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10 July 19[illegible] MACSOG DOCUMENTATION STUDY (U)

APPENDIX G

MACSOG COMMUNICATIONS

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APPENDIX G

MACSOG COMMUNICATIONS

PART I. INTRODUCTION

A. (TS) BACKGROUND

This Appendix contains a record of MACSOG's communications net development including an accounting of the procedures of operations with [redacted] the clandestine agent communications network. (b)(1) (b)(3)

B. (TS) SCOPE

Since detailed documentary matter relating to the early development of MACSOG communications no longer exists in command files, COMUSMACV Command Histories from 1964 to 1968 are used as the main sources of reference in compiling this record. Further, this Appendix is arranged in yearly sequence basis in order that the steps involved in establishing a communications network for a MACSOG type military operation can be more clearly followed.

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PART II. 1964 HISTORY

A. (TS) OPERATIONS

1. (TS) Prior to the establishment of MACSOG, [redacted] (b)(1) (b)(3)

[redacted]

2. (TS) Following the establishment of MACSOG, in the J-5 section of COMUSMACV, in January 1964, one of the unresolved problems related to the amount of communications support CAS would provide MACSOG. [redacted] (b)(1) (b)(3)

[redacted]

b. The military provided:

(1) Operational/administrative circuits for MACSOG's use from COMUSMACV headquarters to Naval Advisory Group (NAD), Danang, Airborne Training Center, Camp Long Thanh, American Embassy, Saigon, and Tan Son Nhut Air Base, Saigon.

* (TS) MACSOG Communications/Electronic Instructions, dated 21 Nov 68.

(2) Maintenance of MAROPS equipment and radio operators proficiency.

(3) Cryptographic support.

3. (TS) [redacted] (b)(1) (b)(3)

[redacted]

b. Assumed the responsibility for the mission briefing of MAROPS and flight crew communicators.

[redacted] (b)(1) (b)(3)

d. Assumed the responsibility for communications logistic support.*

B. (TS) CIRCUITRY

1. (TS) At the end of 1964, TTY circuits had been established for MACSOG's use from Saigon to NAD, Danang and First Flight Detachment, Nha Trang.

2. (TS) The MACSOG single sideband (SSB) net included SOG Headquarters, Camp Long Thanh, First Flight Detachment, Nha Trang, and NAD, Danang. [redacted] (b)(1) (b)(3)

[redacted]

3. (TS) Unsecure telephone voice hotlines were established between MACSOG Headquarters, Camp Long Thanh, and Tan Son Nhut Air Base.

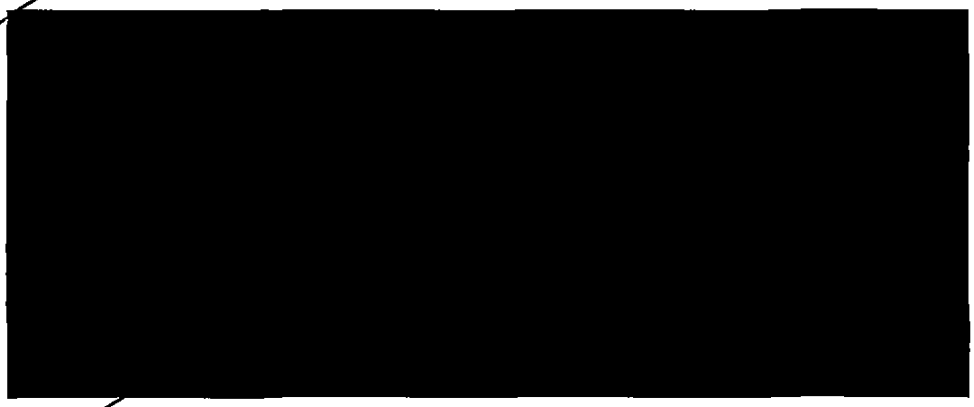
C. (TS) SIGNAL PLANS

MIDRIFF air missions, in late 1964, were supported by plans which were originated in the Air Studies Branch of MACSOG. [redacted] (b)(1) (b)(3)

[redacted]

* (TS) MACSOG Communications Officer ltr of 1 July 1964, Subj: SOG Communications Brief

(b)(1)
(b)(3)



D. (TS) CRYPTOGRAPHY

Literal one-time pads for agent team encryption were furnished through CAS, Saigon. No other FOOTBOY crypto requirements were necessary during this period.*

E. (TS) PERSONNEL

The military section of SOG communications was originally conceived as a staff planning organization with a Joint Table of Distribution (JTD) of two officers and two enlisted men established. Temporary duty personnel were required to operate MACSOG radio circuitry. These temporary duty personnel were provided by MACV J-1 until permanent personnel were assigned to MACSOG.**

* (S) MACSOG Communications Briefing Notes, undated
** (TS) MACSOG Communications Officer ltr of 1 July 1964, Subj: SOG Communications Brief

PART III. 1965 HISTORY 1

A. (TS) OPERATIONS 2

[redacted]

(b)(1)
(b)(3)

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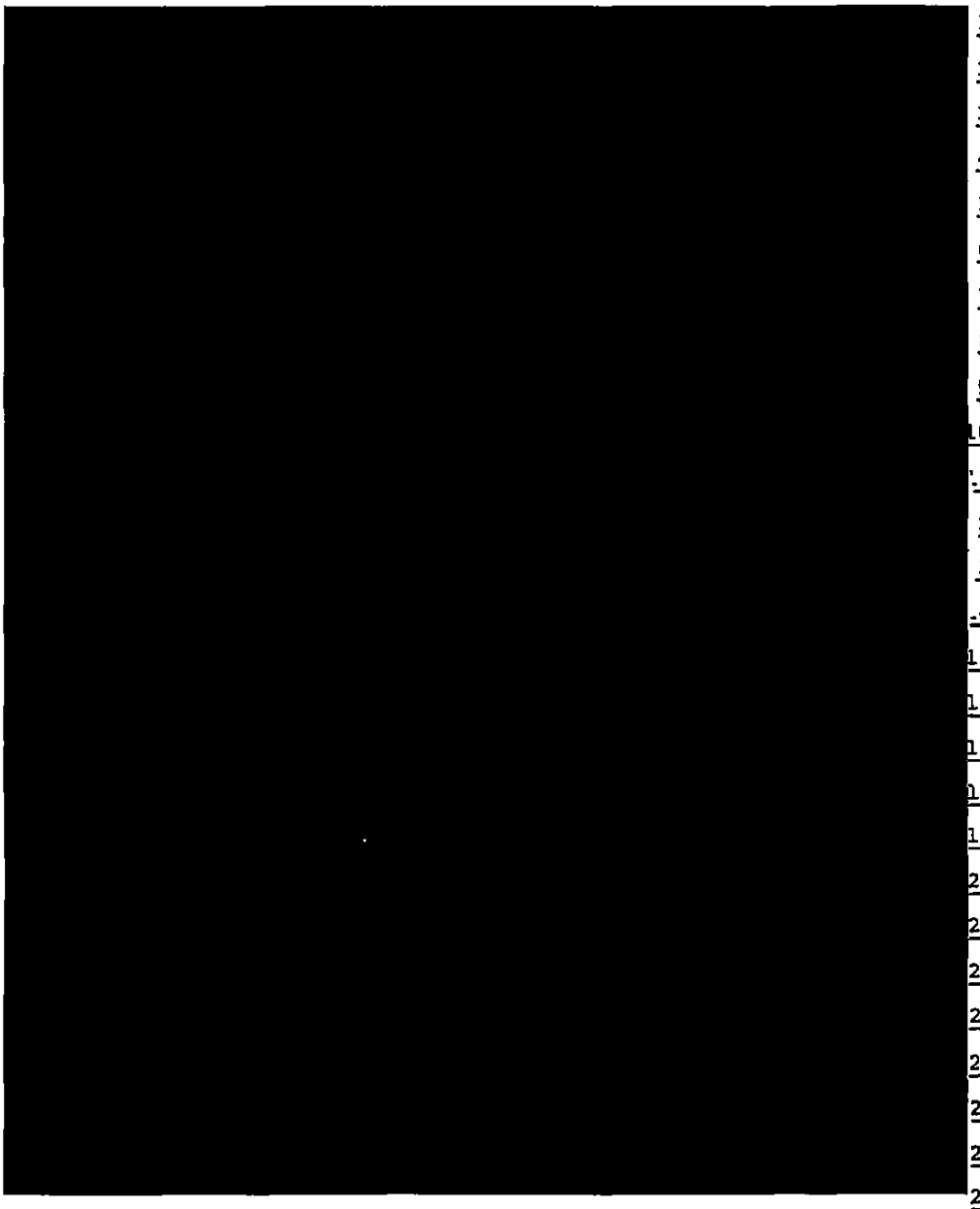
(b)(1)
(b)(3)



* (TS) Memo for Record of LTC E. T. Hayes, USA, dated 15 Sep 1969

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B. (TS) CIRCUITRY

1.(TS) Three additional TTY circuits were established within the MACSOG communications network in 1965. These circuits provided direct communications with Clark Air Base; a multipoint with Command and Control (C&C) Detachment, Danang; off the NAD circuit; and Forward Operating Base (FOB), Phu Bai.

2.(TS) An SSB net, utilizing DWM-2A radios, was established between SOG Headquarters, Camp Long Thanh, First Flight Detachment, Nha Trang, and NAD, Danang in early 1965. Later in the year, this net was extended to include the newly activated C&C Detachment at Danang. The COMUSMACV 1965 Command History indicates that this C&C Detachment was also provided with high frequency transmitters and receivers in order to establish a base radio station for SHINING BRASS operations. The FOBs at Kham Duc and Dak To were also added to the SSB net with activation of KMW-2A equipment at these locations.

