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FIELD MANUAL
11-41

Signal Support: Echelons Corps and Below (ECB)

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No 11-41

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SIGNAL SUPPORT: ECHELONS CORPS AND BELOW (ECB)

Contents

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

* This publication supersedes FM 11-92, 1 November 1978.

Preface

Purpose and Scope

AirLand Operations will be fought deep, close-in, and in the rear. The enemy will attack on the entire depth and width of the battlefield to obtain victory. These attacks will introduce threat forces with tremendous destructive capabilities throughout friendly lines. It will take a highly synchronized and mobile force to defeat this threat.

Command and control (C2) is vital when ensuring this synchronization and mobility. Echelons corps and below (ECB) leaders will need a reliable and flexible signal support network to monitor, maneuver, and engage their forces.

FM 11-41 describes signal support responsibilities for this vital network. Its targeted audience is commanders and senior grade personnel at all ECB units. It should be used with the following manuals in planning signal support:

FM 24-1	Signal Support in the AirLand Battle
FM 11-50	Combat Communications Within the Division (Heavy and Light)
FM 11-30	MSE Communications in the Corps/Division

Some systems described in this manual are not currently fielded Armywide. These systems are listed, however, to document the required signal support.

User Information

The proponent of this publication is HQ TRADOC. Send comments and recommendations on DA Form 2028 directly to Commander, United States Army Signal Center and Fort Gordon, ATTN: ATZH-DTL, Fort Gordon, Georgia 30905-5075. Key comments and recommendations to pages and lines of text to which they apply. If DA Form 2028 is not available, a letter is acceptable. Provide reasons for your comments to ensure complete understanding and proper evaluation.

Chapter 1

FOUNDATIONS OF SIGNAL SUPPORT ECHELONS CORPS AND BELOW

1-1. Signal Support

Signal support is the implementation of the Information Mission Area (IMA) at the operational through tactical levels of war. It is also the collective, integrated and synchronized use of information systems. This use supports warfighting capabilities across the operational continuum. We need signal support to execute AirLand Operations successfully. Signal support is more than combat communications or automation and is larger than the Signal Corps. Signal support's primary mission is to support the commander. The signal support disciplines are--

- Communications.
- Automation.
- Visual information (VI).
- Records management.
- Printing/publications.

All commanders participate in signal support. They own, operate, and manage their functional information systems. By using these information systems, commanders direct, coordinate, and support combat, combat support (CS), and combat service support (CSS) forces. These forces may include combined, joint, unified, or specified commands that require consideration when planning signal support.

1-2. The Threat

The Army's capability for worldwide deployment is essential if the US, with its allies, is to respond appropriately to conflicts wherever they may occur. In March of 1990, the Department of the Army released an unclassified overview of the Threat. The Defense and Central Intelligence Agencies coordinated this overview. It serves as a guide for our warfighting and planning for the next decade.

General. During the next several years, the US Army will face an increasingly complex international Threat environment. Changes in the Soviet Union and Eastern Europe are changing how we view the Threat. Intentions seem peaceful, but we are only in the early stages of change and have not approached an end state. The rest of the world also has the potential for conflict. Rather, old and new regional animosities require the Army to be prepared to meet the full range of contingencies across all levels of conflict.

Soviet Military Threat.

The central factor affecting US interests in Europe is the military potential of the Soviet Union. Moscow and its Warsaw Pact (WP) neighbors seem intent on carrying out their declared defensive doctrine. They are also restructuring their armed forces on the principle of defense sufficiency. However, if arms control negotiations reach envisioned agreements, the Soviet Union will have the largest standing European Army. It also will be the only state capable of destroying the US. The Soviet armed forces now have vast equipment stocks and maintain a huge reserve manpower pool. They will keep a significant mobilization potential. Therefore, while the immediate Threat in Europe is diminishing, Moscow could generate forces through extended national mobilization capable of offensive action on a strategic scale.

The Soviet armed forces are undergoing conventional force modernization despite mandated reductions. Although Soviet procurement expenses are expected to decline, the ground forces continue to

modernize their battlefield systems. Improvements in artillery, communications, and command and control (C2) systems could provide the Soviets with a fire support (FS) system. This system would have a greater range, increased accuracy, and more rapid responsiveness.

Nuclear force modernization continues throughout the Soviet armed forces. The Soviet's most striking feature is the extraordinary momentum of its offensive strategic nuclear modernization. The Soviets are deploying the new silo-based SS-18 MOD 5 heavy intercontinental ballistic missile (ICBM). It has at least 10 warheads and greater accuracy and throw-weight than earlier versions. The Soviets are also deploying two mobile ICBMs and the new Blackjack intercontinental bomber.

Soviet/East European Instability.

Politico-military factors point to instabilily as a likely feature of Europe during this decade. Optimism in the emerging democracies will soon give way to the realities of deep economic, political, and social problems these countrics face. Quick fixes are not possible in these stagnant or dying economies, and hard times lie ahead under the rnost optimistic scenarios.

Instability in Eastern Europe will not be confined to non-Soviet states. In the United Soviet Socialist Republic (USSR), thc outcome of internal revolution is far from certain. The Soviet Union itself will become less stable as it deals with its enormous problems. Reforming the economy is staggering in complexity and difficulty. The Baltic republics and other republics on the USSR's periphery will continue to press autonomy and independence from Moscow. Also, interethnic tensions could erupt violently during the decade as long-smoldering grievances surface in the more permissive climate of Glasnost.

Western Europe Concerns. In Western Europe, the uncertainties surrounding German reunification add to the instabilities created by rapid changes in Eastern Europe. The political and military relationships of a united German state to its neighbors will be a major factor in determining North Atlantic Treaty Organization (NATO) and WP security policies in the 1990s.

Regional Threats. US security concerns in Europe will continue throughout the 1990s. Regions outside of Europe will impact directly on US security interests. In each region, pressures will foster continued instability and the likelihood of conflict throughout the decade. While low-intensity engagements are more likely, large, conventional operations are also possible. When armed hostilities occur, our warning time may be very short. These exchanges will be far more lethal and destructive due to technologically advanced weapons throughout the third world. These high tech weapons will permit many nations to escalate conflicts to higher levels.

In Latin America, Cuba remains hostile to the US and several countries are unstable. Pressures facing many states include high foreign debt, population explosion, narcotics trafficking, and insurgences. Together, insurgent and drug-dealing elements are resulting in the new phenomenon of narco-terrorism.

In the Middle East, domestic strife, interstate hostilities, interethnic and religious violence, and terrorism dominate the region. Rivalries between countries give way to widespread economic and political instability. With no fewer than ten Middle Eastern nations having 500 or more tanks and sophisticated weapons, any conflict could rapidly escalate in size, intensity, and lethality.

In Asia, mid-intensity conflict remains possible, most notably on the Korean peninsula. North Korea is increasingly isolated and militarized and remains hostile to US interests. The potential for mid-intensity conflict between Pakistan and India remains high. However, India militarily dominates southern Asia. Domestic problems in some Asian countries threaten their political stability. Insurgency continues and the threat of internal takeovers are real in many regional states. Throughout the region, narcotics trade aids in political instability.

Conclusion. Despite reductions in East-West tensions, ethnic and religious animosities and interstate

rivalries continue in the third world. These traditional sources of strife, coupled with narcotics trafficking, terrorism, and modern conventional, chemical, and nuclear weapons, complicate the worldwide Threat environment. The US Army will need the ability to deploy mixes of heavy, light, and special operations forces in response to the likelihood of conflict and the potential for escalation from low- to mid-level intensity due to advance weapons proliferation.

1-3. The Operational Continuum

Military operations and activities are conducted within three general states of an operational continuum. The three states are peacetime competition, conflict, and war.

Peacetime competition is a nonhostile state in which political, economic, psychological, and military measures, short of combat operations or active support to a warring nation, are used to achieve national objectives.

Conflict is an armed struggle or clash between organized parties with a nation, or between nations to achieve limited political or military objectives. Conflict is often protracted, confined to a geographic area, and constrained in weaponry and level of violence.

War is sustained armed conflict between nations or organized groups within a nation involving regular and irregular forces in a series of connected battles and campaigns to achieve vital national objectives. War may be limited with some self-imposed restraints on resources or objectives. It may also be general, with the total resources of a nation committed.

The Army must be ready to fight and to succeed anywhere along the operational continuum, anywhere in the world, and at any level of war.

1-4. The Levels of War

War is a national undertaking that must be coordinated from the highest levels of policy-making to the basic levels of execution. The three levels of war are--

- Strategic.
- Operational.
- Tactical.

Strategic. The level at which a nation or group of nations determine national or alliance security objectives. They develop and use national resources to accomplish those objectives. At this level, activities--

- Set up national and alliance military objectives.
- Sequence initiatives.
- Define limits and assess risks for using military and other instruments of power.
- Develop global or theater war plans.
- Provide armed forces and other capabilities in accordance with strategic plans.

Operational. This level plans, conducts, and sustains campaigns and major operations. These accomplish strategic objectives within theaters or areas of operation. At this level, activities--

- Link tactics and strategy by setting up operational objectives.
- Sequence events to reach the operational objectives.
- Begin actions.
- Apply resources to bring about and sustain these events.

These activities imply a broader dimension of time and space than do tactics. They ensure the logistic and administrative support of tactical forces and provide the means by which tactical successes are exploited to achieve strategic objectives.

Tactical. This level plans and executes battles and engagements assigned to tactical units or task forces. At this level, activities focus on the ordered arrangement and maneuver of combat elements in relation to each other and to the enemy to reach combat objectives. In spite of the varied conditions and threats the Army will face, certain basic concepts, which apply to all warfare, have stood the test of time.

1-5. The Principles of War

For over 200 years, war has been waged by commanders versed (to varying degrees) in the following principles of war: objective, offensive, mass, maneuver, economy of force, unity of command, security, surprise, and simplicity. The following paragraphs describe how signal support merges, defines, creates, and supports these principles on the AirLand Battlefield.

Objective.

Direct military operations toward a clearly defined, decisive, and attainable objective.

The signal support plan must include this objective. The force commander's objectives are translated into maneuver, CS, and CSS missions and priorities. These missions and priorities must be clearly defined and attainable. When accomplished, the force commander can focus total combat power on defeating the enemy.

Offensive.

Seize, retain, and exploit the initiative.

Commanders who recognize and seize the favorable situation create opportunities for victory in battle. Signal support must always be provided in the spirit of the offense. The maneuvering of the supported force requires using all signal support means to maintain the mobility of that force.

Mass.

Concentrate combat power at the decisive place and time.

Signal support's provision of multiple information systems (dispersed throughout the battlefield) enhances a commander's ability to mass his resources.

Maneuver.

Place the enemy in a position of disadvantage by using flexible combat power.

For signal support, maneuver is the ability to displace rapidly to keep pace with the maneuvering forces.

Economy of Force.

Allot minimum essential combat power to secondary efforts.

Signal support must follow the principles of economy of force. The signal support assigned to a given mission should not exceed the effort necessary to produce the desired objective if there are still unsupported missions.

Unity of Command.

For every objective, ensure unity of effort under one responsible commander.

Signal support assets must desynchronized on the battlefield. This synchronization is critical to success. It cannot be achieved without unity of command. Signal support assets, at the disposal of the force commander, must be so unified as to appear transparent. Well-defined command and support relationships ensure consistent operational and tactical use of signal support assets. The signal officer at each maneuver headquarters provides this same consistency for all operations.

Security. Never permit the enemy to gain an unexpected advantage. Tactical security measures must be taken during any military operation. There are two aspects of security relating to signal support.

The first aspect concerns general security of the force. The importance of providing continuous

signal support to the force cannot jeopardize the security of the force--or if it does, only after calculating the risk(s).

The second aspect involves the physical security of signal support assets. Signal support assets, for example switching nodes, present high payoff targets for the Threat force. These assets need protection.

Surprise.

Strike the enemy in a time, place, or manner for which he is unprepared.

Surprise is an effective and powerful aim at the operational and tactical levels. It seizes the initiative, threatens enemy morale, and can reduce friendly casualties. Signal support assets provide continuous signal support during all stages of an operation (planning, issuing orders, and execution). Operational and tactical deception plans and operations security (OPSEC) help in achieving surprise. They are provided through OPSEC and signal support assets designated for deception.

Simplicity.

Prepare clear, uncomplicated plans and clear, concise orders to ensure a thorough understanding.

The speed of events and the complexity of modern warfare and varying situations (for example, time of day, weather, and nuclear, biological, chemical (NBC) conditions) may lead to considerable confusion. Using signal support for connectivity, continuity, uniformity, and interoperability in close, deep, and rear operations requires innovative management and intensive coordination. Therefore, signal support plans and orders must be simple, clear, and concise to reduce confusion and ensure success. They must also encompass the signal support tasks as outlined below.

1-6. Signal Support Tasks

Signal support affects combat, CS, and CSS operations at the operational and tactical levels. During the execution of signal support, all commanders perform certain essential tasks. They--

- Integrate force level C2.
- Support the commander's campaign, operation, or battle plan.
- Synchronize force operations.
- Sustain force operations.

Integrate Force Level C2. Signal support must integrate key information systems used by all battlefield elements to support the force commander's C2. At each force level, the signal support structure provides the means to acquire, distribute, and store timely, accurate, and reliable information. This information goes to and from the force-level commander and his staff and to other functional areas and their staffs. This flow of information optimizes his C2.

Support the Commander's Campaign, Operation or Battle Plan. Good signal support increases combat effectiveness from theater Army (TA), corps, and division levels. Battlefield operations rely on signal support to sustain the commander's battle plan. Combat forces have processors, telecommunications devices, records management systems, and printing/publishing systems to provide information for critical requirements. This information allows the commander to exploit battlefield opportunities.

Synchronize Force Operations. Synchronization means that maximum combat power is focused at the decisive point to defeat the enemy on the battlefield. Success in offensive operations depends on the ability of friendly forces to close with the enemy and destroy their will to fight. Synchronization is essential to AirLand Operations. Yet, it can be the most difficult to achieve. Signal support provides commanders with the means to synchronize force operations. When signal support is planned early and continuously and it exists at the required time, then optimum synchronization of actions against the enemy occurs.

Sustain Force Operations. Signal support helps provide the basic sustainment operations for the total force. It provides the means to acquire, process, display, store, and distribute information to support all sustainment functions on the battlefield.

Chapter 2

SUPPORTING THE FORCE (CORPS)

2-1 The Corps Environment

The corps is the largest tactical unit in the US Army. It is tailored for the theater and the mission for which it is deployed. Once tailored, it contains all the organic combat, CS, and CSS capabilities to sustain operations for extended periods.

The corps may be assigned divisions of any type required by the theater and the mission. They possess support commands and are assigned combat and CS organizations based on their needs for a specific operation. Armored cavalry regiments, field artillery (FA) brigades, engineer brigades, air defense artillery (ADA) brigades, and aviation brigades are nondivisional units available to the corps. This allows the corps to weigh its main effort and to perform special combat functions. Separate infantry or armored brigades, military police (MP) brigades, civil affairs brigades, chemical brigades, and psychological operations (PSYOP) battalions are the CS organizations in a corps. The corps CSS organizations are the personnel group, the finance group, and the corps support command.

The corps is the link between the operational and tactical levels of war. It plans and conducts major operations and battles. It creates and maintains the conditions for the success of current battles and sets up the conditions for the success of future battles. The corps synchronizes tactical activities including maneuver, artillery fires, naval fires, supporting tactical air, and actions of their CS and CSS units. These separate activities are brought together in a decisive and timely manner to create success on the battlefield. Its success depends on highly effective and survivable signal support.

2-2. Signal Support Responsibilities

Effective signal support requires integrating and synchronizing the efforts of countless elements and individuals throughout the corps environment. Signal support responsibilities are linked to a commander's authority and responsibility to manage and to use his signal support resources. Successful signal support is vital to the corps. To achieve success, signal staffs and organizations and nonsignal units and staffs must be organized and must function as a team. Figure 2-1 shows the division of responsibilities.

Corps Signal Support Staff.

The corps signal officer (CSO) is a member of the corps headquarters special staff. He fulfills a dual-hatted role as he is also the corps signal brigade commander. As a special staff member, the CSO is responsible for accomplishing the corps signal office's mission. The mission is to perform signal management functions. These functions provide adequate communications to the corps commander for commanding and controlling his forces. The corps signal office--

- Advises the corps commander, his staff, and subordinate commanders on command signal matters.
- Prepares signal estimates, plans, and orders for guiding and directing subordinate commanders and signal units.
- Exercises technical supervision of signal activities within the command.
- Manages all operational and contingency communications security (COMSEC) matters.
- Aids in developing COMSEC operational plans and policy.

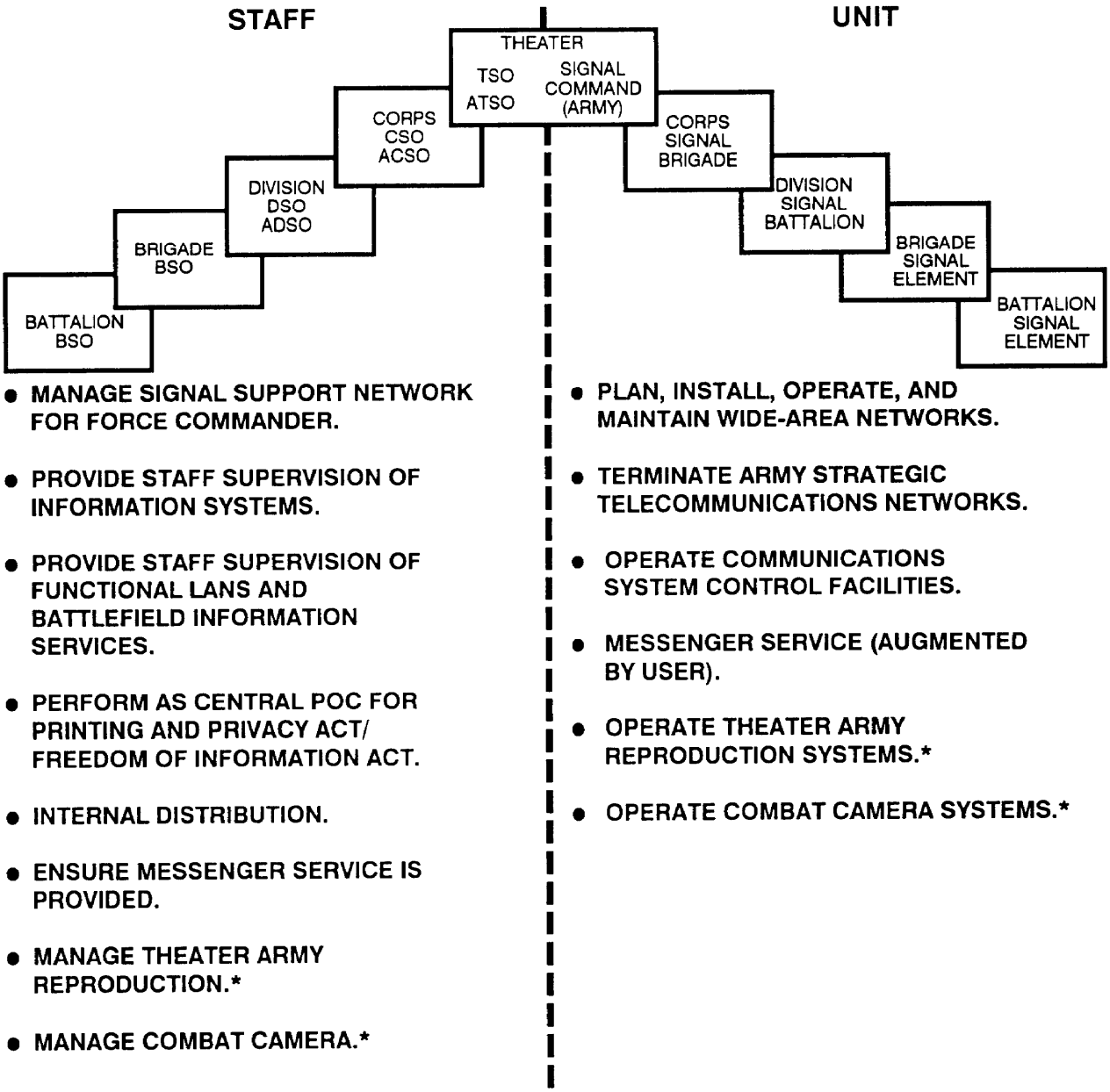

Figure 2-1. Signal Corps responsibilities.

The CSO has ample assistance in performing his duties. His chief assistant is the assistant corps signal officer (ACSO), COL (25 E). His main duty is to oversee the operations of the corps signal office. Other duties include--

- Representing the CSO in corps headquarters actions.
- Assisting the CSO in planning corps communications operations.
- Assisting in preparing the signal annex of the corps operation order (OPORD).
- Assisting in planning the corps standing operating procedure (SOP).
- Providing signal assistance to the corps headquarters staff elements.
- Assisting in planning automated systems and the corps telephone directory.
- Controlling radio frequency (RF) allocation and providing RF management for the corps.
- Coordinating host nation and allied signal interface.
- Managing/controlling actions and responsibilities of the information services support officer.

The signal brigade staff supports the corps signal support staff along with the CSO and the ACSO. Appendix A details their responsibilities and duties.

Signal Support Organization. The corps signal brigade is the primary signal support organization. The brigade's primary mission is to install, operate, and maintain a corps communications system. This system supports corps-level combat functions including C2, intelligence, fire control, CS, and CSS. The brigade also provides special staff and technical assistance for planning and controlling all division communications. To fulfill mission requirements during combat operations, the corps signal brigade can install, operate, and maintain a highly mobile and reliable area communications system. This system supports major subscribers throughout the corps.

2-3. C2 Support

To fight and win future battles successfully, the corps commander's C2 system must allow the commander to control and synchronize deep, close, and rear operations. His decision cycle will be shortened. Therefore, he will require a signal support system that can distribute his decision to any unit on the battlefield rapidly. The corps must be able to plan and conduct operations with the other US forces and allies. Interfacing must be done on the appropriate level and automated when required.

The Army Tactical Command and Control System (ATCCS) is the objective C2 architecture. It is a subset of the Army Command and Control System (ACCS). ATCCS includes automated information systems for the five battlefield functional areas (BFAs) and the communications links between and among the control systems. The BFAs are maneuver, air defense, FS, intelligence and electronic warfare (IEW), and CSS. At each BFA the ATCCS allows the commanders and staff to plan and control their operations and to coordinate these with other functional commanders.

The wide-area network (WAN) is the backbone communications over which the control system operates. The WAN provides connectivity for voice and digital data transmission. ATCCS is divided into the Area Common-User System (ACUS), Army Data Distribution System (ADDS), and the combat net radio (CNR). Additional key elements of ATCCS are the Tactical Record Traffic System (TRTS) and local terminal devices. Terminal devices such as battlefield automated systems (BAS), telephones, and facsimiles will be user-owned, -installed, and -maintained.

ACUS. The corps signal brigade provides the corps area common-user support. This system provides

an integrated switching system from corps down through battalion level. With the fielding of the Mobile Subscriber Equipment (MSE), the corps brigade has been reorganized to provide this service in a more efficient and survivable manner. The MSE network integrates the transmitting, switching, controlling, and terminating functions of voice and data equipment into one system.

Figures 2-2 through 2-15 show the current organizational structure of the corps MSE brigade. It is the Army's intent to field the MSE system to all US corps. Now, the Army Tactical Communications System (ATACS) is supporting corps which do not have MSE. For reference purposes, see Appendix B for the organizational structure of the ATACS equipped signal brigade.

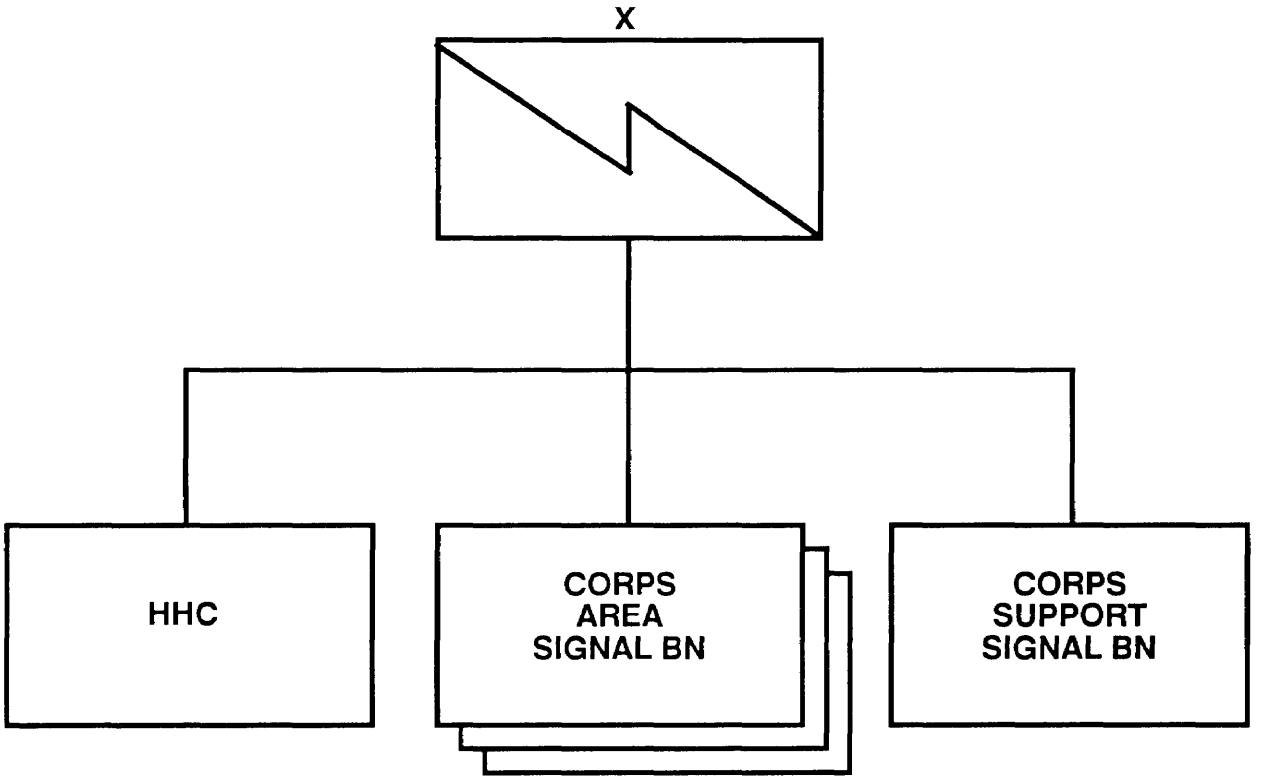

Figure 2-2. Corps signal brigade.

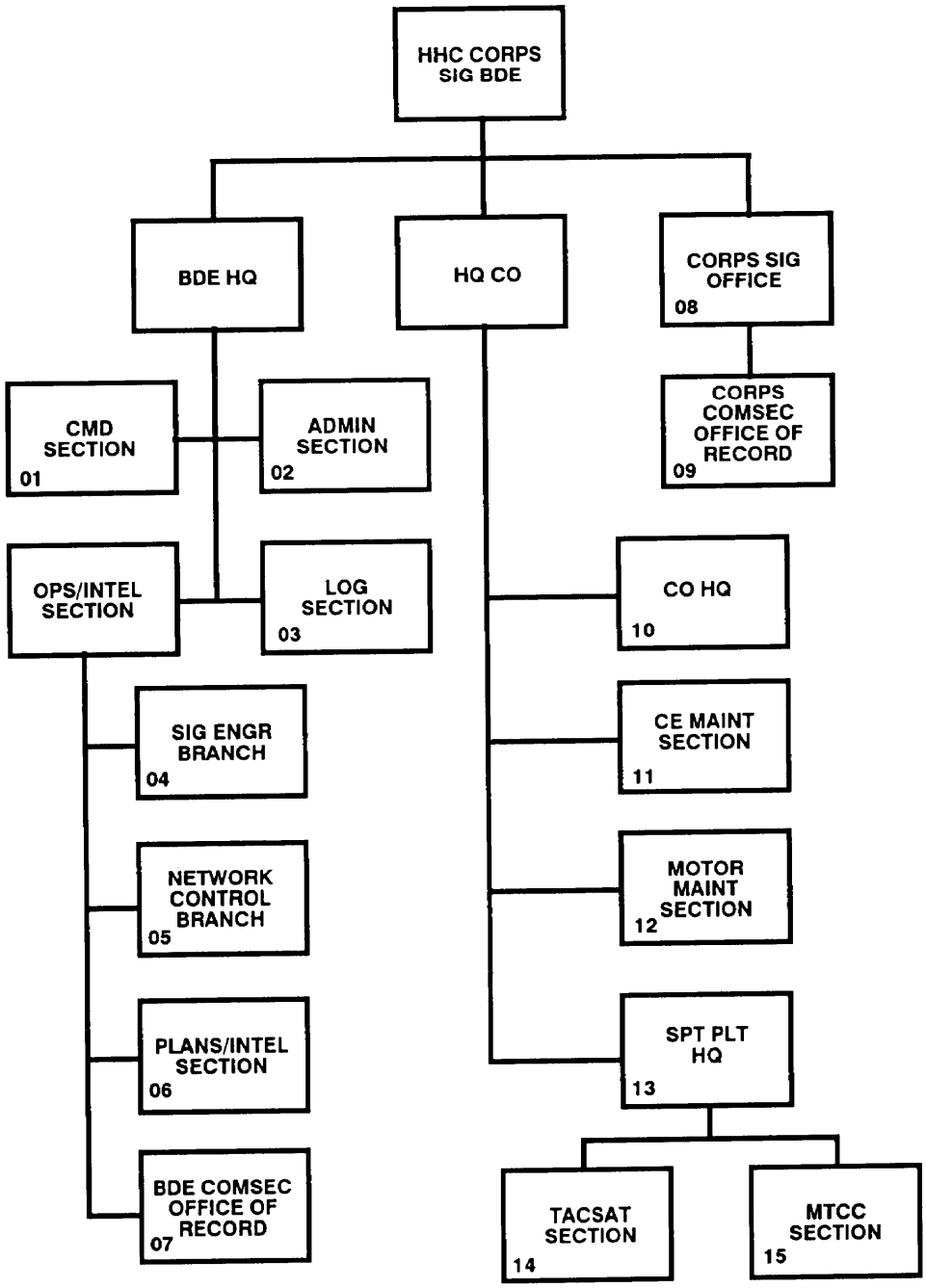

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Figure 2-3. HHC corps signal brigade.

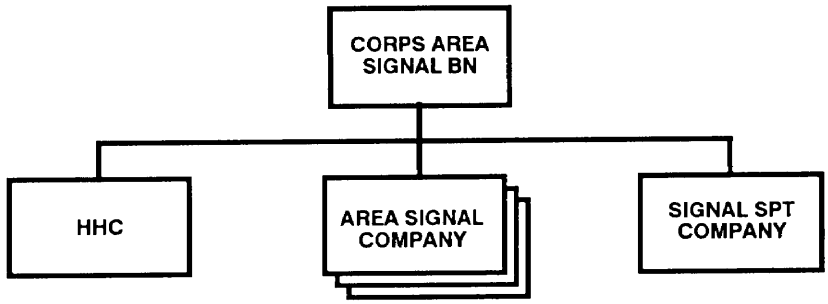

Figure 2-4. Corps area signal battalion.

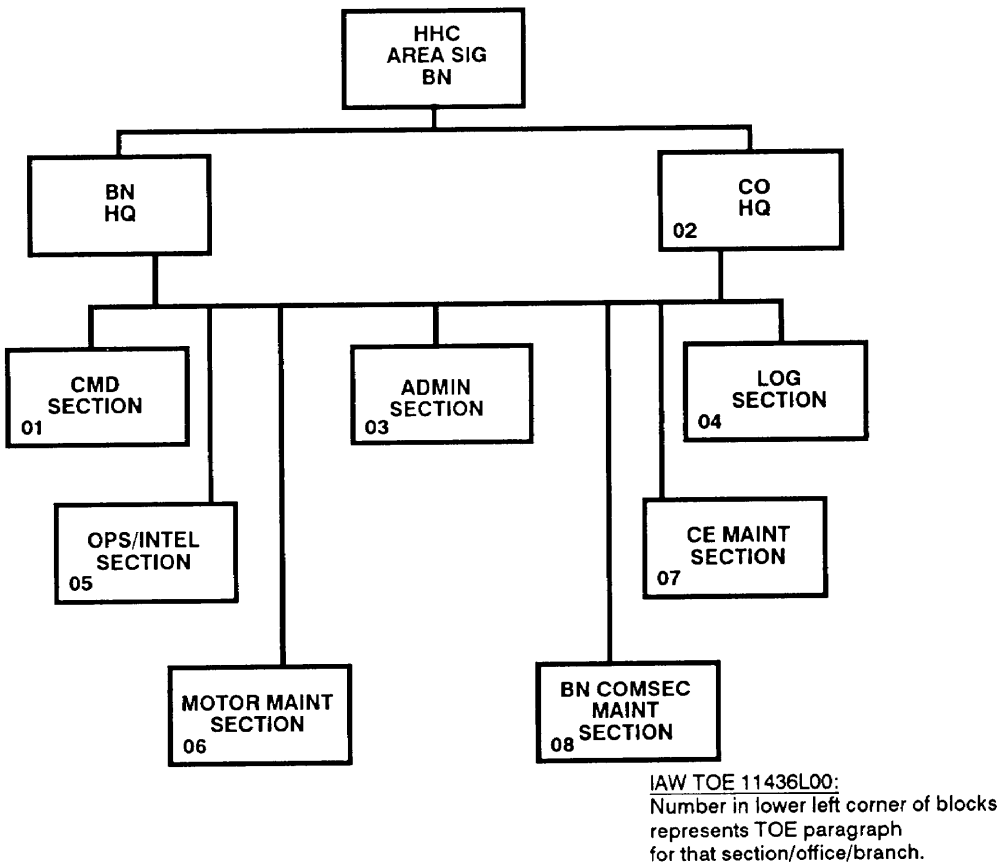

Figure 2-5. HHC corps area signal battalion.

