forces and ARVN forces is common and airmobile operations tend to transcend corps, divisions, and brigade boundaries.

To support the wide variety of tactical operations and to overcome obstacles created by variations in the operational environment, the signal battalion has had to be modified or tailored according to the current mission assigned.

13TH SIGNAL BATTALION

Since September 1965, the 13th Signal Battalion has provided the "Voice of Command" for the "First Team," 1st Cavalry Division (AM) in the Republic of Vietnam. The 13th Signal Battalion, commanded by LTC Norman E. Archibald, provides the communication support for the Division. The mission of the 13th Signal Battalion is not unique in comparison to other signal battalions organic to other divisions. The significant difference lies in the tailoring of the organization and equipment to meet the unique requirements of the Air Mobile Division.

The 13th Signal Battalion has two operational companies: Headquarters and Service and the Command Operations Company. The former provides the headquarters staff and general support to all battalion elements; the latter fulfills all the operational requirements in support of the division.

The 1st Cavalry Division (AM) typically operates in extended AO's of 400×150 km. The establishment of semi-fixed landing zones and fire support bases over a greatly extended area created a demand for more circuits than the organic 4 channel AN/GRC-163 provides.

To meet this requirement, the 13th Signal Battalion utilizes circuits over the 53d Signal Battalion (C) AN/TRC-97 (tropospheric scatter) and AN/TRC-24 radio relay systems. Additionally, circuits are routed over the army area systems (AN/GRC-50, PCM and TRC-24) operated by elements of the 2nd Signal Group, 1st Signal Brigade. The routing of circuits over corps and army area systems to the supporting elements

(continued on page 33)

(continued from page 16)
not only reduces the load on the organic tactical systems, but it also provides an alternate or back-up system to insure that critical command and control circuits are not interrupted.

Primary reliance is on radio, both FM and AM single sideband to maintain contact with the brigade CP's and from the brigades to the combat battalions. Because of the mountainous and jungle terrain over which the First Cavalry Division operates, it is an absolute necessity to employ an FM relay either airborne or ground. The 13th Signal Battalion has installed semi-fixed FM relay facilities on Nui Ba Den mountain in coordination with the 125th Signal Battalion of the 25th Infantry Division.

Additionally, the 13th Signal Battalion has initiated a major upgrading of the remote Nui Ba Ra relay site. Construction of communications bunkers, troop facilities, defensive positions and an enlarged chopper pad has turned the remote site into an excellent communications relay site capable of providing FM radio relay support to 1st Cavalary and ARVN Airborne forces operating throughout Northern Phuoc Long Province.

A major up-grading project undertaken by 13th Signal Battalion included construction of a new communications complex to serve the Headquarters, 1st Cavalry Division (AM) at Phuoc Vinh. The newly completed complex includes an air-conditioned FM and VHF radio facility and an extensive telephone switching complex. Throughout the 1st Cavalry Division AO the constant upgrading and improvement of communications systems is the key to insuring reliable command and control communications responsive to the tactical commander.

A key to the success of the First Cavalry Divisions operations is the mobility and response of the "First Team". The 13th Signal Battalion is a proud member of that team and provides the "Voice of Command" for the Sky-troopers.

121ST SIGNAL BATTALION

The 121st Signal Battalion, commanded by LTC John C. Lain, provided the command and control communications support to the 1st Infantry Division. Organized as a standard TOE Division Signal Battalion, the 121st applied sound communications principles to meet the multitude of challenges due to operating over greatly extended distances in a varying tropical environment.

From the Division Headquarters at Lai Khe Base Camp, multi-channel radio links tied in the 1st Brigade at Dau Tieng and the 2d Brigade at Di An. Additionally, VHF systems were installed and operated from the Brigade Head-

1st Cav wirehead: The central testing point for telephone and teletype circuits

quarters down to several of the battalion fire support bases throughout the area of operation.

Company C, 121st Signal Battalion, located at Di An, provided communications support to the Division Support Command and several non-divisional support units. Platoons of Company B operated the command and control communications links at the 1st, 2nd and 3rd Brigade Headquarters.

At Lai Khe an AN/MTC-1 switchboard provided the necessary telephone service to the Division Headquarters. An area switchboard operated by 1st Signal Brigade enabled Lai Khe based units to enter the dial system as well as the Tandem Switch.

To augment the capabilities of the 121st Signal Battalion, signal support elements of the 36th Sig Bn (Combat Area) and the 53d Signal Battalion (C) were co-located at Lai Khe. The support included multi-channel links over the Corps Area System as well as command and control circuits over the tactical VHF system to II FFORCEV Headquarters. Close coordination between 121st Signal Battalion and the supporting signal units was paramount to insuring rapid restoral of priority circuits over the complex multi-channel network.