3.(TS) To support SHINING BRASS teams, AN/PRC-25 (FM) ground-air radios were procured as well as AN/PRC-64s (AM) for field-base use. The PRC-64 was issued to replace the bulkier and heavier AN/GRC-109 radio. SHINING BRASS communications between the C&C detachment, the FOBs and launch sites consisted of CW and voice radio utilizing one time pads or operations codes. Communications from the teams to launch sites consisted of CW initially. As PRC-25s were introduced, an FM voice capability between the team and base evolved by utilizing forward air control (FAC) aircraft as relay points. Ground relay stations, established at high points in sensitive areas inaccessible to the enemy due to terrain features, were also activated to assist the teams in communicating with their base.

4.(TS) Despite its heavy weight, agent teams in NVN continued to use the GRC-109 in 1965 as it was the only dependable equipment available to meet their long-term requirements.

C. (TS) FACILITIES

[redacted] (b)(1) (b)(3)

[redacted] (b)(1) (b)(3)

D. (TS) MAINTENANCE. Maintenance of MACSOG communications equipment was initially provided by support commands as the result of verbal agreements only. This left much to be desired. Therefore, SOG requested that appropriate commands be officially tasked to provide these services. As a result of this request, US Army Vietnam tasked specific commands to provide maintenance support for SOG radio, teletypewriter and cryptographic equipment located at SOG Headquarters, NAD Danang, and First Flight Detachment, Nha Trang.*

[redacted] (b)(1) (b)(3)

(S) Appendix III to Annex N, 1965 COMUSMACV Command History

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[redacted] (b)(1) (b)(3)

F. (TS) CRYPTOGRAPHY

1.(TS) The responsibility for providing agent teams with cryptographic material (one time pads) was transferred [redacted] to SOG Communications in December. (b)(1) (b)(3) After making arrangements with the National Security Agency, SOG was provided two series of Diana pads for issue to OPLAN 34A teams, SHINING BRASS personnel, and the STD for operations and training. In addition, one time pads, called Calypso, were furnished SOG for roadwatch reporting. In November, Agent Team VERSE was the first team to infiltrate with this roadwatch cryptographic material. These pads allowed roadwatch teams to report contacts by four-digit groups based on numbered flash cards.

2.(TS) The responsibility for decryption of agent team messages was assigned to the STD in December. This change reduced the time of decryption and the subsequent translation of messages received from the field. SOG Communications continued to retain the responsibility of encrypting messages addressed to the agent teams.**

* (S) MACSOG Communications Briefing Notes, undated.
** (S) Appendix III to Annex N, COMUSMACV Commard History dated 2 June 1966.

** (S) Appendix III to Annex N, COMUSMACV Commard History dated 2 June 1966.

G. (TS) PERSONNEL

The MACSOG JTD dated 15 October 1965 reflected the following personnel as being authorized for the SOG Communications Division.

Title	Grade	Service
Communications Officer	O-5	Navy
Operations/Plans Officer	O-4	Air Force
Material/Security Officer	O-3	Army
Comm Center Supervisor	E-8	Air Force
Chief Radio Operator	E-5(2 ea)	Army
Field Radio Repairman Supv	E-6	Army
Field Radio Repairman Supv	E-5	Army
Crypto Repairman	E-6	Army
Teletype Repairman	E-5	Army
Crypto Specialist	E-5	Army
Comm Center Specialist	E-4	Army
Comm Center Specialist	E-3(2 ea)	Army
Comm Center Specialist	E-4(3 ea)	Air Force
Admin Spec	E-4	Air Force
Intermediate Speed Rad Oper	E-4(8 ea)	Army

PART IV. 1966 HISTORY

A. (TS) OPERATIONS

1.(TS)During 1966, the MACSOG Communications Center transmitted and received approximately 2,500 messages per month. Personnel continued to encrypt messages by the one-time-pad method and provided technical assistance to senior officers while they were monitoring operational missions.

2.(TS) Restoration priorities for the TTY circuits serving MACSOG were originally on the priority 2 level. To preclude the SOG circuit from being preempted, an agreement was worked out with COMUS-MACV Communications whereby a 24-hour, 1d restoration priority was assigned the SOG TTY circuity during the period operational missions were in progress.

3.(TS) A secure TTY pony circuity was activated between the SOG Headquarters and the MACV J-6 Communications Center. This circuit was used to pass:

a. "Immediate" and "flash" procedence outgoing traffic originated by MACSOG.

b. "Immediate" and "flash" precedence traffic addressed to MACSOG.

c. Highly perishable intelligence information to COMUSMACV that had been received on the Project BUGS TTY circuit.

B. (TS) FACILITIES AND CIRCUITRY

1.(TS) The Khe Sanh, Kontum and Phu Bai launch bases entered the SOG SSB net in 1966.

2.(TS) Upon the activation of the Joint Personnel Recovery Center (JPRC), a point-to-point secure voice facility between the JPRC and the Joint Search and Rescue Center at Tan Son Nhut Air Base was installed.

3.(TS) MACSOG Communications Division initiated a project which would add a TTY alternate circuit from Danang Control to C&C Detachment, Danang. The purpose of this new circuit was to give Danang Control a multi-point TTY capability and provide a higher

TTY reliability in the Danang area. Additionally, a RATT net was in the process of being established between C&C Detachment, Danang and associated FOBs and launch sites. At the close of the year, the project was not completed due to equipment procurement difficulties.

4. (TS) Naval Shore Electronics Activity Pacific was tasked to provide and install a TTY circuit between NAD, Danang and Cu Lao Cham Island. The purpose of this circuit was to provide a timely relay to SOG of perishable intelligence and psychological operations information. The installation was not completed in 1966.

C. (TS) EQUIPMENT

1. (TS) When the Safe Area Activation Teams (SAAT) were organized and began training in 1966, it was determined their communications equipment would consist of PRC-71 and URC-10 radios. These radios were diverted to SOG from in-country sources and given the teams.

2. (TS) During November and December 1966, 15 PRC-74 radios, capable of CW and SSB voice transmission were received and distributed to subordinate units within MACSOG.

3. (TS) The AN/PRT-4 and AN/PRR-9 squad radios were evaluated for MACOSG's use, and it was determined they would be highly desirable for field operations. Plans were made to divert a certain percentage of these radios to SOG when they arrived in country.

4. (TS) A request was submitted for the VSC-2, jeep mounted radio teletype (RATT) to fill the requirement for a secure RATT circuit between C&C Detachment, Danang and the FOBs.

D. (TS) SIGNAL PLANS

1. (TS) GADAZ tactical signal plans with operating instructions were air dropped to agent teams in NVN, and at the close of the year all but one team, VERSE, had GADAZ plans in their possession.

[redacted] (b)(1) (b)(3)

3. (TS) The MACSOG Communications Division prepared a set of three signal plans to be used by SAAT personnel equipped with the PRC-71 radio.

E. (TS) CRYPTOGRAPHY

1. (TS) A brevity code was devised to furnish agent teams a secure method of passing brief messages by voice to observer aircraft. A similar, but briefer, code was prepared for training and operational use by SAAT personnel.

2. (TS) The National Security Agency developed a specially requested code to support SHINING BRASS operations in December 1966. The code, KAC-199, appeared to be both versatile and secure by communication personnel, and plans were made to put it into use in early 1967.

F. (TS) TRAINING

1. (TS) It was determined that the newly organized SAAT required a minimum CW communications capability in order to accomplish their mission. In response to this need, the STD instituted an 11 week CW operator's course at Camp Long Thanh, and the first class was in the final week of training at the close of the year.

2. (TS) As a means of keeping agent team radio operators proficient in CW communications while waiting to be infiltrated, a refresher training program for these personnel was instituted in 1966. [redacted]

[redacted] (b)(1) (b)(3)

* (S) Appendix VIII to Annex M, 1966 COMUSMACV Command History.

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PART V. 1967 HISTORY

A. (TS) OPERATIONS

1. (TS) The communication activities of MACSOG expanded significantly in 1967 with the commencement of DANIEL BOONE operations. In respect to communications support, these operations set a pattern similar to that of PRAIRIE FIRE. The PRAIRIE FIRE operations continued essentially as before with the exception of a RATT net which was established to link C&C Detachment, Danang with all its FOBs and launch sites.

[redacted] (b)(1) (b)(3)

B. (TS) FACILITIES AND CIRCUITRY

1.(TS)Nakhon Phanom, Dalat Training Camp, STRATA FOB, and the C-5 Detachment at Ho Ngoc Tau were added to the SSB net in 1967.

2.(TS) A RATT circuit was established between NAD, Danang and Cu Lao Cham Island. This circuit provided MACSOG a relay for perishable intelligence and psychological operations information.

3.(TS) In October 1967, a secure, dedicated TTY circuit was activated between SOG Communications Center and the DUCK HOOK facility at Nakhon Phanom. A similar type circuit was also established between the Center and Ban Me Thuot to handle DANIEL BOONE communications.

C. (TS) EQUIPMENT

1.(TS) Six VSC-2s, a new tactical SSB radio, were received and shipped to C&C Detachment, Danang for use on the C&C net.

2.(TS) Fifteen AN/PRC-74s were issued to field units. This set was an improved light weight SSB transceiver which was to serve as an interim item between the AN/GRC-109 and the developmental AN/PRC-70.

3.(TS) The C&C Detachment at Danang received 131 of the new, miniature FM squad radios, AN/PRT-4 and AN/PRR-9, for the PRAIRIE FIRE teams. These radios were to be used for air to ground as well as intra-team communications.