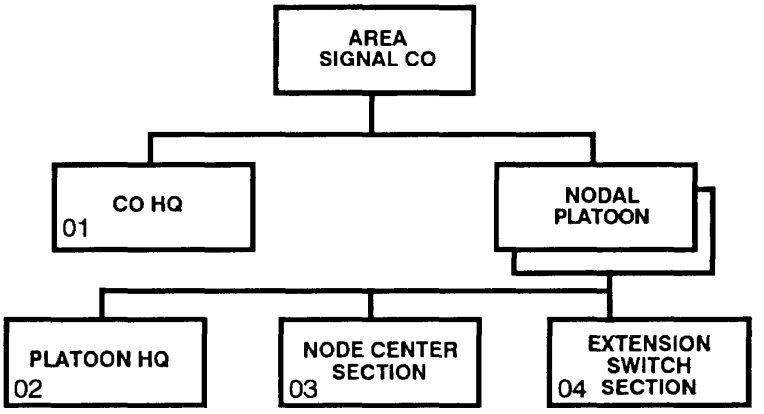

Figure 2-6. Area signal company.

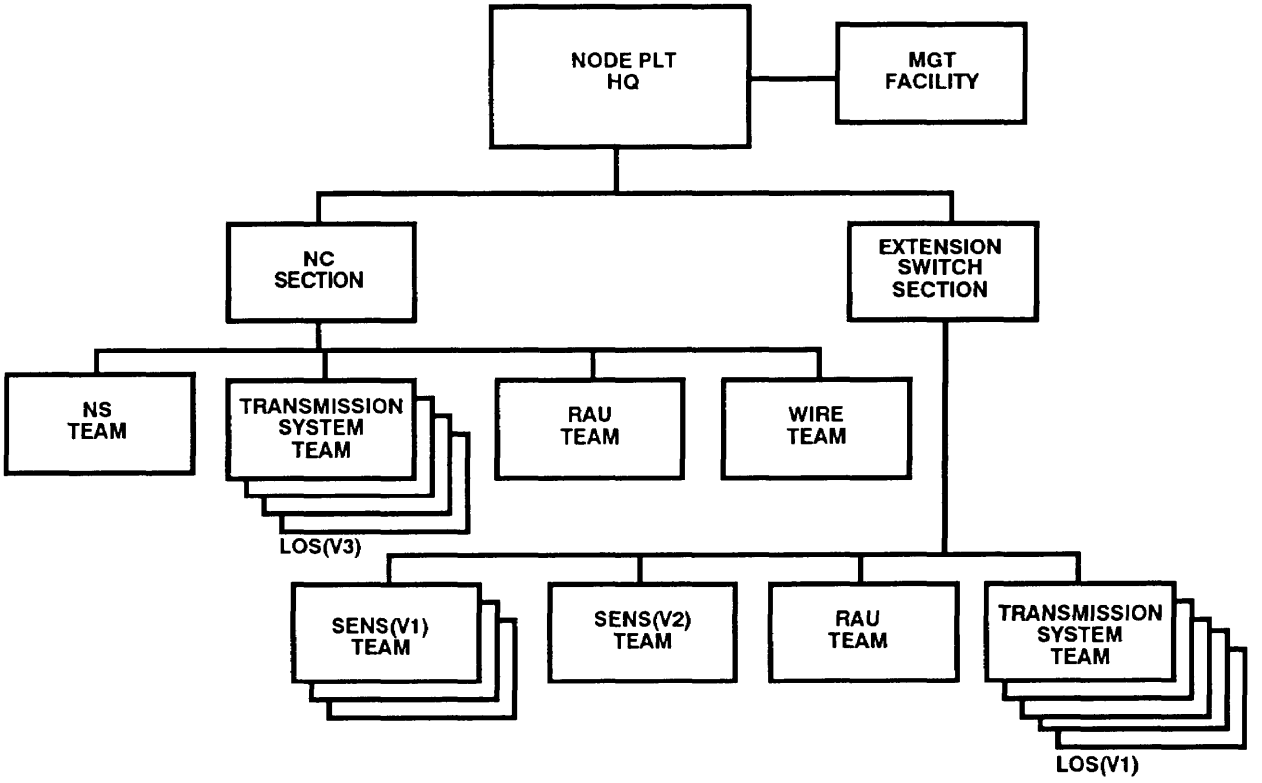

Figure 2-7. NC section and extension switch section.

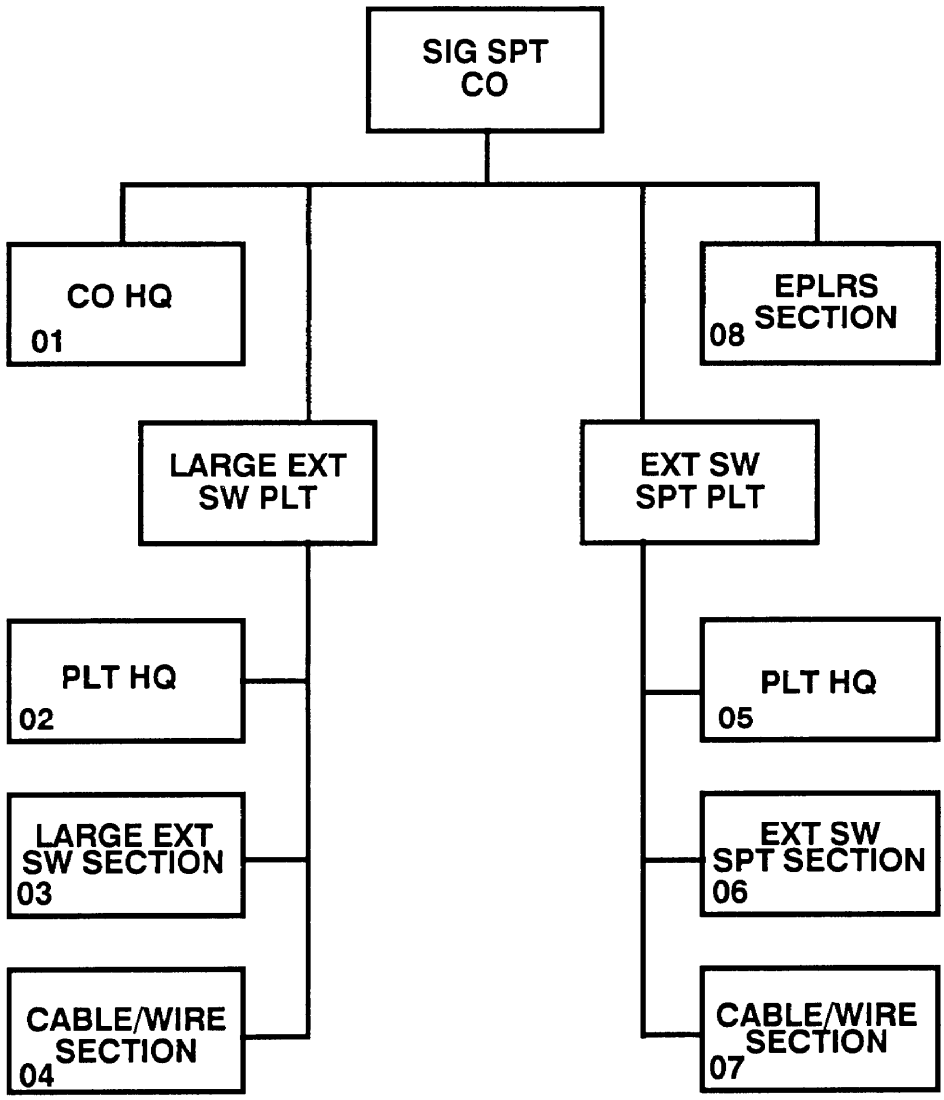

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Figure 2-8. Corps area signal battalion's signal support company.

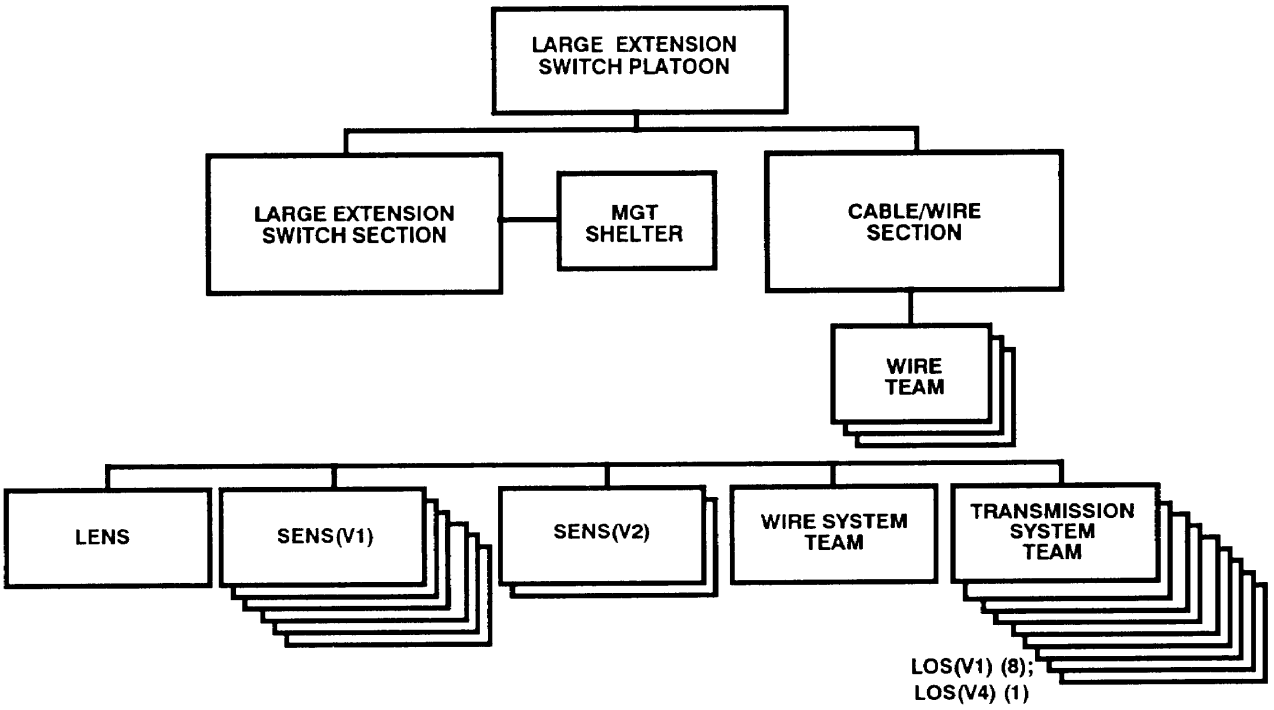

Figure 2-9. Large extension switch platoon.

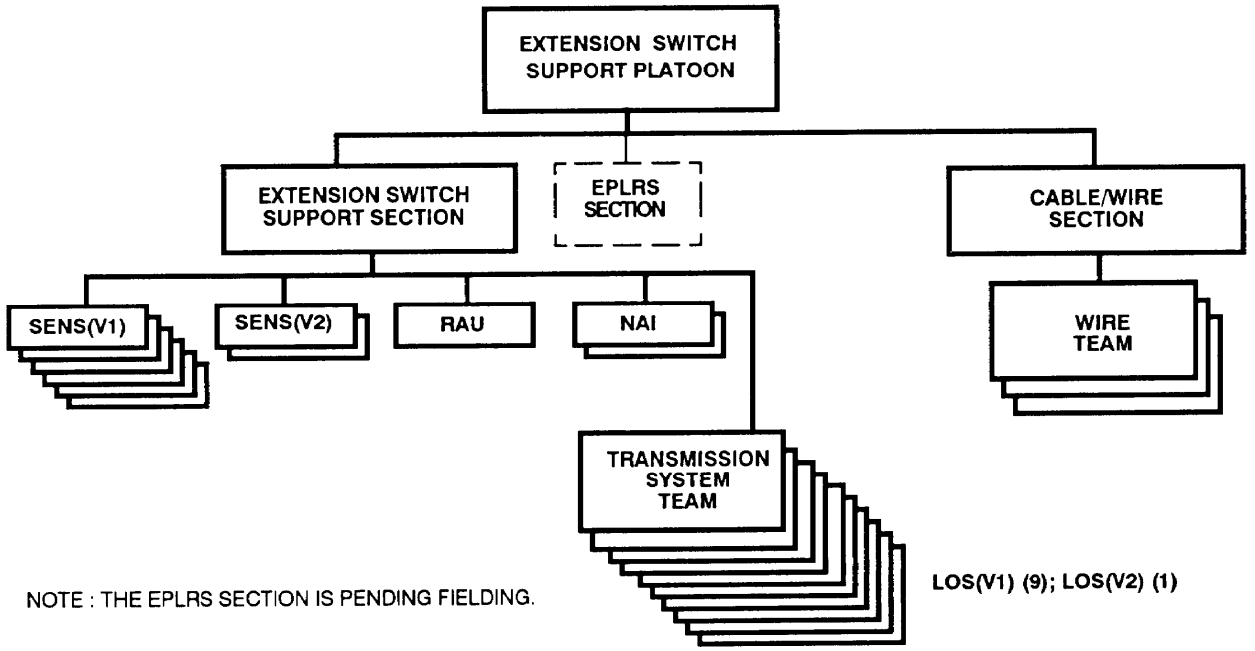

Figure 2-10. Extension switch support platoon.

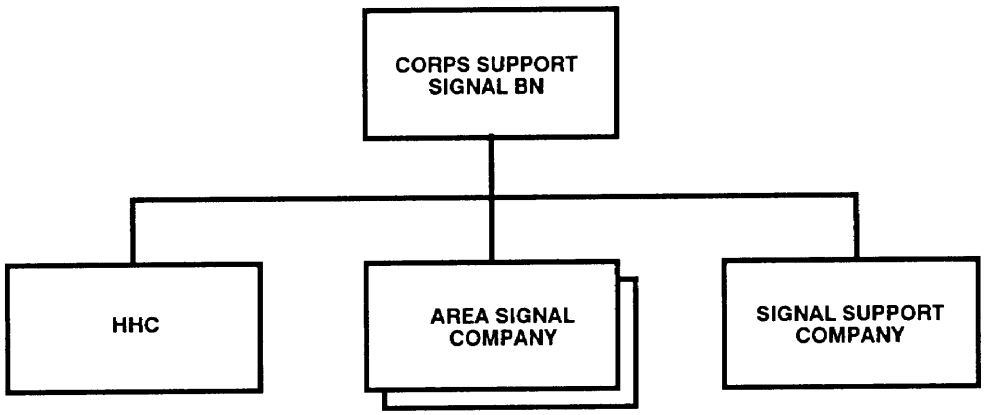

Figure 2-11. Corps support signal battalion.

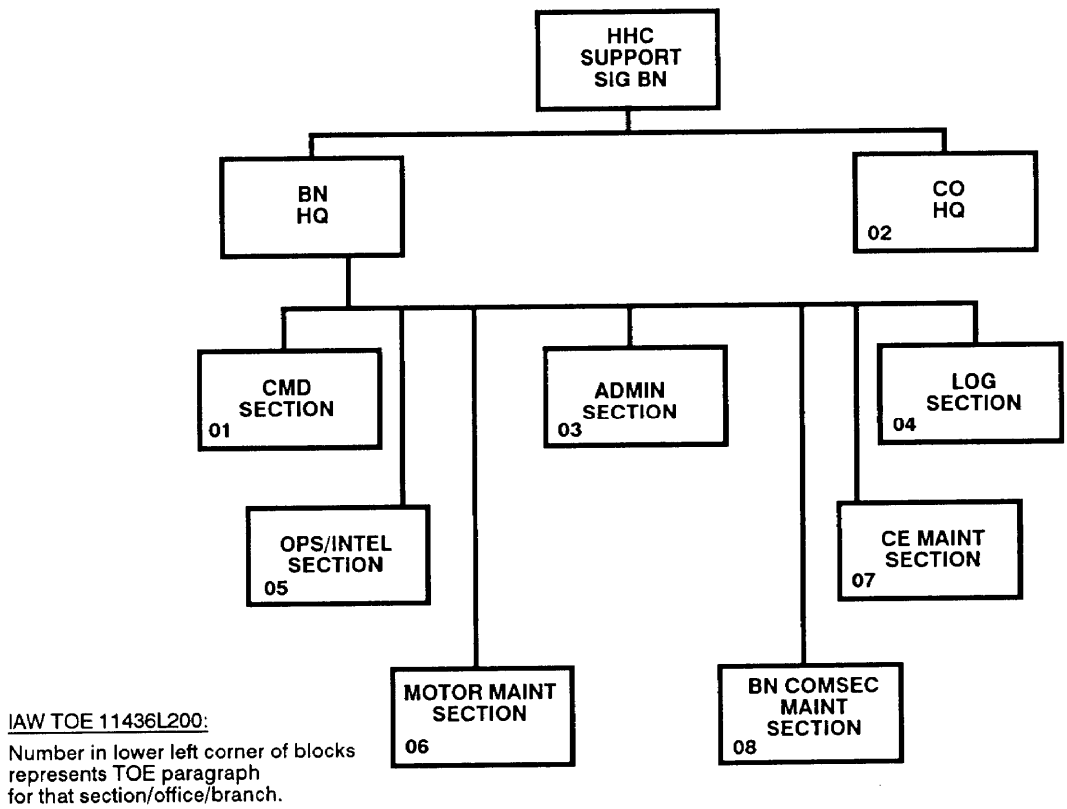

Figure 2-12. HHC support signal battalion.

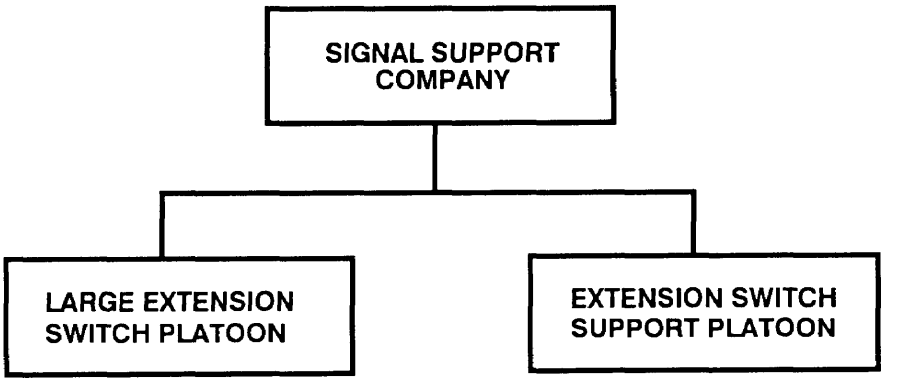

Figure 2-13. Signal support company.

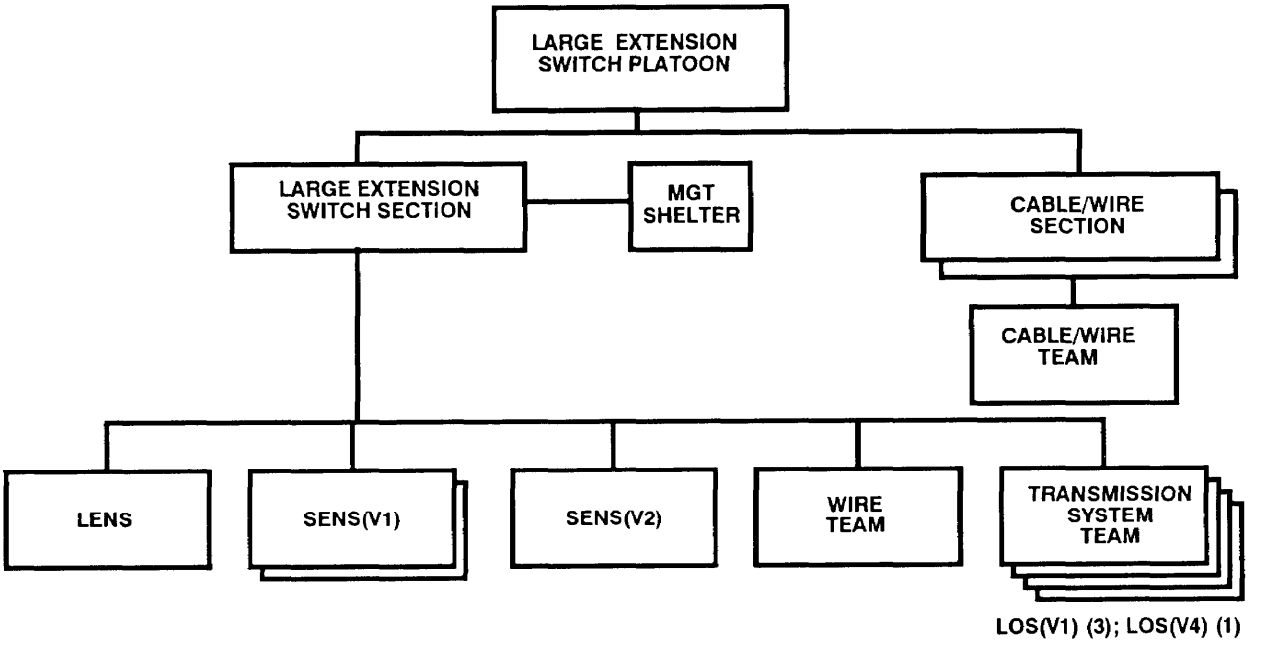

Figure 2-14. Large extension switch platoon.

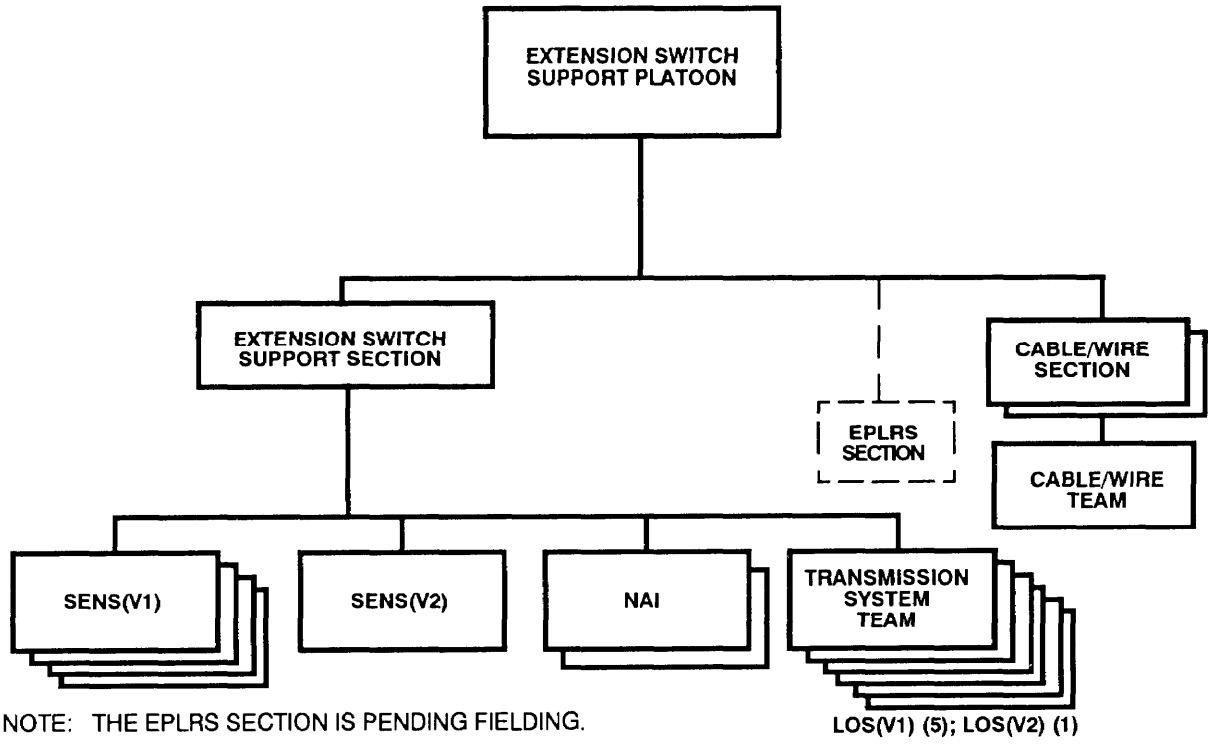

Figure 2-15. Extension switch support platoon.

CNR. The *CNR* system provides extremely mobile and highly survivable communications. The network is designed around three radio systems. Each system has different capabilities and transmission characteristics. The three systems are--

- The Improved High Frequency Radio (IHFR).
- The Single-Channel Ground and Airborne Radio System (SINCGARS).
- Single-Channel Tactical Satellite (TACSAT).

Each system takes a different transmission path, thereby increasing the probability that at least one system will work at any given time. Corps are not the main users of CNR.

ADDS. The ADDS is the primary objective vehicle for passing selected data communications. ADDS provides real-time or near real-time data links for target-weapon pairing, position location and navigation, control measure distribution, and identification information for the corps. It is distributed to the lowest tactical level.

Chapter 3

SUPPORTING THE FORCE (DIVISION)

3-1 The Division Environment

The division is the largest Army fixed organization that trains and fights as a tactical team. It is organized with varying numbers and types of combat, CS, and CSS units. A division may be armored, mechanized, infantry, light infantry, airborne, or air assault. It is a self-sustaining force capable of independent operations.

Divisions plan future operations based on the echelons above corps (EAC) and corps commanders' intent. They also allocate resources based on battalions and brigades. Divisions defend against three or more assaulting enemy divisions. The defending division commander directs, coordinates, and supports his brigade's operations. The division interdicts follow-on regiments to disrupt and delay those forces as they try to join the battle. When attacking, the division commander directs, coordinates, and supports his brigade's operations against enemy battalions and regiments. The division interdicts deeper enemy echelons, reserves, and CS forces. Each type of division conducts tactical operations in a low-, mid-, or high-intensity combat environment. Divisions are the basic units of maneuver at the tactical level. See FM 71-100 for more detail of division operations.

3-2. Signal Support Responsibilities

Signal support in the division is a collective and integrated application of information services and systems. This includes telecommunications, automation, and all resources within the IMA. Signal support also facilitates rapid and continuous C2. This is done through the coordinated efforts of signal support staffs and organizations, user units and their functional staff, and unit signal officers.

Division Signal Support Staff. The division's signal support staff is a vital element in accomplishing the overall mission. Its responsibilities are similar to those of the corps signal support staff. It is staffed by many MOSs.

The division signal officer (DSO), LTC (25C), is the principal advisor to the division commander for all division communications. He is a member of the division staff and is the commander of the division signal battalion. These two functions are separate but related. As a member of the division staff, the DSO presents the communications aspects for tactical operations for all staff planning. He is responsible for coordinating with general and special staffs. He has access to the division chief of staff and consults directly on communications matters which affect the command. Normally, the DSO coordinates all communications matters with the general staff. As the division signal battalion commander, he commands, directs, and supervises the division signal battalion's efforts and activities to complete the mission. The DSO does not operate alone. He must coordinate with other division elements and with members of his own staff and battalion. His office is staffed with highly-qualified personnel who support him in satisfying the division's signal support requirements.

The assistant division signal officer (ADSO), MAJ (25E), works for the DSO and represents the signal battalion in most division staff actions. The ADSO and office are on the signal battalion TOE; yet, they work on the division staff. The ADSO--

- Supervises the division signal office.
- Represents the signal battalion commander in division headquarters actions.

- Assists the DSO in planning division communications operations.
- Assists in preparing the OPORD signal annex.
- Assists in planning the signal portion of the division SOP.
- Provides signal assistance to the division headquarters staff element.
- Assists in planning automated systems and the division telephone directory.
- Controls RF allocation and provides division RF management.
- Coordinates host nation and allied signal interface.

The signal battalion staff and the division signal office support the division signal support battalion. See Appendix C for more details on the responsibilities and duties.

Signal Support Organization. The primary signal support organization within the division is the division signal battalion. Its missions are --

- To install, operate, and maintain a division communications system to support division-level combat functions including C2, intelligence, fire control, CS, and CSS.
- To provide internal communications at all echelons of the division headquarters including the division main, rear, tactical command posts (CPs), and support area.
- To provide special staff and technical assistance for planning and controlling all division communications.

The division signal battalion can provide a highly mobile and flexible area communications system. This system supports major subscribers/CPs/operational facilities (OPFACs) throughout the division's area of operation. Light and heavy divisions also use this system. When required, the battalion can function as a stand-alone organization. The battalion headquarters is located where it can best control signal support, normally near the division rear CP.

3-3. C2 Support

To execute AirLand Operations successfully, the division's C2 system must allow the commander to control and synchronize deep, close, and rear operations. He must be able to receive, process, and transmit information in a timely manner. His decisions require rapid distribution. His communications network must be resilient and mobile to survive on the battlefield. The division must be able to plan and conduct operations with the Navy, Air Force, and the Marines. Interfacing must be done at the appropriate level and automated when required. Operating in the joint arena is imperative.

The ATCCS is the objective C2 architecture and is a subset of the ACCS. ATCCS includes automated information systems for the five BFAs and the communications links between and among the control systems. The BFAs are maneuver control, air defense, FS, IEW, and CSS. At each BFA, the ATCCS allows the commanders and staff to plan and control their operations and to coordinate these with other functional commanders.

The WAN is the backbone communications over which the control system operates. The WAN provides connectivity for voice and digital data transmission. ATCCS is divided into the ACUS, the ADDS, and CNR. Additional key elements of ATCCS are the TRTS and local terminal devices. Terminal devices such as BAS, telephones, and facsimiles are user-owned, -installed, and -maintained.

ACUS. The division signal battalion provides the division area common-user support. When included in the corps network, this system provides an integrated switching system from battalion through TA. With the

fielding of MSE, the division signal battalion has been reorganized to provide this service more efficiently. The MSE network integrates the transmitting, switching, controlling, and terminating functions of voice and data equipment into one system. The system provides CP communications from brigade forward to the division rear and to echelons above division. Figures 3-1 through 3-4 show the current organizational structure of the division MSE signal battalion. It is the Army's intent to field the MSE system to all divisions. Now, the ATACS is supporting divisions that do not have MSE. For reference purposes, see Appendix D for the doctrinal employment of ATACS equipped division signal battalions. Also, see FM 11-50 for more details on ATACS supported divisions.

CNR. The CNR system provides a communications means to the division that is independent of the ACUS. Its primary use is for C2 within the division's maneuver brigades and battalions. The network is designed around three radio systems. Each system has different capabilities and transmission characteristics. The three systems are--

- IHFR.
- SINCGARS.
- TACSAT.

The network primarily supports C2 voice transmission. However, the network can assume a secondary role for data transmission when so tasked.

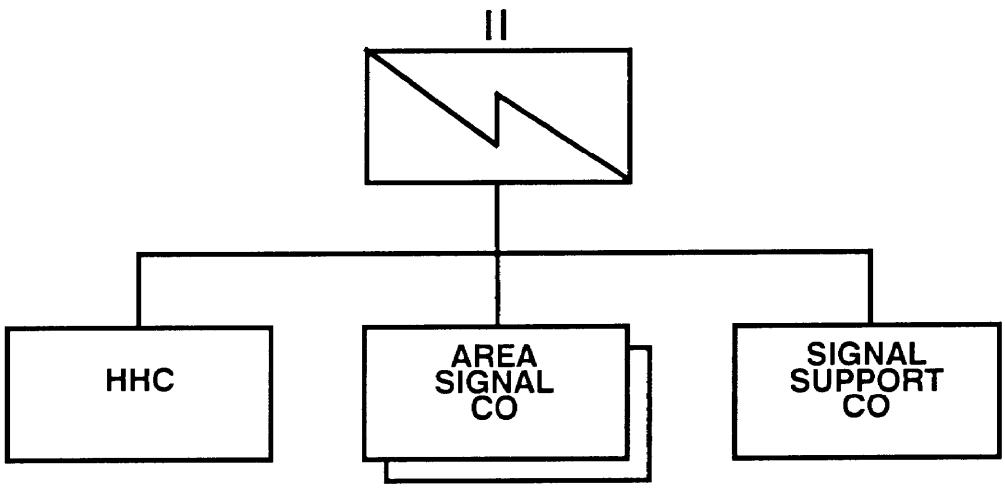

Figure 3-1. Division signal battalion.

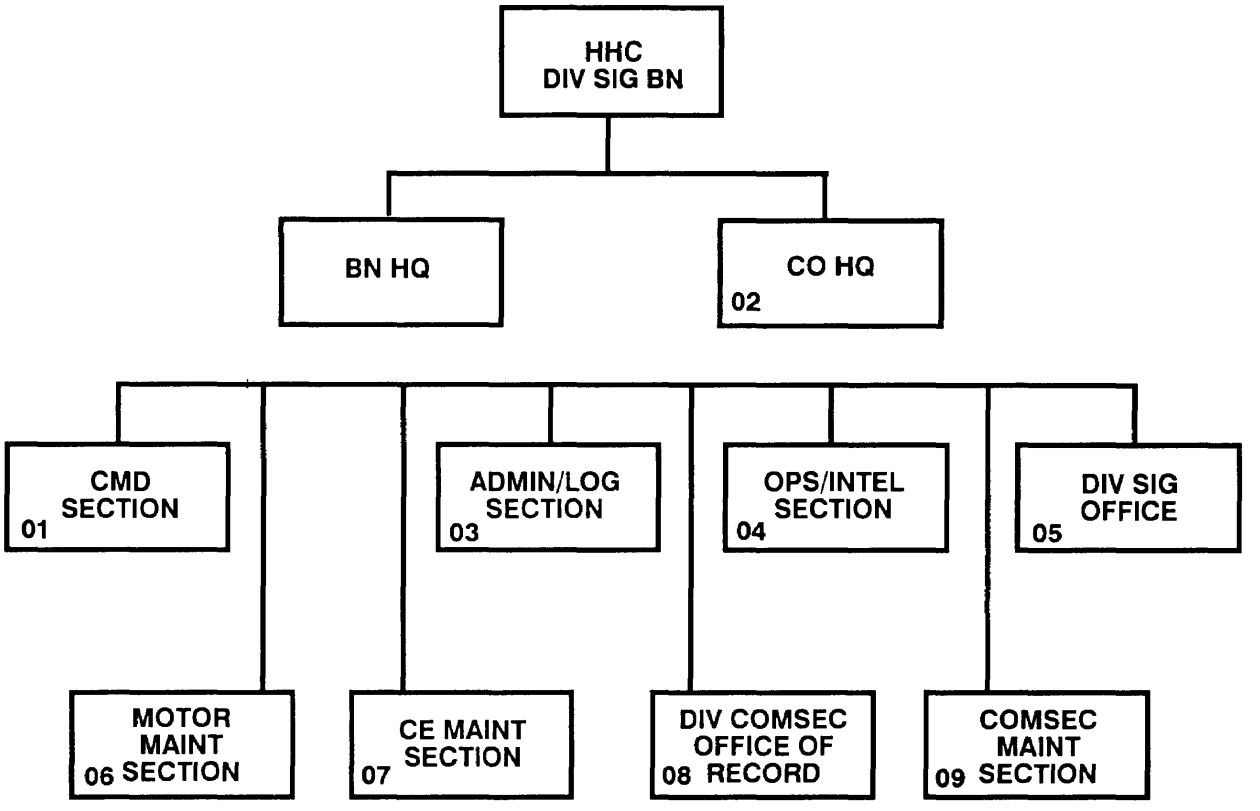

Figure 3-2. HHC division signal battalion.