Maximum utilization of towers, both prefabricated and self-help constructed, greatly increased the range and improved the quality of FM and VHF communications throughout the 1st Division Area of Operation.

The 121st Signal Battalion was instrumental in the smooth transition of Lai Khe base camp communications to the 5th ARVN Division. Working closely with Major Long, the 5th ARVN Division Signal Officer, LTC Lain insured that adequate communications support facilities and personnel were available to assist with the transfer of the base camp. Wire and cable teams assisted the 5th ARVN communicators in the cutover to ARVN switchboards and VHF equipment and thus assured that uninterrupted command and control communications were immediately available to the 5th

ARVN Division Commanding General upon his arrival at Lai Khe.

The 121st Signal Battalion final communications support mission was terminated on 25 March 1970 when the battalion stood down for redeployment along with the 1st Infantry Division.

Since August 1965 the 121st Signal Battalion has provided vital communications support to the 1st Infantry Division, "The Big Red One", in Vietnam by living up to its motto "Do it well-Do it now."

125TH SIGNAL BATTALION

From the Elephant's Ear to the Parrot's Beak and from the Angel's Wing to the Hobo Woods, the 125th Signal Battalion, "Voice of Lightning", provides command and control communications to the 25th Infantry Division, "Tropic Lightning."

The battalion was activated on 1 October 1941 and has served in the Republic of Vietnam since 12 March 1966.

Under the Command of LTC William R. Rogers, the battalion has its headquarters and two companies located at Cu Chi Base Camp. Bravo Company is located at Tay Ninh Base Camp and provides communication support in the 1st Brigade Area of operations. Alpha Company provides the Division Headquarters with a communications center, switchboard facilities and FM/HF/VHF radio support.

Charlie Company supports the 2d and 3d Brigade areas of operation with

VHF radio in addition to providing communications support for the Division Support Command and combat photographic service to the entire division. In order to provide more responsive and more efficient telephone service at Cu Chi, the 125th Signal Battalion and the 86th Signal Battalion (Combat Area) have established a joint telephone agency to manage the installation and repair of all telephones in conjunction with cable maintenance and rehabilitation. Recognizing the urgent need for more efficient utilization of men and material to meet the demanding requirements imposed by the sprawling Cu Chi Base Camp, the respective Signal Battalion Commanders directed the establishment of such a joint, fully integrated management office in the fall of 1969.

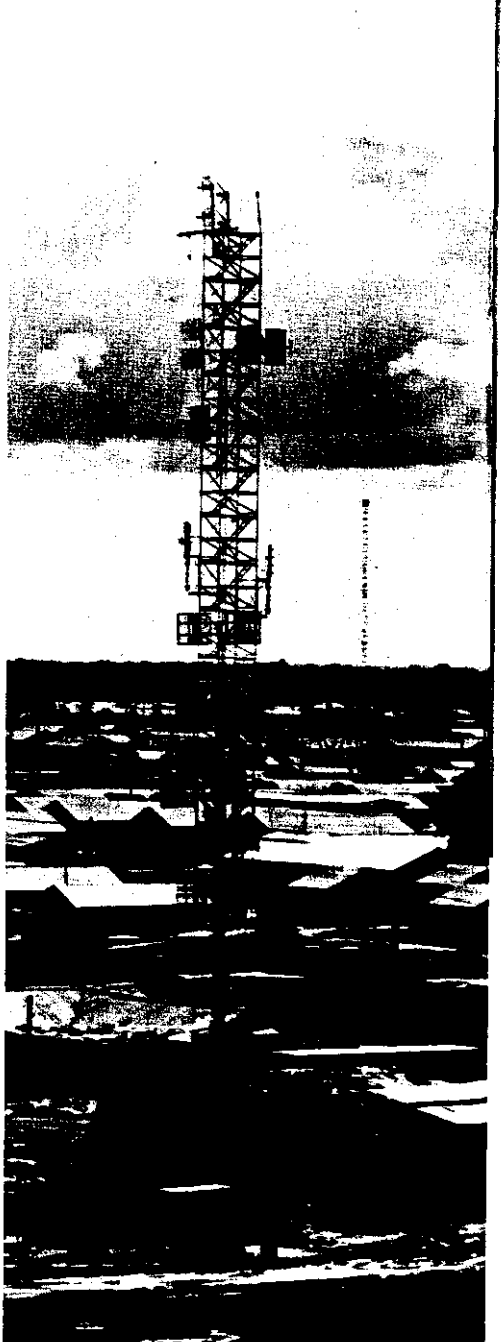
This effort has optimized the efforts of both battalions in that all telephone trouble teams and all cable teams are fully integrated—a significant improvement in the overall system management.