D. (TS) SIGNAL PLANS

1.(TS) In 1967, all agent teams in NVN were queried as to whether or not they held the GADAZ signal plans at their locations. As a result of this query, it was discovered that many of the teams had cached the plans in unsecure areas thus making activation of GADAZ an impossibility. It was, therefore, determined that the normally used signal plans for these agent teams would continue to be employed and improved upon when any deficiencies became apparent.

2.(TS) When the SAAT program was discontinued and the STRATA concept took its place, it was judged that the AN/PRC-74 radio was most suitable for the STRATA teams. A signal plan was developed in support of this equipment, and it was used between the teams and the new STRATA base station established at Danang.

E. (TS) CRYPTOGRAPHY

1.(TS)Acting on MACSOG's request, the National Security Agency (NSA) developed a special code to be employed in cross-border operations. This code, the KAC-199, appeared to be both versatile and secure when it went into effect in February 1967. After the code had been put into use, it was discovered that it was extremely difficult to use since the system was not categorized. A revised version, categorized under subject headings, was introduced, and reports from the field indicated that it was an improvement over the original code.

2.(TS)From the experience of developing locally produced codes and suggesting revisions to the NSA developed KAC-199, a new code was developed by SOG Communications to support STRATA. It was considered, by MACSOG, that the code would be simple to use; enable a Vietnamese to pass messages verbally to English speaking persons; offer a method of making messages brief; and give a measure of security.

3.(TS) SOG Communications conceived another code, KAC-234. It was intended that this code, which was issued to the field for implementation in February 1968, would be used for rotating, on a daily basis, the call signs and personnel identifiers used on the SOG SSB net.*

F. (TS) COMMUNICATIONS SECURITY

1.(TS)Acting upon a request of Chief, MACSOG, the 101st Radio Research Company monitored and analyzed the SOG radio net in July 1967 to determine what, if any, information of intelligence value could possibly be obtained by the enemy through intercept and analysis of traffic on the net. Following the analysis, it was pointed out by the communications security activity that security and discipline on the radio net was extremely loose, and that the circuit provided an excellent source of information for possible exploitation by the enemy.

2.(TS)As a result of this security check, several actions were taken by MACSOG to improve communications security. These actions included the rotations of call signs on a daily basis, implementation of an authentication system, and the stressing of the proper use of operational codes.**

* (TS) Appendix VIII to Annex G, 1967 COMUSMACV Command History
** (C) MACSOG Directive Number 105-6 of 9 Sep 1967.

PART VI. 1968 HISTORY

A. (TS) OPERATIONS

1.(TS) MACSOG communications activities continued to expand in 1968. A significant factor in this expansion was the establishment of STRATA FOBs at Danang and the NAD FOB at Phan Thiet.

2.(TS)To accommodate the increasing cross-border operations, the MACSOG SSB net was divided, with Net A being dedicated to PRAIRIE FIRE and Net B to DANIEL BOONE operations. Communications support for these programs were similar, and a RATT net was established linking Command and Control South (CCS) at Ban Me Thuot with FOB-6 at Ho Ngoc Tau.

3.(TS) As a result of the establishment of the STRATA Monkey Mountain FOB (MMFOB) Communications Center at Danang in July 1968, MACSOG began to receive more timely reports on STRATA missions.

B.(TS) FACILITIES AND CIRCUITRY

1.(TS) Upon relocation of MACSOG to MACV 1 Compound in January 1968, non-secure voice hot lines were installed between SOG Headquarters, 1st Flight, CCN, Ho Ngoc Tao, and Nakhon Phanom.

2.(TS) In February, a separate SSB net between CCS and MACSOG was established which eliminated an overload problem on the Command and Control North (CCN) net.

3.(TS) In July, MMFOB at Danang was added to the TTY circuit as a multi-point extension. This circuit then tied MACSOG Headquarters with CCN, NAD, and MMFOB, Danang.

4.(TS)In September, a secure, dedicated TTY circuit was activated between the MACSOG Communications Center and CCN which provided an alternate traffic route to the Danang area.

5.(TS) In December, when psychological operations on Cu Lao Charr Island were discontinued, the RATT circuit between that activity and NAD, Danang was deactivated.

6.(TS)All major / MACSOG field units received Terminal Telegraph(TH-5) equipment during this period. This equipment made it possible to use a voice hotline to pass teletype traffic which could serve as a backup circuit.

backup circuit.

7. (TS) The CCN RATT net was extended to include Nakhon Phanom in December 1968.

8. (TS) The RATT circuit between CCS and its FOB was established early in 1968. When CCS moved to Ban Me Thuot in July, voice hotlines were established with FOB-6 at Ho Nhoc Tau and MACSOG Headquarters.

9. (TS) A request was approved by COMUSMACV for TTY and voice hotline circuits between MACSOG and Command and Control Central (CCC) at Kontum. It was determined that the circuit activation date would be 15 January 1969.

10. (TS) Action was initiated to validate CCN, CCC, CCS, NAD MMFOB, Air Operations Group, and the Joint Translation Center as Secure Voice Systems, KY-3 (AUTOSEVCOM) subscribers.

C. (TS) EQUIPMENT

MACSOG received 80 KY-38 FM secure voice units in 1968. This equipment, which operated in conjunction with the PRC-77, were distributed to field units. They were to be used by PRAIRIE FIRE and DANIEL BOONE teams to communicate between FOBs, launch sites and radio relay points.

D. (TS) SIGNAL PLANS

In order to occupy the enemy in looking for an agent team that did not exist in NVN, a diversionary tactic was initiated in October 1968, whereby a non-existent agent team in NVN was supplied with all the equipment a regular team would have. A realistic signal plan, including crystals, crypto pads and contact schedules for this diversionary unit was developed that was similar to the existing signal plans. This signal packet was included in the resupply bundle for the notional teams.

E. (TS) CRYPTOGRAPHY

1. (TS) A new MACSOG personnel code, KAC 234, was issued to the field for use on radio nets, voice hotlines and conventional telephones. The code was initially developed as a personnel code

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but was expanded to include locations of MACSOG activities, aircraft, and the identification of routine reports.

2. (TS) In late December, a new STRATA code, ADAC-278, arrived in country. It was planned that this code, which was a combined brevity code and a one time code printed and cross-indexed in Vietnamese and English, would replace the locally produced code that was then in use by the STRATA teams.*

F. (TS) WIRE TAPPING

1. (TS) As a means of enhancing the intelligence collection effort, wire tapping operations were introduced into MACSOG operations in 1968. In an operation plan, Chief MACSOG provided the essential information for the integration of wire tap procedures with PRAIRIE FIRE, DANIEL BOONE, STRATA, and Maritime action team operational missions.

2. (TS) The concept of operations in the plan called for the cross-border teams to be equipped with the MS-1 electronics devices and to conduct wire taps of active enemy communications (wire) when feasible within designated operational areas. When semi-permanent communications installations had been located, it was directed that the more sophisticated device, XR4-100, would be introduced into the operational area by selected teams to continue wire tap monitoring for extended periods.**

* (S) Appendix F to Annex F, COMUSMACV 1968 Command History
** (TS) MACSOG OPLAN 37A-68 (TOTEM POLE) (U) dtd 23 Jan 68

PART VII. 1969 HISTORY (TS)

A. (TS) GENERAL

Late in 1968, MACSOG published up-to-date communications and electronics instructions which codified the administrative and operational concepts of MACSOG communications. Since this publication provides a concise description of MACSOG communication activities in the beginning of 1969, the more significant sections of these instructions are set forth below.

B. (TS) Communications Concept

1. (TS) "The basic concept of SOG Communications is to provide a secure, reliable chain of command from Chief, SOG to each of his subordinate commanders. The basic concept is met in the following manner.

a. "A secure, didicated, simplex, 60 wpm teletype circuit from SOG Headquarters via a tropo path to First Flight Detachment at Nha Trang.

b. "A secure, dedicated, simplex, 60 wpm, teletype circuit from SOG Headquarters via a tropo path to C&C North at Danang. (Marble Mountain)

c. "A secure, dedicated, simplex, 60 wpm, multipoint teletype circuit from SOG Headquarters via a tropo path to NAD and MMFOB, Danang.

d. "A secure, dedicated, duplex, 60 wpm teletype circuit to MACV Headquarters via cable through Saigon Tech Control and Gia Dinh Tech Control.

e. "A secure, dedicated, simplex, 60 wpm teletype circuit via tropo path and TRC-24 to C&C South at Ban Me Thuot.

f. "A secure, dedicated, simplex, 60 wpm teletype circuit via tropo to FOB and Launch Site at Nakhon Phanom, Thailand.

g. "A secure, dedicated, simplex, 60 wpm teletype circuit via tropo to CCC at Kontum.

h. "An unsecure, single sideband voice network is used as a backup for the nets noted above. In addition, all PRAIRIE FIRE(C) FOBs and Launch Sites and the training camp at Long Thanh are members of this voice network. This is protected by use of KAC-234, KAC-199 and KAC-140.

i. "Unsecure telephone voice hotlines to CCN, CCC, NAD/MMFOB, CCS, 1st Flight and Nakhon Phanom. All of the above except CCS have the capability of passing teletype in the event a regular circuit is out by using a voice frequency telegraph terminal TH-5.

2. (TS) "Additional communications concepts essential to the successful conduct of SOG operational missions.

[redacted] (b)(1) (b)(3)

c. "C&C North, Danang RTT Net. A secure, joint, mobile radio teletype net between C&C North, FOBs and Launch Sites. This provides maximum security to sensitive operations.

d. "Intelligence reports from Phoenix/Dodo. A secure radio teletype circuit between Phoenix/Dodo and the Naval Advisory Detachment, Danang was activated on 15 January 1967 in order that intelligence reports could be ralayed to Chief, SOG in a timely manner." *

3. (TS) Figure G-1 is a simplified diagram of the MACSOG communications network.