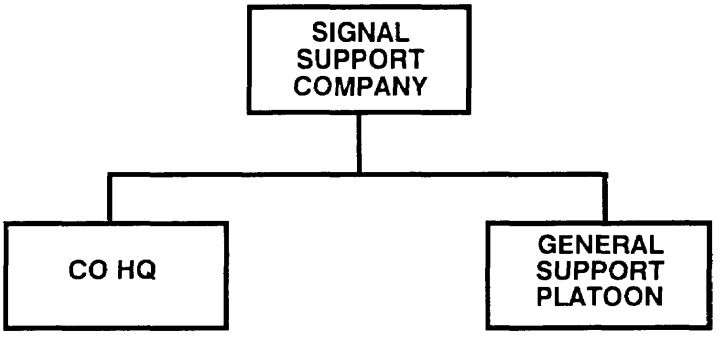

Figure 3-3. Division signal support company.

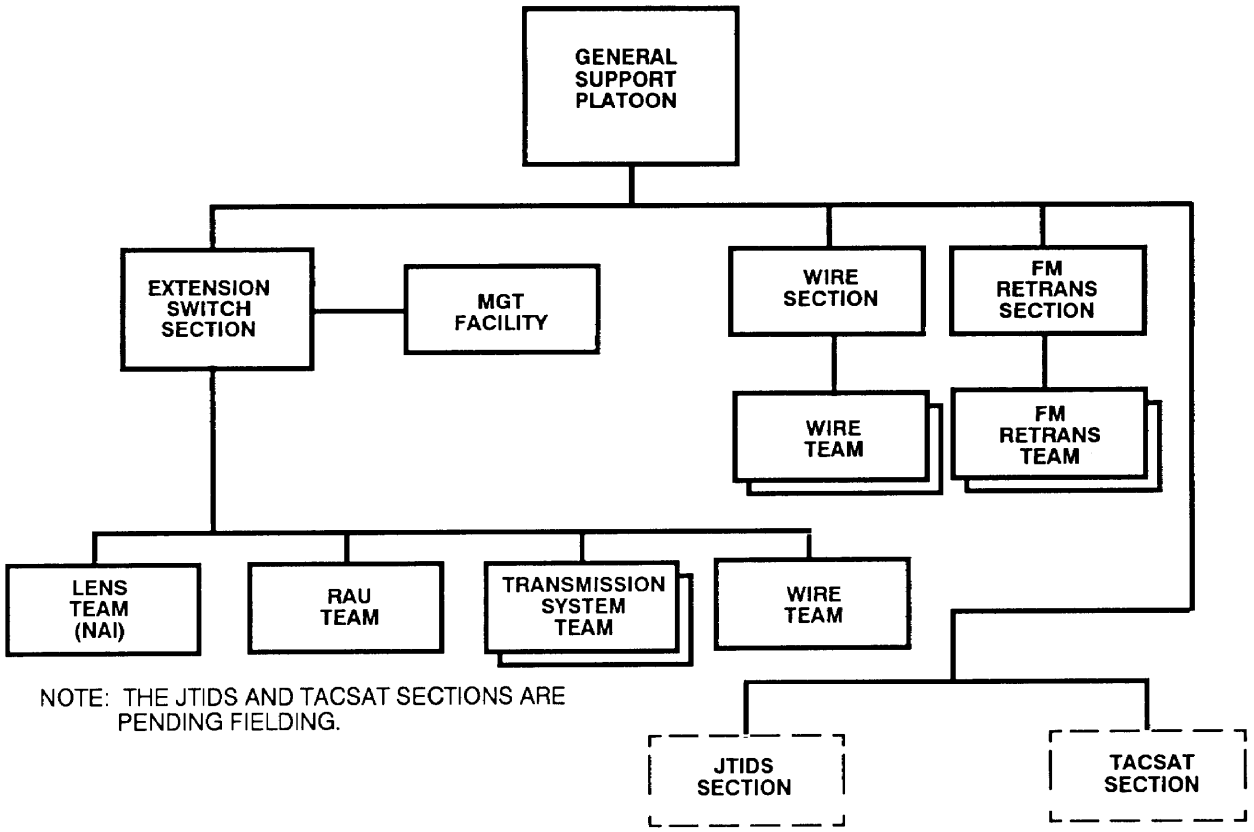

Figure 3-4. General support platoon.

ADDS. The ADDS is an integrated C2 communications system. It provides near real-time transmission capabilities that support high-volume data networks. It also provides precise position, location, navigation, identification, and reporting information of units on the battlefield. The terminal sets of the ADDS are user-owned and -operated radios which are integral to their C2 systems. These radios function automatically to terminate or relay data. Signal support units are responsible for network control and management. They provide dedicated relay units for complete network connectivity. ADDS consists of the Enhanced Position Location Reporting Sytem (EPLRS) and the Joint Tactical Information Distribution System (JTIDS).

EPLRS is for data distribution on the battlefield. EPLRS is a computer-based communications system that provides secure, jam-resistant, contention free, near real-time data transmission and distribution to subscribers. It also provides unit identification, navigational aids, and the automatic location reporting of tactical combat and CS forces. EPLRS uses integral dual level (CONFIDENTIAL/SECRET) cryptographic security with over-the-air rekeying (OTAR), frequency hopping (FH), and error correction encoding as electronic countermeasures (ECM) protection. An EPLRS community consists of a net control station-EPLRS (NCS-E) and up to 460 EPLRS user units (EPUU) operating on 8 UHF frequencies from 420 to 450 MHz. Three host computer interfaces are available

to connect data transfer devices to the EPUU. This allows direct information transfer from the sending computer to the receiving computer at data rates of up to 1.2 kilobits per second (kb/s). These interfaces are--

- Standard interface X.25 -- Most Army user and all new automated systems.
- Single-channel frequency shift keying (FSK) --Tactical fire direction system (TACFIRE), TPQ-36/37, automatic target hand off system.
- Data Bus interface 1553 -- Tracked vehicle and aviation applications.

Division EPLRS architecture calls for 4 NCS-Eand 12 EPLRS grid reference units (EGRU) to support a 4 EPLRS community array where each community covers a brigade-sized area. The NCS-E and grid reference units (GRUs) are division signal battalion assets.

The JTIDS is an advanced radio system. It provides information distribution, position location, and identification capabilities in an integrated form which apply to tactical military operations. The system distributes encrypted information at high rates and is resistant to jamming in a hostile electromagnetic environment. It can interconnect scattered sources and users of information. JTIDS also provides surface and airborne elements with a position location capability (within a common position reference grid) and a basic identification capability through the distribution of secure position and identity information.

Chapter 4

SUPPORTING THE FORCE (BRIGADE/BATTALION)

4-1. The Brigade/Battalion Environment

Brigades and battalions are organized to fight and support battles on any part of the battlefield and in conventional, nuclear, or chemical environments. Brigades and battalions complete major tactical tasks as part of a corps or division operation. Higher headquarters assign missions to brigades and battalions. They must accomplish these missions and conform to the commander's intent.

Brigade Environment.

Brigade-sized units control two or more battalions. Their self-supporting capabilities vary with the type of brigade. Brigades combine the efforts of their battalions and companies to complete engagements successfully.

Maneuver brigades are major division combat units. They can also be organized as separate units. They can use any combination of maneuver battalions. FA battalions, aviation units, and smaller combat, CS, and CSS units normally support maneuver brigades.

Separate brigades of infantry, armor, FA, ADA engineer, aviation, or armored cavalry regiments can augment corps and division. Separate brigades and regiments usually perform as whole units when attached to corps and divisions.

Other combat, CS, and CSS brigades control nondivisional units for corps and larger units. Engineer, ADA signal, aviation, MP, and transportation brigades are typical units.

Battalion Environment.

Battalions consist of two or more company-sized units and a headquarters. Most battalions are organized by branch, arm, or service. In addition to their operational companies, they contain a headquarters company that allows them to perform some administrative and logistic services. Typically, battalions have three to five companies in addition to their headquarters.

Combat arms battalions perform single tactical missions as part of the brigade's tactical operations. They can be reinforced with other combat and CS companies to form task forces for special missions.

CS and CSS battalions vary in type and organization. They may be separate divisional or nondivisional. They perform functional services for a larger supported unit within its area of operations. Engineer, ADA, and signal battalions assigned to or supporting divisions operate throughout the division area. Their commanders are on the division staff.

4-2. Signal Support Responsibilities

General. Effective signal support at the brigade/battalion level is crucial. At this level, the events of battle shape the entire war effort. The commander must have dependable communications resources to accomplish the mission. His functional staff and signal support personnel must work together ensuring these resources are available.

Brigade/Battalion Signal Support Staff.

The brigade/battalion signal officer (BSO) advises and assists the commander on all signal support matters. The BSO must use the commander's intent and factors of mission, enemy, terrain, troops, and time available (METT-T) to plan signal support for current and future battle contingencies. Understanding individual unit missions, capabilities, and limitations is essential to his signal support planning.

Unit SOP and memorandum of agreements (MOAs) become less effective during brigade/battalion task force operations. The need for internal and external coordination to include signal operation instructions (SOIs), key variables, ACUS frequency plans, net structure, and liaison support is greatly increased.

The BSO's responsibilities in a maneuver brigade/battalion include more than communications support. He performs in the full realm of signal support as outlined in the IMA concept. Under this concept, the BSO could serve as a telephone control officer (TCO), automation officer, and COMSEC custodian. The BSO--

- Advises the commander and his staff on all signal matters.
- Plans, manages, and directs all aspects of the unit communications systems.
- Exercises staff supervision over the communications activities of subordinate and attached units.
- Plans the integration of lower, adjacent, and higher headquarters into the unit's communications systems.
- Plans and monitors the installation and operation of tactical communications and automation facilities.
- Supervises maintenance of the unit signal equipment.
- Monitors the status of unit and subordinate unit signal equipment in support maintenance.
- Prepares and writes the signal annex of unit OPORDs, operation plans (OPLANs), and command SOP.
- Serves as COMSEC officer or COMSEC custodian for the unit COMSEC account.
- Issues and accounts for key lists, codes, ciphers, and authentication systems following current regulations.
- Maintains, issues, and accounts for the unit SOI following current regulations.
- Prepares, updates, and presents unit training programs (including COMSEC, electronic security, technical signal training, and an extensive cross-training program).
- Assists the unit S3 and the headquarters unit commander in locating the unit CP and support areas.
- Exercises operational control (OPCON) of the unit communications section/platoon (if no platoon leader is assigned).
- Plans and directs signal support for CP displacement including a jump CP as required.
- Assists in preparing electronic warfare (EW) plans and annexes.
- Monitors signal support personnel in the command.
- Recommends duty assignments for assigned signal support personnel.
- Develops reporting procedures throughout the unit for meaconing, intrusion, jamming, and interference (MIJI) reporting.

4-3. C2 support

The brigade/battalion commander requires a dependable C2 system. He must be able to rapidly receive orders from higher echelons and disseminate them to subordinates in a timely manner. The brigade/battalion CP is highly mobile and must have a communications system that supports this mobility.

ACUS. The ACUS assets at battalion level are not as extensive as those found at the corps and division level. Despite this limitation, the brigade/battalion commander is given full access to the network. The MSE network provides the brigade/battalion reliable and redundant voice/data signal support. This is provided by using small extension nodes (SENs), mobile subscriber radiotelephone terminals (MSRTs), and CNRs through the net radio interface (NRI).

The small extension node switch (SENS) provides the brigade/battalion's wire subscriber access to the ACUS. It provides local switching and network access for 26 subscribers (AN/TTC-48(Vl)) or 41 subscribers (AN/TTC-48(V2)). A habitual relationship may be established and maintained between extension nodes including line-of-sight (LOS) teams and the supported unit's Cps. While a habitual relationship may be desired (for tactical familiarity and ease in support), MSE extension nodes do not revert to a reserve role when the supported CP/unit assumes a reserve role. In these situations, MSE extension nodes are assigned a revised support role. Habitual relationships may be reestablished when the affected elements return to an active role.

External signal support of wire subscribers consists of installation, operation, and maintenance (IOM) of the system and its associated equipment. Equipment includes the node switch, LOS radios, cable (CX-4566 and CX-11230/G), and junction equipment (J-1077 distribution box or TD-1234 remote multiplexer combiner (RMC)). The user is responsible for connecting the WF16 field wire to the junction equipment and providing power for the RMC. The user unit is also responsible for installing and maintaining its subscriber terminal equipment. Subscriber terminal equipment includes--

- TA-1035/U digital nonsecure voice terminal (DNVT).
- TSEC/KY-68 digital subscriber voice terminal (DSVT).
- AN/UGC-l44 communications terminal (CT).
- AN/UXC-7 lightweight digital facsimile (LDF).
- AN/VRC-97 MSRT.

The BSO and the communications platoon/section are responsible for ensuring the equipment is installed. Figures 4-1 and 4-2 show typical SEN support deployment for the brigade/battalion in the corps and division.

The supporting signal unit and its own user-owned and -operated equipment provide the brigade/battalion's mobile subscriber access to the ACUS.

MSRT. The MSRT is a user-owned component. It allows the user to dial up and communicate with any discretely addressed MSE subscriber. The MSRT (AN/VRC-97) consists of a DSVT and an RT-1539(P)/G VHF radio with a vehicle antenna kit.

Radio access unit (RAU). The mobile subscriber gains network access through the RAU. The supporting signal unit owns and operates this equipment. Its signal planner deploys RAUs to provide battlefield coverage. One RAU can provide a 15-kilometer radius area coverage (planning range) in the area of operations (Figure 4-3). Following initial affiliation, mobile subscriber affiliation is maintained automatically as he moves from one RAU's range to another. If the mobile subscriber is engaged in a telephone conversation and leaves the serving RAU's range, the conversation is terminated and must be redialed.

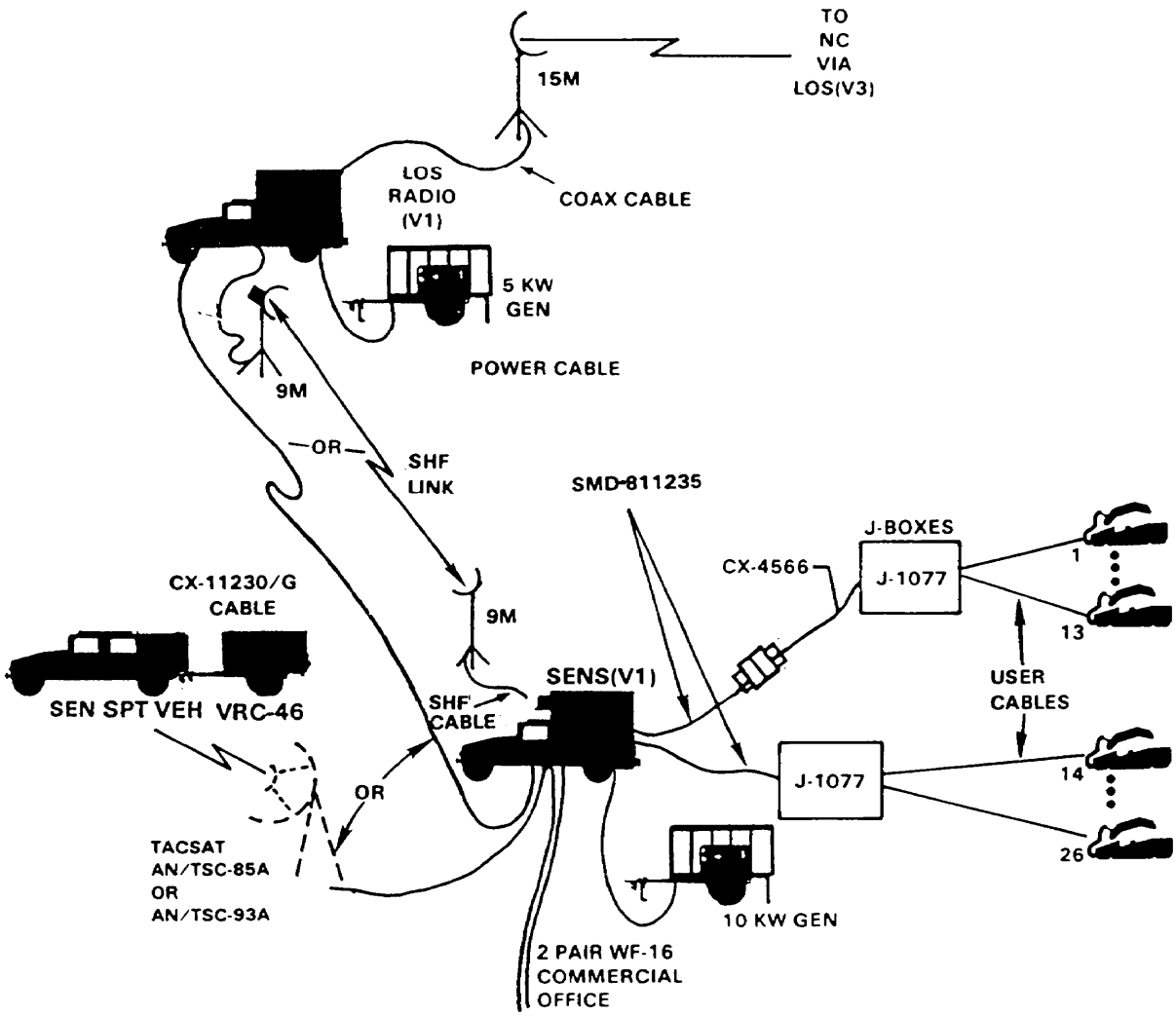

Figure 4-1. SEN(V1) site.

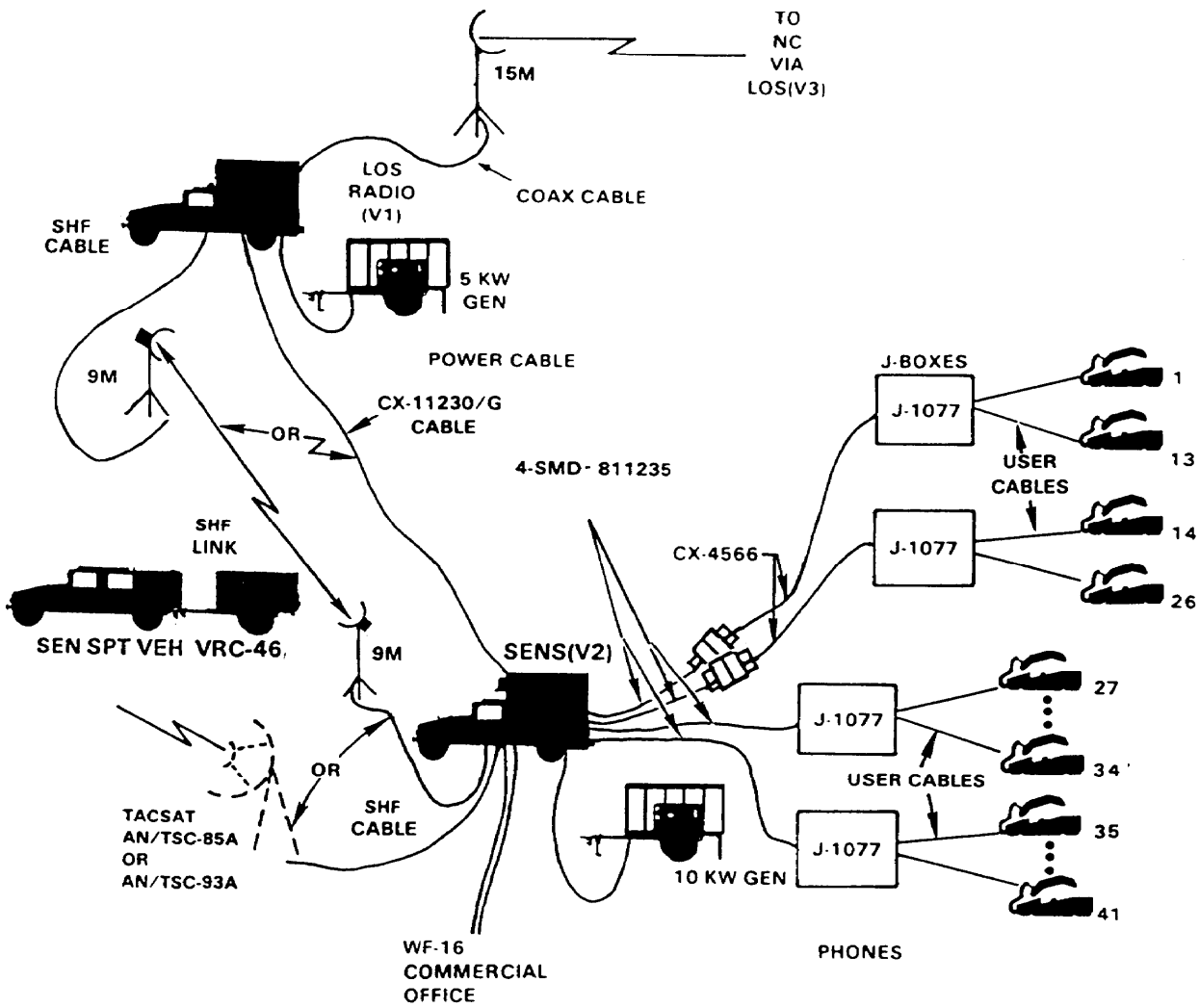

Figure 4-2. SEN(V2) site.

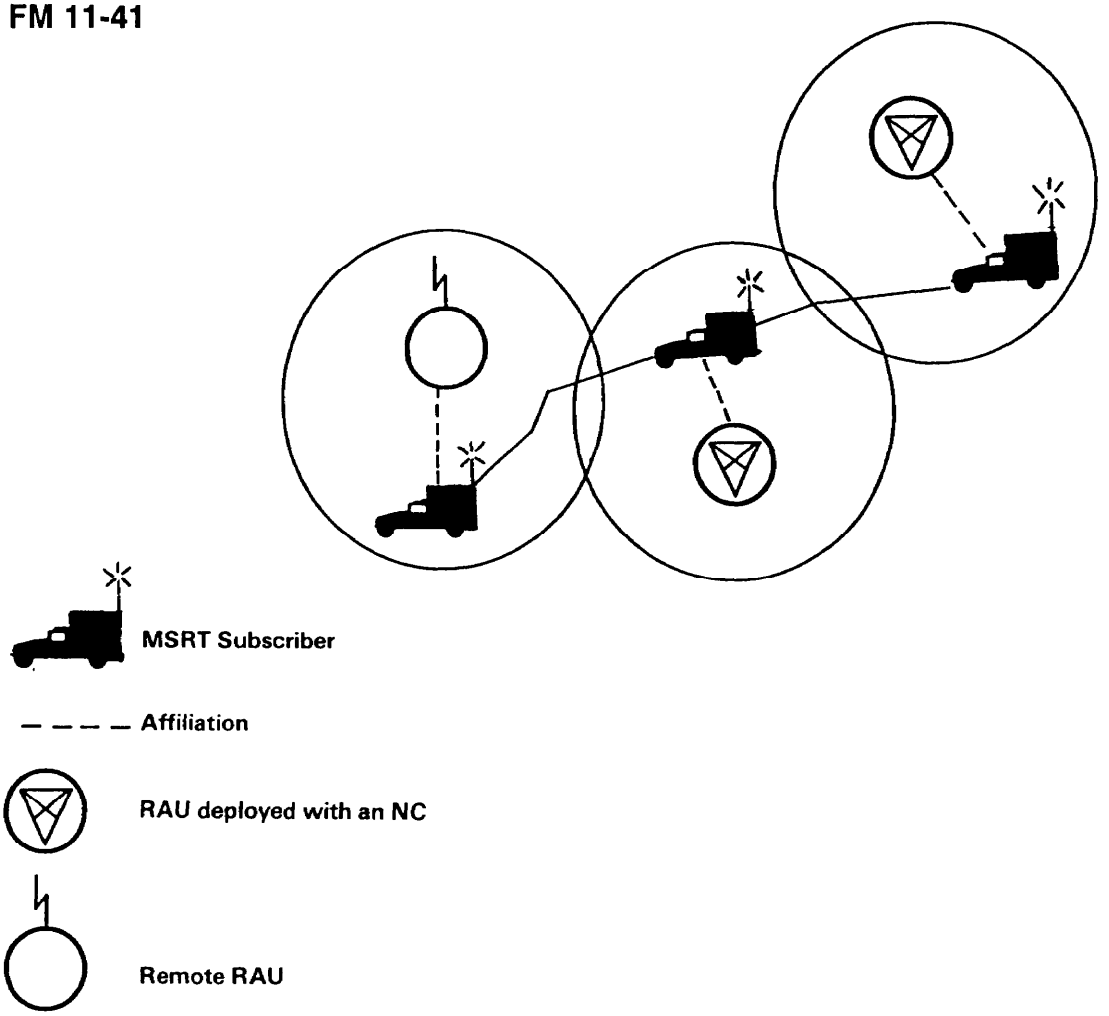

Figure 4-3. MSRT automatic reaffiliation.

MSRT and RAU. The RT-1539(P)/G MSRT radio and the RAU's radio are identical and interchangeable. In the MSRT or RAU, the radio operates in a FULL DUPLEX mode with a high and low frequency band for transmit and receive channels. In the RAU, the radio transmits in the high band and receives in the low band. This procedure is reversed when the radio is used in the MSRT configuration. The MSRT has the following capabilities:

- Automatic random channel selection for each call.
- Automatic RF transmit level adjustment.
- Automatic receiver sensitivity adjustment.
- Stand-alone field kit (SAFK).
- DSVT remote capability.
- Range extension using an elevated antenna.

The mobile subscriber uses the DSVT as the primary access terminal to the ACUS. The DSVT provides cryptographic facilities for the MSRT and has a 16 kb/s data port for interface of data devices (facsimile, CT). The MSRT can be removed from the vehicle and operated using the SAFK. Figure 4-4 shows the mobile subscriber interface to ACUS.

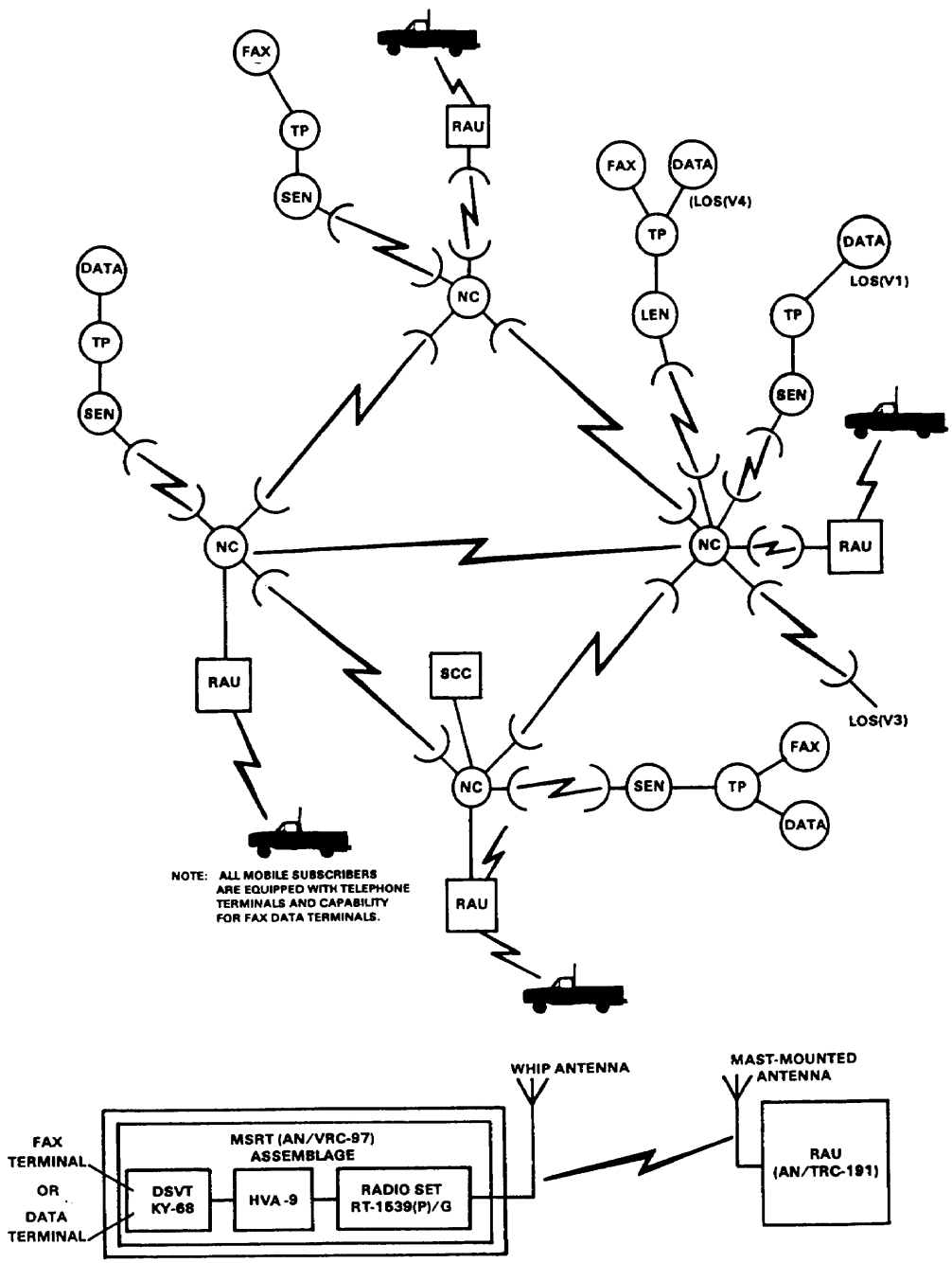

Figure 4-4. Mobile subscriber interface to ACUS.

CNR. CNR is the primary means of communications within the brigade/battalion environment. This network of single-channel radios fulfills the brigade/battalion commander's requirement for mobile C2. The CNR network is designed around three separate radio systems. Each system has different capabilities and transmission characteristics. The three systems are--

- IHFR.
- SINCGARS.
- Single-channel TACSAT.

IHFR. IHFR selectively replaces the current high frequency (HF) manpack and vehicular radios. It uses ground and sky wave propagation paths for short- and medium-range communications. FM 24-18 covers radio wave propagation. IHFR given the brigade/battalion commander another way of passing voice and data communications. It has a dual role with voice C2 taking precedence over data transmission. The high power version of IHFR is used for voice networks that pass highly perishable C2 information or for medium- to long-range communications (50 to 300 kilometers). Brigade and battalion level units primarily use the low-power version. All versions of IHFR are user-owned and -operated.

SINCGARS. SINCGARS is replacing all AN/PRC-77 manpack and AN/VRC-12 series vehicular mounted VHF and airborne VHF-FM radios. SINCGARS accepts either digital or analog inputs and imposes the signal onto an FH output signal. In FH, the input changes frequency about 100 times per second over portions of the tactical VHF range from 30 to 88 MHz. This hinders threat intercept and jamming units from locating or disrupting friendly communications. SINCGARS is the primary means for short-range (less than 35 kilometers) secure voice C2 at the brigade/battalion level. It is also the secondary means for CS and CSS units throughout the corps. SINCGARS can provide access to the ACUS network through the NRI. In the NRI, SINCGARS uses the KY-90 to link the MSE radio and the switched area communications network. Presently, the NRI gains access into the switch (SENS) shelters. This allows a SINCGARS radio user to access the entire common-user network. The KY-90 is replaced by the C-6709 when SINCGARS is being linked to analog switch equipment. FM 11-32 covers SINCGARS extensively.

Single-Channel TACSAT System. The current single-channel TACSATs found at the brigade/battalion level are the AN/URC-101, AN/URC-110, ANWSC-7, AN/PSC-3, and the AN/VHS-4. These terminals provide reliable, highly portable communications support. They have minimum setup and teardown time and satisfy a need for extended distance communications. The system operates in the UHF band between 225 MHz to 400 MHz and uses fleet satellite (FLTSAT) and Air Force satellite (AFSAT) space segments. The Army terminals using the FLTSAT space segments are the AN/PSC-3, AN/VSC-7, AN/URC-101, and the AN/URC-11O.

Battlefield Electronic CEOI System (BECS).

BECS is critical in operating the CNR system successfully. It provides the BS0 with an automated system for real-time SOP data and network management. As the primary BECS operator, the BSO--

- Develops and submits initial SOI data base information and subsequent revisions to higher headquarters.
- Determines network structures for the unit with the S3.
- Coordinates with higher and adjacent headquarters for SOI and FH variables when the unit must operate outside normal channels.
- Develops distribution schemes for users in the unit networks.
- Develops operator training plans for electronic notebook (EN) remote fill procedures.

BECS at the brigade and separate battalion level also gives the BSO a quick method of developing an SOI for task force organization. The BSO determines the units assigned to the task force from the mission OPORD. He then uses the BECS terminal to pull out the call signs of those units and stores them in a separate file for recall.

The BSO is responsible for control and distribution of FH variables and SOI materials. He can use BECS to centralize this control and simplify distribution to the individual user units.

ADDS. ADDS is a data distribution system consisting of EPLRS and JTIDS. These systems have high throughput capacity and automatic relay capability that is transparent to the user.

EPLRS.

The BSO is the key player in his unit for ensuring EPLRS operates successfully. He must involve the user community, CSOs and DSOs, signal battalion S3s, and system operators. The BSO must use his signal support channels to assist him in developing his unit's EPLRS requirements.

The signal officer at the battalion level should pass his unit's requirements to the signal officer at the brigade level. The requirements would then be validated against doctrinal and command authorizations and then consolidated and passed to the division signal office. Figure 4-5 provides a conceptual layout of EPLRS.

