HISTORY

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6994th SECURITY SQUADRON

1 July 1967 - 31 December 1967

RCS: AU-D5 (USS-1)

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Tan Son Nhut Air Base, Vietnam

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Commander



The best of prophets of the future is the past."

Royron



This history covers the operational activities of the 699/th Security Squadron during the reporting period of 1 July - 31 December 1967. The histories of the detachments are presented as appendices; however, in some instances the material contained in the basic document is all inclusive. This was necessary to provide the reader with a complete account of the subject/activity.

This history has been presented in three chapters in accordance with the "Revised Format for USS-1 History," published by USAFSS.

Appendix I, Sentinel Sara and Compass Dart Operational Summary, was added to present the unit's effectiveness in accomplishing its unique mission. Also included in the appendices is a brief history of the activities of the Airborne Radio Direction Finding Coordination Center (ACC).

This history was prepared primarily from files, interviews and project folders available at the unit. Many of the messages referenced as 6994th Security Squadron messages are quoting other correspondence to higher headquarters. Many of the activities reported were coordinated with local agencies (i.e., MACV, 7th Air Force, 509th Radio Research Group, etc.) in person by 6994th Security Squadron staff personnel and, consequently, may not be fully documented. This could not be avoided.

The research and writing was accomplished by Sgt Odom. The historian was mainly concerned with editing and style.

All suggestions and comments concerning this history should be directed to the Office of Information.



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DISTRIBUTION

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CHRONOLOGY

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Date	Event
July	Seventh Air Force considered construction of facilities at Hue/Phu Bai AB to support the operation of 12 Compass Dart aircraft.
July	Three Compass Dart *Q" aircraft, 43-16123, 43-15603, and 42-10513, arrived in country.
August	USAFSS issued proposed annex to OFS Plan 11-66 outlining the concept of operations for the "Q" System.
8 August	"Z" System temporarily installed in two Compass Dart "Q" system aircraft to supplement Sentinel Sara DMZ operations.
19 August	Sentinel Sara tasked with bomb damage assessment mission.
September	Proposed in-country test of "Q" system "bit" mode forestalled.
September	6994th Security Squadron Standardisation/Evaluation procedures revised.
September	Installation of RFP in Compass Dart aircraft proposed.
September	Installation of KY-8 equipment in Sentinel Sara air- craft completed.
September	Installation of "Y" consoles in all Compass Dart air- craft except 43-45112 completed.
October	Ground/air tipoff program received renewed emphasis.
October	Three "Q" systems installed.
October	Sentinel Sara aircraft 43-49680 departed for IRAN.
November	Compass Dart commenced providing support to Muscle Shoals.
November	MACV requested a statement of requirements from 7th AF to support relocation of 15 ARDF aircraft from Nha Trang AB to Nue/Phu Bai AB.
December	US Army resources tasked with Cambodian Tactical Air problem.

December

First Compass Dart aircraft to receive KY-8 follow-on wiring modification departs for Itamike AB, Japan.

December

Forty-minth aircraft to be assigned to Compass Dart arrives in-country.



Chapter I

MISSION AND ORGANIZATION

Mission

- Compass Dart ARDF operations to provide direct support to MACV for the employment of tactical forces against enemy forces. In fulfilling this mission, the organization conducted ARDF flights over South Vietnam, Laos, and the adjacent coastal waters of South Vietnam and North Vietnam, north to approximately 20 nautical miles above the DMZ. The organization accomplished its mission through the resources of projects Compass Dart and Sentinel Sara*. Through these facilities they provided intelligence support to combat operations of the Vietnam conflict by:
- (1) Close tactical support of offensive operations through establishing the location of enemy forces and passing the information to DSU's collocated with combat elements.
- (2) Support of SIGINT activities through ARDF of enemy transmitters.
- (3) Augmentation of SIGINT collection facilities through utilization of the ARDF acquisition equipment (including "Q" and "Z" system) and the Sentinel Sara airborne collection platforms.

Organization

The 6994th Security Squadron was located at Tan Son Nhut AB, Vietnam. Its subordinate units were Detachment 1, Nha Trang AB, Vietnam *Project Drill Press was redesignated Sentinel Sara during October.

and Detachment 2, Pleiku AB, Vietnam. The unit also maintained an operating location at Hue/Phu Bai AB, Vietnam. The organization was subordinate to the 6922nd Secu. ity Wing, Clark AB, Philippines.

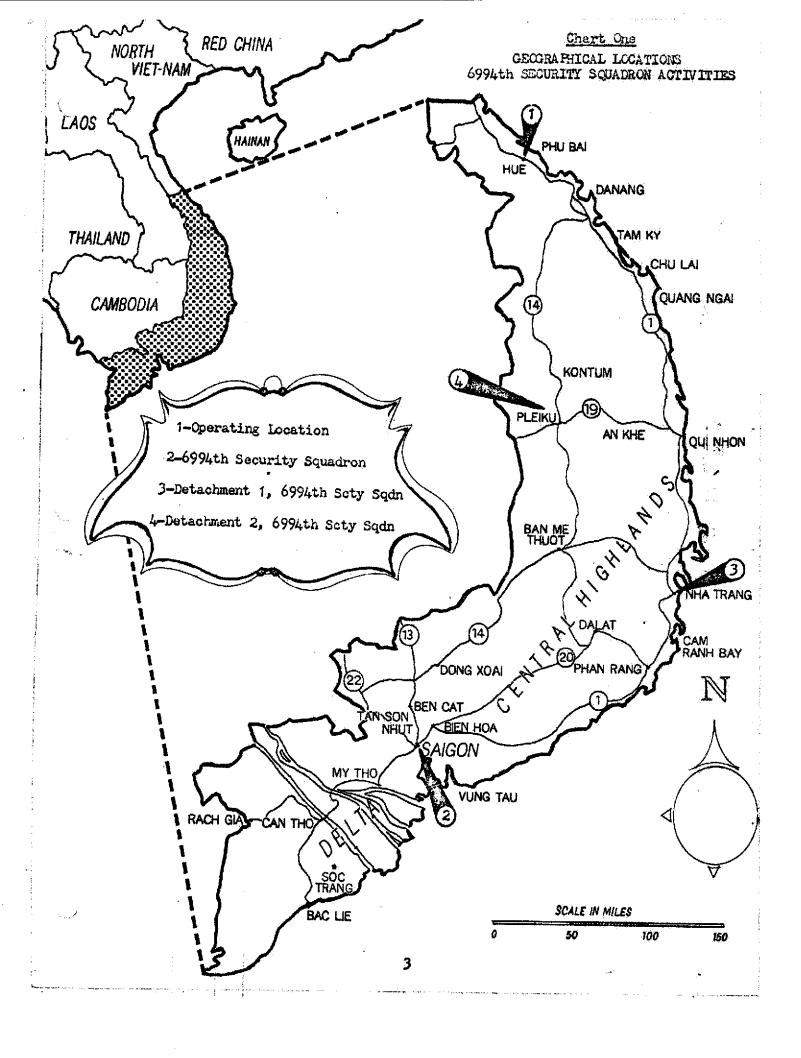
The organization was operationally subordinate to headquarters, 7th Air Force, Tan Son Nhut AB. However, due to its mission of close tactical support to ground operations and its inter-service involvment, operational control was generally accepted as being exercised by MACV-J2.

The organization provided administrative and logistical support to the USAFSS Liaison Officer (SSLO) and the USAFSS personnel assigned to Operating Location 4, 6970th Support Group. Tasked with separate missions, these activities functioned independently of the organization. The USAFSS manning of the ARDF Coordination Center was provided from the organization's restairces.

The operating location maintained by the organization at Hue/Phu Bai AB was comprised of the entire contingent of Sentinel Sara personnel and equipment, supplemented in most instances by some resources of Compass Dart. Operational and maintenance personnel from the 6994th Security Squadron were assigned to the activity, TDT. Linguistic support was provided by TDY personnel from the 6988th Security Squadron, Japan.

Organizational Changes

The unit experienced no organizational changes. However, discussion continued relative to the relocation of at least a portion or its resources to a location that would improve its ability to meet



mission requirements, present and programmed.

During June it appeared that actions by MACV to reduce the number of military personnel in the Nha Trang area, as a means of curbing inflation, would result in the relocation of Detachment 1, 6994th Security Squadron. The decision was made to relocate the unit, if in fact it became necessary, to a location that would align the resources more closely with the mission commitments. Since considerable discussion was evolving around ARDF requirements in Lacs and the squadron had extensive mission requirements in the DMZ area, consideration was being given to operating locations or unit relocations to northern South Vietnem and/or Thailand. Two requirements for ARDF support in Laos were under study: One, a MACV requirement for increased coverage of the Tiger Hound and Steel Tiger areas; another, a MACTHAI and CAS* requirement for ARDF support in Thailand and central Lacs. Discussion relative to relocating the entire detachment was dropped, at least temporarily, due to the non-availability of suitable facilities and consideration was switched to relocating some resources nearer the DMZ. This move would also partially satisfy the Laotian requirement.

During July, 7th Air Force gave serious consideration to constructing facilities at Hue/Phu Bai to support an operation of 12

^{*}The MACTHAI/CAS requirement for ARDF in central Laos and Thailand was temporarily satisfied from US Army resources during May. However, a valid requirement for USAF ARDF was considered to remain in existence. (6994th Security Squadron RCS: AU-D5 (USS-1) dated 15 Dec 67).

Compass Dart aircraft. This proposal was shelved in favor of the immediate placement of six Compass Dart aircraft at Da Nang. This plan also failed to materialise, due largely to the vulnerability of Da Nang to VC rocket attacks.

During November SSO MACV requested a statement of requirements from 7th Air Force to support their intent to relocate at least 15 ARDF aircraft from Nha Trang AF to Hue/Phu Bai AB. This proposal was intended to improve the ARDF support to III MAF and II FFV. Like similar plans previously considered by 7th Air Force and USAFSS, the proposal was subsequently dropped, at least temporarily, due to a lack of adequate support facilities at Hue/Phu Bai AF and the cost of developing these facilities.

6994TH SECURITY SQUADRON

Operations Division

Organizational Chart

ACC
(USAF OIC)

Airborne Operations

Airborne Operations

Tech Data/Reporting

Reporting and Evaluation

Sentinel Sara

Standardization/Evaluation

"A" Flight

"B" Flight

"C" Flight

Chapter II

TASKING AND COLLECTION

Tasking

The unit's Compass Dart resources were tasked with ARDF and associated collection of Viet Cong and PAVN/NVA transmitters.

Sentinel Sara aircraft were tasked with collection of PAVN/NVA communications in the DMZ area.

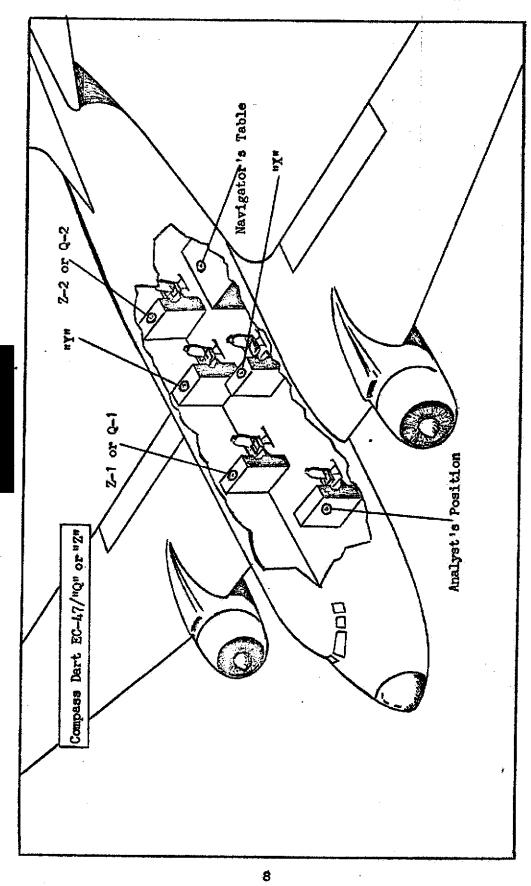
Collection

The unit's collection capability consisted of airborne acquisition, monitor, record, ARDF and active ECM of HF radio signals in the 2-16 MHZ frequency spectrum, and acquisition, monitor and record of HF and VHF radio signals in the .5-260 MHZ frequency spectrum.

Collection Facilities

The unit's collection facilities were 46 aircraft on 30 June, increasing to 51 aircraft by 31 December. Forty-nine of the aircraft were Compass Dart EC-47's and two were Sentinel Sara RC-47's. Ten of the Compass Dart aircraft were "Z" configured (Charts 3 and 4); five were "Q" configured (Charts 3 and 5); 33 were configured with the ALR-34 and an acquisition position (Charts 6 and 7), and one was equipped with only the ALR-34. Of the 33 ALR-34 and acquisition equipped aircraft, 14 had received the installation of the wiring components (Group "A") that would facilitate the installation of the "Z" system.

Two of these 14 aircraft would receive the "Z" system in the immediate future.



Compass Dart ARDF Aircraft Position Capability

"Z" System

Position 1 ("X") - ALR-34 (ARDF) 2-16 MHZ

Position 2 ("Y") - HF/HF Receive .5-30 MHZ

Position 3 (Z-1) - HF/HF Receive .5-30 MHZ or (HF/VHF Receive .5-260 MHZ)

Position 4 (Z-2) - HF/HF Receive .5-30 MHZ

Compass Dart ARDF Aircraft Position Capability

"Q" System

Position 1 ("X") - ALR-34 (ARDF) 2-16 MHZ

Position 2 ("Y") - HF/HF Receive .5-30 MHZ

Position 3 (Q-1) - HF/HF/HF Receive-COMJAM 2-16 MHZ HF Receive 2-16 MHZ (not installed)

Position 4 (Q-2) - HF/HF/HF Receive-COMJAM 2-16 MHZ HF Receive 2-16 MHZ (not installed)

Chart Six

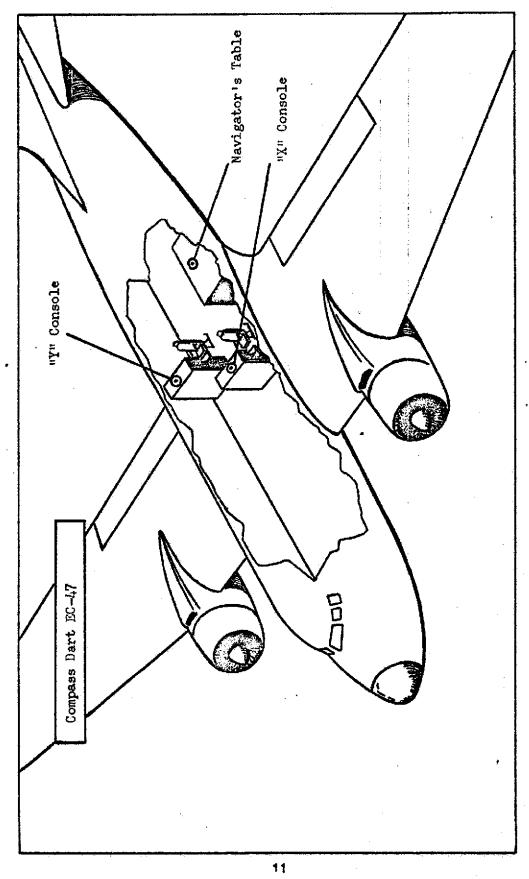


Chart Seven

Compass Dart ARDF Aircraft Position Capability

Basic Configuration

Position 1 ("X") - ALR-34 (ARDF) 2-16 MHZ

Position 2 ("Y") - HF/HF Receive .5-30 MHZ

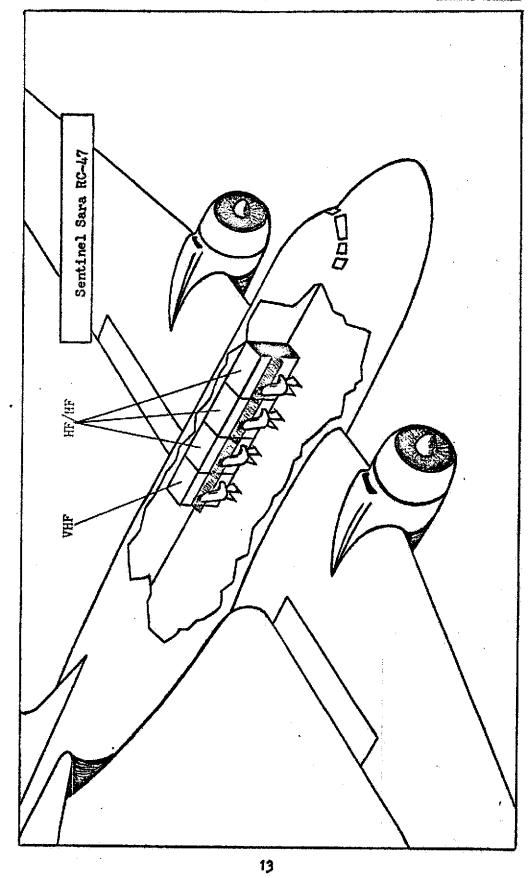


Chart Nine

Sentinel Sara Position Capability

Position 1 - HF/HF Receive .5-30 MHZ

Position 2 - HF Receive .5-30 MHZ

Position 3 - HF/HF Receive .5-30 MHZ

Position 4 - VHF Receive 20-260 MHZ

The two Sentinel Sara aircraft were equipped with four SIGINT collection positions each (Charts 8 and 9).

