HISTORY OF THE
6994TH SECURITY SQUADRON

January – June
1971

USAFSS (HO)

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THE HISTORY OF

6994TH SECURITY SQUADRON

1 JANUARY 1971 - 30 JUNE 1971

RCS: USS-D3

[redacted]

1 AUGUST 1971

[redacted]

6994 Security Squadron, APO San Francisco 96307

[redacted]

USAFSS FORM 1 JUN 57 86

[redacted]

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HISTORY OF THE 6994TH SECURITY SQUADRON

1 January 1971 through 30 June 1971

RCS: USAF-83

[redacted]

Approved:

Grower S. McMakin

GROVER S. McMAKIN, Lt Col, USAF
Commander

FRONTISPIECE

HISTORY

An exact knowledge of the past is an aid to the interpretation of the future, which in the course of human things must resemble, if it does not reflect it. (Thucydides, History of the Polypponesian War)

To define history in a factual statement is an impossibility: In theory, history is a recording of events as they occur - either to justify mans being, or to instruct future generations. Every student of history must reflect on each event and surmise that things today would be different, had not the ancients performed a certain act. The greater our strides today, the easier the path will be for those who follow. Each time we falter, we leave a stumbling block for those who come behind. History is man - but man makes history; the beginnings are shrouded in mystery - the end is infinity. (MSgt Kyle L. Emerson, Unit Historian, 6994 Security Squadron)

The historian has to deal, not only with events, but with reasons and motives, and it is here that insight and imagination and deduction must be added to the foundation of research. Why a thing happened is even more important than how it happened. (The Bible and History, Introduction by William Barclay, Abingdon Press, New York, C/1968.)

FOREWARD

This historical report covers the period 1 January 1971 through 30 June 1971 for those operations performed by the 6994 Security Squadron and staged from Tan Son Nhut Airfield, Republic of Vietnam.

The report concerns itself with the overall operational concepts of the 6994 Security Squadron in the day-to-day performance of a direct support mission for Tactical Field Commanders. This record has been compiled in an effort to provide a continuity of documentation of the Airborne Radio Direction Finding program in support of an armed conflict.

Historical accounts of Detachments 1, 2, and 3 of the 6994 Security Squadron have been documented individually by those units.

This history is subject to revision. Additional information or suggested corrections will be welcome.

This report was prepared by Master Sergeant Kyle L. Emerson with valuable research assistance from Master Sergeant John T. Koraska. Typing was accomplished by Sergeant Thomas E. Carpenter.

Listing of Key Personnel

Commander - Colonel Leon S. Inge

First Sergeant - MSgt Leonard J. Bockman

Operations Officer - Major David H. Eddy

Assistant Operations Officer - Captain Gary D. Belcher

NCOIC Operations - CMSgt Ottis L. Livingston

OIC ACC - Major David A. Brigman

NCOIC ACC - MSgt James A. Jones

OIC Mission Management - 1st Lt Henry K. Mioduski

NCOIC Mission Management - MSgt John T. Koraska

OIC VIM - Captain Thomas L. Collins

OIC Local Operations - Captain Edward J. Miller

NCOIC Local Operations - SMSgt Ardell R. Sjolander

NCOIC Local Analysis and Reporting - MSgt David A. Mangum

OIC Communications Security - Captain Jon C. Bergstrom

NCOIC Communications Security - MSgt Billy D. Reece

OIC Material/Maintenance - Major Robert J. Cashatt

NCOIC Material/Maintenance - CMSgt Donald F. Connell

OIC Supply - 1st Lt Matthew R. Morrone

NCOIC Supply - MSgt A. J. Edwards

NCOIC Communications - TSgt Martin V. Cameron

NCOIC Administration - MSgt Walter A. McDonald

NCOIC Security Police - TSgt C. J. Hinsey

NCOIC Personell - MSgt Ronald A. Grayum

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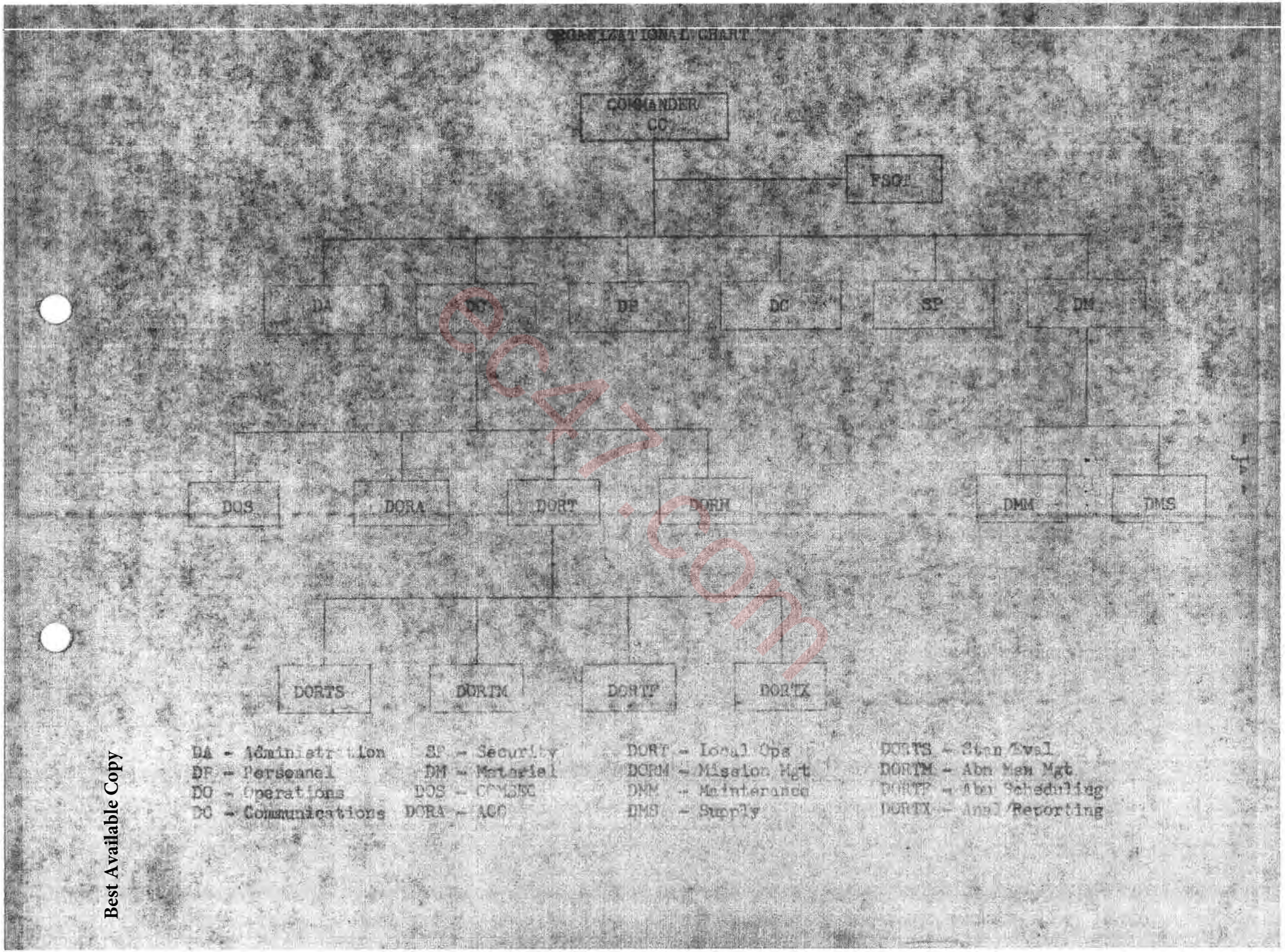

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CHRONOLOGY

01 January 1971 - Waiver of USAFSSM 205-7 received.

03 January 1971 - Completion of Phase II, ARDF Technical Support Test.

05 January 1971 - DIRNSA evaluation of VC/NVN VHF voice test received.

08 January 1971 - 6994SS proposed ARDF DURMIS submitted to PacSctyRgn.

14 January 1971 - 7AF authorized concept of providing Forward Air Controllers with ARDF fixes on real-time basis.

15 January 1971 - Completion of installation and operational status of Ground tip-off site at Pakse, Laos.

16 February 1971 - New DIRNSA T-4019 (Critic Reporting) implemented.

27 February 1971 - 6994 Scty Sq (DM) advised by USAFSS of deficiency in adhering to pertinent Maintenance Bulletins.

06 March 1971 - Test of LEFAIR KNEE radiofingerprinting for airborne application begun by 6994 Scty Sq.

15 March 1971 - Revised Search and Rescue Assistance program implemented.

15-22 March 1971 - 6994 Scty Sq DMM personnel attended System Performance and Maintenance Evaluation Conference in Taiwan.

16 March 1971 - Modification of G-133 receivers and G-176 recorders accomplished IAW Maintenance Bulletins.

23 March 1971 - Test of LEFAIR KNEE radiofingerprinting for airborne application completed.

29 March 1971 - Plans formulated for sending analyst personnel TDY to Collection Management Authorities for coordination/assistance.

01 April 1971 - Training of Vietnamese operators begun under auspices of Vietnamization Improvement and Modernization Plan.

14 April 1971 - Began negotiations for basing of AIR-38 aircraft

[redacted]

at Nakhon Phanom, Thailand.

15 April 1971 - Plans announced to test feasibility of installation of ARDF tip-off site at USM-73, Ubon, Thailand.

03 May 1971 - Began 3 daily missions by Vietnamese crews under VIM training program.

04 May 1971 - Commander-in-Chief, Pacific Air Forces started coordination concerning removal of communications Jamming equipment from EC-47 aircraft.

10 May 1971 - 7AF released execution order implementing Project BLUE BEETLE.

24 May 1971 - New T-3008 (Exploitable Message Report) implemented.

02 June 1971 - 7AF announced plans for closure of Phu Cat AB, and phasing out of 12th Tactical Reconnaissance Wing at Tan Son Nhut Airfield.

03 June 1971 - Commander-in-Chief, Pacific approval for removal of Communications Jamming equipment from EC-47 aircraft received.

04 June 1971 - Implemented new DIRNSA T-2038 (ARDF Recovery Reports).

04-05 June 1971 - 6994 Scty Sq representatives attended ARDF/ACI conference.

10 June 1971 - Manning problem for Detachment 1 solved through intra-squadron TDY assistance.

11 June 1971 - Selective manning concept for Combat Cross Zulu EC-47 suggested by Detachment 2.

12 June 1971 - Provisional Annex India to T-1056 implemented.

14 June 1971 - Comprehensive evaluation of Airborne Analysis Program forwarded to PacSctyRgn.

24 June 1971 - Revised Market Time/Game Warden program implemented.

[redacted]

[redacted]

[redacted]

Chapter I

MISSION AND ORGANIZATION

[redacted] The organization of the 6994 Security Squadron was comparable to that of the majority of USAF Security Service units. Directly subordinate to the Pacific Security Region at Wheeler Air Force Base Hawaii, this was the only intermediate between the squadron headquarters and Headquarters, USAF Security Service. The one difference in organization was the subordination of three operational detachments to the squadron headquarters. The mission of the 6994th and subordinate detachments is unique. Airborne Radio Direction Finding (ARDF) in support of tactical units (both Army and Air Force) within the Republic of Vietnam places the 6994th in the distinctive position of being the only USAF unit of its kind.

Mission

[redacted] Headquarters for the 6994 Security Squadron (Scty Sq) was located at Tan Son Nhut Airfield (Afld), Republic of Vietnam (RVN). The operational mission of the 6994 Scty Sq was to conduct Airborne Radio Direction Finding (ARDF) and specified Airborne Communications Intelligence (ACI) collection against enemy targets in the III and IV Corps Tactical Zones (CTZ) and Cambodia in direct support of the Military Assistance Command, Vietnam (MACV). Another mission of the 6994 Scty Sq was providing direct Communications Security (COMSEC) support to Tactical Commanders and 7th Air Force (7AF).[1]

[redacted]

[redacted]

(U) In addition to the mission performed in III and IV CTZs, the 6994 Sety Sq provided command, operational, and administrative control for the three subordinate units located at Phu Cat Air Base (AB), Republic of Vietnam (RVN), DaNang AB, RVN, and Nakhon Phanom Royal Thai Air Force Base (RTAFB), Thailand.

[redacted] The Command, Administrative, Personnel, Communications, and Operations functions were located in the Air Force Special Security Office (AFSSO) TAF compound within the Headquarters 7AF compound at Tan Son Nhut Afld, RVN. The Squadron logistics function was located on the flight line adjacent to the 360 Tactical Electronic Warfare Squadron (TEWS). The 360 TEWS directly supported the 6994 Sety Sq by providing the necessary aircraft and front-end crews. the 360 TEWS was subordinate to the 460 Tactical Reconnaissance Wing (TRW) whose detached units, 361 TEWS, 362 TEWS, and Detachment 1, 360 TEWS supported the United States Air Force Security Service (USAFSS) operations at Phu Cat AB, DaNang AB, RVN and Nakhon Phanom RTAFB, Thailand, respectively.

[redacted] The 6994 Sety Sq performed the ARDF mission in South Vietnam and Cambodia aboard EC-47 platforms throughout the entire reporting period and were tasked with the completion of any of three types of missions: ARDF, ARDF/ACI, and when ARDF capability was lost, ACI only. In accomplishing these missions, two separate position equipment configurations, COMBAT CROSS (CC) and COMBAT CROSS ZULU (CCZ), were utilized. In subsequent portions of this historical

[redacted]

account, the specific tasking for each of these positions and configurations is outlined in detail.

Organizational Structure

(U) The 6994 Scty Sq was subordinate to Pacific Security Region (PacSctyRgn) located at Wheeler Air Force Base, Hawaii.[5]

[redacted] In view of the daily inter-service involvement throughout the entire ARDF program in Southeast Asia (SEA) (i.e., Army, Navy, Air Force, Australian, and Vietnamese), the general operational control of the entire ARDF effort was exercised by the Commander, United States Military Assistance Command, Vietnam (COMUSMACV).[6]

Internal Organizational Structure

(U) The 6994 Scty Sq integral support functions consisted of Administration, Personnel, Airborne Equipment Maintenance, Operations, Supply, Communications, and Security and Law Enforcement.[7]

(U) The Operations functions consisted of Local Operations, Squadron Mission Management, COMSEC, and Airborne Coordination Center (ACC).[8]

[redacted] Local Operations was responsible for the management of airborne mission resources located at Tan Son Nhut Afld. This function directed, coordinated, and controlled personnel and mission equipment toward achieving maximum mission effectiveness. They provided for all operational missions and were responsible for scheduling and training newly assigned airborne personnel. They coordinated with ACC and 360 TEWS on all changes to mission tasking and pub-

[redacted]

[redacted]

lished daily flying schedules of all fragged mission areas. Additionally, coordination with 460 TRW and 7AF was conducted on special occasions. They performed analysis and reporting on all ARDF and COMINT intercept collected and prepared daily/weekly evaluations and reports on the Squadron's ARDF/Collection accomplishments.[9]

[redacted] The Squadron Mission Management function was responsible for the staff supervision of all ARDF and COMINT collection missions at the 6994 Scty Sq and subordinate detachments.[10] The section evaluated management summaries and position status reports submitted by subordinate elements and maintained weekly and monthly statistics which were used to identify trends/problems in all areas of productivity. The statistical/management data base maintained by the section was used not only at the 6994 Scty Sq but also at the staff level of both 7AF and MACV. Additionally, the Mission Management section participated in the development of plans, programs, Joint Operating Agreements (JOAs) and other directives governing all aspects of squadron operational functions. Another function of the section was the responsibility for monitoring/updating the Master Program to insure current/future alignment of documented resources with constantly changing mission requirements. Preparation of monthly progress reports on Programmed Actions Directives (PADs) was also a function of Mission Management.

[redacted] The COMSEC function was originally established at Tan Son Nhut Afld, RVN on 1 July 1965 as Detachment 5, 6922 Security

[redacted]

Wing (Scty Wg). When the 6922 Scty Wg was deactivated on 1 April 1970, the COMSEC Function was absorbed into the 6994 Scty Sq. The mission of the 6994 Scty Sq COMSEC element was unique for a USAFSS unit. This was the only USAFSS COMSEC unit providing full time direct COMSEC support to a tactical commander. This support consisted of providing timely information concerning probable or possible intelligence losses and COMSEC weaknesses on which the tactical commander could base operational decisions. This was accomplished by continual 24-hour monitoring of telephone/radio communications, conducting analysis, and reporting the results thereof directly to 7AF.[11]

[redacted] The ARDF Coordination Center (ACC) function was manned and operated jointly by members of the 509th Radio Research Group (RRG) and the 6994th Scty Sq in accordance with MACV Directive 381-23. Located within the Hqs, 509th RRG at Whitebirch Station within the Vietnamese Joint General Staff Compound, the ACC was the organization through which MACV coordinated ARDF/ACI operations in SEA. The mission of this unique center was to provide for the coordination, control, and evaluation of all functions connected with the ARDF/ACI program. This included the coordinated scheduling and evaluation of ARDF and ACI missions as directed by MACV.[12]

[redacted] The 6994 Scty Sq also provided administrative support to the Security Service Liaison Officer (SSLO), Electronic Warfare Liaison Officer (EWLO) to 7AF, and USAFSS personnel assigned to Operating Location Delta-Delta (OL-DD), 6970 Support Group. Tasked

[redacted]

with separate missions, these activities functioned independently of the 6994 Scty Sq.[13]

Chapter II

SIGINT TASKING AND COLLECTION

[redacted] The Commander, MACV exercised operational control of the ARDF/Collection activities performed by the 6994 Scty Sq. Technical control of assigned ARDF/Collection/Production activities was exercised by the Director, National Security Agency (DIRNSA).[1]

[redacted] The 6994 Scty Sq was tasked with ARDF, Collection, Processing and Reporting of the following entities: (1) Southeast Asia Communist High Frequency (HF)/Very High Frequency (VHF) tactical voice, single-channel communications; (2) SEA Communist HF/VHF manual morse communications; and (3) all other entities that were assigned by applicable authorities.[2]

Basic Missions

[redacted] For the period of this report, the 6994 Scty Sq, staging from Tan Son Nhut Afld, RVN, was tasked with flying missions in SEA Areas 01, 02, 03, 04 (RVN), and 20 (Cambodia). The primary objective of these missions was to obtain accurate locations through ARDF, of Viet Cong (VC) and North Vietnamese Army (NVA) forces operating in South Vietnam and Cambodia. In addition, the secondary mission was to collect target communications data in order to derive exploitable intelligence. The 6994 Scty Sq utilized two basic methods of operation in accomplishing this assigned mission.[3]

COMBAT CROSS (CC)

[redacted] The primary objective of CC missions was to fix enemy

target transmitters deemed priority targets by MACV. CC aircraft were configured with two individual SIGINT positions: ARDF and ARDF acquisition. The ARDF and ARDF acquisition positions were designated "X" and "Y" consoles, respectively. The "X" position was capable of fixing targets within a frequency range of 2 to 16 Megahertz (MHZ). During fix operation, the "Y" console provided supporting intercept copy of ARDF targets and when time permitted, performed a COMINT collection mission directed toward maximum continuity and development of all hostile target transmitters. The "Y" console operated within a frequency range of .5 to 30 MHZ.[4]

COMBAT CROSS ZULU (CCZ)

[redacted] This platform possessed two positions in addition to those found on the CC aircraft. The additional positions were provided for voice and manual morse intelligence collection and were designated "Z1" and "Z2" respectively. The "Z1" and "Z2" consoles were wired for flexible systems capability and could be configured for HF/HF, VHF/VHF or HF/VHF reception. Selection of HF/VHF receivers and VHF tuners is more in consonance with the target environment to be exploited and in consideration of other systems component characteristics (i.e., Antenna/Pre-amplification capability of .2 to 300 MHZ). To accomplish 6994 Scty Sq mission requirements, the two collection positions were configured identically with both G-139/HF (.5 - 30 MHZ) and G-175J/VHF (10 - 90 MHZ) receivers. Selection of E-Band (10 - 30 MHZ) and A-Band (30 - 90 MHZ) tuners for the VHF receiver and the resulting radio frequency overlap of 10 to 30 MHZ

[redacted]

between the G-133 and G-175J was to provide simultaneous intercept capability for back-link (two-way), communications in the more densely populated area of the radio spectrum. This provided both the "Z1" and "Z2" operators with HF/VHF (.5 - 90 MHZ) intercept capability. Appendix 3 is provided for further amplification of aircraft configurations utilized by the 6994 Scty Sq during this period.[5]

Tasking Cycle

[redacted] The tasking cycle for the ARDF/Collections missions flown by the 6994 Scty Sq was unique for a USAFSS unit in that the tasks were designed to provide constant tactical support in a highly fluid armed conflict.[6]