In support of the concept of operations in the 25th Infantry Division, the 125th Signal Battalion provides multi-channel voice systems at 14 fire support bases, two relay points and three base camps. In order to provide maximum flexibility for the maneuver battalions, a multi-channel voice system is established at each fire support base that has a battalion headquarters and/or artillery battery.

This service leaves critical communications equipment for use in the field because the small unit tactics employed require a full commitment of tactical equipment. With the administrative and logistical elements of the battalions located in the base camp, the multi-channel radio system eases the commander's command and control problem.

The 25th Infantry Division Tactical Area provides a unique geographical point that is ideal for relay of wireless communications. This station is located over 3,000 feet up on Nui Ba Den Mountain.

The 125th Signal Battalion moved to



Antenna towers increase the range of tactical radios

the top of the mountain in March of 1967 where they operate VHF and FM radio facilities. In addition, the Division Signal Officer is responsible for insuring that the more than 25 stations, representing more than ten II FFV units, provide interference free, reliable and responsive communications for their respective commanders.

This presents a major frequency management problem for the Division Radio Officer and the Signal Officer stationed on site. Close coordination and strict frequency management insures efficient use of this valuable landmark.

The 125th Signal Battalion provides an effective morale booster for the division by having established a means of calling home to CONUS through the MARS network.

At present, the division base camp at Cu Chi has two fixed plant MARS stations utilizing an AN/MSC-31 shelter and Collins single-sideband equipment. A fixed plant MARS station at Tay Ninh provides service for 1st Brigade.

Whether it be a VHF shot from Cu Chi or an automatic-secure-retransmisson facility on Nui Ba Den Mountain, the "Voice of Lightning" provides responsive and reliable communications in support of the 25th Infantry Division.

TACTICAL COMMUNICATIONS OPERATIONS AT BRIGADE LEVEL

Separate brigades are used extensively in Vietnam under the operational control of a division headquarters or reporting directly to the Field Force Commander. Their C-E operations parallel divisions on a smaller scale and thus pose significant difficulties, since an organic signal platoon is inadequate to support a separate brigade.

With the greatly expanded C-E mission to support a separate brigade, provisional signal companies were developed and appropriate MTO&E changes were initiated to create a standard separate brigade signal company.

In addition to the three divisions OPCON to II FFORCEV, there are two brigade size units and one regiment operating within the III Corps Tactical Zone.

313TH SIGNAL COMPANY

The 199th Infantry Brigade (LT) Signal Officer, Major Dyer, exercises operational control over the 313th Signal Company, commanded by Captain Ralph D. Beamer. The 313th Signal Company has assigned teams located at seven geogaphic locations providing command control communications to the brigade commander, BG William R. Bond.

From the forward command post at Xuan Loc, Long Khanh Province the 313th Signal Company operates multichannel VHF systems to the four infantry battalion fire support bases.

The basic four/twelve channel systems consist of AN/MRC-69, AN-MRC-112, and AN/GRC-163 systems. In order to provide hard copy teletype service between echelons of the brigade headquarters and the four infantry battalions, the 313th Signal Company installed and operates a speech plus teletype circuit to each battalion FSB.

Hill 837, Nui Chua Chan, is utilized for FM retransmission of the Brigade Command Nets, and the 3d Battalion, 7th Infantry, Command Net on a full time basis and for other brigade elements as required.

Communications is the life blood of a commander and lessens the isolation of the battlefield.

The brigade operates in an environment of heavy jungle, extensive rubber plantation, rugged tree covered hills, and marshy swampland. Every technique possible is exploited to maintain com-

munications in all circumstances. All elements in the field use the antenna RC-292 or previously tested and proven long wire or ground plane expedient antennas.

The broad range of equipment employed in the brigade from squad level to special quality data equipment requires an unique dedication of trained and aggressive communicators to keep getting the job done. That this has been, and is continuing to be accomplished, is a special tribute to the brigade communicators and the 313th Signal Company.

56TH SIGNAL COMPANY

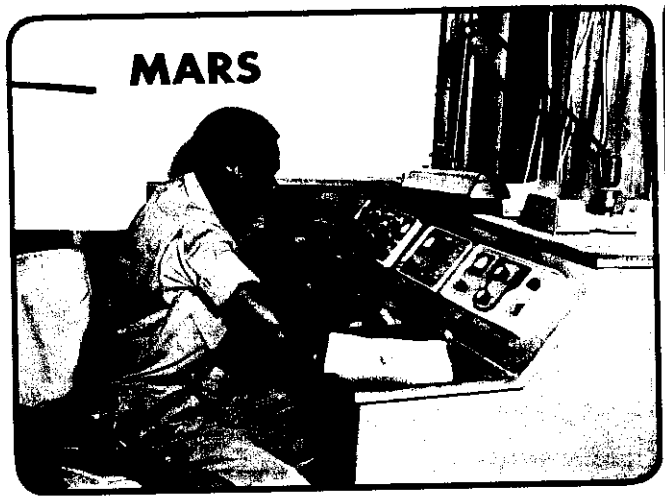
The 56th Signal Company provides the command and control communications for the 3rd Brigade, 9th Infantry Division. Communications support is similiar to that provided by the 313th Sig Co, However, tbe operational environment dictates differents techniques.