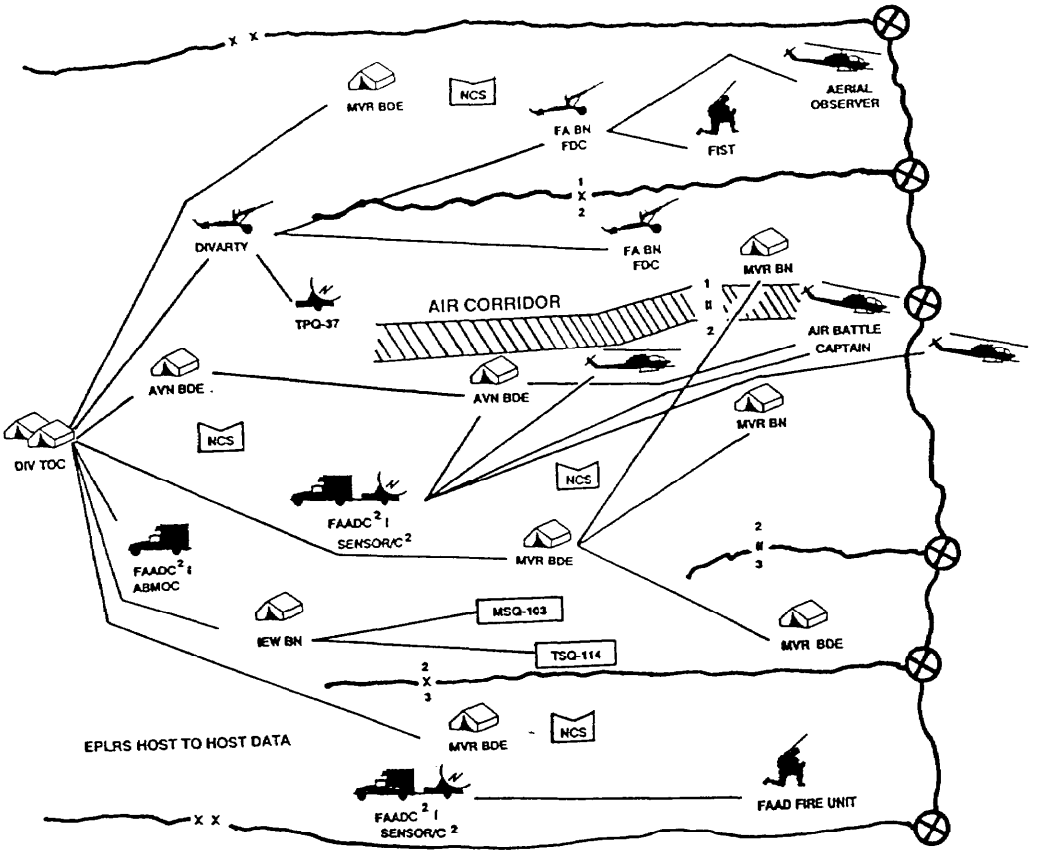

Figure 4-5. EPLRS near real-time data distribution capabilities.

JTIDS.

Army JTIDS will consist of the Class 2M terminal, dedicated JTIDS relay unit (DJRU), and the net control station-JTIDS (NCS-J). The Class 2 terminals are user-owned and -operated and will be a focal point for the BSO.

The impact of JTIDS in the brigade/battalion environment is in the area of air defense. This system is deployed by divisional ADA battalions to pass the divisional air picture. The connectivity and net management of the system are the responsibilities of the supporting signal battalion.

Chapter 5

AUTOMATION SUPPORT

5-1. The Army Tactical Command and Control System

The ATCCS is an integrated system of automation and communications. It aids information management in the area of C2 on the battlefield. ATCCS supports ECB units and can interface with higher echelon and adjacent C2 systems. ATCCS supports automated means to organize, store, process, integrate, and transmit the information required for and produced by the activities of commanders and their staff as they command and control their forces.

5-2. Battlefield Functional Areas/ Battlefield Automated Systems

Functions performed on the battlefield can be divided into five major categories: maneuver, FS, air defense (AD), CSS, and IEW. These five categories are the BFAs. The automated systems that support each of the BFAs are the BAS. The BAS are not stand-alone systems. With the need to share information across the battlefield, connectivity between systems must be horizontal (among the five BFAs at each echelon) and vertical (between BFAs at different echelons).

AirLand Operations C2 generates many concerns on information flow, generation, transmission, fusion, resolution, and interoperability. AirLand Operations envision information as a force multiplier. Maneuver commanders must be able to receive and disseminate this information through a data distribution system. The rapid dissemination of information is a key to success on the battlefield. Total integration of all functional areas of the battlefield has become a must. A brief description of each BFA is given below.

Maneuver. Maneuver consists of the combined arms teams that fight or defend against an enemy force. The C2 system delivers the essential information to the commander. C2 is the function of exercising authority and direction by a properly designated commander. C2 systems provide the commander and staff with the means to command and control the combined arms team/maneuver units effectively.

The objective architecture for satisfying C2 requirements of maneuver forces is the Maneuver Control System (MCS). The MCS is a corpswide system designed to provide automated assistance to the commander and his staff. It helps in managing information and in executing the commander's concept of operation.

The objective of the MCS is to shorten the current command decision cycle of operational tactical organizations. It will provide the Army with an automated C2 system which will function more efficiently and more quickly than that of the enemy. The ACUS, satellite, CNR, and the data distribution system will support this system. Careful consideration must be given to the media and signaling format when interfacing these systems and must be included in the overall signal support plan.

FS.

FS consists of direct and indirect fires delivered by FA mortar, naval, and air weapon systems against ground targets to support the ground commander. As the proponent for FS, the FA provides the ground commander with the assets and expertise necessary to effect the coordination of FS and to assist with the integration of FS and other combat assets.

The FA accomplishes its mission by providing FS personnel and equipment at each maneuver echelon. At the brigade and battalion level, an FS coordination facility is established and colocated with the maneuver tactical operations center (TOC). The senior FA commander associated with each maneuver echelon is designated as the fire support coordinator (FSCOORD) for that echelon.

Currently automated systems used to facilitate better C2 and efficient delivery of FS are centered around the TACFIRE. TACFIRE is a centralized processing system that is located with the FA CP at echelons battalion through corps artillery. It is complemented by input/output devices, such as the digital message device (DMD) and the variable format message entry device (VFMED).

The objective architecture for FS is the Advanced Field Artillery Tactical Data System (AFATDS). This state-of-the-art total FS system not only refines the existing TACFIRE functions, but also accomplishes FS control and coordination. While AFATDS will objectively replace TACFIRE, hardware and software development is oriented toward the ability to interface with existing TACFIRE subsystems.

The automated systems described above are physically distributed from the forward line of own troops (FLOT) to the corps headquarters. Their networking will be constrained by and will only perform as well as the communications means connecting the individual systems. However, each different system has a unique information exchange requirement. This in turn creates an associated communications requirement. Communications capabilities, which support physically dispersed automated systems at different echelons, range from ACUS in the division and corps rear areas to FH radio systems located with the forward observer near the FLOT.

AD.

AD units nullify or reduce the effectiveness of attack or surveillance by hostile aircraft or missiles. No single AD weapon system can adequately protect ground forces or critical assets against the myriad of airborne vehicles used by an enemy. A mix of AD weapon systems is used throughout the battle area.

The AD mission and principles of C2 are the base for automation within the AD BFA. The actual weapon systems that execute the mission fall into two general categories: forward area air defense (FAAD), formally referred to as short-range air defense (SHORAD), and high-to-medium-altitude air defense (HIMAD).

The FAAD is normally used to support the ground maneuver force or defend critical assets, such as special weapon supply points in the forward combat area and air bases in the rear areas. Current FAAD weapons include: Vulcans, Dusters, Rolands, Chaparrals, Redeyes, and Stingers.

HIMAD units are assigned at corps and EAC levels with deployment capability throughout the entire area of operation. Current HIMAD weapon systems consist of the Hawk and Patriot missile systems. HIMAD units provide air defense of priority areas and assets against hostile aircraft and missiles.

AD requires a highly automated, communications intensive C2 system. The system needs to be linked from the firing platform level to the highest level of air defense control facilities. It should provide dedicated, high volume voice and data exchange throughout the battle area in a near real-time mode. Elements of C2 systems are established at levels from EAC AD brigade Missile Minder (AN/TSQ-73) to battalion (AN/TSQ-73) and Patriot Information Control Center (ICC) (AN/MSQ-116), and to the battery/platoon level (Hawk Platoon Command Post (PCP) and Patriot Engagement Control Station (ECS) (AN/MSQ-104). The objective architecture for AD BFA is the forward area air defense command, control, and intelligence (FAADC21).

The FAADC21 network of automated systems will enhance the C2 capability of the ADA BFA. The signal support system to provide this capability is the EPLRS/JTIDS, For the most part, the EPLRS network

will accommodate lower level data distribution in the FAAD unit area. The JTIDS will provide the data distribution requirement for FAAD to HIMAD and the joint service interface.

CSS. CSS provides resources to all units on the battlefield to sustain their activities. CSS units fuel, fix, man, and supply systems used to conduct battle. Because of its complexity, CSS is divided into subelements. These subelements are maintenance support, ammunition service, supply (bulk petroleum oils and lubricants (POL)), general supply support, transportation services, medical services, personnel services, MP services, rear area protection, and administration and logistic planning.

The Standard Army Management Information Systems (STAMIS) has been fielded. Existing hardware to run the STAMIS are Decentralized Automated Service Support System (DAS3) AN/MYQ-4(A), Corps Theater ADP Service Center (CTASC-1) AN/MYQ-5, and the Tactical Army CSS Computer System (TACCS). This system is prevalent at the brigade and battalion level. TACCS is a small tactical computer system designed to process data in the field. The system is transportable and user friendly.

The objective architecture for the CSS BFA is the Combat Service Support Control System (CSSCS). When deployed, this system provides AirLand force commanders and their staff with an automated means for obtaining and disseminating current, essential CSS information. This information is required to plan and execute the battle. This system also provides the same type of information to CSS organizational commanders, helping them to better support the AirLand force commander.

The signal support requirements for the CSS systems are the speed of service required and the doctrinal location of the CSS hardware. Although the volume of data exchange between CSS elements is relatively high, the speed of service required is relatively slow. Therefore, the current communications architecture can support it. The doctrinal location of each system and the doctrinal signal support at that location will dictate what service will be provided.

IEW. The IEW functional area is composed of four IEW tasks. These tasks are situation development, target information, EW, and counterintelligence. Commanders require accurate and timely intelligence (situation development) on which to base decisions regarding when, where, and how to use maneuver forces and firepower. EW complements firepower and maneuver by reducing the effectiveness of the enemy control system, while protecting the friendly control systems. Counterintelligence identifies the enemy intelligence threat, recommends countermeasure, and aids in the protection of the brigade rear.

Automation of the IEW mission is divided between the subordinate systems (sensors and jammers) and the control systems (collection management and intelligence processing systems). Here, as in other BFAs, recognizing the need for real-time accomplishment of the mission is clear. The battlefield commander relies heavily on his IEW assets to forma common perception of the battlefield.

Automation of subordinate systems functions must accomplish two objectives. First, it must automate the actual purpose of the system (collection and jamming). Secondly, it must automate transferring raw and processed data between subordinate and control systems.

The automation of IEW control systems can be divided into two major areas. The first area entails automating the C2 and management responsibilities of IEW. The second area involves automating transferring data (raw and processed) and information (tasking, orders, and reports) between the control system and subordinate systems, other control systems, and the systems of other BFAs.

The objective automation support system for IEW is the All Source Analysis System (ASAS). The ASAS provides information management and support of IEW operations by generating a near real-time picture of the enemy situation that assists in guiding

the employment of maneuver forces and systems. ASAS also improves accuracy and speeds processing of targeting information derived from sensor systems.

The BFAs are integrated within the battlefield to function as a combined arms team. This functional integration dictates information exchange. The BAS largely satisfy this need. Still to be worked out are the situations where incompatibilities in hardware and software and organizational differences and procedures exist on the battlefield. This is the chief role of the unit automation officer.

5-3. Signal Support Personnel

Signal support personnel within ECB units provide support for automated systems throughout the tactical battlefield. Most of these personnel are found in the unit's signal office or on the unit's staff. These personnel are responsible to the unit's signal support officer for all automation related areas. These include planning, supervising, and in some cases, installing, operating, and maintaining their unit's automation system. Appendixes A and C detail the duties and responsibilities of automation personnel.

Chapter 6

VISUAL INFORMATION SUPPORT

The support structure and sustaining requirements throughout the deployed theater recognized the need for specific resource intensive visual information operations. This chapter identifies the force structure required, which as of this date has not been approved for implementation. If the concept to implement is not approved by the print date of this publication, commanders and staff should continue to be aware of the necessity to support and "capture the action" whether in support of operational requirements or for the preservation of history.

Section I. Operations and Organization

6-1. Policies

DOD Directive 5040.2 dictates that VI and combat camera (COMCAM) units document the activities of military services. This documentation shall be considered for all theater operational decision making and historical documentation. Neither security classification, OPSEC, nor subject sensitivity should prevent VI operations. VI products can be classified to any level required. OPSEC must be observed when COMCAM assets integrate into theater operations.

6-2. Responsibilities

Commanders operating in a tactical theater are responsible for VI operations and support at the operational through tactical levels of war. All commanders must identiify requirements for VI support. Their signal staff will carry out the VI mission to support AirLand Operations. This includes VI operations in all subordinate, assigned, or attached commands. Signal officers and VI staff officers or NCOs assist commanders in conducting these responsibilities. These officers are located at various levels of command. (See Figure 6-l.)

The G3 is responsible for identifying and integrating VI requirements into the command battlefield information efforts. Integrating VI enhances the operational decision-making process when conducting AirLand Operations.

The signal staff officer at each level of command is responsible for directing VI to support the assigned mission. He identifies and evaluates VI requirements and directs the preparation of planned operations, crisis, and exercise plans. The signal staff officer briefs commanders and staff on the capabilities and limitations of COMCAM units and procedures for requesting COMCAM support. The signal staff officer is responsible for defining and integrating the role of VI to support battlefield information systems at his level of command. He will have a VI staff officer or NCO to advise on VI and COMCAM operations.

The VI staff officer or NCO at each level of command is responsible for assisting the signal staff officer in planning and executing VI to support the assigned mission. He identifies and integrates VI applications to support operational decision making

when conducting AirLand Operations. He defines the capabilities and limitations of COMCAM units and sets up procedures for requesting, validating, and prioritizing COMCAM support. The signal staff officer at ECB assumes these duties and responsibilities.

The functional user at each level is responsible for identifying, defining, coordinating, and integrating VI support into the operational decision-making process. Users must be familiar with COMCAM capabilities, limitations, and procedures before requesting support. These will be outlined in local VI SOPs.

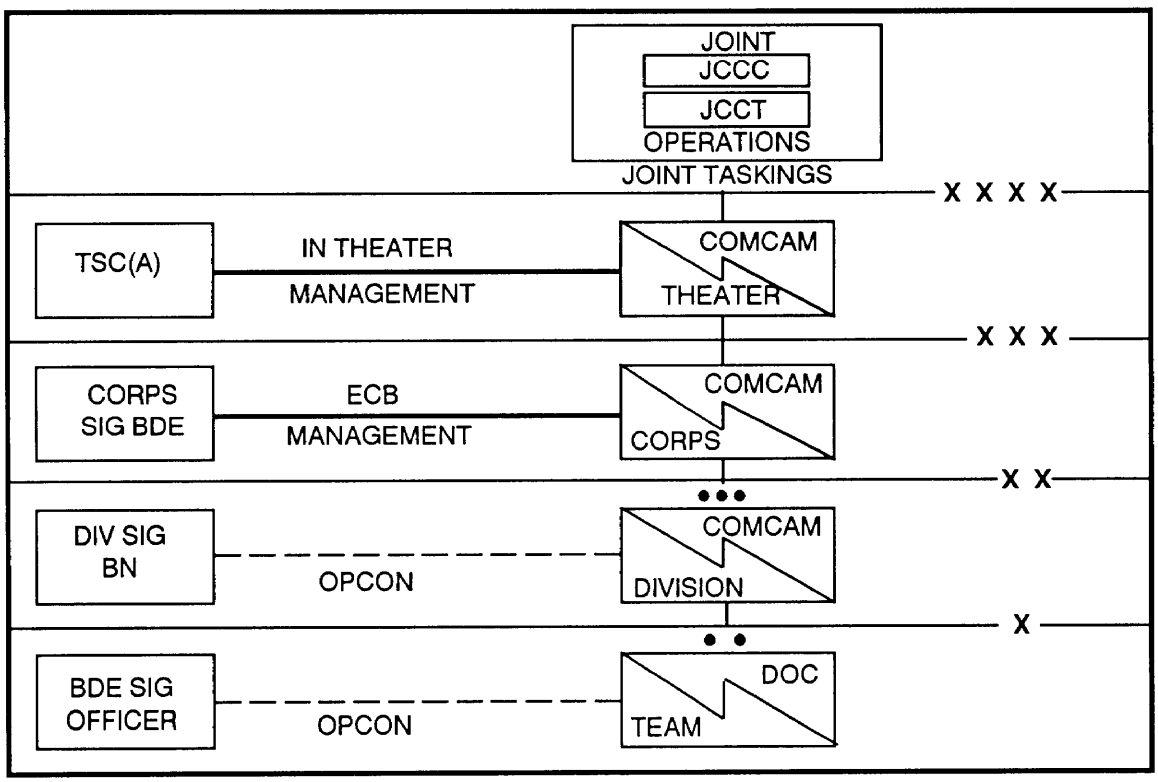

Figure 6-1. Typical Army COMCAM structure.

Section II. Theater

6-3. Responsibilities

Signal VI companies provide VI support to theater headquarters and assigned or attached units above corps for operational decision making and historical documentation. These VI companies are attached to the Theater Signal Command (Army) (TSC(A)) and are organized and equipped by approved TOES. The TSC(A) provides VI and COMCAM resources to satisfy joint COMCAM mission requirements when directed by the joint combat camera team (JCCT).

The theater G3 is the primary staff agency which identifies and prioritizes operational VI requirements for the theater headquarters. These taskings are based on operational needs to support the decision-making process.

The theater signal officer (TSO) receives operational VI taskings from the G3 and other theater staff agencies. He is responsible for integrating VI into battlefield information systems to support planned operations, crisis, and exercise planning. He prioritizes tactical communications systems to ensure near real-time transmission of visual imagery. The TSO ensures VI assets are properly used and sets priorities when the demand for VI support exceeds the capabilities.

The VI officer at the TSC(A) is the main link between the TSO and the theater's organic VI company. He identifies and prioritizes VI assets needed to support operational, crisis, and exercise plans. He advises the TSO on all aspects of the VI and COMCAM mission and suggests the best ways to use assigned VI assets. He sets up policies on the disposition of visual imagery originating within the theater. The VI officer is the point of contact between the TA and the JCCT. He ensures that visual imagery is provided to the JCCT for near real-time transmission to the National Military Command Center (NMCC), joint staff, and headquarter DA. The VI officer is also the main point of contact for COMCAM missions tasked from outside the Army theater.

The VI staff at the TSC(A) manages VI and COMCAM support within the theater. The staff prepares operational annexes to operation plans and tasks COMCAM units to accomplish the VI mission. The VI staff prepares planned operations based on JCS Publication 5-02.1 and crisis operations based on JCS Publication 5-02.4. The VI staff works closely with the TSO and VI officer to identify, coordinate, and execute all other VI taskings.

6-4. Organization

Signal VI companies are organized and equipped by approved TOES. Platoons within those companies are tailored to satisfy tactical VI and COMCAM support requirements for the theater headquarters and assigned or attached units above corps. (See Figure 6-2.)

6-5. Functions

A signal VI company is assigned to the TSC(A). It supports requests for original still and motion media imagery within the theater headquarters area. It also provides support services for images taken by organic VI assets and functional users. These services include processing, editing, duplicating, distributing, and transmitting imagery for the theater headquarters and assigned or attached units above corps. After fulfilling imagery requirements, the VI company forwards camera original images to the JCCT for use by the unified command.

The VI company provides general support maintenance for all organic and functional user VI equipment deployed throughout the theater. It also provides presentation services to the theater headquarters. It consists of a company headquarters, operations and support platoon, and COMCAM platoons.

The company headquarters provides command, control, and coordination of the company's VI and COMCAM missions. This includes administrative, operational, and logistical functions required to accomplish the mission. The company commander performs VI staff officer functions on the TSO's staff.

The operations and support platoon is responsible for coordinating imagery acquisition, processing, editing, duplicating, distributing, and transmission. These support theater and unified command requirements. The platoon coordinates with all functional users (such as PSYOP, MP, and PA) to ensure compatibility with standard acquisition and processing equipment used by the VI company. The platoon catalogs and maintains Army theaterwide duplicate imagery. It reviews imagery for complete captions and technical acceptability to satisfy operational taskings. The platoon provides presentation support and services to the theater commander and staff. It provides general support maintenance of VI equipment deployed throughout the theater. The platoon consolidates theaterwide VI logistic requirements and processes requirements with the JCCT. The VI liaison NCO in the operations section works full time on the VI staff.

The COMCAM platoons perform imagery acquisition requirements for the theater headquarters and all assigned or attached units above corps. The platoons have tactical wheeled vehicles and are equipped with motion media, conventional still, and digital still video (DSV) camera equipment. They caption all imagery before forwarding it to the operations and support platoon for processing. The operations and support platoon provides transmission support.

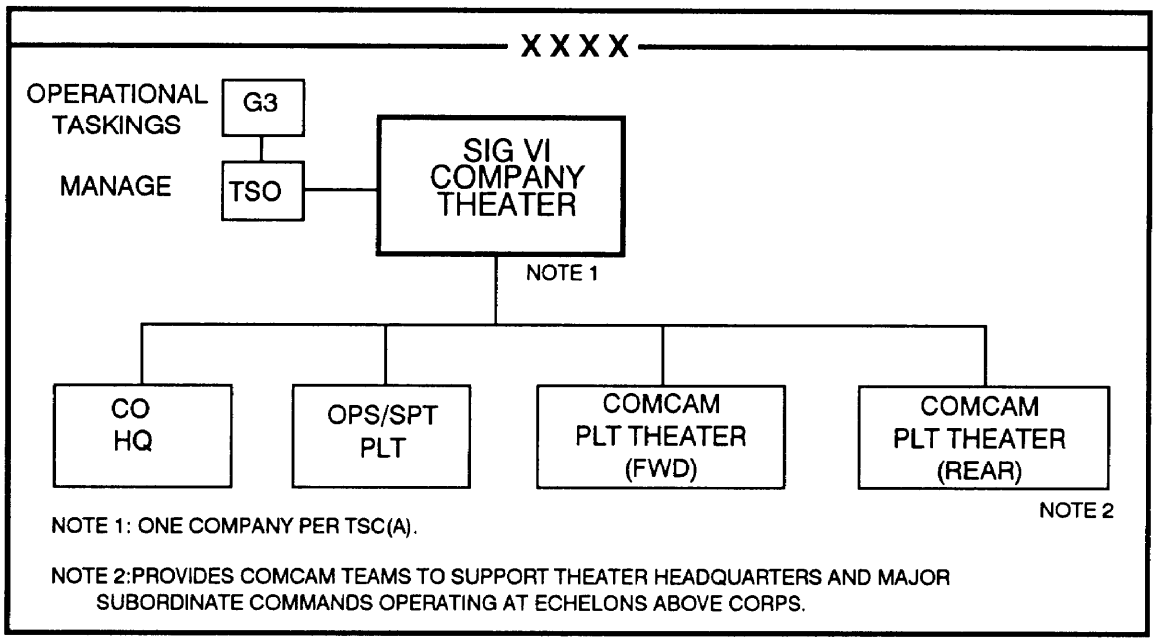

Figure 6-2. COMCAM at theater.

6-6. Equipment and Services

VI equipment. This is commercial off-the-shelf nondevelopmental items (NDI). All organic VI company equipment and functional user acquisition formats must be compatible with VI company processing and transmission capabilities.

Acquisition formats. DOD sets up standards that acquisition formats for COMCAM documentation must follow. This ensures interoperability when operating on a JCCT. Motion media images are recorded on 8mm high band videotape format. Still imagery is recorded using DSV cameras and conventional 35mm single lens reflex (SLR) cameras. VI companies can obtain imagery at night using night vision devices designed to operate with motion media and still imagery equipment. At the theater level, production quality cameras and editing equipment are used for high resolution imagery.

Mobility. VI companies have organic tactical wheeled vehicles to deploy with supported units. These vehicles are configured for self-contained VI processing and editing systems which can operate anywhere on the battlefield.

Processing. The operations and support platoon can process DSV and 35mm slide and negative film. Still imagery is printed using electronic systems which import still imagery from DSV or film. These systems also provide black and white and color prints.

Editing. The operations and support platoon reviews and edits all camera original videotape material. Editing supports operational decision-making requirements outlined by the G3 staff and other theater requirements tasked by the VI staff.

Presentation support. The operations and support platoon can play back videotape and DSV imagery using portable color monitors.

Cataloging. The operations and support platoon reviews and catalogs all camera original imagery before forwarding it to the JCCT. The platoon also duplicates and keeps still and motion media camera original imagery for operational briefings and presentations. The platoon maintains an automated database using the visual information record identification number (VIRIN) system to track and describe all duplicate imagery retained at theater level.

Transmitting. The operations and support platoon is responsible for near real-time transmission of imagery between corps and theater. Camera original imagery is moved using the fastest means available. The primary means of moving imagery between corps and theater are satellites. Secondary means consist of tactical ACUS, microwave, radios, or messenger. The platoon is responsible for coordinating the transmission of imagery to the JCCT at the unified command.

Section III. Corps

6-7. Responsibilities

Signal VI companies provide VI support to corps headquarters and assigned or attached units above division for operational decision making and historical documentation. These VI companies are attached to the corps and are organized and equipped by approved TOEs.

The corps G3 is the primary staff agency which identifies and prioritizes operational VI requirements for the corps headquarters. These taskings are based on operational needs to support the decision-making process.

The CSO receives operational VI taskings from the G3 and other corps staff agencies. He is responsible for integrating VI into battlefield information

systems to support planned operations, crisis, and exercise planning. He prioritzes tactical communications systems to ensure near real-time transmission of visual imagery. The CSO ensures that VI assets are properly used and sets priorities when the demand for COMCAM support exceeds the capabilities.

The VI officer at corps is the main link between the CSO and the corps attached VI company. He identifies and prioritizes VI assets needed to support the corps operational, crisis, and exercise plans. He advises the CSO on all aspects of the VI and COMCAM mission and suggests the best ways to use attached VI assets. He sets up policies on the disposition of visual imagery originating within the corps. The VI officer is the point of contact between the corps and the theater. He ensures that visual imagery is provided to the theater for near real-time transmission to the JCCT at the unified command. The VI officer is also the main point of contact for VI missions tasked from outside the corps.

The VI staff at the corps manages VI support within the corps. The staff prepares annexes to operational plans and tasks VI companies to accomplish the VI mission. The VI staff prepares planned operations, crisis, and exercise plans based on theater guidance. The VI staff works closely with the signal and VI staff officer to identify, coordinate, and execute all other VI tastings.

6-8. Organization

Signal VI companies are organized and equipped by approved TOEs. Platoons within those companies are tailored to satisfy COMCAM and tactical VI support requirements for the corps headquarters and assigned or attached units above division. (See Figure 6-3.)

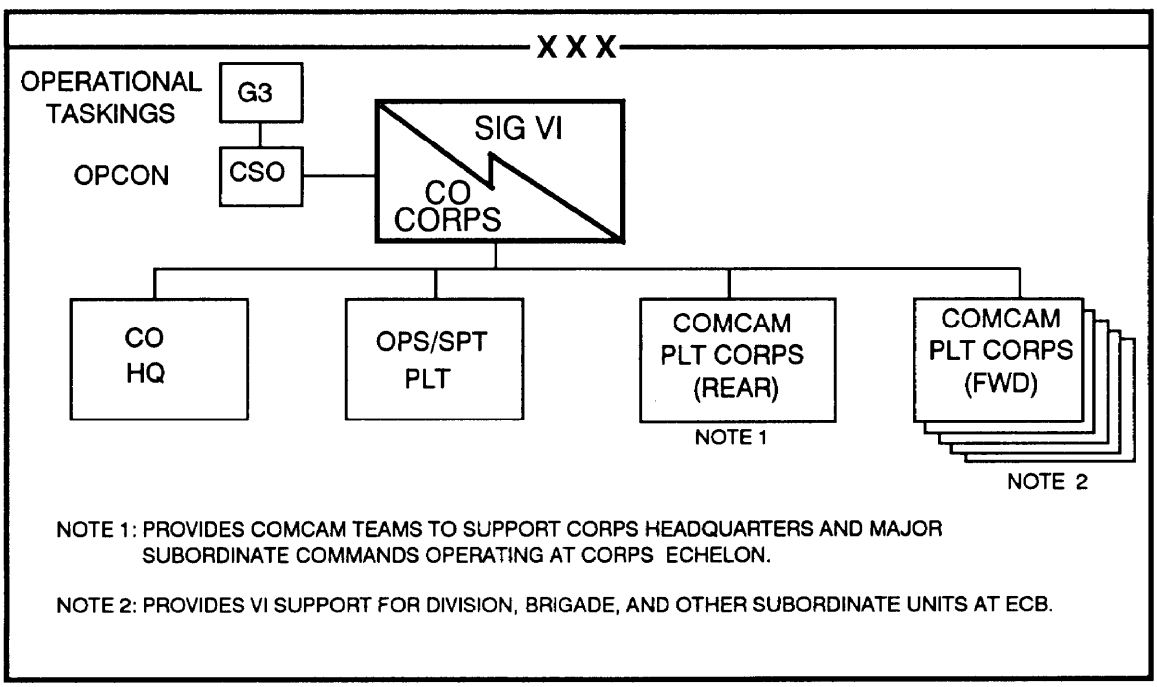

Figure 6-3. COMCAM at corps.

6-9. Functions

A signal VI company is attached to the corps. It supports requests for original still and motion media imagery within the corps headquarters area. It also provides support services for images taken by organic VI assets and functional users. These services include processing, editing, duplicating, distributing, and transmitting imagery for the corps headquarters and assigned or attached units above division. After fulfilling imagery requirements, the signal VI company forwards camera original images to the theater signal VI company for use by the theater headquarters.

The signal VI company provides direct support maintenance for all organic and functional user VI equipment deployed throughout the corps. It also provides presentation services for the corps headquarters It consists of a company headquarters, operations and support platoon, a COMCAM platoon (rear), and a COMCAM platoon for each division.

The company headquarters provides command, control, and coordination of the company's VI missions. This includes administrative, operational, and logistical functions required to accomplish the mission. The company commander performs VI staff officer functions on the CSO's staff.

The operations and support platoon is responsible for coordinating imagery acquisition, processing, editing, duplicating, distributing, and transmission. These services support corps and theater requirements. The platoon coordinates with all functional users (such as PSYOP, MP, and PA) to ensure compatibility with standard acquisition and processing equipment used by the VI company. The platoon catalogs and maintains Army theaterwide duplicate imagery. It reviews imagery for complete captions and technical acceptability to satisfy operational tastings. The platoon provides presentation support and services to the corps commander and staff. It provides direct support maintenance of VI equipment deployed throughout the corps. The platoon consolidates corpswide VI logistic requirements and processes requirements with the theater signal VI company. The VI liaison NCO in the operations section works on the VI staff.

The COMCAM platoon (rear) performs imagery acquisition requirements for the corps headquarters and all assigned or attached units above corps. The platoon has tactical wheeled vehicles and is equipped with motion media, conventional still, and DSV camera equipment. The platoon caption all imagery before forwarding it to the operations and support platoon for processing. The operations and support platoon provides transmission support.

The COMCAM platoons (forward) provide VI support for division, brigade, and other subordinate units at ECB. These platoons execute imagery acquisition requirements for the division.

6-10. Equipment and Services

VI equipment. This is commercial off-the-shelf NDI. All COMCAM company VI equipment and functional user acquisition formats must be compatible with VI company processing and transmission capabilities.

Acquisition formats. DOD sets up standards that acquisition formats for COMCAM documentation must follow. This ensures interoperability when operating on a JCCT. Motion media images are recorded on 8mm high band videotape format. Still imagery is recorded using DSV cameras and conventional 35mm SLR cameras. VI companies can obtain imagery at night using night vision devices designed to operate with motion media and still imagery equipment.

Mobility. VI companies have organic tactical wheeled vehicles to deploy with supported units. These vehicles are configured for self-contained VI processing and editing systems which can operate anywhere on the battlefield.

Processing. The operations and support platoon can process DSV and 35mm slide and negative film. Still imagery is printed using electronic systems which import still imagery from DSV or film. These systems also provide black and white and color prints.

Editing. The operations and support platoon reviews and edits all camera original videotape material. Editing supports operational decision-making requirements outlined by the G3 staff and other theater requirements tasked by the VI staff.

Presentation support. The operations and support platoon can play back videotape and DSV imagery using portable color monitors.

Cataloging. The operations and support platoon reviews and catalogs all camera original imagery before forwarding it to the JCCT. The platoon duplicates and keeps still and motion media camera original imagery for operational briefings and presentations. It maintains an automated database using the VIRIN system to track and describe all duplicate imagery retained at corps level.

Transmitting. The operations and support platoon is responsible for near real-time transmission of imagery between division and corps. Camera original imagery is moved using the fastest means available. Satellites are one of the primary means for moving imagery between division and corps. Other means consist of tactical ACUS, microwave, radios, or messenger. The platoon is responsible for coordinating the transmission of imagery to the theater.

Section IV. Division

6-11. Responsibilities

COMCAM platoons provide VI support to division headquarters and are assigned or attached to units above brigade for operational decision making and historical documentation. These COMCAM platoons are attached to the division and are organized and equipped by approved TOEs.

The division G3 is the primary staff agency which identifies and prioritizes operational VI requirements for the division headquarters. These taskings are based on operational needs to support the decision-making process.

The DSO receives operational VI taskings from the G3 and other division staff agencies. He is responsible for integrating VI into battlefield information systems to support planned operations, crisis, and exercise planning. He prioritizes tactical communications systems to ensure near real-time transmission of visual imagery. The DSO ensures that COMCAM assets are properly used and sets priorities when the demand for COMCAM support exceeds the capabilities.

The VI officer is the main link between the DSO and the attached COMCAM platoon. He identifies and prioritizes COMCAM assets needed to support division operational, crisis, and exercise plans. He advises the DSO on all aspects of the COMCAM mission and suggests the best ways to use attached COMCAM assets. He sets up policies on the disposition of COMCAM imagery originating within the division. The VI officer is the point of contact between the division and the corps. He ensures that COMCAM imagery is provided to the corps for near real-time transmission to the JCCT at the unified command. The VI officer is also the main point of contact for COMCAM missions tasked from outside the division.