[redacted] ARDF/Collection tasking originated with Army and Navy field commanders, the Cryptologic Community and 7AF submission of requirements for the coming week. These requests were submitted to MACV (J2-114). On Wednesday of each week, MACV (J2-114) submitted the proposed tasking to the ARDF Coordinating Committee. This committee consisted of representatives (usually Operations Officers) of the 509 RRG, 6994 Scty Sq, ACC, MACV(J2), 7AF, Department of Defense Special Representative (DODSPECREP), (b) (1) [redacted] (b) (1) [redacted], Saigon, and the Commander, Naval Forces Vietnam (COMNAVFORV). The Coordinating Committee then passed these recommendations to MACV (J2) for final approval and return to ACC for issuance. While these procedures were taking place, the 460 TRW provided the ACC with an aircraft availability forecast for the tasking week in ques-

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tion. ACC then assigned individual missions to fulfill the tasking requirement originally generated by the Field Force Commanders to each Collection Management Authority (CMA) and the 6994 Scty Sq on Thursday of each week. At the same time ACC provided a "sanitized" version of the tasking to 7AF for issuance of the required Fragmentary Order (FRAG ORDER) for each mission to be flown. On Friday morning of each week, the 6994 Scty Sq received position tasking from the appropriate CMA having the SIGINT collection, processing, and reporting responsibility for the specific target area of operations concerned. Prior to each day's series of missions, the applicable CMA provided the majority of technical data. Once airborne, CC/CCZ crews, through Air/Ground/Air contact with Direct Support Units (DSUs) and the 6994 Scty Sq local operations, had access to additional technical data for individual FRAG areas. In addition, DSUs accepted all fixes from the airborne platform, passed tip-offs to the aircraft, and accepted messages which were deemed exploitable by the Airborne crew. The 6994 Scty Sq also accepted fixes and exploitable messages for relay to CMAs when aircrew contact with the DSU could not be made.[8]

Revision of Tasking and Collection Procedures

TECHINS 1056, Annex India

[redacted] Revised provisional Annex India to Techins 1056 was implemented on 12 June 1971, superseding the provisional Annex implemented in 1970.[9] Impact on 6994 Scty Sq mission requirements was negligible. The only function that the Control Message serves is

[redacted]

to provide DIRNSA with a control/accountability vehicle for resource management to insure that resource requirements are fulfilled. 10-11

ARDF Technical Support Test

[redacted] Phase II of the ARDF Technical Support Test that began on 7 December 1970 was completed on 3 January 1971. Primary purpose of the test was to determine if more accurate and timely technical data could be provided to the ARDF units and to improve ground to air tip-offs from the DSUs. An evaluation of Phase II of the test by National Security Agency Representative (Vietnam) (b) (1) [redacted] (b) (1) [redacted] revealed that accuracy of technical data provided by CMAs was still low, but a definite improvement over Phase I was noted. The test also indicated that many targets did not operate on a reliable scheduled basis and therefore were not predictable. 13

Basing of AIR-38 Aircraft at Nakhon Phanom

[redacted] On 14 April 1971, the 6994 Scty Sq provided PacSctyRgn with a quote of a DIRNSA message which stated a requirement for VHF coverage in Northern Laos in February 1971. The DIRNSA message stated that MACV J-2 was in support of the requirement, but operation LAM SON 719 precluded diversion of AIR-38s to Nakhon Phanom (NKP) at time of request. The 6994 Scty Sq informed PacSctyRgn that MACV could, in the near future, request statements from 7AF and USAFSS outlining support capabilities and problems anticipated if two to three AIR-38s were based at NKP. 14 On 16 April 1971, MACV requested 7AF and 6994 Scty Sq to provide J211-4 with an assessment of the impact deployment of AIR-38 aircraft into NKP would have in terms of add-

[redacted] [redacted]

itional construction, manpower, and mission capability loss at Da Nang and whether such a development could be supported.[15] On 4 May 1971, the 6994 Scty Sq replied that resources which must be in place at NKP prior to the deployment included Avionics Ground Equipment (AGE) and AIR-38 trained maintenance personnel. The 6994 Scty Sq also recommended that AIR-34s deployed at NKP be replaced by AIR-35s since the similarity of the 35 and 38 systems was such that maintenance of the 35/38 mix would be more effective than a combination of 34/38 types. The 6994 Scty Sq also stated that AIR-38s could be deployed and supported.[16] In a letter to MACV J211-4, dated 19 May 1971,[17] the 6994 Scty Sq pointed out several drawbacks to the 7AF proposal of four EC-47Q (2 AIR-38s and 2 AIR-35s) at NKP.[18] A meeting was held with MACV J211-4 on 23 June to further discuss the problem. The purpose of the meeting was twofold: (1) When could AIR-38s be based permanently at NKP; and (2) when could AIR-38s fly round robin missions to NKP to sample VHF in SEA Area 15. It was decided that beginning with the 3 July tasking cycle, a single aircraft would be scheduled for round robins out of NKP. The tasking would cover a two week period, or six Barrel Roll (Northern Laos) missions. On the first point of discussion, it was generally agreed that permanent basing of AIR-38s at NKP would be possible by late September or early October 1971.[19]

(U) This was the latest action to be taken on this project during the 1 January-30 June historical period.

EC-47 Forward Air Controller Targeting Trials - Southeast Asia

[redacted] Since the inception of the ARDF program in SEA, Numer-

[redacted]

ous attempts had been made to exploit the potential of ARDF fixes on a real time basis through the use of Tactial Air Assets.

Testing in Laos

[redacted] The concept of providing Forward Air Controllers (FACs) with ARDF fixes on a real-time basis was originally authorized by 7AF on 14 January 1971 for trial implementation on 1 February 1971.[20] The initial targeting trial was conducted in Laos, utilising secure voice communications to pass ARDF fixes to the Airborne Command and Control Center (Hillsboro) for relay to the appropriate FAC.[21] The trial was plagued initially by communications problems. The probable cause was determined to be the fact that the antenna used for secure UHF radio contact was located on the bottom side of the EC-47s, a situation that had here-to-fore posed no problems since prior to the test, all Ultra High Frequency (UHF) contacts had been Air/Ground/Air vice Air to Air. Emphasis was placed on the use of Frequency Modulated (FM) secure voice and a reliable communications link was established.[22-23] Due to the anti-aircraft artillery (AAA) threat in the target area, the vulnerable EC-47 was forced to stand-off from the areas of primary interest to 7AF. Consequently, most of the ARDF fixes fell outside USAF visual reconnaissance (VR) sectors. United States Air Attache/Intelligence Vientiane encouraged the use of their Raven FACs; however, there was a hesitance on the part of the Ravens to carry the AKAC-275 (secure voice wheel) necessary to receive the classified fix coordinates from the ARDF aircraft. On 10 February 1971, the test was suspended due to a higher

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[redacted]

priority MACV requirement.[24] During the short trial period, three significant targets were identified and struck, utilising Laotian T-28s and USAF F-100s. Total Bomb Damage Assessment (BDA) was 25 camouflaged structures and two bunkers destroyed and two secondary explosions. Although not substantial, this BDA encouraged further consideration of the EC-47/FAC targeting concept.[25] On 27 February 1971, the procedures previously established in Laos were re-initiated in an attempt to pass enemy locations in the Lam Son 719 operating areas to the "Hammer" FACs.[26] Numerous fixes were passed to the FACs through Hillsboro. Fixes falling outside USAF VR sectors were relayed to Raven FAC control units at Pakse and Savannakhet. The fixes passed were identified only as "suspected enemy locations or headquarters, etc."[27] Later investigation revealed that the FACs received numerous reports of this nature from Hillsboro, other FACs, FAC control elements, and ground commanders: Thus, the identity of ARDF fixes was lost in this maze of information. Feedback channels were not firmly established during the operation and no significant results were received. The primary factor precluding the exploitation of ARDF results was the fact that the FACs were extremely busy with an abundance of preplanned and immediate air strikes in support of ARVN ground forces. The EC-47/FAC program was suspended on 15 April 1971 without significant results being realised.

[redacted] In April 1971, the whole concept of ARDF/FAC tip-offs was reviewed and the following areas were identified as essential to effective operations: (1) The FAC had to have sufficient VR time avail-

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[redacted]

able to search the area of the fix; (2) direct secure communications between the ARDF and FAC aircraft were required to reduce the possibility of error in relay and to provide a means of passing additional information about the target that would assist the FAC in his search; (3) any further attempt to explore the concept had to be preceded by a joint coordination meeting to establish feedback channels and to educate the FAC units as to just what an ARDF fix would provide them; (4) if possible, the objective area had to be relatively free of triple canopied jungle to facilitate VR; (5) the fix had to have a unique nickname to identify it as being an ARDF fix so that individuals concerned would be able to recognize them and their results could be traced in normal post mission reports; and (6) immediate Tactical Air should have been available so the same FAC that located the target could put in the strike and preclude a futile search by a second FAC.

Testing in Cambodia

[redacted] With lessons learned during the Laotian exercise, further exploration of the FIX/FAC concept was envisioned in Cambodia, where all of the essential elements could be put together. In late April 1971, the 19th Tactical Air Support Squadron (TASS), 460th Tactical Reconnaissance Wing (TRW), and the 6994 Scty Sq expressed a serious interest in trying the concept in Cambodia. MACV J211 also encouraged further investigation of the program. An execution order was developed by 7AF, incorporating all of the desired requirements. The ARDF fix was given the unofficial codename "BLUE BEETLE" and the

[redacted]

overall program became known locally as the "BLUE BEETLE PROGRAM". Guidance on possible lucrative areas was provided by 7AF intelligence. The execution order was approved and released by 7AF operations of 10 May 1971.[29] On 13 May 1971, a coordinating meeting was held with operations and intelligence representatives from each participating unit. These units were 19th TASS (Rustic, Sundog and Tilly FACS), 460th TRW, 360th Tactical Electronic Warfare Squadron (TEWS)(Steel), and the 6994 Scty Sq. Representatives from various offices within 7AF led discussions on each of their areas of interest. Details as to what ARDF fixes would provide the FAC, communications, and security were discussed at length. The value of this coordination was readily apparent, concomitant with commencement of the BLUE BEETLE program on 14 May 1971. No major problems were encountered, and significant results began to appear from the outset. Due to the results and the attendant potential of the program, 7AF directed that the concepts and procedures established for the 30 day test be continued for an indefinite period.[31] On 27 June 1971, 7AF indicated that the BLUE BEETLE program had received favorable review by their headquarters and that the program would be made a permanent part of the Tactical Air plan for Cambodia. Due to high level interest in project BLUE BEETLE, a FAC and 4 F-4s were fragged to work directly with a primary and alternate EC-47 each day.[32] On 27 June 1971, eight targets were struck. One of these resulted in the destruction of three fortified fighting positions and one enemy death. Due to terrain and heavy jungle, damage to the remaining seven targets could not be assessed. Strikes

[redacted] [redacted]

on 28 June resulted in three bunkers destroyed, three damaged, and a number of secondary explosions. On 29 June, one fortified fighting position was destroyed. During the debrief on 30 June, the FAC stated that coordination between the fix aircraft, fighters and FAC was excellent.[33] The FIX/FAC (BLUE BEETLE) program was continuing to expand at the close of this historical period.

Airborne Radiofingerprinting (RFP) Test

[redacted] During March 1971, 6994 Scty Sq participated in a test of the Army developed LEFAIR KNEE Radio-fingerprinting (RFP) system to determine its applicability to ARDF target identification, thereby increasing the productivity of Combat Cross missions. Although findings were not all-inclusive, local opinion tended to support the value of RFP to ARDF missions. Preliminary observations indicated that the cost/effectiveness ratio of the RFP unit to overall mission effectiveness would be favorable.

[redacted] To accomplish the test, the RFP (LEFAIR KNEE) equipment was installed in the "Z1" position of a COMBAT CROSS ZULU aircraft. The aircraft completed 12 missions between 6 and 23 March, for a total of 78.5 flying hours in three separate areas of Cambodia. These areas were chosen due to an already established abundance of target transmitters.

[redacted] To insure integrity and realism for the test, only DF target transmitters were utilized for RFP. During the test 119 shots were taken, evenly divided among the three target areas. A total of 89 or approximately 75% of these shots had high potential for subse-

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[redacted]

quent identification by matching, due to unique visual/measurable characteristics. During the test, 53 targets were identified by RFP matching, 24 of which could not be identified by other means. Thirteen of the targets were recognized as targets utilizing different calls that were being fixed more than once during a mission.

[redacted] Based upon information gleaned during the tests, the following assumptions were made: (1) Based upon speed and ease of analysis with respect to RFP library size and assuming that a library would be organized by "frag" area sections, an RFP operator/analyst would be able to adequately work with a library containing 80 to 90 percent of the target transmitters within a given area: (2) An RFP operator/analyst would require from 4-6 minutes from time of lock-on by the ARDF operator to fingerprint a target, match it to a 25 shot library, and subsequently determine if subject target comprised a redundant fix.

(U) At the close of the historical period, complete evaluation of the test had not been received; however, every indication was that RFP could prove a definite asset to the ARDF program.

Collection Management

ARDF Daily Unit Resource Management Information Summary (DURMIS)

[redacted] During this historical period, the majority of the difficulties in formulating a meaningful summary of daily ARDF efforts were solved, leading to the impending publication of a revised Volume XII to USAFSSM 200-4. This culminated the lengthy exchange of messages and supporting data necessary in the compilation of a report that

[redacted]

[redacted]

must satisfy managers at every echelon of command.

[redacted] In response to a PacSctyRgn request, a proposed ARDF Daily Unit Resource Management Information Summary (DURMIS) format was forwarded on 08 January 1971 in which the 6994 Scty Sq comments/recommendations concerning DURMIS content were outlined.[35] It was felt that the recommendations presented would reduce preparation time by eliminating the necessity for separating AIR-34 and AIR-35 data and by reducing the redundant data that was being presented in the remarks sections. Recommendations from various units were compiled by PacSctyRgn and forwarded to USAFSS for comments/concurrance on 25 January 1971.

[redacted] On 20 February 1971, PacSctyRgn provided the 6994 Scty Sq with a revised ARDF DURMIS format as proposed by USAFSS, requesting comments/recommendations thereto. 6994 Scty Sq reply of 23 February stated concurrance, with the exception of a suggestion that comments/remarks (8XX) lines be placed immediately following the section to which they refer, thereby providing more timely and efficient format for manual DURMIS review and processing.[37] 6994 Scty Sq suggestions were favorably accepted and final drafting was begun. the draft was received at 6994 Scty Sq in mid May for review and comments. On 18 May 1971, 6994 Scty Sq provided several recommendations for minor changes involving items peculiar to SEA ARDF operations.[38] At the close of this period, USAFSSM 200-4, Volume XII was in final stages of coordination at USAFSS.

Airborne Analyst Program

[redacted]

[redacted]

[redacted] During the latter portion of 1970, a concentrated effort was made to incorporate analytical personnel into the airborne portion of the ARDF program. Envisioned as an aid to Collection Management, the program became a reality by the end of 1970, and preliminary evaluation indicated that it had been a worthwhile effort.[39] Throughout the 1-71 historical period, the program continued to expand into the "fifth man" concept. A202XOs were included on all COMBAT CROSS ZULU aircraft to assist in the identification of targets (especially those designated as priority) and to aid in the recognition of potentially exploitable messages.

[redacted] To validate the usefulness and inherent advantages of the Airborne Analyst Program, a comprehensive evaluation/progress report was requested by USAFSS and reiterated by PacSctyRgn on 10 June 1971.[40] Deadline submission date was established as 1 July 1971. 6994 Scty Sq in turn requested that Detachments 2 and 3, also involved in the program, forward their input to the 6994 Scty Sq for compilation and forwarding to arrive PacSctyRgn not later than 15 June 1971.[41]

[redacted] Both Detachment 2 and 3 provided input on 12 June,[42-43] stressing trends that had developed in the number and validity of exploitable messages being intercepted, and the value of the A202 program. It was stressed that since the advent of the system, exploitable/possibly exploitable message copy at Detachment 2 had increased over 1200 percent, messages collected at Detachment 3 were 100% exploitable, copy of VGNK-11 messages (an emphasis item at

[redacted]

[redacted]

Detachment 2) was nearly 60 percent more productive with analysts aboard, the analyst was often able to relieve the operator of many routine duties which normally detracted from the intercept effort, operators were assisted by the analysts in locating low-level back link activity, and the analyst was often able to function as an Airborne Mission Coordinator between the "X", "Y", and "Z" operators.[44] On 1 July 1971, PacSctyRgn provided USAFSS with a complete evaluation of the Airborne Analyst Program (including a brief history) and stating their firm support of the project. At the close of the historical period, it appeared that the program was destined to be continued indefinitely.

Waiver to USAFSSM 205-7 Granted

[redacted] As reported in previous histories, the 6994 Scty Sq has had permission to carry certain classified documents aboard ARDF mission aircraft, although they were not printed on water soluable paper as required by USAFSSM 205-7. This waiver of Paragraph 11B-3 to the manual was extended for calendar year 1971, and includes NSA Tasking Lists, Hestia Pads, and necessary ARDF Technical Data.[45]

Market Time/Game Warden Procedures

[redacted] On 24 June 1971, a revised Market Time Policeman (MTP) and Game Warden Ranger (GWR) program was implemented, culminating a Commander Naval Forces Vietnam (COMNAVFORV) effort to improve the effectiveness of ARDF tip-offs of waterborne contacts. In a 26 April message, COMNAVFORV pointed out a number of discrepancies that had made the then existing program ineffective. Among the contributing

[redacted]

factors listed were: (1) Widespread unfamiliarity and lack of understanding of the significance and importance of ARDF contact reports; (2) Communications difficulties between aircraft and Naval centers; (3) Clear voice utilized for tip-offs was detrimental to the security of the program; and (4) Lack of follow-up action by Naval centers.

[redacted] In an effort to rectify these problems, COMNAVFORV outlined a detailed plan for passing Market Time (offshore movement of enemy surface vessels) and Game Warden (movement of enemy surface vessels on inland waterways) to the Navy Coastal Surveillance Center (CSC) or Navy Operation Centers (NOC) respectively. COMNAVFORV specified the use of secure voice communications facilities aboard the ARDF aircraft for passing subject tip-offs to the appropriate Collection Management Authority (CMA) for subsequent relay to the area CSC or NOC.[46]

[redacted] On 21 June 1971, a USM-704 message issued the change to ARDF/ACI OPINS 01-71 that formally changed the MTP/GWR program in accordance with COMNAVFORV suggestions.[47] Implementation of the new procedures became official on 24 June 1971.[48]

Search and Rescue Assistance Program

[redacted] On 3 March 1971, 6994 Scty Sq originated a proposal to amend the Search and Rescue (SAR) assistance program to involve ARDF facilities. In a message to PacSctyRgn, 6994th outlined a proposed interim agreement for forwarding to 3rd Aerospace Rescue and Recovery Group (ARRSP) and 360th Tactical Electronic Warfare Squadron (TEWS),

[redacted]

[redacted]

pending publication of a supporting plan.[49]

[redacted] PacSctyRgn concurrance was received on 4 March 1971, stressing that secure communications between ground sites was essential to preclude unnecessary danger to the originator of the emergency request and assistance teams responding thereto.[50]

[redacted] A 6994 Scty Sq Commander letter of 5 March 1971 set up the system whereby ARDF involvement in Search and Rescue operations became a reality. Plans as outlined required 3rd ARRGP to notify 6994 Scty Sq via secure AUTOSEVOCOM of any DF assistance needed. 6994 Scty Sq would then notify the aircraft (back-end crew) via secure voice, at which time the aircraft would divert to coverage of the emergency signal. Results of the ARDF effort would be passed via secure communications to the Airborne Combat Control Center by the front-end crew of the ARDF aircraft. In the event it was impossible for the 6994 Scty Sq ground based communications to contact the aircraft, information regarding the emergency was to be passed via secure communications to 360 TEWS who would subsequently pass necessary information to the front end crew of the aircraft.[51] This action became official on 15 March, with the 6994 Scty Sq letter as basis pending publication of a formal directive.

ARDF Productivity

[redacted] During the first six months of 1971, ARDF mission productivity stood at a relatively stable point. Local operations performed 2128 missions of the 2157 scheduled for a completion rate of 98.7%. Total hours flown stood at 11,845.3 of a tasked 12,334,

[redacted]

for a tasked/flown rate of 96.0%. Flight time over target stood at 8,497.9 hours with a result of 7,945 fixes and 2,445 cuts. Fix rate stood at .93 per hour flown over target, while fixed/cut rate shows 1.2 per hour for the same time over target. A total of 17,215 targets were worked, resulting in a worked/fixed rate of 46.1%. Worked/Fixed-cut effectiveness stood at 60.3%. In Manual Morse intercept, a total of 381 exploitable messages were copied, for a mission/message ratio of .3 messages averaged per mission. This comparrison is rather misleading, in that all missions were targeted as primary ARDF vice collection, and message copy on any other than a COMBAT CROSS ZULU aircraft is seldom possible. Voice intercept for the period succeeded in the copy of 381 exploitable messages, the majority of which were collected over Cambodian orbits. No ratio of message per mission is given, since voice intercept personnel do not accompany every mission. *

[redacted] From a 6994 Scty Sq Complex standpoint, a total of 6660 missions were tasked, of which 6534 were flown for a completion rate of 98.1%. Flying hours for the complex stood at 40,945.9, or 98.8% of the 41,028 tasked. Flight time over target was 27,161.9, resulting in 32,900 fixes and a TTOT (Total Time Over Target)/fix rate of 1.2 per hour. Fix-cut versus TTOT shows an average of 1.4 per hour. A total of 39,584 targets were worked during the six month period. With fixes resulting in 17,215 instances, worked/fixed rate stood at 43.4%. Morse exploitable message copy stood at 8,584

* See Appendix I for associated charts and graphs.