KY-8 and "Z" System Wiring

The 24 Compass Dart aircraft scheduled for the installation of the "Z" system wiring (Group "A") and the KY-8 wiring components completed the modification (Mod 2000/270).

Immediately following the completion of Mod 2000/270 those aircraft that had not undergone this modification were scheduled for a follow-on modification that consisted of the installation of the wiring components for the KY-8 system (former Mod 270). The initial aircraft scheduled for the modification at Itazuke AB, Japan departed on 3 December. The modification required approximately 14 days, and all aircraft scheduled were to be completed by late February 1968. Five aircraft had completed the modification by 31 December.

Twelve of the aircraft, four at each location, that had received Mod 2000 were programmed to have the "Z" system installed. By 31 December installation had been completed in ten aircraft. The components had been installed in the remaining two aircraft. However, due to the non-availability of power dividers, final installation could not be accomplished.

KY-8 System Installed

By 31 December 34 of the Compass Dart aircraft and the two Sentinel Sara aircraft were equipped with the KY-6 secure voice communications system. The Sentinel Sara aircraft were first to receive this modification. The installation of the KY-8 equipment in the Sentinel Sara aircraft was accomplished locally by the 460th FMS. Tempest testing was accomplished by a TDY team from AFCD. Aircraft 43-16254 was scheduled to enter the modification on 25 July. However, due to mission commitments it was delayed until arrangements could be made to preclude a loss of mission. The modification of 43-16254 was commenced on 16 August and completed with the aircraft being declared operational on 27 August. Work was commenced on 43-49680 on 27 August and completed on 13 September. Although some minor discrepancies were discovered in the installation, they were soon repaired and the system functioned properly. The anticipated use of the KY-8 system for passing perishable intelligence air/ground was not as effective as desired due to excessive interference on the collection positions created by the FM transmitter (See FM Interference, below). KY-8 components were installed in the Compaes Dart aircraft, commencing in September, as the aircraft returned from Mod 2000/270 and the follow-on mod. The "Q" system alreraft arrived from CONUS equipped for immediate installation of the KY-B components. Compass Dart aircraft also experienced problems with the FM transmitter interfering with the ALR-34 and acquisition equipment (See FM Taterference, below).

Aircraft Arrivals

The five additional aircraft arriving in country were the Compass Dart "Q" system aircraft. The aircraft arrived fully wired for the systems, which were shipped later. Arrival dates of the aircraft

and	dates	οř	installation of	the	иOв	systems	were:
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Aircraft	Date Arrived	System Installed
43-16123	21 July	10 Oct
13-15603	23 Ju ly	10 Oct
42-10513	28 Ju ly	16 Oct
42-10984	7 Oct	10 Oct
43-16055	24 Dec	27 Dec

All "Q" systems were installed minus the "G" equipment, which had not been received.

Aircraft Require TRAN

The scheduling of Compass Dart and Sentinel Sara aircraft for IRAN began with Sentinel Sara aircraft 43-49680 undergoing the (overdne) action during October and November. Compass Dart aircraft 43-15112 underwent the action during November and December. IRAN is based on the number of flying hours logged to the airframe, therefore, the aircraft with the longest time in the inventory were the first to require the action. (Note: All aircraft had undergone IRAN upon being assigned to the Compass Dart program). Additional aircraft were scheduled for the activity, which requires approximately 45 days, during 1968.

"Y" Consoles Installed

During September the installation of the acquisition position ("Y") was completed in all remaining Compass Dart aircraft that were wired to accept the position. Fifteen consoles were received and

installed from 27 August through 15 September. One remaining console was retained for future installation in aircraft 43-45112. This was the initial Compass Dart aircraft to arrive in South Vietnam, and was the only aircraft that did not have wiring for the "Y" console installed in CONUS. Arrangements were made for the fabrication of a kit comprising the wiring components for this modification and its subsequent installation during the installation of the KY-8 wiring components at Itazuke AB, Japan. The modification was delayed until early 1968 while the aircraft underwent IRAN.

Temporary "Z" Systems Installed

During August the Sentinel Sara aircraft were scheduled 11 to have KY-8 communications equipment installed. Also, one aircraft, 43-49680, was scheduled to undergo IRAN at Taiwan. The aircraft could not, however, be released from their high priority mission commitments although the installation of the KY-8 was expected to greatly enhance mission effectiveness. The proposal was instituted and accepted to replace the Sentinel Sara aircraft with a Compass Dart "Z" configured aircraft, which would be available in the near future, while the Sentinel Sara aircraft were down. No firm date of completion of the installation of the "Z" system wiring in a Compass Dart aircraft could be established. Therefore, permission was secured from PACAF to delay the IRAN schedule for 43-49680 for 90 days and the local schedule for the KY-3 modification was delayed until arrangements could be made.

installing "Z" components in two "Q" system aircraft presently on station and awaiting the arrival of the "Q" system. The idea proved feasible and a request was submitted to Sanders Associates for immediate air shipment of four "Z" consoles. The "G" equipment necessary for the installation was secured from the "spares" at the squadron and detachments. The installation of the "Z" positions in aircraft 43-16123 was completed on 8 August and the aircraft subsequently deployed to Phu Bai. By 11 August the installation of "Z" positions had been completed in aircraft 43-15603. The use of Compass Dart "Z" aircraft to suggest the Sentinel Sara operations provided such significant results that it was continued although both Sentinel Sara aircraft became operational after 43-49680 returned from IRAN (18 Oct -6 Dec). During the interim period, prior to the availability of additional "Z" components, several transfers of the two "Z" systems were accomplished between "Q" system aircraft and other group "A" wired Compass Dark aircraft. This was necessary to preclude a loss of mission coverage while extended maintenance was being performed on the mirframes. As additional "Z" systems became available, the components were permenantly installed in the sircraft as programmed. KY-8/FM-622 Interference

The KY-S secure voice communications system was integrated into the Sentinel Sara (August) and Compass Dart ARDF (September) air/ground, ground/air network. This system was expected to greatly enhance the ARDF operations by providing a medium for the ARDF operators and

ground site personnel to discuss target identification, etc. Also, it eliminated the need for Hestia Pads, except as back-up for the KY-8. Unfortunately, these benefits were realized on a small scale only. The FM-622 transceiver, when keyed, affected the reception of the ALR-34 and the acquisition position to the extent that targets could not be worked while the transmitter was in use. It was noted that by placing the FM-622 transmitter on "Lo" output (1 watt), the interference became neglible. However, in most cases the cutput of the transmitter was not sufficient to allow communications with the ground station. The problem was cited to USAFSS and remained unresolved.

KY-8 Equipment Problems

Several problems were encountered during the initial utilization of the KY-8 that hindered its effectiveness. In several instances a thermal problem was encountered that resulted in the equipment "locking up". The problem was investigated and could not be attributed to the equipment or method of installation. Voltage surge was suspected in some of the cases cited. Although the problem was not corrected, it was minimized, when encountered, by shutting the equipment down for a short period to allow it to cool. Also, operators were instructed to insure that a cool air vent located in the vicinity of the KY-8 remained in the open position. Numerous malfunctions encountered in failure of the equipment to operate were found to be created by the improper seating of the KYK-12 (manual key) in the KY-8. This problem was reduced through improved operator check-out procedures and will be eliminated

with the forthcoming replacement of the KYK-12 (manual key) with the KYK-3 (automatic key). At the closure of this report the system was giving satisfactory performance, with the exception of the FM-622 interference. Of interest was the fact that the ARC-136 (UHF) transmitter had minimal effect on the ALR-34 system.

Airborne Radio Finger Printing Proposed

USAFSS had aired some discussion relative to airborne RFP. This discussion subsequently disappeared from correspondence at this echelen, its disposition unknown. During September 1967, Captain Dickey, Operations Officer, Detachment 1, 6994th Security Squadron proposed that the feasibility of installing RFP equipment in Compass Dart aircraft be investigated. In submitting this proposal, Captain Dickey thoroughly investigated the US Army's research and development efforts in airborne RFP. The information provided by Captain Dickey was forwarded, as received, for study at higher echelons.

Collection Policies

Technical Support

During the early stages of its operation the unit realized a requirement for COMENT technical documents relative to the target entity to support its ARDF mission. Documents were needed to increase the unit's ability to identify mission targets. Considerable correspondence was exchanged on the subject, at that time, with negative results. The need became more prevalent and pressing with the advent

of the "Z" configured aircraft during September. Consequently, the issue was reopened during late September with renewed emphasis on the requirement. Attention was called to the US Army's higher rate of identification of targets fixed, which was attributed largely to their having unlimited access to technical support documents. NSA refused to supply the requested documents due to the fact that USAF ARDF resources are categorized as Electronic Warfare and do not fall within their realm of support. In effect, the 6994th Security Squadron was considered a consumer and was not authorized to procure COMINT technical materials through normal COMINT channels. In citing their unusual position to the detachments, who were incessant in their demands for technical support documents, the squadron stated:

"Do not completely understand motivation. Using the concept in paragraph B-2, above is interpreted here as meaning we won't get documents. Do not believe that NSA releases ITN's and CTR's to consumers. However, we will continue our efforts to validate our right to these documents until turned down and teld to desist. In the meantime, continue your short range, stop-gap methods of wheedle, cajole, and beg to obtain as much data as you can to aid in identification."

"Q" System Readied

During August USAFSS issued a proposed annex to OFS Plan 11-66 outlining a concept of operations for the "Q" system aircraft. This concept, in essence, integrated the "Q" system into the normal ARDF program for control and tasking. Shortly thereafter USAFSS advised the 6994th Security Squadron that the first "Q" system had been accepted and would be shipped to the theater immediately. USAFSS advised

that an operational check of the equipment was required and queried what action had been taken by 7th Air Force to coordinate utilization of the system and develop an estimate of utilization for logistical purposes. The 6994th Security Squadron, in coordinating the requirement for the estimate of utilization, found that 7th Air Force personnel possessed very limited knowledge of the "Q" system or its capabilities. A briefing was prepared and subsequently presented to the staff. The 6922nd Security Wing was advised that since there was no immediate plan for employment of the "Q" system in the active mode that USAFSS should be advised to arrange for logistical support on a standby basis. By September, USAFSS had promulgated plans for an operational test of the "Q" system in the active mode utilizing the "bit" transmission. Test would be conducted against North Vietnamese air warning tracking stations located in the southern portion of North Vietnam. The 6924th Security Squadron would cooperate with the unit in accomplishing the test. APSSO USAP stated of the test plans:

"Your recommendations concerning use of the bit mode in theater is excellent. Planning should be initiated ASAP. We will inform CS and propose that a theater evaluation be made to MACV."

USAFSS then decided that the proposed test was premature and should be delayed while further testing of the system was conducted by the manufacturer and USAFSS in CONUS. During November it was learned that MACV
J6 had granted authorization for the US Army to test Ceflien Lion air
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craft in the active mode. Test was to be conducted locally against a

friendly transmitter. In view of this development, the 6994th was

unhesitant in suggesting that similar testing of the Compass Dart

#Q" system be proposed to MACV. This testing would be conducted

against the squadron KWM-2 transmitter. This plan was also abandoned.

These actions did not alter the fact that the "Q" system was considered operationally ready and prepared to react to any requirement for active ECM. The "Q" system aircraft were utilized in the same manner as the "Z" system aircraft and were found to be ideally suited for acquisition support due to the compatability of the "Q" receivers to the ALR-34.

Aircrew Standardization/Evaluation Revised

During September action was initiated to completely revise
the squadron's standardization/evaluation system. The objective was
to incorporate procedures from the three units to produce a single,
all-inclusive system with definite procedures for measuring its effectiveness. TDY visits were conducted to the detachments for viewing
operational practices and gathering data. Directives were then promulgated for all facets of airborne ARDF operations. The resultant program

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was as outlined by the Operations Officer when citing the planned revision.

"The ultimate goal will be to do away with three different Stan/Eval programs and consolidate all Stan/Eval at the 6994th SctySq to be operated in accordance with existing regulations, mammals, OOI's etc. Stan/Eval will then function by having SEFE personnel visit each detachment monthly on a continuing and rotational basis to coordinate new and different procedures and to flight check all Radio Operators as the need arises. (Students at the two detachments would be certified as Radio Operators by detachment training personnel but Stan/Eval checked by SEFE's from the 6994th)."

Ground/Air Tip-off Procedures

During October the Commanding Officer, 303rd RRBN informed

the 6994th Security Squadron of a discussion with intelligence personnel of the 1st Infantry Division during which great concern was voiced over the extremely low hear/fix rate by ARDF aircraft of targets tipped-off by ground stations. Lt Col Benedict, G2, 1st Inf Div stated:

"Since these ground tip-offs reflect the current combat needs of the division, they are of immediate value and the results are always closely followed by General Hay."

The unit investigated the procedures for handling ground/air tip-offs and concluded that the instances in which tip-offs were not being received by the radio operator when the aircraft was, in fact, within range of the tip-off station, could most likely be attributed to the PM communications equipment being utilized by the Navigator to obtain flight clearance information. Procedures were reiterated, but little improvement in the fix ratio for tip-offs was noted (See SAM, Collection Projects, for additional information on the tip-off program).

Special Collection Projects

Bomb Damage Assessment

On 19 August General Westmoreland tasked Sentinel Sara with a special collection mission intended to gain an insight into the success of B-52 strikes in the DMZ area. Sentinel Sara aircraft were tasked with being on target during the time B-52 strikes were being executed from 21 August through 4 September. Since it was anticipated that most reflections would be on VHF voice, the unit requested a highly qualified linguist (by name) from the 6988th Security Squadron to assist in fulfilling the requirement. Considerable effort was expended by

Sentinel Sara personnel in the execution of this mission. Twentynine messages were intercepted that contained reflections of the B-52
activity. Such information as number of aircraft in the strike force,
damage reports on facilities and casualty reports were contained in the
message texts.

"Operation SAM" - Ground/Air Tip-off

The unit continued to participate in the ground/air tipoff program (Operation SAM) with the 175th Radio Research Company, 146th and 156th Aviation Companies. Basically, the concept of the project was to tip-off the ARDF aircraft when selected priority 1A targets were intercepted by ground operators at the 175th Radio Research Company. Initially, a special Hestia Pad series was used to encrypt the target data for the tip-offs. However, the advent of the KY-8 equipment eliminated the use of the pads except for backup. the tip-off position at the 175th RRC was colocated with the ground intercept positions. Fixes obtained by the ARDF aircraft on tip-offs were passed by the aircraft to the DSU's and reported in the ARDF recovery report, which the 175th RRC receives. The use of the KY-8 system reduced the time required to pass the tip-offs sufficiently to allow the 175th to commence tip-off of all priority targets intercepted on their positions. Approximately 25% of the targets tipped-off were fixed, accounting for a significant portion of the total targets fixed by ARDF. Short duration transmissions and transmitter locations beyond the range of the aircraft at the time of the tip-off accounted for the majority of the targets not fixed.

Cambodian Radio Telephone Intercept

Suspected overflights of South Vietnam by Cambodian jet aircraft during December generated a requirement for an airborne platform to mount an all out collection effort to intercept Cambodian VHP tactical communications pertinent to this flight activity. The US Army's Ceflien Lion aircraft, operating in two MACV areas adjacent to the Cambodian border were tasked with the mission, mainly due to their availability. Since the collection of TACAIR communications was clearly an Air Force problem, the unit launched an attempt to secure its tasking for USAF resources (Compass Dart and Sentinel Sara). The USAF resources were equipped to satisfy the requirement, which called for immediate tip-off to NRV when the activity was noted, through its UHP/ KY-8 air/ground communications to Tan Son Nhut and direct ops comm circuit to NRV. Although a workable plan to satisfy the requirement without a loss in present tasking was formulated, MACV-J2 refused the use of Sentinel Sara or Compass Dart aircraft for the project (Simone) to preclude degradation of other high priority mission commitments. By closure of this report the Unit was planning to conduct informal hearability tests against the Cambodian communications on a noninterfering basis as soon as arrangements could be completed for the loan of a suitable linguist.

Dre Marker/Muscle Shoals

During November NSAPACREP, Vietnam (C) informed the unit of a forthcoming requirement for airborns intercept facilities

to participate in the Dye Marker/Muscle Shoals program. The requirement was for airborne intercept resources to operate in the Muscle Shoals area in order to assess, through SIGINT, reactions and possible countermeasures of the enemy to the anti-infiltration barrier devices. Since the requirement was for VHF intercept, the unit issued an immediate request for four G-175J receivers for installation in the "Z" aircraft that would be tasked with the mission. Two days later, however, seven G-175J receivers were unexpectedly received. Four of the receivers were shipped to Det 2, and three were retained at the 6994th Security Squadron for use in "Z" aircraft operating from Hue/Phu Bai. The unit also requested additional linguistic support to meet the requirement. Although formal tasking was not levied until later in December, the unit commenced supporting the project during early December. The support was provided through substituting a Compass Dart "Z" aircraft with VHF capability for the regular scheduled missions in MAGV area one. Traffic was dropped off at Hue/Phu Bai for transcribing and reporting upon mission completion. The results through December were negative reflections of any awareness by the enemy of the barrier devices. However, the program and the unit's involvment in its activities continued.