The VI staff consists of the COMCAM platoon leader and sergeant. They manage COMCAM support within the division. They prepare operational annexes to operation plans and task COMCAM units to accomplish the VI mission. The staff prepares planned operations, crisis, and exercise plans based on corps guidance. The VI staff works closely with the signal officer and VI officer to identify coordinate, and execute all other VI taskings at the division level.

6-12. Organization

COMCAM platoons are organized and equipped by approved TOES. Sections within those platoons are tailored to satisfy COMCAM and tactical VI support requirements for the division headquarters and assigned or attached units above brigade. The COMCAM section task organizes COMCAM teams to provide imagery acquisition support to the division headquarters and maneuver brigades. (See Figure 6-4).

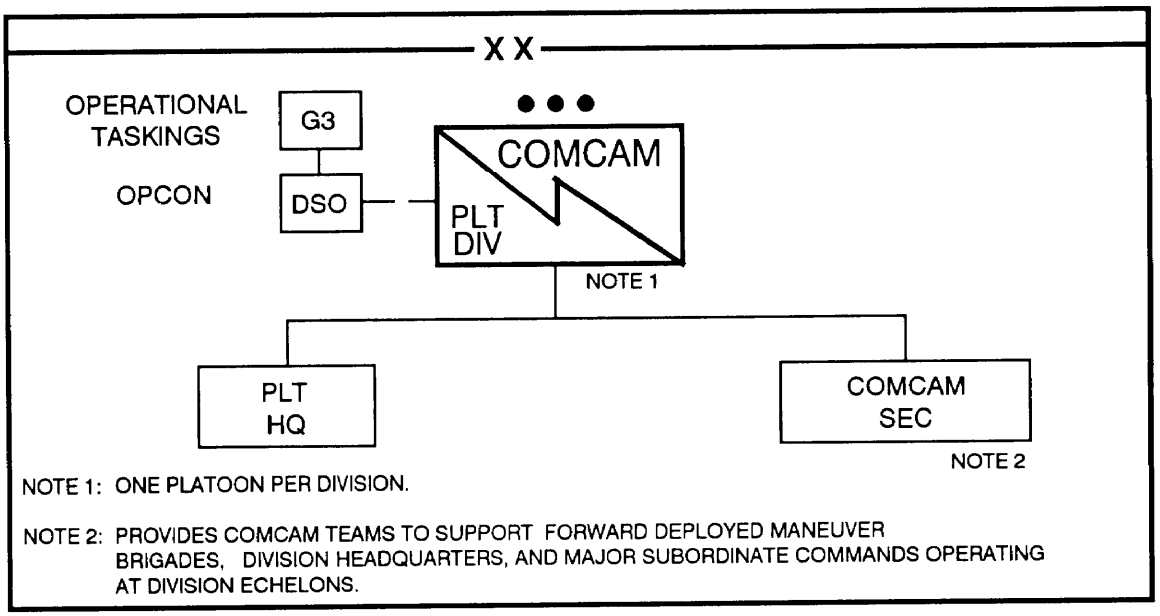

Figure 6-4. COMCAM at division.

6-13. Functions

A COMCAM platoon is attached to the division. It supports requests for original still and motion media imagery throughout the division. These services include DSV processing, videotape editing, duplicating, distributing, and transmitting imagery for the entire division. After fulfilling imagery requirements, the platoon forwards camera original images to the corps signal VI company for use by the corps headquarters.

The COMCAM platoon provides presentation services for the division headquarters. It consists of a platoon headquarters and a COMCAM section.

The platoon headquarters provides command, control, and coordination of the platoon's COMCAM missions. This includes administrative, operational, and logistical functions required to accomplish the mission. The platoon leader and sergeant advise the DSO on all tactical VI issues. They coordinate and execute all imagery acquisition missions and ensure all functional users maintain compatibility with standard acquisition and processing equipment used by the COMCAM platoon.

The COMCAM section performs imagery acquisition requirements for the entire division area. This section task organizes into COMCAM teams to provide support to the division headquarters, rear operations area and maneuver brigades. The COMCAM section has tactical wheeled vehicles and is equipped with motion media, conventional still, and DSV camera equipment. The team captions all imagery before forwarding it to the corps operations and support section for processing. Transmission of DSV is accomplished using portable satellite transceivers or ACUS. Teams can transmit DSV to all command echelons as required.

6-14. Equipment and Services

VI equipment. This is commercial off-the-shelf NDI. All COMCAM platoon VI equipment and functional user acquisition formats must be compatible with COMCAM platoon processing and transmission capabilities.

Acquisition formats. DOD sets up standards that acquisition formats for the COMCAM documentation section must follow. This ensures interoperability when operating on a JCCT. Motion media images are recorded on 8mm high band videotape format. Still imagery is recorded using DSV cameras, conventional 35mm SLR cameras, and self-processing 35mm slide film systems. COMCAM teams can obtain imagery at night using night vision devices designed to operate with media and still imagery equipment.

Mobility. COMCAM teams have organic tactical wheeled vehicles to deploy with supported units. These vehicles are configured for self-contained VI processing and editing systems which can operate anywhere on the battlefield.

Presentation support. COMCAM platoons can play back videotape and DSV imagery using portable color monitors.

Transmitting. The platoon headquarters is responsible for near real-time transmission of imagery between division and corps. Camera original imagery is moved using the fastest means available. Satellites are one of the primary means of moving imagery between division and corps. Other means consist of tactical ACUS, microwave, radios, or messenger. The platoon is responsible for coordinating the transmission of imagery to the theater.

Section V. Brigade and Below

6-15. Responsibilities

COMCAM teams from the division operate at brigade through platoon level as a normal requirement for accomplishing their missions. The BSO operationally controls the COMCAM teams. Team VI support is used for operational decision making and historical documentation. COMCAM teams are task organized and placed at specific locations based on directives from the division G3 or in response to a request by the commander of a divisional unit.

The brigade S3 is the primary staff agency which identifies and prioritizes operational VI requirements for the brigade headquarters. These taskings are based on operational needs to support the decision-making process.

The BSO receives operational VI taskings from the G3 and other brigade staff agencies. He is responsible for integrating VI into battlefield information systems to support planned operations, crisis, and exercise planning. The BSO prioritizes tactical communications systems to ensure near real-time transmission of visual imagery. He ensures that COMCAM assets are supported for quarters, rations, tacked vehicles, and air support when required to accomplish the mission. The BSO sets priorities when the demand for COMCAM assets exceeds the capabilities.

The COMCAM team chief is the main link between the team and the BSO. He executes assigned COMCAM missions and ensures that imagery is transmitted or transported to the division COMCAM platoon in a timely manner. He advises the BSO on all aspects of the COMCAM mission and suggests the best ways to use team assets.

6-16. Organization

COMCAM teams are tasked organized in response to mission taskings to provide flexibility and economy of resources. Team size is normally two to four soldiers. The COMCAM team platoon leader determines team size, skill, and equipment needs. (See Figure 6-5.)

6-17. Functions

The COMCAM teams execute imagery acquisition requirements for the brigades and below. Teams have tactical wheeled vehicles and are equipped with motion media, conventional still, and DSV camera equipment. The teams caption all imagery before forwarding it to the division's COMCAM platoon headquarters. Transmission of DSV is accomplished using portable satellite transceivers or ACUS. Teams can transmit DSV to all command echelons as required.

6-18. Equipment and Services

VI equipment. This is commercial off-the-shelf NDI. All COMCAM team VI equipment and functional user acquisition formats must be compatible with COMCAM platoon processing and transmission capabilities.

Acquisition formats. DOD sets up standards that acquisition formats for the COMCAM teams must follow. This ensures interoperability when operating on a JCCT. Motion media images are recorded on 8mm high band videotape format. Still imagery is recorded using DSV cameras, conventional 35mm SLR cameras, and self-processing 35mm slide film cameras. COMCAM teams can obtain imagery at night using night vision devices designed to operate with motion media and still imagery equipment.

Mobility. The teams have standard tactical wheeled vehicles to deploy with supported units.

Processing. The teams can process DSV and self-processing 35mm slide film. DSV is printed using a portable color DSV printer.

Transmitting. The teams transmit near real-time DSV imagery to all command echelons as required. Camera original imagery is moved using the fastest means available. Portable satellite transceivers are one of the primary means of moving DSV. Other means consist of tactical ACUS, microwave, radios, messenger, or organic tactical vehicles.

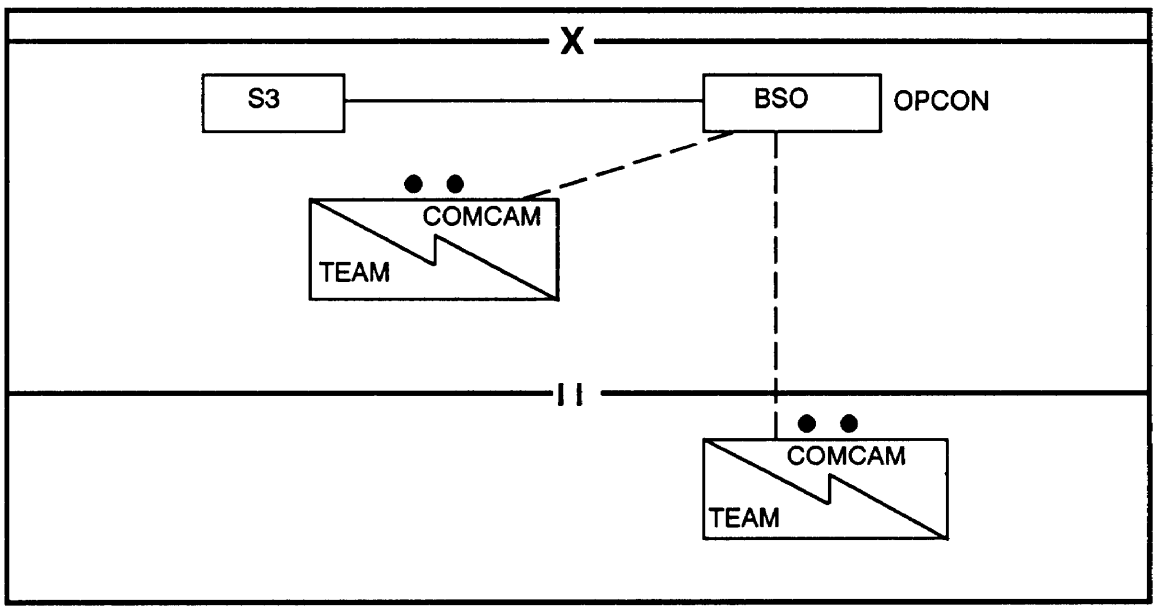

Figure 6-5. COMCAM at brigade and battalion.

Chapter 7

INFORMATION SERVICES SUPPORT

7-1. Background

Each unit commander is responsible for managing the information created and used in his unit. The signal office is the primary office/staff supporting the commander in his information management responsibilities. The signal office/staff has three primary functions. They are--

- Advising and aiding the commander as a coordinating staff office.
- Supporting the operational needs of the headquarters by providing signal support to the commander's unit and to tenant units in the area.
- Supporting and managing the informational needs of the headquarters staff.

This last function requires expanding the traditional roles for signal support. This chapter covers the signal support role in information services. It also provides an organizational breakdown of the corps' Information Services Support Office (ISSO). The division ISS0 is the same as the corps in organizational structure. It differs only in the number of TOE authorizations of personnel. Refer to Appendix E for more details on brigade, battalion, and division signal support guidelines.

The signal officer uses the ISSO to coordinate and to support IMA functions requiring centralized management internal to the headquarters. An ISS0 is set up at every echelon, from theater to division. It functions under the control and direction of a signal support officer. At brigade and battalion levels, the unit S1 accomplishes the ISS0 function. At support units with no organic supporting signal unit (such as DISCOM, COSCOM, and TACOM), the signal officer is the proponent for information services on the staff. However, the fictional staff officer remains responsible for its execution.

7-2. The Corps ISSO

Operational Concept. The CSO has staff and technical supervisory responsibilities for information services functions in the corps. The corps ISS0 serves as a tool for accomplishing these functions. It also aids in coordinating pertinent information services management and operational data with higher, lower, and adjacent information services support facilities. The ISS0 is organic to the HHC, corps signal brigade.

Responsibilities.

The ISSO provides--

- Specified information services support to the corps staff.
- Advice concerning corps information services functions.
- Technical assistance to information services support facilities and subordinate units within the command.

As a staff and technical supervisory agency, the ISSO establishes and monitors commandwide programs for--

- Management/control.
- Implementation and maintenance of correspondence.
- Files and forms.

- Classified documents.
- Privacy Act/Freedom of Information Act (FOIA) activities.
- Distribution, printing, and publications supply.
- Official mail.
- Reproduction.
- Information services training.

The CSO is responsible to the corps commander for operating the ISSO. Within the overall plans and policies formulated by the general staff offices, the ISS0 performs and carries out its assigned operations. The CSO maintains effective staff/command relationships with general and special staffs and supported commanders. The CSO's staff supervisory role to the corps staff is support, coordination, cooperation, and resolution of problems of mutual concern. The CSO is responsible for supporting and managing the information services needs of the headquarters staff. He also serves as the central point of contact for information services functions that benefit from economy of scale and centralized operations. These functions include TOP SECRET repositories for classified document control.

Equipment and Composition.

The ISS0 is authorized a unit-level computer/word processor, medium-volume reproduction/copying equipment, and storage facility for classified material. This provides the essential information services support for the command. The ISS0 requires a 1 l/4-ton vehicle for distribution and C2 mobility.

The ISS0's composition should include one officer and about 15 enlisted personnel. Most of the enlisted personnel consist of record telecommunications center operators (MOS 74C). It is expected that the 74Cs will perform a full spectrum of information services tasks. Initially, the ISS0 may have to operate with administrative specialists (MOS 71L). The 71Ls over the long-haul should migrate to MOS 74C. The 74Cs will eventually replace some of the 71Ls in activities providing centralized information services. All personnel will require a TOP SECRET clearance.

7-3. The Corps ISS0 Organization

Headquarters and Operations Section. This section provides staff supervision over the information services support program within the corps. This section--

Establishes policies and prepares the ISSO SOP.

The ISS0 SOP explains the corps policy and procedural guidance on--

- Correspondence management.
- Files and forms management.
- Classified document control.
- Privacy Act/FOIA.
- Distribution.
- Printing services.
- Publications management.
- Official mail management.
- Reproduction services.

The SOP may contain an official mail pickup and delivery schedule, a routing guide, and information on procuring printing and duplication services. It may also include--

- The ISSO's organization.
- Guidelines on preparing, coordinating, routing, and dispatching correspondence through the ISSO distribution center.

- Local policies on preparing corps publications/directives (pamphlets, circulars, memorandums, supplements, bulletins).

- Policies on centralized copying services, reproduction services, and for the classified correspondence repository.

Performs staff supervision of correspondence. It recommends policies, procedures and conventions, and local procedures governing authentication (who, what, when, how), and reading files. Each user/staff section prepares and authenticates correspondence and implements and manages reading files.

Prepares routine correspondence and documents to support internal ISS0 operational requirements. This includes letters, consolidated reports, and statistical data. It also prepares administrative reports (except personnel reports) and reports assigned to other elernents of the corps and signal staffs.

Peforms staff supervision of Privacy Act/FOIA. It recommends policies, procedures and conventions, and serves as the central point of contact within the command for Privacy Act/FOL4 requests. It refers related requests, as applicable, to the proper staff element or personnel services support activity. Users are responsible for managing and maintaining their own Privacy Act and FOIA programs.

Provides technical assistance to subordinate units of the command It establishes and monitors commandwide programs for the battlefield information services support. It provides technical assistance to the G3 for training information services support personnel.

Receives official information services communications and assigns them to the appropriate ISSO section for action.

Keeps the corps staff and command group informed via the CSO, of the corps information services support situation.

Manages and approves procuring expendable supplies for the ISSO.

Maintains a current reference library of ARs, published command guidance, and other regulatory guidance on all battlefield information services. These references are needed to perform staff supervision functions, to setup policies, and to prepare the ISS0 SOP.

Maintains appropriate files to support operational requirements.

Printing/Publications and Reproduction Section. This section will be required to operate two 12-hour shifts during sustained 24-hour operations. This section--

Performs staff supervision of printing reproduction, and publications and forms management. It recommends policies, procedures, standards, and conventions. In elements owning pinpoint forms accounts, the functional staff is responsible for the staff supervision of forms management by compiling ordering and distributing forms.

Establishes and operates the corps printing and duplication control program in accordance with applicable ARs.

Serves as the central point of contact within the command for high- and medium-volume printing support requests. It verifies the format of user printing requests and forwards them through channels to the proper signal theater reproduction team or sustaining base printing support activity. Users establish their own printing priorities. They also install, operate, and maintain organic printing devices to support their own low-volume printing requirements. These include user-owned and -operated printing equipment and peripheral printing devices connected to user-owned and -operated computers and *BAS. Signal has no involvement in user-owned and -operated printing equipment such as that used for topographic, PSYOP, and PA printing applications.*

Assists users in procuring user-owned and -operated reproduction/copying equipment. It reviews user requests and provides information and advice on the different classes and technical specifications of such devices. It also provides information on sources through which the devices may be procured. Users are responsible for determining their own reproduction/copying requirements. They also procure, install, operate, and maintain their own reproduction/copying equipment. Once the user identifies his reproduction/copying requirements, this section validates them.

Provides reproduction support to meet the operational requirements of the ISS0. It also provides limited emergency and special purpose reproduction for the corps, signal headquarters, and subordinate units when necessary.

Operates the corps headquarters publications and forms control programs. It prepares an index of headquarter publications and establishes and maintains distribution schemes for headquarters publications. Along with corps staff elements, this section prepares and submits requisitions for information services support, doctrinal, and technical publications for the headquarters staff elements. In coordination with functional staff elements, it approves user requests for new forms. Functional users are responsible for adhering to forms usage policies, including use management and requesting resupply. This section effects initial distribution of publications through a pinpoint distribution procedure to the corps headquaters staff and other headquarters elements attached to the corps headquarters. It also effects initial distribution of corps regulations and publications.

Maintains (in coordination with the corps staff) a stock of DA publications (excluding technical publications). It also keeps other official forms for the corps staff and other headquaters elements attached to the corps headquarters. These functions are performed by the functional staff/user in organizational elements within corps boundaries without organic ISSOs and not in a category described in the preceding sentence. The corps staff maintains a stock of technical publications and other publications and forms in accordance with its operational needs, but will effect resupply through the ISS0. In coordination with the ISSO, functional staff elements requisition, tracks receipt of requisitions, and disposes of expired publications and forms. This section routes publications and forms to the user.

Maintains a stock of information services specific publications for the headquarters staff. In addition, it maintains an internal ISS0 library of information services specific publications (at least one copy per type of publication) in the amount and types necessary to provide staff supervisory support to associated ISSOs, fuctional information services activities, and other users as required Users must identify their own publications requirements and manage their own pinpoint publications accounts. Users must consolidate, order, and distribute subordinate unit requests through the pinpoint distribution system at the echelon owning the pinpoint account. There is no Army requirement for maintaining a central reference library, but staff sections may maintain their own publications reference libraries in accordance with local or command requirements.

Maintains an internal ISS0 stock of official forms (one copy per type of form) in the amounts and types necessary to provide staff supervisory support to associated ISS0s, information services support activities, and other users as required

Records Management and Distribution Section. This section will operate two 12-hour shifts during sustained 24-hour operations. This section--

Performs staff supervision of files management, classified document control official mail control program, and distribution. It recommends policies, procedures, standards, conventions, and inspections as applicable. This section serves as the primary point of contact for the same within the corps. In organizations with no signal officer or supporting signal units, the fictional staff performs the associated management functions in coordination with this section.

Establishes and monitors the corps records management program. This program includes correspondence and official mail management, document reproduction control, and the maintenance, management,

and disposition of files. Monitors adherence to the program and suggests corrective measures as needed. Maintains liasion with records management staff elements throughout the command

Approves files listings and electronic conventioning. The fictional staff/user is responsible for maintaining his own files and for transforming them to the records holding area.

Advises users/functional staffs on files management as it applies to FOIA.

Analyzes and evaluates micrographic system proposals, micrographic studies, and micrographic equipment requests.

Recommends classified document control policies, procedures, standards, and inspections in all phases and areas of IMA. This includes correspondence, printing, reproduction, distribution, and mail and file management. Functional staff/users must act as their own classification authority. They are responsible for storing and controlling classified correspondence, files, and documents within their functional organizations/activities. However, centralized regulatory and classified document repositories will not be accomplished on the battlefield.

Operates a classified courier system (in coordination with the G2) or effects the distribution of classified documents through approved channels.

Advises the G2 on headquarters classified document destruction and evacuation plans. Users/ functional staffs are responsible for destroying their own secret documents.

Provides internal headquarters distribution for the corps headquarters. It operates the corps headquarters central distribution center and serves as the primary point of contact within the command for internal headquarters distribution. Headquarterss staff elements must pickup their own distribution from the distribution center.

Provides external distributions services. It recommends policies, procedures, and conventions. It also prepares guidelines on preparing coordinating, routing, and dispatching correspondence through the ISS0 distribution center. This section receives, controls, and distributes all official publications and correspondence (except electrically transmitted messages) by pouched distribution to the intended action agency(cies). It coordinates requirements for messengers and classified document couriers as required.

NOTE 1: External distribution is the movement of official mail (including publications) and distribution between CPs. DOD postal operations are responsible for moving official mail. AG postal units are responsible for delivering official mail on the battlefield to the postal unit in direct support of the headquarters (corps and division). The G1 and S1 are responsible for coordinating the delivery of official mail to lower echelon units at division and below. The WAN and record traffic should be considered as the first means of distribution between CPs. Messenger service will be the primary means of moving lengthy or bulky items between CPs.

NOTE 2: Messenger service is currently an unresourced signal mission (FM 24-l). Until the mission is resourced, the signal officer will ensure that messenger service is provided with augmentation by supported units. He will determine messenger routes and schedules and will coordinate messenger resources with the G3. The G3 will task units for vehicles and personnel needed to establish messenger service. Maximum use will be made of existing delivery systems (for example, Class I, V). ISS0 assigned personnel are not resourced to be the corps area messengers. As long as the messenger mission remains unresourced, ISS0 personnel may be tasked to deliver distribution to corps headquarters sections at the corps main and alternate CPs. However, once resourced, the ISSO at corps and division may be responsible for managing and controlling the messenger mission.

Distributes official mail internal to the corps headquarters. It coordinates resources to effect distribution and develops and maintains an official mail pickup and delivery schedule. The ISS0 does not engage in the control/ metering of outgoing mail. Metering of official mail is normally not required on the battlefield In instances where it may be done, the ISS0 will coordinate the metering of outgoing official mail with the PERSCOM postal organization while in the field and with the DOIM/ post office while in garrison. Official mail contains military information and is normally addressed to a military commander or organization/activity. Official mail for the headquarters is considered delivered when the ISS0 receives it. Once the ISS0 receives official mail it becomes normal distribution.

NOTE: Mail may be categorized as official and personal. Personal mail contains personal information, subject to censorship, and is the responsibility of the G1. Personal mail remains personal mail, subject to postal regulations, until delivered to the intended recipient (soldier). In the field, the ISS0 picks up the mail from the Army postal unit and passes it to the corps headquarters' mail clerk. The mail clerk then distributes the mail to the soldier. If the mail is not delivered, the corps headquarters mail clerk reroutes the mail to the APO. Personal mail is considered delivered when the soldier receives the mail.

Provides advice on postal matters to corps subordinate commands after coordination with the PERSCOM postal organization.

Coordinates with corps telecommunications activities on receiving controlling and delivering electrically transmitted messages addressed to the ISSO.

7-4. The Corps ISS0 Key Personnel

Figure 7-1 shows a conceptual representation of the corps ISS0. This is how the ISSO should be organized. However, the corps ISSO is not physically divided into three sections.

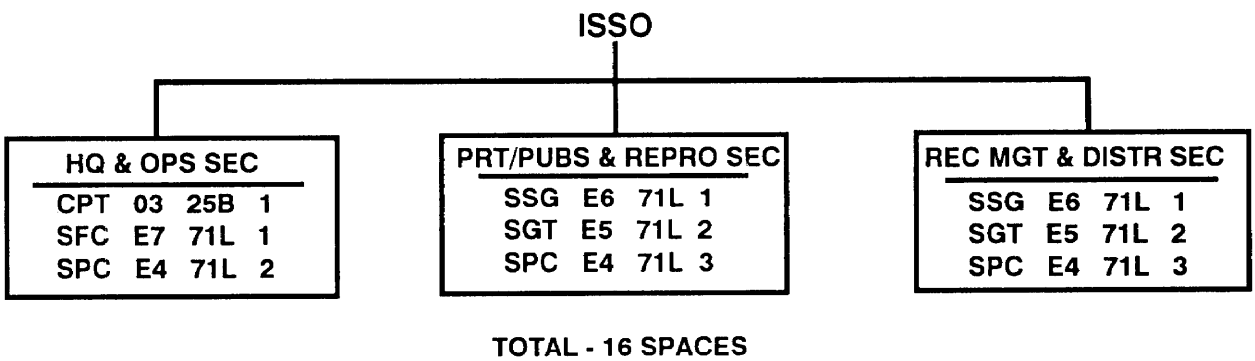

Figure 7-1. ISSO conceptual representation.

The ISS0 chief supervises the activities of his functional elements. He coordinates their activities with the operational requirements of the CSO and the headquarters staff elements. Either the ISS0 chief or his designated assistant--

Performs the duties of command information services support officer. He provides commandwide staff supervision of, and oversight over the battlefield inforrnation service. For example, he recommends policies, procedures, standards, and conventions to facilitate information services support. He acts as the information manager in accordance with AR 25-1.

Performs the duties of battlefield information services automation officer. He attains required interface, operability, and interoperability among information/ automated systems. In coordination with the corps automation management officer, he reviews and recommend requests for word processing equipment/ systems for the headquarters and the command.

Performs the duties of information systems security officer. He attains required security among and within manual and automated information support systems and related activities.

The ISSO NCOIC assists the ISSO chief and the CSO and staff on information services support matters as required. He plans, organizes, and conducts technical and nontechnical inspections. He prepares reports and recommends improved methods and procedures. He also performs information services systems analysis, security of manual and automated information support systems, and related activities. He supervises enlisted personnel performing information services support duties and provides the commander with information about enlisted matters.

The shift supervisor/senior operator ensures the implementation of the information services support functions in the assigned section and shift. He serves as the subject matter expert in the respective assigned area. He provides verbal and written guidance and direction for the IOM of specified battlefield information services. He also provides technical assistance and problem guidance to associated information services support personnel, functional staffs, and functional users. This resolves problems encountered with the same. He answers inquires from the staff and advises personnel on information services support matters. He composes correspondence, sets up and maintains--

- Logs.
- Rosters.
- Status boards.
- Charts, graphs, and view graphs.

He also supervises subordinate enlisted personnel performing information services support duties.

The record telecommunications center operator (E4 and below) performs battlefield information services duties and clerical duties for the corps ISS0. These duties include--

- Operating computer terminal devices using word processing, spreadsheet, and other off-the-shelf utility software.
- Typing correspondence and documents including letters, reports, and statistical data.
- Maintaining files and records.
- Generating reports, directional guidance, and other documentation required by the ISS0.
- Operating assigned vehicle as required.

Appendix A

SIGNAL STAFF AND RESPONSIBILITIES (CORPS)

A-1. Corps Signal Brigade

The corps signal brigade commander fulfills a dual-hat role. He is the corps signal brigade commander and the corps signal staff officer, a member of the special staff of the corps headquarters.

As the commander, he--

- Commands, directs, and supervises the corps signal brigade.
- Directs the IOM of the corps Communications systems and facilities required to implement plans developed by the corps signal staff and to support unit communications requirements.
- Advises the corps commander on all communications matters.
- Supervises corps signal communications use.
- Coordinates corps subordinate units and allied services/forces integration with the corps communications system.

As the CSO, he--

- Ensures adequate and continuous area coverage throughout the corps area.
- Provides additional nodal assets when expansion is required.

The corps signal brigade staff provides guidance for corps communications network implementation. Staff sections are organized to plan and implement communications network design, OPCON, and administrative and logistics direction. The staff uses the corps communications plan taskings to develop the communications network. Active monitoring of the network's operational status ensures that it meets the corps' changing requirements. These responsibilities belong to the operations/intelligence section, in the brigade headquarters, which consists of four staff elements and personnel:

- Corps signal engineering branch.
- Network control branch.
- Plans/intelligence section.
- Brigade COMSEC office of records.

The corps signal engineering branch is part of the S3/system control (SYSCON) for the brigade and operates from an AN/MSC-25 shelter.

The signal engineering branch--

- Conducts detailed systems engineering studies.
- Develops plans for establishing communications systems.
- Determines equipment suitability, adaptability, and compatibility with existing military communications systems.
- Determines installation and employment required to provide quality transmission over installed systems.
- Responds to frequency requests and maintains associated records for the brigade units.
- Integrates allied, joint, and commercial communications into the corps communications network.

- Analyzes traffic status reports.
- Maintains direct coordination with the system control center (SCC)/SYSCON in the network control branch.
- Informs the SCC/SYSCON of current and future facilities' needs throughout the corps communications network.

Key personnel and their responsibilities are shown below.

The systems engineer, MAJ (25E), analyzes all traffic status reports and studies to optimize system capabilities.

The traffic officer, MAJ (25E)--

- Determines the information network architecture supporting battlefield operations.
- Exercises network control.
- Conducts network analysis.

The signal officer, CPT (25B); the telecommunications officers, CPT (25B) and (25D); the traffic officer, CPT (25E); and the data processing technician, CW4 (251A)--

- Assist the branch chief in engineering communications in their respective fields.
- Determine equipment suitability, adaptability, and compatibility with existing military and local communications systems.
- Verify the capabilities and limitations of equipment.
- Verify the quality of transmission facilities.

The radio officer, CPT (25C)--

- Evaluates radio propagation data to determine RF allocation.
- Allocates frequencies to units in the brigade.
- Coordinates RF requirements.
- Maintains records, prepares reports, and initiates correspondence to corps headquarters on all frequency matters.
- Is responsible for engineering radio communications systems.

The operations sergeant, MSG (31W)--

- Assists the branch chief and other officers.
- Coordinates and supervises the enlisted technical specialists.

The frequency management NCO, SFC (31W)--

- Assists the RF officer with frequency responsibilities.
- Assists the communications engineer officers in preparing detailed engineering plans.

The programmer/systems analyst, SFC, SSG (74F)--

Supervises, prepares, analyzes, edits, and tests computer programs.

- Conducts data system studies involving investigation, evaluation, and development of data processing systems.
- Prepares specifications and proposals documentation.
- Implements new or modified systems.

The programmer analyst, SPC (74F), assists the programmer/systems analyst(s).

The TACSAT radio section chief, SFC (31Y)--

- Supervises, directs, coordinates, and manages the IOM of TACSAT systems.
- Plans and provides technical guidance for TACSAT use, maintenance, and logistics support.
- Prepares and interprets orders, system diagrams, related technical matrixes, and reports.

The clerk typist, SPC, and clerk, PFC (71L), perform all typing and clerical work in the section.

The graphics document specialist, PFC (25Q), draws charts, graphs, and other aids.

The network control branch provides the SCCs for the MSE system. It provides the following capabilities:

- MSE radio automated frequency management.
- Terrain analysis and path profiling.
- Automated system engineering functions.
- Equipment status reporting.
- COMSEC key management.
- Link and network load status.
- Personnel management database.
- System traffic flow and grade of service.

Key personnel and their responsibilities are shown below.

The operations officer, MAJ (25E)--

- Supervises the network control branch and the functions referred to above.
- Accepts responsibility as the regulator (authority and implementer) of essential networkwide operating parameters (that is, frequencies, COMSEC keys, nodal connectivity, electronic counter-countermeasures (ECCM), interfaces, and network software).
- Is accountable for planning, engineering, controlling, and maintaining network operating parameters.
- Assigns or reassigns variable network operating parameters.
- Distributes all operating parameters network (for example, SOI, signal standing instructions (SSI), OPORDs, and SCC orders).
- Establishes relationships among network components (for example, leader-follower, master-slave, or controlling terminal).

The network officers, CPT (25E) and LT (25C) (4 each) respectively, and the telecommunications officer, CPT (25B), assist the operations officer in executing his duties.

The operations sergeant, SGM (31W)--

- Provides technical assistance, supervises, and assists in communications SYSCON.
- Supervises the work activities of other enlisted personnel assigned to the branch.

The MSE SCC supervisors, MSG (31W) (4 each) and MSE network controllers, SFC (31W) (4 each), are responsible for the 24-hour operation of the SCC.

The MSE SCC operators, SSG (31F) (4 each), provide 24-hour system operation.

Clerk typists, SPC (71L) (3 each), perform all typing and clerical work in the section.

The plans/intelligence section provides the planning, coordination, and supervision of plans and

intelligence requirements for the brigade. Key personnel and their responsibilities are shown below.

The plans officers, MAJ (25C) and CPT (25B)--

- Are responsible for operating the section.
- Report directly to the S3.

The chemical officer, MAJ (74B)--

- Develops the training plans for the brigade's defensive chemical operations.
- Assesses chemical operations and training situations.

The operations NCO, MSG (31W)--

- Coordinates the efforts of the enlisted technical specialist.
- Supervises the illustrator and clerical personnel.

The plans NCO, SFC (31W)--

- Assists the branch officers in preparing plans and orders.
- Assists in all brigade training requirements.

The chemical operations NCO, MSG (54B)--

- Assists the chemical officers in appraising chemical operations and training situations.
- Collects, prepares, and distributes material for chemical operations and training.

The senior intelligence analyst, SSG (96B)--

- Assists in all brigade intelligence requirements.
- Provides technical assistance in preparing intelligence annexes.

The clerk typists, SPC (71L) (2 each), prepare, distribute, and file the paperwork required to prepare extensive plans and training requirements.

The graphics document specialist, SPC (25Q), prepares graphs, charts, and other visual aids for training or intelligence activities.

The brigade COMSEC office of record is responsible for the brigade COMSEC account. It also provides COMSEC logistics support for the control and distribution of internal brigade and subordinate battalion COMSEC material. Key personnel and their responsibilities are shown below.

The COMSEC security technician, CW4 (250A)--

- Is responsible for operating the office.
- Serves as the signal brigade commander's COMSEC technical advisor.
- Receives distribution of COMSEC material from the material management section.
- Provides drop-off/pick-up point(s) for subordinate accounts.