[redacted]

[redacted]

for the complex, or an average of 1.3 per mission. Voice intercept throughout the complex accounted for 12,834 exploitable messages.*

[redacted] Trends in coverage are relatively difficult to discern, due to the very high totals utilized in computation of statistical evaluation: However, the month of March provided the highest totals for both local operations and the complex. During March, a total of 1,769 targets were fixed by local operations, as compared to an average of 1,326 per month during the period. Average fixes per month stood at 5,483 for the complex with March again being the most productive, resulting in a total of 7,148 targets being fixed.*

[redacted] Any computation of productivity statistics involving airborne operation must take the maintenance factor into consideration. Two maintenance areas are of importance, aircraft (airframe) and mission equipment (Bravo) maintenance. During the six month period, 267 local flights were reduced in length due to maintenance. Seventy-eight (25.5%) of these incidents were as a result of Bravo Maintenance dificulties. Although not broken out to depict Bravo/Airframe maintenance, of 29 missions that were unaccomplished locally, 25 were due to maintenance problems. Statistices for the complex show 126 unaccomplished missions, 61 (48.4%) of which were due to equipment malfunctions.*

[redacted] Another very important factor in accomplishment of the ANDF mission is weather. Thirty-five local flights were shortened because of weather during the period, constituting 10.1% of the

* See Appendix I for associated charts and graphs.

[redacted]

total. In this same area, the complex shows 150 of the 443 reduced missions flown being a direct result of adverse weather. None of the local unaccomplished missions were due to weather; however, in the complex, 46 of 126 or 36.5% of the scheduled missions not flown were because of bad weather. It is significant to note that of 196 mission affected by weather in the complex during the 6 month period, 148 or 75.5% occurred during the months of May and June.*

[redacted] Collection effectiveness (Actual Minutes of Cover (AMOC) versus minutes of intercept copy) has not been utilized for evaluation, since the primary mission of each flight is ARDF fixing. Additionally, although the primary mission of ZULU positions on COMBAT CROSS ZULU aircraft is basically collection, emphasis is placed on the copy of exploitable messages rather than volume copy.

* See Appendix 1 for associated charts and graphs.

[redacted]

Chapter III

SIGINT PROCESSING AND REPORTING

[redacted] Processing and reporting functions have remained relatively static during the past six month period. Voice processing was directly affected by a lack of voice activity in 6994 Sety Sq target areas, and required very little effort on the part of transcription personnel. No changes in local processing procedures were made during this time. Reporting also remained static, with the basic reports continuing to be prepared. Southeast Asia Technical Summary Reports (SEATS) continued to be the most time consuming report compiled by 6994th. The ARDF Recovery Report (ARR), Exploitable Message Reports (EMRs), Airborne Incident Reports (AIRs), and of course CRITIC reporting remained the major recurring reports. In view to its direct relationship to collection, the Daily Unit Resource Management Information Summary (DURMIS) was covered in Chapter II of this history vice Chapter III.

Processing

Voice Processing

[redacted] The voice processing effort at the 6994 Sety Sq continued to be hampered throughout the reporting period by a paucity of intercept. The only productive area was centered over the Crow's Nest, Parrott's Beak, and Angel's Wing, Svay Rieng Provience, Cambodia. (That portion of Cambodia that protrudes into South Vietnam in the vicinity of WT9900, XR3095, and XT3520.) Intercept from Long An Sub-region; high frequency, single channel working, provided the primary source for

collection of exploitable voice traffic.

[redacted] There were no changes to local operator processing procedures during the period. Operators continued to record VC/NVA voice communications while airborne. When short messages were intercepted, transcription was performed while airborne and subsequently passed via secure voice to the appropriate Direct Support Unit. After mission recovery, the recorded magnetic tapes were transcribed and those exploitable messages not already forwarded were given immediate handling to insure their receipt by consumers at the earliest possible moment.

VHF Voice Test

[redacted] During December 1970, a special test was conducted to determine if VC/NVA forces in Cambodia were utilizing VHF voice communications. All VHF voice (less English and French) was recorded and the tapes subsequently forwarded to DIRNSA for transcription. At the close of the July-December 1970 historical period, no feedback as to the success of the mission had been received.[1]

[redacted] DIRNSA evaluation of the test indicated that all the recorded tapes contained Cambodian and RVN voice vice enemy/suspected enemy activity.[2]

Reporting

CRITIC Reporting

[redacted] During the latter stages of 1970, a problem concerning ambiguities in CRITIC reporting procedures was noted and contested by 6994 Scty Sq. DIRNSA Techins 4019 required CRITIC reports to be iss-

[redacted]

ued if an ARDF (or any platform mission) aircraft was lost as a result of North Vietnamese fighter and/or Surface to Air Missile (SAM) System fire: However, [redacted] (b) (1) Supplement 1 to Techins 4019 required that a CRITIC be issued if a manned SIGINT platform was lost due to enemy action, regardless of weapons system used.

[redacted] As of the end of this reporting period, all 6994 Scty Sq directives emphasize adhering to the DIRNSA criteria.

ARDF Recovery Report

[redacted] During the first six months of 1971, a total of 2,171 ARDF Recovery Reports (ARRs) were issued by 6994 Scty Sq.

[redacted] On 09 April, DIRNSA announced that a new Techins 2038 governing ARRs was in the final stages of preparation and would be entered into courier channels on or about 10 May 1971.[4] Subject publication was received at 6994 Scty Sq on 4 June and implemented upon receipt. Since a provisional draft had been supplied and all local recommendations were incorporated into the revised Techins prior to publication, no problems were encountered with implementation.

Southeast Asia Technical Summary Reports

[redacted] During the 1 January - 30 June 1971 time frame, the preparation of the Southeast Asian Technical Summary Report (SEATS) continued to be the largest single task for which the local analyst section was responsible. In total, approximately 1,125,900 communications groups were prepared and forwarded during the six month period. Average tasking cycle output was 43,300 groups.

[redacted]

[redacted] On March 16, the 6994 Sety Sq solicited aid of higher headquarters (PacSctyHqn) to resolve numerous problems being encountered in adhering to the desired SEATS format. These problems stemmed from inconsistencies in electral changes; some were designated as Techins changes, while other messages involving logging changes on specific crypto systems did not require pen/ink posting to the basic Techins. To further complicate matters, messages had been received which completely altered the format prescribed by the basic Techins. Such disparity in messages made posting of the basic a virtual impossibility.[6]

[redacted] The new Techins was published in early May, and after a test period at USN-626, Ben Hoa, RVN, the new format was implemented on June 1971.[7]

Exploitable Messages Reports

[redacted] A total of 272 Exploitable Message Reports (EMRs) were issued by 6994 Sety Sq during the past historical period. Of these, 193 were as a result of manual morse intercept, while 69 were derived from radiotelephone copy.

[redacted] An advanced electrical copy of Techins 3008 was received on 19 May 1971 with implementation instructions for 00012, 24 May 1971. Actual reporting format changes were minor, with no difficulties experienced in implementation.[8]

Airborne Incident Reports

[redacted] In the 1 January - 30 June 1971 period, no Airborne Incident Reports (AIRs) were issued. No changes in AIR reporting pro-

[redacted]

cedures were implemented during the period.

[redacted] [redacted]

Chapter IV

VIETNAMIZATION IMPROVEMENT AND MODERNIZATION PLAN/SOUTHEAST ASIA REDUCTIONS

[redacted] Planning for activation of the Republic of Vietnam Armed Forces (RVNAF) EC-47 Squadron continued throughout this period with both operations and maintenance functions being stressed. Training was conducted by 6994 Scty Sq personnel with necessary curriculum and applicable training packages prepared by 6940 Technical Training Wing, Goodfellow AFB, Texas. Linked with this program were the plans involving 6994 Scty Sq as reductions in Southeast Asian military strength and manpower became more prevalent.[1]

Vietnamization of EC-47 Aircraft

Training of Vietnamese Crews for ARDF Operation

[redacted] On 23 January 1971, PacSctyRgn advised USAFSS that there was sufficient Non-Commissioned Officer manning within the 6994 Scty Sq complex to preclude the assignment of TDY personnel from the 6940 Technical Training Wing to assist in the Vietnamese training program, since a cadre of instructor personnel were being assigned permanent change of station (PCS) to the 6994 Scty Sq. At this time, PacSctyRgn requested that the names of those persons being reassigned PCS be forwarded by USAFSS.[2]

[redacted] On 27 January 1971, PacSctyRgn quoted a USAFSS message which advised that maintenance training input and subsequent scheduling for the Vietnamization Improvement and Modernization Plan (VIMP) reflected the integration of three trained VNAF personnel into

[redacted]

existing USAFSS maintenance as soon as possible.[3] PacSctyRgn requested that 6994 Scty Sq provide them with any pertinent information and comments concerning this matter. On 28 January, the 6994 Scty Sq advised PacSctyRgn that integration within the maintenance function would pose no logistical problems. It was reitterated that a critical shortage of RVNAF maintenance personnel existed, and no immediate action to fulfill this portion of the Vietnamization Improvement and Modernization Plan (VIMP) by the RVNAF was anticipated.[4]

[redacted] In response to a USAFSS query, the 6994 Scty Sq supplied that headquarters with the names of all instructor qualified personnel assigned to the 6994 Scty Sq complex. This information was to be used as a basis to determine what actions, if any, would be required to fulfill the VIMP objectives.[5] As a follow-up action, the 6994 Scty Sq provided PacSctyRgn with the names of all personnel who were to be actively involved with the Vietnamization Improvement and Modernization (VIM) operator training program.

[redacted] Upon receipt of five copies of VIM training material from NSA Representative, Vietnam (NRV)(C) on 25 February 1971, 6994 Scty Sq advised PacSctyRgn that these five copies were insufficient to satisfy training requirements and queried PacSctyRgn as to the intent of these copies, whether for training or information purposes.[6] 6994 Scty Sq was subsequently advised by USAFSS that the training packets in question had been prepared by 6940 Technical Training Group (TTG), reviewed by USAFSS, forwarded to DIRNSA for final review/translation/reproduction, and subsequently sent to NRV(C). Since

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[redacted]

these initial five packets were intended for training purposes, an additional supply to insure adequate training material was requested.

[redacted] In mid March, a question arose concerning the amount of time VIM Special Security Technical Branch (SSTB) operators could be expected to fly during a given month. USAFSS understanding was that (based upon information contained in the VIMP), operators would be limited to 85 hours per month, vice the 150 hours that had been reported.[8] 6994 Scty Sq subsequently clarified this misunderstanding by explaining that the 85 hour figure represented monthly flying hour program that would be implemented by the RVNAF concomitant with the transfer of aircraft resources to the Vietnamese. Aircraft utilized during the pre-activation training phase had been programmed for 150 hours per month.[9]

[redacted] 1 April 1971 saw the culmination of the planning phase of the VIMP/EC-47 project, when the first training classes began. The cadre of the VIM school included Captain Thomas L. Collins (VIM Training Officer), six A292X1 instructors, and 14 students hand-picked by SSTB. Full cooperation from (b) (1) [redacted] (SSTB Operations Officer) who assisted in translation of tests and the compiliation of a glossary of terms in Vietnamese was of vast importance in meeting the 1 April schedule.

[redacted] To augment the VIMP and insure cognisance of all concerned as to the manner in which the plan (involving Tan Son Nhut organizations) was to progress, 7th AF began preparation of a Programmed Action Directive (PAD) in February 1971. Publication of

[redacted]

the PAD was delayed due to coordination problems. VNAF refused to coordinate on the PAD, since the source of mission equipment maintenance trainees had not been clearly identified. With two possible sources (graduates of Keesler AFB, Mississippi course or the in-country school at Nah Trang), 6994 Sety Sq requested guidance concerning the suitability of graduates of the in-country school as trainees for the AIR-34 course.[10] Although some clarifying action has been taken since that time, the issue of RVNAF trainees and maintenance integration remains open as of the close of this report.

[redacted] In response to a query from 6994 Sety Sq, authority was finally granted by DIRNSA (through NSV(C)) to expose SSTB personnel to Hastia Pads during training. This approval was based upon the special circumstances involved and on the premise that a definite operational requirement would prevail.

[redacted] 3 May 1971 saw the culmination of the first phase of VIM operator training, when three training/operational missions per day were authorized for SSTB during the May-September time frame.[12] Due to the lack of Vietnamese speaking operators at DSUs, it remained necessary to have one 6994 Sety Sq Instructor/Operator aboard these flights. Although anxious to proceed with the VIMP, turning over three aircraft for actual mission operation posed a potential problem, in that the 6994 Sety Sq was experiencing a scarcity of AIR-34 equipment, a fact that could have had an adverse effect upon the VIM training program. After due consideration of all possible alternatives the decision was made to transfer one AIR-34 aircraft from Detachment 1,

[redacted] [redacted]

6994 Scty Sq, Phu Cat, to Tan Son Nhut on 2 June 1971, and to subsequently (for long term planning) begin a systems trade-off of ALR-34/35 systems between Tan Son Nhut and Nakhon Phanom on 14 June. At this time, NKV(b)(1) was apprised of the fact that a two-week slippage of the VIM program had occurred, due to the lack of ALR-34 configured aircraft at Tan Son Nhut. MACV ultimately approved the transfer of five ALR-34 aircraft based at Nakhon Phanom to Tan Son Nhut in return for five ALR-35 aircraft from the Tan Son Nhut inventory. PacSctyRgn and USAFSS were informed of this action on 25 May 1971,[13] and a Master Program Change Request (MPCR) reflecting the realignment of the 6994 Scty Sq complex resources was submitted to PacSctyRgn on 5 June 1971.

[redacted] Although minor problems appeared to be confronting trainers from time to time; e.g., language difficulties, and lack of code proficiency on the part of Vietnamese trainees, these problems did little to delay training and the first of the VIM manned flights appeared to bear out the quality of the course. Through the close of June 1971, VIM operators continued to fly three missions per day, with quality/quantity of end product being of very high caliber.

Southeast Asia Reductions

[redacted] Closely associated with the VIMP and the resulting turnover of EC-47s to the Vietnamese, was the Southeast Asia Reduction Program. As the VIM training progressed, more and more missions by VIM operators would be flown, and subsequent reductions in 6994 Scty Sq Unit Detail List (UDL) became apparent. At the end of June, plans

[redacted]

were being formulated for the ultimate turn-over of 20 EC-47 aircraft to the RVNAF in the second quarter of fiscal year 1973.

[redacted] As the gradual withdrawal of U.S. forces from the Republic of Vietnam progressed, namy planners assumed that the ARDF forces should withdraw at a rate proportional to the drawdown of all other U.S. forces: However, 7AF, MACV, and the 6994 Scty Sq continued to stress the fact that as the draw back progressed, ARDF would assume an even more important role in the frequent location of enemy elements in a position to disrupt or attack remaining U.S. and RVNAF forces. With a continued loss of combat resources, accurate and timely information concerning enemy location and the identification of new or reinforced elements became even more important, since timely and economical countermeasures are of essence. To this end, 7AF stressed the fact that nearly 80% of the order of battle data available to MACV on VC/NVA tactical, control and support elements is derived from ARDF, while in Cambodia and Laos, ARDF was often the sole source of such information. Of somewhat lesser significance, but still prevalent in the overall SEA reduction program was the valuable intelligence derived from the COMINT collection capability of nearly half the ARDF EC-47 fleet. In summation, 7AF stressed that it would be desirable to maintain the present maximum EC-47 ARDF posture for an indefinite period of time.[14]

[redacted] The initial impact of the overall SEA reduction as directly affected the 6994 Scty Sq was felt in early June 1971, when 7AF announced plans to phase out the 12th TRW at Tan

[redacted]

Son Nhut prior to 15 August 1971 and the planned closing of Phu Cat Air Base, RVN no later than 30 November 1971. Linked with this phase-out announcement was the implication that the EC-47s at Phu Cat would be transferred to Phan Rang, RVN prior to the end of November.[15]

Actions Taken Concerning Relocation of Detachment 1

[redacted] On 9 June 1971, a Commander in Chief, Pacific Air Forces (CINCPACAF) message requested 7AF position on possible alternatives for the location of various units/activities in light of unit deactivations, base closures and winding down of the war. Of direct impact upon 6994 Scty Sq was the statement that Phu Cat AB was scheduled for closure during the second quarter of fiscal year 1972 (October-December 1971) and the indicated preference for the relocation of the 361st Tactical Electronic Warfare Squadron (TEWS) and Detachment 1, 6994 Scty Sq at Phan Rang. At this time, 7AF announced their preference for relocation at Cam Ranh Bay, RVN vice Phan Rang due to the fact that a Special Intelligence (SI) secure area and in-place communications/operations facilities would be available concomitant with the phase-out of Detachment 1, 6990 Security Squadron at Cam Ranh. Movement to Phan Rang would entail van type operation at least on an interim basis. Due to these limitations, 7AF declined to discuss the matter further without USAFSS input. On 14 June, a 6994 Scty Sq Security Service Liaison Office (SSLO) message advised PacSctyRgn of the CINCPACAF and 7AF position.

[redacted] In follow-up action on 16 June 1971, 6994 Scty Sq advised PacSctyRgn of the fact that two planned actions,

[redacted]

deactivation of the 460th TRW at Tan Son Nhut and the 361st TEWS/ Detachment 1, 6994 Scty Sq relocation, were beginning to dove-tail, and that acceptance of Cam Ranh Bay as a relocation site would impact upon CINCPACAF consideration of Phan Rang. During the period immediately following the initial planning meeting, 7AF Electronic Warfare Division assumed the position that the 56th Special Operations Wing (SOW) at Nakhon Phanom, Thailand was the best choice as the TEWS parent wing to replace the 460th TRW. In a 6994 Scty Sq message of 16 June 1971, the desirability of Cam Ranh Bay as the ultimate site for Detachment 1, 6994 Scty Sq and co-located TEWS was reitterated, and the determination of the 6994 Scty Sq to continue pressing for a situation in which the TEWS Command and Control element (regardless of military designation) would be co-located with a TEWS flying unit.[17]

[redacted] On 19 June, a PacSctyRgn message outlined to USAFSS the alternatives available for accomplishing the deactivation/resubordination/relocation of the Phu Cat EC-47 facilities. A brief summary of these alternatives was presented as follows: (1) Ubon AB, Thailand: Best choice in relation to mission targets; however, the Thailand Headroom Ceiling for cryptologic personnel appeared to be a major drawback. Communications facilities and some SI space would be available through USM-7J at Ubon. (2) Cam Ranh Bay, RVN: Concomitant with the closure of Detachment 1, 6990th Security Squadron, ramp space and SI facilities would be available on or about 30 September. Disadvantages listed included distance of targets from Cam Ranh Bay and the tenuous state of future tenure of that location: (3) [redacted]

[redacted]

Phan Rang, RVN: The distance of this site from the target area and the complete lack of SI facilities were the major disadvantages: (4) Tan Son Nhut: Consolidation of Detachment 1 and Hq 6994 Scty Sq aircraft was ruled out due to distance from target area and the lack of ramp space: (5) Nakhon Phanom RTAFB, Thailand: Consolidation of Detachments 1 and 3, 6994 Scty Sq was ruled out due to distance from target areas and the Thailand Headroom Ceiling: and (6) Da Nang AB, RVN: Creation of a maintenance problem for PACAF, since this would result in the co-location of R1830/R2000 engines at Da Nang. This approach would also necessitate movement of AIR-34/35 Avionics Ground Equipment (AGE) to Da Nang. Ramp space was also listed as a possible problem.

[redacted] Again on 22 June 1971, the 6994 Scty Sq proposed a possible solution, involving the deactivation of Detachment 1, 6994 Scty Sq and subsequent redistribution of aircraft and manning assets to Da Nang, RVN and Nakhon Phanom RTAFB, Thailand respectively, and the designation of the 56th SOW at Nakhon Phanom as parent wing of the various TEWS to replace the 460 TRW.[19]

(U) As of 30 June 1971, all the above proposals were open to consideration, with no firm decision having been made at any level.

[redacted] In addition to those direct impact situations discussed above, other deletions/deactivations have had a definite impact upon the 6994 Scty Sq ARDF mission. As an example, a total of 14 ARDF tip-off stations were de-activated during the last quarter of fiscal year 1971. Although 4 new ones were deactivated, the gradual reduction [redacted]

[redacted]

of Direct Support Units as a part of the general drawback of U.S. military strength will continue to compound the Air/Ground/Air tip-off problem, making strict circuit discipline a must on the remaining Direct Support Unit frequencies.