Barrier Device Hearability Tested

During December an incident during which a sound sensing barrier device discovered by the VC transmitted their ensuing activities and conversations prompted General Westmoreland to request that the feasibility of dropping the devices into ensuy base camps for

the purpose of monitoring activities within the camps be investigated. A device was secured and a test executed by the 6994th Security Squadron utilizing both a Compass Dart "Z" and a Sentinel Sara aircraft. It was concluded that the system was not suited for such an endeavor. The device's transmissions could not be intercepted by the aircraft while airborne, and could be monitored at a distance of only 200 feet by the aircraft on the ground.

DMZ Low Level Communications Hearsbility Test

During September USM-808 conducted a hearability test of low level communications in the DMZ area during which the capabilities of the airborne platform (Sentinel Sara) were compared with the capability of the ground intercept site. The test confirmed that the airborne platform's capability to intercept low level communications could not be duplicated by the ground intercept site. The Commanding Officer, 8th Radio Research Field Station stated of the test:

"During the period 13 thru 22 Sep 67, this station conducted a low level DMZ hearability test. Recognizing the professional capability of your squadron's personnel and equipment attached to the 8th, their assistance was solicited, and most generously contributed, in resolving the many problems encountered in both the planning stage and actual test period. Air to ground tip-off, so vital to a hearability test of this nature, was provided thru the use of KY-8 equipment on a non-interfering basis to their primary mission. The results were far greater than had been expected."

Chapter III

PROCESSING AND REPORTING

Processing

analysis of the traffic and operator logs for identification purposes and extraction of messages of possible significance for electrical forwarding to US Army SIGINT processing units. This effort was on a very limited basis due to the non-availability of pertinent technical directives and documents. Forms and records were maintained, as necessary, to accomplish reporting requirements and resource managerial duties.

Reporting

The unit's reporting mission consisted of (a) air/
ground reporting of ARDF fix data; (b) Position Status Reporting;
(d) Master Program change actions; (e) ARDF Recovery Reporting;
(f) USAF Special SENSOR Reporting; (g) Sentinel Sara Weekly Operational Summary Reporting, and (h) Electronic Warfare Daily Operational Management Report HILITE Reporting.

EW DOMR Revised

A conference was conducted at the 6922nd Security Wing from 8 through 11 September which resulted in a proposed complete revision of the EW DOMR. The proposed format was submitted to the PACSCTIRGN on 28 September and forwarded to USAFSS on 4 October. Subsequently approved by USAFSS with only minor changes, the revised

format was implemented on 4 November. The revised EW DOMR was more compatable to the EW mission than the original format which was a hasty revision of the existing Air COMINT DOMR devised to meet EW reporting requirements.

NOTES

Chapter I

- 1. USAFSS Operations Plan, Project Project Phyllis Ann (U), Serial No 11-66, Dtd 24 June 1966.
- 2. History of the 6994th Security Squadron, 1 Jan 30 June 1967, RCS: AU-D5 (USS-1), Dtd 15 Dec 67.
- 3. Mag, 6994th Sety Sqdn CDR 16188, Dtd 16 Jul 67. Doc 1.
- 4. Msg, 6994th Sety Sqdn CDR 24294, Dtd 24 Jul 67. Doc 2.
- 5. Mag, 6994th Scty Sqdn OPS 100145Z Nov 67. Doc 3.

Chapter II

- 1. Msg, 6994th Sety Sqdn MAT 11159, Dtd 10 Aug 67. Doc 4.
- 2. Mag, PACSCTIRGN 111940Z Nov 67. Doc 5.
- 3. Interview by Magt Odom with Capt James Baker, Material Officer.
- 4. Mag, 6994th Sety Squn MAT 24292, Dta 23 Jul 67.
- 5. Mag, 6994th Sety Sqdn MAT 01023, Dtd 1 Aug 67.
- 6. Msg, 6994th Sety Sqdn MAT 26348, Dtd 26 Aug 67.
- 7. 6994th Scty Sqdn PSR Nr 68, Dtd 13 Sep 67.
- 8. Mag, 6994th Sety Sqdn MAT-M 250802Z New 67. Doc 6 and Doc 7.
- 9. Mag, 6994th Scty Sqdn MAT 25324, Dtd 24 Aug 67.
- 10. Interview by MSgt Odom with Capt James Baker, Material Officer.
- 11. Mag, 6994th Sety Sqdn CDR 01003, Dtd 1 Aug 67.
- 12. Interview by MSgt Odom with Capt Harold V. Barnett, Assistant Operations Officer.
- 13. Msg, 6994th Sety Sqdn MAT 01004, Etd 1 Aug 67.
- 14. Msg, 6994th Sety Sqdn MAT 01011, Dtd 1 Aug 67.

- 15. Msg, 6994th Scty Sqdn MAT 18251, Dtd 18 Aug 67.
- 16. Msg. 6994th Sety Sodn OPS 22323, Dtd 22 Aug 67.
- 17. Msg, 6994th Scty Sqdn MAT-W 15184, Dtd 14 Sep 67. Doc 8.
- 18. Msg, 6994th Sety Sqdn MAT 22242, Dtd 21 Oct 67.
- 19. Interview by MSgt Odom with 1st Lt Charles C. Aplin, Communications Officer.
- 20. Ibid.
- 21. Msg, 6994th Sety Sqdn COM 30348, Dtd 30 Oct 67.
- 22. Interview by MSgt Odom with Capt Edward E. Smith, Material Officer.
- 23. Msg, 6994th Sety Sqdn OPS 120845Z Dec 67. Doc 2.
- 24. Msg, 6994th Scty Sqdn OPS 25350, Dtd 24 Sep 67. Doc 10.
- 25. Msg, 6994th Sety Sqdn OPS 17259, Dtd 17 Oct 67. Doc 11.
- 26. Mag. USAFSS TAD 48648, Dtg 160443Z Aug 67.
- 27. Mag, USAFSS TAD 48668, Dtg 221934Z Aug 67.
- 28. Msg, 6994th Sety Sqdn OPS 02017, Dtg 020045Z Sep 67.
- 29. Msg, USAFSS TDC 48248, Dtg 222226Z Sep 67.
- 30. Mag, AFSSO USAF 46016, Dtd 21 Sep 67.
- 31. Interview by MSgt Odom with CMS Robert Mandell, NCOIC Operations.
- 32. Msg, 6922nd Sety Wg OPS 130917Z Nov 67.
- 33. Mag, 6994th Sety Squn OPS 27420, Dtd 26 Oct 67.
- 34. Ltr, 6994th Scty Sqdn, Dtd 19 Sep 67.
- 35. Msg, 303rd RRBN TAPV 303-00 728002-S, Dtg 070500Z Oct 67. Doc 12.
- 36. Ltr, 6994th Sety Sqdn, Dtd 17 Oct 67.
- 37. Mag, 6994th Sety Sodn OPS 19286, Dtd 19 Aug 67.

- 38. Interview by MSgt Odom with 1st Lt Richard C. Husemann, OIC Airborne Collection.
- 39. Mag, 6994th Sety Sqdn OPS 112355Z Dec 67. Doc 13.
- 40. Msg, 6994th Scty Sqdn OPS 210623 Dec 67.
- 41. Ibid.
- 42. Mag, 6994th Sety Sqdn OPS 220815Z Dec 67.
- 43. Msg, 6994th Scty Sqdn OPS 270837Z Dec 67.
- 44. Mag, 6994th Sety Sqdn OPS 110520Z Nov 67. Doc 14.
- 45. Msg, 6994th Scty Sqdn MAT-S 110531Z Nov 67.
- 46. Mag, 6994th Sety Sqdn OPS 230023Z Nov 67.
- 47. Mag, 6994th Sety Sqdn OPS 010515Z Nov 67.
- 48. Mag, USM 808 IAPVJS3 7360 051, Dtg 261236Z Dec 67. Doc 15.
- 49. Mag, 6994th Scty Sqdn OPS 270837Z Dec 67.
- 50. Msg, GO 8th RRFS IAPVJS3/COL 7277 002, Dtg 040010Z Oct 67.

Chapter III

- 1. Msg, 6922nd Scty Wg OPS 04850, Dtg 280933Z Sep 67.
- 2. Mag, 6994th Sety Sqdn OPS 041018Z Nov 67.

GLOSS ARY

A

AB

Air Base

ACC

Airborne Radio Direction Finding Coordination Center

AF

Air Field

AFSSO

Air Force Special Security Officer

ALR-34

Airborne Radio Direction Finding System (Compass Dart)

ARDF

Airborne Radio Direction Finding

ASAP

As Soon As Possible

B

BC

Body Count

BDA

Bomb Damage Assessment

<u>C</u>

CAS

Controlled American Source

C&D

Continuity and Development

CINCPACAF

Commander-in-Chief, Pacific Air Forces

COMINT

Communications Intelligence

CONUS

Continental United States

CSAP

Chief-of-Staff, U.S. Air Force

CTS

Close Tactical Support

<u>n</u>

DMZ

Demilitarized Zone

DODSPECREP

Department of Defense Special Representative (unclass-

ified name for NSA Representative, Vietnam (C))

DSU

Direct Support Unit

E

ECM

Electronic Counter Measures

EW

Electronic Warfare

F

FFV (II)

II Field Force, Vietnam

PM

Frequency Modulation (Used in reference to PM-622

transceiver)

H

HF

High Frequency

I

IRAN

Inspect and Repair as Needed

J

JCS

Joint Chiefs-of-Staff

K

KIA

Killed in Action

KWM-2

HF Transceiver (nomenclature)

KY-8

Radio Telephone Encryption System (nomenclature)

KYK-3

KY-8 Automatic Keyer (nomenclature)

KYK-12

KY-8 Manual Keyer (nomenclature)

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LOP

Line of Position

M

MACTHAI

U.S. Military Assistance Command, Thailand

MACV

U.S. Military Assistance Command, Vietnam

3rd Marine Amphibious Force MAF, III N National Security Agency, Pacific, Representative, NRV (C) Vietnam (Confidential) North Vietnamese Army (same as PAVN) NVA P Pacific Air Forces PACAF People's Army, Vietnam (same as NVA) PAVN Q HF Search/Comm Jam Position *Q* R RFP Radio Finger Printing Radio Research Battalion RRB(N) RRC Radio Research Company Radio Research Detachment RRD

Radio Research Group

Radio Research Field Station

SSLO USAFSS Liaison Officer

SVN South Vietnam

RRFS

RRG

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<u>S</u>

USARPAC U.S. Army, Pacific

UMD Unit Manning Document

USASA U.S. Army Security Agency

y

VC Viet Cong

X

пХи

ALR-34 Console

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nYn

Search/Acquisition Position

Z

пZн

Phase III Compass Dart Position or Aircraft



SUPPORTING DOCUMENTS

PRIORITY

0408613

6994SCTYSQ TAN SON NHUT AB VIETNAM

"USAFSS PRIVACY

6922SCTYMG CLARK AB PHIL

CHANNELS/USAFSS PRIVACY/CDR ____/6/88_Jul 67

For It Col Lilley from It Col Bridges.

Ref: A. PSR Wsg OPSG 18464 Jul

- 6922 OPS 03423, 9 Jul 67
- C. 6922 OPS 03441, 16 Jul 67.

Compass Dart/Drill Press OPLOC At Da Nang. Since my arrival here I have made special effort to establish a rapport with 7AF DO Staff who are interested in and to a considerable degree control the Project Compass Dart. One of my objectives has been to ultimately relocate resources (aircraft) closer to the activity in the DMZ. That my efforts were partially successful was indicated last week when serious consideration was given to the construction of adequate facilities to support 12 CD sircraft at Hus-Phu Bai. Even though this proposal was shelved for the time being the exercise was not a complete loss since the action Officer is now preparing a paper to go to the Programmers which will establish a requirement for ramp space and support facilities for a package of

16 Jul

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IM COL BRIDGES

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PRIORITY

6994SCTYSQ TAN SON NHUT AB VIETNAM

6922SCTYNG CIAHK AB PHIL

CHANNELS/USAFSS PRIVACY/CDR 24296 Jul 67

For Lt Col Lilley from Lt Col Bridges.

Ref my CDR 16188 Jul 67 regarding Compass Dart/Drill Press CPLOC at DaNang. Vulnerability of DaNang to VC attack has caused DO Staff 7AF to back down on their plan to relocate 6 Compass Dart aircraft to DaNang. The action officer has indicated that he plans to brief BG Bolt, DO 7AF, on this subject before Gen Coira visit. This subject could bery well come up during Gen Coira's meeting with Gen Bolt. Have you briefed Gon Coira on this? If so what did you tell him? If not, what do you want me to tell him?

РЕСТЕСТ СОВОЗАНА VEST ВОЗВЕТЕНИЯ Ф4Ф8614

24

Jul

67

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LT COL BRIDGES

4644

WYMAN M. BRIDGES, LT COL, USAF COMMANDER

- 67

0408615

6994SCTYSO SUBJECT:

6922SCTYVG

REQUEST

OPS NOV 67.

FOLLOWING MESSAGE FROM SSO MACV TO AFSSO 7AF, INFO CG THIRD MAF IS QUOTED FOR YOUR INFORMATION. QUOTE. "1. WE ARE REVIEWING WAYS AND MEANS TO IMPROVE THE ARDY SUPPORT TO CG, III HAF. EXPERIENCE IN OTHER CTZ HAS DEMONSTRATED THAT WHEN THE AIRCRAFT ARE COLLOCATED WITH THEIR SUPPORTING RADIO RESEARCH UNIT, ARDF RESULTS SHOW MARKED IMPROVEMENT. 2. PHYSICAL SEPARATION OF THE AIR FORCE ARDP AIRCRAFT FROM THE INTERCEPT FACILITY AT PHU BAI (SUPPORT TO III MAF BEING PROVIDED BY AF ARDF DET AT PLEIKU) REDUCES TIME THE AIRCRAFT REMAINS IN THE TARGET AREAS AND PRECLUDES CLOSE COORDINATION BETWEEN GROUND INTERCEPT, ANALYSTS, AND ARDF CREWS. SINCE SUPPORT TO III MAF IS PROVIDED FROM PLEIKU, ARDF SUPPORT FOR II FFV MUST BE FLOWN FROM NHA TRANG. HENCE, THESE AIRCRAFT ARE ALSO PHYSICALLY SEPARATED FROM THE RADIO RESEARCH UNIT WHICH SUPPLIES THEIR TARGETING DATA (330TH RR CO AT PIEIKU). 3. IN ORDER TO RESOLVE THIS PROBLEM WE NOV ARE EXAMINING THE FEASIBILITY OF MOVING AS MANY AS FIFTEEN AIR FORCE ARDF AFRCRAFT FROM NHA TRANG TO PHU BAI. THIS WOULD PLACE THEM WITH

IT COL EVANS 3706

> KELVIN E. EVANS, It Colonel, USAP Operations Officer

LT COL EVANS

LT COL EVANS

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THE SUPPORTING RADIO RESEARCH UNIT, AND INCREASE THE TIME OVER TARGET.

THE AIRCRAFT AT PLEIKU COULD THEN BE PLOWN AGAINST II FPV TARGETS,

AND BENEFIT FROM THEIR CURRENT COLLOCATION WITH SUPPORTING RADIO

RESEARCH UNIT. WE RECOGNIZE THE CROWDED CONDITIONS AT HUE/PHU BAI

AIRFIELD, AND ARE CONSIDERING ALTERNATIVES, SUCH AS DA NANG. HOWEVER,

WE WOULD LIKE TO PLACE ASMANY AS POSSIBLE AT HUE/PHU BAI. 4. REQUEST

YOU DEVELOP A STATEMENT OF REQUIREMENTS FOR SUPPORTING THE FIFTEEN ARDF

AIRCRAFT AT HUE/PHU BAI WHICH YOU CONSIDER FEASIBLE FOR THIS PURPOSE.

THESE REQUIREMENTS, AND YOUR COMMENTS SHOULD BE FORWARDED BY 15

NOVEMBER". UNQUOTE.

2. THIS UNIT HAS BEEN TASKED TO PROVIDE INPUT FOR 7AF REPLY. IT APPEARS THAT 7AF WILL REPLY WITH A LARGE DOLLAR COST BECAUSE OF THE EXTENSIVE BUILD UP IN SUPPORT FACILITIES REQUIRED (E.G., RAMPS, REVETMENTS, A&E MAINTENANCE, WAREHOUSING, SUPPLY, BILLETING, MESSING, POWER). WILL FORWARD 7AF REPLY WHEN AVAILABLE.

ABBREVIATED JC T MESSAGEFORM and/or CONTINUATION SHEET

SEC - RITY CLASSIFICATION Doc. 4 (cont. d

10NE

PRECEDENCE	RELEASED BY CAPT SMITH	DRAFTED BY	PH
ACTION PRIORITY		SSGT DOOLITTLE/wod	
INFO			
	•		
		٦	
13	4 OCT	16	
14	10	21	
15	16	27	
16	21	2 NOV	
17	27	VON 8	•
18	2 nov	15	
19	8	21	
20	15	28	
21	21	4 DEC	
22	- 28	9	
23	4 DEC	14	

ABOVE SCHEDULE IS BASED ON 10 WORKING DAYS FLOW TIME; 2 IN WORK; SUBSEQUENT IMPUT/OUTPUT OR ONE FOR ONE. FIRM IMPUT/OUTPUT WILL.