Headquarters, 3rd Brigade, 9th Infantry Division is located at Tan An and operations extend throughout the southern III Corps tactical zone from the Cambodian border on the west to the South China Sea on the east. Tactical multi-channel VHF links tie in the 3rd Brigade with the 25th Infantry Division at Cu Chi, and area communications access is gained through an AN/TRC-111 Radio terminal operated by Company D, 44/86th Signal Battalion of the 1st Signal Brigade.

The 56th Signal Company operates AN/MRC-69 VHF terminals at each of their battalion base camps. Additionally, commcenter, AM RATT and FM radio communications is provided to each forward command post.

FM radio, both secure and non-secure, is relied upon heavily to maintain close contact with the ground combat troops. The multitude of canals and wet marshlands of this delta area require new techniques in tactical operations.

The air cushion vehicle (ACV) is used extensively by the "Red Devils" of the 3d Brigade to rapidly move throughout their area of operation. To



The mission of MARS is to provide emergency back-up and supplemental communications for the regular military circuits, to provide a system of communications available to the Red Cross, Chaplains, and Special Services, and to enhance morale by providing a phone patch and MARS-gram message service to the United States.

The phone patch service, which is the best known of the MARS functions, was initiated in February 1966 with an average for 700 phone patches a month. By 1969 the number grew to over 31,500 per month. There are currently 17 Army MARS Stations serving the troops of II FFORCEV. Five mobile stations are in operation which take the MARS facilities to remote areas where troops would otherwise have no access to MARS.

maintain contact with the air cushion vehicles when operating at great distances from the base camp, airborne FM relays are employed. The combat commander utilizing FM radios in his command and control helicopter can readily control the ground elements as well as keep the Brigade Tactical Operations Center (TOC) advised.

In addition to employing the ACV's the 3rd Brigade works closely with the U.S. and Vietnamese Naval forces on patrol of the many canals along the Cambodian border. Constant radio communications is maintained between the Naval craft and the forward fire support bases to insure rapid response to requests for artillery and tactical air support.

According to the Brigade Signal Officer, Major Dupuy, the 56th Signal Company, commanded by Cpt North, can be proud of its unique role in supporting one of the most versatile and effective combat units in Vietnam.

SPECIAL COMMUNICATIONS SUPPORT MISSIONS

11TH ARMORED CAVALRY

The 11th Armored Cavalry Regiment (ACR), currently OPCON to the 1st Cavalry Division (AM), operates out of the Quan Loi Base Camp. Major Culver is the 11th ACR Signal Officer and is responsible for providing the command control communications required by the highly mobile Blackhorse Regiment.

Long haul communications support is provided by the 1st Signal Brigade's Corps Area System. The long haul circuits connect the 11th ACR Rear at Bien Hoa with the Regimental Headquarters at Quan Loi.

Communications within the regiment consist mainly of FM radio and HF radio-teletype with primary emphasis on FM radio.

With the APC M-113's being used extensively as a fighting vehicle rather than a personnel carrier, the Regiment's ability to move and shoot has been greatly enhanced. Without an organic signal company to rely on, the regimental Signal Officer's duty to provide the means to communicate is both demanding and rewarding.

COMPANY D (RANGER) 75TH INF

Company D (Ranger), 75th Infantry, commanded by Major Richard W. Drisko, provides the eyes and ears to Headquarters, II FFORCEV in penetrating the vast stretches of heavy jungle growth to detect enemy troop movements.

LRP patrols rely on FM radios

Once the LRP team is dropped into a suspected enemy area, they are on their own. Their job is to find the enemy, to seek him out in his hiding places, to bring the fight to him before he wants or is ready for it. When the enemy is pin-pointed the information is immediately passed back to the base site. Depending on the size of the enemy

force sighted, artillery, aerial rocket artillery, or even Air Force tactical air strikes will be called in.

Providing the life line of communications between the Long Range Patrols (LRP) of Company D (Ranger), 75th Infantry is the responsibility of their communications platoon. Operating from four base stations in conjunction with an airborne relay, the platoon provides constant reliable FM communications with the patrols operating over extended distances from the company base.

Current upgrading plans include the replacement of the AN/PRC-25 radio with the AN/PRC-77 radio to provide a secure FM capability for passing critical message traffic.