[redacted] Concomitant with the deactivation/transfer of USAF units in Vietnam, the amount of military communications will likewise diminish. This fact will tend to reduce the value of the current COMSEC posture of the unit and undoubtedly bring about a reduction in the size and scope of the Communications Security Mission of the 6994 Scty Sq. This fact was aired to higher headquarters, with pertinent recommendations and data in support of COMSEC reduction on 15 May 1971.[20]

Chapter V

MAINTENANCE/SUPPLY ACTIVITIES

(U) Logistical activities within the Maintenance/Supply areas were relatively static during the historical period. Representatives of the 6994 Scty Sq participated in a System Performance and Maintenance Evaluation Conference during the period, while modification of equipment aboard the COMBAT CROSS aircraft generated a great deal of effort which had not been provided for in the maintenance plan. Supply activities were routine.

Maintenance

System Performance and Maintenance Evaluation Conference

(U) A System Performance and Maintenance Evaluation (SPAME) training conference was held at the 6987 Security Group, Taiwan from 15 to 22 March 1971. The purpose of the conference was to increase the technician's and manager's understanding of the program and its application to Systems Management. In addition to formal classroom training, practical demonstrations of measurement techniques were also presented.

(U) Three personnel from the 6994 Scty Sq complex attended the conference, with Detachments 1 and 2 being represented in addition to the Headquarters. The team returned on 24 March 1971. During the conference, it was determined that previous SPAME tests conducted by 6994 Scty Sq had been properly performed, and that future SPAME reports would not be required. Local tests were to be continued, but forwarding of data was not required. This "no-report" requirement

was still in effect at the end of June 1971.

Modification of G-133 Receivers and G-176 Recorders

(U) On 27 February 1971, a USAFSS message informed the 6994 Scty Sq that Maintenance Bulletin (MB) G133F-01-6994 did not appear in the Command Time Compliance Technical Order (TCTO) Summary listing by TCTO number until January 1971, and indicated that 44 items were unmodified. Local records indicated that both MBs (G133F and G176) had been complied with. A thorough inventory of the 6994/Detachment assets indicated that as of 7 March 1971, fifty-one G-133F receivers and forty-six G-176 recorders had not been afforded the proper modification.[1]

(U) Immediate steps were taken to rectify these deficiencies as follows: (1) Forty-seven G-133F modification kits (four were on hand locally) were placed on order: (2) Forty-six G-176 modification kits were ordered: and (3) the NCOIC, Maintenance Control was appointed project monitor to insure that modifications were performed as kits became available and to insure that the mechanized TCTO report was kept current with the actual condition throughout the project. A 6994 Scty Sq DM message of 7 March 1971 apprised USAFSS of the actions taken.[2]

(U) As of 16 March 1971, forty-eight G-133F receiver modifications had been completed, while a total of forty-five G-176 recorders had been modified. This represented the total numbers of these equipments that had been found lacking necessary modification. This project is being held open indefinitely, until each piece of equipment within the unit has been physically examined to insure compliance with subject Mainten-

ance Bulletins. [redacted]

Installation of G-133 HF Receivers in COMBAT CROSS ZULU Aircraft During Periods of Rotation to Detachment 3, Nakhon Phanom

[redacted] A 25 January 1971 message from Detachment 3, 6994 Scty Sq requested Bravo Maintenance assistance in the installation of G-133 HF receivers to replace the G-175J VHF receivers in the "Z2" console of CCZ aircraft deploying from Tan Son Nhut to Nakhon Phanom on normal rotation periods. This was necessary to provide the "Z2" operator with HF capabilities to search for back-links of HF communications.[3] 6994 Scty Sq Bravo maintenance concurred with this proposal and was continuing to make this change on each rotational aircraft at the end of the historical period.

[redacted]

[redacted]

Chapter VI

COMMUNICATIONS SECURITY OPERATIONS

[redacted] The Communications Security (COMSEC) section of 6994 Scty Sq continued to perform its unique function of providing direct COMSEC support to tactical units in SEA during this historical period. This support was provided to 7th Air Force, 13th Air Force, Military Assistance Command Vietnam (MACV) and, as directed, to other members of the Department of Defense (DOD). During this period, support has been in the form of both the COMSEC Message Report (CSMR) and special timely input directly to 7AF. Upon the request of the Commander 7AF, a timely input was devised wherein the 7AF staff could react virtually immediately to any reported information. Through use of pre-formatted messages, within 15 minutes after monitor, the 7AF Staff Duty Officers (SDO) were provided with pre-indications of air strikes, plans on operations and locations, reconnaissance missions, troop insertions/extractions, which were passed over insecure communications and which, if detected, could provide the enemy sufficient time and forewarning to take counter-evasive actions. These reports were hand-carried to the 7AF SDO, who then made the decision as to what action was required. In addition to this direct support mission, certain missions assigned under a PacSctyRgn searalised system were conducted from time to time, with special TDY missions to various locations within SEA for special monitoring assignments being tasked periodically. During this historical period, 2 different TDY COMSEC assistance missions were conducted by 6994 Scty Sq COMSEC personnel.

[redacted] [redacted]

[redacted] Reporting of COMSEC activities was performed in various vehicles, with a variety of different objectives.

Daily Summary: (U) To keep the executive unit responsible for the conduct of the COMSEC mission in SEA aware of all significant items, a summary of significant intercept was provided Detachment 1, 6927 Scty Sq, Kadena Air Base, Okinawa on a daily basis.

Communications Security Message Report: (C GP-3) The CSMR is a vehicle designed for forwarding to units noted involved in the divulging of classified information over insecure communications facilities. During this historical period, 6994 Scty Sq COMSEC section forwarded a total of 39 CSMRs, involving varied instances of COMSEC violations.

Daily Unit Resource Management Information Summary: In accordance with USAFSSM 200-4, Volume XIV, a summary of daily activity is provided headquarters USAFSS and PacSctyRgn, including such data as Collection statistics, reporting, personnel, Mission Development Scheduling activities, and any other data pertinent to the conduct of the daily COMSEC mission.

[redacted] [redacted]

Chapter VII

SPECIAL INTEREST ITEMS

[redacted] As with any organization in a position wherein the function is totally support, the 6994 Scty Sq becomes involved in many different and varied discussions with all echelons of command. The 6994 Scty Sq, while directly supporting 7AF and MACV, finds itself asking those units to reciprocate. While many of the subjects discussed in this chapter could have been addressed under other general headings, each subject was sufficiently allied with two or more of the other chapter topics to make it a special interest item within itself. ARDF Feedback has been a recurring problem: 6994 Scty Sq is anxious for as much feedback as possible in order to establish statistical evidence of the value of ARDF in the support of a Tactical war effort. Air/Ground/Air communications has a direct impact upon the success of ARDF missions, both in the area of target fixing and collection. Emergency evacuation of COMINT aircraft naturally affects the immediate ARDF mission, and could conceivably have an important role in the future of ARDF. Analysts being assigned on temporary duty with CMAs ultimately affects collection, reporting, and the overall success of the ARDF program. Consequently, these items have been discussed as separate entities, justifiably so since they required considerable time and effort to arrive at satisfactory conclusions for all concerned.

ARDF Feedback

[redacted] Since the inception of Airborne Radio Direction Finding

[redacted]

[redacted]

as a vehicle of support for tactical warfare, feedback as a means of identifying and enumerating the value of the ARDF effort by equating fix data to actual tactical actions has been a problem of much concern to those responsible for the ARDF mission. Throughout the period covered by this historical report, 6994 Scty Sq has recognized this need, and expended every possible effort to secure documentation concerning the value of ARDF to the overall war effort. A 6 January 1971 message to PacSctyRgn outlined all action taken as of that date, and queried status of USAFSS actions to obtain feedback information.

[redacted] The problem of ARDF feedback tended to prevail more during the normal day to day/routine mission activities. Feedback concerning "special project" ARDF tasking was usually readily available and of excellent quality. One particular instance involving allied operation "DEWY CANYON II" was a prime example. During the period 6-12 February 1971, ARDF/ACI tasking underwent extensive changes to provide ARDF support to this special operation. Participating Air Force units contributed a total of 100 sorties: 13 from Nakhon Phanom, 42 from Da Nang, and 45 from Phu Cat - all targeted against enemy base areas in Laos at Tchepone, Ban Tanbok, and Chavane, in attempts to maintain continuity on enemy units as they deployed in response to allied tactical initiatives. To provide the ARDF/ACI support, Air Force resources at Nakhon Phanom were diverted from coverage of normal Laotian missions (Barrell Roll), while Da Nang and Phu Cat resources were diverted from coverage of the southern Laotian panhandle

[redacted]

and Military Region II areas. A very comprehensive report of ARDF use in the planning stage for operation DEWY CANYON II was provided by SSO MACV (as originated by SSO XXIV Corps) which bears credence to the value of feedback in evaluating the overall benefits of ARDF in special tactical operations.[2]

[redacted] Through repeated contacts with MACV, an awareness of 6994 Scty Sq requirments was made known. In April 1971, MACV requested all units to provide an evaluation of ARDF operations in Southeast Asia during the month of March 1971, to include the role ARDF played in support of Tactical operations. As a result of this request, a comprehensive consumer feedback on the significant contributions of ARDF to the war effort was provided by SSO MACV. On 22 April 1971, 6994 Scty Sq summarized this feedback in a message to all concerned recipients of the Weekly Combat Cross Feedback Report.[3] Valuable Bomb Damage Assessment (BDA) information was also supplied by (b) (1) [redacted]. A message expressing 6994 Scty Sq appreciation was forwarded on 16 April 1971. In this message, continued BDA information was requested, along with an appeal for more comprehensive information in future reports.[4] Again, on 1 May 1971, MACV SSO provided comments concerning the contributions of ARDF in respect to SEA tactical operations. This message stated in part: "ARDF results are often the sole basis for expending artillery on a position, inserting a tactical unit into a given area, or targetting other surveillance means", and was passed to interested parties via the Weekly Combat Cross Feedback Report for 24-30 April 1971.[5]

[redacted] In the interest of the feedback program, a Commander, 6994 Scty Sq letter was forwarded to MACV on 18 May 1971. Concern over the continued role of ARDF as the tactical situation continued to decline due to SEA unit closures and the inherent value of ARDF in relation to other programs was stressed. Additionally, a plea was made for a feedback program that would outline specific ARDF/ACI contributions to the SEA tactical war effort and the results obtained, based on those programs.[6]

[redacted] Continuing to press for adequate feedback information, the 6994 Scty Sq (on 29 May 1971) requested all Detachments to place the 6994 Scty Sq on distribution for ARDF recovery reports and further asked that Detachments assist in placing 6994 Scty Sq on distribution for feedback messages received from consumers.[7] Through use of BDA assessments and summaries of artillery fire expended against ARDF targets and subsequently comparing them against ARDF recovery reports, 6994 Scty Sq was able to validate the fact that a great number of strikes were being made on targets previously fixed by ARDF. Although there was no way of knowing if ARDF had been the sole contributor in these instances, it was possible to validate the fact that ARDF targets were being struck by tactical units, and in many instances, determine the amount of destruction resulting therefrom. This evaluation was accomplished by utilizing fix information as presented in the ARDF recovery reports of all units and comparing it against locations listed in the strike reports. While the degree of destruction resulting therefrom was not available in many instances, it was possible to

[redacted] [redacted]

determine the ammount of effort/munitions expended against an ARDF fix location. As an example of the information obtained in this manner, the following statistics for the period 14-20 May were compiled utilizing a USM-649 (328th Radio Research Company, Chu Lai, RVN) report regarding action by the 23rd Infantry Division. This report outlined those coordinates struck with artillery by the 23rd Division during the 14-20 May period. Out of a total of 45 targets receiving 806 rounds of artillery fire, 10 had been previously fixed by Detachment 1, 6994 Scty Sq, while 25 had been reported in ARDF Recovery Reports submitted by Detachment 2. Thus of 45 targets reported for this 7 day period, 35 had been fixed by ARDF. Through compiliation of such data over a sustained period, it was believed that factual evidence could be amassed which would ultimately provide substantial evidence as to the value of ARDF in tactical warfare.

[redacted] The problem of ARDF feedback was further pressed during the ARDF/ACI conference hosted by the Airborne Coordination Center (ACC) on 4-5 June 1971. The MACV J211-4 representative at the conference stressed the need for adequate feedback and queried CMA/Aviation unit level conferees as to the availability of information which would lend itself to continuous formal feedback reporting. Conference participants cited "loss of identity" as the major factor limiting ARDF usage feedback, since ARDF information was combined with that from collateral intelligence sources. General consensus of the conferees was that the present communications and accountability system did not lend itself to timely and continuous consumer ARDF

[redacted]

feedback reporting.[8] [redacted] 6994 Scty Sq efforts are continuing in respect to ARDF feedback as was evidenced by the joint 7AF/6994Scty Sq message to MACV on 19 June 1971.[9] One of the subjects stressed in this message was the development of a more comprehensive feedback program on ARDF fixes. At the end of the historical period, the problem remained unresolved, however, it was generally felt that favorable advances had been made, since all concerned had been made aware of a very real and continuing need for this type information.

PAKSE Communications Air/Ground/Air Test

[redacted] 6994 Scty Sq and subordinate Detachments continued to stress Air/Ground communications problems during the 1-71 historical period, particularly with the ARDF tip-off site at Pakse, Laos. After a 31 December 1970 test with Detachment 2 EC-47s flying mission 910 Bravo was unsuccessful in making contact with Pakse due to equipment problems at the ground site, further testing was postponed until January 1971.[10]

[redacted] After clearing the Pakse equipment difficulties, further testing was conducted on 3 and 4 january with negative results. Again on 7 January, Detachment 2 advised that 6 separate efforts to contact Pakse had been unsuccessful. Finally, on 8 January 1971, contact was made and ARDF results were passed and receipted for by the Pakse site.[11-12]

[redacted] After 9 January, contact with Pakse was lost and on 11 January, the Commander, 506 Tactical Operations Maintenance Squadron (TOMS), Udorn was contacted concerning this loss of communications. A

[redacted]

Detachment 4, PacSctyRgn message of 12 January outlined this action to PacSctyRgn.[13] On 15 January 1971, Detachment 2, 6994 Scty Sq provided the 6994 Scty Sq with a recapitulation of the Pakse test problems, indicating that all deficiencies appeared to have been rectified, with successful contacts including fix information having been passed on that date.[14]

[redacted] To enable PacSctyRgn to keep abreast of the success of ARDF aircraft to contact Pakse, they requested that the number of fixes/cuts passed be included in a Daily Pakse A/G Communications Test Report. Further, they advised that once the daily reports were discontinued, inclusion of this same information in Section 812 of the DURMIS would be required.[15]

[redacted] By January 1971, it appeared that the majority of the problems associated with the Pakse test had been surmounted: Consequently, in a message of that date, Detachment 2, 6994 Scty Sq requested that the daily communication test and associated report be terminated and that Detachment 1 EC-47s flying in the "10Charlie" area be added to the ARDF missions utilizing Pakse as a ground ARDF reporting site. This action was approved by PacSctyRgn on 27 January 1971.[16]

[redacted] On 31 January 1971, Detachment 2 provided 6994 Scty Sq with a resume of A/G procedures that had been established with the DSU at Pakse. Only secure voice communications were to be used, on a frequency of 256.5 MHZ. It was felt that by use of a frequency in the low UHF range, greater distance could be achieved in communi-

cations. This message also pointed out the fact that the maximum range to be expected was 40 miles, a situation that required aircraft to leave their working area to make contacts during a mission. As an alternative measure, Detachment 2 suggested contacting the DSU upon entering the working area and again upon departure, and providing any accumulated fix information at this time. Advantage to be gained in such action lay in the fact that more time would be allowed over target for mission accomplishment.[17]

[redacted] Due to the critical military situation that developed in the Bolovens/Pakse area, the ARDF tip-off terminal was withdrawn from Pakse in late May 1971. A pre-installation survey was conducted at Long Tieng to determine the feasability of installation of the terminal at that location. This information was obtained from MRV (b)(1) on 3 June 1971. In this message, 6994 Scty Sq stressed to (b)(1) the importance of the 6994 Scty Sq complex being kept aware of all such developments.[18]

Ground/Air Communications Test/Southern Laotian Panhandle (Project CUMBERSOME)

[redacted] On 15 April 1971, the 6994 Scty Sq was notified of a National Security Agency (NSA)/(b)(1) [redacted] (b)(1) originated program designed to test the capability of USM-7J, Ubon Thailand to act as a tip-off site for ARDF aircraft fragged into Southern Laos. Notification of the impending test (codenamed Project CUMBERSOME) was provided the 6994 Scty Sq by PacScty Rgn.[19] Stated purpose of the test was three fold: (1) Determine the Air/

[redacted]

Ground/Air communications capability/reliability of Ubon to work ARDF aircraft in the southern panhandle of Laos (Steel Tiger); (2) provide real time relay of ARDF fixes for timely reporting; and (3) provide a means of tipping off active enemy communications to ARDF aircraft. USA-564, Nakhon Phanom (NKP) aircraft were to be utilized for the test.

[redacted] In another 15 April 1971 message to U.S. Army Security Agency Pacific (USASAPAC), PacSctyRgn stated aprehensiveness concerning success of the test and subsequently advised USASAPAC that the distance from the target area to Ubon would render Air Ground communications between USM-7J and ARDF aircraft unreliable and would not significantly improve the operations beyond the benefits that might accrue from Ground to Air tip-offs. Additionally, PacSctyRgn pointed out that only one ARDF mission was fragged into the Steel Tiger area each day. PacSctyRgn also requested that they be afforded the opportunity to coordinate on the project prior to implementation.[20] In an effort to gain an insight into the entire project, in a 16 April 1971 message, PacSctyRgn requested that the 6994 Scty Sq provide any additional information on hand and to attempt to determine if there had been any prior coordination by the Army Security Agency (ASA) or NSA with representatives from any USAF/USAFSS units.[21] Coordination between 6994 Scty Sq and NRV(C) revealed that the project had been proposed by (b) (1) on 29 January and that DIRNSA had subsequently concurred.[22]

[redacted] In a message of 05 May, DIRNSA requested that all concerned review the concept of operations (as provided) and supply any

[redacted]

[redacted]

6994 SS HR 1-71

comments/recommendations to NKV(C) by 11 May 1971. NKV(C) was given the responsibility for formulating the final plan with in country parties concerned.[23] USAFSS exceptions to portions of the concept of operations were aired in a 7 May 1971 message in which they pointed out the overlapping responsibility of USA-962/963 (Detachments 1 & 2, 6994 Sety Sq) in area 10 and Detachments 2 and 3 in SEA Area 11, and the necessity for USM-73 to hold TDLs for all three of the 6994 Sety Sq Detachments, as well as pertinent callsign and scheduling information.[24] In a 14 May message, 6994 Sety Sq concurred with the concept of Operations and USAFSS objections thereto, with the exception of pointing out that USM-73 would need UHF capability to permit monitoring of Pakse/ARDF communications.[25] As a result of this objection, NSA Office Pacific (NSAPAC) suggested the installation of VRC-12 VHF equipment at all sites, including USM-73 at Ubon and that operation of a single frequency in the 36-95 MHZ range be utilized. Through use of this lower frequency, they hoped to achieve longer range communications. NKV(C) was tasked with determining if VRC-12s were available for transfer to Thailand.[26] As of 30 June 1971, no further action of a reportable nature had been taken.

Emergency Evacuation of COMINT Aircraft

[redacted] During periods of emergency evacuation of COMINT aircraft, there is an ever present requirement to provide applicable guards to guarantee security of the COMINT equipment aboard the EC-47s. On 1 January 1971, PacSetyRgn informed the 6994 Sety Sq that NSAPAC had raised a question concerning security of ARDF aircraft during an

[redacted]

[redacted]

emergency evacuation to Thailand Bases. PacSctyRgn further stated that the 6994 Scty Sq and subordinate Detachment plans did not adequately cover evacuation procedures.[27]

[redacted] In response to this query, 6994 Scty Sq, in coordination with 460th TRW, reviewed the evacuation in question. Based on indications available to the 6994 Scty Sq, evacuations were conducted extremely well, all actions having been coordinated with [redacted] as soon as the requirement was established. Although USAFSS crews did not accompany the aircraft, necessary security precautions were taken at the Thailand bases. 6994 Scty Sq and subordinate Detachments began the necessary review and revision of appropriate plans at that time.[28] As of June 30, 1971, revised plans are in the coordination stage.

Analysts TDY to Collection Management Authorities

[redacted] On 29 March 1971, the 6994 Scty Sq requested that each Detachment approach their respective Collection Management Authorities (CMAs) concerning the possibility of placing one 202X0 on Temporary Duty (TDY) on a 60 day rotational basis with each CMA.[29] On 30 March, the 6994 Scty Sq followed up by approaching USN-704 with the same proposal, stating that the primary role would be providing aid in the preparation of Technical Data Lists (TDIs) and the compilation of feedback for his respective aviation unit.[30]

[redacted] In response, Detachment 2 emphatically endorsed the proposal, and on 30 March, provided information that they had already made arrangements to send one analyst to USN-808 (one of the three

[redacted]

CMAs serving Detachment 2) on a 14 day test basis with the stated objectives of (1) improving operational and technical feedback; (2) assisting in preparation of TDLs; (3) increase CMA awareness of the unit's capabilities; and (4) establishing a working level rapport with CMA analytical functions.