The COMSEC material management supervisor, SFC (72E), and the COMSEC material manager, SSG (72E), assist the brigade COMSEC office of record technician with his responsibilities.

The automation management officers, LTC (53C) and MAJ (53C) (2 each)--

- Plan, organize, and coordinate tactical automation support to the corps commander's C2 systems.
- Integrate cryptographic, automation, and data transmission means to support automated C2 systems.
- Provide technical direction for installing, operating, and maintaining database and

teleprocessing systems. This includes hardware and software interoperability for automated telecommunications and teleprocessing systems.

The operations officer, LTC (25C)--

- Plans and supervises communications support for corps headquarters.
- Prepares signal plans to incorporate into corps plans and orders.
- Coordinates with other headquarters staff sections regarding their communications needs.
- Makes recommendations for signal troops procurement, use, and allocation to support the command.
- Determines signal training requirements for nonsignal units.

The networking officer, MAJ (25E), plans, designs, and manages the integration and interconnectivity of tactical and nontactical information networks and communications systems.

The radio officers, MA.J (25C) and CPT (25C)--

- Exercise staff supervision over radio communications activities.
- Prepare signal plans and orders and radio communications SOI items.
- Coordinate frequency allocation assignment and use.
- Report and process interface problems.

The systems integration officers, MAJ (25B) and CPT (25B)--

- Manage force integration of information systems resources.
- Plan and coordinate with higher headquarters for information systems upgrade, replacement, elimination, and/or integration within units.
- Plan BAS and information systems integration.
- Provide staff supervision of analysis and software support and troubleshooting of automated systems.
- Manage and supervise automatic data processing (ADP) related areas.
- Design and develop command information systems.
- Monitor unique “application program” development.
- Supervise maintenance of tactical databases.
- Plan newly assigned or attached unit database integration.
- Provide automated resources security training.

The communications-electronics (CE) officer, MAJ (25C), publishes the corps SOI items pertaining to message service, authentication tables, and CT routing indicators.

The data processing technician, CW4 (251AO)--

- Manages personnel, facilities, and equipment assets in ADP sections.
- Conducts data systems analysis.
- Designs or redesigns data systems.
- Develops computer programs.
- Supervises and coordinates activities of personnel.

- Consults with staff officers and commanders to define priorities of tentative and continuing projects.

The chief signal NCO, SGM (31W)--

- Assists the signal officer.
- Manages the signal office.
- Supervises and inspects the work of enlisted personnel in the section.
- Assists the signal staff in the technical appraisal of signal operations and training.

The data processing NCO, SGM (74Z), assists the automation management officer in data transmission means to support C2 systems.

The operations sergeant, SFC (31W)--

- Assists the operations officer in collecting, preparing, and distributing material and data pertaining to signal operations and training.
- Assists in preparing signal orders and plans.

The frequency management NCO, SFC (31W), assists the RF engineering officer with frequency allocation and control.

The programmer/systems analyst, SSG (74F)--

- Supervises, prepares, analyzes, edits, and tests computer programs.
- Conducts data system studies involving investigation, evaluation, and development of data processing systems.
- Prepares specifications and proposals documentation.
- Implements new or modified systems.

The programmer analyst, SPC (74F), assists the programmer/systems analyst.

The clerk typist, SPC (71L), performs all typing and clerical work.

The graphics document specialist, SPC (25Q), draws charts, graphs, and other aids.

The corps COMSEC office of record maintains supervisory control over corps COMSEC assets through reporting channels for corps COMSEC accounts and reports to the theater COMSEC office of records as required. It also--

- Establishes priorities for issuing COMSEC materiel.
- Receives, processes, and controls all accounting transactions which affect COMSEC accounting records within the corps.
- Serves during crisis/contingency operations, as a holding area for bulk-sealed Armed Forces Courier System shipments destined for COMSEC accounts operated by corps subordinate units.
- Provides consolidated semiannual inventory reports.
- Provides central accounting for all classified COMSEC material in the corps and reports to the theater central office of record.

Key personnel and their responsibilities are shown below.

The COMSEC technician, CW4 (250A) --

- Serves as a cryptographic staff officer and supervises the corps COMSEC office of records.
- Provides centralized accountability reporting for corps COMSEC items.

- Receives distribution of COMSEC materiel from the Armed Forces Courier System.
- Provides drop-off/pick-up point(s) for subordinate accounts.
- Assists the signal officer by advising him on cryptographic matters.
- Conducts corps cryptographic facility inspections.

The telecommunications supervisor, SFC (72E), and the telecommunications shift supervisor, SSG (72E), assist the COMSEC technician in the responsibility for the corps account and oversight of the subordinate accounts within the corps.

The telecommunications senior operators, SGT (72E) (3 each), and tactical Telecommunications center operators, SPC and PFC (72E) (3 of each rank), apply correct procedures for cryptographic material storage, receipt, and use.

A-2. The Corps Area and Support Signal Battalions

The corps area and support signal battalions provide signal facilities that support plans developed by the corps signal staff and the corps signal brigade staff to support unit communications requirements. The corps area signal battalion's operations/intelligence staff section coordinates installing 6 node centers (NCs), 1 large extension node switch (LENS), 40 SENSs, and 13 RAUs. The corps support signal battalion's operations/intelligence staff section coordinates installing 4 NCs, 1 LENS, 24 SENSs, and 8 RAUs. The SCC generates the orders to deploy these assets, but the S3 section oversees carrying out those orders. It also coordinates support for any assets from another signal battalion OPCON to their area of operation.

The key personnel of the two battalions are identical and are shown below.

The battalion commander, LTC (25C)--

- Commands, directs, and supervises the area signal battalion.
- Directs the IOM of battalion communications systems and facilities for implementing plans developed by the corps signal staff to support unit communications requirements.
- Advises the brigade commander on all communications matters.

The signal officer, CPT (25C)--

- Is responsible for the operation of the operations/intelligence section.
- Plans and coordinates staff supervision of the master plans, requirements, and the battalion training program.
- Plans and supervises communications support for the signal brigade plan.
- Prepares signal plans for incorporation into signal brigade plans and orders.
- Coordinates with other headquarters staff sections regarding their communications needs.

The radio officer, LT (25C)--

- Exercises staff supervision over radio communications activities.
- Prepares signal plans and orders and radio communications SOI items.
- Coordinates frequency allocation assignment and use.
- Reports and processes interface problems.

The systems integration officer, LT (25C)--

- Manages force integration of information systems resources.

- Plans and coordinates with higher headquarters for information systems upgrade, replacement, elimination, and/or integration within units.
- Plans BAS and information systems integration.
- Provides staff supervision of analysis and software support and automated systems troubleshooting.
- Manages and supervises ADP related areas.
- Designs and develops command information systems.
- Monitors unique "application program" development.
- Supervises maintenance of tactical databases.
- Plans newly assigned or attached unit database integration.
- Provides automated resources security training.

The operations NCO, MSG (31W)--

- Is the senior NCO.
- Provides technical assistance, supervises, and assists in communications SYSCON.
- Supervises the work activities of other enlisted personnel assigned to the section.

MSE network NCO, SFC (31W)--

- Provides technical assistance, supervises, and assists in communications SYSCON.
- Provides technical assistance to section concerning NC switches.
- Supervises the work activities of other enlisted personnel assigned to the section.

The NBC NCO, SFC (54B)--

- Assists the S3 in appraising chemical operations and training situations.
- Collects, prepares, and distributes material for chemical operations and training.

The intelligence NCO, SGT (96B)--

- Assists in all battalion intelligence requirements.
- Provides technical assistance in preparing intelligence annexes.

The clerk typists, SPC (71L) (2 each), perform all typing and clerical work.

The graphics document specialist, SPC (25Q), draws charts, graphs, and other aids.

Appendix B

ATACS SIGNAL BRIGADE STRUCTURE

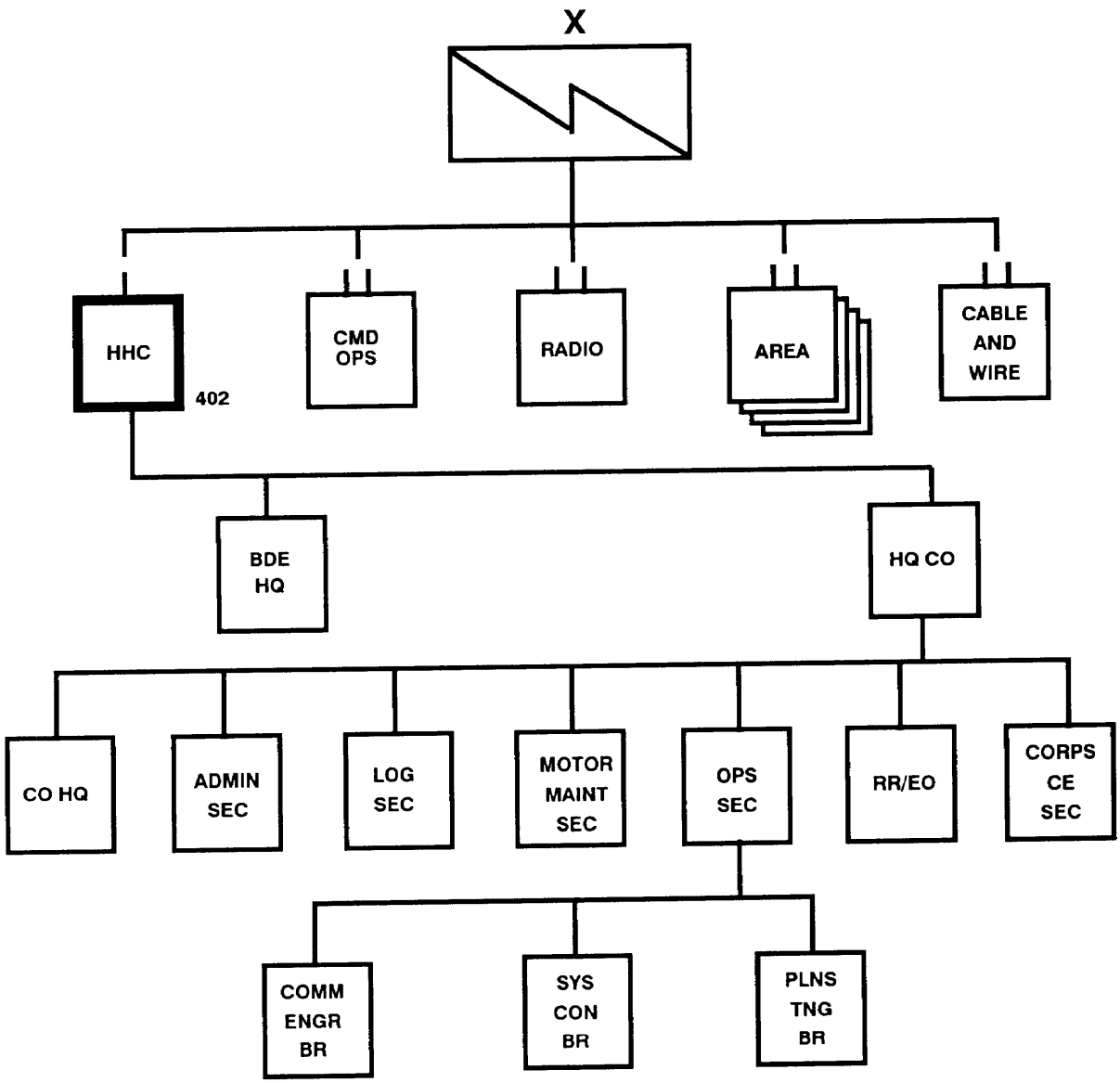

Figure B-1. HHC, corps signal brigade.

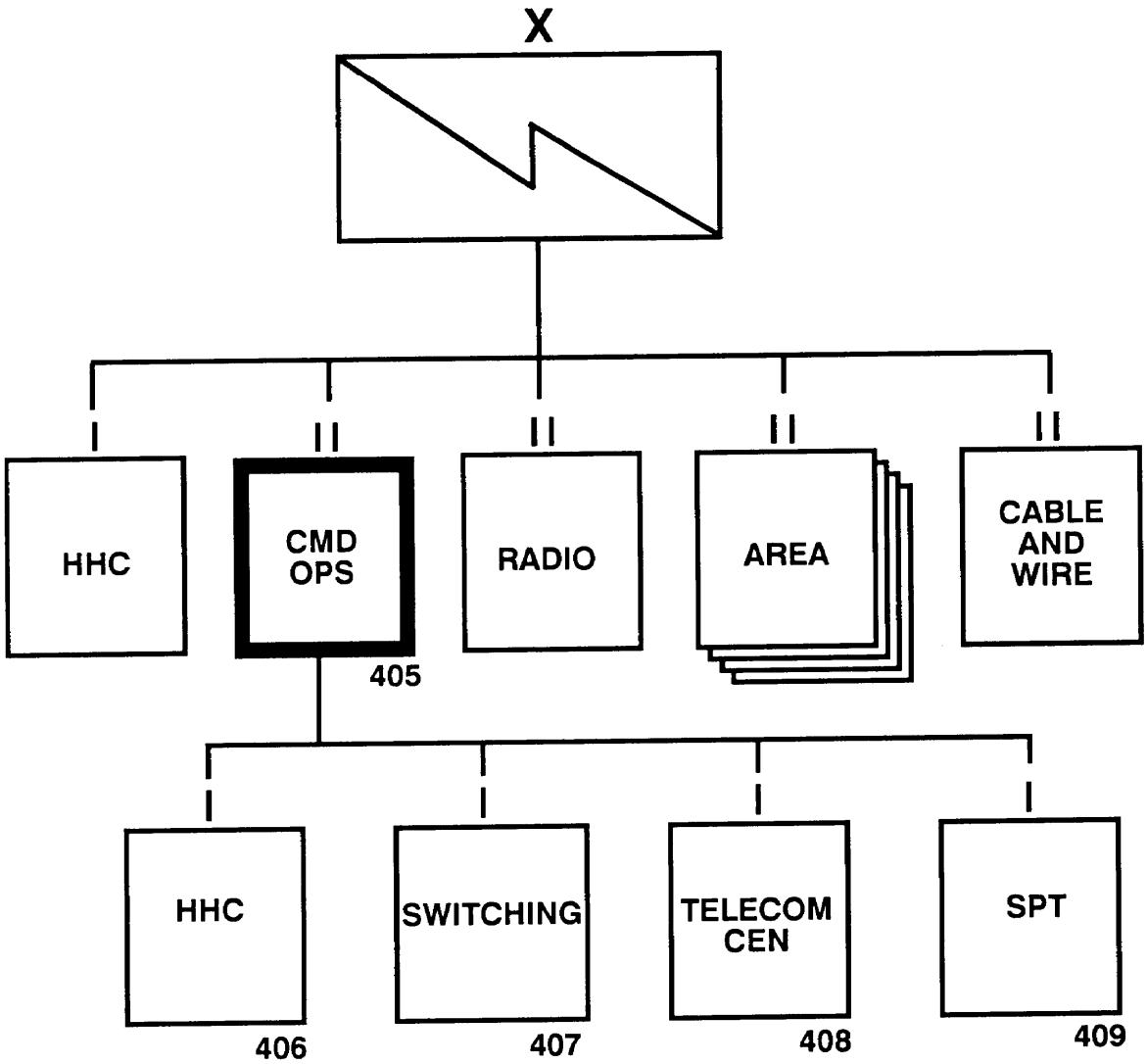

Figure B-2. Corps, command operations battalion.

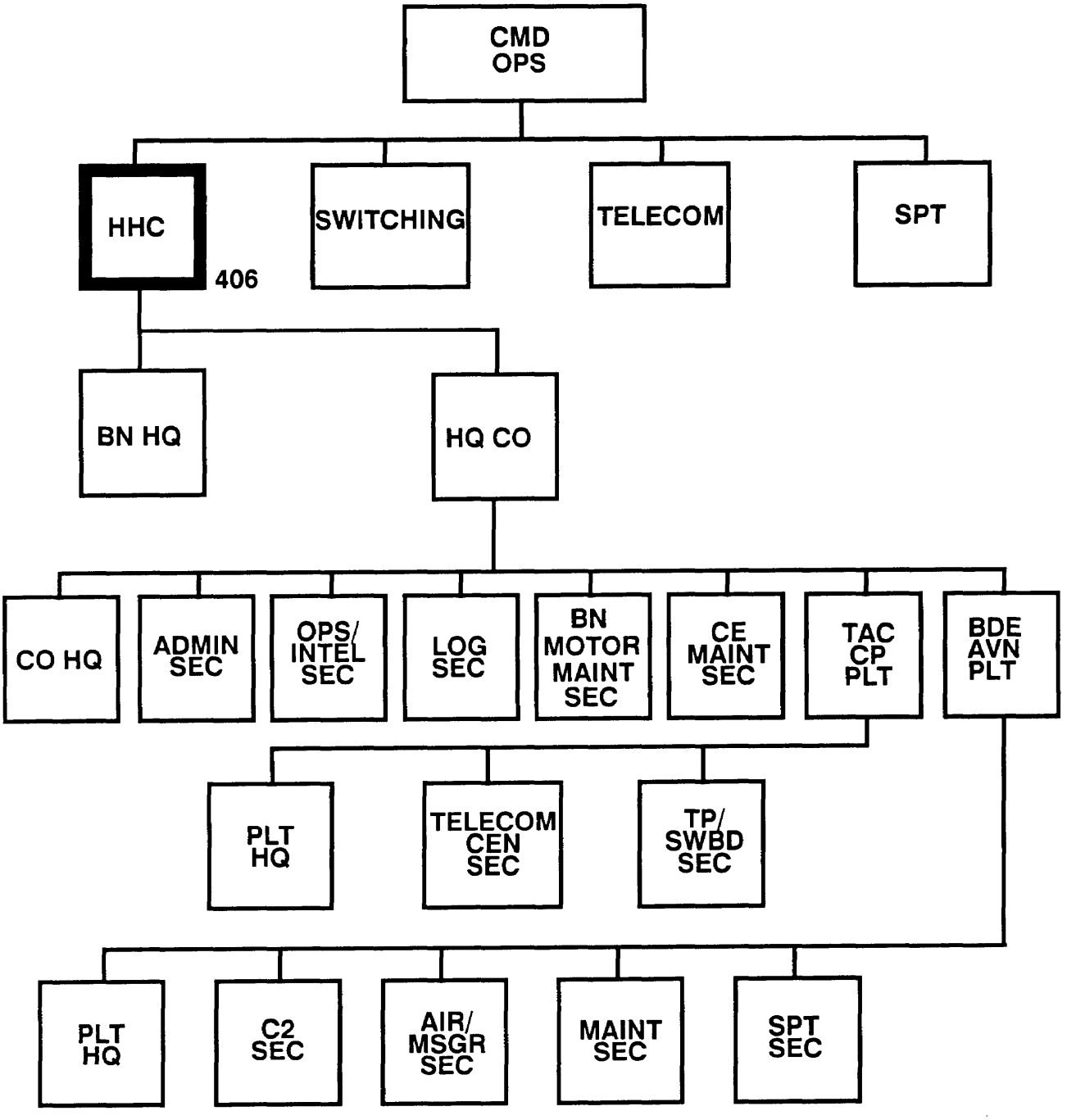

Figure B-3. HHC, corps command operations battalion.

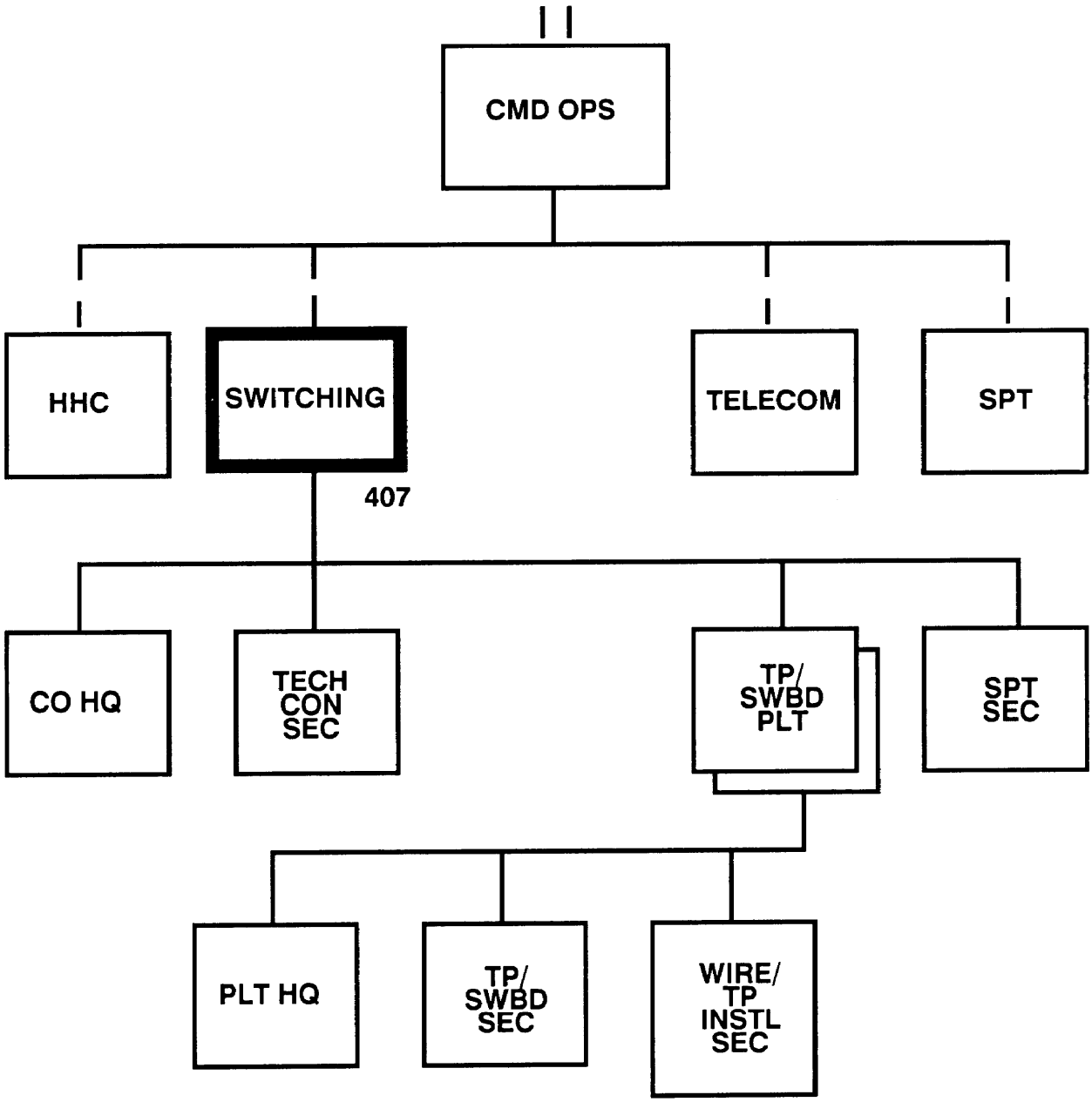

Figure B-4. Switching company, corp command operations battalion.

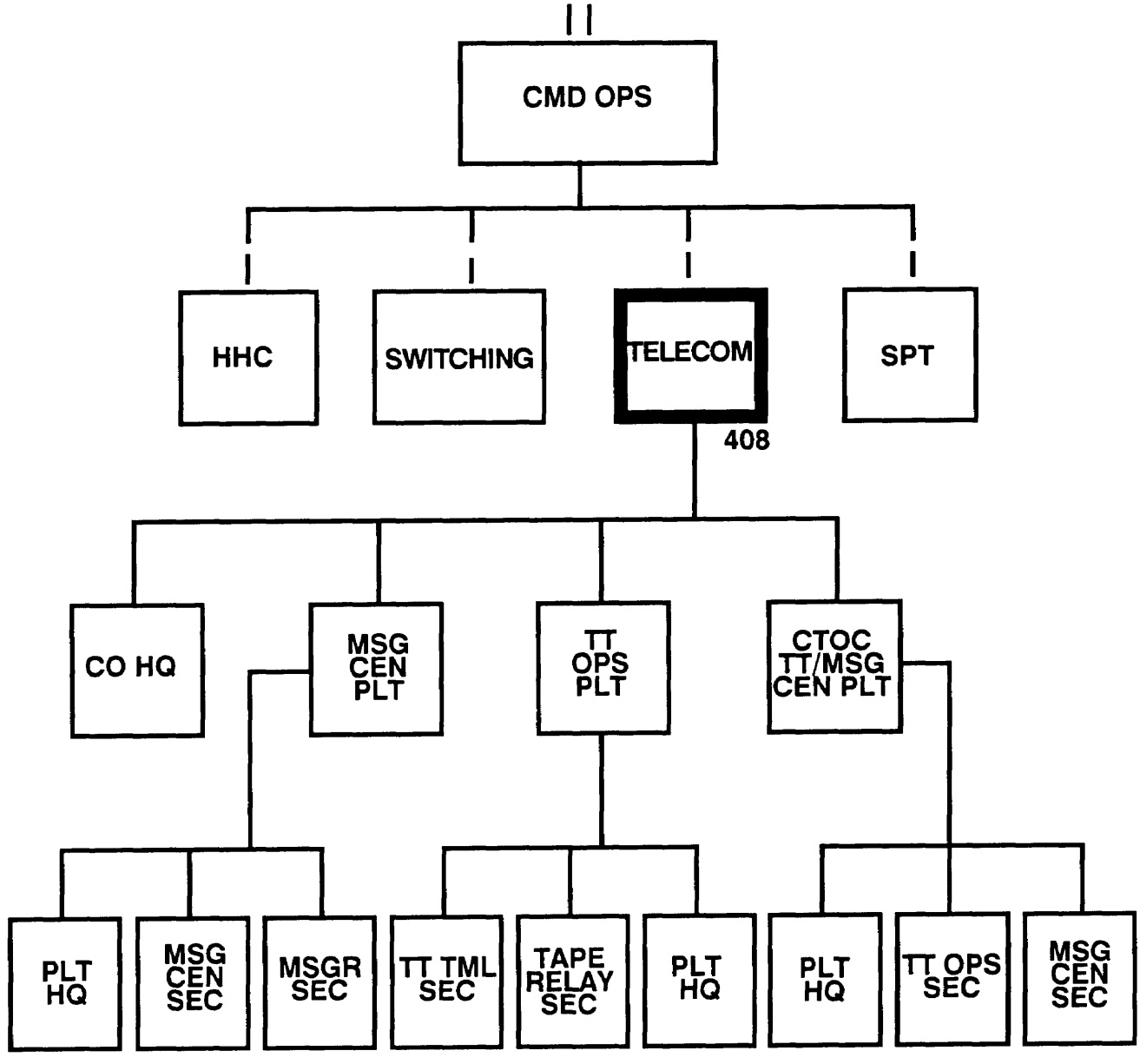

Figure B-5. Telecommunications center company, corps command operations battalion.

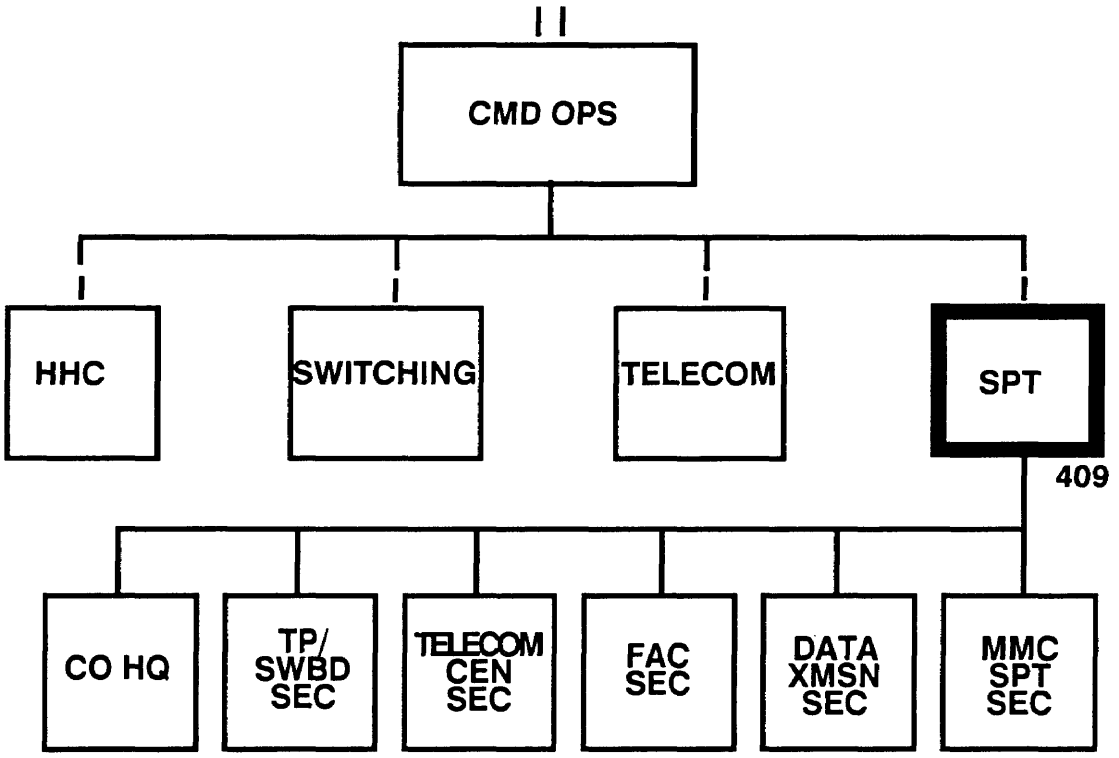

Figure B-6. Support company, corps command operations battalion.

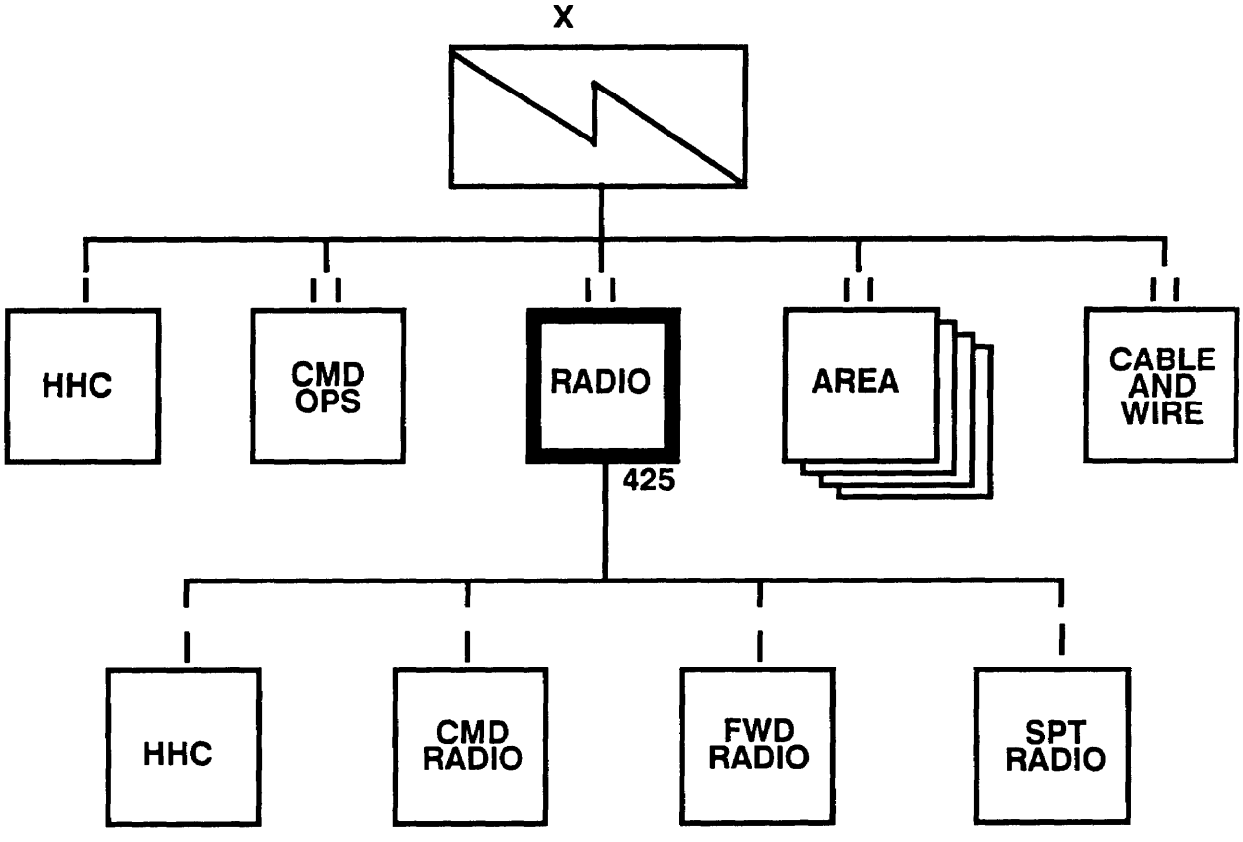

Figure B-7. Corps radio battalion.