NAVAL OPERATIONS

To effectively control and restrict the movement of enemy troops and material in the III Corps Tactical Zone (CTZ) requires the close coordination and support of land, air and naval forces. Contributing to this total effort is Operation TRAN HUNG DAO V, an interdiction on the Saigon River between Phu Cuong and Dau Tieng.

TRAN HUNG DAO V is commanded by the Third Riverine Commander of the Vietnamese Navy and consists of elements of U.S. Navy Task Group 194.6, Vietnamese Navy (VNN) River Patrol Group 51, and River Assault Group 24.

Operating together as part of the "DONG TIEN" Progress Together Program, the naval forces operate the small River Patrol Boats (PBR) and the larger River Assault Craft on the upper Saigon River. These craft are equipped with FM radios and maintain close contact with the Joint Naval Operations Center at Phu Cuong for coordination with friendly ground forces and for air and artillery support. The Naval Operations Center at Phu Cuong operates in the II FFORCEV FM Secure Net.

Operating around the clock, the naval forces have been highly successful in interdicting enemy movement throughout III CTZ.

WEATHER

Weather support to Headquarters, II FFORCEV is provided by Detachment 32, 5th Weather Squadron. Both forecasting and observation services are provided. With this information the decision makers can make the "go/no-go" decision. Consequently, the information provided must be accurate and current to allow the proper decision to be made.

To collect and disseminate this perishable product called weather data, it is essential that an adequate communications network be established.

Reliable communications must be available between the combat weather team (brigade level), the operating location (division level), and the weather relay center (WRC) at Tan Son Nhut. The prime communications media is the telephone. Where hot lines are being used, the loss of data due to communications problems is almost negligible.

In addition, the relay of data is accomplished over the Southeast Asia (SEA) Weather Teletype Network. Terminal equipment consists of USAF M-28 at II FFORCEV and the primary resupply airfields, and the Army TT-76/TT-4 equipment at division level.

The atmosphere with its many variables is a constantly changing series of events. Consequently, timelines in dissemination of weather data is essential to making an accurate forecast and passing it to the decision-making echelon. Tactical, Corps, and Army Area communications personnel monitor these circuits to insure their constant and reliable service.

ROME PLOWS

The 501st Land Clearing Company of the 62nd Engineer Battalion, operating the highly successful Rome Plows conducts land-clearing of fire support bases and roadways in the III CTZ.

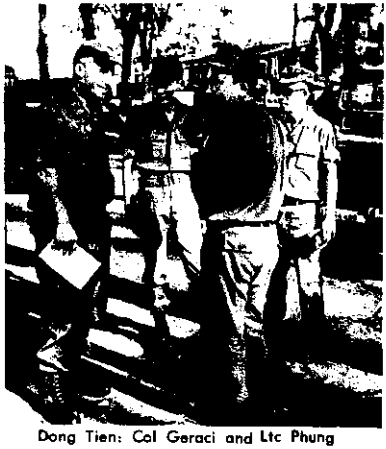
Currently the company, commanded by Captain Francis L. Smith is conducting land clearing operations in support of

(continued on page 44)

AFVN began operation on August 15, 1962, from studios located in downtown Saigon. The first programs were transmitted for 18 hours a day. Around the clock operations began in February, 1965. In 1966, using concept in broadcasting [illegible] Three C-121 [illegible] were outfitted [illegible] and telecast equipment. The AFRT transmitter [illegible] increased

Most of the television program material consists of film and videotape copies of programs presented on the television networks in the United States.

AFVN radio and television means morale, entertainment and information designed to bridge the 14 thousand mile gap between more than four hundred thousand Americans and their homes.



Dong Tien: Col Geraci and Ltc Phung

(continued from page 41)
joint 1st Cavalry and ARVN Airborne combat operations in War Zone C. The AN/GRC-106 radio is used to maintain contact with the Battalion Headquarters at Long Binh.

The Company establishes FM communications with each of the platoon leaders utilizing the AN/PRC-25 radio. However, contact between the platoon leader and the plow operators is limited. With the dense foliage restricting the operator's view it is very difficult to keep the cut on an even course. Recent field testing of the newer AN/PRC-88—squad radio as a means to control the operators has proven to be successful.

The operators mounted the AN/PRR-9 receiver on their helmets and the platoon leader using the AN/PRT-4 transmitter could readily control the team during the operation. According to Captain Smith, this technique of operation should significantly increase the capahility of the unit by greatly reducing the number of halts required for coordination.

DONG TIEN

To enhance communications coordination between U.S. and ARVN Forces, the II FFORCEV Signal Officer, Colonel Albert J. Geraci, works closely with the III Corps Signal Officer, LTC Phung, and his Signal Advisor Major Peter Schmidt.

Long range planning by the II FFORCEV Signal Officer has allowed for the smooth transition and upgrading of the ARVN multi-channel communications network.