C. (TS) PERSONNEL

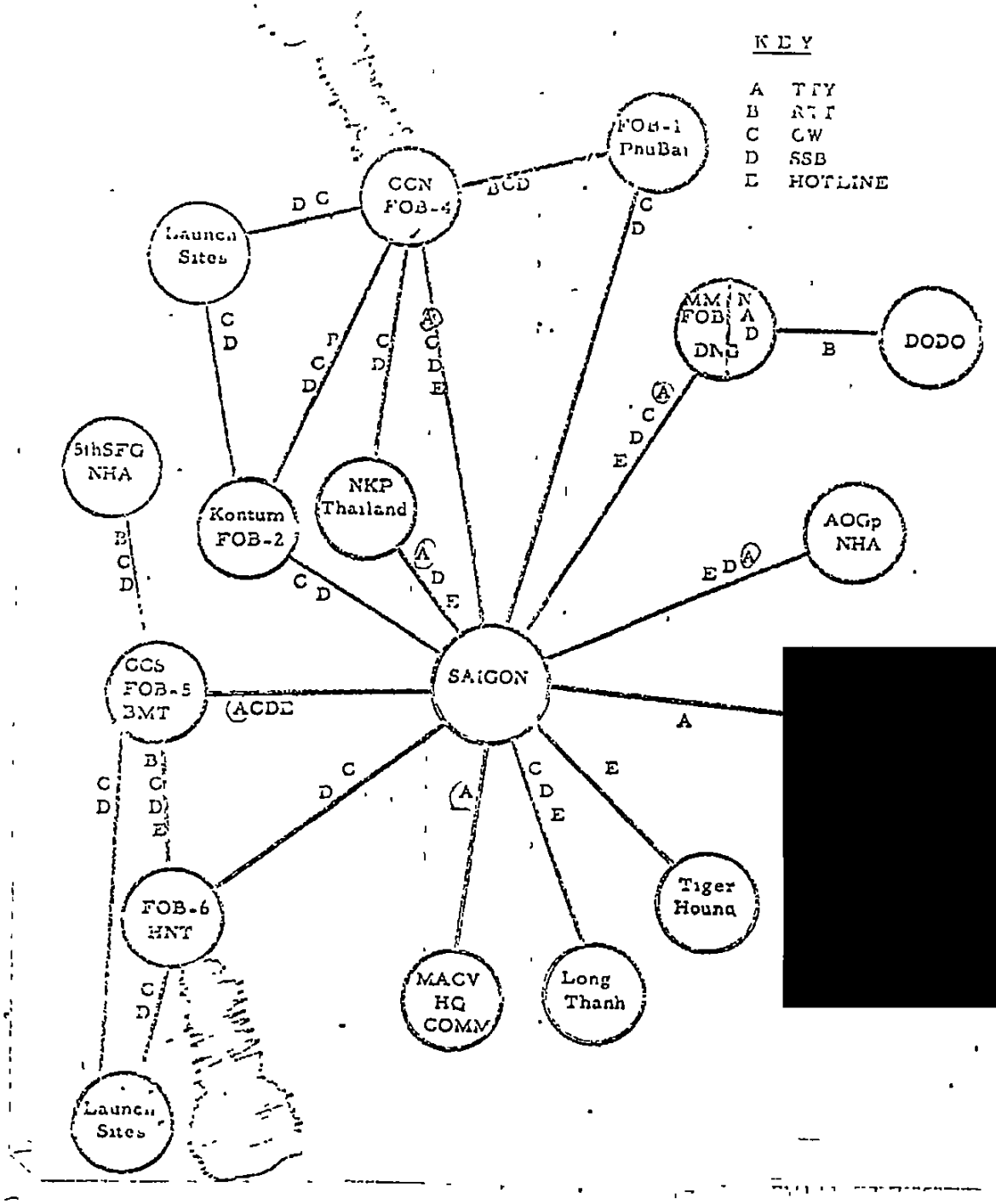
1. (TS) "Personnel for SOG communications are assigned in accordance with the current Joint Table of Distribution (JTD) for the Studies and Observations Group, U.S. Military Assistance Command, Vietnam.

2. (TS) "The JTD is reviewed semi-annually at which time recommended changes are made by branch chiefs for SOG Headquarters and by detachment heads for their detachments.

3. (TS) "Personnel assigned to CCN, CCC and CCS are controlled by the 5th SFG, Nha Trang and, therefore, do not appear on the SOG JTD. Personnel assigned to Air Ops Group are controlled by 7th Air Force." *

* (TS) MACSOG Communications-Electronic Instructions, dated 21 November 1968

FIGURE G-1 (TS)



(b)(1)
(b)(3)

MACSOG COMMUNICATIONS NETWORK

MACSOG COMMUNICATIONS NETWORK

D. (TS) Codes. Below listed are cryptographic codes that were used by various MACSOG activities in 1969.

CCN	CCS	MMFOB	NKP	NAD
USKAC-199*	USKAC-199*	USKAC-234*	USKAC-234*	USKAC-23*
USKAC-234*	UAKAC-234*	KAA-SERIES	KAA-SERIES	KAA-SERIES
KAA-SERIES	KAA-SERIES	XY-OTP	KAC-140	
VL-OTP	KAC-140	ADAC-278	(Draws fm CCN)	
XY-OTP	VL-OTP			
WW-OTP	XY-OTP			
	WW-OTP			

CLT	AOG	HQ
USKAC-234*	USKAC-234*	USKAC-199* (Radio)
KAA-SERIES	KAA-SERIES	KAA-SERIES (Radio)
KAC-140	VL-OTP	USKAC-234* (All Sections)
		VL-OTP (Radio/OP-34)
		XY-OTP (Radio/OP-34)
		WW-OTP (Radio/OP-34)
		KAC-140 (Radio)
		AKAC-125 (OP-32)
		AKAC-132 (OP-31)

2. (TS) "KAA-SERIES (Authentication Table)
USKAC-234 (SOG Personnel Code - 50 registers)
USKAC-199 (SOG Operations Code - 14 registers)
KAC-140 (Operations code - used throughout Vietnam - 8 copies available to SOG)
AKAC-125 (USAF Operations Code [Pacific Area] - 1 register available to SOG)
AKAC-132 (USN Operations Code [Pacific Area] - 1 register available to SOG)
VL-OTP (One Time Pad - 2 register)
XY-OTP (One Time Pad - 3 register)
WW-OTP (One Time Pad - 7 register)

3. (TS) "above items do not include TT keylists, KY-38 keylists or numerical and alpha-numerical one time pads. The numerical and alpha-numerical pads are on-hand, but have not been implemented."

E. (TS) TELEPHONE SYSTEMS

1. (TS) "Two common user trunks are installed between BUFFALO switch (Long Thanh) and BEARCAT (9th Inf Div Switch, located adjacent to Long Thanh). BEARCAT is connected to the Saigon Long Distance Switch at Tan Son Nhut via a radio relay at Long Binh. To reach BUFFALO, dial TIGER operator and ask for BEARCAT. Ask BEARCAT for BUFFALO or BUFFALO 1 to reach the US Switch at Long Thanh, and ask for BUFFALO 2 to reach the VN Switch at Long Thanh. The circuit number of the US Trunk is KRT-7, and the VN Trunk is KRT-8."

2. (TS) "A hot line, circuit number, KRT-9, is installed between the OP-34 office and the BUFFALO Switch. This circuit is routed through the MACV II page microwave to the STRATCOM Phu Lam Frame to a tropo circuit to Vung Tao, and then up to BEARCAT frame via tactical radio relay, and from there to BUFFALO."*

(TS) indicates code peculiar to SOG.
** (TS) MACSOG Communications-Electronic Instructions, dated 21 Nov 1968.

F. (TS) SECURE VOICE SYSTEMS

1. (TS) "SOG Headquarters has the following Secure Voice System, KY-3 (AUTOSEVOCOM).

a. "DUDV KUM-6. Located in OP-32 (OCC) with an extension in OP-35.

b. "DUDV SJV-6. Located in OP-80 (JPRC) with an extension in room 300 (Chief, SOG).

2. (TS) "In addition to the KY-3, Det 14, 30th Weather Squadron has a secure voice telephone (KY-1) to the 7th Air Force COC, Tan Son Nhut, to circuit SJV-6."*

G. (TS) FREQUENCIES

1. (TS) "The area frequency coordinator is MACV (J-6). However, due to the many Vietnamese and US civilian and military users, frequency coordination is almost an impossibility. Where frequencies are not specifically assigned for SOG use, they are selected and used on a non-interference basis.