BE CONFIRMED BY 5 DAYS AND 3 DAYS NOTIFICATIONS, REQUEST 4TH ACFT BE IMPUT ON 11 AUG. REPLACEMENT ACFT (2ND) READY FOR PICK-UP. UNDUOTE.

CONTROL NO. TOR/TOD PAGE NO. OF MESSAGE IDENTIFICATION INITIALS

NO. PAGES

2 2

REGRADING INSTRUCTIONS

SECURITY CLASSIFICATION
UNCLASSSIFIED E F T Q

NNN2CZCRDAS67AM3332

RR YMRDOR

DE YHLAKZ 6 3151947

R 1119402

FM PACSCTYRGN

70 699455

DET 1 699 455

DET 2 699 455

母22SS (图T)

ZEM

R 0917362 NOV 67

FM WRAMA ROM NS AFR GA

TC HHIHA/PACS-CTYRGN LOG-M WHEELER AFT HAVATT

RTATAP/APRE SOPT C TACHERAVA AT JAPAN RUNS TO JAFA DAME TAN SON AT RUN RUNP AC /5 AS CHITSPT OF STADUKE AFT JAPAN RUNT EJA/US AFS LDL
RUNTA DA /OCAMA OCPUCS TINKER AFT OCLA RUNTA DA /CI NCPACAF DIM
HIATIAZ BAF DIMI FUCHU AS JAPAN

2/1/12

PROJECT CORO SA HARVEST

04 Ø 8617

FOR 348 CMSTSPTGP/CAPT O'NEWL . STJECT FOLLOW-ON MODIFICATION

FOR 21 EC-47 ACFT AT ITAZUKE AT JAPAN. THIS MESSAGE IN TWO PARTS. PART ONE. FOR AL. CONTRACTUAL COVERAGE HAS BEEN OBTAINED TO ACCOMPLISH MOD 1849 - 1875 T.O. 1C-47-541 AND 1873 T.O. 1C-47(E)-5 & ON ADDITIONAL 21 EC-47 ACFT AT ITAZUKE AT JAPAN (MY (C) WRNG-33276 14 SEP G7). INSTALLATION SCHEDULE AS FOLLOWS: INPUT TWO ACFT AT ONE TIME WITH ESTIMATED

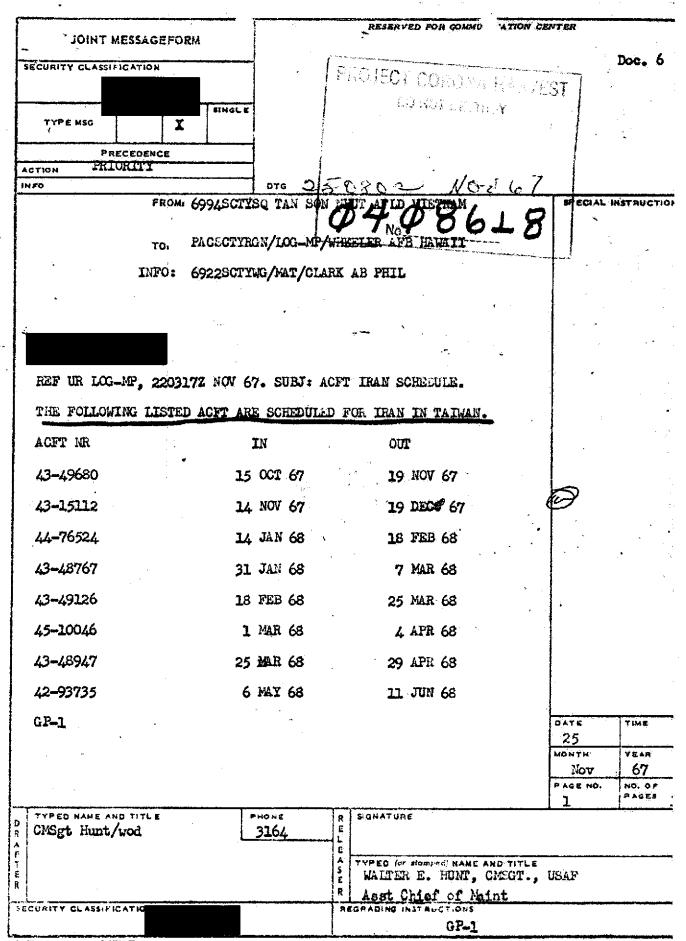
FIVE DAY TAT. REQUEST FIRST TWO ACFT HE INPUT NOT LATER THAN 15 NOV 67. PROGRAM CARRIOT HE FURTHER ACCELERATED DUE TO AVAILABILITY OF GROUP "H" COMPONENTS FOR FMSRS INSTALLATION AS STATED ON REF MSG. PART TWO. FOR CINCPACAF. KITS ARE

AVAILABLE FOR INSTALLATION OF MOD 1973 IN OSIGINAL 22 ACFT JUST COMPLETING MOD ON PROJECT 195. REQUEST VOVE RECOMMENDATION FOR LOCATION TO ACCOMPLISH MOD 1973 ON THESE ACFT. ESTIMATED MANOURS FOR INSTALLATION OF MOD 1973 (INSTALLATION OF ANY USEN-25 RADAR REACONCO-47 ACFT) APPROXIMATELY 153 HOURS.

ADVISE WRAMA (WRNCPA) YOUR RECOMMENDATION.

299

MAT



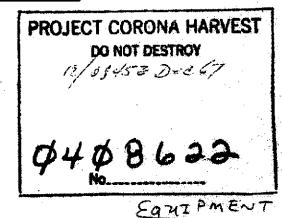
RESERVED FOR COMO! ATTOM CENTER JOINT MESSAGEFORM Doc. 7 SECURITY CLASSIFICATION TYPE MAG PRECEDENCE PRICRITY 31 2245 Ker 61 INFO FROM: 699ASCTYSO TAN SON NIUT AFLD VIETNAM TO: PACSCTYRGN/MAT/WHEELER AFB HAWAII REFERENCE YOUR LOG-MPA 290303Z NOV 67. SUBJ: COMPASS DART IRAN. AIRCRAFT NUMBERS 933, 665 AND 016 WERE EXCLUDED FROM OUR LIST DUE TO AN OVERSIGHT ON OUR PART. THE EXCLUDED AIRCRAFT ARE ASSIGNED TO THE DETS. WE NEGLECTED TO INCLUDE THESE AIRCRAFT NUMBERS ALONG WITH AIRCRAFT ASSIGNED THIS STATION. YOUR START DATED FOR THESE AIRCRAFT ARE CORRECT ACCORDING TO OUR RECORDS. GP-1 0408619 DATE TIME MONTH YEAR - AGECY PAGES TYPED NAME AND TITLE ames C. Baker TYPES for stomped HAME AND TITLE Capt Baker/jlf JAMES C. BAKER, Capt, USAF Motorial Milnor SCURITY CLASS

RESIDENCE TOTAL CATION CONTRACT JOINT MESSAGEFORM DOWN LESTRICK Doc. 8 SECURITY BOOK MULTI SINGL E TYPE NGO 0408624 PRECEDENCE ACTION PROBLTY DTG INFO SPECIAL INSTRUCTION FROM 6994SCTYSQ TAN SON NHUT AFLD VIETNAM TO: USAFSS SAN ANTCHIO TEX PACSCTYRON WHEELER AFB HAWAII INFO2 6922 SCTYWG CLARK AB PHIL NASHUA NEW HAMPSHIRE (SANDERS ASSOC) 15184 SEPT 67 FM-622 INTERFERENCE WITH AN ALR-34. SUBJ: FOR: LDL/TSD, LOG-M, MAT. THIS UNIT IS EXPERIENCING INTERFERENCE PROBLEMS WITH FM 622 RADIO SET AND THE AN/ALR-34. FREQUENCY RANGE OF FM-622 IS 30MHZ TO 74.5MHZ. PROBLEM HAS EXISTED FOR SOME TIME BUT HAS NOT AFFECTED MISSION EFFICIENCY BECAUSE OF LOW UTILIZATION OF THE FM 622 RADIO SET. WITH THE INSTALLATION OF KY-S SECURE VOICE, THE RADIO IS USED MCRE OFTEN. FM-622 TRANSMISSION APPEARS TO SATURATE THE ALR-34 ANTENNA PRE-AMPS CAUSING THE A22 O'SCOPE TO HE BLANKED. FOR SCME MODE REASON, EFFECT IS MORE NOTICABLE WHEN IN KY-8 CYPHER. DATE TIME 2. REQUEST A STUDY BE MADE AT SANDERS ASSOC. TO FIND A SOLUTION YKAR MONTH TO THIS PROBLEM. 1967 SEPT PAGE NO. NO. D# 23 9A 9 PHONE SAUTARDE TYPED NAME AND TITLE TYPED (or slemped HAME AND TITLE Capt Smith/jlf EDWARD E. SMITH, Capt, USAF Materiel Officer SECURITY CLASSIFICATION

DD . FORM. 173

6994SCTYSQ

6922SCTYVG



OPS DEC 67.

INSTALLEDIN

COMPASS

SUBJECT: INSTALLATION OF REP IN COMPASS DART SYSTEM.

1. QUOTED BELOW IS THE LATEST ON LEFTBANK/RFP AS RECEIVED FROM

DET 1. PERSONNEL AT DET 1 ARE STHONGLY UNGING THAT AN RFP CAPABILITY

BE ADDED TO COMPASS DART. THIS HEADQUARTERS LOCKS UPON RFP WITH THE

CURRENT STATE OF THE ART WITH RESERVATION. HOWEVER, THESE INPUTS

FROM DET 1 ON CURRENT ARMY EFFORTS MAY BE OF VALUE TO USAFSS

ENGINEERS IN DEVELOPING AN RFP CAPABILITY FOR COMPASS DART.

- 2. HEREWITH CITED MSG. QUOTE. "1. POLLOWING IS ADDITIONAL, ALTHOUGH STILL INCOMPLETE, INFO TO SUPFORT ON THE PROPOSAL TO USE RADIO FINGERPRINTING (RFP) EQUIPMENT ON COMPASS DART AGET. THE INFORMATION WAS OBTAINED FROM PERSONNEL WHO HAVE WORKED WITH AND FLOWN THE LEFTBANK HELICOPTERS IN SUPPORT OF THE 1ST AIR CAV DIV.
- 2. THE EQUIPMENT IN THE HELICOPTERS, NICKNAMED SHORT SKIRT, IS LIGHT IN WEIGHT (75 IBS) AND SIMPLE TO OPERATE. THE EQUIPMENT PRODUCES THE PICTURE ON TWO PLY PAPER BY BURNING THE PICTURE

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DEC

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CAPT BARNETT

HAROLD V. BARNETT, Captain, USAF Ass't Operations Officer

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UTILIZING ULTRAVIOLET LIGHT. THE OPERATION IS NOT HAMPERED BY FILM, ITS DEVELOPING, AND THE WAITING TIME THESE WOULD REQUIRE. 3. SINCE THE ENEMY IS USING TRANSMITTER WITH TUBES OBTAINED FROM NUMEROUS "Countries -us, czech, red china, ussr, etc-each transmitter has VERY UNIQUE CHARACTERISTICS. THE OPERATOR IS CAPABLE OF MEMORIZING THE CHARACTERISTICS OF HIS PARTICULAR TARGETS PRIOR TO HIS MISSION AND IDENTIFYING SAME IN FLIGHT. SINCE THE LEFT BANK PROGRAM IS DESIGNED FOR LOW LEVEL DIRECT SUPPORT, THIS CONCEPT OF OPERATION IS FEASIBLE. THE MAIN PROBLEMS EXPERIENCED WITH THE LEFT BANK FROGRAM SEEM TO BE THE VIBRATIONS OF THE HELICOPTER AND THE FRAILTY OF THE SHORT SKIRT EQUIPMENT ITSELF. 4. APPLICATION TO COMPASS DART: THE OPERATOR COULD MEMORIZE THE TARGET CHARACTERISTICS OF A LIMITED NUMBER OF HIS TARGETS. BUT THE VOLUME OF OUR TAKE WOULD DEMAND EMPHASIS ON FOST MISSION EXPLOITATION OF THE RFP. A. DET 1 HAS NOTED THAT IT IDENTIFIES APPROX 35-40 PERCENT OF ITS TARGETS. OF THOSE IDENTIFIED APPROX 50 PERCENT ARE IDENTIFIED AS PRIORITY TARGETS. THEREFORE, WITH ADDITIONAL IDENTIFICATIONS IT IS REASONABLE TO ASSUME THAT THE NUMBER OF PRICRITY TARGETS FIXED WOULD ALSO INCREASE. THESE TARGETS ARE BEING FIXED NOW, BUT TO FULLY EXPLOIT THE ARDF TAKE, THE FIXES SHOULD BE IDENTIFIED. B. WE HAVE SUGGESTED MORE EXTENSIVE IMPLEMENTATION AND EXPLOITATION OF THE WIDEBAN COLLECTION TO IMPROVE THE ARDF PROGRAM. BELIEVE THAT UTILIZATION OF RFP, IF PACKAGED IN A

CAPT BARNETT

CAPT BARNETT

3706

FEASIBLE SYSTEM WOULD ALSO IMPROVE ARIT PERFORMANCE. UNQUOTE.

3. REQUEST YOUR HEADQUARTERS DETERMINE THE FEASIBILITY OF PLACING REP ON COMPASS DART.

PROJECT CORONA HARVEST DO NOT DESTROY

6994TH SCTY SQ

6922ND SCTYWG

04 08622

SUBJ: TECHNICAL DOCUMENTS.

1.AFTER CONSIDERABLE THOUGHT AND REVIEW OF USAFSS OPIAN 11-66, AND AFTER SOME EXPERIENCE WITH Z CONFIGURED AIRCRAFT, IT IS APPARENT THAT WE ARE NOT ALLOWED TO RECEIVE SOME OF THE BASIC AIDS NEEDED TO COMPLY WITH THE PLAN AND TO PERFORM TO THE BEST OF OUR ABILITY. SPECIFICALLY THE OPLAN (ANNEX A) REQUIRES US TO ASSIST IN AIRBORNE IDENTIFICATION. HOWEVER, THE ONLY TECHNICAL AIDS WE HAVE BEEN ALLOWED TO HAVE IS THE NSA RADIO ARBITRARY DESIGNATOR LIST PREPARED BY MSA: AND, OF COURSE, WITHOUT THIS DOCUMENT WE COULD NOT EVEN PROVIDE SEVENTH AIR FORCE WITH THE DATA THEY REQUIRE.

ENSLING 2.A REVIEW OF YOUR MESSAGE OPR-M 01953 SEPT 66, AND THE ENSURING

EXCHANGE WILL POINT OUT OUR DILEMMA. WE NEED SUPE THINGS AS CALLSIGNS RUNS AND THE IDENT AIDS MADE BY B-64 AT NSA. HOWEVER, 24 OUR REAL PROBLEM IS THAT WE CANNOT GET OUR REQUIREMENTS VALIDATED. SEPT WE HAVE NO THOUGHT OF DUPLICATING THE DEVELOPMENTAL EFFORTS OF

1

Z

2.

4697

CAPT BARNETT

HAROLD V. BARNETT, Captain, USAF Assistant Corrations Officer

CAPT BARNETT

CAPT ALMQUIST

4697

HIGHER LEVEL PROCESSORS. REQUEST A RENEMED ATTEMPT TO GET OUR REQUIREMENTS DECLARED VALID AND TO ALLOW US TO HAVE THE BENEFIT OF EXISTING AIDS.

PROJECT CORONA HARVESTANDE

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ROTINE

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6994SCTYSQ TAN SON NHUT AB VIETNAS

OPS COM

DET 1, 6994SCTYSQ

ops 17259

OCT 67. 3

FOR DICKEY AND PORTER FROM BARNETT. SUBJECT: REQUEST FOR TECH DOCS.

1. FOLLOWING MSGS FROM 6922 SW ARE QUOTED FOR YOUR INFORMATION AND REVEALS THE STATE OF PROGRESS ON OUR EFFORTS. A. OPS 05008, CCT 67, ADDRESSED TO 6994TH ONLY: QUOTE "1. REQUEST YOU WORK WITH 7AF TO ESTABLISH SPECIFIC INTELLIGENCE COLLECTION REQUIREMENTS...

FOR TECHNICAL DOCUMENTS TO FACILITATE GROUND IDENTIFICATION SUPPORT.

TO AIRBORNE MISSIONS. PROVISIONS FOR THE ACTION ARE IN USAF INTEL 201-2 AND DIA INSTRUCTION 58-3.... UNQUOTE. B. OPS 05011 CCT 67, ADDRESSED TO PSR, INFO TO 6994TH. QUOTE "1. REQUEST 6922SW AND 6994SS BE FURNISHED DISTRIBUTION OF DIA INSTRUCTIONS 58-1, 58-2, AND 58-3 TO FACILITATE REQUISITIONS FOR COMINIT TECHNICAL DOCUMENTS THROUGH PROPER CHANNELS.

