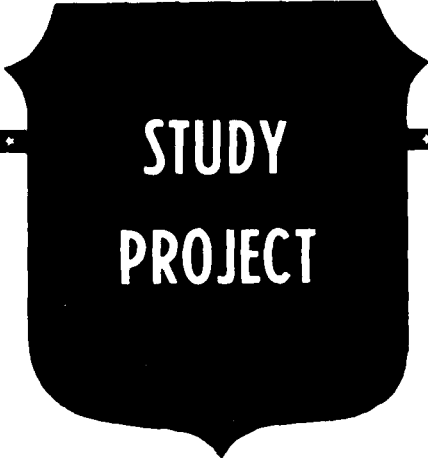


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THEATER SIGNAL SUPPORT OF SPECIAL OPERATIONS
FORCES HEADQUARTERS

BY

LIEUTENANT COLONEL J. DAVID BRYAN

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THEATER SIGNAL SUPPORT OF SPECIAL OPERATIONS FORCES
HEADQUARTERS

AN INDIVIDUAL STUDY PROJECT

by

Lieutenant Colonel J. David Bryan, SC

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Handwritten notes: towards command control systems, Global command control systems

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THEATER SIGNAL SUPPORT OF SPECIAL OPERATIONS FORCES HEADQUARTERS

CHAPTER I

INTRODUCTION

The mission of military communications is to facilitate the execution of command, control, and supporting functions. To be responsive to this mission, reliable systems must be provided that permit the rapid and secure interchange of information throughout the chain of command. There must be an unbroken chain of communications extending from the President to the Secretary of Defense, to the Joint Chiefs of Staff, to the commanders of unified and specified commands, to the commanders of sub-unified and joint task force commands, to the commanders of assigned service components, and thence to other subordinate commanders and their forces (1). The Joint Chiefs of Staff, the unified and specified commands, and the military services insure that the commander at every level has the necessary communications to accomplish his assigned mission. To this end, military operations and military communications are integral and inseparable, both a command responsibility. Nor can this relationship be disrupted regardless of the level of conflict or the nature of the conflict if mission accomplishment is to be achieved. It is as true in preparing for war as it is in the conduct of war - as important in low intensity conflict as in a large scale conflict.

It is as essential to special operations as to conventional operations and has been recognized by both as a number one priority. During the revitalization and expansion of special operations forces (SOF) during the 1980's, communications has consistently been identified as a high priority in the SOF Mission Area Analysis, the SOF Master Plan, the SOF Modernization Action Plan, and the SOF Integrated Priority List. Some organizational structure solutions have been applied, most notably the activation by the Army of a small, but powerful SOF signal battalion, and the alignment by JCS of two U.S. Air Force communications squadrons with the Joint Communication Support Element (JCSE).

For the most part, however, attention has focused on equipment modernization and acquisition leaving a significant shortfall in overall signal force structure. Ross Kelly, writing for Defense and Foreign Affairs contends that parallel efforts are needed to develop combat support and combat service support units to fully capitalize on the utility of SOF (2). This study addresses the signal organizational shortfall and recommends an affordable, doctrinally and technologically sound, solution.

BACKGROUND

The Organization of the Joint Chiefs of Staff (OJCS) defines special operations as "operations conducted by specially trained, equipped, and organized Department of Defense forces against strategic or tactical targets in pursuit of national military, political, economic, or psychological objectives." (3) Thus, some operations could be nearly indistinguishable from

conventional operations, yet be considered special operations by virtue of the type forces executing the mission. More likely the mission and the forces utilized are special in the truest sense of the term. An important distinction must be noted between special forces, a specific type of Army organization, and special operations forces which is a much broader term encompassing special forces as well as rangers, SEALs, and others, of all services.

In either case, SOF perform missions across the spectrum of conflict from security assistance, violent peace and operations short of war, through other forms of low intensity conflict, and up the scale of conflict in support of strategic and operational level operations. It is the lower end of the scale that has become the special purview of SOF for these type forces are especially effective in this environment where the use of large formations of conventional forces is inappropriate, premature, or escalatory in nature (4).

The commanders in chief (CINCs) of the unified and specified commands are responsible for directing forces in the field, both in peace and in war. The warfighting CINCs have identified that operations up to and including low intensity conflict are an ongoing, everyday occurrence in each theater and that they need dedicated SOF (combat, combat support, and combat service support) available to fulfill this responsibility to include the requisite command and control communications support (5). Although recent defense resource guidance supports a major and minor theater for mid to high intensity conflict short of national mobilization (6), the regional CINCs have identified the

the requirement for SOF to conduct low intensity operations in all theaters simultaneously (7). This is further supported by then Secretary of Defense Weinberger who in his annual report to Congress in 1984 stated that SOF would play an ever increasing role in responding to the low intensity conflict environment in all theaters throughout the end of the century and beyond (8). The revitalization of SOF that resulted from Weinberger's efforts however, is not complete. Motley contends that additional "traditional" force structure may have to give way to make room for SOF support as the U.S. seriously examines military strategy and power in light of the worldwide environment (9). The revitalization of SOF is providing the necessary Special Forces to accomplish this, but it has not met (nor is it programmed to meet) the total SOF C3 requirements. The theater command and control signal support structures are inadequate to joint and service SOF C3 needs and are already fully committed to the support of their conventional forces (10). In order to meet theater responsibilities and employ SOF effectively, a dedicated SOF signal structure is required for each theater.

This requirement is further identified and supported by the services. The Army's Long Range Planning Guidance, 1998-2008, states that ongoing regional conflicts will continue to require U.S. intervention in several theaters and suggests that these activities will occur in multiple theaters simultaneously (11). It recommends that contingency forces deployed to these areas be capable of independent operations in very austere environments. Logically, these forces must be strategically mobile yet economic in terms of air flow if they are to be capable of responding in a

timely manner. There are few conventional signal organizations that can meet these requirements even if they were available. Most conventional signal organizations are too large in terms of equipment assemblages to be airlifted efficiently, and they do not have the inherent flexibility to respond to the broadest possible range of missions. The Army's 112th Signal Battalion (Special Operations) (Airborne) comes closest to meeting the need but it cannot cover all theaters simultaneously. More of these types of signal organizations, small, light and powerful, are needed.

Two additional points must be made that support the requirement for a dedicated SOF signal organization. First, during times of fiscal constraints, restructuring to meet military missions worldwide is a prudent course of action if one is to achieve balance without losing structure overall. The basic premise is this: if the end to be achieved requires the employment of military forces; and the way that is preferred is to use SOF; then the means must include the appropriate force structure. To fail to recognize this linkage is to ignore the fundamental precis of strategy. In terms of balance, this means not just expanding the SOF combat force, but its requisite C3 signal force as well. The imbedded principle is to program to mission and build the combat support structure in synchronization with the combat force. Secondly, the lessons of history and recent experience in special operations and related contingency operations teach that to attempt such missions with an ad hoc rather than a dedicated C3 signal organization is to invite disaster (12).

In summary, the need for a dedicated SOF signal structure

in every theater to support special operations simultaneously worldwide is a fundamental concern that must be addressed.

STATEMENT OF THE PROBLEM

Succintly stated, dedicated SOF are required in each theater to conduct simultaneous, worldwide low intensity conflict and related activities. These SOF require a dedicated signal structure that is sufficient and tailored to their particular C2 needs and that can transition to, and support, higher levels of conflict. This structure must be interoperable with U.S., allied, and host nation communications systems and capable of full integration into national and theater networks. It must be flexible and capable of responding to a full range of military options. And ,it must be available on a dedicated basis. This is the preeminent problem. There is an imbalance between C3 requirements and available SOF signal structure. The current shortfall in SOF signal structure to support the theater SOF sub-unified commands (known as "Special Operation Commands" or SOCs) precludes attainment of a critical segment of national and theater objectives.

RESEARCH LIMITATIONS

This study contributes to rather than concludes a process of examining SOF signal structure to support theater SOF headquarters. It does not propose to analyze SOF C3 architectural requirements at every echelon. For example, it does not pursue the internal C3 needs of SOF combat organizations

such as Special Forces Groups, the 75th Ranger Regiment, or a Naval Special Warfare Task Group. The view in this paper is at a higher level. In order to receive the widest possible distribution it avoids classified areas and relies on open source references. Inferences to organizations, missions, or techniques that are classified are likewise avoided. There are sensitive, highly classified SOF C3 requirements, but these are more properly addressed in a segregated, compartmentalized study and are not addressed here.

One of the limitations of the research effort has to do with the issue of proponentcy. From an Army perspective there is considerable confusion as to who in TRADOC is really the proponent for SOF signal doctrine and structure. The John F. Kennedy Special Warfare Center has proponentcy for special forces, civil affairs and psychological operations and for the 112th Signal Battalion (Special Operations) (Airborne), but not for SOF aviation, SOF logistics, SOF intelligence, or low intensity conflict. In fact, the 112th is the only signal battalion in the Army not under the proponentcy of the Signal Center. Although a unique signal unit, its TRADOC proponent should still be the Signal Center.

ORGANIZATION OF THE PAPER

This paper is organized to follow a logical progression of thought, analysis, and conclusion. Chapter I provides an introduction and background material in response to the question "why is this study needed?" It provides a statement of the problem being studied and limitations of the study particularly

as concerns classified information. It concludes with a description of the general organization of the paper.

Chapter II examines key doctrinal concepts as they relate to special operations forces roles and missions across the spectrum of conflict as well as aspects of joint and Army signal operational concepts. This doctrine review is necessary because much of it is still emerging. It supports current Airland Battle doctrine as well as operations envisioned over the next two decades. A fundamental precept of the paper is that it proposes a doctrinally sound SOF signal structure that can respond to SOF C3 needs of the future, therefore a review of applicable established and emerging doctrine is required.

Chapter III examines SOF C3 requirements beginning with a generic theater architecture then proceeding with the unique requirements of each warfighting CINC. A brief summary of these requirements is provided that begins to illustrate the need for a dedicated SOF signal structure for each theater and an overall umbrella SOF signal organization.

In Chapter IV a brief review is provided of those signal organizations currently tasked to support the theater Special Operations Commands, joint and Army, as well as those programmed. Missions, capabilities, and operational employment techniques are included. Two important observations deserve mentioning at this point. Signal structures programmed such as the new Theater Army Special Operations Command (TASOC) headquarters signal element are inadequate to the task and reveal little realistic information mission area analysis. An examination of the proposed organization reveals little evidence that force

designers sufficiently considered the impact of "high tech and low density" or the fact that in the signal business the sum of the parts is never greater than the whole. There is also a lack of regard for technical and systems control functions so essential to successful integration of technologically sophisticated networks. Secondly, it becomes readily apparent that current organizations must change to keep pace with developments such as the introduction of Mobile Subscriber Equipment (MSE), and to reduce airlift requirements without reducing capabilities.

Chapter IV concludes by comparing worldwide requirements versus current and programmed capabilities and highlights the net organizational shortfall.