[redacted] 6994 Scty Sq concurred with the action taken by Detachment 2 and advised that specific guidance (should the program be implemented in full) would be contained in a Squadron Regulation.

[redacted] Detachment 3, in their reply to the initial 6994 Scty Sq message, stated that critical 202 manning would not enable them to support the program, and asked that they be deferred from participation.[33] 6994 Scty Sq, in a status message to PacSctyRgn on 4 April 1971, outlined the status of the program. As of that date, both Detachments 1 and 2 had 202s TDY to their respective CMAs, Detachment 3 had been granted deferment due to critical manning, and the 509 Radio Research Group (RRG) had concurred with the 6994 Scty Sq proposal.

[redacted] In a 23 April 1971 message, Detachment 2 stated that they felt the program to be very beneficial, but proposed a recurring 3 day TDY every two weeks, to include all three of the CMAs with which they were associated, to be set-up for the month of May.[35]

[redacted] On 27 April 1971, 6994 Scty Sq concurred with this Detachment 2 proposal, stating that USM-626 had concurred with the same action for local 6994 Scty Sq Operations. Analysts from the 6994 Scty Sq were to begin periodic TDYs to 509 RRG (USM-626) on

[redacted]

[redacted]

[redacted] Summarization of the success of the program was provided PacSctyRgn on 27 May 1971, with the following observations/recommendations being proffered: (1) Significant improvement in tactical identification and in-house technical data generation provided a greatly improved technical support program: (2) Experience gained indicated that a full time TDY was not necessary, and that objectives could be realized by periodic TDYs to each CMA of at least 3 days per month; and (3) Visits would be increased in frequency/duration as the need indicated.

[redacted] As of 30 June 1971, the program was status-quo, with no further actions having been taken. All concerned remained highly enthusiastic concerning the overall value of the advantages gained through the program.

Removal of Jamming Equipment From EC-47 Aircraft

[redacted] Since inception of the EC-47 ARDF program, a number of the aircraft had been configured with one position equipped with Communications Jamming (COMJAM) equipment. This equipment had never been used, and theoretically wasted one operational position that could have been used for intercept missions.

[redacted] In early April 1971, a Commander in Chief Pacific Air Forces (CINCPACAF) message to Commander in Chief Pacific (CINCPAC) voiced a Chief of Staff Air Force message requesting PACAF views on retention of ARC-346 COMJAM equipment in Southeast Asia.[37] PACAF stated that they had no requirement for retention of this capability,

[redacted]

[redacted]

6994 SS HR 1-71 [redacted]

and suggested that it be removed from the theatre.

[redacted] In a CINCPAC message of 7 May 1971, they requested comments on the feasability/desirability of use of Continental U.S. based "Coronet Solo" assets which were available to unified and specified commands for quick reaction Electronic Warfare contingencies.

[redacted] A 6994 Scty Sq message of 3 June 1971 advised USAPSS and Pacdetyflgn of the approval for removal of subject equipment as granted by CINCPAC. 40-41

[redacted] At the end of June 1971, 6994 Scty Sq was awaiting further instructions concerning actual removal of CONJAM equipment from ORC-346 equipped aircraft.

[redacted]

[redacted]

Chapter VIII

PERSONNEL

[redacted] During the past six month period, personnel problems within the 6994 Sety Sq complex remained at relative static conditions. The age old problem of periodic shortages in some AFSCs manifested itself, and SEA reduction indications prompted in depth studies of the ultimate impact on manning; however, for the most part, (excepting a pronounced shortage in 292X1 manning at Detachment 1, 6994 Sety Sq) manning for the complex remained generally status-quo. Important strides in the manning of certain flights with the selective manning concept were initiated.

Selective Manning on COMBAT CROSS ZULU Missions

[redacted] On 11 June 1971, Detachment 2, 6994 Sety Sq put forth a suggestion that COMBAT CROSS ZULU (CCZ) aircraft fragged for the 911 area be manned by voice intercept personnel on both intercept ("Z") positions. This suggestion was based on the fact that the vast majority of the intercept from this area, both in terms of total minutes and exploitable messages, had been derived from voice vice manual morse. For comparison, they provided a resume of the minutes/messages collected by both modes. Although a 12 June 1971 message indicated that the initial 11 June message had been improperly staffed and requested that it be disregarded, PacSetyHqn took action on 24 June, endorsing the suggestion, with certain limitations. PacSetyHqn concept was that selective manning of Detachment 2 flights would be advanta-

[redacted]

[redacted]

geous and stressed that certain areas being covered by Tan Son Nhut missions could be more adequately exploited by manning both ZULU positions with morse operators. PacSetyRgn also stressed that manning for these operations would of necessity be provided by TDY exchanges between the two locations.[2]

(U) At the close of June, plans were being formulated to put the Selective Manning concept into operation.

Special Manning Actions

WA 292X1 Manning: Throughout the first six months of 1971, manning in the Airborne Morse operator specialty presented a problem, with the majority of these deficiencies being managed through temporary duty assignments between 6994 Sety Sq and subordinate Detachments.

(U) On 2 February, Detachment 3, 6994 Sety Sq was instructed to send four qualified WA292X1 personnel to Detachment 1 for 30 days manning assistance due to the critical shortage of airborne operators at Detachment 1.[3] Additionally, on 10 February, Detachment 2 was advised to provide four WA292X1's to Detachment 1 for 15 day manning assistance,[4] thereby bringing the total manning at Detachment 1 to an acceptable level. Due to relatively favorable manning at Detachment 2, they advised on 2 March 1971 that they would be able to send an additional four operators to Detachment 1, concomitant with the return of the four that were already TDY to that site.[5]

[redacted] In an exchange of correspondence between 6994 Sety Sq and PacSetyRgn, the critical manning deficiency at Detachment 1 was thoroughly discussed. 6994 Sety Sq advised PacSetyRgn of the defici-

ency, reiterating that the situation had existed for sever l months, and stressing that the problem was approaching critical proportions. In addition, USAFSS assistance/comments in obtaining a workable manning level for Detachment 1 was solicited.[6] In response to the immediate problem, PacSctyRgn recommended to USAFSS that elgible A292X1s from the 6994 Scty Sq be assigned to Detachment 1 on a Permanent Change of Station (PCS) basis. The 6994 Scty Sq did not concur with this course of action, since manning at 6994 Scty Sq did not appear sufficiently stabilized. This fact, coupled with anticipated summer rotational problems, precluded substantial 6994 Scty Sq assistance to Detachment 1.

[redacted] USAFSS/PACSCTYRGN approved transfer of 15 A292X1s from 6994 Scty Sq to Detachment 1 on a PCS basis.[7-8] On 10 June 1971, 6994 Scty Sq advised that the manning situation at that time would preclude such a massive PCS action, and suggested that 6994 Scty Sq be allowed to monitor the situation and make intra-squadron adjustments as required until manning reached a level that would guarantee manning stability at all units. The advantage to be realized through adoption of this augmentation action lay in the fact that PCS movements would be held to a minimum with emphasis being placed on TDYs, the number and duration of which would be dictated by requirements/resources squadron wide.[9]

(U) As of 30 June 1971, formal approval of the 6994 Scty Sq proposal had not been received: However, local planning was progressing in accordance with this recommendation.

[redacted]

[redacted]

Security Police [redacted] 3 (U) Upon the move of Detachment 3, 6994 Sety Sq to Nakhon Phanom (NKP) flight line, a shortage of Security Police was generated. To provide adequate manning for this added workload upon existing slots, in a message of 29 May 1971, 6994 Sety Sq recommended the transfer of four 6994 Sety Sq Security Police (SP) authorizations to Detachment 3. These slots were excess to the needs of the 6994 Sety Sq and could be properly utilized by Detachment 3.[10] Although a Manning Change Request of 24 May 1971 was approved by USAFSS on 15 June to delete the four spaces from the 6994 Sety Sq Unit Detail List (UDL), Thailand ceiling limitations precluded the transfer of these slots to Detachment 3. As of 30 June 1971, action to adjust the ceiling in favor of Detachment 3 had not been accomplished.

[redacted]

(b) (1)

NOTE: X pages of footnotes have been completely redacted as shown here. To reduce file size, these pages have been removed.

Likewise, no supporting documents were included in the FOIA release.

GLOSSARY
ABBREVIATIONS

A

AAA	Anti-aircraft Artillery
AB	Air Base
ACC	Airborne Coordination Center
ACI	Airborne Communications Intelligence
AFB	Air Force Base
Afld	Airfield
AFSSO	Air Force Special Security Office
AGE	Avionics Ground Equipment
AIR	Airborne Incident Report
AMOC	Actual Minutes of Cover
ARDF	Airborne Radio Direction Finding
ARR	Airborne Radio Direction Finding Recovery Report
ARRGP	Aerospace Rescue and Recovery Group
ASA	Army Security Agency
AUTOSEVOCOM	Automatic Secure Voice Communications

B

BDA	Bomb Damage Assessment

C

CAS	Controlled American Source
CC	Combat Cross
CCZ	Combat Cross Zulu
CINCPAC	Commander-in-chief, Pacific

CINCPACAF	Commander-in-chief, Pacific Air Forces
CMA	Collection Management Authority
COMJAM	Communications jamming
COMNAVFORV	Commander Naval Forces, Vietnam
COMSEC	Communications Security
COMUSMACV	Commander, United States Military Assistance Command, Vietnam
CRB	Cam Ranh Bay
CSC	Naval Coastal Surveillance Center
CSMR	Communications Security Message Report
CTZ	Corps Tactical Zone
	D
DIRNSA	Director, National Security Agency
DNG	Da Nang
DOD	Department of Defense
DODSPECREP	Department of Defense Special Representative
DSU	Direct Support Unit
DURMIS	Daily Unit Resource Management Information Summary
	E
EMR	Exploitable Message Report
EWLO	Electronic Warfare Liaison Officer
	F
FAC Forward Air Controller	
FM	Frequency Modulated
Fragged	Fragmentation Order action

[redacted] [redacted]

[redacted]

FRAG ORDER	Fragmentation order
	G
GWR	Game Warden Ranger
	H
HF	High Frequency
HQ	Headquarters
	I
	J
JCS	Joint Chiefs of Staff
JOA	Joint Operating Agreement
JSPC	Joint Sobe Processing Center
	K
	L
	M
MACV	Military Assistance Command, Vietnam
MB	Maintenance Bulletin
MHZ	Megahertz
MPCR	Master Program Change Request
MTP	Market Time Policeman
	N
NKP	Nakhon Phanom, Thailand
NOC	Naval Operations Center
(b) (1)	(b) (1) [redacted]
NRV(C)	National Security Agency Representative, Vietnam (C)

[redacted]

[redacted]

NSA	National Security Agency
NVA	North Vietnamese Army
	O
OL-DD	Operating Location Delta Delta
	P
PacSecyRgn	Pacific Security Region
PAD	Programmed Actions Directive
PCS	Permanent Change of Station
PHC	Phu Cat
	Q
	R
RFP	Radiofingerprinting
RRG	Radio Research Group
RTAFB	Royal Thai Air Force Base
RVN	Republic of Vietnam
RVNAF	Republic of Vietnam Armed Forces
	S
SAM	Surface to Air Missile
SAR	Search and Rescue
Secty Gp	Security Group
Secty Sq	Security Squadron
Secty Wg	Security Wing
SDO	Staff Duty Officer
SEA	Southeast Asia
SEATS	Southeast Asia Technical Summary Report

[redacted] [redacted]

SI	Special Intelligence
SOW	Special Operations Wing
SPAME	System Performance and Maintenance Evaluation
SSLO	Security Service Liaison Office
SSTB	Special Security Technical Branch
	T
TACAIR	Tactical Air
TASS	Tactical Air Support Squadron
TCTO	Time Compliance Technical Order
TDL	Target Data List
TDY	Temporary Duty
TECHINS	Technical Instructions
TEWS	Tactical Electronic Warfare Squadron
TOMS	Tactical Operations Maintenance Squadron
TRW	Tactical Reconnaissance Wing
TSN	Tan Son Nhut
TTG	Technical Training Group
TTOT	Total Time over Target
	U
UDL	Unit Detail List
UHF	Ultra High Frequency
USAFSS	United States Air Force Security Service
	V
VC	Viet Cong
VHF	Very High Frequency

[redacted]

[redacted]

VIM	Vietnamization Improvement and Modernization
VIMP	Vietnamization Improvement and Modernization Plan
VNAF	Vietnamese Armed Forces
VR	Visual Reconnaissance
W	
X	
Y	
Z	
7AF	Seventh Air Force

[redacted] [redacted]

Glossary of Codenames

BARREL ROLL	ARDF in Northern Laos
BLUE BEETLE	Identifies ARDF fixes passed to Forward Air Controllers (Cambodia)
COMBAT CROSS	ARDF EC-47 aircraft/program identifier.
CORONET SOLO	Communications Jamming equipment held in continental U.S., available to overseas areas upon request.
CRITIC	Critical Intelligence
DEWY CANYON II	Allied Operation in Northern Laos.
GAME WARDEN	Fixes on surface craft operating on inland waterways.
HAMMER	Forward Air Controller call sign.
HESTIA Pads	One time CRYPTO pads used for passing fix/tip-off information between ARDF aircraft and DSU when secure voice comms are inoperable.
HILLSBORO	Airborne Command and Control Center (Laos).
LEFAIR KNEE	Army developed radiofingerprinting system.
MARKET TIME	Fixes on surface craft operating in coastal waters.
RAVEN	Forward Air Controller call - Laos.
RUSTIC	Forward Air Controller Call - 19 TASS.
STEEL	Call sign for 360th TEWS EC-47s.
STEEL TIGER	ARDF in Southern Laotian Panhandle.
SUNDOG	A Forward Air Controller call - 19 TASS.
TILLY	A Forward Air Controller call - 19 TASS.

[redacted] [redacted]

APPENDIX I

ORGANIZATIONAL AND

COMMAND CONTROL CHARTS

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[redacted]

ORGANIZATIONAL CHART

6994 SCTY SQ

COMMAND RELATIONSHIP

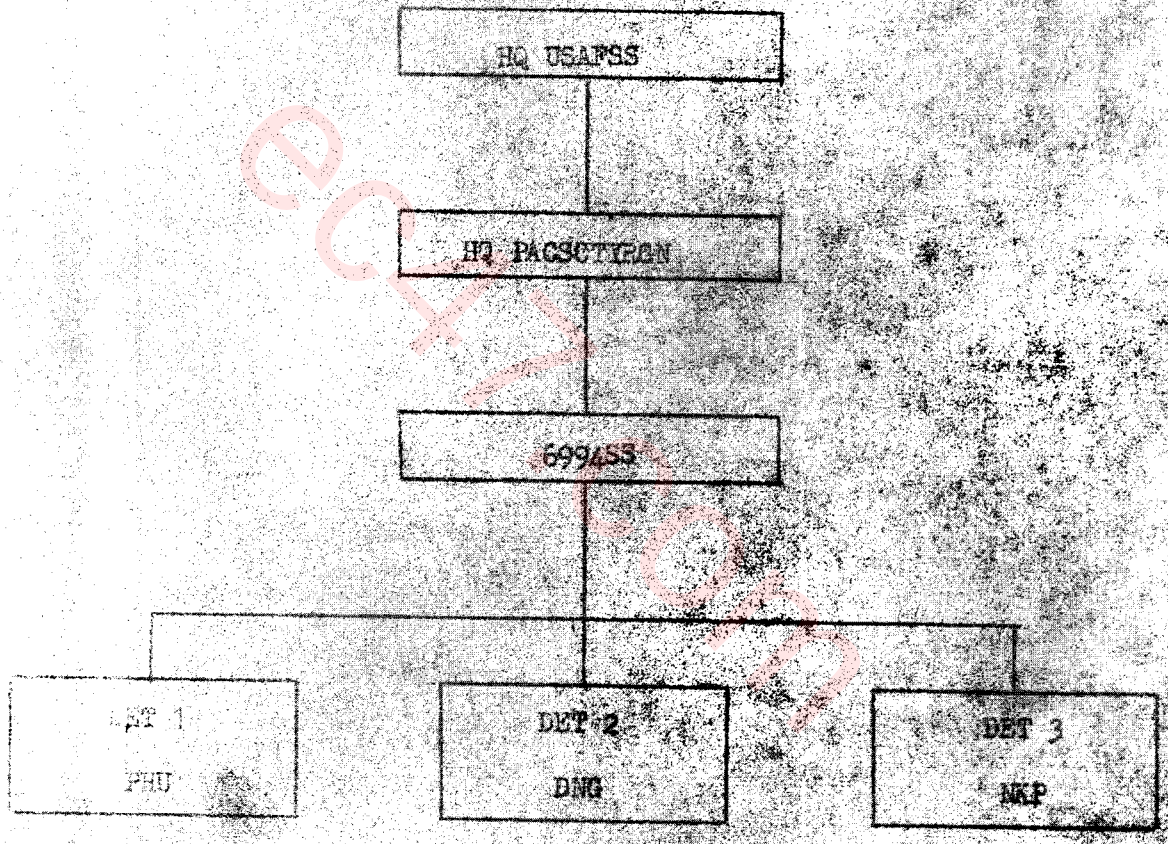

CHART #1

[redacted]

[redacted]

[redacted]

ARDF

OPERATIONAL CONTROL

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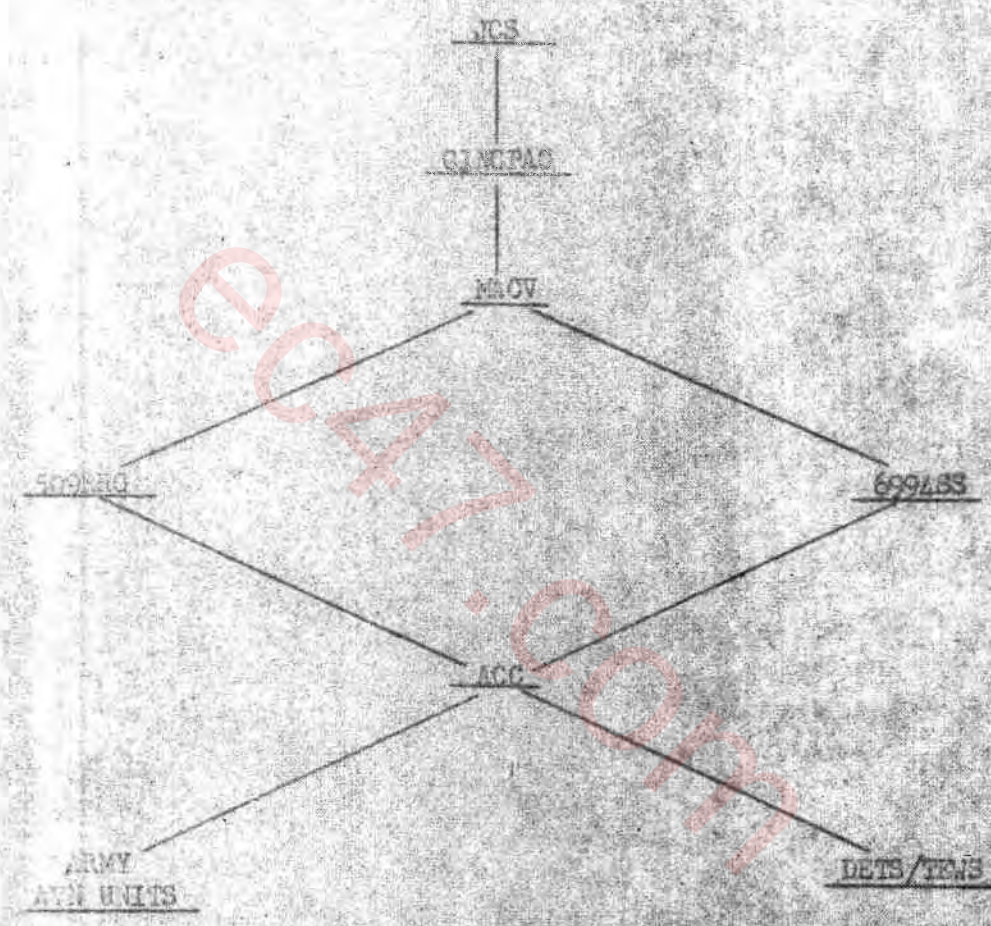

CHART #2

[redacted]

[redacted]

[redacted]