Joint field surveys of ARVN use of U.S. tactical FM radios has resulted in increased emphasis by the ARVN Divisions Signal Officers in the proper care and utilization of the radios. Currently with the increased emphasis on the use of FM secure radio equipment throughout III CTZ, the III Corps Signal Advisor, Major Schmidt, has instructed all U.S. advisors in the use of the secure equipment and its advantages during joint U.S. and ARVN combat operations. Through his efforts, the frequency of compromises of planned operations, artillery, and air strikes has been greatly reduced.

KEY TERRAIN IN III CORPS TACTICAL ZONE

Automatic and manual FM retransmission stations located on high ground play a key role in providing the necessary range required to adequately support combat operations throughout the III CTZ.

The three principle signal relay sites within the II FFORCEV area of operation are: Nui Ba Den, Nui Chua Chan, and Nui Ba Ra Mountains.

NUI BA DEN

Nui Ba Den Mountain (The Black

Virgin) is the predominate terrain feature in Tay Ninh Province having an elevation of 986 meters. Located approximately 89 km northwest of Saigon, it is used as a radio relay site by many signal and combat units in the III Corps Tactical Zone (CTZ). The 125th Signal Battalion, principal occupant of the mountain since March 1967, controls the signal operations of the more than ten II FFORCEV units operating FM, manual and automatic retransmission stations as well as multi-channel relays.

NUI CHUA CHAN

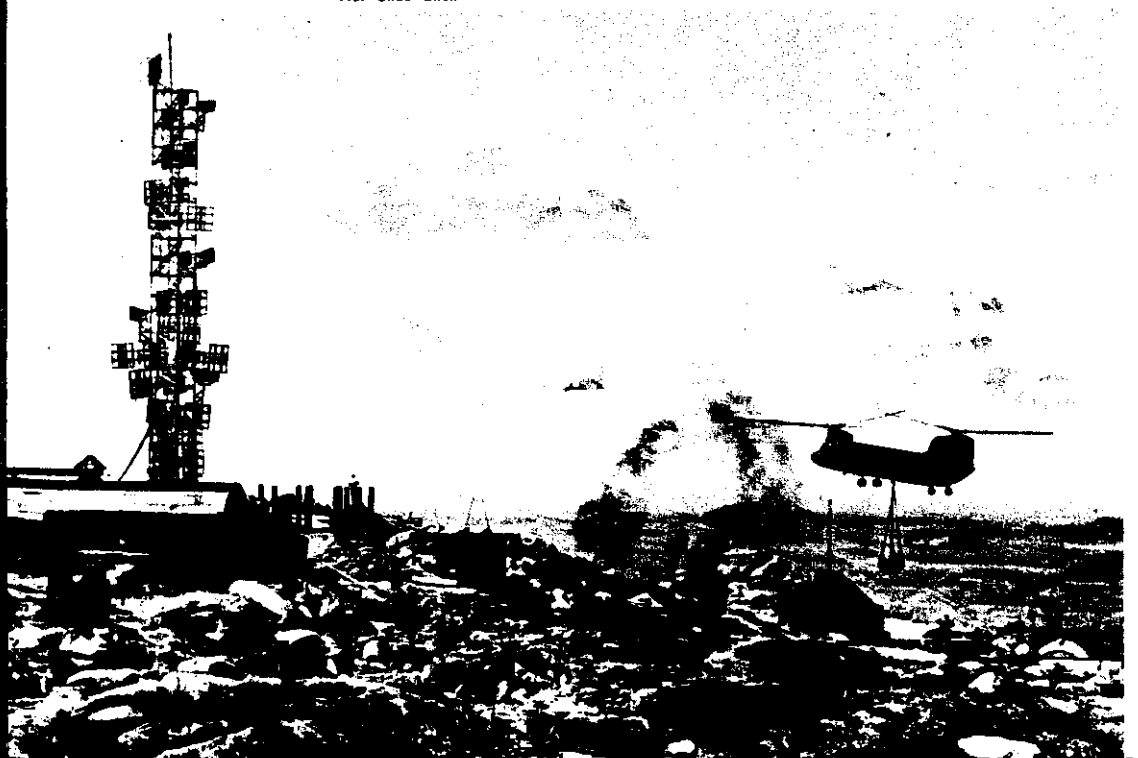
The signal site on Nui Chua Chan (Hill 837) is under the control of Company C, (Provisional), 53d Signal Battalion. Control of signal and combat units attempting to establish relay sites on the hill rests with the II FFORCEV Signal Officer. Frequencies for use on Hill 837 are assigned by the Radio Frequency Engineer Officer and are strictly controlled to reduce the possibility of interference.