The proposed SOF signal structure to rectify the problem is outlined in Chapter V. Mission, general characteristics and capabilities, and organization are provided.

Chapter VI introduces the most controversial aspect of the paper - resourcing the new structure. Nevertheless, the "zero sum game" is recognized and billpayers are identified with justification.

Chapter VII provides conclusions, a recommendation, and identifies areas for subsequent study.

The logical flow of the paper does not protect it from criticism. Rather, it is intended to provide responsible analysis leading to reasonable conclusions that will at least stimulate discussion if not actually lead to problem resolution.

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CHAPTER II

DOCTRINAL FOUNDATIONS

Military doctrine is a set of commonly understood and accepted guidelines for how to apply the principles of military theory (1). It flows from a particular conception of war which is based upon an alloy of principles (2). Doctrine provides the base of thought, speech and action that is essential in achieving unity of effort. Doctrinal inconsistency hinders this mutual understanding and unified effort, and is, therefore, detrimental to both the preparation for war and the conduct of military operations (3).

While steps have been taken in establishing new command structures and organizational strategies for a more effective response to low intensity conflict, these have not been matched by intellectual sophistication, strategic thought or doctrinal relevancy (4). There is a glaring mismatch between concepts, conflict perceptions, strategy, force structure, and doctrine in employing special operations forces. Much of this confusion has been precipitated by those whose view is filtered through conventional lenses shaped by existing "turfs." The result is the emergence of irrelevant prescriptions for policy, strategy and organizational design (5).

The root cause of much of the confusion cited is that in the rush to revitalize SOF in the 1980's there was inconsistency in SOF doctrine. New roles and missions were being introduced at the same time that new doctrine was emerging. Individual experience and CINC OPLAN requirements became the sources for

defining what it was that SOF were to do and how they were to do it because these requirements were being generated faster than the normal concept based system could respond. Add to this the revolutionary introduction of the MSE system with its concomitant impact on signal doctrine, and it quickly becomes obvious that a coherent doctrinal base for SOF communications has been very difficult to establish. Further complicating the situation is the ongoing overhaul of joint doctrine resulting from congressional legislation and the continuing analysis of the Airland Battle. In sum it may fairly be said that the doctrine arena is in the midst of massive change.

Nevertheless, it is necessary to provide a doctrinal foundation if one is to provide an appropriate setting for stating requirements and developing force structure as this paper proposes to do. The doctrine review that follows is excerpted from contemporary views of emerging doctrine as well as draft and published field manuals, mixed in such a way as to further clarify the need for a new SOF signal organization; the roles and missions of that organization; and the structure of that organization. That such a review is even needed is testimony to the dynamic nature of emerging doctrine.

ROLES AND MISSIONS OF SOF ACROSS THE SPECTRUM OF CONFLICT

Although much recent attention has been focused on the roles and missions of SOF in low intensity conflict (6), little has yet to evolve that describes how SOF capabilities can best be utilized in support of Airland Battle doctrine and the operational level of war. FM 31-20 (Draft), Special Forces

Operations (7), currently undergoing field review, is an important step in the right direction as is the recent publishing of FM 100-20, Low Intensity Conflict (8) which at least admits to not being an Airland Battle manual. Yet an understanding of these forces and their roles and missions in support of military/political operations across the spectrum of conflict is fundamental to establishing a companion supporting signal structure.

Forces

The types of SOF available to support the theater CINC include (9):

Army

-- Special Forces: commonly referred to as the "Green Berets" these units specialize in unconventional warfare (UW), foreign internal defense (FID), direct action, special reconnaissance and counterterrorism (CT).

-- Rangers: these units specialize in strike operations and light infantry tactics and operate in company/battalion sized formations.

-- Psychological Operations (PSYOP) and Civil Affairs: these type units specialize in "winning the hearts and minds" of various targetted groups to include a civilian populace or a military force.

-- Aviation: these units specialize in low level, long range, nighttime, rotary wing lift and fire support for other SOF units.

-- Signal Battalion: a one-of-a-kind organization, this

unit features an incredibly broad range of C3 capabilities from briefcase SATCOM to full service signal centers and DCS entry. All of its equipment is downsized for economic airlift. It supports the theater SOC as well as Army SOF headquarters.

Air Force

-- fixed wing and rotary wing aircraft units featuring specialized avionics and weaponry for clandestine air infiltration and exfiltration, air resupply, air-sea rescue, CCT, gunship and aerial refueling.

Navy

-- Sea, air and land (SEAL) units: specializing in fleet support, unconventional warfare, counter-guerrilla operations, and clandestine operations in a maritime environment.

-- Special Boat Squadrons: specializing in surface maritime support to include rescue, delivery/pickup, reconnaissance, and fire support.

-- SEAL Delivery Vehicle Teams: specializing in transporting SEAL teams in small subsurface vehicles.

Marines

-- although Marine Expeditionary Units - Special Operations Capable (MEU-SOC) are conventional forces, they often coordinate and participate with SOF particularly in maritime/amphibious environments.

Missions

SOF missions generally fall into one of five broad doctrinal areas: Foreign Internal Defense (FID), Direct Action (DA), Unconventional Warfare (UW), Special Reconnaissance and Counterterror (CT). Other than by definition, CT is not

addressed in this paper due to its sensitivity and classification. JCS Publication 1 and FM 31-20 define them as follows (10):

-- Foreign Internal Defense: Participation by civilian and military agencies of a government in any of the civic action programs taken by another government to free and protect its society from subversion, lawlessness and insurgency.

-- Unconventional Warfare: A broad spectrum of military and paramilitary operations conducted in enemy-held, enemy-controlled, or politically sensitive areas. UW includes but is not limited to the interrelated fields of guerrilla warfare, evasion and escape, subversion, sabotage, and other operations of a low visibility, covert or clandestine nature. These interrelated aspects of UW may be prosecuted singularly or collectively by predominantly indigenous personnel, usually supported and directed in varying degrees by an external source(s) during all conditions of peace and war.

-- Direct Action: A specified act involving operations of an overt, covert, clandestine or low visibility nature, limited in scope and time, and conducted primarily by a sponsoring power's SOF in hostile or denied territory.

-- Counterterror: Offensive measures taken in response to a terrorist act, including the gathering of intelligence and threat analysis in support of these operations.

-- Special Reconnaissance: Information gathering and target acquisition deep in an enemy's rear area in support of the strategic or operational level commander. This type of mission takes place typically deep enough to report on, target, and if so

ordered, interdict, follow-on forces, reserves, LOC's or C3 facilities at the theater level (11).

Immediacy in terms of time is one of the most important discriminators between missions. FID and UW are generally long duration with limited timeliness required for at least broad overall objectives, whereas immediate response from a constantly maintained alert posture best characterize both DA and CT missions. Deep Recon is a mix of both. Long timelines are required to properly prepare for these missions, but once in position reporting is executed on a near real time basis (12).

FID operations are unique in that the chain of command flows through the State Department for security assistance matters. Within a given host country the U.S. ambassador or principal diplomatic officer is responsible for insuring that all U.S. military, economic, social and political assistance programs are coordinated. The senior military representative in the country is directly responsible to the ambassador for the implementation and coordination of the military assistance program. He reports to the regional CINC through the "country team." (13)

The most extensive body of SOF doctrine addresses UW and within that mission area the following different types of activities may be conducted:

- Small unit operations such as raids, mining and ambushes.
- Reconnaissance and surveillance.
- Linkup and combined operations with conventional forces.
- Psychological operations support and coordination.

-- Guerrilla warfare including establishing underground networks to support such missions as escape and evasion, sabotage, subversion and intelligence gathering.

-- Infiltration, exfiltration and resupply by land, air or sea (surface and subsurface).

The distinction between UW and DA is often difficult to describe but primarily refers to the scope and duration of the mission. For example, in a UW environment (lengthy time commitment), a DA mission (short time commitment) may be conducted as a subset of UW. On the other hand, a direct action mission may be executed with specially tailored forces as a discrete operation in support of different, but supporting objectives than those assigned to the UW mission.

Tactical deception is an emerging mission area in which SOF can perform a critical role in support of the operational level commander. PSYOP forces are particularly effective in this regard (14).

From this brief review of SOF roles and missions and types of forces, a transition to a review of pertinent signal doctrine is appropriate.

KEY SIGNAL DOCTRINAL CONCEPTS

Signal support is analogous to fire support. All elements of the system must be regulated, coordinated and controlled to optimize their capabilities. The integration of these elements is the responsibility of the supporting signal organizations to include those that are user-owned and operated and those provided by signal organizations. This integration is accomplished

through standardization, regulation and technical control (15).

FM 100-5 states that the only purpose of C2 is to implement the commander's will in pursuit of the unit's objective (16). For the commander's will to be relevant to the situation, the C2 process must:

- Continually acquire critical information on the situation.

- Disseminate timely and concise information.

- Coordinate unit activities.

- Synchronize widely dispersed activities.

- Implement the commander's intent.

Signal support is the collective and integrated application of information and communication systems in support of C2. It includes user-owned and operated systems and terminals, signal unit provided communication systems, and the system integration between the systems. Signal units provide networks of general support common user communication systems (17).

Signal support consists of multiple and varied groups of systems, services, personnel and equipment that operate in diverse manners, at different echelons, and in support of discrete as well as collective functions. It functions throughout the network as a synchronized and unified entity. It provides the requisite connectivity and interoperability with joint and combined forces (18).

Overall direction of signal support is based on the following principles:

- Signal support must operate as a single force. This is as true in the preparation for war (training) as in the conduct

of war (operations). The whole is greater than the sum of the parts.

-- The total signal support effort must respond to the force commander's needs. SOF, whether in low intensity or mid/high intensity environments, are performing missions in support of a CINC. The SOF signal support effort must be integrated into the CINC's network.

-- The signal commander directs the signal support system. The signal command structure must be sufficient in rank and experience to effectively direct a highly complex, technologically sophisticated system.

The basic framework of signal support is "area" in nature. Common user signal support is based on networks of nodal centers deployed and interconnected by trunk communications to provide access to the maximum number of authorized users. Signal units will support all units deployed in a given area rather than just the units organic to a specific command (19). They will have tailored capabilities to meet the specific unique needs of their parent command, but will be capable of being integrated into the overall theater nodal network.

National or multinational (such as the 97th Signal Battalion), joint (such as the Joint Communication Support Element or JCSE) or single service communication units assigned joint tasks (such as the 112th Signal Battalion (Special Operations) (Airborne) provide the communication systems which interconnect Army and service information systems with those supporting joint and combined C2 systems (20). This includes integrating available host nation/civilian-owned systems into the

network as required.

The relevance of this to SOF signal organizations is that they must also be nodal in terms of their ability to support more than their parent organization. This requires a revolutionary change to the structure of SOF signal units. They must retain their unique SOF capabilities while also being able to assume a doctrinal role in the theater network. The implications of this for forced entry contingency scenarios where SOF precede conventional forces into an austere operational area are particularly interesting. The theater network begins with the arrival of the SOF signal unit, and does not have to wait on the arrival of the conventional force signal unit. In fact, the arrival of the conventional force is enhanced because a preliminary nodal network is already in place. The positive impact on total force interoperability and flexibility is obvious.