2. JUSTIFICATION: AS AN ELECTRONIC WARFARE UNIT, THE 6994SS IS
PROHIBITED FROM PROCURING COMINT TECHNICAL DOCUMENTS THROUGH NORMAL

17 1540

OCT 67

1

CAPT BARNETT

3706

HAROLD V. BARNETT, Captain, USAF

CAPT BARNETT

3706

COMINT CHANNELS. THE 6994SS IS A COMINT CONSUMER FOR THIS PURPOSE.

THE SQUADRON REQUIRES CERTAIN COMINT TECHNICAL DOCUMENTS TO PERFORM

ACCURATE AND RAPID IDENTIFICATION OF TARGET TRANSMITTERS WHILE

SUPPORTING THE AIRBORNE MISSION. THE CURRENT COMPASS DART FIXES ARE

BEING PASSED AT AN UNACCEPTABLE RATE (OVER 60 PERCENT) OF UNIDENTIFIED

TARGETS. THE TIMELINESS FACTOR IN PASSING FIXES AIR TO GROUND DOES NOT

ALLOW THE 6994TH TECH SUPPORT ANALYSTS TO QUERY DATA BASES DO NOT HAVE

SECURE AIR TO GROUND TO AIR (SIC) COMMUNICATION WITH THE AIRCRAFT. PAST

ATTEMPTS TO OBTAIN IDENTIFICATION AIDS FROM THE 509 REG HAVE BEEN

UNSUCCESSFUL DUE TO THEIR LIMITED SUPPLY. FURTHER, THE 6922SW MUST

ASSURE PROPER FORMAT AND COMPLETENESS OF INFORMATION IN EXPRESSING THE

REQUIREMENT. UNQUOTE.

2. DO NOT COMPLETELY UNDERSTAND MOTIVATION. USING THE CONCEPT IN .

PARAGRAPH B2 ABOVE IS INTERPRETED HERE AS MEANING WE WON'T GET DOCUMENTS

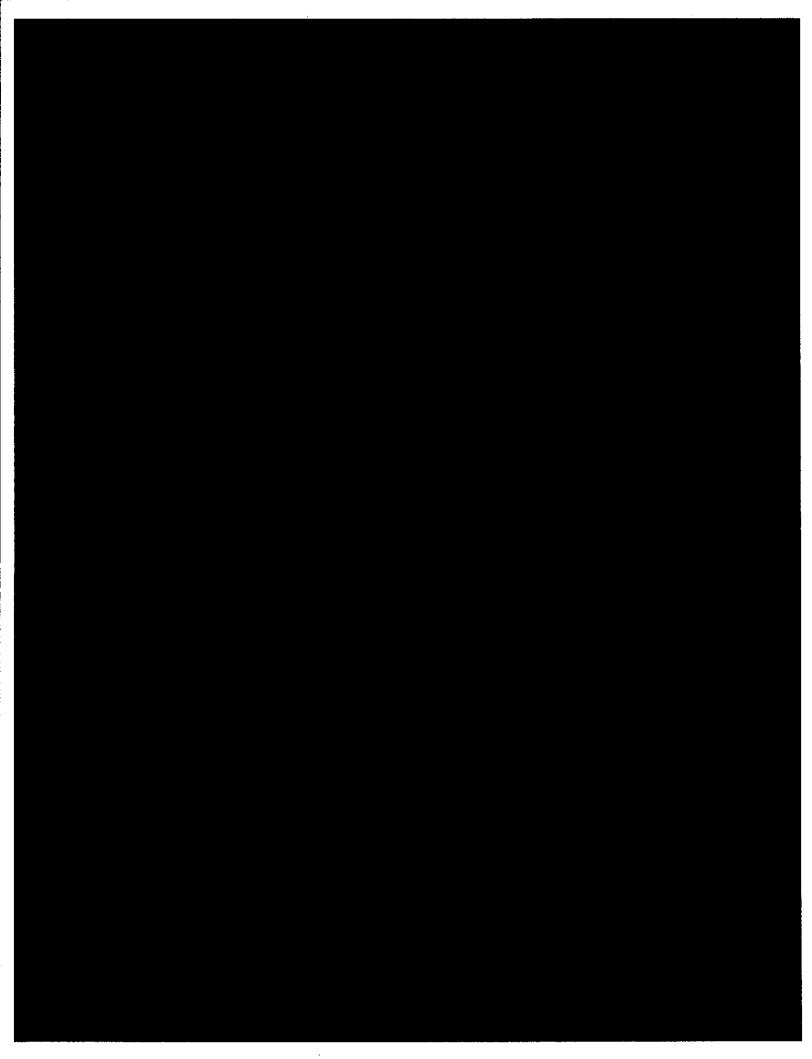
DO NOT BELIEVE THAT MSA RELEASES ITM'S AND CTR'S TO CONSUMERS. HOWEVER,

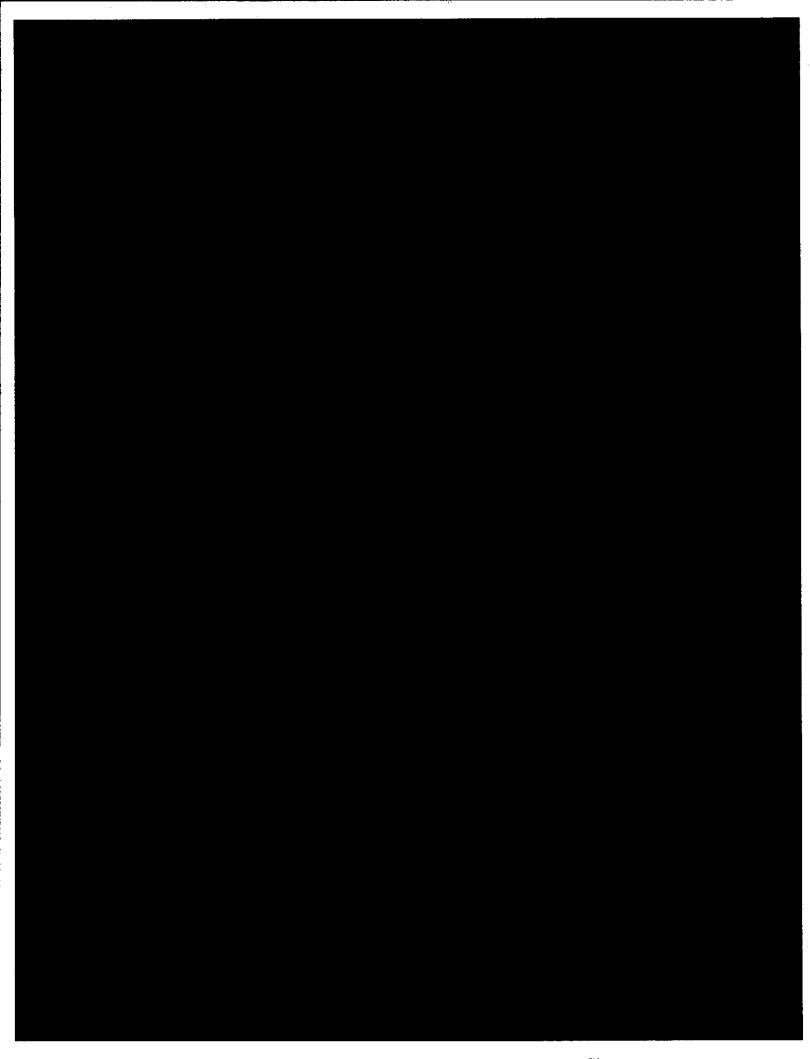
WE WILL CONTINUE OUR EFFORTS TO VALIDATE OUR RIGHT TO THESE DOCUMENTS

UNTIL TURNED DOWN AND TOLD TO DESIST. IN THE MEANTIME, CONTINUE YOUR

SHORT RANGE, STOP-CAP METHODS OF WHEEDLE, CAJOLE, AND BEG TO OBTAIN

AS MUCH DATA AS YOU CAN TO AID IN IDENTIFICATIONS.





VIETNAM

11/23557 DEC 67

ROUTINE

6994TH SOTT SQ

6922ND SCTY WG

PROJECT CORONA HARVEST

DO MOTORESTHEA

Φ4 Φ8623

No.__

SUBJ: CAMBODIAN OVERFLIGHT OF SVN.

1. FOLLOWING FORWARDED FOR YOUR THFO: QUOTE:

QUOTE: fm; MSAPACEEP

CUSASAPAC: USM-704; USM-627; ZEM.

CT

INFO: HG NSA PAC: DIRNSA:
FA6C/8820

SUBJ: OVERFLIGHTS OF SOUTH VIETNAM BY SUSPECT CAMBODIAN AIRCRAFT

A. MY 071540Z, FA6C/8798 (NOTAL)

- B. SEO MACY 0710432, MAC 11846 INTEL (MOTAL)
- C. MI 071140Z, F46V/8787.
- 1. AS A RESULT OF RECENT OVERFLICHTS OF SOUTH VIETNAM BY SUSPECT

CAMBODIAN JET AIRCRAFT, A REQUIREMENT HAS BEEN GENERATED TO MOUNT AN ALL OUT COLLECTION EFFORT TO INTERCEPT CAMBODIAN AIR FORCE TACTICAL VHF VOICE COMES PERTINENT TO THIS FLIGHT ACTIVITY.

2. PRESENT INTERCEPT RESOURCES SVN TARGETTED AGAINST CAMBODIAN AIR

COMPS ARE THE TECH RESEARCH SHIP ON STATION IN MARKET TIME AREA 9

AND CEFLIER LION AIRBORNE PLATFORM (REF BRAVO) OPERATING IN MACV

11

DEC

FIRE AIDF AREA 23 AND 24.

1

3706

LT COL EVANS

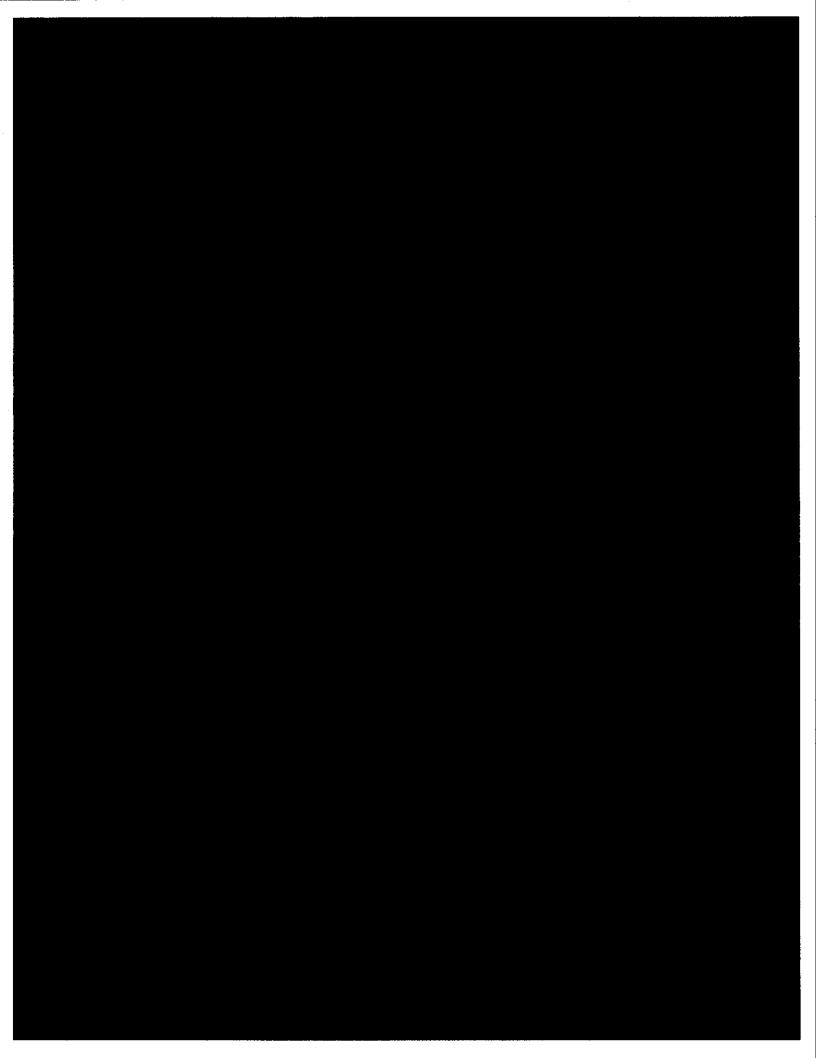
KELVIN E. EVANS, Lt Col, USLF Operations Officer 2

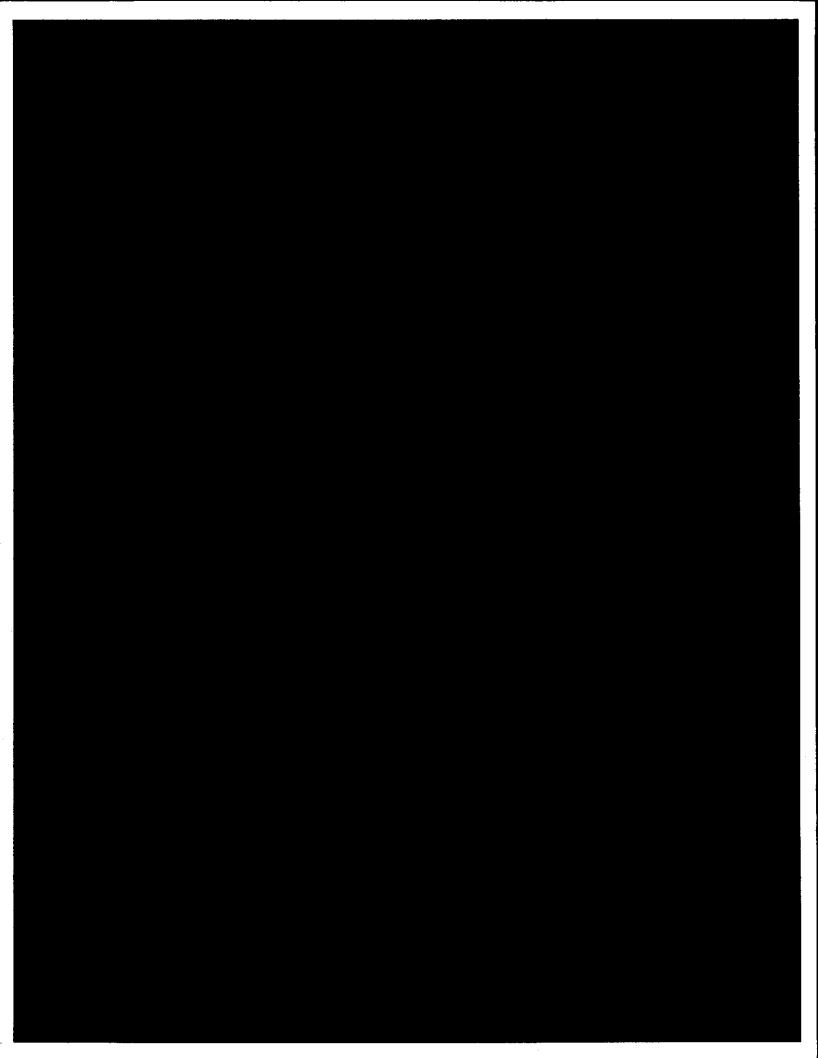
3. WAS INFORMED BY DOO 509TH RECP THAT VEF COLLECTION GAPABILITY INTO RESULT OF NOT EXISTS AT USM-627 DF SITE IN PECENT VISIT TO USM-627 BY S3 OFFICER OF THE 509TH. IN AN EFFORT TO ENHANCE COLLECTION AGAINST WHE CAMBODIAN TACTICAL AIR COMES PEQUEST YOU INVESTIGATE THE POSSIBILITY OF TASKING THAT POSITION TO SEARCH FOR VOICE COMES EMANATING FROM PHNOM PENSI CONTROL TOWER AND CCI CONTROL. ONLY LIMITED TECHNICAL DATA AVAIL (PARA LA REF ALFA APPLIES). IN THE EVENT TASKING IS EFFECTED REQUEST THAT ALL REFLECTIONS OF SUS-PICTED CAMBODIAN FIGHTER ATROPART ACTIVITY WHICH MEET THE ESTABLISHED CRITERION (PARA 2 REF AIRA APPLIES) BE TIPPED OFF TO MRV (C) AT FLASH PRECEDENCE FLAGGED PERCUTCT SINONE." REPORT TO INCLUDE HEADINGS, ALATTUDE AND SPEED OF AIRCRAFT IF GIVEN BY CONTROLLER OR PILOT. ALL OTHER SUSPECT CALEODIAN AIR ACTIVITY TO BE FORMANDED TO USM 527 FOR PROCESSING. PLEASE ADVISE NEW (C) OF FERTIMENT INFO AS A RESULT OF PROCESSING WHICH WOULD IMPROVE PRESENT TECH DATA ISE.