NUI BA RA

Nui Ba Ra Mountain is located approximately 131 km north of Saigon. It is used as a relay site by many signal and combat units in the 1st Cavalry Division (AM) area of operation. The 13th Signal Battalion controls the signal operations on the hill. Currently both U.S. and ARVN units are operating manual and automatic FM retransmission stations, providing relay service to both combat and combat support units

With the increased activity by the 1st Cavalry Division and the ARVN Airborne Division, extensive construction has been undertaken to provide adequate protective bunkers for the additional communications personnel and equipment joint operations require.

Nui Chua Chan



AVIATION COMMUNICATIONS—ELECTRONICS

Army aviation communications—electronics (avionics) programs have been more closely associated with combat operations in Vietnam that at any time in history. This is primarily due to the many diverse avionics equipments in aircraft and ground related systems which support airmobile operations.

Avionics responsibilities in Vietnam are exercised by Signal Officers at all echelons of command. In most aviation organizations, from airmobile companies to aviation groups and the Aviation Brigade, the Signal Officer is a rated aviator who is responsible for communications in addition to avionics.

12TH COMBAT AVIATION GROUP

The 12th Combat Aviation Group in support of II FFORCEV has one of the largest areas of operation in Vietnam, encompassing the III Corps Tactical Zone. On a typical day hundreds of aircraft are engaged in combat assaults, resupply missions, surveillance, command and control and many other missions supporting ground tactical units.

To accomplish all of these tasks requires an effective communications system. 12th Combat Aviation Group communications personnel working for Major Synnott, the Group Signal Officer, maintain the command and control consoles, operate teletype and switchhoards and provide internal FM radio nets.

To keep abreast of an ever-changing tactical situation and to reduce reaction time, sole–user telephone circuits are installed from the II FFORCEV Army Aviation Element (AAE) to the supporting aviation units and to each infantry division and separate brigade in the III Corps Tactical Zone. Mission requirements are passed over the point-to-point circuits provided by II FFORCEV signal units.

The effective employment of airborne command and control aircraft of the 12th Group depends on the supported ground commander being able to direct

REIMER

his units instantaneously if the tactical situation requires. This instant reaction is possible by using the command and control consoles which are an integral part of the command and control ship.

The command and control aircraft, flying above the battle area, provides the commander with visual contact with the combat elements, keeping him abreast of the latest tactical development. Using the command and control console, the ground commander can then not only direct his units, but also can call upon supporting or reinforcing units if the need arises.

In addition to the command and control functions of the 12th Group communicators is the direct support maintenance of all avionics equipment. On call twenty-four hours a day, repair teams keep the aircraft radios and related avionics equipment in a high state of readiness, in spite of the hostile environment.

Command and Control Console—FM radio communications from the airborne commander to his units on the ground