In the opinion of many, SOF have for too long operated outside the mainstream of communications doctrine and been subjected to a rationed share of signal support that has been inadequate to their needs (21). In the next chapter these requirements are examined in some detail as the next logical step towards developing a signal support force structure sufficient to the needs of SOF sub-unified commands worldwide.

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13. Ibid., p. 12.
14. Ibid., p. 13.
15. Department of the Army Field Manual 24-1, Signal Support in the Airland Battle, Coordinating Draft, Washington, December 1988, pp. iii-iv.
16. Department of the Army Field Manual 100-5, Operations, Washington, 1982.
17. Field Manual 24-1, pp. 1-3 and 1-4.
18. Ibid., p. 1-6.
19. Ibid., p. 1-9.
20. Ibid., p. 1-14.
21. Interview with MG Leroy N. Suddath, Commander, 1st Special Operations Command, Ft Bragg, NC, 12 October 1984.

CHAPTER III

SOF SUB-UNIFIED COMMAND C3 REQUIREMENTS

As SOF missions are task organized, the C3 interfaces for any given mission depend upon the requirements of that mission. The varied nature of SOF missions and the leanness of the force make effective C3 an imperative, both for the US force and its allies in the region. The success of joint and combined SOF operations is dependent on establishing a C3 infrastructure that can be adapted to varying scenarios (1).

Because of the fluid nature of SOF missions it is difficult to establish a C3 architecture that applies in every case, however some general characteristics can be assigned:

-- Especially in low intensity conflict, but possible in other environments, a SOF unit may have a portion of its forces deployed, others at staging areas, and still others engaged in garrison type training, all at the same time. This requires an overlapping architecture that allows C2 of forces employed in many different environments simultaneously.

-- Flexibility is an aspect of SOF C3 that deservedly gets a great deal of emphasis. The basic factors demanding flexible C3 are associated with (2):

- Spectrum of SOF missions.
- Geography (500 to 1000 km or more communications links between SOF bases is not uncommon).
- Types and numbers of forces present.
- Interfaces with conventional forces whether in low

intensity conflict, wartime mobilization, or to coordinate mobility, fire support, administrative/logistical support, or intelligence support.

- Interfaces with host nation or indigenous forces, US embassies, or other US activities.

- Capability of the enemy to counter SOF C3.

In most cases these factors should be reasonably well established at the time of deployment, however, as changes in mission, host country developments, or enemy countermeasures arise, the SOF C3 system must have the inherent flexibility to respond rapidly (3).

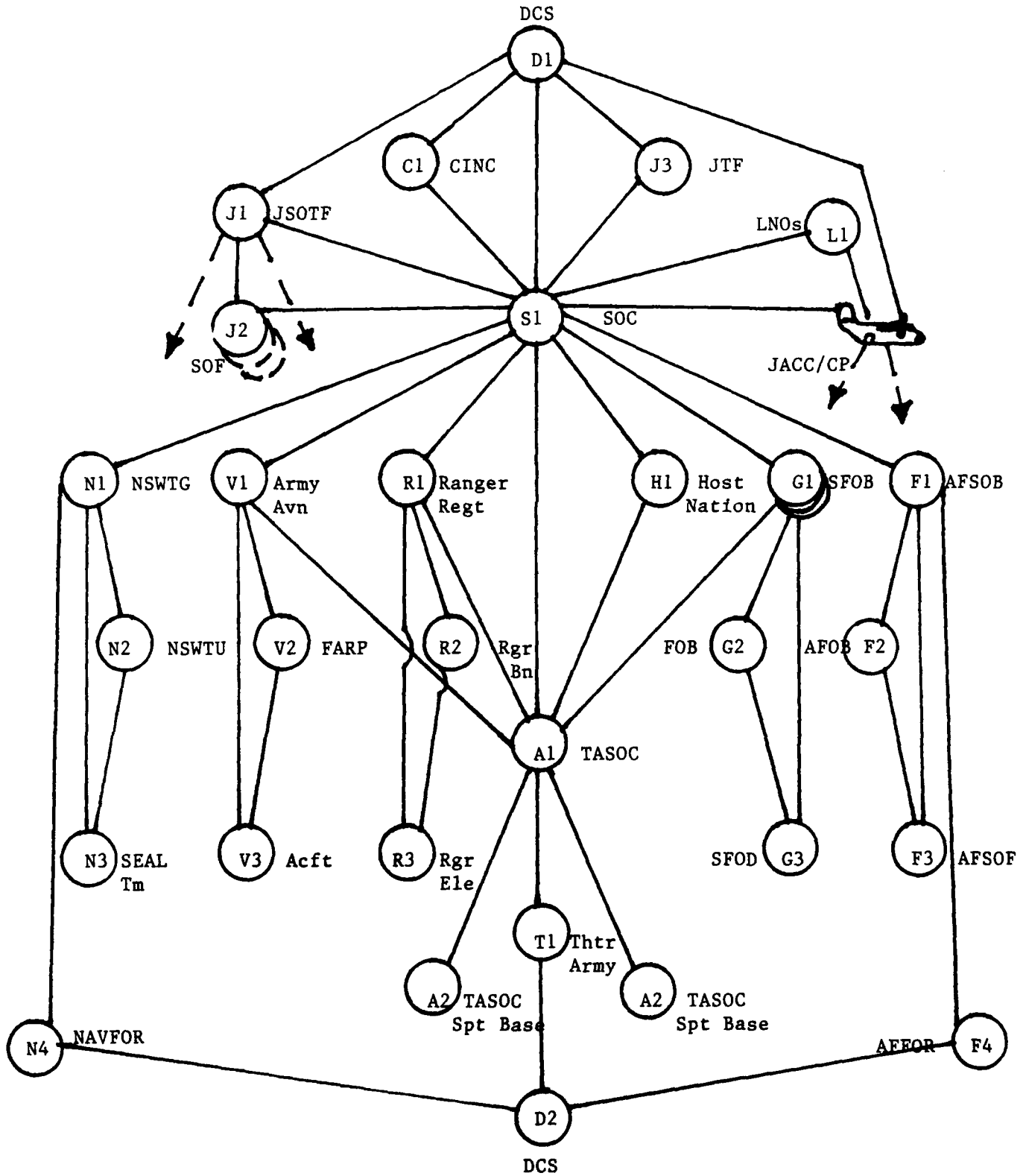
A TYPICAL THEATER ARCHITECTURE

Keeping these considerations in mind it is nevertheless possible to construct a generic baseline SOF C3 architecture as a start point in establishing signal support requirements. Figure III-1 displays a typical theater SOF C3 architecture that stretches from links with US national systems and the theater network, through the various echelons of command, to deployed forces.

This discussion refers to the diagram node by node, i.e. S1 which is the deployed SOC headquarters and A1 the Army SOF component headquarters, and the link between the two, i.e. S1-A1. The explanation covers only SOF headquarters to be supported by the proposed signal organization and does not address internal component communications with deployed combat elements or headquarters supported by other signal units although the connectivity is shown in the diagram for completeness and as a

framework for future study and analysis.

FIGURE III-1: (U) Typical Theater SOF C3 Architecture



C3_Nodes

S1 - the SOC headquarters is a sub-unified command and requires a full array of signal center support to include secure and nonsecure voice switching, message handling, switching and data/facsimile telecommunications center support, wire and cable, SCIF, WWMCCS, STU II/III, net radio interface and single channel radio nets (VHF FM, HF, UHF SATCOM) with voice, data and facsimile, weather data and graphics, ADP, technical control facilities, nodal control facility, and electronic maintenance and COMSEC support. This is the normal location of the network's primary system control facility.

A1 - this is the Theater Army SOF Command (TASOC) which generally has command less OPCON of Army SOF and is responsible for administrative/logistical (and sometimes intelligence) support of Army SOF in the theater in coordination with the Theater Army structure. It requires the same level of signal center support as the SOC and normally hosts the alternate systems control facility.

F1 and N1 - these are the respective Air Force and Navy component headquarters of the SOC and have the same basic signal center support requirements as the SOC and TASOC. Either of these may host the alternate system control facility.

J1 - because of the multiplicity of SOF missions and environments within a theater, the SOC may establish a subordinate Joint Special Operations Task Force (JSOTF) headquarters to command and control SOF in a specific area of operations while the SOC commands and controls forces of its own.

In such a situation the JSOTF would require signal center support similar to that of the SOC although probably on a somewhat smaller scale. Continuing this logic a bit further, this signal package would also serve as the contingency support organization deployed (therefore the dotted lines indicating readiness to assume full connectivity).

J2, et al - these are the subordinate forces of the JSOTF, normally smaller versions of the TASOC, AFSOB, and NSWTG but with a healthy appetite for communications support especially in terms of timeliness and quick reaction capability.

L1 - these are special operations liaison communications teams deployed to a number of diverse locations such as embassies, staging bases, allied, joint, and other military headquarters. These teams also provide contingency single channel communications support over VHF, HF, and UHF SATCOM radios with secure voice, data, and facsimile. They also provide secure voice over commercial (i.e. H1) and military telephone systems with wireline adapters and special COMSEC devices.

P1 - aircraft used as command posts are critical assets. If the aircraft does not have adequate C3 aboard to provide the required C3, the liaison communication teams previously mentioned (L1) can plug into onboard antenna systems to augment as needed. The key issue here is hatch mounted SATCOM antennas which are few in number but high in demand.

G1 - these are the Special Forces Operational Bases (SFOB) which though under command of the TASOC are normally OPCON directly to the SOC. They require a signal center support package similar to the SOC, only smaller. In some theaters, an

SFOB also serves as the TASOC therefore requiring additional connectivity.

R1 - this represents the Ranger Regiment which normally deploys a headquarters element whenever a battalion-sized Ranger unit is assigned to the SOC. Ranger units may also be tasked on a mission-by-mission basis to conventional force commanders at the operational level therefore it is essential that they be integrated into the overall network. Their C3 needs are much the same as those of the SFOB.

V1 - this represents Army special operations aviation units and, as with other Army elements, are OPCON directly to the SOC. On occasion they have been further OPCON to the AFSOB resulting in a single air commander subordinate to the SOC. In either case they require signal center support similar to the SFOB.

A2 - in order for the TASOC to meet the needs of the Army SOF units they must deploy elements to various support bases provided by the theater support command. These elements have C3 requirements that can be satisfied by a liaison communication team and the theater support unit with whom they normally collocate.