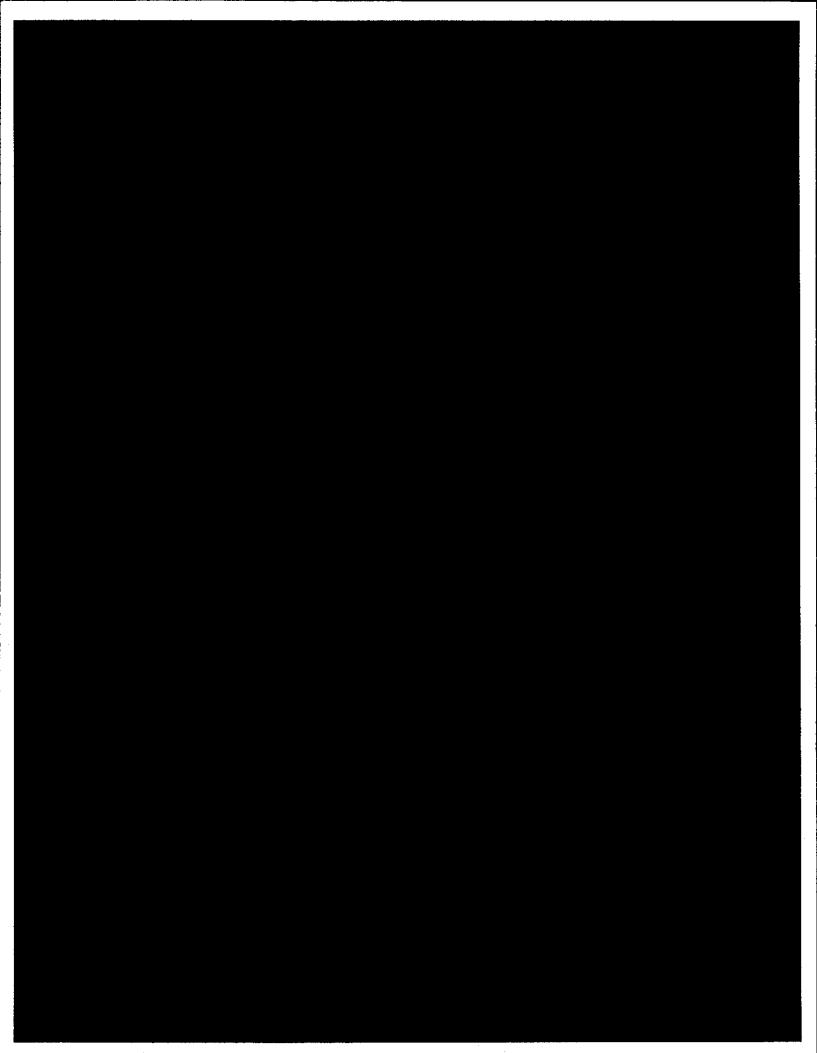
A. REQ ADVISE. UNQUOTE.

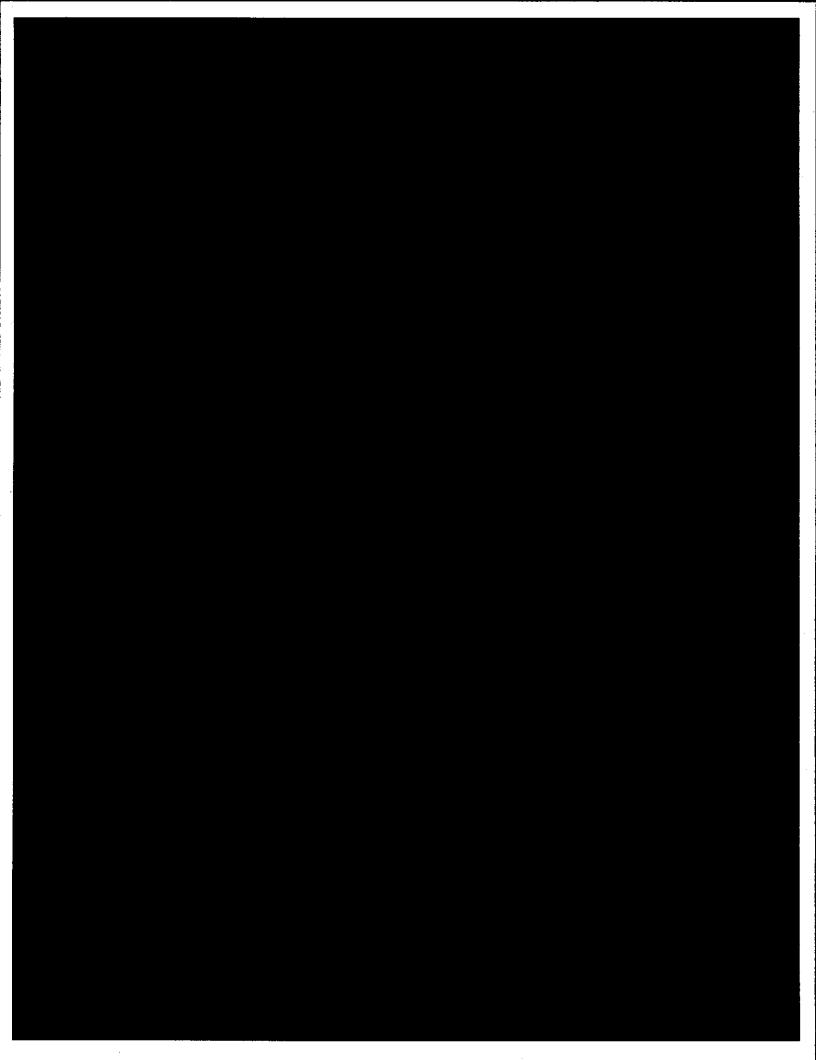
RCUTTLE

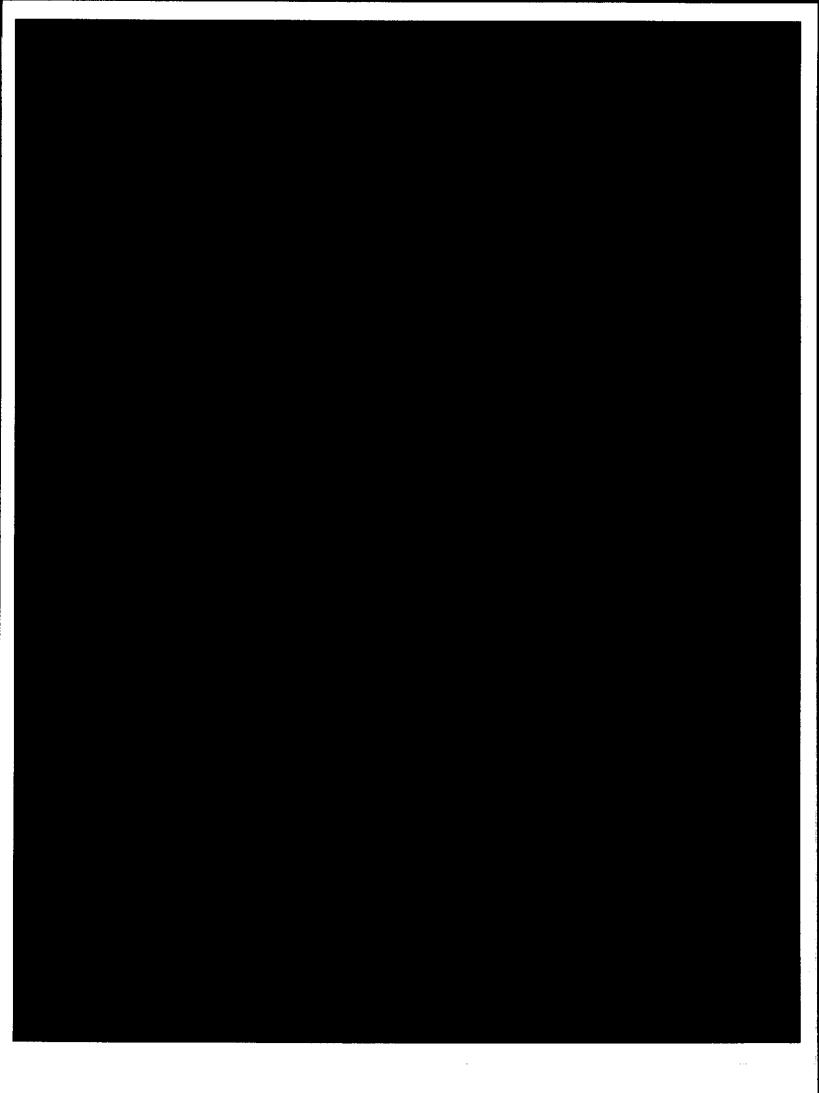
- 1820 2. YOU MAY BE INTERESTED TO KIKIN THAT THERE ATE A FEW VIETNAMESE LINGUISTS ASSIGNED TO THE 6988 (PROBABLY SUBSEQUENTLY ASSIGNED TO 6990) WHO WERE CAMBODIAN LINGUISTS WHO GENDUATED FROM THE BERLITZ COMDUCTED 203XI MD COURSE ABOUT ONE YEAR ACO. HQ USAFSS (PAD) SHOULD STILL HAVE THEM IDENTIFIED IF NEEDED.
- 3. THIS SELMS TO BE A TACAIR PROBLEM SEING CIVEN TO OTHER THAN USAF UNITS BECAUSE OF LACK OF CAPABILITY IN COUNTRY.











APPENDIX A

SENTINEL SARA AND COMPASS DART OPERATIONAL SUMMARY



FOREWORD

This appendix was instituted to provide the reader with a statistical account of Compass Dart and Sentinel Sara operational activities during the period 1 July 1967 through 31 December 1967. It also presents a resume of some of the applications of SIGINT and ARDF data, collected by the unit, in the planning and execution of many of the offensive operations executed during that period.



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Period Conversion Chart

Period	Inclusive Dates
1	1 Jul - 7 Jul
2	8 Jul - 14 Jul
	15 Jul - 21 Jul
3 4	22 Jul - 28 Jul
5	29 Jul - 4 Aug
6	5 Aug - 11 Aug
7	12 Aug - 18 Aug
8	19 Aug - 25 Aug
9	26 Aug - 1 Sep
10	2 Sep = 8 Sep
11	9 Sep - 15 Sep
12	16 Sep - 22 Sep
13	23 Sep - 29 Sep
14	30 Sep - 6 Oct
15	7 Oct - 13 Oct
16	14 Oct - 20 Oct
17	21 Oct - 27 Oct
18	28 Oct - 3 Nov
19	4 Nov - 10 Nov
20	11 Nov - 17 Nov
21	18 Nov - 24 Nov
22	25 Nov - 1 Dec
23	2 Dec - 8 Dec
24	9 Dec - 15 Dec
25	16 Dec - 22 Dec
26	23 Dec - 30 Dec

Close Tactical Support Activities

ARDF results were passed from the aircraft to Direct
Support Units colocated with combat elements; Army and Air Force ARDF
results fused for reporting; and, the intelligence gleaned from ARDF
associated intercept was reported in intelligence reports issued by
US Army units. Consequently, it was impossible to isolate the specific
contributions of Compass Dart and Sentinel Sara activities. Some
consumers did, however, indicate constant awareness to the importance
of the support they had received from these activities.

General Hay, Commanding General, 1st Infantry Division in discussing ARDF support with the division G-2, Lt Col Benedict, was quoted as stating:

"I could not operate without COMINT support; it is the basis for my division's tactical operations".

He expressed complete satisfaction in the ARDF support allocated to his area and in discussing ARDF support in general mentioned his conviction that rocket attacks on Rien Hoa had been prevented more than once based

on alerts provided through ARDF fix pattern analysis.

Lt Gen Cushman, Commanding General, 3rd Marine Amphibious Force in a personal message to the 6994th Security Squadron on 15 December lauded the superb performance of the Compass Dart "Z" aircraft operating in the DMZ area.

The following brief presents a resume of some of the offensive operations conducted during the period and the contributions of COMINT and ARDF support toward their success.

Operation Shelby was a search and destroy operation against a suspected VC main force that was planned and executed solely on ARDF results. During the first six months of 1967, only six fixes were located in the area in which the operation was later conducted. Four fixes were noted during the first week of July and between 22 July and 3 August a burst of activity netted 22 unidentified ARDF fixes. An analysis of the activity indicated a concentration that posed a threat to Tan Son Mut AF. Based on those indications, the seven day operation was conducted (17-24 Aug). Enemy losses were 31 confirmed and numerous structures, fortifications and munitions destroyed.

operation Coronado was a continuous operation that began 1 June 1967. A riverine operation on the MeKong, the operation did not rely on ARDF results for immediate intelligence. However, ARDF and COMINT was utilized extensively in conducting various phases of the operation. The actual area of the operation encompassed several tasking areas. A minimum of two flights daily were executed by the unit to areas that facilitated support of this operation. The initial phase of the operation was planned from COMINT and resulted in 256 confirmed enemy losses. During the second phase of the operation ARDF was utilized to guide the forces to the highly maneuverable enemy forces. Enemy losses inflicted totalled 202 confirmed during that phase. ARDF was not significantly utilized again until phases V and VI when 56 fixes were passed to the supported

elements. One-hundred-one enemy losses were inflicted on their forces and numerous facilities destroyed during those phases.

The Monsoon Campaign 67, which consisted of three operations, Diamondhead, Kole Kole and Barking Sands, was conducted in an area immediately north of Saigon from 1 June through 7 December 1967.

More than 3,000 rounds of artillery were expended, and 17 tactical air strikes, two B-52 strikes and two patrols executed against the more than 8,000 total ARDF fixes provided from combined ARDF resources.

Also, ARDF associated intercept yielded a communications change on a PAVN complex and 56 new communications links.

by the unit in providing ARDF support for Operation Paddington, a search and destroy operation in a coastal province. Forty-six fixes were passed to the tactical commander during this period, six of which were considered to be highly significant and were reacted upon immediately. Ordnance expended on these locations included 166 rounds of 105MM and 24 rounds of 175MM. Also, two air strikes were executed against the targets with 26-500 pound bombs, 4-750 pound bombs and 2,400 rounds of 20MM. Ninety-two enemy losses were confirmed by BC and numerous facilities including 65 military structures destroyed.

Operations Riley and Strike II were conducted from 22

August through 27 August against an unknown size force that had been located through COMINT and ARDF. The operation began with a B-52 raid which devastated an area leaving it strewn with body fragments.

Buring the operation the 6994th Security Squadron provided daily support and obtained fixes of 30 targets. Thirteen fixes were of interest to the command; two were of immediate tactical importance and were reacted upon by an airlift assault into the area. Heavy contact with the enemy resulted on both occassions. Forty-eight enemy were confirmed killed and an additional 20 estimated killed by the B-52 raid.

Operation Shenandoah II was conducted during the period 29 September through 19 November. Commencing as a road clearing operation, the activity developed into an offensive against a VC regiment that ARDF detected moving into the area. The 6994th Security Squadron flew 42 missions and acquired 212 fixes in support of the operation. Twenty-six fixes were obtained on the VC regiment against which the forces were primarily targeted. Nine B=52 strikes and hundreds of tactical air strikes were targeted through ARDF results. The maneuvering of tactical forces relied heavily on ARDF. More than 1,330 enemy losses were confirmed.

A highly successful operation for which the unit conducted daily support missions was Operation Akron III conducted immediately north of Saigon from 27 September through 23 October. One-hundred sixty five (165) fixes were passed to the supported forces, 30 of which were highly significant and received immediate action. An extremely large base camp and numerous munitions and supplies were destroyed during the activity.

Operation Santa Fe was a coordinated multi-unit sttack

against a VC division headquarters conducted from 3 November through 2 December 67. The unit accomplished 17 missions, acquiring 39 fixes, in support of the activity. The Commander, 11th Armored Cavalry Regiment stated of the ARDF support:

*ARDF continued to be the single most important product provided to the tactical commander".

APPENDIX B

HISTORY OF DETACHMENT 1, 6994th SECURITY SQUADRON

HISTORY OF DETACHMENT 1, 6994th SECURITY SQUADRON

1 July 1967 - 31 December 1967

RCS: AU-D5 (USS-1)

This document contains information affecting the national defense of the United States within the meaning of the Espionage Laws (Title 18, USC, Sections 793 and 794) the transmission or revelation of which, in any manner, to an unauthorized person, is prohibited by law.

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Approved:

WILLIAM P. DICKEY, CAPT, USAF Operations Officer

FOREWORD

This historial study is a record of Detachment 1, 6994th Security Squadron (Operations), covering the period 1 July - 31 December 1967.

All references to date are within this period unless otherwise indicated.

The majority of the information contained herein was taken from files and records maintained at the unit. Additional information was gained from personal interviews with members assigned to the unit.

All suggestions and comments should be directed to the Operations Officer, who was responsible for preparing this report.

Chapter I

MISSION AND ORGANIZATION

Organization

Detachment 1, 6994th Security Squadron was located at Nha Trang AP, Republic of Vietnam. The Operations Section continued to be located at Camp McDermott in the 313th Radio Research Battalion compound area. The flying crews continued to operate from Nha Trang AF proper, in conjunction with the 361st Tactical Electronic Warfare Squadron.

(UNCLAS) The detachment maintained and improved a close working relationship with personnel of IFFV and the 313th RRB. This greatly enhanced the operating capabilities of the detachment by providing a ready channel to exchange ideas which had affected or would effect the mission accomplishment of the unit.

Organizational Changes

(UNCLAS) During the period 5 July through 30 September 1967, the detachment experienced a serious shortage and turn-over of personnel in AFSC's 292X1 and 202X0. Assistance was requested and received from Detachment 2, 6994th Security Squadron in the form of four (4) combat ready operators in a TDY status to this unit. During the period 25 August to 28 September 1967 the unit reached a low of 29 combat ready operators. The personnel flew a minimum of 100 hours and in some cases medical waivers were obtained to exceed monthly flying hour restrictions.