[redacted] (b)(1) (b)(3)

3. (TS) "The following frequencies have been permanently assigned to SOG by the MAC J-6 frequency coordinator.

a. "HF Frequencies

Frequency	Emmission	Location
3156.5(3155)*	3A3J	123 CTZ
3493(3494.5)*	1.1F1	1 CTZ
	3A3J	All CTZ
3536.5(3535)*	1.1F1/3A3J	1 CTZ
3541.5(3540)*	3A9J	RVN
3118	6A9B	RVN
4005*	1.1F1	1 CTZ
4255	A1	1 CTZ
4295*	A1	1 CTZ
4518.5(4517)*	3A3J	1 CTZ
4900	A1	1 CTZ
4928.5(4927)	3A9J	NKP, Thai
5407.5(5407)	3A3J	1 CTZ
5500	1.1F1	1 CTZ
5521*	CW	Air/Ground
5715(5721.5)*	3A3J	123 CTZ
6797.5(6796)	3A9J	NKP, Thai
6920(6926.5)	3A3J	123 CTZ
7051.5(7050)*	3A3J	NKP, Thai
7323.5(7321)*	3A3J	RVN
7425	6A9B	RVN
7620.5(7619)	3A3J	RVN
7678.5(7677)*	3A9J	NKP, Thai
7943	1.1F1	RVN
8218.5(8217)	3A3J	1 CTZ
9043*	1.1F1	DNG
9145(9151.5)*	3A3J	123 CTZ
10021*	CW	Air/Ground
10100*	6A9B	2 CTZ
10121.5(10120)	3A3J	1 CTZ
10142.5(10141)	3A3J	3 & 4 CTZ
10891.5(10890)	3A3J	1 CTZ
12700*	CW	1 CTZ
12885.5(12884)*	3A3J	1 CTZ
14651.5(14650)	3A3J	1 CTZ
14961.5(14960)*	3A3J	3 & 4 CTZ
15711.5(15710)*	3A3J	1 CTZ
16556.5(16555)	3A3J	1 CTZ

b. "VHF Frequencies

61.850	30F3	BEARCAT
63.950	30F3	BEARCAT
119.8	6A3	SGN/A/G/A
138.3	3F2	AIR
228.3	80F3	DNG
247.9	80F3	DNG
259.3	80F3	DNG
259.4	80F3	DNG

c. "UHF Frequencies

336.9	6A3	Long Thanh
360.6	6A3	1 & 2 CTZ
366.6	6A3	1 & 2 CTZ."**

* (U) TABOO frequencies.

** (TS) MACSOG Communications-Electronics Instructions, dated 21 November 1968.

** (TS) MACSOG Communications-Electronics Instructions, dated

TOP SECRET

H. (TS) CODEWORDS

1. (TS) The codeword TIGER refers to operations conducted under OPLAN-34A and is considered SECRET. [redacted] (b)(1) (b)(3)

[redacted]

The codeword TIGER is used in OPLAN-34A messages originated by MACV or CINCPAC to JCS. The codeword DRAGON is used in OPLAN-34A messages originated by DOD, JCS to MACV (SOG), and CINCPAC. TIGER indicates limited distribution (LIMDIS) of messages which concern OPLAN-34A operations and is used both in common user and sole user circuits. (Local "codewords" to indicated limited distribution of OPLAN-34A messages alternatively routed to NAVAD V DET Danang and 1st Flt Det, Nha Trang, i.e., TOMCAT and PUSSYCAT respectively, have been cancelled as being unnecessary.) Alternately routed messages referring to OPLAN-34A operations are designated LIMDIS TIGER like all other OPLAN-34A messages.

[redacted] (b)(1) (b)(3)

I. (TS) CALL SIGNS

[redacted] (b)(1) (b)(3)

2. (TS) "SOG C-123 aircraft, for administrative communications, use a two-letter call sign beginning with "W", i.e., WHISKEY ALPHA, WHISKEY FOXTROT.

[redacted] (b)(1) (b)(3)

4. (TS) Tab I contains an alphabetical list of codewords, nicknames and call signs that were in use during 1968-1969.

J. (TS) LOGISTICS

1. (TS) "Logistic support for SOG communications is the responsibility of the SOG Logistics Division which requisitions material through the Counterinsurgency Support Office (CISO), Okinawa. Crystals ordered through CISO take six to 11 months to procure.

[redacted] (b)(1) (b)(3)

2. (TS) "Requests for communication equipment from the Communications Officer, Strategic Technical Directorate (STD) are submitted via the SOG Communications Officer for approval or disapproval. This includes requisitions for communication training equipment at Long Thanh Training Camp and for STD radio stations.*

* (TS) MACSOG Communications-Electronic Instructions, dated 21 November 1968.

K. (TS) SPECIAL STUDIES

1. (TS) "SOG Communications Branch monitors the communication training of agent team, boat and aircraft radio operators by means of training schedules submitted by STD and Airborne Operations, discrepancy reports [redacted] and visits to SOG elements. Direct responsibility for communication training is as follows: (b)(1) (b)(3)

a. "Agent Teams. Vietnamese instructors at Long Thanh Training Camp.

b. "Boat Radio Operators. Initially by instructors at Long Thanh Training Camp. However, since these personnel are seldom replaced, refresher training is conducted between MAROPS missions by NAVADVDET Danang communications personnel. This training is based on the MAROPS signal plan, good communications practices and operator discrepancies as reported in contact reports [redacted]. (b)(1) (b)(3)

c. "Aircraft Radio . Nha Trang conducts communication refresher training of aircraft radio operators Training is based on the AIROPS signal plan, good communication practices and operator discrepancies as reported in contact reports [redacted] (b)(1) (b)(3)

[redacted]

3. (TS) "The Communication Officer, STD supervises and monitors the training of agent team radio operators at Long Thanh and submits plans of instruction (POI), training schedules, rosters of students, and reports of results of training to Chief, OP-34.

4. (TS) "Short-range radio operator training is conducted between the trainees at Long Thanh. [redacted] (b)(1) (b)(3)

L. (TS) COUNTERPART COMMUNICATIONS

1. (TS) In order to obtain data regarding existing Vietnamese counterpart communication networks, equipment being employed, and adequacy of equipment available to satisfy communication

* (TS) MACSOG Communications-Electronic Instructions, dated 21 November 1968.

requirements, the MACSOG Communications Material Officer, in July 1969, visited the communications sites supporting the STD and Liaison Service, ARVN.

2. (TS) Upon completion of this visit, it was determined that

a. Two separate radio networks are maintained. The first is a logistics/administrative net which links STD with its distant terminals (see Figure G-2). The second is a command/control/operations net which links the Liaison Service with the Command and Control Sites (see Figure G-3).

b. The STD met predominantly employs the AN/FRC-93 at its Saigon Headquarters, while the AN/PRC-74 equipment is used at distant terminals. The Laision Service uses the PRC-74 and the GRC-106 as basic radios.

b. These two nets appear to satisfy counterpart requirements through the use of voice and CW, off-line encrypted with KAC codes and one-time pads where appropriate.*

M. (TS) COMMUNICATIONS STUDY

1. (TS) The MACSOG communications officer conducted a comprehensive study of the three SOG Command and Control Detachments' communications facilities in early 1969. As a result of this study, he determined that:

a. "The Detachments' communications/electronics inventory contains a complex mix of equipment which is difficult to support with spare parts and which requires maintenance personnel with uncommonly varied training and experience.

b. "Much of the teletype equipment is worn and obsolescent and requires an inordinate amount of maintenance.

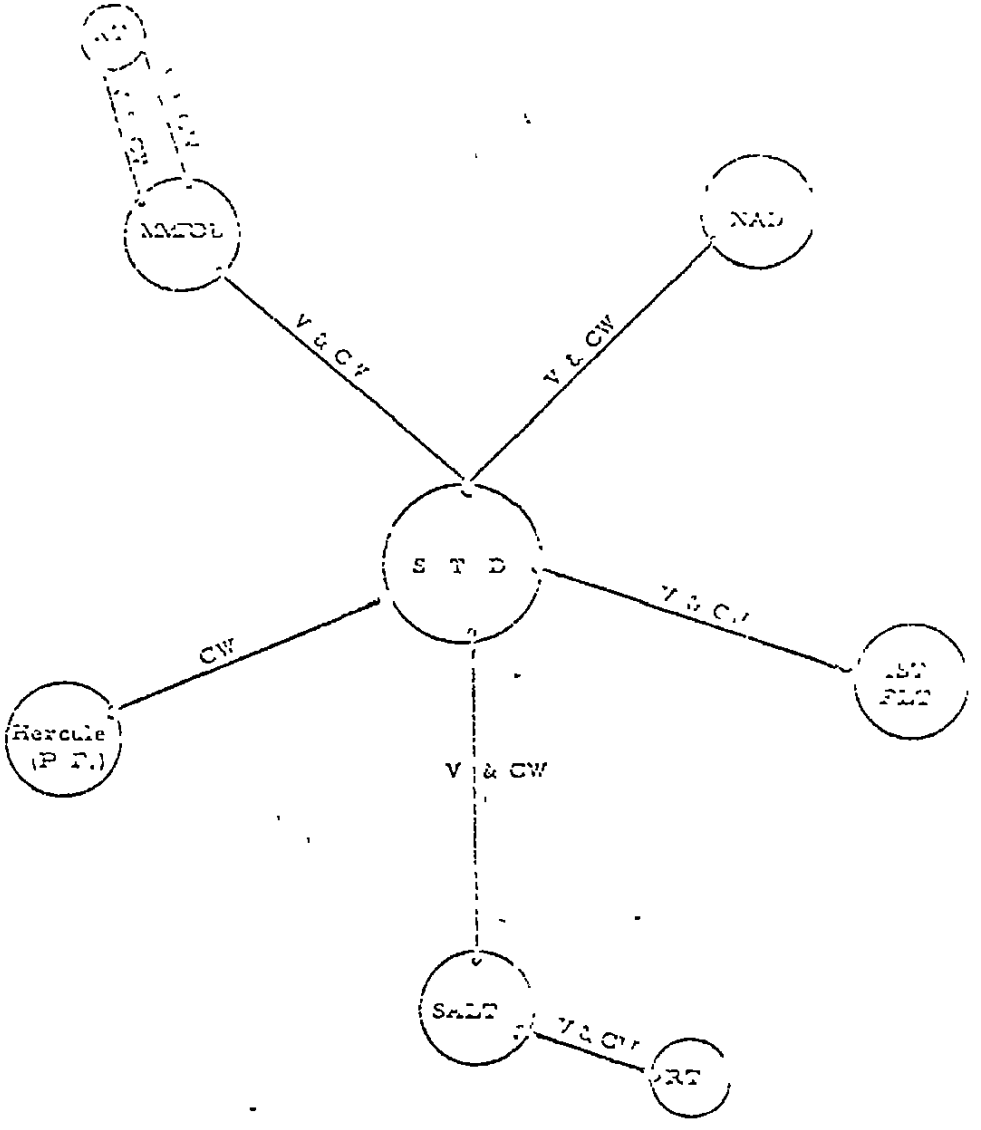
c. "Much of the high frequency radio equipment is obsolescent and unstable. It will not support a secure radio teletype signal from the C&C to the launch site.

d. "Due to the lack of positive management control procedures, some returning reconnaissance teams have been transferring tactical radio equipment directly to outgoing teams, thereby precluding preventive maintenance procedures which would insure radios are operating at optimum efficiency when deployed.