N2, F2, G2, R2, V2 - these are subordinate elements of Army SOF headquarters and normally would not receive signal support from the signal unit addressed in this paper. Their support comes from their parent command. There are times when a particular mission might require such support, especially if that unit were directly OPCON to the SOC. Under those circumstances support would be provided by this signal organization similar to that provided to the parent unit. The exception is G2 which

represents the Special Forces Forward Operations Base (FOB). New doctrine (FM 31-20) dramatically increases the missions and responsibilities of the FOB. They now provide the same C2 functions as the SFOB but on a smaller scale. As critical C2 nodes with expanded information requirements, their communications support must be enhanced and totally integrated into the overall architecture. This paper suggests that their C3 support be provided by the proposed new SOF signal organization except for their base station links to deployed operational detachments which is purely an internal requirement.

C3 Links

S1-L1: primarily single channel HF and UHF SATCOM radio with secure voice, data and facsimile; augmented by host nation and military switching networks if available.

S1-D1: it is absolutely necessary that the SOC be linked into the Defense Communications System for access to national systems, AUTODIN, AUTOVON, and SSO/SCI. This link also includes a link with the WWMCCS network. The DCS network provides an alternative routing opportunity for operational traffic as well as links to CONUS. Entry into DCS is by SHF SATCOM or high-powered HF.

S1-C1: this link varies by theater but is intended to show the SOC's connectivity to its higher headquarters, the unified command. FM 24-1 states that connectivity is provided higher to lower but in many theaters the SOF signal organization must provide the link because the unified command's signal support may not be deployed, does not exist, or is otherwise not available.

S1-J3: the SOC's link to a Joint Task Force is situation

dependent but normally provided by the JTF's supporting signal element. Exceptions in this regard are many.

S1-J1: the SOC to JSOTF is either high powered multichannel HF, SHF multichannel SATCOM, or if possible, both, plus single channel HF and UHF SATCOM. Additional connectivity via DCS and/or other networks is used if possible.

S1-P1: connectivity with airborne command posts or enroute forces is normally via single channel HF or UHF SATCOM although some special aircraft can complete DCS entry while in the air.

S1-A1: this link is much more important than many understand. The multichannel (HF and/or SHF SATCOM) connectivity between the TASOC and the SOC offers the best opportunity for high capacity trunking for the SOC into the theater network since the Theater Army signal organization provides most of the theater network. This also becomes an alternate route for DCS services.

S1-F1, S1-N1: single channel and multichannel (HF and/or SHF SATCOM) connectivity between signal centers, and through them connectivity with the AFFOR and NAVFOR networks (if available).

S1-G1, S1-R1, S1-V1: these links are single channel HF and UHF SATCOM and multichannel HF and SHF SATCOM.

A1-G1, A1-R1, A1-V1: these links are normally single channel HF and UHF SATCOM but experience suggests that as the role of the relatively new TASOC expands, the capacity of these links will need to increase. This is certainly true if the TASOC retains OPCON of Army SOF.

A1-T1: in those instances where there is a theater Army network the theater Army signal element will extend connectivity to the TASOC consistent with higher to lower doctrine.

S1-H1, and H1 to all other nodes: utilizing all available means is not just doctrine, it is good common sense. Too often we fail to take advantage of existing civilian/host nation communication systems.

G1-G2: this is a special case. The connectivity between the SFOB and its subordinate FOB(s) must be multichannel, either HF, SHF, or both as well as single channel (currently the case). The expanded role of the FOB as a command and control node that prepares, deploys, employs, sustains, and redeploys forces necessitates a larger information pipeline than currently provided. The best way to integrate these nodes into the total architecture is to assign this expanded C3 mission and the requisite assets to the overall SOF supporting signal organization.

The emphasis so far has been on over the horizon C3 links but it must be noted that oftentimes SOF C2 nodes locate near one another to take advantage of available airfields and other facilities. A long time shortfall in SOF C3 signal organizations is the lack of line-of-sight multichannel capability which is a far more efficient way of establishing connectivity when circumstances make it possible.

EUROPEAN_COMMAND/SOCEUR

SOCEUR has a unique situation in that it must deal with its responsibilities to NATO, a high intensity conflict planning scenario, as well as the remainder of the EUCOM area which is primarily a low intensity conflict environment with explosive potential to escalate into a superpower confrontation. In no

other theater is the dicotomy between a high risk, low potential environment (NATO) and a potential high risk, high potential LIC environment more apparent. This requires a prudent approach and suggests that SOCEUR must have the C3 assets available to conduct both simultaneously for it cannot politically commit its NATO SOF C3 assets and tie them up in a LIC or contingency mission somewhere in the non-NATO EUCOM AOR at the expense of its readiness to respond to a NATO crisis. And, operational level considerations suggest that the theater campaign plan might very well require a non-NATO economy of force mission for SOF at the same time that other SOF are conducting operations in support of NATO. The architecture takes this simultaneity into consideration.

CENTRAL COMMAND/SOCCENT

SOCCENT has its unique requirements driven mostly by culture, terrain, geography and weather considerations. The Central Command area of operations includes harsh environmental extremes and widely dispersed concerns. Austere is a term often used to describe most of the area. It is also an area harboring vital national interests requiring continual military presence. SOCCENT is not based within the AOR yet must conduct LIC activities there. Its wartime role takes it into the AOR and requires a fluid C3 network that can support numerous C2 nodes that have a special need to be capable of rapid displacement. A rigorous C3 network is required that can absorb such moves yet remain robust, reliable and flexible. A nodal network such as that suggested by the proposed architecture can fulfill this need

far better than an architecture that is "backbone" or command link focused.

ATLANTIC_COMMAND/SOCLANT

The C3 demands on SOCLANT are less than for the other SOC's but no less important. Their C3 situation is complicated by the fact that their parent unified command has no dedicated deployable signal assets that it can assign to support the SOC. Their training exercise experience has traditionally been fraught with an ad hoc arrangement of C3 assets and a mix of signal units that has been marginally acceptable. The problem is that the units that support them on exercises are dedicated to someone else in time of war. This has been less of a problem during actual contingencies but is still less than a satisfactory solution. Their C3 needs when deployed are very much similar to those portrayed in the architecture for a JSOTF.

SOUTHERN_COMMAND/SOCSOUTH

SOCSOUTH has perhaps the most actively visible low intensity conflict environment of all the SOC's. The fluid situation throughout their AOR requires that they conduct a wide range of SOF activities simultaneously in a number of locales while planning for numerous worst case contingencies. It is likely that SOCSOUTH could find itself involved in several contingencies at the same time. It is also likely that because of this they would employ a JSOTF to handle specific contingencies while the SOC continues to monitor and control other SOF missions in other areas. The architecture can meet

these needs and can be tailored to the specific needs of a particular scenario. The C3 nodal concept suggested provides maximum flexibility in a fluid situation especially in terms of integrating SOF C3 with JTF and conventional force systems.

PACIFIC_COMMAND/SOCPAC

This is the largest theater in terms of distances and it is therefore geography that is the largest complication in SOCPAC's C3 requirements. And, as with SOCLANT, it is primarily a maritime theater and the parent unified command does not have deployable, land-based signal units to support SOCPAC when they deploy to wartime locations. SOCPAC must deploy multiple C3 nodes to cover the extreme distances and maintain effective C2. Furthermore these C3 nodes must be efficiently mobile and rapidly responsive to changing circumstances. The same would apply to the supporting signal organization if there was one. The combination of distance and no dedicated signal support renders them essentially ineffective. A dedicated signal organization capable of establishing a nodal C3 network in a rapid response manner would resolve this dilemma.

SPECIAL_OPERATIONS_COMMAND/USSOCOM

SOF missions may be executed under the control of either a regional CINC or CINCSOC under current law (10 USC 167(d)). Under most circumstances the regional CINC would command and control SOF missions and the other CINCs including CINCSOC, would be in a supporting role. CINCSOC would command and control SOF

missions only when so directed by the President or the Secretary of Defense. In that case the regional CINCs would be in a supporting role.

USSOCOM is unlike a regional unified command in that operationally commanding its forces would be the exception rather than the principal reason for its existence. In its charter it is also charged with training, equipping, and maintaining SOF under its peacetime control, and in fact, most of its emphasis is on increasing SOF readiness and enhancing SOF capabilities, rather than on commanding SOF operations.

Although the circumstances for CINCSOC to command a SOF mission are not spelled out, they would likely be small, highly sensitive, and would neither involve many conventional forces, nor have a significant prospect of an action escalating to involve them (4).

The implications on the proposed signal organization are outside those requirements reflected in the architecture analysis since it applies primarily to regional CINCs. The implications are nevertheless important. CINCSOC's peacetime mission dictates that he must have dedicated secure C3 connectivity with all SOF including the theater SOCs. This is perhaps a strictly garrison type function but it argues against CINCSOC having to rely only on the DCS common user system. He needs a dedicated network that is a blend of garrison and tactical assets. And, his operational mission, as unlikely as it may be, is nonetheless so important that he cannot be placed in a position of having to ask for C3 help. It must be there, ready. The SOF signal organization envisioned in this paper would have that mission.

SUMMARY

An indication of the importance of documenting SOF C3 requirements lies in the large differences in prioritization of different aspects of SOF within both DoD and the US government. In the press and in congressional testimony there is significant interest and emphasis on counterterrorism and commando-raid types of missions. In SOCLANT there is a clear primary interest in demonstrating the utility of SOF to a general purpose force. In both SOCEUR and SOCPAC the focus is on large-scale war scenarios, with contingency operations receiving secondary interest. SOCSOUTH places great emphasis on Foreign Internal Defense (FID) because of the political situation throughout its region, and SOCCENT places strong emphasis on planning for unconventional warfare (5).

A C3 architecture and set of requirements for joint SOF must provide an explicitly defined context for all the missions and command and control relationships of the joint and component SOF headquarters, in both contingencies and in large scale war. That context should form the rational basis on which to develop SOF C3 capabilities and supporting signal force structure.

ENDNOTES

1. Fred F. Woerner, "C3 in a High Probability Conflict Environment," SIGNAL, August 1988, p. 23.

2. John R. Shea, A C3 Architecture for Joint Special Operations Forces, Institute for Defense Analysis, Alexandria, VA, February 1988, p. 14. This document is classified SECRET however no classified notations or information was extracted and used in this paper.

3. Ibid.

4. Ibid., p. 37.

5. Ibid., p. 4.

CHAPTER IV

CURRENT SOF C3 SIGNAL STRUCTURE AND CAPABILITIES VERSUS REQUIREMENTS

A beginning has already been made to satisfy SOF C3 requirements from an organizational perspective. Actions have been taken by JCS and the services to activate signal units with the mission of providing support to SOF headquarters. In this chapter, a review is provided of these units and their capabilities, followed by a table and brief discussion of the shortfall that still exists. Several units are mentioned but only two (JCSE and 112th Sig Bn (Spec Ops) (Abn)) will be discussed in any detail since they are the principal units providing support to joint SOF headquarters.

In any discussion of SOF C3 requirements a related issue is mobility. Even the current units have equipment systems that are generally too large for efficient air transport. This is a recognized problem and efforts are underway to solve it, but any discussion of SOF C3 requirements, capabilities and signal structure would be incomplete without mentioning it. To ignore it is to ignore a potential "war stopper."