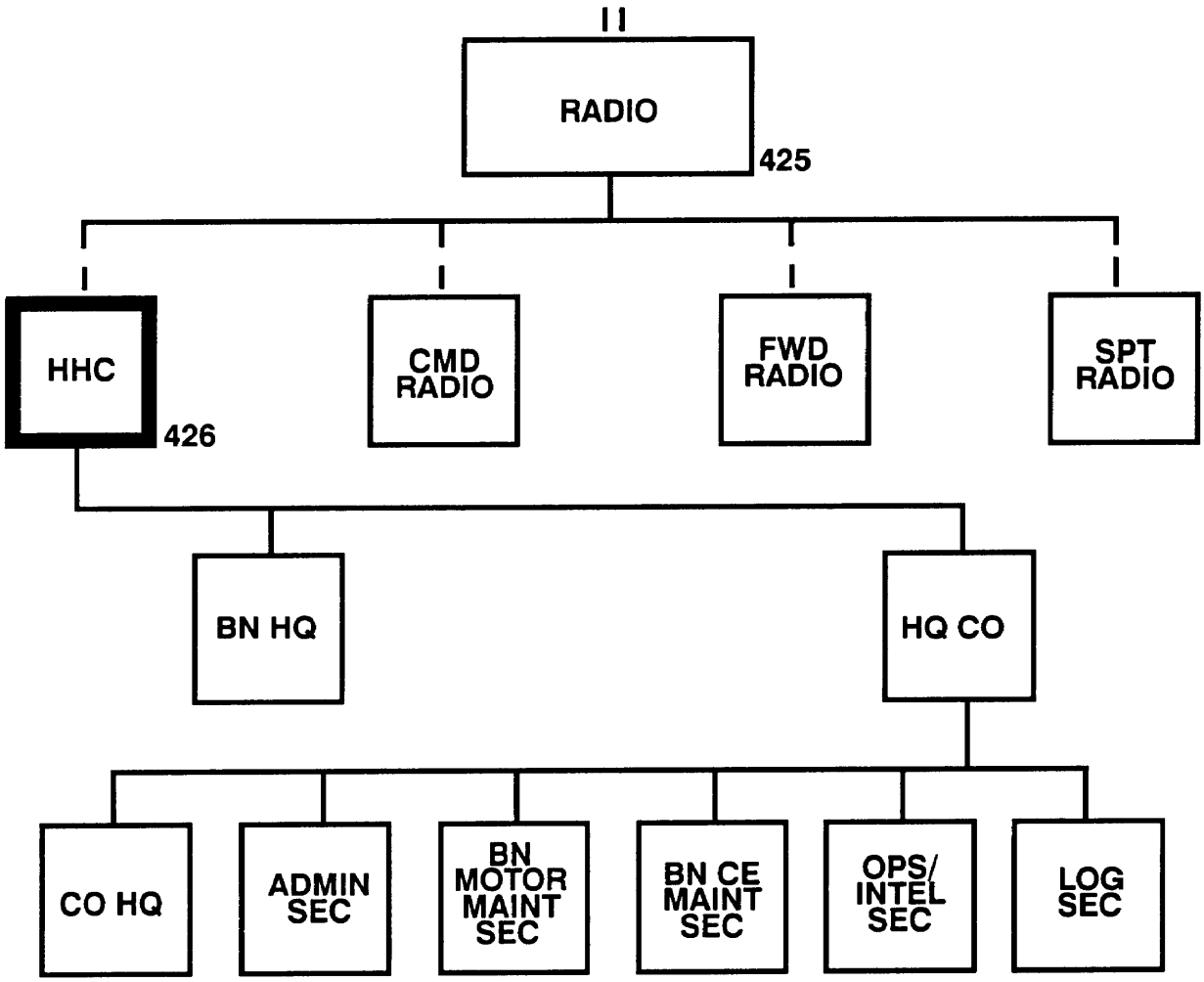

Figure B-8. HHC, corps radio battalion.

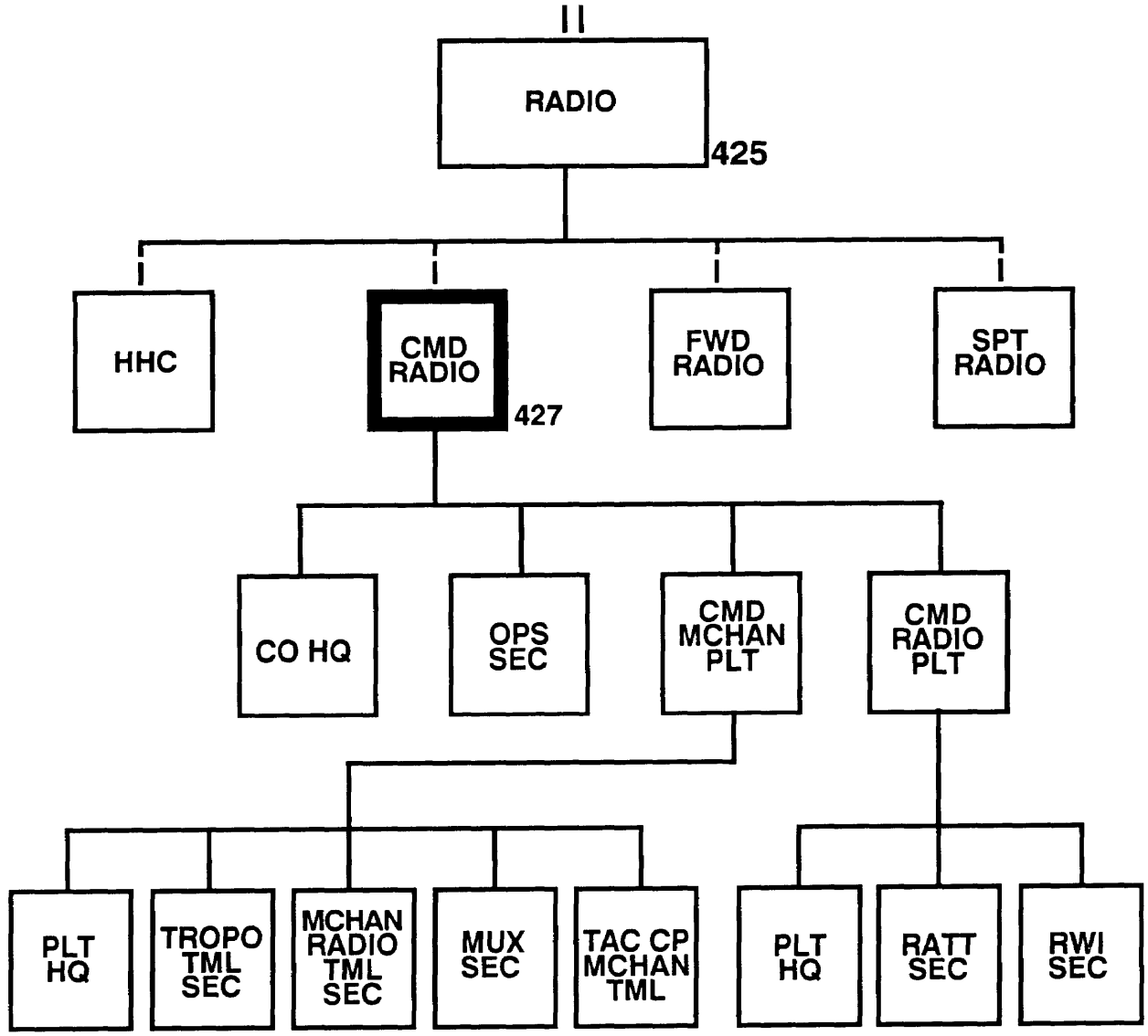

Figure B-9. Command radio company, corps radio battalion.

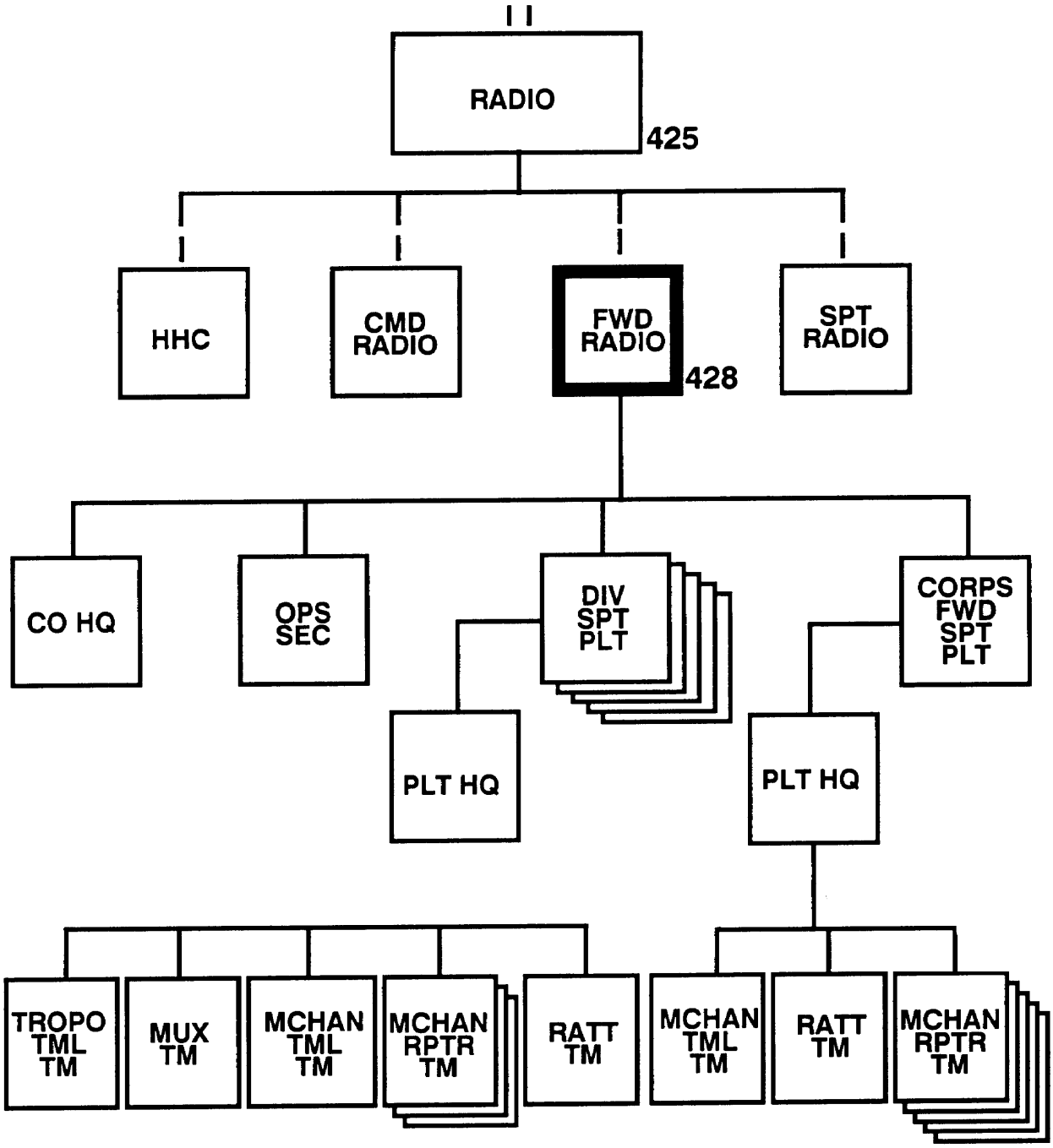

Figure B-10. Forward radio company, corps radio battalion.

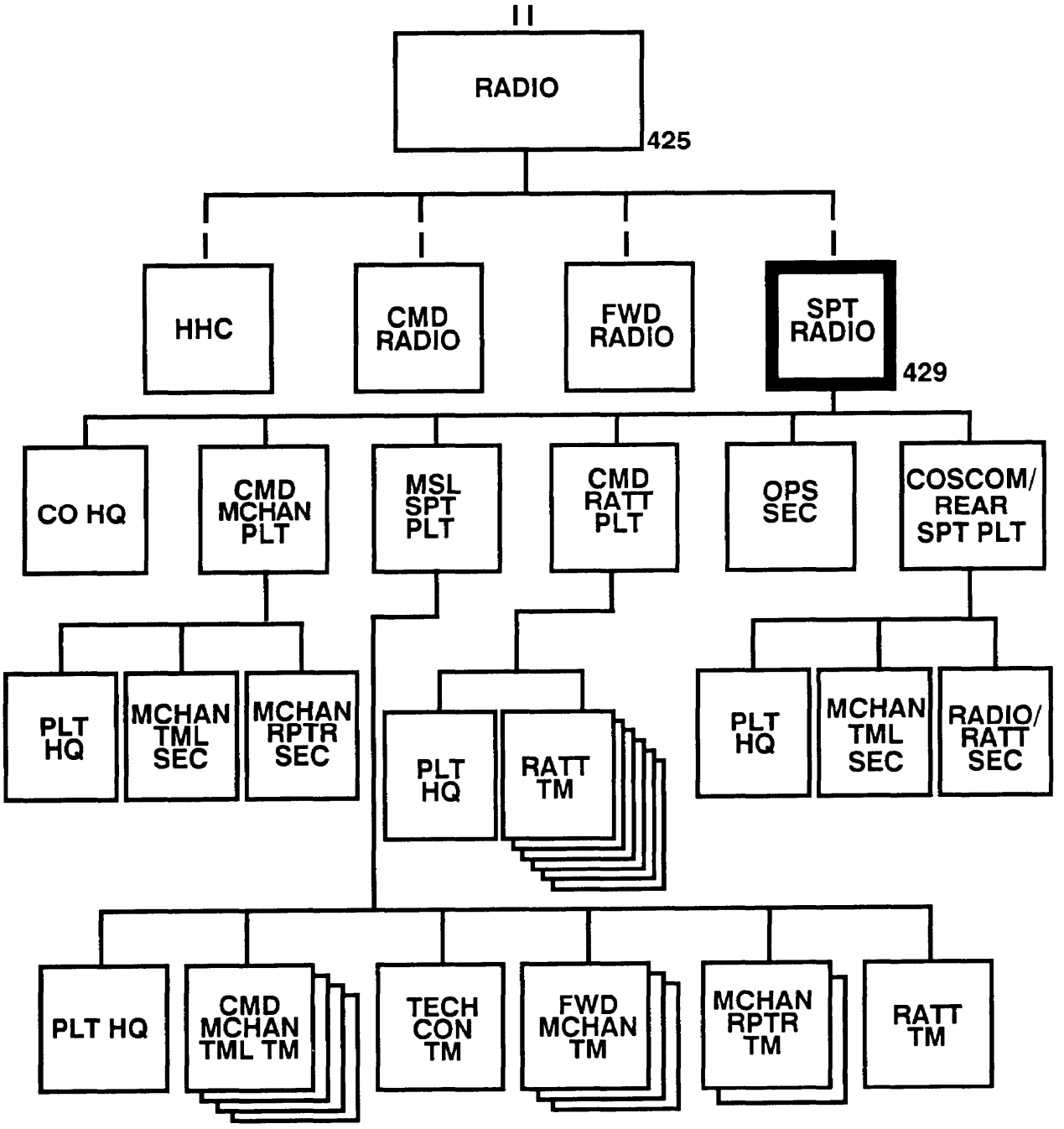

Figure B-11. Support radio company, corps radio battalion.

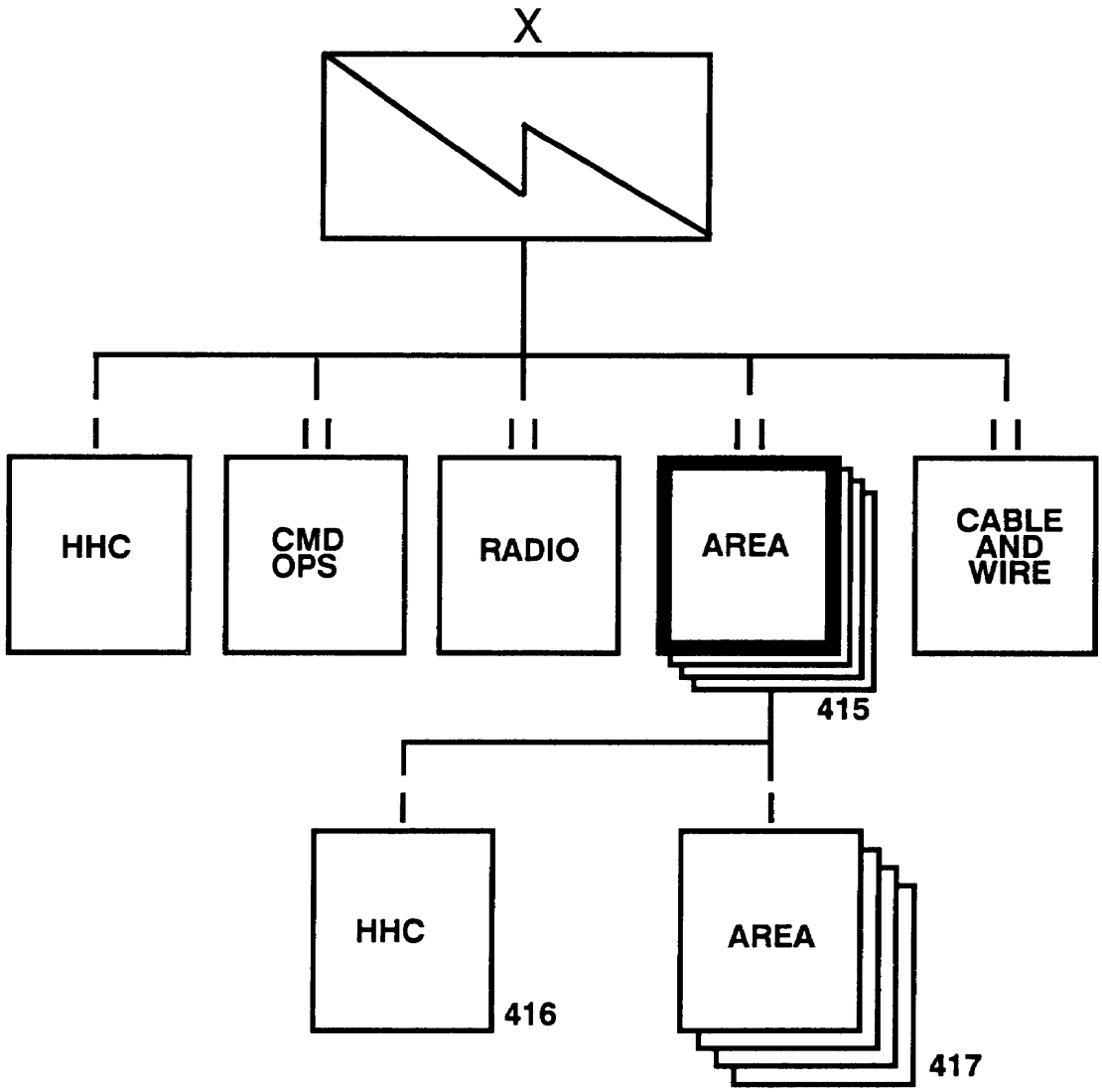

Figure B-12. Corps area signal battalion.

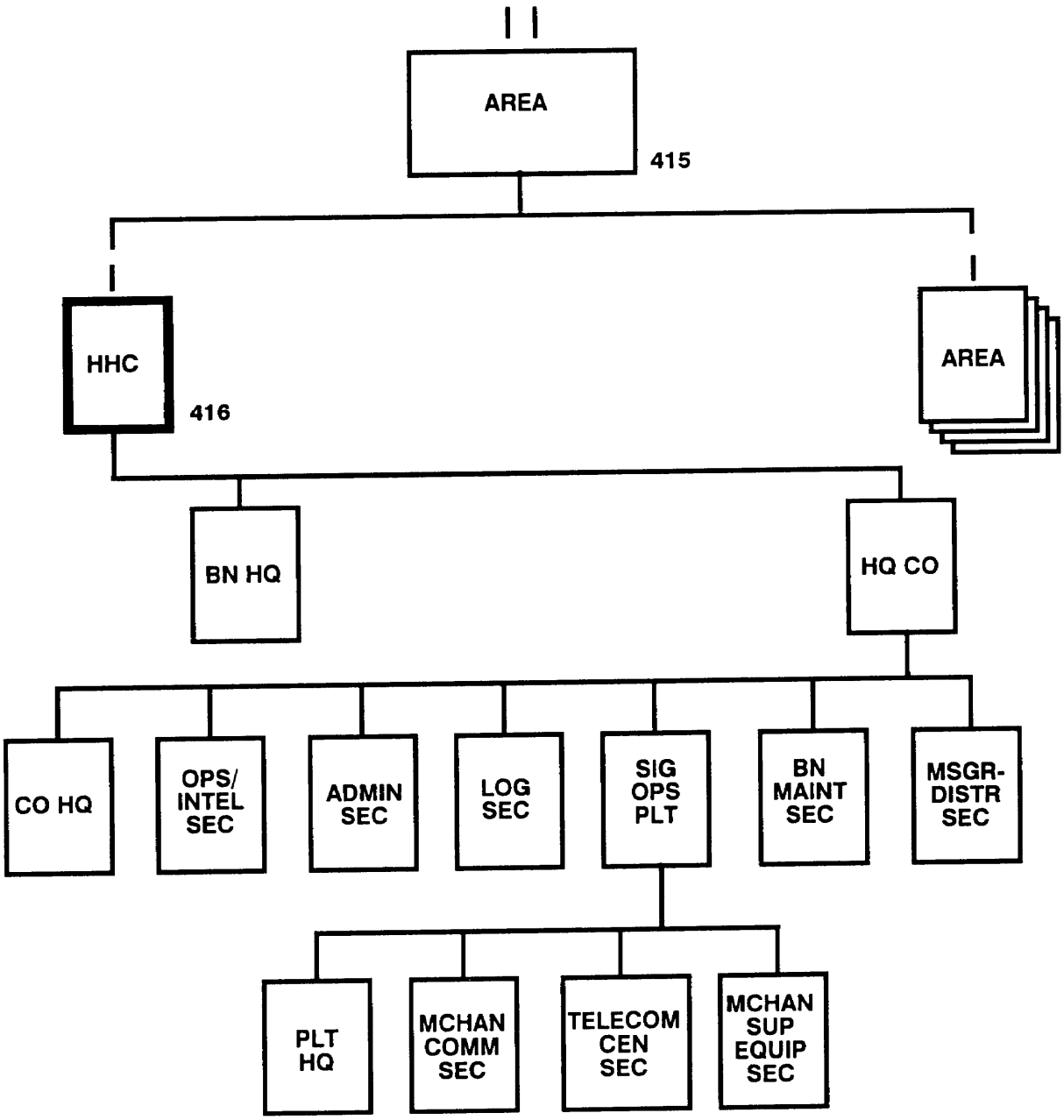

Figure B-13. HHC, corps area signal battalion.

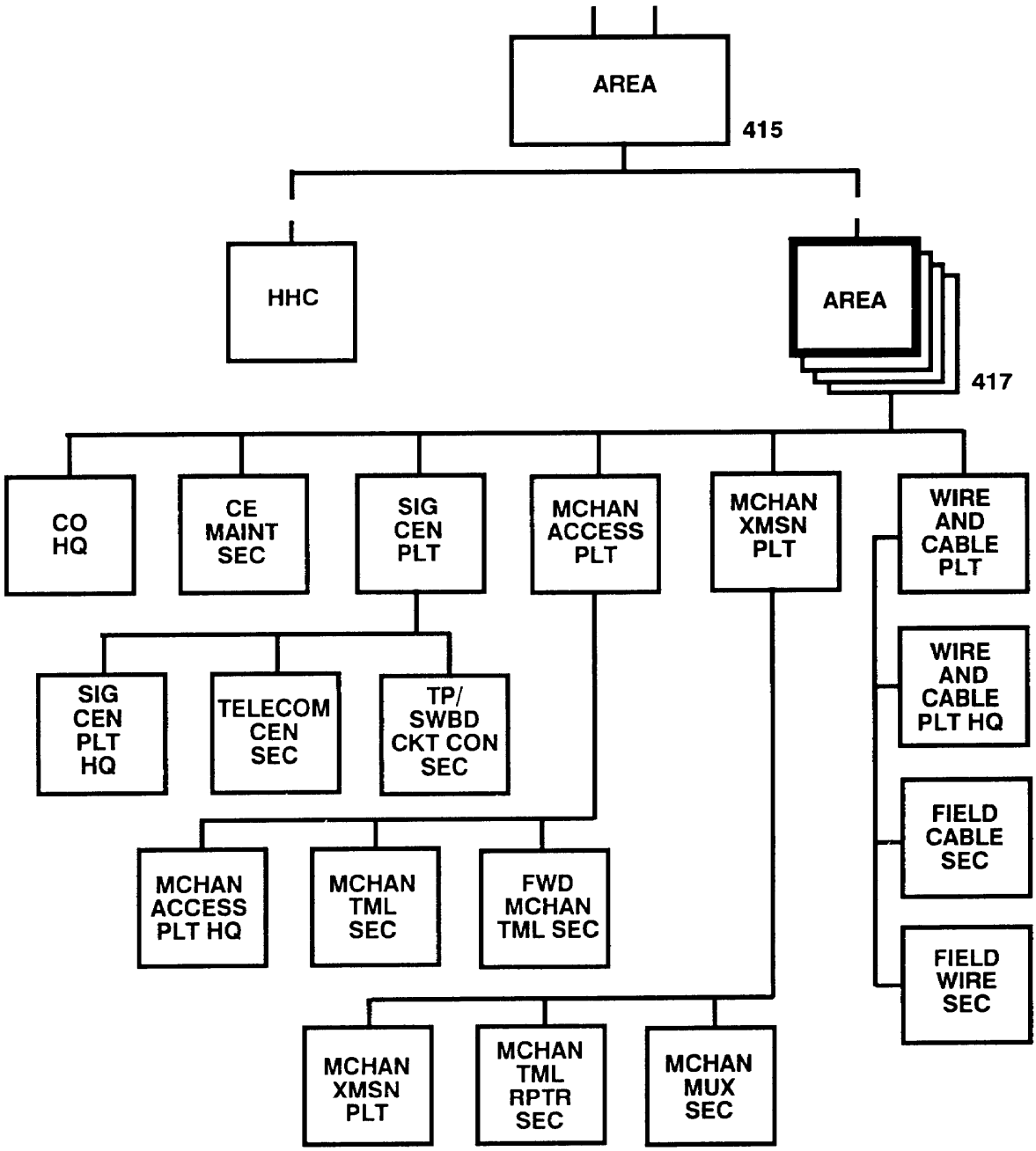

Figure B-14. Corps area signal company, corps area signal battalion.

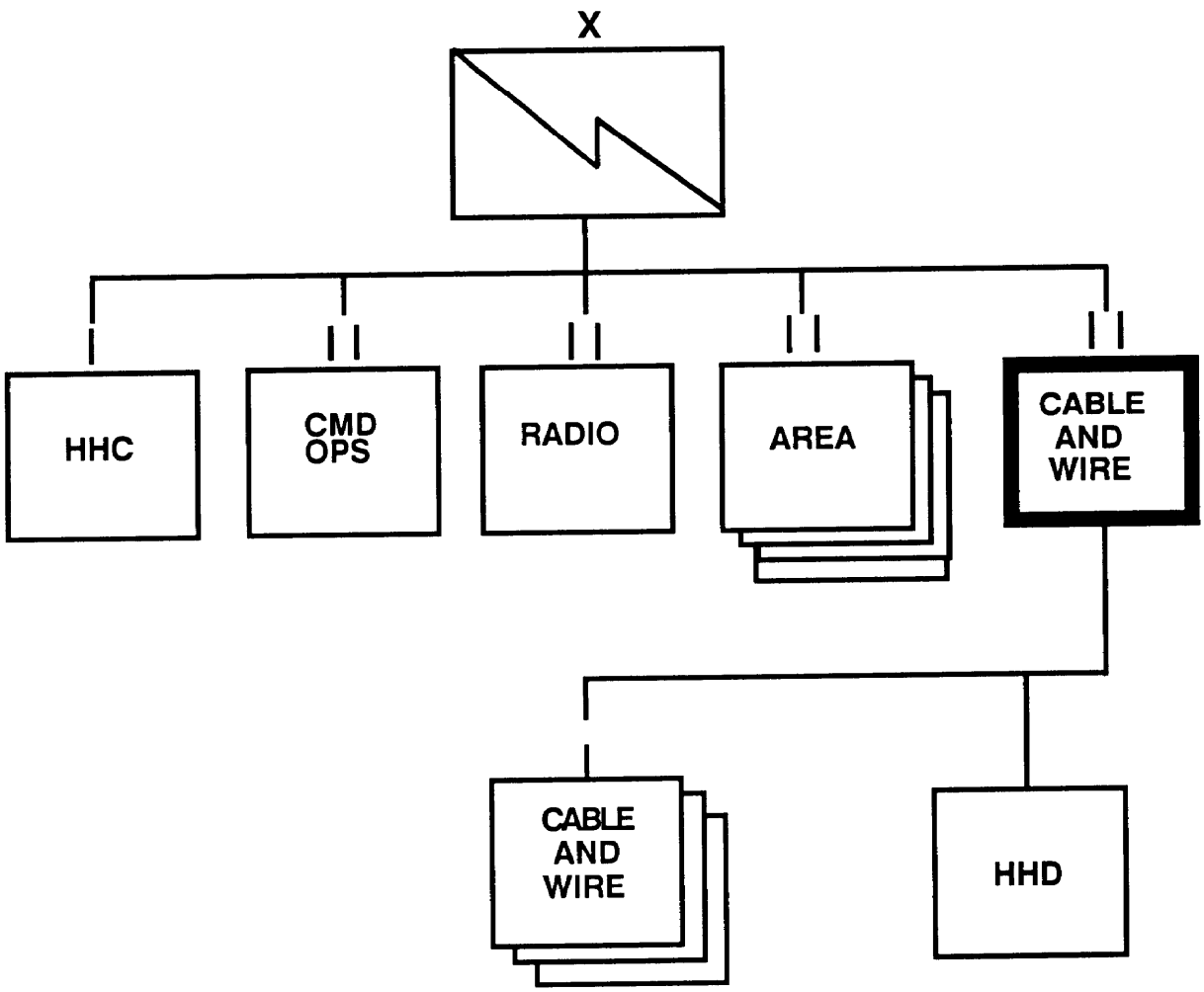

Figure B-15. Corps cable and wire battalion.

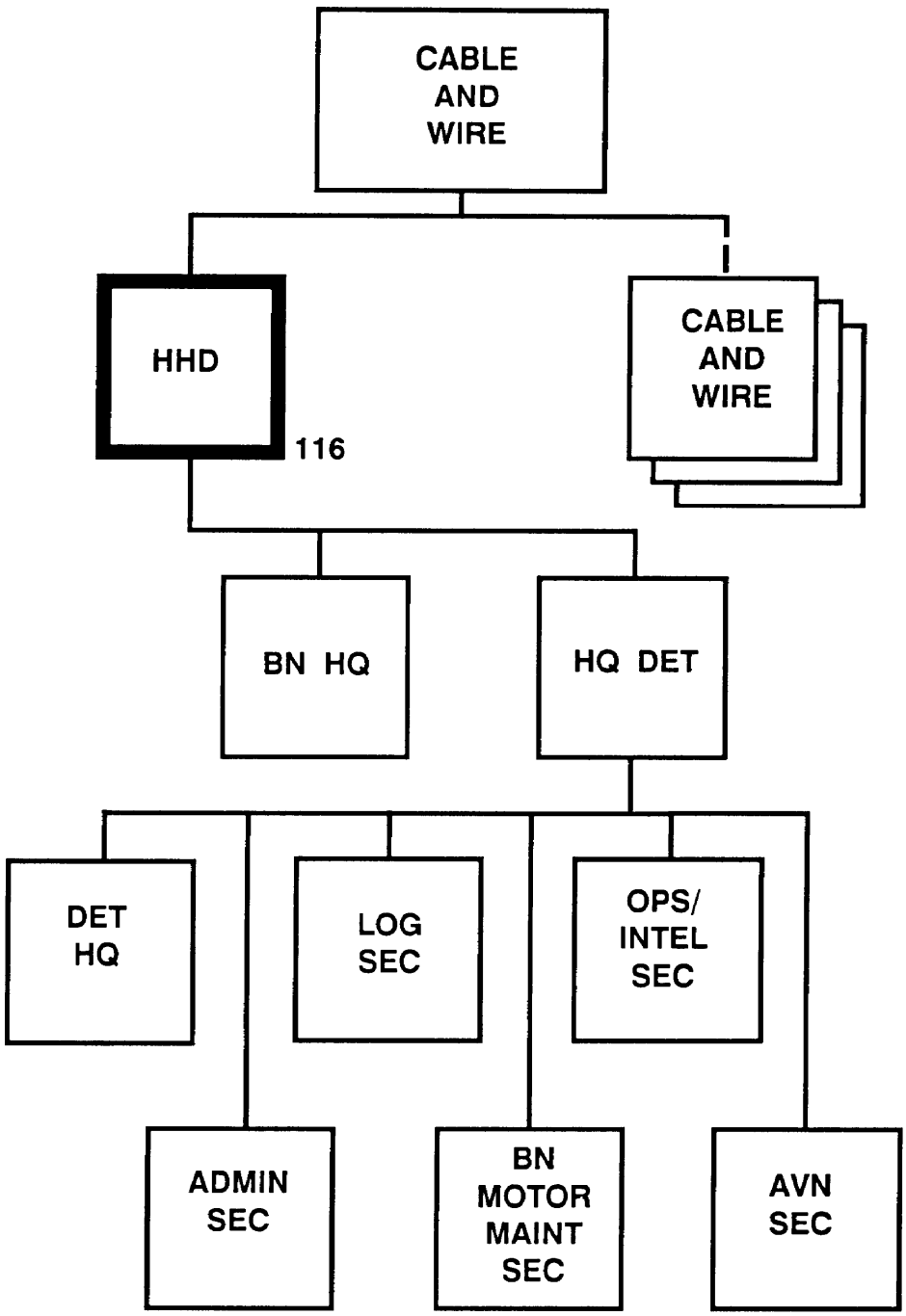

Figure B-16. HHD, corps cable and wire bafttalion.