ARDF

TECHNICAL CONTROL

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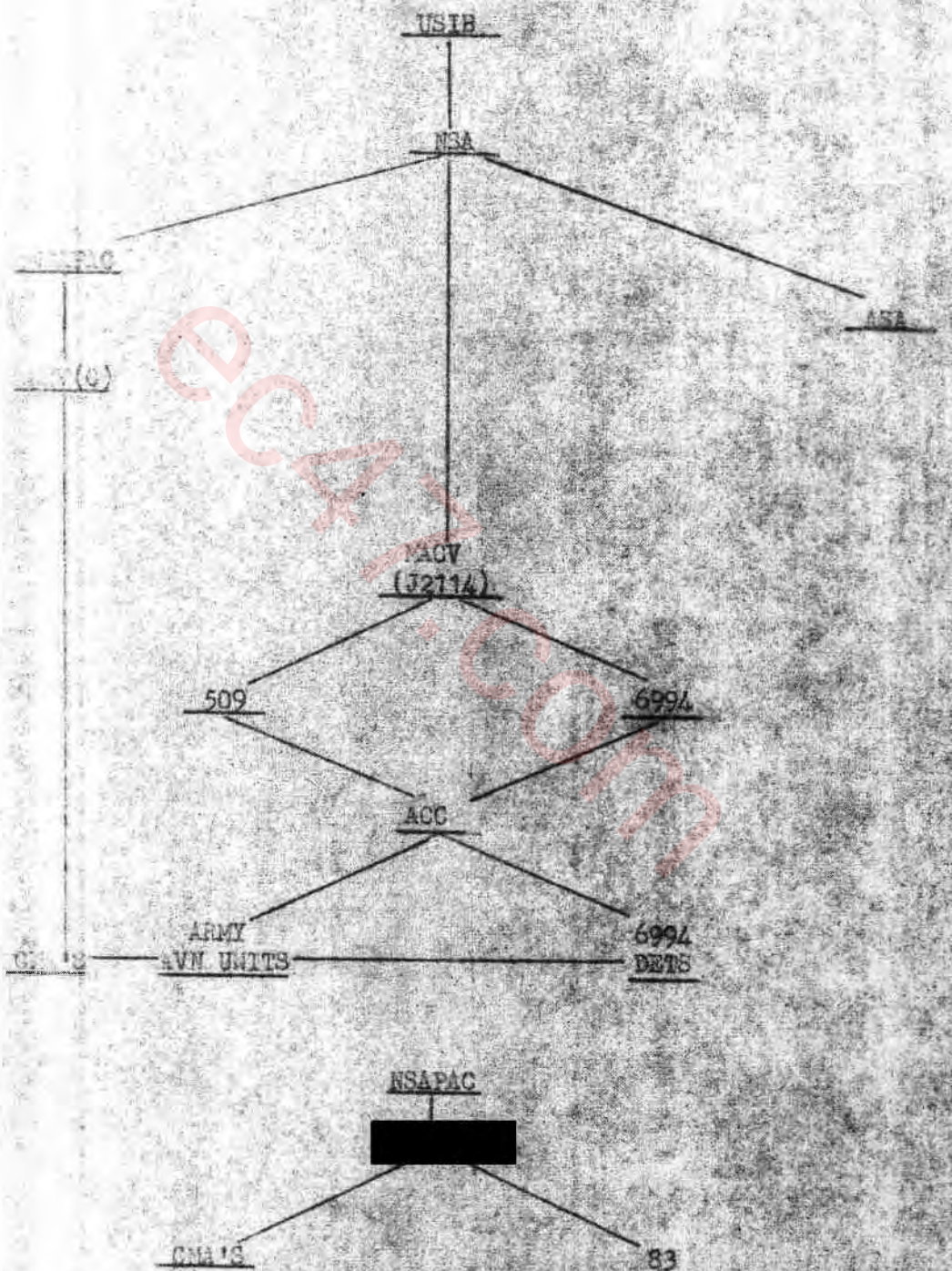

[redacted]

CHART #3

[redacted]

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[redacted]

ARDF

COMMAND CONTROL

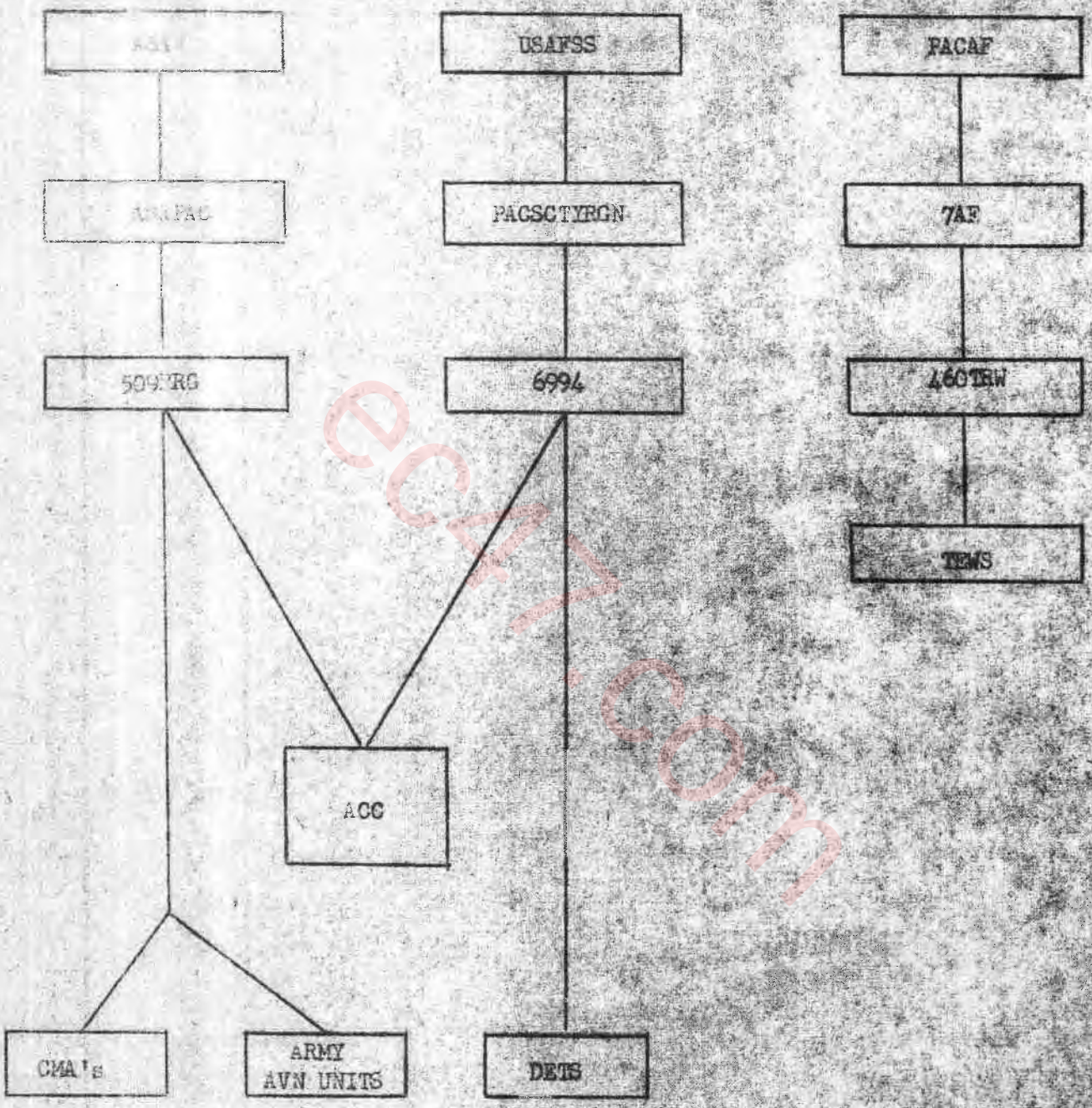

CHART #

[redacted]

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APPENDIX II

GEOGRAPHICAL LOCATION

AND MISSION AREAS

6994 Scty Sq and Detachments

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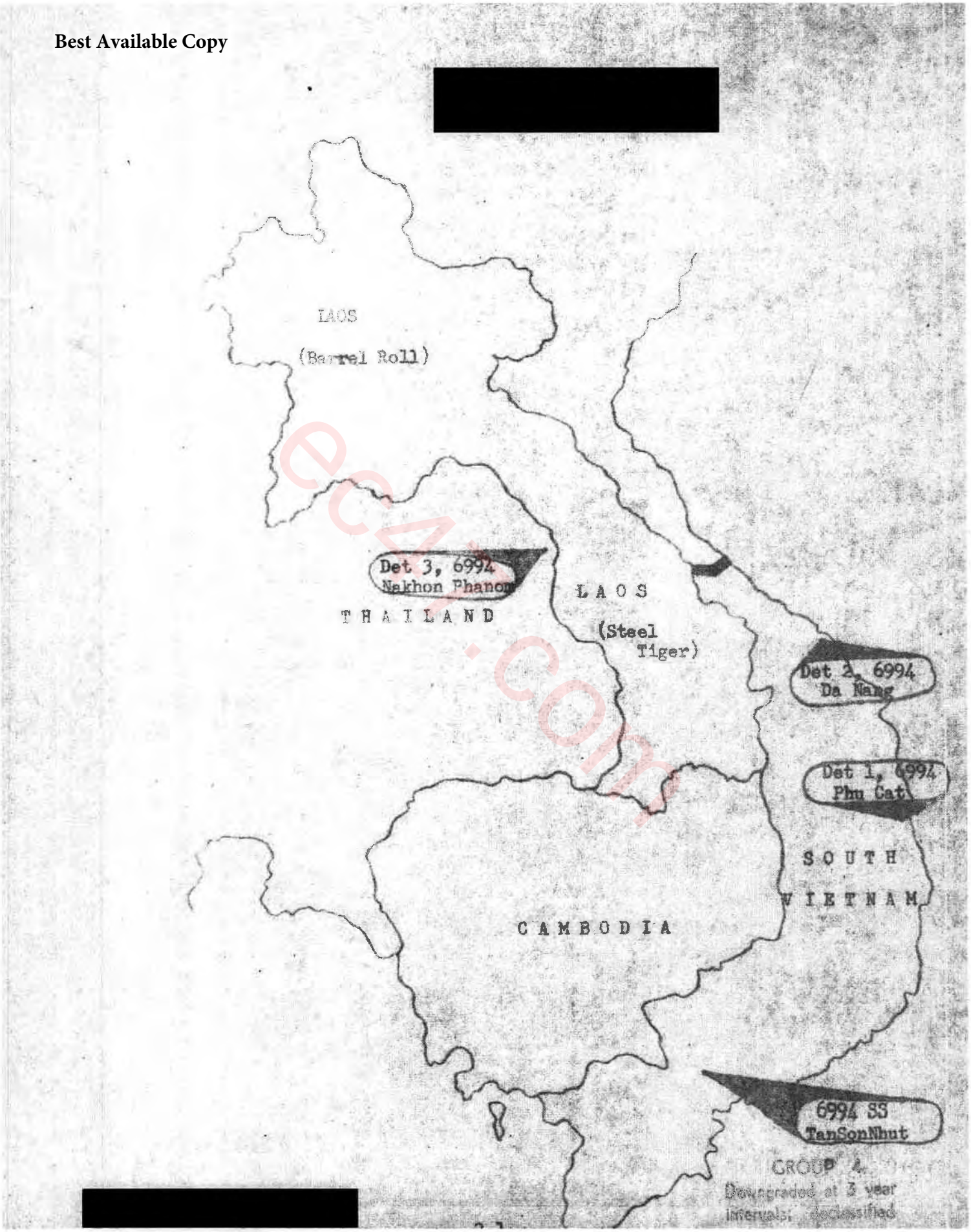
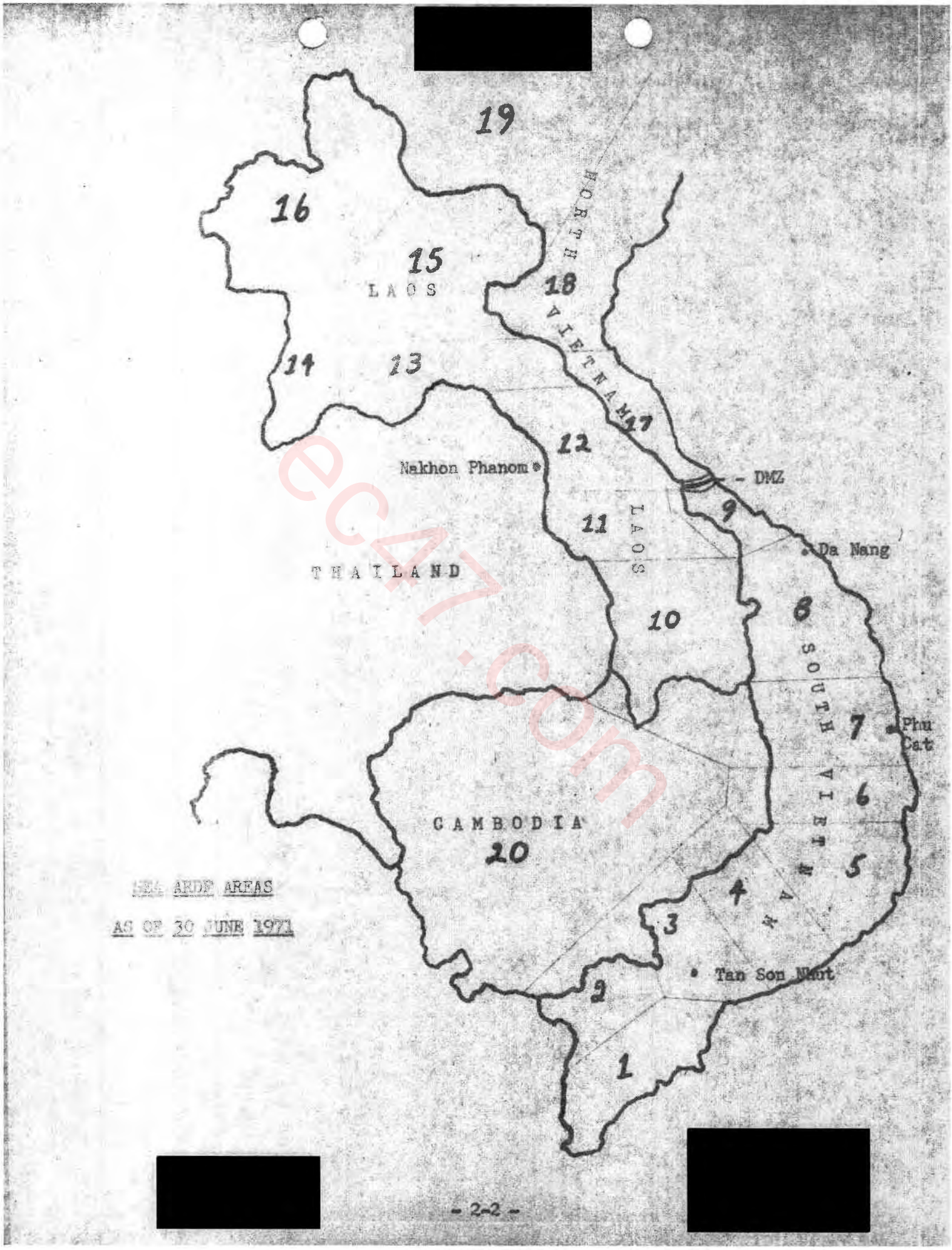
[redacted]



[redacted]

[redacted]



MACV AKDP AREAS

AS OF 30 JUNE 1971

[redacted]

[redacted]

APPENDIX III

EC-47 Aircraft Configuration

[redacted]

[illegible] AR 1-77

BASIC COMBAT CROSS CONFIGURATION

"Y" Position

[illegible] HF Receiver
Frequency Range - [illegible]-30 MHz
[illegible] Tape Recorder
[illegible]ram Display Unit

"X" Position

AIR-34 or AIR-35
Frequency Range - 2-16 MHz
C-12 Compass
Panaramic Scope

Function: X Position - ARDF, "Y" Position - Target Aquisition/ Air/Ground comms.

Pilot Time: 7 hours

Cruise Speed: 120 Knots

Crew Composition: Pilot, Copilot, Navigator, Flight Mechanic and 2 Operators.

Communications Radios: 1 UHF radio, 1 VHF Radio, 1 HF Radio, and 1 FM Radio.

Navigation Equipment: TACAN, Weather Radar, and Doppler

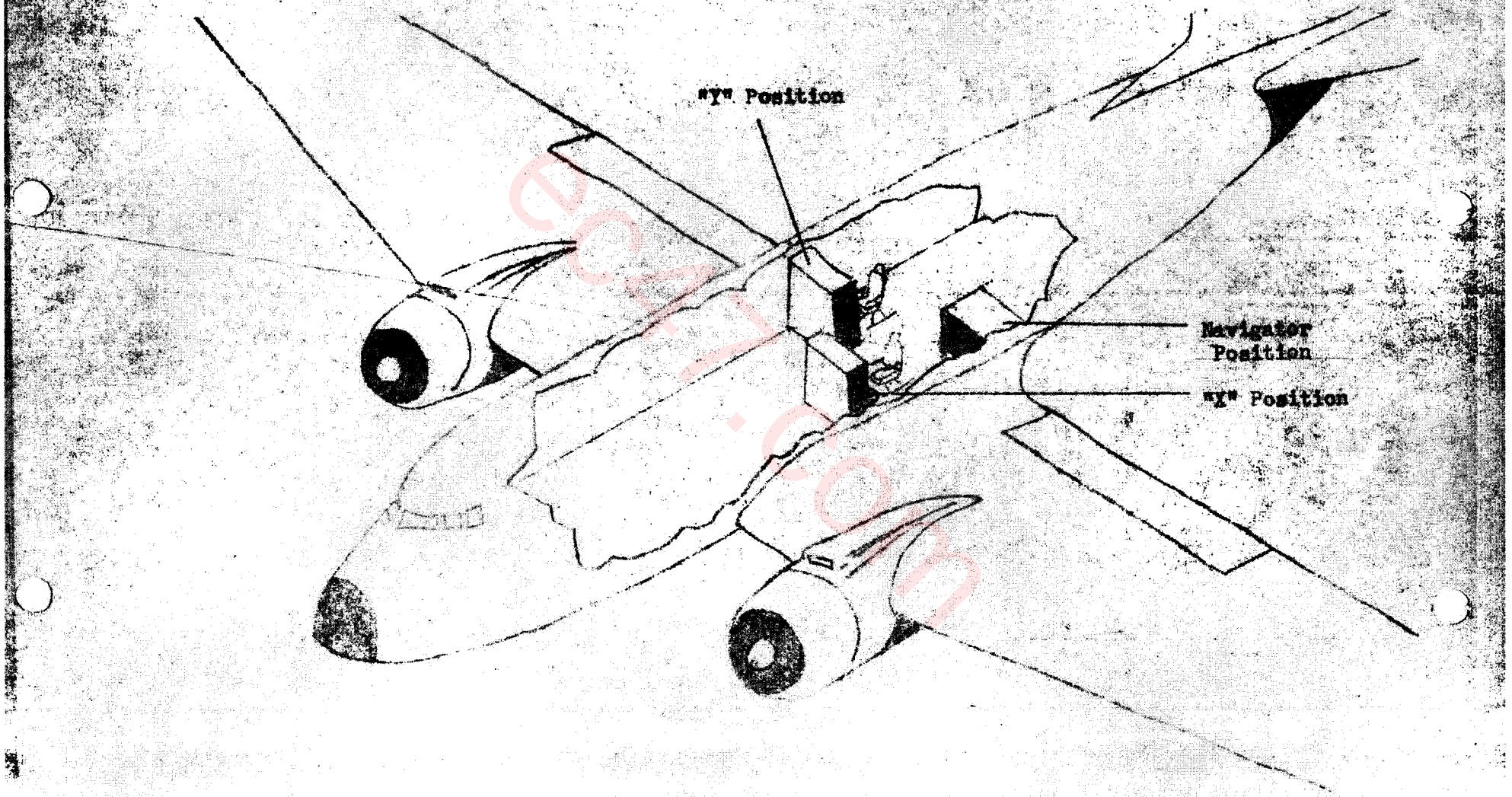
Navigator's Position Includes: Plotting table and Franklin Printer that provides fix data readout from "X" position.

The AIR-35 system differs from the AIR-34 in that it is coupled with a data processor. The processor converts the target magnetic bearings to true bearings, calculates target location relative to the selected doppler set point, and determines the circular error of the fix. In the AIR-34 system, these functions are performed manually by the navigator.

[redacted]

[redacted]

COMBAT CROSS (CC) [redacted]



[redacted]

[redacted]

[redacted] HR 1-71 [redacted]

COMBAT CROSS (ZULU) CONFIGURATION

"Z1" Position

G-133 HF Receiver
Frequency Range - .5-30 MHZ
G-177 VHF Receiver
Frequency Range - 10-260 MHZ
G-176 Tape Recorder

"Z2" Position

G-133 HF Receiver (2)
Frequency Range - .5-30 MHZ
G-176 Tape Recorder

"Y" Position

G-133 HF Receiver
Frequency Range - .5-30 MHZ
G-176 Tape Recorder
Spectrum Display Unit

"X" Position

AIR-34 or AIR-35
Frequency Range 2-16 MHZ
C-12 Compass
Panoramic Scope

Function: X Position - ARDF, "Y" Position, Target aquisition/collection/Air-Ground communications, "Z1" Position - Intercept collection, and "Z2" - collection.