JOINT ORGANIZATIONS

The primary joint signal unit that supports the theater SOF sub-unified commands, or SOCs, is the Joint Communications Support Element (JCSE) based at MacDill AFB, Florida. This is not dedicated support but rather on call in accordance with the procedures outlined in JCS Memorandum of Procedure (MOP) 167.

Mission

JCSE will: (1)

- Provide communications support to both joint task force (JTF) and special operations command (SOC) headquarters for the conduct of contingency military operations or disaster relief/evacuation activities, or . . .

- Augment or provide contingency/crisis communications support to meet critical operational and support needs of the Joint Chiefs of Staff, the military services, commanders of unified and specified commands, defense agencies, and foreign governments, or . . .

- provide communications support for exercises on a non-interference basis.

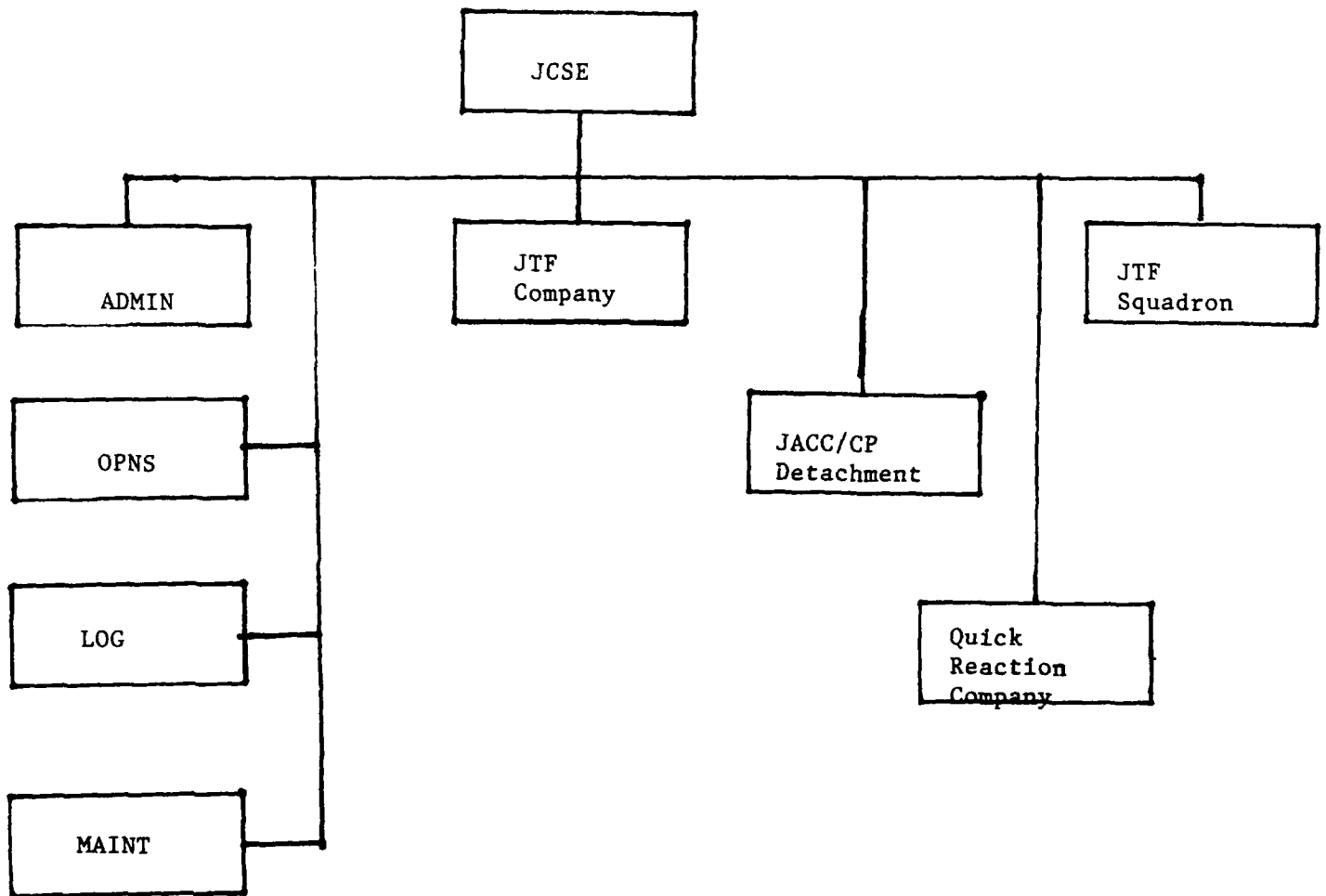
Organization

JCSE has four operational elements. It has two JTF support companies, a quick reaction company, and a Joint Airborne Communications Center Command Post (JACC/CP) or "JACKPOT" detachment (see Figure IV-1). The two JTF companies provide support to either two JTF, two SOC, or one JTF and one SOC. The JACC/CP detachment operates from C-130 aircraft as a very small communications center in support of an on-board battle staff, or once off loaded, from a ground location. The Quick Reaction teams are primarily airborne-qualified radio operators with backpack HF and SATCOM radios.

Capabilities

The JTF/SOC support companies can each provide a large full

Figure IV-1: Joint Communications Support Element (JCSE)



service signal centers (2) and external connectivity from there to three subordinate locations using multichannel HF and SHF SATCOM and single channel HF and UHF SATCOM. Each of the subordinate locations is essentially radio termination only. The expectation is that the unit at that location provides its own signal center. JCSE does have the capability to tailor its assets to provide some communications center support at subordinate locations, but this is at the expense of capability at the large signal center.

AIR_FORCE_ORGANIZATIONS

There are four types of Air Force communications units that support SOF: the 224th Joint Communication Support Squadron and the 290th Joint Communication Support Squadron are aligned with JCSE and can each support one large signal center and extend connectivity similar to a JCSE company. They are Air National Guard assets and must be mobilized prior to employment.

The Air Force also has Combat Communication Groups that principally support the AFFOR but which also support the AFSOB when required and when available. These units provide full service signal centers and connectivity such the same as JCSE but they do not have a dedicated SOF support mission.

The 1st Special Operations Wing (1st SOW) has a small communications support detachment that provides internal communications for the AFSOB and that extends connectivity to subordinate sites. Its signal center is very small and its radio systems are primarily single channel.

ARMY ORGANIZATIONS

In response to the Army's Special Operations Mission Area Analysis (SOMAA) in 1983 and its follow-on effort, the SOF Master Plan, the Army accepted its responsibilities as outlined in DoD Directive S100.3 to provide communications support for the Army SOF component (TASOC) and the joint SOF headquarters (SOC) in the two theaters for which the Army has support responsibility. The 112th Signal Battalion (Special Operations) (Airborne) was activated in 1986 to fulfill this unique Army/joint requirement and has deployed forces in more than twenty countries since that time providing the requisite support (3).

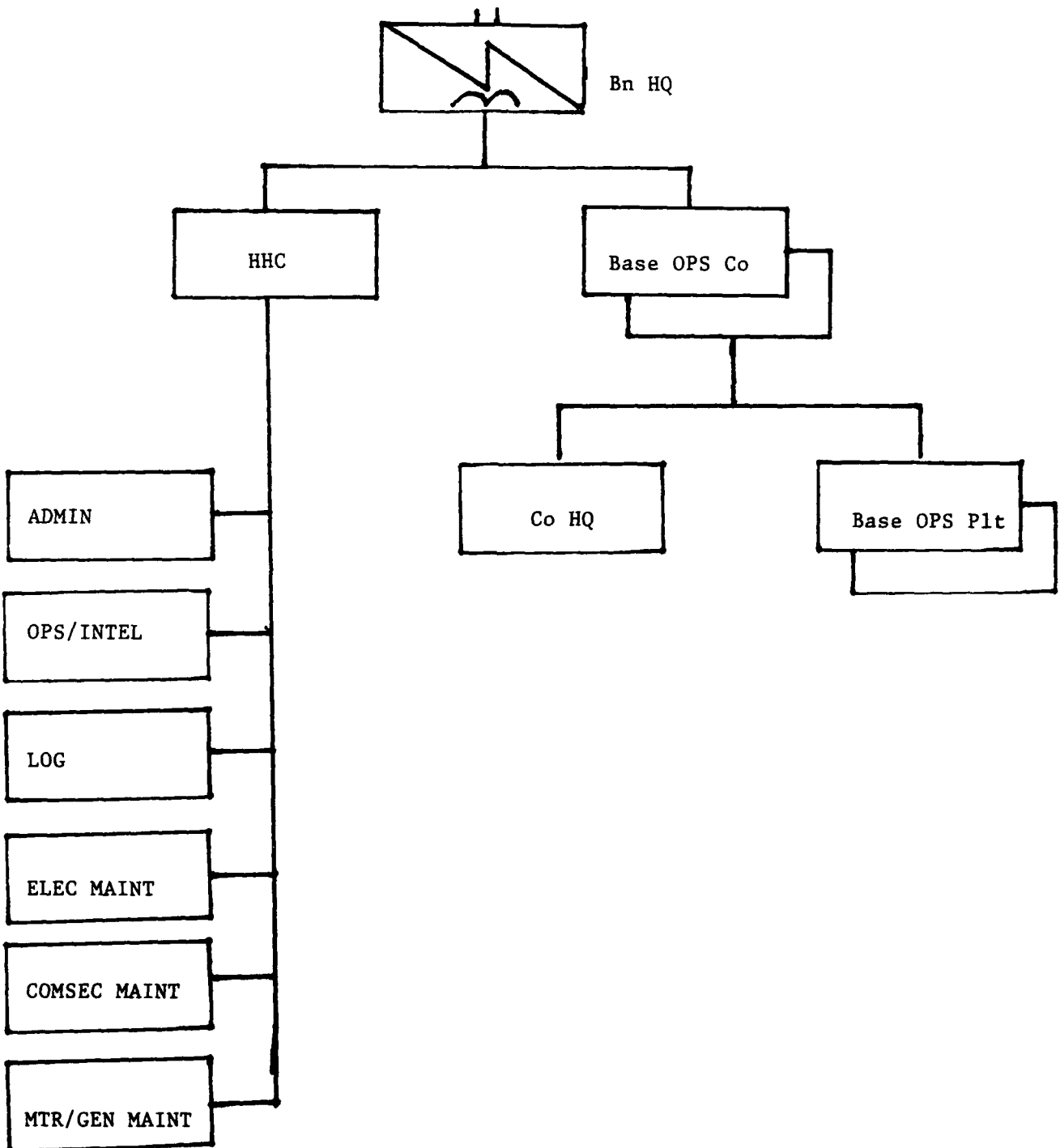
112th Signal Battalion (Special Operations) (Airborne)

Mission

The 112th Sig Bn (Spec Ops) (Abn) will:

- Provide rapidly deployable C3 systems to support the SOF sub-unified command and the Army SOF component command, and other major SOF headquarters, subordinate commands and other commands as directed.
- Provide rapid deployment C3 systems to support a deployed Joint Special Operations Task Force (JSOTF).
- Provide rapidly deployable, quick reaction C3 systems to support liaison communications at various levels within the host country and supported and adjacent commands.
- Provide required C3 systems to provide direct command and control of selected SOF elements.