* (TS) MACSOG Communications Material Officer letter of 21 July 1969; Subject: "Trip Report, STD Communications Sites."

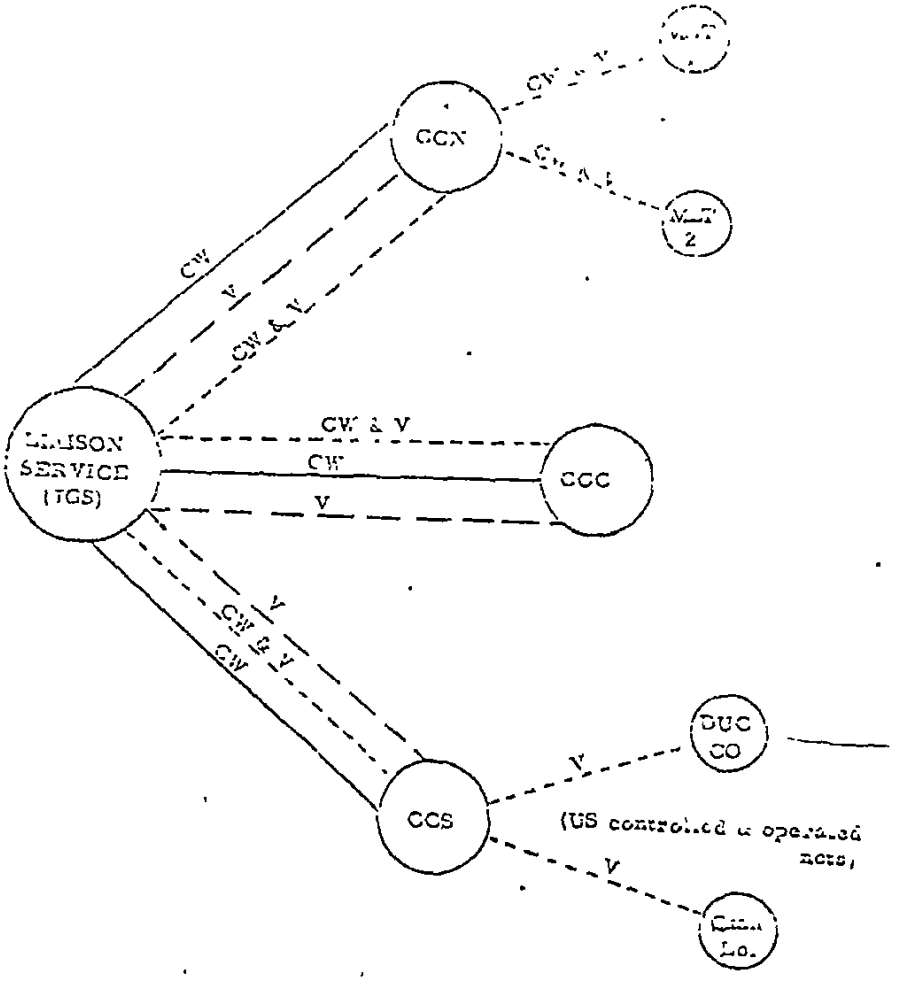
TOP SECRET

FIGURE G-2 (TS)



STD COMMUNICATIONS NETWORK

FIGURE G-3 (TS)



LIAISON SERVICES COMMUNICATIONS NETWORK

e. "Although sufficient maintenance support agreements are in effect with adjacent radio and teletype repair units, these units frequently do not have sufficient spare parts or technical knowledge to effect repair due to obsolescence of C&C equipment.

f. "Much equipment in C&C inventories is not being used or is in excess of requirements.

g. "Test equipment on hand is inadequate to meet maintenance requirements."*

2. (TS) After listing the above problem areas, the communications Officer, in his report, discussed equipment and maintenance difficulties in detail as follows

a. Tactical Radio Equipment

(1) "The amount of tactical radio equipment on hand, including antennas and handsets, appears to be adequate if properly controlled.

(2) "Procurement of 150 AN/PRC-90s has been approved by the Department of the Army. The PRC-90 is a 2-channel plus emergency beacon lightweight set with ear phone that should replace URC-10, RT-10, HT-1 and PRT-4/PRR-9 for intra-team comm and the AN/PRC-41 as back up air/ground radio.

(3) "AN/PRC-77 are being issued in lieu of AN/PRC-25.

(4) AN/PRC-64 (lightweight CW and voice set designed for U/W) is receiving little use now but should be retained in inventory for intermediate range (beyond range of PRC-77 but not requiring PRC-74) operations.

(5) "AN/PRC-74s are used tactically for long-range operations (particularly STRATA) and also as backup for SOG SSB voice net and as voice/CW backup for launch site to C&C RATT. PRC-74 should be retained in inventory.

b. Command and Control Communications Equipment

(1) "At this time there are no reliable, secure, rapid communications between launch sites and C&Cs. In one instance, CCC to Dat To, a strong secure voice link can be established as soon as a small generator can be procured to furnish power. At other sites, greater distances involved require secure, radio teletype (RATT) communications. Equipment on hand is old, unreliable and continually drifts off frequency. Stable (drift free) equipment is required for secure RATT circuits.

(2) "Most teletype equipment in C&C communication centers is worn and obsolescent. Replacement with AN/FGC-25X, which is standard equipment for most Army units in Vietnam, will greatly reduce maintenance and spare parts support problems

* (S) Director, MACSOG-60 letter of 29 May 1969; Subject. "Communications Requirements for Command and Control Detachments."

* (S) Director, MACSOG-60 letter of 29 May 1969; Subject. "Communi-

(3)"Standardization of equipment as reflected in (Figure G-4)for which additional inventories should be procured, will necessitate the expenditure of approximately $426,800 as follows.

Quantity	Nomenclature	FSN	Total Cost
24	AN/FGC-25X	5815-619-5644	$ 85,000
6	AN/GRC-106	5810-082-3491	43,800
12	MD-522/GRC	5815/999-5277[a/]	60,000
4	AN/GRC-142[a/]	5820-788-4515[a/]	238,000

a/ Modified by substituting AN/FGC-25X as teletype equipment.

c. Maintenance

(1) "Standardization of equipment as reflected in

and ease the burden of technicians, who will be required to attain expertise in far fewer equipments.

(2)"CCC and CCS will acquire additional maintenance capabilities in July when each will receive a Filipino radio repairman and a teletype repairman.

(3)"The maintenance capability at each C&C will be considerably enhanced upon procurement of test equipment contained in Figure G-5)."*

3. (TS) To alleviate the communications problem a C&C Detachments, certain recommendations were made to Chief, MACSOG. The recommendations, which were subsequently approved are listed as follows

a. "That SOG Logistics Officer procure the equipment specified in paragraph (b(2)(c)) above, for replacement of obsolescent equipment.

b. "Upon receipt of AN/PRC-90, C&C Detachment turn in all obsolete tactical radios.

c. "That C&C Detachments retain only those HT-1 radios required for camp defense.

d. "That the C&C Detachments turn in all PRT-4/PRR-9 squad radios to Saigon for turn-in to depot for credit.

e. "That SOG Logistic Officer procure test equipment contained in (Figure G-5) less what is currently held.

4. (TS) In the course of the survey of the C&C Detachment facilities, their communications networks were delineated and are reproduced in Figures G-6, G-7and G-8.

* (S) Director, MACSOG-60 Letter of 29 May 1969, Subject. "Communications Requirements for Command and Control Detachments."

FIGURE G-4 (TS)

RECOMMENDED COMMUNICATIONS EQUIPMENT LIST (TS)