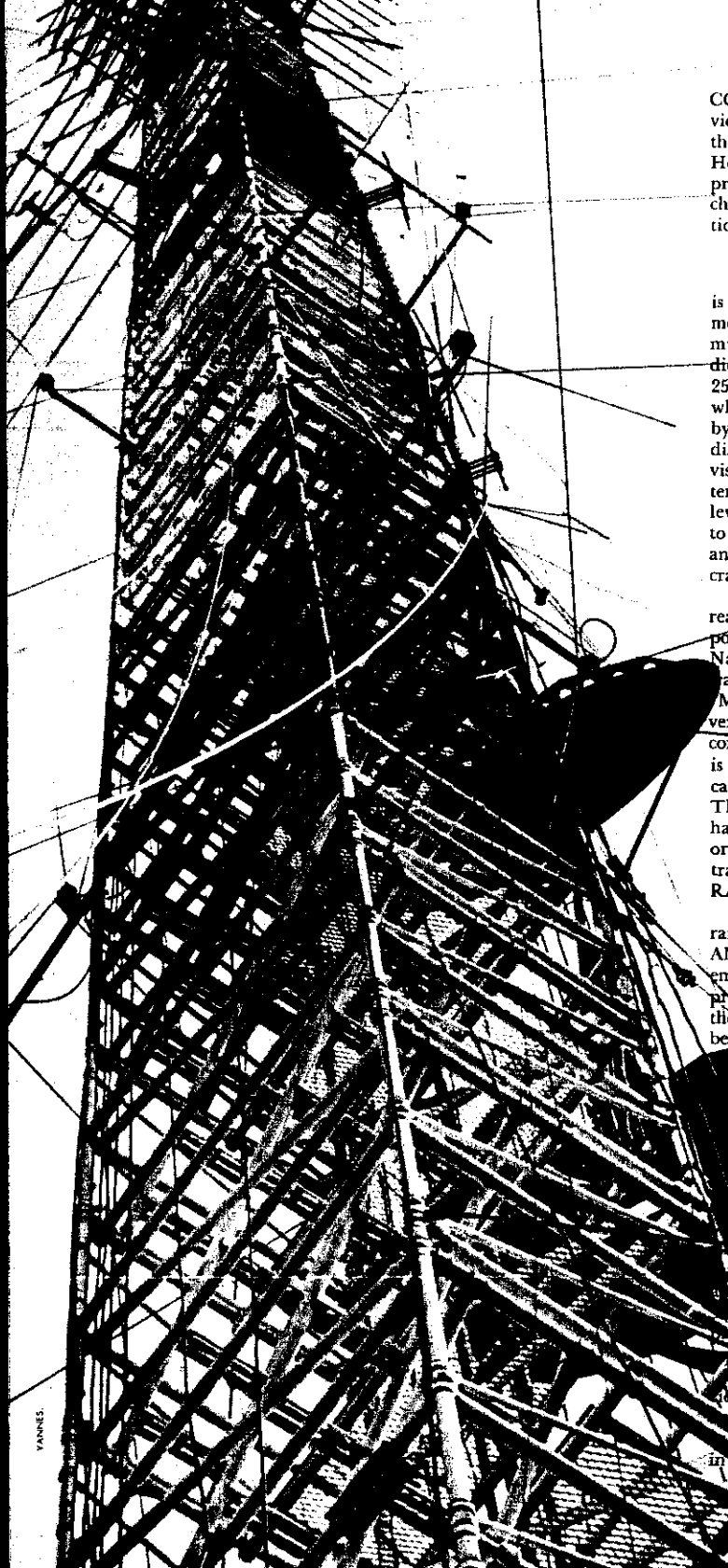
CORDS COMMUNICATIONS IN III CTZ

Civil Operations and Rural Development Support (CORDS) activities in III CTZ are coordinated through the II FFORCEV Commanding General's dual role as the Senior Advisor to the III Corps Commanding General. Direct responsibility for all CORDS activities lies with the Deputy for CORDS. The CORDS organization consists of both civilian and military personnel. Staffed with agencies to assist the government in civil operations and pacification programs, the Deputy for CORDS has operating elements which consist of province, district, Mobile Advisory Teams and other highly specialized teams to advise GVN counterparts at all echelons.

Providing communications to adequately support such a diverse and widely scattered organization requires the coordination and assistance of all communications agencies within II FFORCEV/III CTZ.

Within the CORDS organization, the Communications Office, currently directed by Captain J. Hood and Mr. J. R. Mirabella, is responsible for the coordination and supervision of the total telecommunications effort. The teletype network supporting CORDS operations is routed over ICS-SEA circuits, and in some cases over the Corps Area System.

Telephone service to the III CTZ



CORDS Headquarters subscribers is provided by the Corps Area System through the FLAME switchboard located at Bien Hoa Army Base. In addition, circuits are provided over 53d Signal Battalion multichannel systems for access to the U.S. tactical network.

RADIO COMMUNICATIONS

Radio communications within CORDS is a composit of standard military equipment and off-the-shelf civilian telecommunications equipment. Tactical FM radios include the AN/VRC-46, AN/PRC-25, AN/GRC-125, and the AN/PRC-77, which are utilized throughout the III CTZ by the senior advisors at province and district level and by the Mobile Advisory Teams (MATS) working with the territorial forces at village and hamlet level. Province teams are furnished air to ground radios to coordinate resupply and passenger flight by supporting aircraft of Air America.

To meet the requirement for a rapid reaction telecommunications net in support of the Public Safety Division, the National Police FM Voice MOTRAN transceivers are employed. The Motarola "MOTRAN" National Police radio is very reliable, fully transistorized, crystal controlled, frequency modulated set. It is used primarily as a base station or it can be used in a mobile configuration. The mobile units normally carry the hand held FM-1 or the FM-5 vehicular or manpacked National Police radio transceivers which net with the MOTRAN type radio.

To meet the requirement for long range voice radio communications the AN/PRC-74 SSB voice radio has been employed as a base station radio at the province and district level. Currently the AN/FRC-93 or KWM-2 radios are being [illegible] of the PRC-74 [illegible] suited for base

[illegible]ecommunications [illegible]hamlet level the [illegible] voice radio system [illegible] logistical and fire [illegible]e operations. To meet [illegible]t the Village/Hamlet [illegible]ystem was established util-[illegible]T-1, hand held AM, trans-[illegible] TR-5 air mobile transceiver [illegible] TR-20 AM base station radio. [illegible] work will cover an area of ap-[illegible]ly 20 km depending upon the [illegible]enna installation.

[illegible] highly responsive communica-[illegible]ecifically tailored to CORDS [illegible]ds greatly enhanced their efforts [illegible]ilian partner to the military [illegible]nation building effort.

YANNES