Figure IV-2: 112th Signal Battalion (Special Operations)
(Airborne) Organization



Organization

The 112th Sig Bn (Spec Ops) (Abn) has three subordinate companies (see Figure IV-2): a Headquarters and Headquarters Company that provides the battalion C2 element, a systems control facility, and maintenance support (COMSEC, electronic, and automotive/generator); and two line companies, each providing two full service signal centers and connectivity to four subordinate locations. By splitting its HF multichannel and SHF SATCOM multichannel systems, the battalion can essentially double its connectivity to subordinate locations.

Capabilities

The battalion can support two theaters simultaneously with signal centers at the SOC and TASOC in each to include a network systems control facility. It extends multichannel connectivity with HF and SHF SATCOM radio systems and single channel connectivity with HF and UHF SATCOM radio systems. It provides circuits and maintenance support to the SCIF at each signal center but does not provide operators or terminal equipment. It is the only signal battalion in the Army capable of air movement, roll-on, roll-off, by C-130 aircraft without requiring material handling services at departure/arrival airfields. The battalion HQ, through its systems control facility, provides planning, engineering, and technical control of the overall SOF C3 network.

SOCEUR_Signal_Detachment

The Army has also established a signal support detachment for SOCEUR that is stationed in Germany. This platoon size unit

provides initial "crash-out" communications support for the SOC using single channel HF and UHF SATCOM radios and HF multichannel radios. It provides limited communications center and ADP support.

TASOC_Signal_Support_Element

Still on the drawing boards, this small signal element is intended to provide teletype and telephone support to the TASOC and single channel radio connectivity. It is included within the proposed TASOC TO&E but it is incapable of satisfying the signal center or connectivity requirements of this headquarters.

Special_Forces_Signal_Company

Each Special Forces Group has a signal company to provide signal center support to the SFOB and base station radio systems for connectivity with deployed operational detachments at the SFOB and three FOB. The importance of mentioning them at this point in the paper is to point out that although the FOB have a large information appetite as a result of their increased mission requirements (as full status C2 headquarters) they do not have sufficient communications support to accomplish this mission.

NAVY_ORGANIZATIONS

Although the Navy has responsibility for communications support of the SOC in two theaters, it has no communications units to accomplish this mission (4). They have established small detachments to support the internal C3 needs of two NSWTG but have not met the needs of the SOC.

COMPARISON OF REQUIREMENTS VERSUS CAPABILITIES

Table IV-1 clearly indicates that there is a critical shortfall both in available signal structure to support SOF C3 in all theaters simultaneously and in the capabilities of the structure that is available. It is important to note that this presumes that the theater unified commands have not provided support at the expense of their conventional forces. It must be remembered that this is likely to be the case in time of war. And even if they did, the units would not be trained or equipped to meet the deployability and operational requirements of SOF C3 headquarters. The analogy of the square peg in a round hole applies, and the square peg is probably not available anyway.

In summary, the worldwide SOF C3 requirements of the ongoing low intensity conflict environment cannot be satisfied by currently available signal organizations. Nor can the joint SOF in each theater be supported in mid or high intensity environments. Our "balanced force" is imbalanced in terms of C3. In the next chapter, a joint signal organization is proposed that achieves this balance.

Table IV-1: Comparison of Joint SOF Headquarters C3 Capabilities Versus Requirements.

Note: This matrix reflects deployment of all SOF signal center assets. It is not intended to reflect actual JSCP relationships. It illustrates total C3 nodal requirements versus capabilities.

	EUCOM	PACOM	SOUTHCOM	CENTCOM	LANTCOM
SOC	1 [112 Sig]	(1)	1 [112 Sig]	1 [JCSE]	(1)
JSOTF/SOC2	1 [SOC Sig]	(1)	1 [112 Sig]	1 [JCSE]	-
AFSOB	1 [7th SOS]	(1)	1 [1st SOW]	(1)	(1)
NSWTG	(1)	(1)	(1)	(1)	(1)
TASOC	1 [112 Sig]	(1)	-	(1)	-
SFOB	3 [SF Gps]	3 [SF Gps]	[112 Sig] 1 (double role as a TASOC)	1 [SF Gp]	-
FOB	(10)	(9)	(3)	(3)	[SF Gp] 1 possible TASOC role
Rgr Regt	(1)	(1)	1 [Regt]	1 [Regt]	(1)
Army Avn	(1)	(1)	(1)	(1)	(1)

(summary)

Nodes:	20	19	10	11	6
Resourced:	7	3	5	4	1
Unresourced:	(13)	(16)	(5)	(7)	(5)

ENDNOTES

1. This information is extracted from notes taken during a briefing conducted by representatives of JCSE to the author on 16 November 1988 at MacDill AFB, Florida.
2. A full service signal center provides those services described as the requirement for Site S1 in Chapter III.
3. This information is extracted from a briefing provided to the author by representatives of the 112th Sig Bn (Spec Ops) (Abn) on 27 December 1988 at Fort Bragg, North Carolina.
4. Organization of the Joint Chiefs of Staff, Multi-Command Required Operational Capability (MROC 2-84), Washington, 27 April 1984.

CHAPTER V

JOINT SPECIAL OPERATIONS SIGNAL BRIGADE

In answer to the shortfall described in the previous chapter, this chapter outlines the Joint Special Operations Signal Brigade in terms of its missions, organization and capabilities. It does not attempt to provide a detailed Table of Organization and Equipment (TO&E), but its area nodal structure is akin to that being developed for signal units equipped with Mobile Subscriber Equipment (MSE). From a conceptual framework perspective it is therefore doctrinally and technologically sound. The combination of MSE plus multichannel, single channel and special purpose C3 systems is the basis for equipment authorizations. Manning is based on function and equipment systems.

The establishment of a brigade headquarters that would be subordinate to USSOCOM is to provide an overall SOF signal C2 headquarters for the same essential reasons that USSOCOM was formed. It would have a readiness responsibility for all SOF signal forces and an operational mission should that be necessary. The J-6 of USSOCOM may or may not be dual hatted as the brigade commander although there are obvious advantages to such an arrangement. This is an area for future study and not a part of this paper.

Mission

The Joint SOF Signal Brigade will:

- Command, and when required, control all assigned and

attached SOF signal forces.

- Develop joint doctrine, techniques and procedures for SOF signal forces to include performance standards.
- Provide signal support system planning, engineering, and other assistance as required.
- Monitor the preparedness of SOF signal forces and design and implement proactive and corrective action plans to maximize signal force readiness.
- Assist in the development and acquisition of SOF signal equipment, material, supplies and services.
- Provide war planning assistance and insure that unit mission essential tasks lists and training are focused on warfighting skills.
- Insure that signal task organization in each theater is sufficient to accomplish all required tasks: peacetime, LIC, mid and high intensity environments.

Organization

The Brigade (see Figure V-1) would have a HQ Company and four Battalions. Each Battalion would have regional responsibility and would likely be OPCON to the SOC of that unified command except for the CONUS based battalion supporting SOCSOUTH and SOCLANT. This battalion would have the additional responsibility of supporting USSOCOM and would be "chopped" as needed to the two other CINCs.

Each battalion would be slightly different in numbers of nodes provided based on the SOF task organization for that theater, but generally each would be organized as shown at

Figure V-1: Joint SOF Signal Brigade Organization

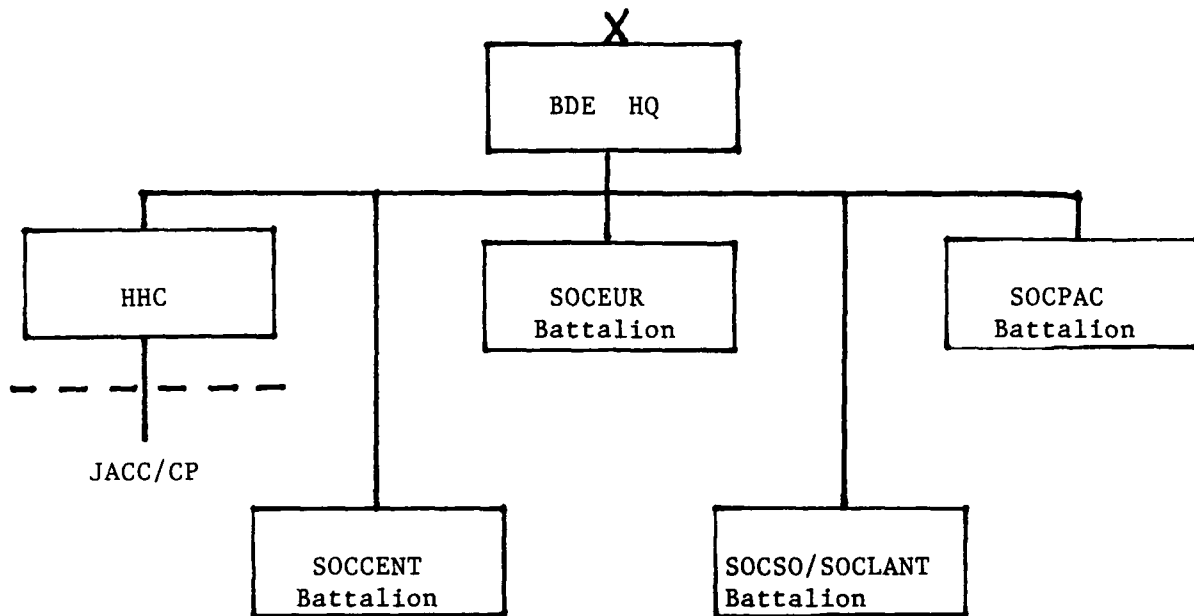


Figure V-2: SOF Area Signal Battalion Organization.