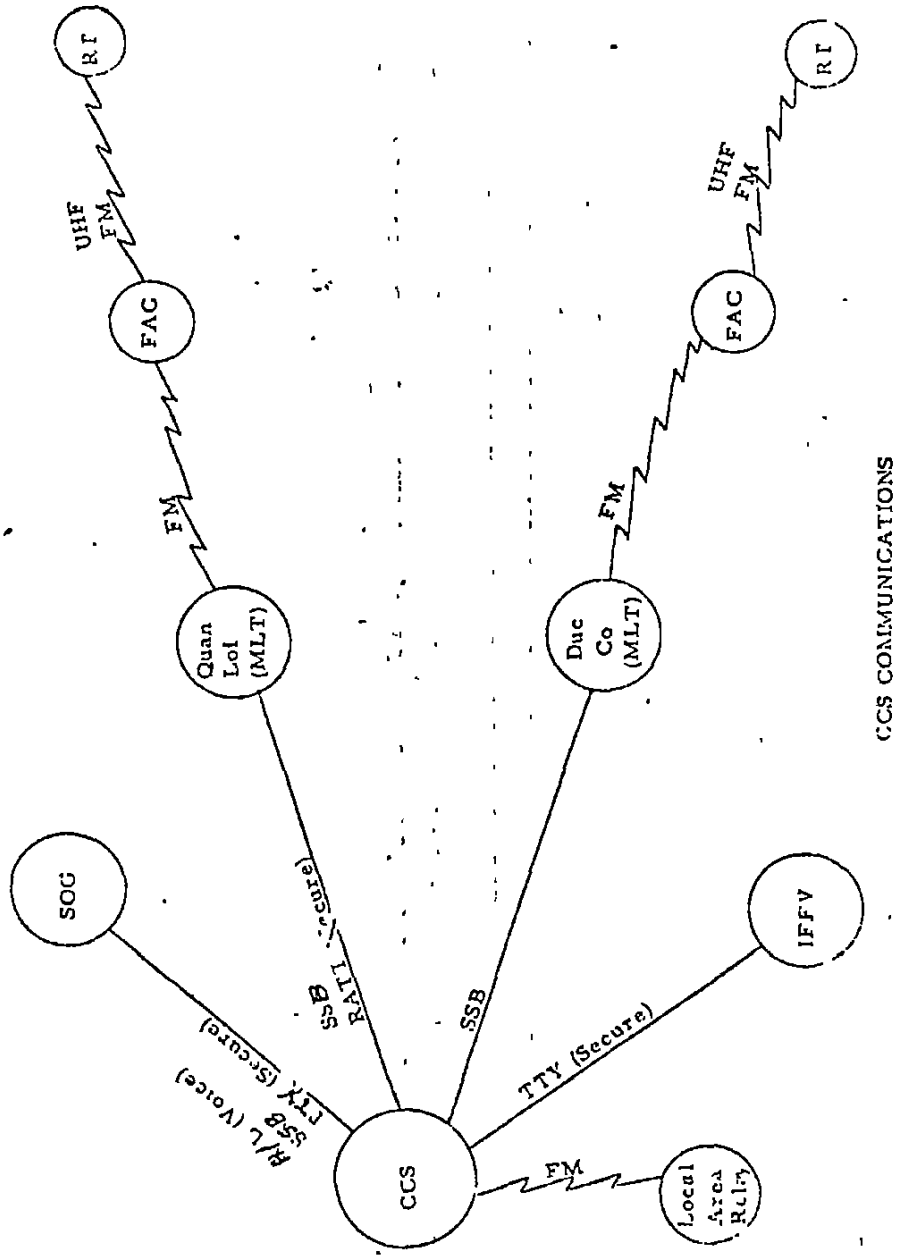
	CCN	CCS	CCC	Total
Fixed Station				
AN/FGC-25X	13	7	4	24
AN/FGC-58X	-	-	-	-
AN/GRC-106	6	4	2	12
MD-522/GRC	6	4	2	12
AN/GRC-142	2	2	-	4
AN/FRC-93	8	6	3	17
AN/PRC-74B	7	5	6	18
RT-524	7	6	8	21
Team Radio				
PRC-77	60	60	60	180
PRC-25	-	-	-	-
PRC-90	60	60	60	180
PRC-64	15	15	15	45
PRC-74B	10	5	5	20

FIGURE G-5 (TS)

RECOMMENDED TEST EQUIPMENT LIST (TS)

	CCN	CCS	CCC	Total
Oscilloscope (AN/USM-140A)	1	1	1	3
Signal Generator, RF				
SG/URM-25D (AM)	1	1	1	3
AN/URM-48 (FM)	1	1	1	3
Audio Generator, HP 200CD	1	1	1	3
Multimeter, TS-352 B/U	1	1	1	3
Vacumn Tube Volt Meter				
ME-26	1	1	1	3
ME-30/U (RF)	1	1	1	3
Frequency Counter, AN/USM-207	1	1	1	3
Tube Tester, TF-2/U	1	1	1	3
Transistor Test Set, TS-1836 B/U	1	1	1	3
Capacitor, Analyzer, ZM-73 A/U	1	1	1	3
Wattmeter, AN-URM-120	1	1	1	3
Dummy Load, DA-75/U	1	1	1	3
Teletype Test Set, AN/UGM-1	1	1	1	3

FIGURE G-6 (TS)



TOP SECRET

FIGURE G-7 (TS)

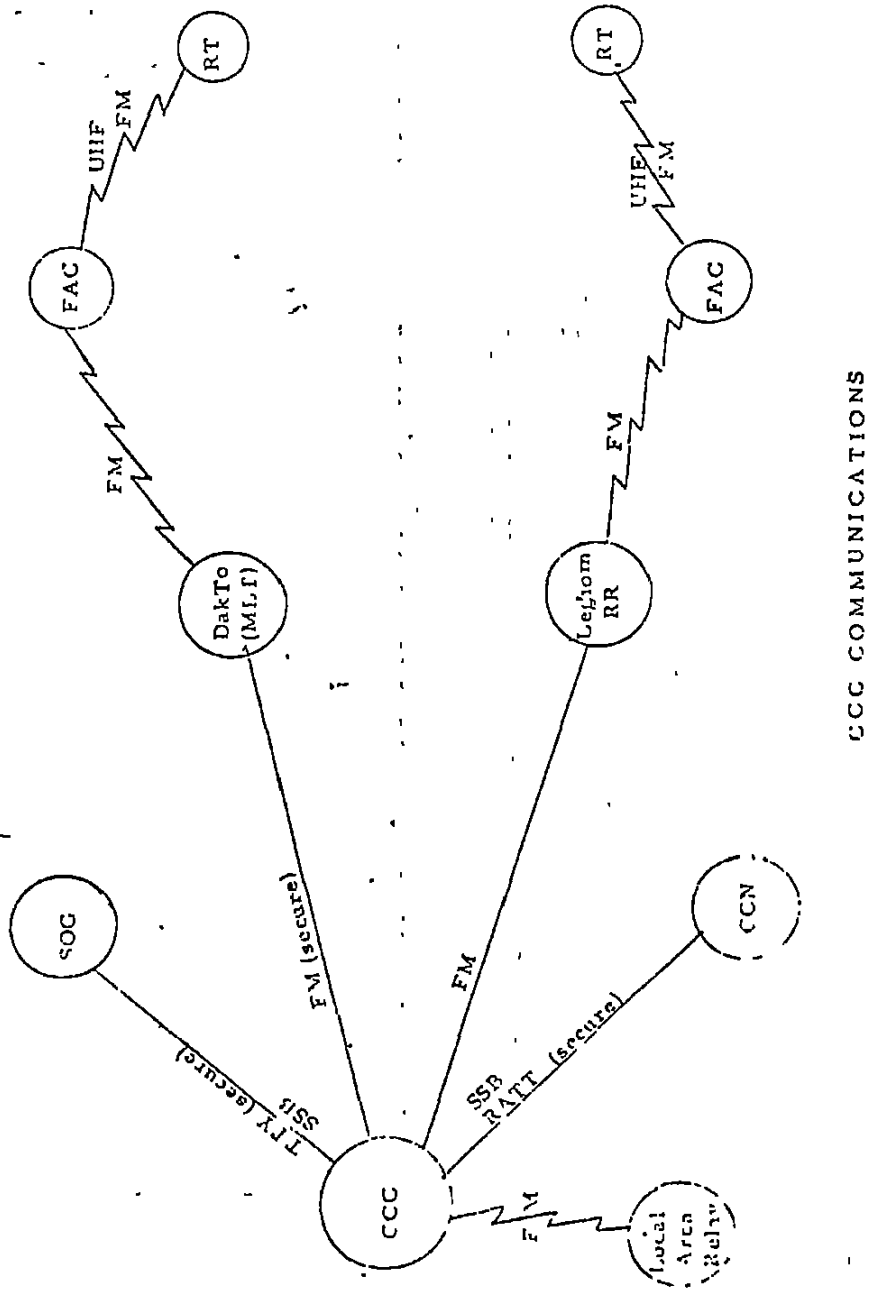
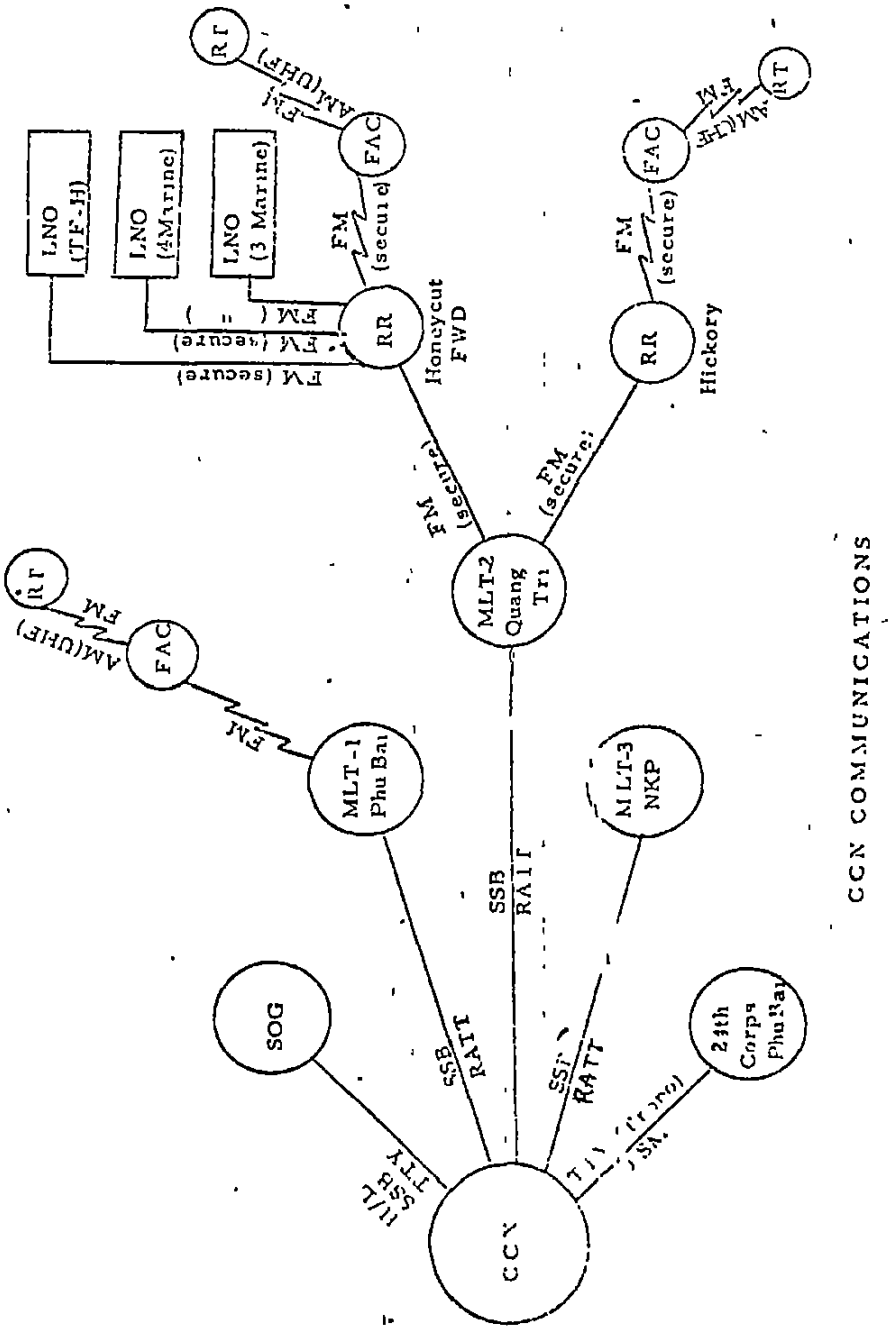