Flight time: 5 hours

Cruise Speed: 120 Knots

Crew: Pilot, copilot, navigator, flight mechanic, 4 operators, and 1 airborne analyst.

Communications Radios: 1 UHF radio, 1 VHF radio, 1 HF Radio, and 1 FM radio.

Navigation Equipment: TACAN, Weather Radar, and Doppler.

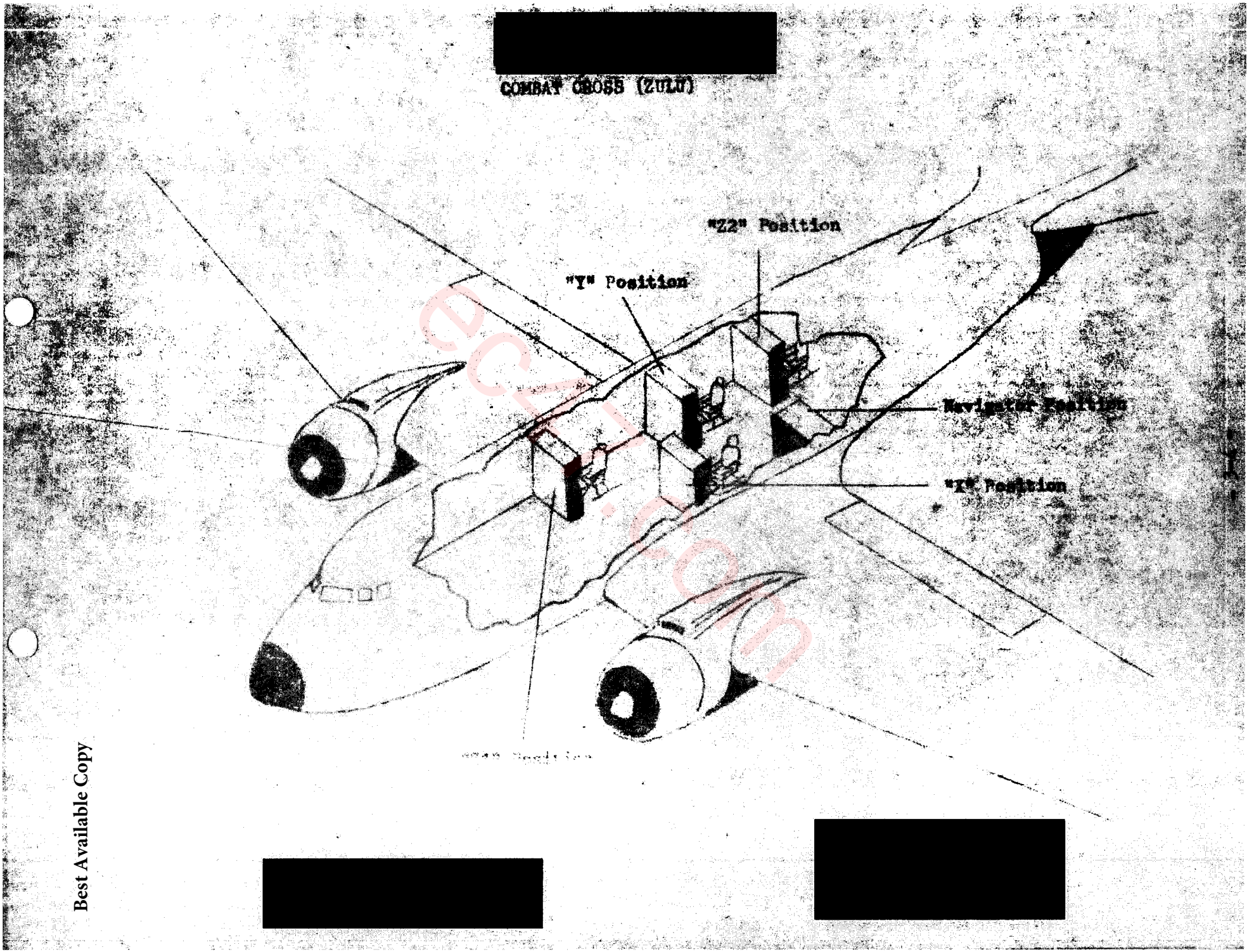
Navigator's position includes: Plotting table and Franklin Printer.

The AIR-35 system differs from the AIR-34 in that it is coupled with a data processor. The processor converts the target magnetic bearings to true bearings, calculates target location relative to the selected doppler set point and determines the circular error of the fix. In the AIR-34 system, these functions are performed manually by the navigator.

[redacted] [redacted]

[redacted]

COMBAT CROSS (ZULU)



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APPENDIX IV

ARDF Productivity Statistics

[redacted]

[illegible] Productivity

							APR		MAY					
	[illegible]	[illegible]	[illegible]	COMP	UNC	[illegible]	UNC	COMP	UNC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	1049	[illegible]	[illegible]	349	1054	355	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	346	1047	345	[illegible]	409	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	25	[illegible]	[illegible]	6703	1987	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	1826	[illegible]	[illegible]	[illegible]	[illegible]	6510	1585	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	4626	2770	5790	[illegible]	4522	[illegible]	[illegible]	1498	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9561	1876	[illegible]	6007	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	1300	[illegible]	2769	[illegible]	1138	5638	[illegible]	4694	1343	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	246	1058	[illegible]	1348	[illegible]	[illegible]	167	990	177	940	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	699	[illegible]	967	3210	619	2735	671	2375	778	2533	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	1421	[illegible]	1775	[illegible]	1202	189	906	270	[illegible]	564	.912
[illegible]	[illegible]	[illegible]	117	236	149	815	110	495	94	425	116	430		
[illegible]	[illegible]	[illegible]	393	1156	483	1388	386	967	322	732	416	865	[illegible]	[illegible]
[illegible] Imagery	[illegible]	[illegible]	116	1486	85	1915	[illegible]	1042	1240	1185	[illegible]	1725	[illegible]	[illegible]
Ave Exploit [illegible] Per Man [illegible]	.7	1.2	[illegible]	1.4	[illegible]	[illegible]	.1	1.0	.3	1.2	.3	1.4	[illegible]	[illegible]
Exploit [illegible]	[illegible]	[illegible]	45	2272	116	2890	55	[illegible]	55	1922	[illegible]	[illegible]	[illegible]	12834

Abbreviations used in above tables:

[illegible] - Missions
Flt - Flight
[illegible]
[illegible]
[illegible] - Exploitable
[illegible]
[illegible]
[illegible]
[illegible] - Complex

[redacted] [redacted]

- Date

ARDF Productivity [redacted]

Unaccomplished Missions

LOCAL

	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
[illegible]	[illegible]	319	393	349	355	429	[illegible]
[illegible]	349	318	39[illegible]	346	345	409	2128
UNACCOMPLISHED [illegible]	3	2	[illegible]	3	4	13	29
[illegible]							
[illegible]	2	2	2	3	6	9	24
[illegible]	0	0	0	0	0	0	0
[illegible]	0	0	0	0	3	1	4

SCOTTSDALE

	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
[illegible]	[illegible]	1049	[illegible]05	1054	993	1237	6660
ACCOMPLISHED [illegible]	1017	1039	1284	1047	963	1164	6534
[illegible]	5	10	21	7	30	53	126
UNACCOMPLISHED [illegible]							
[illegible]	4	8	11	4	10	24	61
[illegible]	0	0	7	3	13	21	46
[illegible]	1	2	3	0	7	6	19

[redacted]

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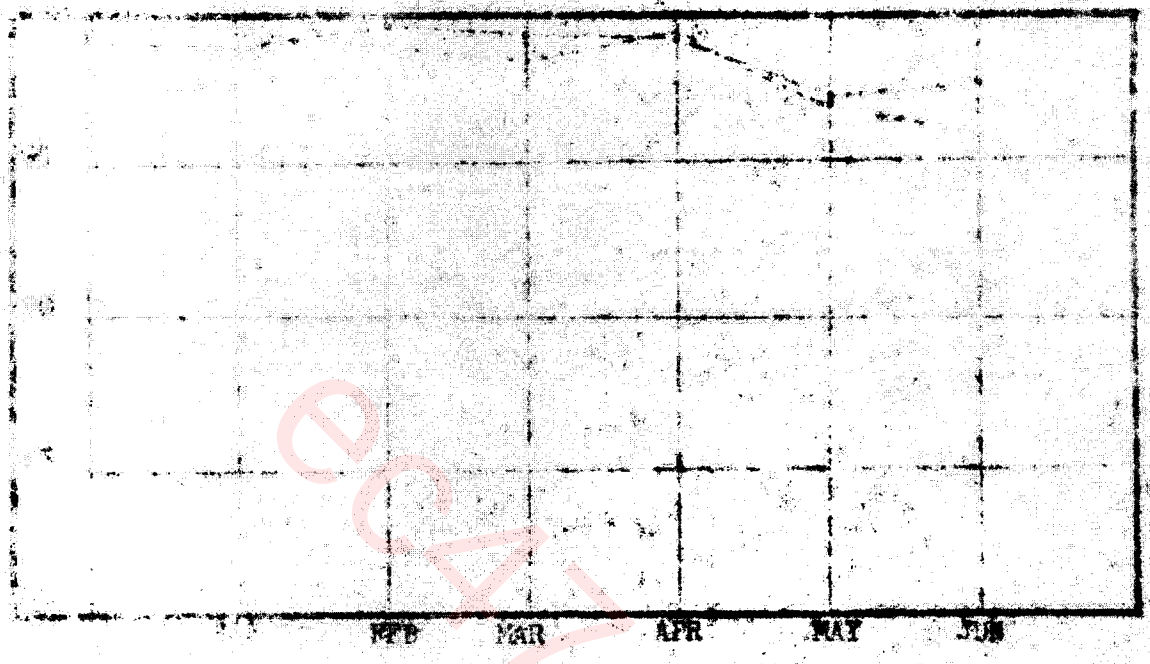

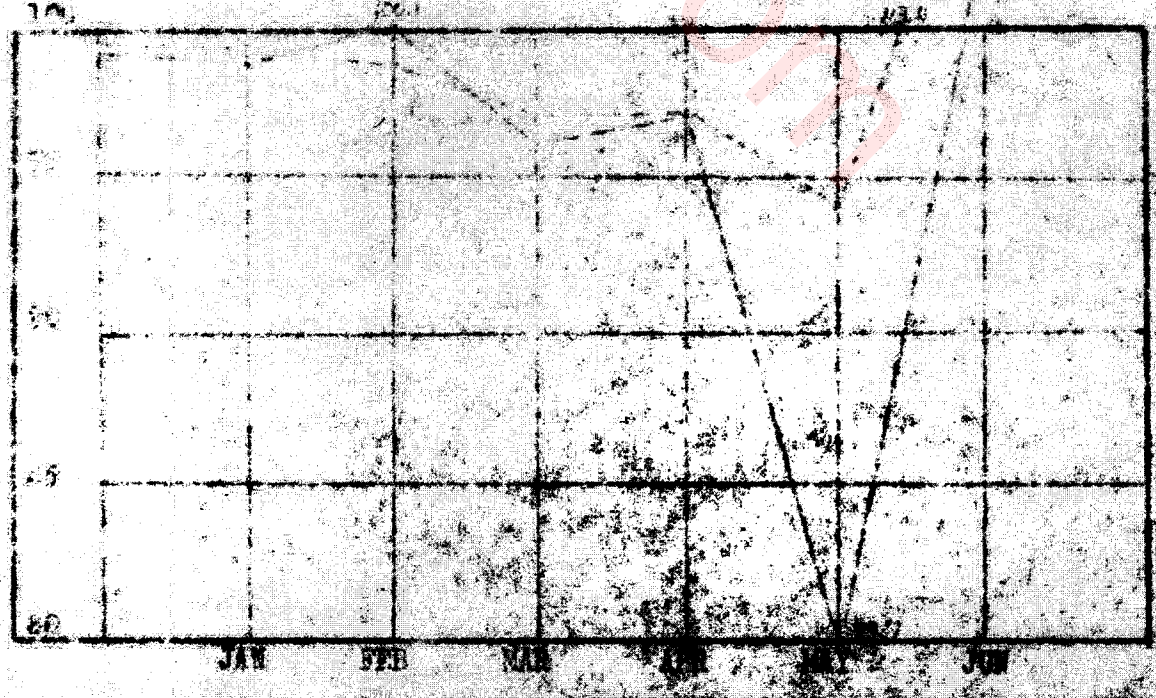

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[illegible] 1-71 [redacted]

APDF Productivity

Reduced Missions

LOCAL

	TOTAL MSNS REDUCED	REDUCED MISSIONS CAUSED BY: AIRFRAME	MSN EQUIP	FUEL	WEATHER	OTHER
January	37	[illegible]	8	0	3	2
February	41	[illegible]	7	1	1	5
March	46	27	15	0	1	2
April	50	[illegible]	19	2	2	0
[illegible]	73	4	34	22	11	2
June	100	42	25	7	17	9
TOTAL	347	179	78	33	35	20

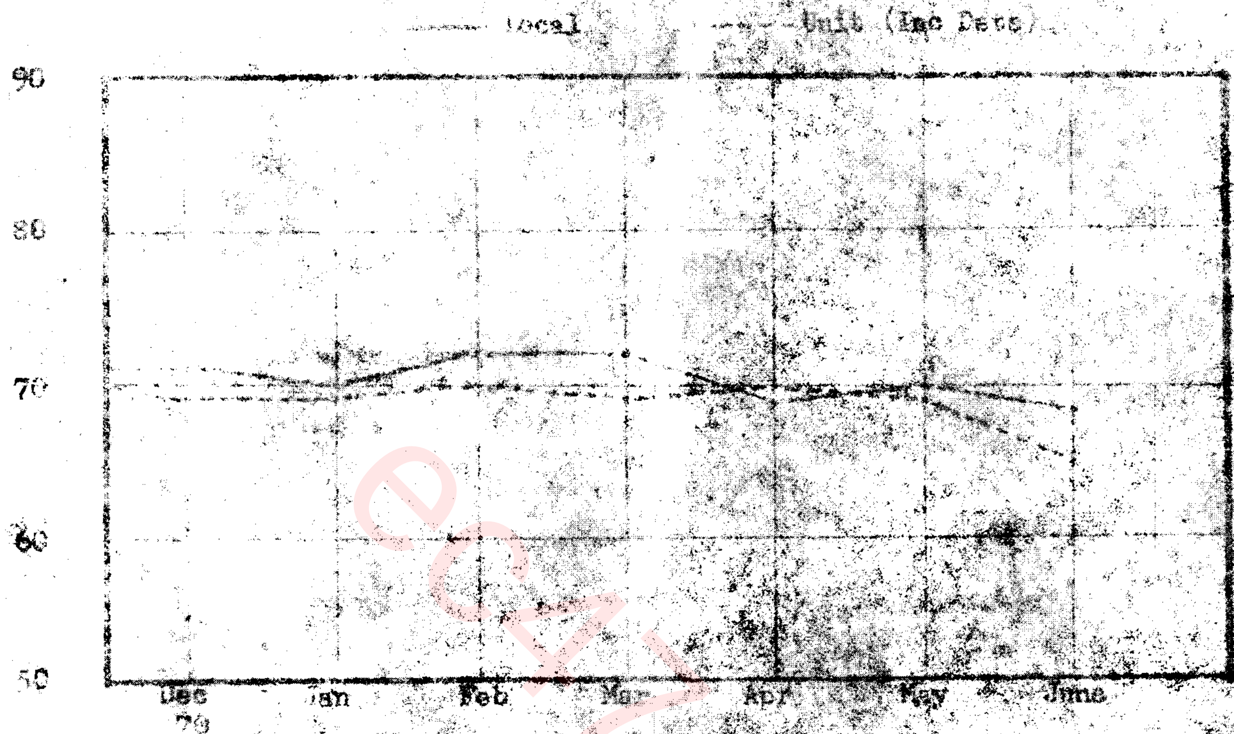
COMPLEX

	TOTAL MSNS REDUCED	REDUCED MISSIONS CAUSED BY: AIRFRAME	MSN EQUIP	FUEL	WEATHER	OTHER
January	94	24	58	0	9	2
February	98	61	14	1	5	17
March	140	72	28	4	14	22
April	135	68	33	10	14	10
May	185	72	18	41	28	26
June	302	111	27	54	84	26
TOTAL	954	443	143	110	150	108

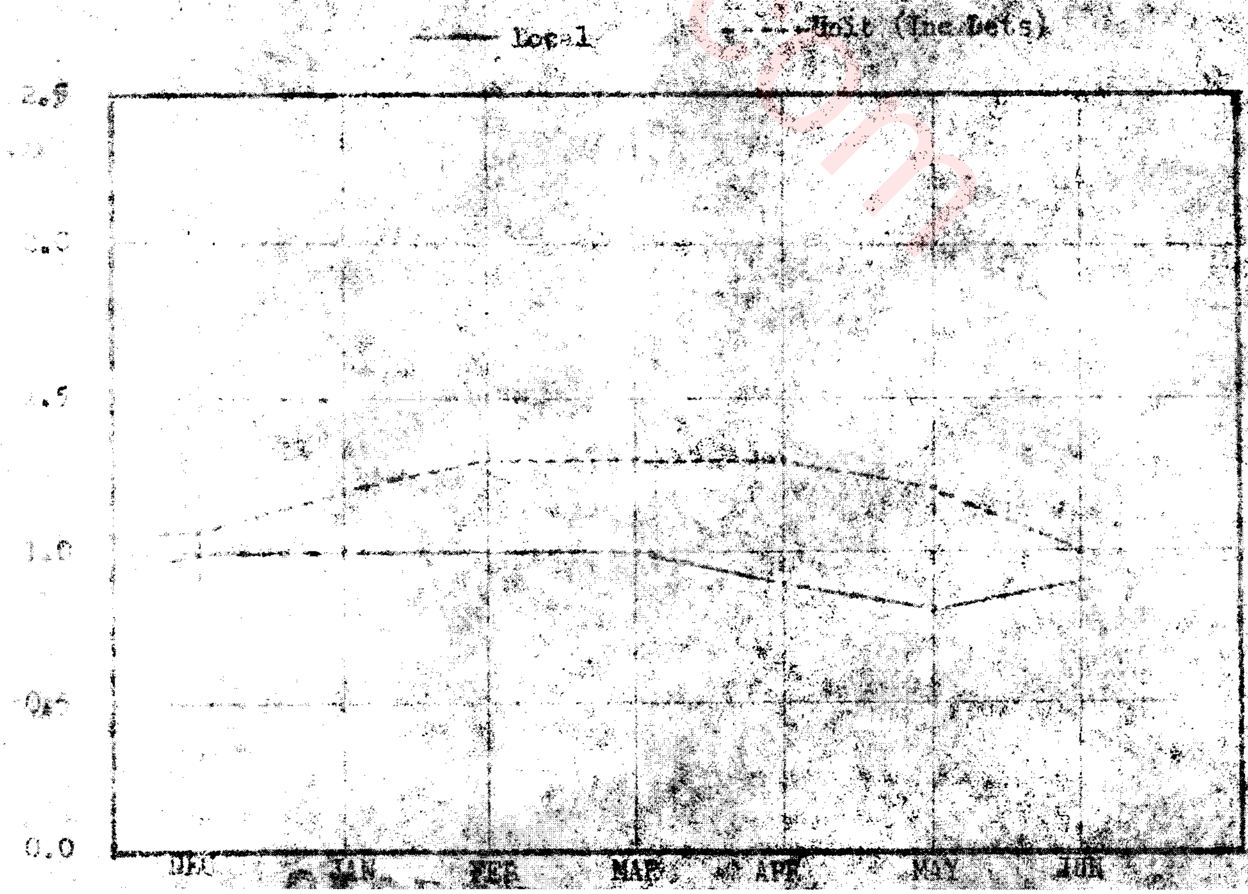
[redacted] [redacted]

6?/85 ? J-71

PERCENTAGE OPERATING TIME EXPENDED ON TARGET [redacted]



FIXES PER FLYING HOUR ON TARGET



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RDF Productivity

Priority Target Fixes

	TOTAL FIXES ALL TARGETS LOCAL	COMPLEX	PRIORITY TARGET FIXES LOCAL	COMPLEX
January	1278	4947	701	2022
February	1504	5589	767	2196
March	1796	7148	1014	2552
April	1138	5638	710	2078
May	1121	4694	712	1880
June	1343	4884	738	1779
TOTAL	7954	32900	4662	12509

NOTE: 4662, the total LOCAL fixes on priority targets constitutes 58.6% of the total 7954 fixes. COMPLEX statistics of 12,509 priority target fixes derived from a total of 32,900 shows that 38.0% of targets fixed were identified as Priority targets.