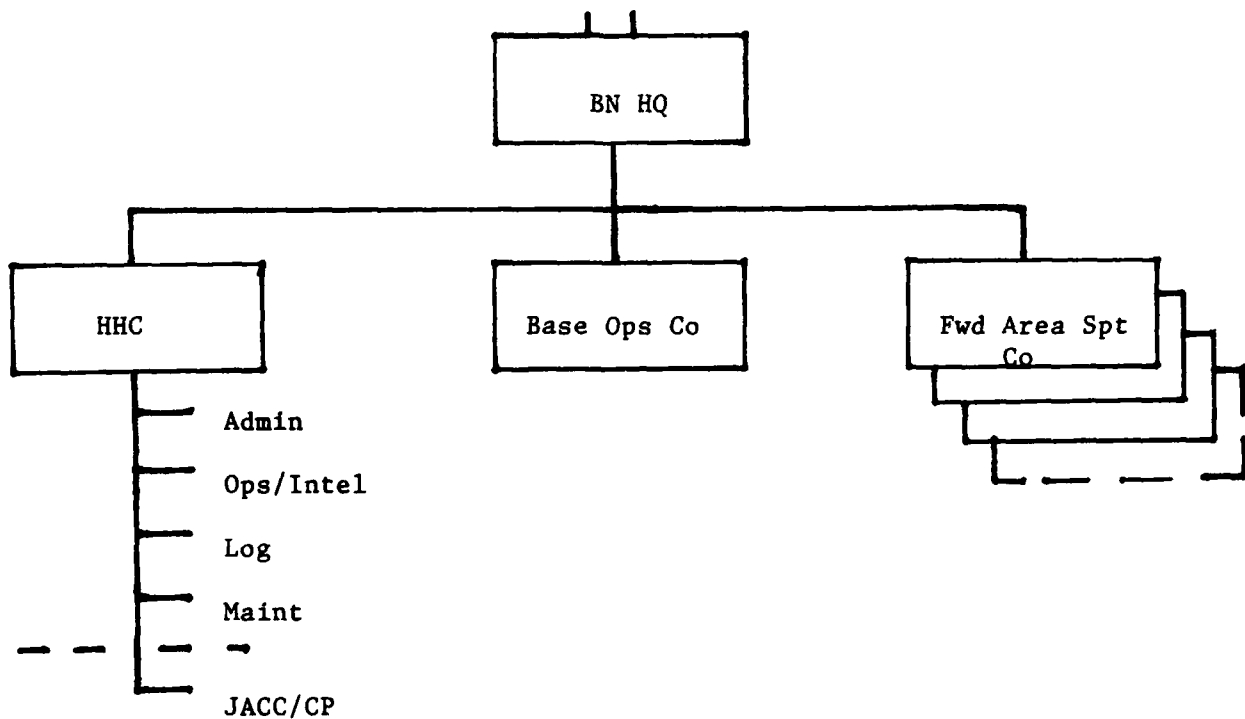


Figure V-3: Base Ops Signal Company

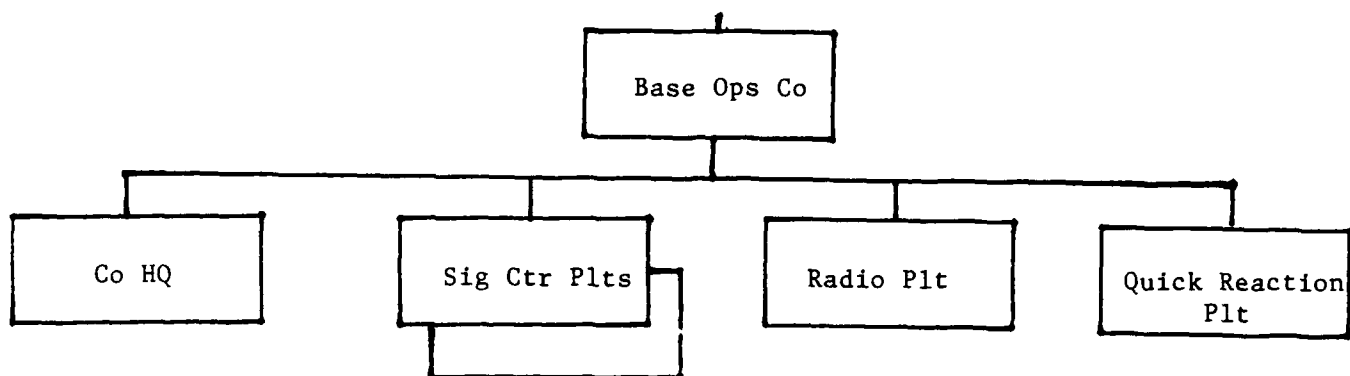


Figure V-4: Forward Area Signal Company

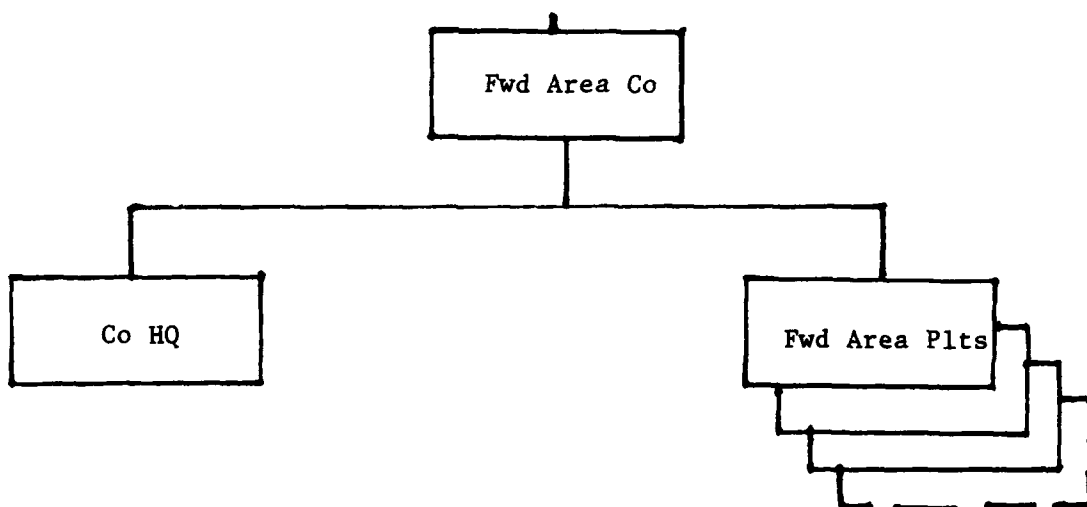


Figure V-2. Each SOF Area Signal Battalion would in turn have a HHC, two Area Signal Companies, and two Forward Area Signal Companies.

These area battalions and companies are modeled after those designed for the corps and division MSE area battalions (1), adapted for the needs of SOF C2 headquarters. For example, in addition to the large and/or small extension node capabilities, these units have a preponderance of over the horizon, long range HF and SHF multichannel radio systems and quick reaction/liaison communications teams. They have a much smaller quantity of line-of-sight (LOS) multichannel systems. From an engineering perspective, the circuit allocation in terms of telephone trunking and data switching is much the same as for a corps network (2).

Capabilities

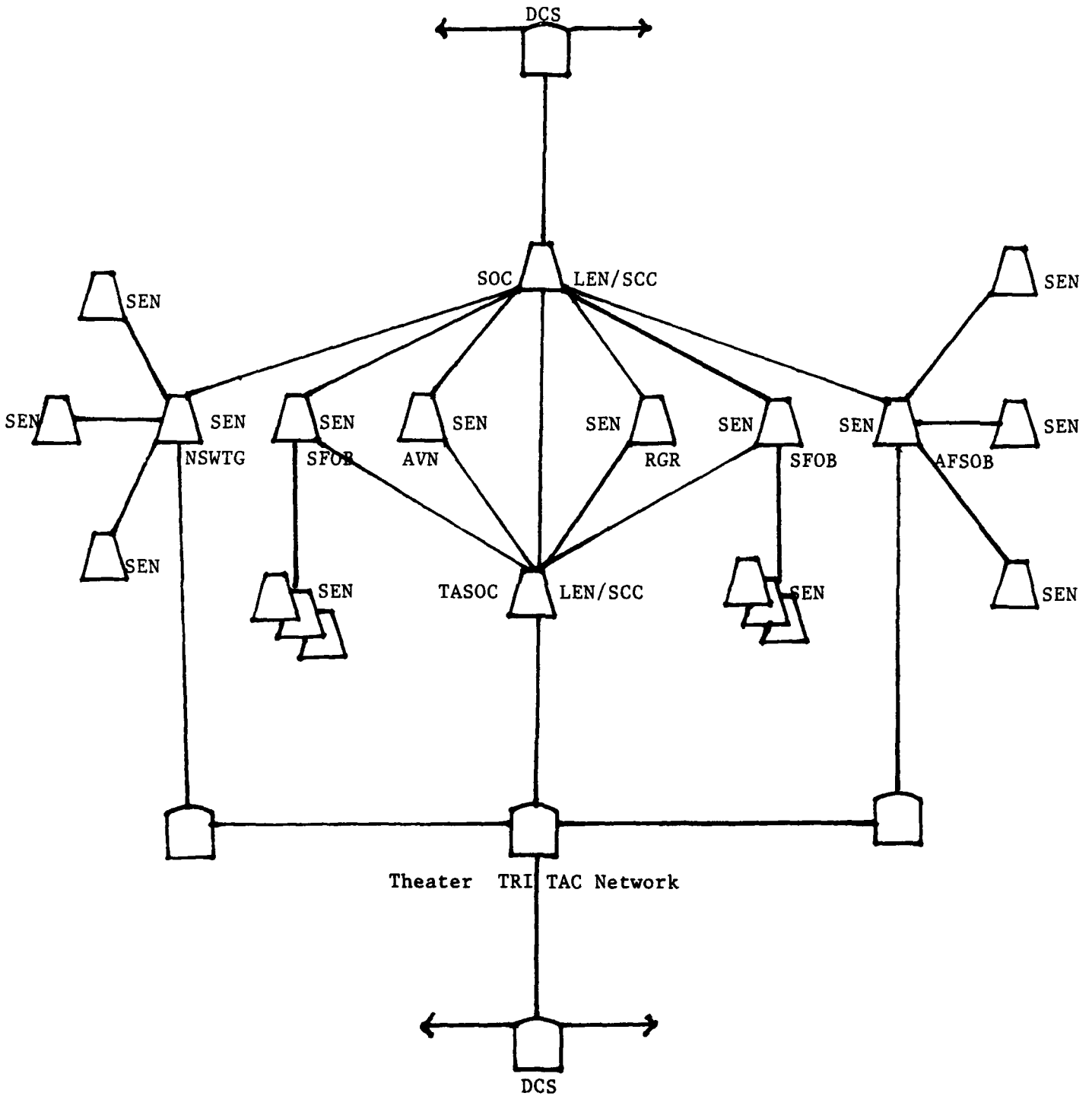
The Joint SOF Signal Brigade is capable of deploying and assuming a signal C2 role in the event two or more battalions are integrated into a common network, or if the circumstances require a higher level of signal C2 than a battalion can provide. Each battalion has dual systems control capabilities and can provide two large extension nodes with full signal center services (for the SOC and the TASOC) and small extension nodes with medium-sized signal centers at twelve other locations. Plus, each node has additional capabilities to allow the supported headquarters to disperse its facilities. Typically, Army SOF headquarters separate if possible, the operations center, the support center, and the intelligence center.

The twelve smaller nodes support the AFSOB, NSWTG, Ranger Regiment, Army Aviation, JSOTF, and up to three SFOB, each with three FOBs. The brigade would not normally provide communications systems to support connectivity to units subordinate to these headquarters (as noted earlier, the SFOB to FOB link and the FOB itself, is the exception); however, with the advent of multichannel links from the SFOB to its FOBs, and from the AFSOB to its forward bases, force developers should insure that those sites are integrated into the overall nodal network. It also assumes that collocation of units will satisfy the remaining nodal deficit.