(UNCLAS) In September the unit introduced a formal OJT program for the 20270 and 29271 skill levels. The formalized program was established to provide uniform progression and training continuity during periods of personnel rotation. The training consisted of classroom instruction and a consolidated study aid for off-duty reference. Prior to the implementation of this program, there was very little technical information available for OJT and that available was outdated. Since the establishment of a formal OJT program, the necessary support documents had been acquired and all available information had been updated. Personnel who were eligible for OJT have been entered into training and one seven level trainee has been tested and upgraded.

operations section was initiated, (see Chart 1), which improved the mission: (a) the area of awards and decorations, on-the-job training and operations administration were placed directly under the supervision of the NCOIC of Operations; (b) airborns operations, standardization evaluation flight examination (SEFE) and related ground duties were placed under the direct supervision of the NCOIC of Airborne Operations; (c) both NCOIC's were directly responsible to the Operations Officer.

On 15 December 1967 a "one-flight" concept was implemented. That enabled the unit to assign permanent crews to specific areas and thereby extensively train those craws in the operating characteristics of the targets, locations and terrain.

Chapter II

TASKING AND COLLECTION

Tasking

With the implementation of ARDF Coordination Center (ACC) Working Aid 01-67 on 1 September 1967 and its subsequent changes, a more clear and concise tasking of the unit's resources was experienced. Time delays experienced in the receiving of weekly and specialised taskings were reduced and specific channels for seeking information or clarification of doubtful areas as established.

During the ACC ARDF conference on 23 October 1967, personnel from Detachment 1, 6994th Security Squadron were instrumental in bringing to the attention of the conferees necessary changes which were subsequently established as follows: (a) that ARDF technical support responsibilities accomplished strictly by USM-604, the CMA, be decentralized and delegated to USM-631 and USM-634 as well. These organisations would issue the necessary technical support to the aviation units on those entities that paralleled their intercept assignment.

As a result, USM-604 would not be over-burdened with the complete task and more important, aviation units would receive more accurate and complete support; (b) that air-to-ground communications procedures be established for ARDF aircraft to report "visual" sightings of enemy movement to ground based DSU's.

In addition to the suggested changes mentioned above, two were submitted and accepted as follows: (a) that the three digit

ARDF mission number and the two digit MACV area number be combined into one three digit number. That was approved and since the first digit has represented the aviation unit and the last two digits denoted the MACV area; (b) since the PAVN 3rd Division elements were dispersed along the southern portion of MACV area 13, this area should be realigned and combined in part with area 15 to gain adequate coverage of targets in area 13. As a result, the fixing of priority targets desired by the Commanding General, 1st Cavalry Division (Airmobile) was accomplished more satisfactorily.

SIGIMT Collection Policies

To support I Field Force, Vietnem (IFFV) and to educate the U.S. Army on the unit's ARDF capabilities, a special report, the Daily Mission Summary, was created. This report provided an input for the IFFV staff briefing. That report not only accounted for positive mission results such as the number of targets worked, number of targets fixed, it also explained why in some instances that it was impossible to fix a target (poor weather, artillery fire preventing the aircraft's entry into the target area, etc). Also included were problems encountered with U.S. Army DSU's which degraded the overall mission and in some instances prevented the passing of fixes in a timely manner to tactical commanders. Previously, in the eyes of IFFV, all shortcomings of the mission were charged to the U.S. Air Force. Therefore, all negative DSU contacts were included in the Daily Mission Summary.

Although this approach was taken to make known the fact that the unit had experienced difficulties with U.S. Army units, steps were taken simultaneously to better the situation. The unit discovered that the BSU's either did not receive or follow the ACC tasking vis-a-vis the times the aircraft were operating in a particular area. Accepting this fact, during October, the unit disrized the ACC tasking and began issuing an electrical message to each DSU in the II Corps area. This message advised the DSU's of the times the sircraft would be active in certain areas and the RAD's against which they were tasked. That practice decreased DSU problems considerably, since ground operators commenced manning the radios during those periods that the aircraft were scheduled to be active in their area. Ground-to-sir tip-offs on priority targets also increased in number as did the unit target fix rate. An indication of the merit of this direct communication to DSU's was that records revealed ground-to-air tip-offs averaged 35 per month prior to September; and, DSU negative contacts reached a high of 59 in September. However, during October, tip-offs started averaging 60 per month and during December only eight negative contacts with the DSU were recorded. Not to be overlooked was the tremendous assistance rendered by the U.S. Army organizations in the II Corps area in exploring and improving the DSU communications problem. In October the 313th RRB accomplished a complete evaluation of their subordinate DSU operations. They directed that DSU's install more effective antennas to improve communications with ARDF aircraft, compelled subordinates to adhere

strictly to the procedures established by the ACC and enforced a rigid manning of communications equipment with trained operators during fragged mission times. Moreover, 403rd Special Operations Detachment of the 5th Special Forces Group instructed their subordinate field units to undertake the same measures.

Corps area were still utilizing the signal operating instructions (SOI) that had been first noted in January 1966. Almost total exploitation of that system had been accomplished which enabled complete identification of most targets fixed by mission aircraft. A minor change to that SOI was implemented in August but did not adversely affect identification of targets. Other changes in NVA/VC communications began to appear in September and continued until December. These changes impeded the identification of targets. To illustrate, identification during September reached 50% whereas identification from October through December averaged 34% (full callsigns 69.1%).

Some entity communications changes took place unknown to they were not on automatic distribution for technical messages issued by U.S. Army COMINT agencies. A lack of identification aids and documents also hindered the units efforts. In September and October analytical personnel of the unit were sent to various Army COMINT units to obtain documents and establish coordination channels with their Army counterparts. That proved fruitful. Not only were pertinent documents procured or placed on order, but personal contacts were established

unit analysts progressed to a point that they could predict or locally generate ARDF technical support data for mission crews. With that, the problem previously encountered with the non-receipt of ARDF tech support was alleviated. Crews were assured of having the necessary technical support for planned missions. The unit also informally acquired/developed better identification aids such as a numerical RAD listing containing everything known about a particular RAD (skeds, BST's, colocations, etc); an accurate, up-to-date, complete target fix file of all targets located in their areas of responsibility, and an alphabetical listing of all fixed or semi-fixed callsigns heard.

Special Collection Projects

Since early July, the unit's ARDF aircraft had sporadically fixed several targets while entering and leaving the Mha Trang area. Those targets were carried as unidentified links and were not cased or assigned RAD's by USM-604 (CMA) from July until October in spite of the numerous fixes and the extensive intercept. On 21 October 1967, the analytical section compiled a summary of all targets in the Nha Trang area. This included all callsigns (repeating), frequencies, fixes, etc., and was sent to USM-604 for their evaluation and action. Ironically, Nha Trang AP was hit by mortars on 22 October 1967, one day after the summary was forwarded. After that, the interest in "Nha Trang Charlies" developed among Army personnel in the area.

Since hearability of these targets was best from the unit's location, Det 1, 6994th allowed the 313th RRB to install an intercept position in the operations quenset. However, at that time a critical shortage of Army intercept operators precluded manning of the position by the Army. Det 1, 6994th Operations personnel therefore welcomed their services and manned the position on their off-duty time for the purpose of: (a) tipping off ARDF aircraft entering or leaving Nha Trang each time the local targets became active, (b) collecting sufficient intercept to permit isolation and identification of the targets. The position also served as a "live" training position for our operators.

In a short time these targets were assigned case notations: VCMB P8118 and VCMB P8121. On 4 December 1967, the 403rd Special Operations Det of the 5th Special Forces assumed the responsibility of manning the intercept position and a DSU for the Wha Trang area was also thereby established.

Mission Accomplishments

(UNCLAS) On 9 November 1967, ten aircraft with crews were diverted from landing at Nha Trang to Tam Son Nhut because of a typhoon with winds predicted up to 85 knots. An additional aircraft was dispatched with its normal crew compliment plus two analysts and a maintenance man to assist in reporting and possible communications problems; all together there were 26 personnel sent/diverted to Salgon.

(UNCLAS) All recovery reports were dispatched within the required time period. The BOMR was completed and dispatched by Det 1, 6994th personnel at Nha Trang from information received from the remoted personnel at Tan Son Nhut.

Det 1 received a message on 16 November 1967 from USN-414J, serving the 3rd Marine Division which is quoted here in part:

"As you may know, the 3rd Marine Division has been awarded the Presidential Unit Citation (FUC) for the period 8 March 1965 through 15 September 1967. The list of supporting units is now being finalized. Consider that ARDF support rendered by you has contributed significantly to success of 3rd Marine Division operations and I intend to request that your Dets be included among supporting units, thus entitling you and your men to wear the PUC ribbon."

(UNCLAS) Det 1 received a letter of appreciation, dated 14 December 1967 from the Commander, 403rd Special Operations Detachment of 5th Special Forces, which reads in part:

"I would like to take this opportunity to express my sincere appreciation for the timely and outstanding support rendered by Det 1, 6994th Security Squadron to the 403rd Special Operations Detachment (Airberne), 5th Special Forces Group (Airborne)."

Realizing the need for an informal news media to get the news to the unit personnel regarding praise, criticism, individual instances of merit, and humor, the "Zip Zapper" was created in October 1967. The publication remained in the secure area of the Operations compound. Through this medium, feedback was generated to expose the tangible contributions made by individuals

to the conflict in Vietnam. Recognition was given to these who acquired fixes on targets which were later acted upon by ground forces. This also contained all collected material concerning post-action results on fixes obtained by the crews, air strikes, troop insertion, artillery barrages, etc. It was determined that the publication was effective in keeping intercept personnel informed of target characteristics and new precedures. Also, the commander used it to express his policies in a personal column for each issue.

A mutual TDY program was established to familiarize the DSUs with the capabilities and limitations of the ARDF system and the need for the DSU to know the area of orbit for the aircraft being contacted. This also served to acquaint unit personnel with the limitations and capabilities of the DSU. Since this program has been initiated Det 1 has experienced greater success in obtaining meaningful tip-offs and better cooperation with the DSUs when the relaying of traffic was required.

During this period, a total of 10,684 hours were flown over target areas by Det 1's Compass Dart aircraft. Collectively, these missions worked 11,238 targets. Of these, 7,873 were fixed and 1,090 were identified as priority targets. A number of missions flown by Det 1 were in direct support of Combat Tactical Support (CTS) operations. CTS operations supported by the unit were:

OPERATION BENTON - 13 - 28 August 1967: A total of nine missions or 36 air hours were flown in support of this operation.

The operation was directed against the 21st NVA Regiment, 2nd NVA Division operating in the Central Quang Nam Province. The supported command was the 1st Brigade of the 1st Air Cavalry (Airmobile). The results of the operation were not compiled by the end of the reporting period.

of 216 missions or 864 air hours were flown in direct support of this operation, which was directed against the 24th PAVN Independent Regiment. The overall results of the operation were: 140 NVA KIA (body count), 427 possibly KIA, and nine captured. The after-action report issued by the 173rd Airborne Brigade stated:

"Airborne Radio Direction Finding support continued to be the single most important COMINT product provided to the Tactical Commander. During Operation GREELY, a total of 135 fixes were of immediate interest to the supported command and passed to the Brigade S-2."

OPERATION HOOD RIVER - 2-13 Aug 1967: A total of 38 missions or 152 air hours were flown in direct support. This operation was a follow-on operation to MALHEUR I and II, targeted against the 2nd and 3rd NVA Divisions in Quong Ngai Province. As of 13 August, records revealed that approximately 74 VC were killed in action, 5 VC were captured, and a considerable number of weapons and food supplies were captured.

OPERATION MAIHFUR I AND II - 1 May - 2 Aug 1967:

A total of 36 missions or 152 air hours were flown in direct support of this operation, which was directed against the 2nd and 3rd Divisions in Quong Newi Province. Results of this operation were

859 enemy killed in action (body count). Indications of satisfactory ARDF support rendered to field units were received on 7 Nov 1967 from units directly concerned. The 3rd Brigade, lst Air Cavalry Division, 1st Brigade, 101st Airborne Division, and the 5th Marine Regiment jointly stated that they "were well supported" by both Nha Trang and Pleiku based ARDF aircraft "during heavy fighting while engaged in combat with the 2nd NVA Division."

and continuing: A total of 44 missions or 176 air hours were
flown in direct support of this operation, which was directed
against the 2nd NVA Division, 1st VC Regiment, 3rd NVA Regiment,
21st NVA Regiment, and local force battalions and provincial unit
controls. Results of this operation were not compiled at the end
of the period.

of 17 missions or 68 air hours were flown in direct support of this operation. As of 31 Dec 1967, operation results revealed that 237 enemy were killed in action, 30 were taken prisoner, and 60 weapons were captured.

OPERATION BYRD - 25 Aug 1967 and continuing: A total of 10 missions or 40 air hours were flown in direct support of this operation. As of 31 December 1967, operations results revealed that 849 enemy were killed in action, 1,163 taken prisoner, and 308 weapons captured.

dependent of this operation. At the close of the operation 1,203 enemy were killed in action, 122 were taken prisoner, and 363 weapons were captured.

OPERATION PERSHING - 12 Feb 1967 and continuing:

A total of 212 missions or 848 air hours were flown in direct
support of this operation. As of 31 Dec 1967, operations results
revealed that 5,639 enemy were killed in action, 2,366 were taken
prisoner, and 1,501 weapons were captured.

OPERATION MACARTHUE - 6 April 1967 and continuing:

A total of 283 missions or 1,132 air hours had been flown in direct support of this operation. As of 31 Dec 1967, operation results revealed that 1,818 enemy were killed in action, 76 were taken prisoner, and 488 weapons were captured.

Probably the most significant support given by Det 1 to any particular operation was during the Dak To confrontation in Kontum Province in November 1967. The following is an account of Det 1's support and consists of three parts: (1) the events leading up the the Dak To battle; (2) the battle for Dak To; and (3) the allied parsuit of enemy forces after the battle.

Events preceeding the battle of Dak To. The NVA

B-3 Front and its forward elements along with the NVA lst Division
and its subordinate regiments, the NVA 66th Regiment, and the NVA

32nd Regiment, constituted the main attacking forces at Dak To,
although they were reinforced by the NVA 174th Independent Regiment

and the NVA 24th Independent Regiment. The NVA B-3 Front and the NVA 1st Division had been operating in an area south of Dak To and had been active against allied installations in Pleiku and Darlac Provinces. The NVA 174th Indpt Regt had been located in Quang Tri and Thua Thien Provinces but was reportedly enroute south to join the NVA 1st Division in order to replace the 88th NVA Regt which had relocated southward to join the WC 5th Light Infantry Division. The NVA 24th Indpt Regt had previously been located along with the NVA 2nd Division in MACV areas 12 and 13 but had moved southwesterly to join in the offensive against Dak To to block allied reinforcements to Dak To from Kontum City. On 14 October, the Hos of the NVA 24th Indpt Regt was fixed by Det 1 at ZB 141 470 (14-53N 10-55E), approximately 25 kilometers eastnortheast of Bak Seang. This was a westerly move and was indicative of an offensive somewhere in Kontum Province. The Hos of the NVA 32nd Regiment was fixed by Det 1 on 16 October at YA 765 112 (13-40N 107-35E) 18 KMS southeast of its last known location. On this day, communications between the Hqs NVA 32nd Regt and Hos NVA 1st Division were observed for the first time since 10 October. Meanwhile, Hqs NVA 1st Division had moved 68 KM north-northeast of its last location to YB 605 247 (14-14N 107-25E) where it was fixed by Det 1's mission 404. A military intelligence entity of the NVA 1st Division was fixed by Det 1 at YB 649 063 (14-31N 107-27E) on 16 October. (Whenever the

VC/NVA activate their military intelligence nets it is usually indicative of an alert posture. Therefore, this fix then indicated that an enemy offensive in the Dak To area was in the offing). On 30 Nov, the NVA B-3 Front Forward Klement Two was located by Det 1 at YB 969 183 (15-59N 107-44E), having moved about 80 KM northnortheast from its last know location. This new location was approximately 5 KM south-southwest of Dak To. The Hqs of the NVA 32 Regt was again fixed by Det o on 25 October at YB 799 109 (14-34N 107-35E), approximately 24 KM west-southwest of Pak To. This position was about 100 KM north of Det 1's normal area of operation. Two more military intelligence units were fixed by Det 1 during this time. One, the Military Intelligence Section of Hqs 1st Division, was fixed at YB 800-109 (14-35N 107-36E) on 23 October and the other, a military Intelligence Element subordinate to the Military Intelligence Section of Hqs NVA lat Division, was fixed on 25 October at the same coordinates YB 800 109.

On 27 October, Det 1 fixed another terminal in the Dak To area. An unidentified element of the NVA B-3 front was fixed at YB 513 138 (14-30N 107-20E), 48 KM west of Dak To. By 27 October, all known subordinates of the NVA 1st Division were concentrated in the tri-border area southwest of Dak To, the 24th NVA indpt Regt was located northeast and the B-3 Front and its subordinates were located to the west and southwest. It should be

noted that based solely on ARDF/COMINT, the 173rd ABN BDE, 4th INF DIV were airlifted into Dak To in anticipation of the impending attack.