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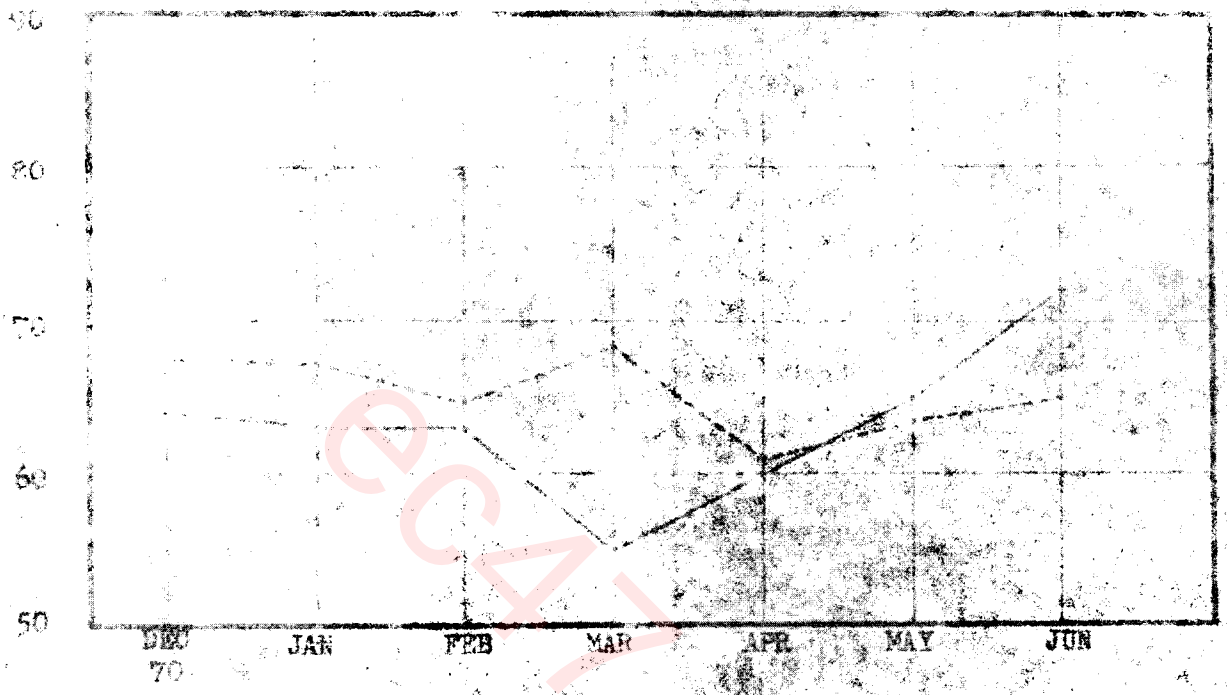
[illegible] 2-71

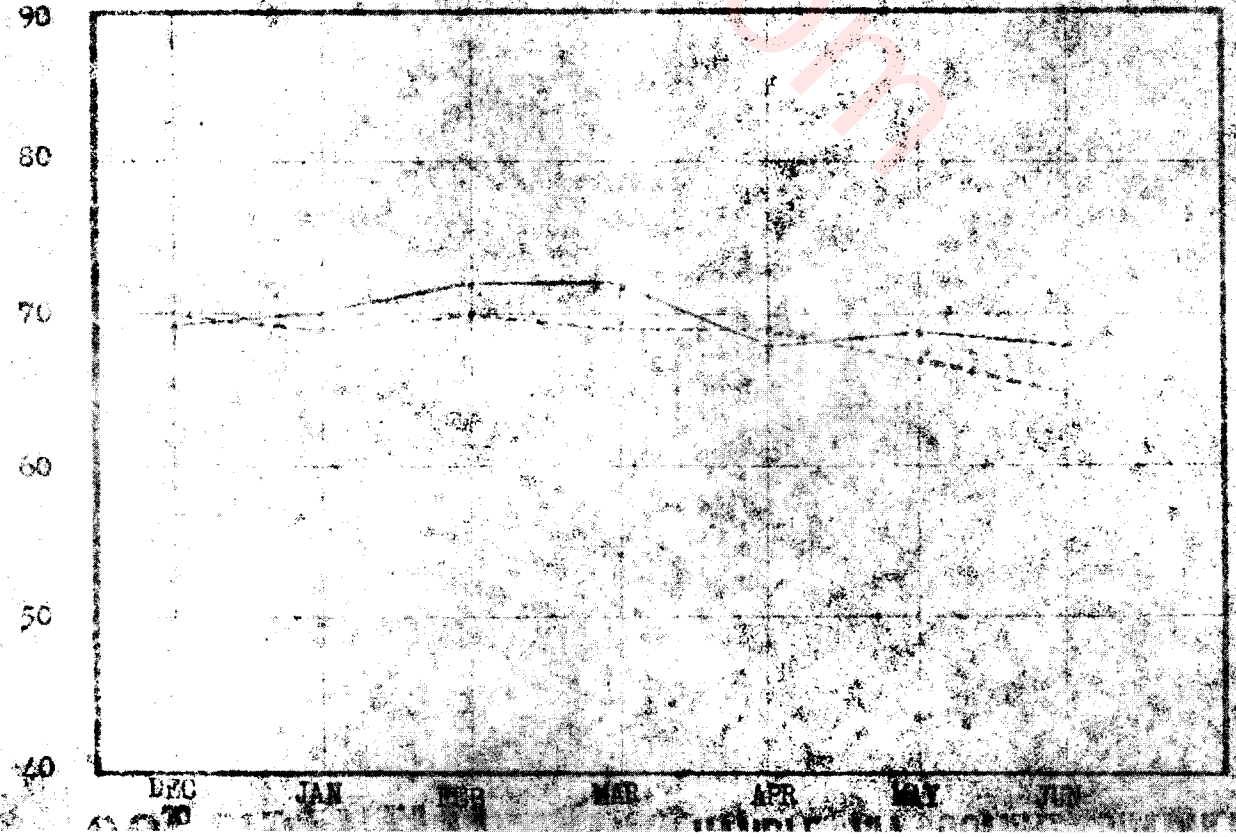
PERCENTAGE IDENTIFIED TARGETS RATED PRIORITY

—— Local - - - - Unit (Inc Dets)



PERCENTAGE OF FIXED/OUTS IDENTIFIED

—— Local - - - - Unit (Inc Dets)



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APPENDIX V

Unit Awards

AIR FORCE OUTSTANDING UNIT AWARD
(WITH COMBAT V DEVICE)

On 21 May 1971, Colonel James S. Novy, Commander, [illegible] Region, presented the Air Force Outstanding Unit Award with Combat V Device to the 6994th Security Squadron at a ceremony held on the 7th Air Force AFSSO compound, Tan Son Nhut AB, Republic of Vietnam. Representing the Squadron in receiving this award was Captain Leon S. Sage, Commander, 6994th Security Squadron. The citation accompanying the reward read:

> The 6994th Security Squadron, United States Air Force Security Service, distinguished itself by exceptionally meritorious service from 1 July 1969 to 30 June 1970. During this period, members of the 6994th Security Squadron accomplished extremely complex, dangerous and arduous missions in direct support of combat activities in the Republic of Vietnam. Their contributions were essential and important factors in furthering the objectives of the United States and Allied Forces in Southeast Asia. The singularly distinctive accomplishments of the members of the 6994th Security Squadron reflect great credit upon themselves and the United States Air Force.

APPENDIX VI

Biographical Sketches

BIOGRAPHY

UNITED STATES AIR FORCE

COLONEL LEON S. INGE

On 29 July 1970, Col Leon S. Inge assumed command of the 6[illegible] Security Squadron, Tan Son Nhut Airfield, Republic of Vietnam. His previous assignment was at Hq European Security Region, Frankfurt, Germany. While stationed in Germany, Col Inge served as Director Systems Management and for the last two years as Assistant Deputy Chief of Staff of Operations.

Born July 9, 1928, in New York City, New York, Col Inge attended Regis High School from which he graduated in 1946. He graduated from Fordham University, New York in 1950 and received a B.A. degree in Constitutional History, simultaneously receiving a commission in the Air Force through the ROTC program.

After a short tour with Hq First Air Force, Mitchell AFB, New York, he applied for Flight Training and received his Navigator wings at Ellington AFB, Texas, in October 1951. After additional training, his first assignment was to the 98th Bomb Sq, 3rd Bomb Wing, Korea, where he flew combat missions in B26s as a navigator-bombardier. Col Inge was then assigned in August 1952, to the 314th Troop Carrier Wing, Smyrna AFB, Tennessee, where he flew C-122 and C-119 aircraft until June 1955. While at Smyrna he attended the Squadron Officers School at Maxwell AFB. He volunteered for USAFSS training in 1956, completed the Communications Intelligence Officer training course and after special training at Kelly AFB, Texas, was assigned to the 6990th Special

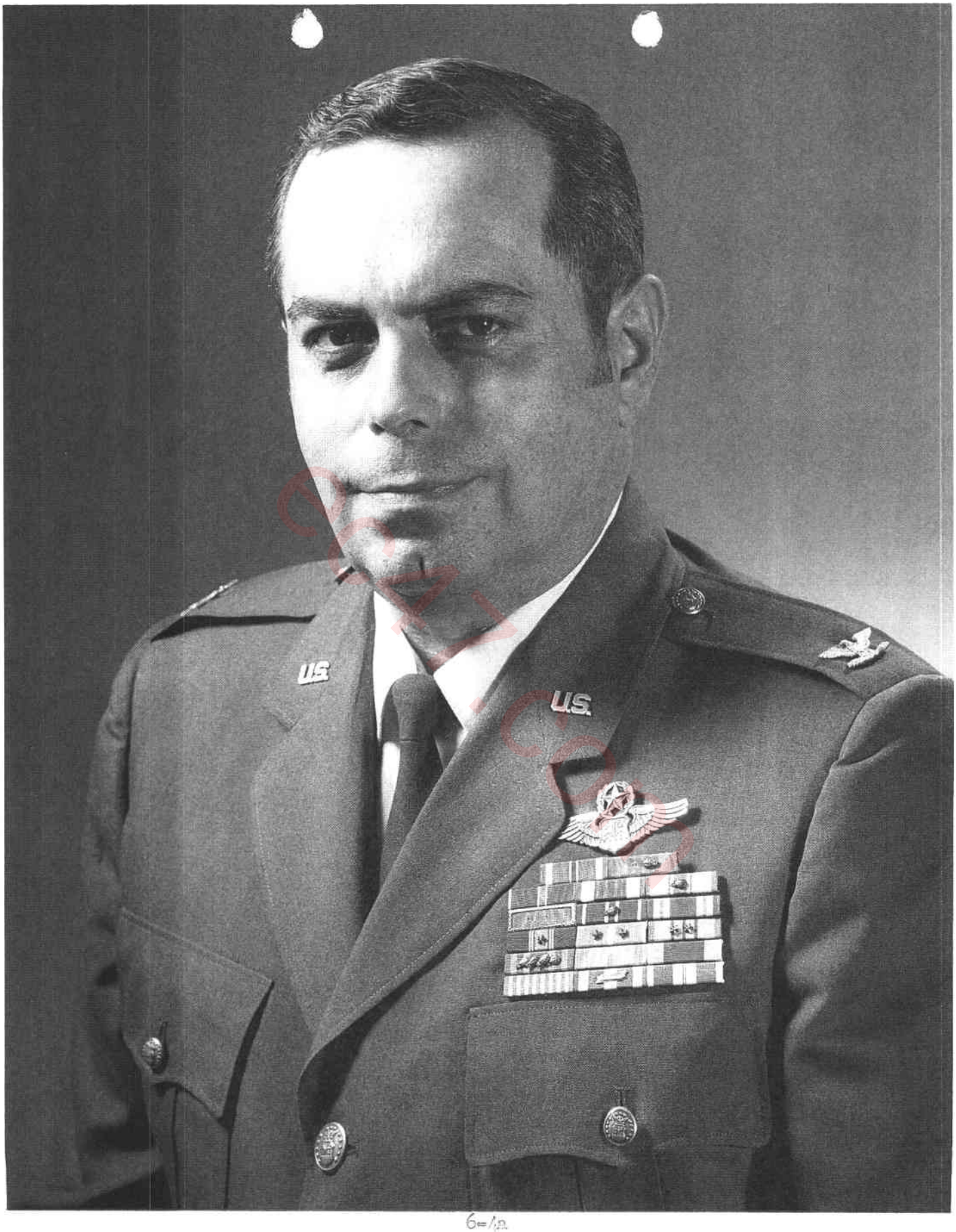
1950	Commissioned 2nd Lt, ROTC, Fordham University
1950	Hq 1st Air Force, Mitchell AFB, New York
1950-1951	Student Pilot Training, Waco, Texas (ATC)
1951	Student-USAF Navigator School, Ellington AFB, Texas (ATC)
1951	Student-B26 CCTS, Langley AFB, Virginia (TAC)
1952	Navigator/Bombardier B-26, 3rd Bomb Wing, Kunsan, Korea
1953-1955	Navigator-Troop Carrier, Smyrna AFB, Tenn (TAC)
1955	Student-Squadron Officers Course, Maxwell AFB, Alabama
1955-1956	Student-Communications Intelligence Officers School, Kelly AFB, Texas (USAFSS)
1956-1959	Chief TRANSEC Analysis Branch, 6920 Special Communications Group, Zweibrucken, Germany
1959	KC-97 CCTS, Randolph AFB, Texas
1959-1963	KC-97 Standardization Evaluator, 376th BW, Lockbourne AFB, Ohio
1963-1965	KC-97 Standardization Evaluator, 9th SAW, Mountain Home, Idaho
1965	Student-Armed Forces Staff College, Norfolk, Virginia
1965-1967	Mission Mgt Officer, Asst Operations Officer, 6937 Comm Gp, Peshawar, Pakistan
1967-1970	Director Systems Management, Equipment R&D Operations, Hq European Security Region, Frankfurt, Germany
July 1970	Commander 699A Security Squadron, Tan Son Nhut Airfield, Vietnam

[illegible] Operations Group (SOG), Zweibrueken, Germany until July 1959.

[illegible] his return from Germany, Col Inge was assigned to the [illegible] Air Command and served on a combat crew as a Senior [illegible] Navigator with the 91st Air Refueling Squadron, Lock-[illegible] AFB, Ohio from 1959 to 1963, during which time he received [illegible] commission, and from 19[illegible] to 1965 he served as Senior [illegible] Navigator with the 9th Air Refueling Squadron, Mountain [illegible], Idaho. After graduating from the Armed Forces Staff College, [illegible], Virginia in June 1965, Col Inge was assigned to the 6937th [illegible] Group, Peshawar, Pakistan until July 1967. Col Inge [illegible] a consecutive tour with Hq European Security Region, Frank-[illegible], Germany, where he served as Director of Systems Management and Evaluation and then as Assistant DCS operations from 1967 to 1970. He received a third consecutive overseas tour in 1970 as Commander, [illegible] Security Squadron, Tan Son Nhut Airfield, Vietnam, his current assignment.

Col Inge's decorations include the Distinguished Flying Cross, Air Medal with one oak leaf cluster, Meritorious Service Medal, Air Force Commendation Medal with one oak leaf cluster, and the Combat Readiness Medal.

Col Inge's wife, Lynn and two daughters, Lisa, 18 and Lauren, 12, reside in Laurel, Maryland.



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DATES OF RANK

Rank	Temporary	Permanent
2nd Lt	13 Jun 1950	13 Jun 1950
1st Lt	05 May 1952	09 Oct 1953
Captain	29 Dec 1955	01 Feb 1956
Major	15 Jul 1963	27 Jul 1964
Lt Col	31 Oct 1966	
Col	13 Nov 1970	

AWARDS AND DECORATIONS

Distinguished Flying Cross
Air Medal (w/1-OLC)
Meritorious service Medal
Commendation Medal (w/1-OLC)
Combat Readiness Medal
National Defense Service Medal (w/1-Star)
Korean Service Medal
Vietnam Service Medal (w/1 Campaign Star)
Air Force Longevity Services Award (w/4-OLC)
Armed Forces Reserve Medal
United Nations Service Medal
Air Force Outstanding Unit Award
Expert Marksmanship Ribbon
Vietnamese Campaign Medal

6994SS/CR 7-71

BIOGRAPHY

UNITED STATES AIR FORCE

STAFF SERGEANT MICHAEL D. PRESLAR

The "Flyingest" Living Cougar of Them All.

The 6994th Security Squadron is a proud organization, with many awards to prove their abilities and contributions to the military effort in Vietnam. None have more reason for pride than Staff Sergeant Michael D. Preslar. He, among all others, evokes the respect and admiration of the entire unit, an honor which he accepts with humility.

Born in Santa Anna, California on October 6, 1940, he became a transplanted Oregonian when his family moved to Grants Pass, Oregon in 1945. He attended Grants Pass Senior High School, graduating in June 1959.

Sergeant Preslar entered the USAF in February 1960. After basic training, he attended the Air Training Command Morse Systems Operator Course at Keesler AFB, Mississippi, graduating in October 1960, at which time he was assigned to the United States Security Service. His first tour with USASTS was at the 6910th Security Wing, Darmstadt, Germany, from November 1960 through May 1964.

Upon his return to the Zone of Interior, Sergeant Preslar was assigned to the 6960th Support Group, Kelly AFB, Texas for cross training into the personnel career field. He was serving in this capacity from May through October 1964 when he received an opportunity to re-enter the Morse Systems field, volunteering for a tour in the 6994th Security Squadron, Da Nang, Vietnam. There he was stationed from November 1964 through November 1965. He returned to Texas to

From [illegible] 1965, he was assigned to the 6994th Security Squadron (Mobile) [illegible] AFB. In a short time Sergeant Preslar again chose the [illegible] route, this time requesting and receiving an assignment to 6994th Security Squadron, Tan Son Nhut Airfield, Vietnam. Arriving in Vietnam in July 1966, he has spent the last five years with the 6994th. Although his present DEROS is May 1972, he has applied for an extension to his present tour to bring his DEROS to May 1973.

During his tenure at 6994th Security Squadron, Sergeant Preslar has amassed an enviable record. A veteran of 604 Combat Missions, he has a total of 3,973 flying hours aboard the Squadron's EC-47s. In recognition of the vast knowledge of operational procedures, he now holds the position of Chief, Squadron Standardization Evaluation Flight Examiner within the 6994th.

Sergeant Preslar's decorations include the Distinguished Flying Cross, Air Medal with 22 oak leaf clusters, the Air Force Commendation Medal, and Vietnamese Service Medal with 12 campaign stars. Of equal significance to Sergeant Preslar is the fact that he has been associated with units that have won the Air Force Outstanding Unit Award and the Presidential Unit Citation on three separate occasions.

What are plans for the future of this eleven year veteran? With an anticipated date of departure from Vietnam of May 1973, it is obvious that his immediate plans call for some of the same. For long range planning, Sergeant Preslar is [illegible] volunteering for recruiting duty in the Pacific Northwest when his Vietnamese tour is completed.

19[illegible]	Enlisted in USAF
[illegible]	Basic Training, Lackland AFB, Texas (ATC)
1959	Student-Morse Intercept Operator School, Keesler AFB, Mississippi (ATC)
1959 - 64	Morse Systems Operator, 6910th Security Wing, Darmstadt, Germany (USAFSS)
1964	Apprentice Personnel Specialist, 6960th Support Group, Kelly AFB, Texas (USAFSS)
1964-1965	Morse Systems Operator, 6924th Security Squadron, Da Nang Airfield, Vietnam (USAFSS)
1965 1966	Morse Systems Operator, 6948th Security Squadron (Mobile), Goodfellow AFB, Texas (USAFSS)
1966 - 1967	Airborne Morse Systems Operator, 6994th Security Squadron, Tan Son Nhut Airfield, Vietnam (USAFSS)
1967 - 1968	Airborne Instructor Radio Operator, 6994th Secutiry Squadron, Tan Son Nhut Airfield, Vietnam (USAFSS)
1968 1971	Squadron Standardization Evaluation Flight Examiner, 6994th Security Squadron, Tan Son Nhut Airfield, Vietnam (USAFSS)
1971	Chief, Squadron Standardization Evaluation Flight Examiner, 6994th Security Squadron, Tan Son Nhut Airfield, Vietnam (USAFSS)

DATES OF RANK

Rank	Date
Airman	March 1960
Airman First Class	1 October 1960
Sergeant	1 February 1962
Staff Sergeant	1 June 1966

AWARDS AND DECORATIONS

Distinguished Flying Cross
Air Medal (w/22-OLC)
Air Force Commendation Medal
Vietnam Service Medal (w/12 Campaign Stars)
Presidential Unit Citation (w/2-OLC)
Outstanding Unit Award (w/2-OLC)
Army Good Conduct Medal
Air Force Good Conduct Medal (w/2-LOC's)
National Defense Service Medal
Armed Forces Expeditionary Medal
Combat Readiness Medal
Vietnamese Campaign Medal
Expert Marksmanship Ribbon
Air Force Longevity Services Award (w/2-OLC)

6994 SS HR 1-71

DISTRIBUTION:

USAFSS (HO)	(2)
PacSctyRgn (HO)	(1)
6940 Security Wing (TAL)	(1)