Not to be overlooked is the JACC/CP (JACKPOT) platoon in the brigade or battalion HHC. This is a critical capability that every SOC needs, especially in contingency scenarios. Ideally each battalion would have one. If there is only one (or two) then it should be centrally controlled by the brigade.

Figure V-5 is a representation of the theater architecture first described in Chapter III, but now with an MSE-based nodal network provided by the SOF Area Signal Battalion. With a four battalion brigade, every theater can be supported simultaneously, in LIC and in mid/high intensity environments. This achieves force balance and provides adequate dedicated joint SOF C3 in every theater.

Figure V-5: SOF MSE-Based C3 Nodal Network



LEGEND:

- LEN - Large Extension Node
- SEN - Small Extension Node, (V)1 or (V)2
- SCC - Systems Control Center

ENDNOTES

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2. Department of the Army, Field Manual 11-92, Combat Communications within the Corps, Washington D.C., 1 November 1978, App. D.

CHAPTER VI

FORCE DEVELOPMENT RESOURCE PROPOSAL

"The roles of our commanders in chief in national security are highly significant . . . and they are gaining in importance. Consequently, we must enhance their effectiveness if our strategy of deterrence is to succeed. An important part of enhancing that effectiveness lies in improving their command, control, and communications (C3) capabilities." (1) With these words, GEN Vessey, then Chairman of the Joint Chiefs of Staff, assigned a high priority to solving the C3 needs of the unified commands. The problems still exist in every theater and nowhere more dramatically than with the CINCs' sub-unified commands for Special Operations, the SOCs. Though progress has been made, there is much to be done. And given the reality of constrained resources, if the military is to achieve a force mix that supports all tenets of US national strategy, and empowers the SOCs to command and control special operations as a key element of that strategy, then tough choices must be made.

IMPETUS

There is a growing recognition within the US Congress and Department of Defense of the sterility in our reactive approach to strategy formulation. This has created an ever increasing demand for more creative thought and greater flexibility in force building (2). Force design balance is traditionally achieved through a systematic application of the Concept Based Requirement System to war fighting doctrine, and in response to war plan

requirements and technological developments (3). This is normally a service responsibility, but in the case of joint units the Joint Chiefs of Staff must take the lead, even (and, perhaps, especially) when the solution must be resourced by the services themselves. Thus, any solution to correct a force imbalance such as that which exists in joint SOF C3 signal support, must first be recognized by JCS as a threat to overall strategy.

THE "ZERO SUM" GAME

It is a recognized fact that in order to create a unit, some other source for military manpower spaces must be determined. These are known as "billpayers." It is axiomatic that the current level of military manpower will not be increased. In fact, because of recent developments on the international political scene, there is a growing domestic clamor to reduce military force structure in general. A recent speaker at the US Army War College observed that if forces currently stationed overseas return home, it is unlikely that they will be maintained in the structure. Such are the times. Not only is a growth in structure highly unlikely, maintaining current strength levels is at risk.

Therefore, if one is to address force imbalance and propose force restructuring, one had better insure that the force structure proposed supports a critical element of national strategy and has Congressional support. This is based on the premise that it is far better to restructure than to lose the structure altogether. Special operations is a key element of national strategy that requires additional structure to be fully

empowered. It has the interest and support of Congress. Even in the lean fiscal days ahead, the time is right to solve the joint SOF C3 force structure problem.

Another justification lies in the argument that it does not make sense to have active forces based in CONUS that are so large in terms of outsized equipment that they can only be transported efficiently by ship to an overseas area in time of crisis. Airlift is at a premium and not likely to be used to carry outsized combat support or combat service support equipment. Even sealift is in short supply, and if available, not timely enough. Units that must respond quickly must be down-sized in terms of equipment to allow efficient air transport. Active units that do not meet this requirement must be considered candidates for reserve component status if their deployability criteria relegates them to a time sequence for overseas movement that can be met by reserve force mobilization. Those spaces should be reallocated to units with a quick response mission such as special operations units have. This criteria applies to many CONUS based Army signal units. A reallocation of Army signal spaces from an outsized conventional signal battalion to a downsized SOF signal battalion makes sense from a number of perspectives: first, the Army does not lose end strength or structure; second, the Army Signal Corps does not lose spaces; and third, a unit is created that supports a critical element of U.S. national strategy during a time when it has the support of Congress. Most importantly, it solves the long-standing SOF C3 problem that poses potential disaster if not soon resolved.

The same type of logic applies to the other services in

terms of generating manpower spaces. The fact is though, that the Army is the only service with the wherewithal to generate sufficient spaces. The good news is that the Army is not losing anything - it is transforming signal spaces from one type of signal organization to another.

CANDIDATE BILLPAYERS

The term "billpayer" is a bit of a misnomer. No force structure spaces are lost - they are transformed. Some units are created, others increased or decreased in size, and others moved from active to reserve status. All are referred to as billpayers in that they play a role in creating the Joint SOF Signal Brigade.

JCSE

This is one of the finest signal organizations in the world. It already has a joint SOF mission. Half of the unit should be retained to fulfill its JTF missions and remain under the control of JCS. The other JTF/SOC company and the JACC/CP detachment should be integrated into the new brigade and become the base upon which the PACOM battalion is built.

224th and 290th JCSS

One of these should remain aligned with JCSE to fulfill the second JTF mission. The second should be CAPSTONE aligned with the CENTCOM battalion and included in the 200K call-up.

112th Sig Bn (Spec Ops) (Abn)

This unit comes closest to meeting the need with the fewest

changes. It needs to be increased in manning and become the SOCSOUTH and SOCLANT battalion with the additional mission of supporting USSOCOM.

TASOC_Signal_Elements

These spaces should be included in the total brigade requirement and distributed as needed. Only the TASOC signal staff spaces should be retained in the TASOC TO&E.

25th_Signal_Battalion

This is the biggest billpayer. These spaces (approximately 700) should be used to increase the manning of the 112th Sig Bn (approx 200), and augment the PACOM battalion (approx 150), with the remainder serving as the base for the CENTCOM battalion. This unit would revert to reserve component status with CAPSTONE alignment to 35th Sig Bde (Abn).

SOCEUR_Signal_Detachment

This unit should be subsumed by the SOCEUR battalion which should be created from in-theater spaces made available by the INF Treaty. This simultaneously solves two problems. It maintains balance in the theater manning ceiling and enhances SOF forward support communications.

Special_Forces_Signal_Companies

These companies should retain their base station radio assets but all signal center capabilities should be incorporated into the battalions of the brigade since they will be transformed into MSE-based nodes. This places all major SOF C2 nodal signal support under one signal commander in accordance with FM 24-1.

Navy_Billpayers

Even with the chop of a portion of JCSE to form the PACOM battalion and a slice of spaces from the Army's 25th Sig Bn, there is still going to be a shortfall in this battalion of 100-150 spaces which the Navy must fill. It is, after all, a Navy responsibility according to DoD 5100.3.

Air_Force_Billpayers

The Air Force has already paid a fair share of spaces in terms of overall SOF force structure through JCSE and the 224th/290th JCSS. No additional spaces are required, however, the brigade headquarters will be a joint organization and both the Air Force and the Navy will want to participate in manning that headquarters.

Obviously, equipment requirements are a major challenge. The current fielding of MSE offers an opportunity, but by the time any activation process could be initiated in the POM, new equipment purchases could and should be made, and there would be no need to divert current fielding plans. This is only a small part of the total equipment requirement. A full five year plan with incremental activations as equipment and manpower can be matched, is the most prudent course of action.

ENDNOTES

1. GEN John W. Vessey, "Command Effectiveness and C3," Defense/83, November, 1983, p. 2.
2. Richard B. Cheney and Thomas N. Harvey, "Strategic Underpinnings of a Future Force," Military Review, October, 1986, p. 5.
3. US Army War College Reference Text, Army Command and Management - Theory and Practice, Carlisle Barracks, PA, 1988-89, p. 11-1.

CHAPTER VII

CONCLUSIONS AND RECOMMENDATIONS

This chapter presents a summary of conclusions and recommendations of this study project. The conclusions and recommendations can thus be considered in the context of the study, and follow-on work efforts can proceed from this initial thrust.

CONCLUSIONS

The following conclusions have emerged from this study:

- o Special operations units perform a critical function in overall US strategy, in low intensity conflict and in mid to high intensity conflict environments.

- o SOF and signal doctrine are both in a dynamic state, however, a useful theater joint SOF C3 architecture can be established.

- o Joint SOF C3 networks are required on a dedicated basis in every theater if SOF are to be effective.

- o Each theater has unique needs however an area nodal concept of signal support provides the best service and the most flexibility.

- o The area nodal concept is fast becoming the doctrinal norm at all echelons of command.

- o MSE provides an interoperable, state-of-the-art approach to SOF headquarters signal support.

- o There are current SOF C3 capabilities, but these are insufficient to meet simultaneous worldwide requirements, and

they require downsizing and modernization to achieve airlift mobility goals.

- o The current international political and domestic fiscal environment provides a window of opportunity to save military force structure by transforming it into SOF signal force structure.

- o The activation of a joint SOF signal brigade enhances the C2 of SOF worldwide and is consistent with the Congressional intent of establishing USSOCOM. Aligning battalions with specific theaters optimizes training, plans and operations and places SOF C3 responsibility with a single signal commander in each theater as prescribed by doctrine.

- o Activation of a joint SOF signal brigade is doable, affordable, doctrinally and technologically sound, and needed.

RECOMMENDATION

The recommendation follows logically from the conclusions. The necessary force activation process should be initiated immediately to activate a joint SOF signal brigade as soon as possible.

AREAS FOR SUBSEQUENT STUDY

As a result of initiating a formal activation process, the following areas require further study:

- o There remains a need for development of a detailed architecture before specific requirements can be determined.

- o There are more alternatives for billpayers than those proposed and these must be examined.

- o A formal force development process, albeit accelerated, is needed to determine exact TO&E design of the units based on a concept plan and an organizational and operational plan.

- o The role of the brigade can be expanded beyond that proposed in this study and this must be examined. Mission areas yet to be examined include communications security assistance roles and C3 support to PSYOP and civil affairs units.

- o The concept of force sufficiency and balance between SOF combat, combat support and combat service support units must be closely monitored. In this light a review of proponency responsibilities is required.

- o An exact determination is needed of active/reserve mix in the brigade with the requisite CAPSTONE relationships.

These recommendations for subsequent study conclude this study project. It is hoped that readers will either agree, disagree, be happy or be irritated by its conclusions - whatever their emotional state, that they be energized to seek creative solutions to the joint SOF headquarters C3 dilemma. The needs of the future require a radically different kind of force to support a wide range of nontraditional strategies - a force that is unconstrained by nostalgia in concept development and free of the kind of design predictability that prematurely dismisses relevant options. The stresses on C3 will grow. The time to address and solve the problem has arrived.

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