FIGURE G-8 (TS)



N. (TS) TACTICAL RADIO EQUIPMENT

1. (TS) As a means of improving reconnaissance team communications, Chief, MACSOG, in June 1969, submitted a material requirement to COMUSMACV for a secure, short-range tactical communications system capable of operating in the VHF range (30-72 MHZ). The overall weight of the system desired would not exceed 20 pounds including the security device, radio and power supply. In submitting this request, it was noted that reconnaissance teams had been comprimised in the past by the enemy monitoring unsecure tactical nets and currently available equipment was not extensively utilized due to its excessive weight.*

2. (TS) Data on the primary tactical radio equipment used by MACSOG field units in 1969 is given below.

a. RS-1 (AN/GRC-109) provides reliable medium and long-range communications over a wide range of climatic conditions in a portable package.

(1) Power. 12 watts.
(2) Frequency Range. Transmit, 3-22 MHZ; receive, 3-24 MHZ.
(3) Weight. 80 pounds. (Includes transmitter, receiver, power supply, and hand crank gererator)

b. AN/PRC-74 is a low-powered/transistorized, single medium range sideband radio for voice or CW communications.

(1) Power. 15 watts.
(2) Frequency Range. 2-12 MHZ.
(3) Weight. 30 pounds.

c. AN/PRC-25 and AN/PRC-77 are standard back pack tactical VHF FM radios. The basic difference is that the PRC-77 is configured to be used with the KY-38 speech security device.

(1) Power. 2 watts.
(2) Frequency Range. 30-75.95 MHZ.
(3) Weight

1. PRC-25. 23.5 pounds.
2. PRC-77. 42 pounds. (with KY-38)

* (C) Chief, MACSOG Letter of 6 June 1969, Subject. "ENSURE Request."

d. AN/URC-10 is a portable radio transceiver designed as an emergency air-sea rescue radio. It is used for ground-to-air communications, and transmits UHF voice or a tone beacon signal on one pre-set UHF frequency.

(1) Power 200 milli-watts
(2) Frequency Range. 240-260 MHZ
(3) Weight. 27 ounces

TOP SECRET

Appendix G

G-39

TAB 1 TO APPENDIX G

CODEWORDS, NICKNAMES AND CALL SIGNS (U)

ALLEY CAT. . . . Call sign of ABCCC at night (DMZ, Laos, BARREL ROLL area)

ALASKA . . . . Thu Duc

ARC LIGHT. . . . B-52 Strike

ARIZONA. . . . . Cambodia

BARRELL ROLL . . Northwest area of Laos

BLUE EAGLE . . . EC-121 flying PSYOP missions out of Danang/Saigon

BORDEN(C). . . . Diversionary program in NVN (TSLD)

BRIGHAM. . . . . Call sign for GCI at Udorn AFB, Thailand

BRIGHT LIGHT . . JPRC recovery mission

BROWN ANCHOR . KC-135 refueling tracks (also RED, WHITE, BLUE, TAN and GREEN0

CADO . . . . . Maritime intelligence, PSYOP and/or cross beach mission

CALIFORNIA . . . Russia

CANDLES. . . . . Radio tapes

COLD TURKEY . . PSYOPS material (leaflets, gift kits, radios)

COMBAT SPEAR . . 15th Air Commando Squadron, C-130s

COMMANDO HUNT . 7th Air Force Program for enemy interdiction into Laos (TS)

COVEY. . . . . Call sign for TIGERHOUND Forward Air Controller (FAC)

CRACKER BOX. . . C-123 or C-134 assigned to SOG

CRICKET. . . . . Call sign of ABCCC during day (STEEL TIGER/ BARRELL ROLL

DIAMOND HEAD . . Use of people sniffers

DUFFEL BAG . . . Employment of DCPG resources in Southeast Asia for purposes other than to impede infiltration from NVN to SVN

DUMP TRUCK . . . Air supported antipersonnel sub-system of IGLOO WHITE Program

DUST COVER . . . Modular transportable sensor data collection and processing system

DUEL BLADE . . . Ground obstacle system to impete infiltration in IGLOO WHITE Program

EGGS . . . . . Gift kits

ELDEST SON . . . Contaminated ammunition program (TSLD)

ELPASO . . . . . COMUSMACV OPLAN for overt ground operations across Route 9 in Laos

FOOTBOY(C) . . . SOG operations in NVN (TSLD)

FORAE(C) . . . . Project associated with the diversionary program in NVN (TSLD)

HAILSTONES . . . M-4A resupply containers

HAWAII . . . . . Camp Long Thanh

HEAVY HOOK . . . SOG C-123s

HEAVY MOW. . . . Two of the above C-123s on loan from the GRC

HILLSBORO. . . . (C-130) an Airborne Command Control Center which directs both FAC (O-1E) and high performance aircraft during daylight hours.

HUMIDOR(C) . . . PSYOPS Program under FOOTBOY(C) (TSLD)

ICE CUBES. . . . Leaflets

IGLOO WHITE. . . DCPG sponsored anti-infiltration program

INSISTENCE(S). . MACSOG maritime operations in coordination with MARKET TIME to prevent infiltration by sea into SVN

INVERT . . . . . Call sign of GCI radar at NKP, Thailand

IRON HAND. . . . Anti-SAM missions

IVORY TRUNK. . . Use of elephants

JELLY BEANS. . . Mail

MAINE . . . . . Communist China

MIDRIFF(C) . . . Air operations in support of FOOTBOY(C)(TSLD)

MUD RIVER. . . . Air supported antivehicular sub-system of the IGLOO WHITE Program

MUSTARD FLANK. . Call sign for VHF radio located in OP-32.

MINT . . . . . SOG maritime interdiction mission

NEW YORK . . . . North Vietnam

NICKLE STEEL . . SOG operations in the DMZ (TSLD)

OODLES(C). . . . Project associated with the diversionary program in NVN (TSLD)

PANAMA . . . . . Call sign for GCI radar at Danang AFB.

PARADISE . . . . Cu Lao Cham Island (TSLD)

PARBOIL(C) . . . Maritime operations in support of FOOTBOY(C) (TSLD)

PARFAIT(C) . . . FOOTBOY(C) SSPL pseudo organization in NVN (TS)

PEANUTS. . . . . Radios

POLLACK(C) . . . Project associated with the diversionary program in NVN (TSLD)

PRAIRIE FIRE(C). Cross-border operations into Laos (TSLD)

PROJECT ATHENS . COMUSMACV operation to cut Route 110 in Laos

PROJECT BUFFALO. COMUSMACV operation to cut Route 547 in the Ashau Valley

PROJECT JENNY. . Airborne (EC-121) propaganda broadcasts

ROLLING THUNDER..Area in NVN North of Tally Ho area

SALEM HOUSE. . . Cross-border operations into Cambodia (TSLD)

SANITARIES(C). . Project associated with the diversionary program in NVN (TSLD)

SOAP CHIPS . . . PSYOPS booklets

STEEL TIGER. . . Panhandle area of Laos

TALLY HO . . . . Area extending from southern border of DMZ to the southern border of Route Package One

TAR HEELS . . . Incapacitating gas

TEAR DROPS . . . Commodities for the Ho Chi Minh Trail

THUNDER CLOUD. . PW snatch missions in Laos/Cambodia

TIGER HOUND. . . [redacted] (b)(1) (b)(3)

TIMBERWORK(C). . Airborne operations in support of FOOTBOY(C) (TSLD)

TOTEM POLE . . . Wire tap missions

TREAT. . . . . In-country black propaganda

URANOLITE (S)	Project associated with the diversionary program in NVN (TSLD)
WATERBOY	Call sign for the CCI radar a Tong Ha, RVN
WILD WEASEL	Aircraft employing electronic detection equipment used to detect and destroy SAM sites
YOUNG TIGERS	SAC program for re-locating KC-135s to Taiwan in support of an increased B-52 effort