The Battle of Dak To. Early in November, the Military Intelligence Elements of the NVA lst Division began more precise reporting of allied activities in the Dak To area. From the lat to the 5th of November, it became obvious that forces were fully prepared to initiate tactical operations against Dak To. Det 1, flying two missions against the Dak To area on 4 November noted almost a complete standdown of enemy communications, a warning that the enemy offensive was about to commence. On 5 November fighting erupted. From the onset of the hostilities, Det I flew two missions daily against the enemy forces surrounding Dak To and continued to do so until the enemy forces began to break away on 17 November. On 4 Movember, a target identified as the NVA 174th Indpt Regt was noted in communication with the Hqs of the NVA let Division. By 11 November, the 174th NVA Indpt Regt had relocated to a position approximately 24 KM west-southwest of Dak To. On 16 November, Det 1 fixed the 174th NVA Indpt Regt at YB 778 128 (14-34N 107-33E). On 6 November a Military Intelligence Element of the NVA lat Division was fixed by Det 1 at YB 910 148 (14-36N 107-42E), approximately 3 KM from the Hqs of the NVA 32nd Regt and 17 KM southwest of Dak To. Elements of the 173 ABN BDE and the 1st BDE/4th INF DIV were continually deployed on the basis of these and later ARDF fixes.

On 6 November, the Hqs of the NVA 1st Division was fixed by Det 1 at YB 763 160 (14-37N 107-34E) which is approximately 23 KM west-southwest of Dak To and in the general vicinity of its last fix. On 8 November the Hqs of the NVA 24th Indpt Regt was fixed by Det 1 at ZB 133 298 (14-43N 106-59E) which relocated that unit to within 15 KM northeast of Dak To. As mentioned earlier, all of these fixes were acted upon immediately by the BDE commanders at Dak To and resulted in allied troop insertion, artillery barrage, air strikes, etc. Shortly thereafter, the enemy began to break contact and seek Cambodian sanctuary.

The following is quoted from a message from the commander of the 374th RR which was transmitted to the commander of the 313th RR BN on 12 January 1968:

"The supported CMDS were insatiable in their appetites for ARDF fixes in particular. Having decided that the enemy was withdrawing, they deployed the ENS in the entry routes which ARDF had indicated. Numerous visual RECON and airborne people detector missions were flown in confirmation and refinement of ARDF location, culminating in ARC lights, A/S, and troop insertions. It is largely due to repeated ARDF emphasis on the 24th PAVN Regt (advancing from the north) that the ARVN elements was placed in its interception position; the SPTD CMDS had become dangerously preoccupied with their contacts to the south."

The forward elements of the NVA B-3 Front, the Hqs of the NVA lst Division, the Hqs of the NVA 32nd Regt, and an unidentified artillery Regt, the 174th NVA Indpt Regt, and the 24th NVA Indpt Regt were fixed repeatedly by Det 1 in the following weeks

and elements of U. S. and ARVN forces were deployed constantly to harrass these positions and also to interdict the escape routes. The ultimate satisfaction was realised by Detachment 1 when a representative from the Army visited Det 1 and said, "The friendly casualties were high at Dak To but would have been ten times higher if it were not for ARDF."



APPENDIX C

HISTORY

DETACHMENT 2, 6994TH SECURITY SQUADRON

HISTORY OF DETACHMENT 2, 6994TH SECURITY SQUADRON

1 July 1967 - 31 December 1967

RCS: AU-D5 (USS-1)

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Prepared by:

SMSgt ARCHIE R. BARLOW JR. Unit Historian

Approved:

GARY F. OBECK, CAPT, USAF Commander

FOREWORD

This historical summary concerns the operations of Detachment 2, 6994th Security Squadron and has been written to include unit activities from 1 July - 31 December 1967.

All information was taken from files, PADS, and correspondence maintained within the unit.

All suggestions, comments, and questions should be directed to the Operations Officer, who was responsible for preparing this report.

CHAPTER I

MISSION AND ORGANIZATION

MISSION

Detachment 2, 6994th Security Squadron, was activated at Plaiku AB, Vietnam, on 1 September 1966. The detachment was activated for the purpose of conducting Airborne Radio Direction Finding (ARDF) eperations against low-powered enemy ground tactical transmitters in South Vietnam, Laos, and adjacent waters.

ORGANIZATION

The detachment was directly subordinate to the 6994th Security Squadron located at Tan Son Nhut AB, Vietnam. The detachment provided the rear-end crews for operational missions; Detachment 1, 361st Reconnaissance Squadron, provided the front-end crews.

Organizational Changes

(UNCLAS) No major organizational changes occurred during the reporting period; however, several minor organizational changes should be noted.

During the September-October turnover in personnel, the wintegrated crew" concept disappeared due to an acute manpower shortage which required more attention to the time the crews were to fly rather than which personnel would be flying.

(UNCLAS) On 1 November, the Flight Management Section was formed. This section included a scheduling clerk, an awards and

decorations (A&D) clerk, and a flight management supervisor/
coordinator. Aside from the A&D task and the maintenance of
individual flight records, this section was formed to be
responsible for: (1) scheduling of unit crew members; (2)
insuring that the weekly/daily flying schedules/tasking of
the 362d TEWS and Det 2, 6994th Scty Sq were compatable; (3)
insuring full coordination of all tasking/scheduling changes.
Originally formed as an interim measure, the section was
officially designated on 1 December.

On 15 November, three operational flights were designated since there was a sufficient number of personnel available at the time.

On 1 December, the analyst section was adequately manned to define and designate a separate airborne analysis section. In addition to assisting normal ground analysis functions, these A202s were charged with becoming individually proficient in specific target areas of coverage for development.

On 20 November, the unit sent its first analyst on extended TDY to its data base at USM-808 (8th Radio Relay Field Station, Hue - Phu Bai, RVN). The program was initiated and developed to give Det 2 a liaison capability and to assist USM-808 in supporting its ARDF effort.

CHAPTER II

TASKING AND COLLECTION

TASKING

During the period, the average monthly tasking was for 307 missions. These missions were fragged into all of I Corps, portions of the Tiger Hound and Steel Tiger areas in Laos, and over the coastal waters of North Vietnam south of Dang Hoi. While two-thirds of these missions were for continuity and development, 630 missions were flown in direct combat tactical support of 29 different ground operations.

COLLECTION

From July through December, Det 2 flew 1841 missions and got 9,197 fixes from 12,930 targets worked.

The almost total turnover from experienced to inexperienced personnel was a significant factor in the fix/mission rate decline from 6.4 in July to 4.2 in October and November. Recovery began in December with a slight increase to 4.4.

ARDF mission, was given and employed the additional capability of collecting selected communications on HF Manual Morse and VHF voice. The additional HF collection capability was gained on 25 and 27 Nov 67 when the Zl position of the two CDZ aircraft were configured with G 175 receivers. The specific mission of the additional HF Manual Morse capability was to copy full certain selected enemy transmissions and message types. The specific mission of the VHF voice collection capability was to search out

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enemy reaction to the electronic sensing devices placed along the IMZ (project Muscle Shoals).



APPENDIX D

HISTORY

AIRBORNE RADIO DIRECTION FINDING COORDINATION CENTER

HISTORY

OF THE

AIRPORNE RADIO DIRECTION FINDING

COORDINATION CENTER

(ACC)

1 July - 31 December 1967

This document contains information affecting the national defense of the United States within the meaning of the Espionage laws (Title 18, USC, Sections 793 and 794) the transmission or revelation of which, in any manner, to an unauthorized person, is prohibited by law.

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ANTHONY J. SZUREK JR, MAJOR, USAF OIC ACC PROJECT CORONA HARVEST

No 4434585

CHRONOLOGY

Date	Event
July 67	ACC ARDF Directive Ol-67 issued in draft.
August 67	Air/Ground reporting requirements for ARDF fixes of MACV Priority 2 and 3 targets revised.
August 67	Operational testing of KY-8 communications system commenced.
August 67	Hestia Pad requirements reduced from 300 to 75 editions monthly.
1 Sept 67	ARDF Directive O1-67 published.
16 Sep 67	TADPS installed at ACC.
19 Sep 67	ARDF Recovery Reports revised.
23 Oct 67	ARDF conference conducted at the ACC.
27 Oct 67	ACC relocated to Whitebirch.
2 Nov 67	TADPS entered developmental stage.

CHAPTER I

MISSION AND ORGANIZATION

MISSION

The mission at the ARDF Coordination Center (ACC) is to maintain close liaison between the 509th RRG and the 6994th Scty Sq in the planning and employment of ARDF resources in support of COMUSMACV approved tasking. The essential ACC objective is to provide optimum ARDF coverage from available sorties.

ORGANIZATION

The ACC is composed of USAF personnel from the 6994th

Security Squadron and U. S. Army personnel from the 509th Radio

Research Group. The Army personnel authorizations (51) more than

tripled the Air Force (15). The actual personnel assigned from the two
services were 35 and 13, respectively. The Command responsibilities

are shared jointly by an Army OIC and an Air Force OIC (Chart 1).

Prior to 27 Oct, the ACC was collocated with the 509th RRG at Tan Son Mhut AB, Vietnam. On 27 October, it was relocated to Whitebirch Station, within the Vietnamese Joint General Staff Compound adjacent to Tan Son Mhut AB. The ACC remained collocated with the 509th RRG which had moved to Whitebirch on 13 October. The movement of the ACC was delayed due to problems encountered in relocating the communications circuits.

INTERNAL ORGANIZATIONAL CHANGES

Two major internal organizational changes occurred.

A Special Projects section was formulated to manage the ARDF Communications Systems/Facilities and to handle those tasks that did not fall within the more specialized areas. Also, a section was developed to accomplish the tasks associated with the Computer System that was introduced into the ARDF program.



CHAPTER II

TASKING

The ACC played an active role in ARDF tasking through receiving the ARDF requirements levied by MACV-J2 and developing it into specific tasking for the Aviation Units. They accomplished the allocation of sorties and the establishment of the on-target times to fulfill the MACV requirements. Their most significant role, and primary mission, was the coordination with all activities and agencies in the establishing of procedures for tech support, communications and tasking to support ARDF operations (Chart 2). All items falling within these areas will be treated as tasking.

During mid-July, the ACC published an advanced draft of ARDF Directive 01-67. This comprehensive document encompassed all aspects of the ARDF program and standardized procedures for each function. The publication of a draft copy was to insure applicability and accuracy of its contents by allowing agencies affected to peruse its contents prior to formal implementation. On 1 Sep, the document (ACC Wording Aid 01-67) was published and distributed. Changes were issued electrically and followed by hard copy publications.

During August, the ACC and representatives of the 6994th Security Squadron formulated procedures for accomplishing an operational test of the KY-8 system. The ACC provided the 6994th Scty Sq with a list of Direct Support units possessing the equipment, updated as needed. Also, the ACC, as a result of this meeting added KY-8

Communications Procedures to the draft of Working Aid 01-67.

Although the KY-8 testing was rather informal, the results did establish that the system was practical and would be reliable once the initial difficulties were eliminated. In view of this anticipated application of the KY-8/28, Hestia Pad production was reduced to 75 editions monthly vice 300 editions, effective 31 August.

comprised of delegates from all major units involved in ARDF operations. Several problem areas were resolved and some refinements made in existing procedures. Two different formats for the issuance of tech data to support ARDF operations were established; one for I and II CTZ and another for III and IV CTZ. Daily electrical update was instituted for III and IV CTZ support. It was also determined to be advantageous, in some cases, to decentralise tech support responsibility from CMA's to DSU's. The CMA's were requested to advise the ACC on specific tech support responsibilities that were assigned to DUS's. This delineation eliminated the need for designating units tasked with tech support in the tasking message. A daily changing trinome system was also adopted for inclusion in the tech data. This trinome would be used for ground/air, air/air tip-offs on priority IA and I targets.

During October, the NCOIC of the Mission Control

Section established procedures for informal periodic visits with

MACV-J2. Designed to eliminate irregularities in the MACV tasking.

these visits were highly successful. Some problems resolved were: inconsistencies in Priority designations for one RAD appearing in two or more areas; excessive tasking by True Unit Designators of mats that do not have RADs assigned; and, unrealistic tasking of RADs in improbably areas.

During November, tasking for both Army and Air Force

ARDP units at Saigon was consolidated and issued in one message.

This prodecure was extended to Nha Trang and later to Pleiku.

Considerable savings in communications time and man power resulted from this action.

During October, DIRNSA requested that the ACC add

USM-7 in Tailand to the ARDF tasking distribution. The ACC compiled

by providing only the information for those areas within the unit's

realm of responsibility (MACV areas 1, 2, 3, 4, 6 and 8). USM-7

planned to utilize this data in conjunction with the ARDF recovery

reports in the fusion of ARDF results into their own SIGIRT source.

CHAPTER III

PROCESSING AND REPORTING

PROCESSING

TADPS

On 16 September a computer system was installed at the ACC. Produced by Litton Industries, the system consisted of a Litton 304 computer, a Litton Datalog MCSSOO high speed printer and a standard AN/UGC-13 teletype. The system was designated Tactical Automatic Data Processing System and was designed to receive data input from ARDF, MRDF and ground intercept sources. The system objectives were to (a) aid in ARDF target identification and (b) compute emitter locations. It would provide a rapid response to analyst interrogation. The system possessed an on-line input/output capability and could provide direct support to the three data bases and the Army and Air Force Aviation Units. Indirect support could be provided to any unit with CRITICOM facilities and to the DSU's through the CMA's. The system underwent a "shake-down" from 16 September through 2 November 1967 when it became operational as a development project, providing limited support to ARDF activities. The TADPS is undergoing evaluation to determine the extent it is meeting original goals, and to establish requirements for "second generation" development.

REPORTING

The ACC was tasked with developing and instituting

reporting vehicles and procedures to the consumers' requirements for ARDF data. The vehicles that were previously established to accomplish this requirement were the A/G Fix Report, the ARDF Recovery Report and the ARDF Final Fix Report. Several significant revisions were made in the preparation and distribution procedures of these reports.

During August, MACV-J2 approved a recommendation by the ACC to eliminate the requirement for A/G reporting of ARDF fixes on Priority 2 and 3 targets that did not reflect a significant relocation from their last known location. The result was a 10-15 per cent decrease in the volume of traffic on the already crowded A/G frequencies.

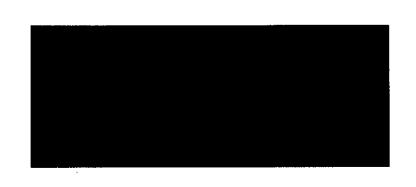
During August, MACV-J2 issued a letter authorizing the disclosure of additional, sanitized, ARDF results to FW MAF.

The intelligence reports were subsequently expanded to include the radius of the ARDF fix and the echelon of the target fixed.

During September, a major change in the type information and its method of entry in the ARDF recovery report was instituted. Necessitated to provide the information required for input to the TADPS computer, this change increased the workload necessary to prepare the reports. It invoked some reluctance from the navigators to provide the position of the aircraft on LOP's that did not result in a fix. On 29 September, representatives of the ACC and the TADPS section attended a meeting of the 460th TRW Tactics Panel. This delegation explained the necessity of the

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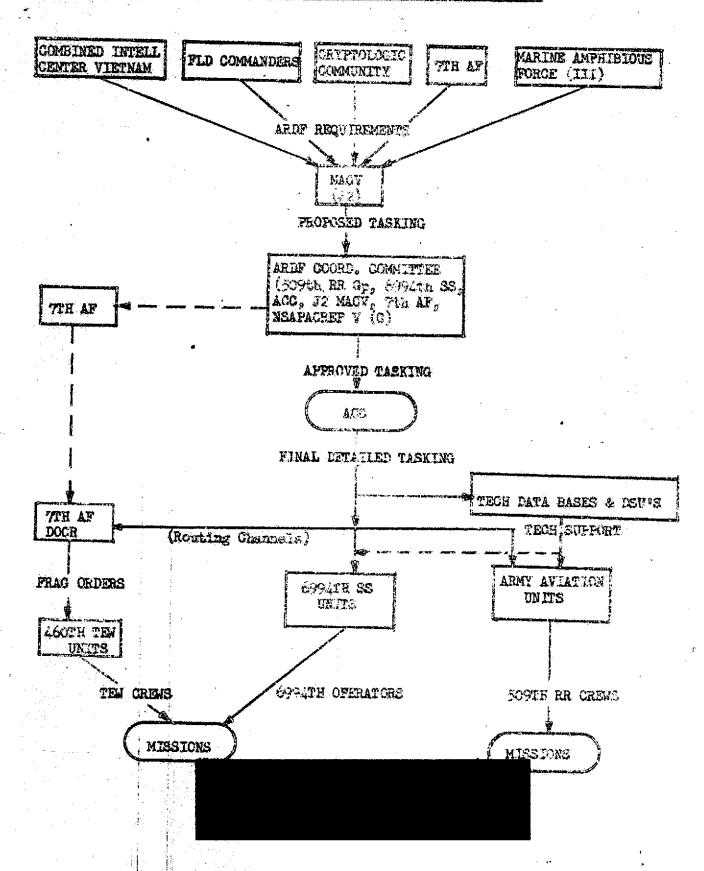
information and its potential value to the TADPS. Limited cooperation of the 460th TRW was secured.



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