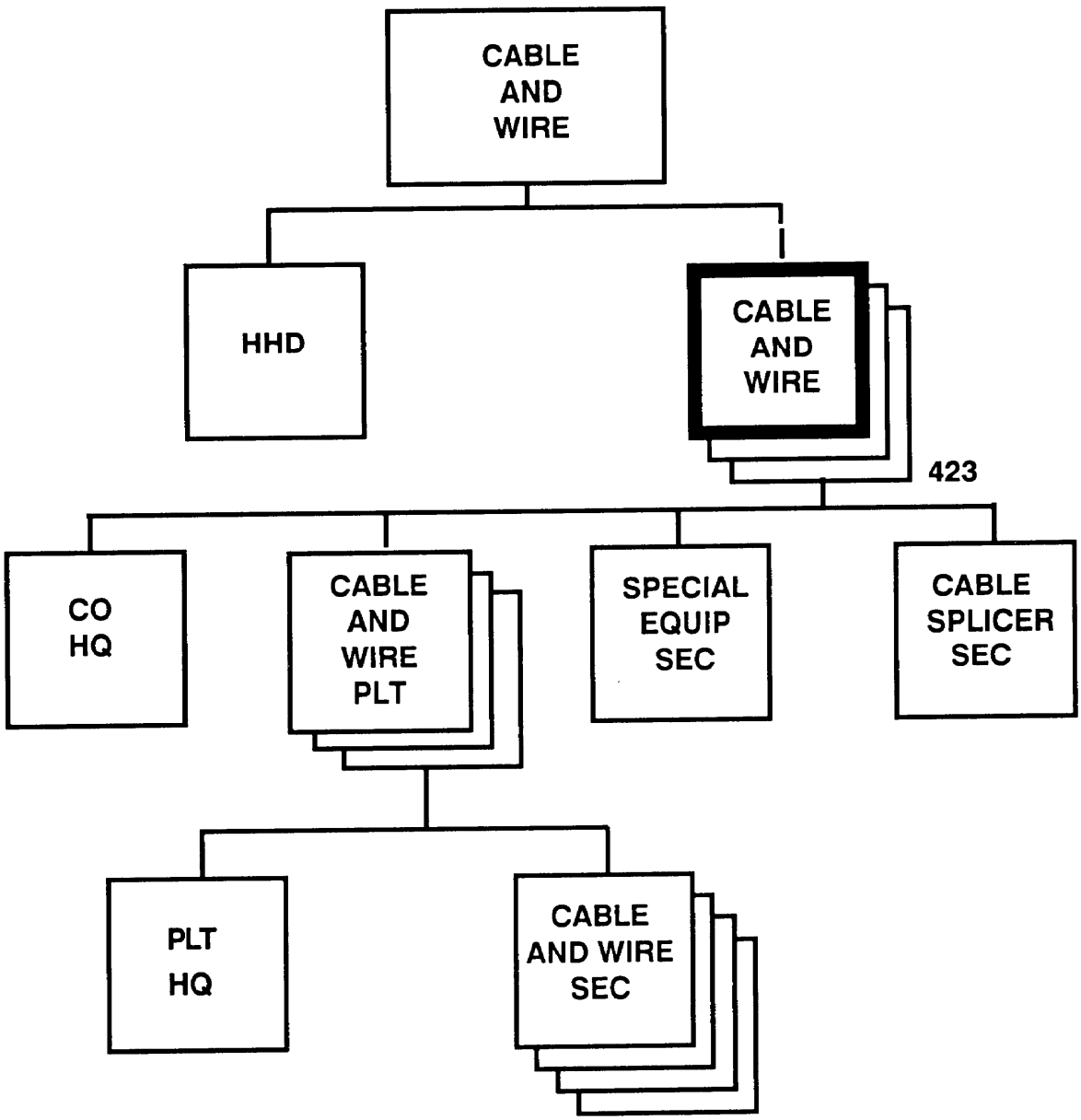

Figure B-17. Cable and wire company, corps cable and wire battalion.

Appendix C

SIGNAL BATTALION RESPONSIBILITIES (DIVISION)

The division signal battalion staff provides guidance for implementing plans to establish the division's communications network. It also implements and manages division COMSEC keys and IOM of division communications assets. The division signal battalion's staff sections are organized to plan and implement communications design, OPCON (in STAND-ALONE mode), and administrative and logistics direction. The staff uses the communications taskings from the corps communications plan to develop the communications network. When operating in the STAND-ALONE mode, it develops its own communications plan. Active monitoring of the network's operational status ensures that it meets the corps' changing requirement and its own. This responsibility belongs to the operations/intelligence section. Key personnel and their responsibilities are shown below.

The assistant S3, CPT (25B)--

- Is responsible for the operation of the section.
- Plans and coordinates staff supervision of the master plans, requirements, and the battalion training programs.

The systems integration officer, LT (25C)--

- Manages force integration of information systems resources.
- Plans and coordinates with higher headquarter for information systems upgrade, replacement, elimination, and/or integration within units.
- Plans BAS and information systems integration.
- Provides staff supervision of analysis and software support and troubleshooting of automated systems.
- Manages and supervises ADP related areas.
- Designs and develops command information systems.
- Monitors unique "application program" development.
- Supervises maintenance of tactical databases.
- Plans newly assigned or attached unit databases integration.
- Provides automated resources security training.

The tactical automated network technician, CW2 (250B)--

- Assists the systems integration officer.
- Plans, designs, and manages the switching networks (to include COMSEC key management), and the integration and interconnectivity of tactical and nontactical information networks and communications systems.

The operations sergeant, MSG (31W)--

- Provides technical assistance, supervises, and assists in communications SYSCON.
- Supervises the work activities of other enlisted personnel assigned to the section.

The MSE network controller, SFC (31W), and the MSE supervisor, SFC (31W), are responsible for the 24-hour SCC operation.

The MSE SCC operators, SSG (31F) (2 each), provide 24-hour systems operation.

The NBC NCO, SFC (54B), collects, appraises, prepares, and distributes chemical operations and training material.

The intelligence NCO, SGT (96B)--

- Assists in all battalion intelligence requirements.
- Provides technical assistance in intelligence annexes preparation.

The radio team chief, SGT and the two single-channel radio operators, SPC and PFC (31C) respectively, install, operate, and maintain the operations radio net and associated equipment.

The clerk typists, SPC (71L) (2 each), prepare, distribute, and file the paperwork required to prepare extensive plans and training requirements.

The MSE transmission systems operator, PFC (31D), is responsible for operating and maintaining the assistant S3's vehicle.

The division signal office includes personnel and equipment to support the ADSO. This office is part of the division special staff. It--

- Provides detailed planning and coordination for preparing and maintaining the signal portion of division SOP plans and directives.
- Assists and coordinates with other division headquarters staff elements.
- Prepares and distributes the division SSI and SOI.
- Assists in planning automated systems and the division telephone directory.
- Controls the RF allocation.
- Provides division RF management.
- Functions as part of the communications system planning element (CSPE).
- Provides automation management.

Key personnel and their responsibilities are shown below.

The automation management officer, MAJ (25E)--

- Plans, organizes, and coordinates all tactical automation to support the division commander's C2 systems.
- Integrates cryptographic, automation, and data transmission means to support the C2 system.

The signal officer, CPT (25 C); the data processing technician, CW2 (251AO); the data processing NCO, MSG (74Z); and the programmer/analysts, SFC, SSG, and SPC (74F) (1 each), assist the ADSO with his automation management responsibilities.

The radio officer, CPT (25C), assists in radio communications and RF matters.

The automation management officer, CPT (25 B)--

- Manages information systems resource force integration.
- Plans and coordinates with higher headquarters for information systems upgrade, replacement, elimination, and/or integration within units.
- Plans BAS and other information systems integration.
- Provides staff supervision of analysis and programming support and troubleshooting of automated systems.

- Manages and supervises ADP related areas.
- Designs and develops command information systems.
- Supervises tactical database maintenance.
- Plans newly assigned or attached units' database integration.
- Provides automated resources security training.

The telecommunications officer, CPT (25B), provides expertise in data systems, operating systems software, teleprocessing systems, and associated networks.

The data processing technician, CW2 (251A)--

- Manages personnel, facilities, and equipment assets in ADP sections.
- Conducts data systems analysis.
- Designs or redesigns data systems.
- Develops computer programs.
- Supervises/coordinates personnel activities.
- Consults with staff officers and commanders to define priorities of tentative and continuing projects.
- Allocates machine operating time to complete the mission.

The tactical automated network technician, CW2 (250B)--

- Assists the telecommunications officer.
- Is responsible for planning division communications and cryptonetting.

The operations sergeant, MSG (31W)--

- Assists the ADSO in collecting, preparing, and distributing signal operations and training material and data.
- Assists in preparing signal orders and plans.
- Develops, changes, and updates the division SOI.
- Supervises the work activities of other enlisted personnel assigned to the office.
- Establishes ADSO field operation.
- Assumes signal office operational responsibility in the absence of the officers.

The data processing NCO, MSG (74Z)--

- Assists the data processing technician.
- Supervises the programmer/analysts assigned to the office.

The frequency management NCO, SFC (31W), provides the expertise for RF management and allocation in the division.

The programmer/analysts, SFC and SSG (74F)--

- Supervise, prepare, analyze, edit, and test computer programs.
- Conduct data system studies involving investigation, evaluation, and development of data processing systems.
- Prepare specifications and proposals documentation.
- Implement new or modified systems.

The programmer, SPC (74F), assists the programmer/systems analysts.

The telecommunications senior operator, SGT (72E), and tactical telecommunications center operators, SPC and PFC (72E), prepare and maintain the division SOI and telephone directory.

The clerk typists, SPC (71L) (3 each), provide office clerical support.

The division COMSEC office of record is responsible for the division COMSEC account. It also provides COMSEC logistics support for the control and distribution of internal division COMSEC material. Key personnel and their responsibilities are shown below.

The COMSEC technician, CW2 (250A)---

- Is responsible for operating the office.
- Serves as the COMSEC technical advisor to the division signal commander.
- Manages operational COMSEC matters for security, inspections, and COMSEC operations, plans, and policies.
- Implements COMSEC policies within the division.
- Performs command COMSEC facility inspections.
- Is responsible for COMSEC investigations and reports.
- Establishes priorities for issuing COMSEC material.

The COMSEC material management supervisor, COMSEC material manager, and COMSEC material management sergeant (SFC, SSG, and SGT respectively) account for and control cryptographic material and equipment.

In a stand-alone division, the key personnel and staffs are responsible for their aforementioned functions, and they must assume additional responsibilities normally conducted at corps level. The division signal officer assumes responsibility for advising the division commander, his staff, and division units on communications matters. These matters include using signal troops, communications facilities availability and augmentation, COMSEC, and how the division CP location affects communications. This information may be first passed through the chief of staff or general staff officers according to division SOP. Under the stand-alone division concept of operations, the division signal officer takes on more responsibility as every combat operation requires detailed signal planning and coordination. To ensure proper planning, coordinating, and supervising of signal matters, the division signal officer uses the following written instructions and orders:

- Signal estimate.
- Signal plans.
- Signal portion, paragraph 4, division OPORD.
- Paragraph 5, division OPORD.
- Signal annex to division OPORD.
- Signal portion of the division administrative order.
- Signal battalion OPORD.
- ECCM portion of EW annex to the division.
- SOI.
- SOP.

The first eight must be prepared for particular operations. The SOI and SOP must always be current.

Appendix D

ATACS DOCTRINAL EMPLOYMENT

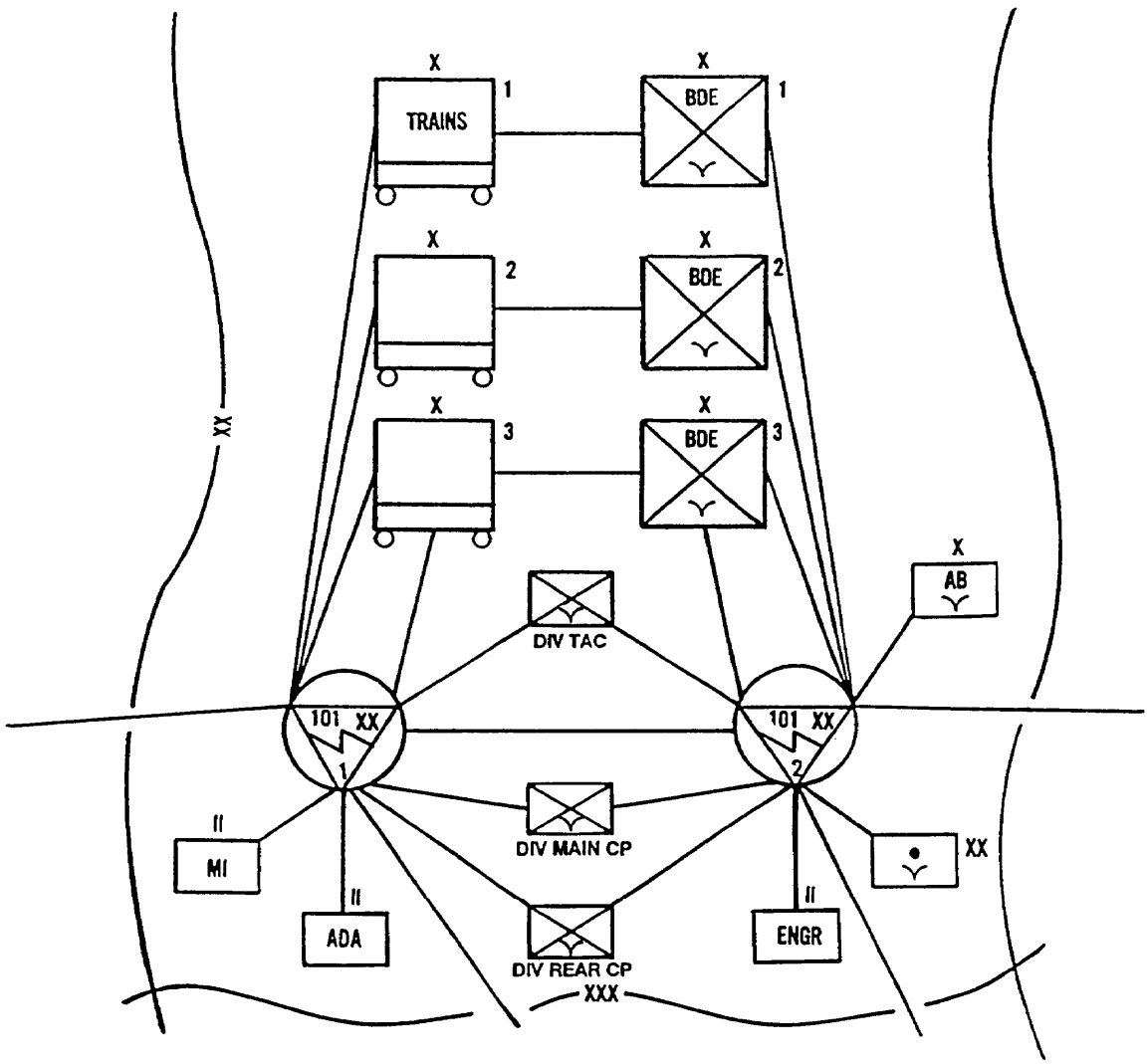

Figure D-1. Air assault division LOS multichannel terrestrial system.

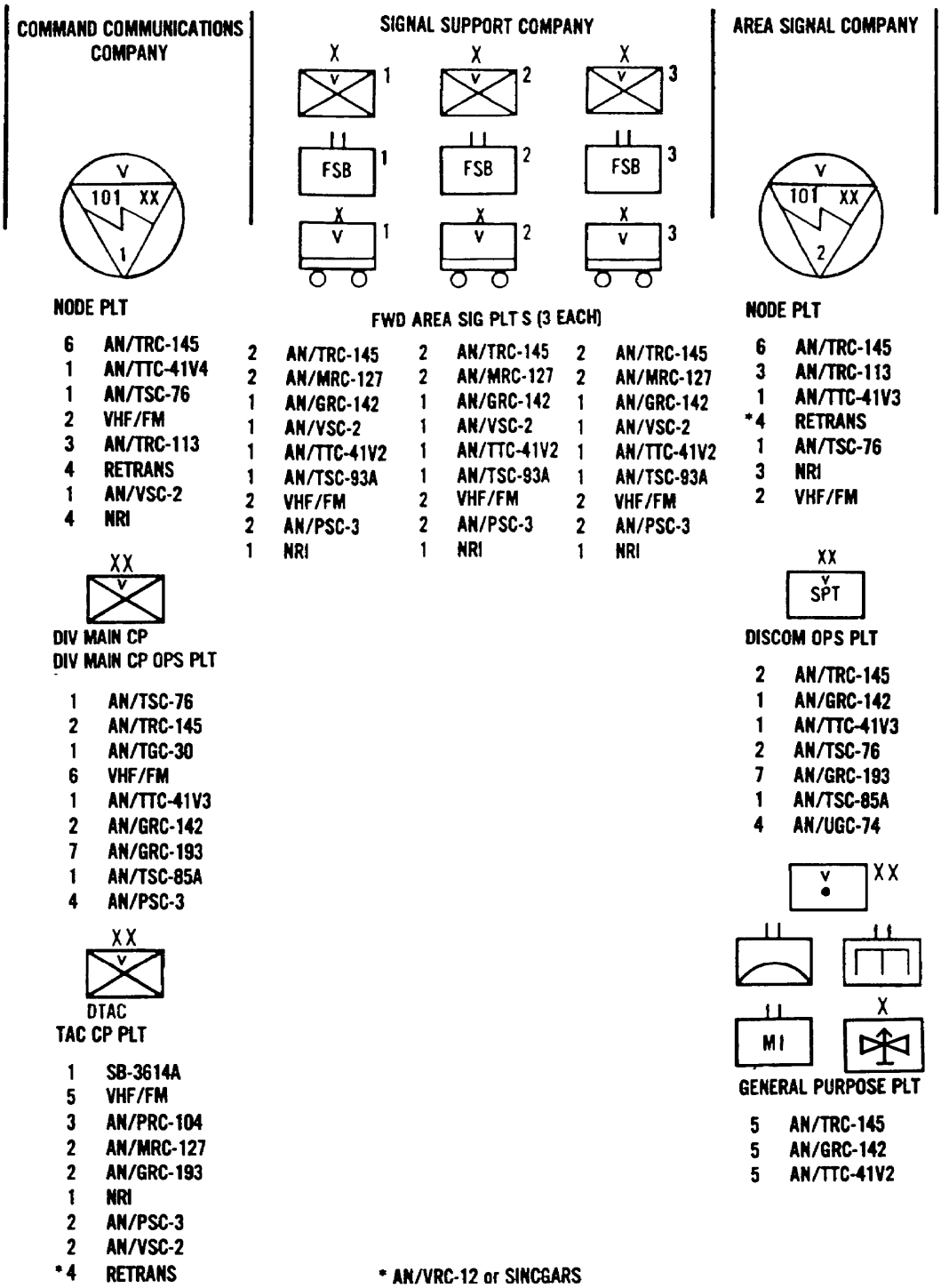

Figure D-2. Air assault division doctrinal equipment employment.

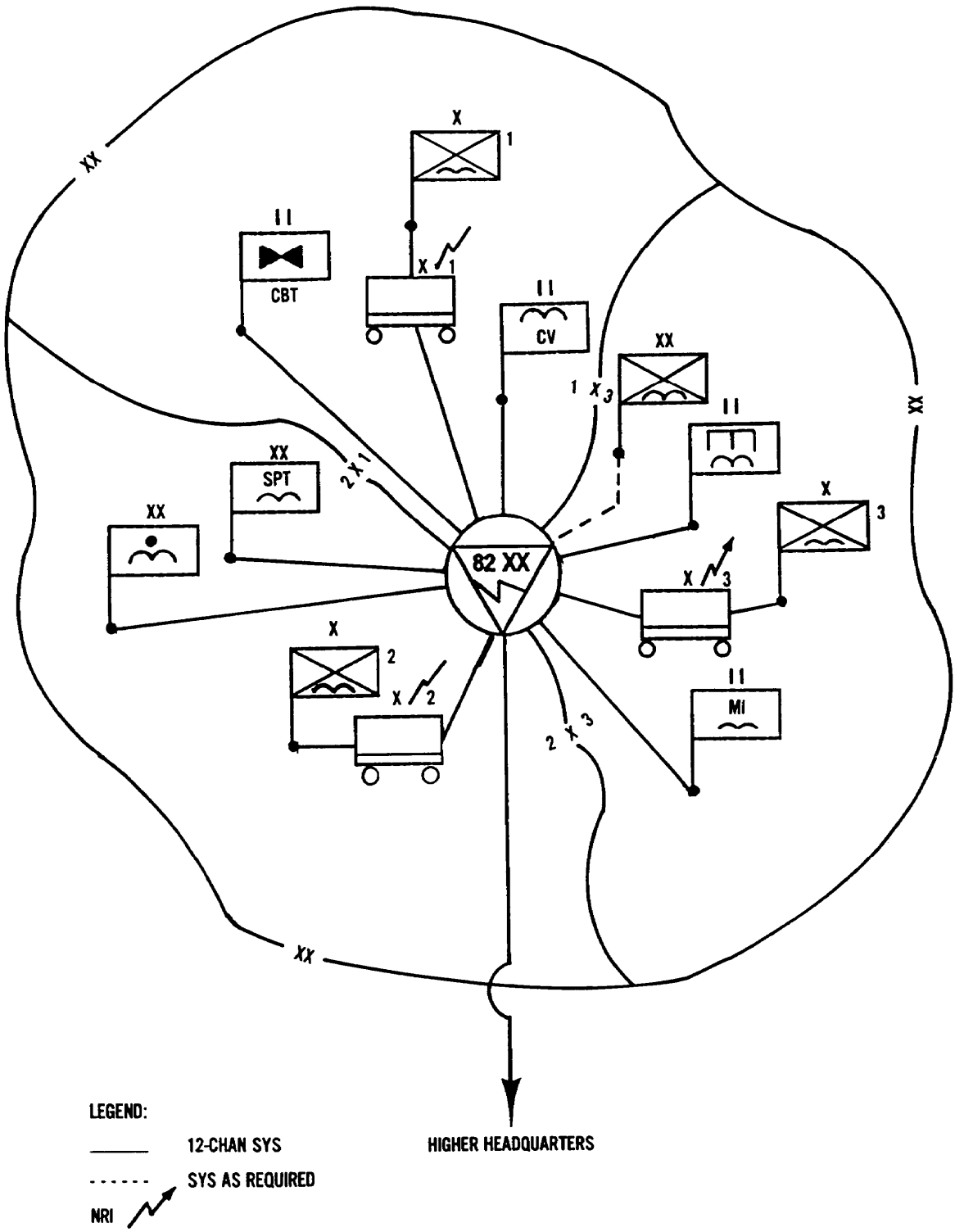

Figure D-3. Airborne division LOS multichannel terrestrial system.

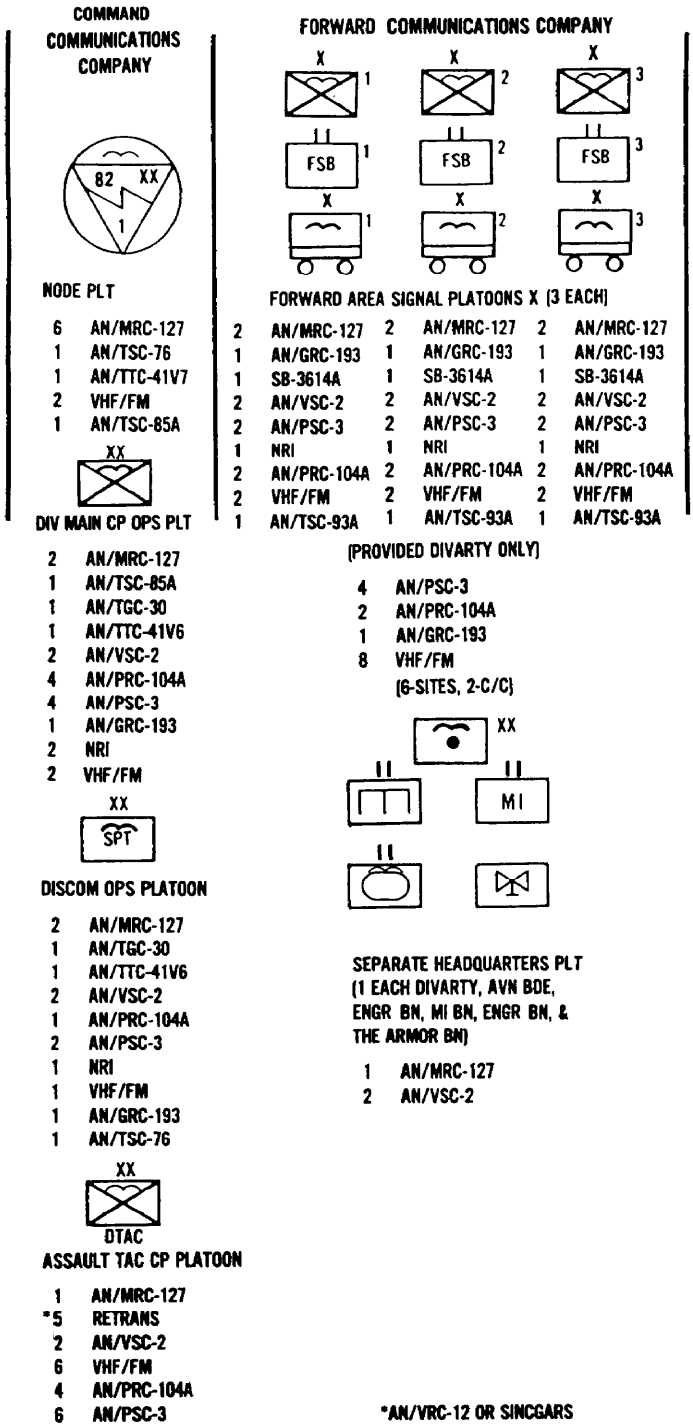

Figure D-4. Airborne division doctrinal equipment employment.

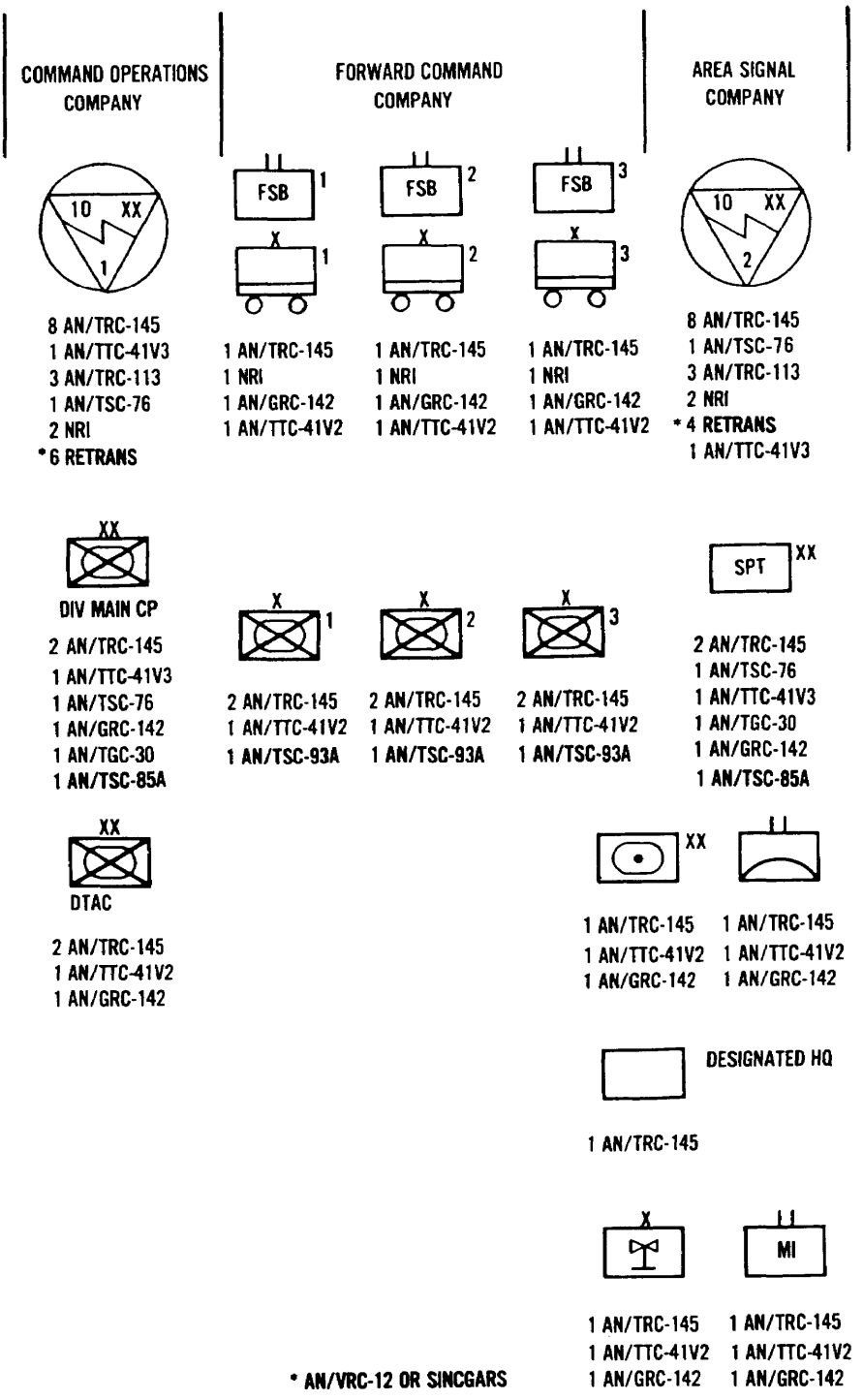

Figure D-5. LID doctrinal equipment employment.

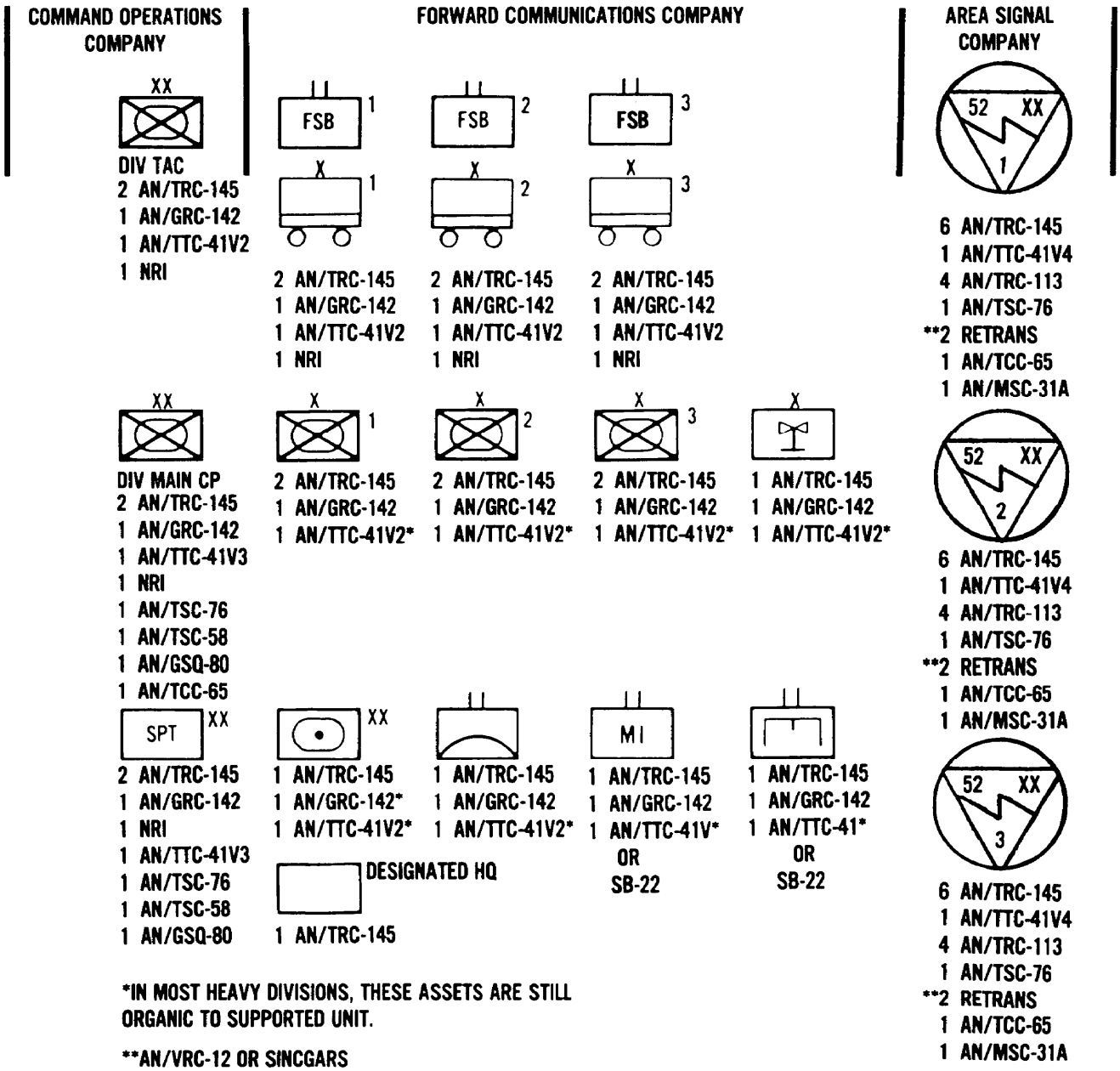

Figure D-6. Heavy division doctrinal equipment employment.

Appendix E

Signal Support Guidelines

This appendix expands the traditional roles for the Signal Corps. Table E-1 outlines the responsibilities at battalion, brigade, division, and corps among the user, functional manager, and the signal office/staff.

Table E-1. Signal support responsibilities at battalion/brigade/division and corps.

NOTE: **Sig** refers to Signal Corps responsibilities, **user** refers to user responsibilities, and **staff** refers to functional staff responsibilities.

CORRESPONDENCE			
RESPONSIBILITIES	**BN**	**BDE**	**DIV/CORPS**
Staff supervision of correspondence recommending local procedures and conventions governing authentication (who, what, when, how)	Sig	Sig	Sig
Preparing correspondence	User	User	User
Establishing distribution schemes	Sig	Sig	Sig
Authenticating correspondence (authentication is defined as approved for release)	User	User	User
Reading file			
• management	Staff	Staff	Staff
• input	User	User	User
• recommending local procedures governing reading files	Sig	Sig	Sig

NOTE: Once the correspondence has been authenticated, it becomes "distribution" and then a "file."

Table E-1. Signal support responsibilities at battalion/brigade/division and corps. (continued)

CLASSIFIED DOCUMENT CONTROL			
RESPONSIBILITIES	**BN**	**BDE**	**DIV/CORPS**
Staff supervision of classified document control recommending classified document policies, procedures, and inspections (see note)	Sig	Sig	Sig
Classification authority	User	User	User
Classified document distribution	Staff	Staff	Sig
Classified document storage	User	User	User
TOP SECRET repository	Staff	Staff	Sig
Classified document control as correspondence or file	User	User	User
Document destruction			
• SECRET	User	User	User
• TOP SECRET	Staff	Staff	Sig

NOTE: Classified document control must apply in phases and areas of the IMA (for example, correspondence, printing/reproduction, distribution/mail, and file management). Because signal is so involved in classified document control and because of this area's criticality, another proponency -the intelligence community- must set and enforce the standards.

PRINTING

There is no printing capability at corps and below. If the need arises, signal forwards the request through signal channels to the appropriate (signal) organization. All signal offices are responsible for verifying correct formatting of materiel and requests. Signal has no involvement in tropographic and psychological operations at corps.

RESPONSIBILITIES	**BN**	**BDE**	**DIV/CORPS**
POC for any request to be forwarded	Sig	Sig	Sig

Table E-1. Signal support responsibilities at battalion/brigade/division and corps. (continued)

REPRODUCTION			
RESPONSIBILITIES	**BN**	**BDE**	**DIV/CORPS**
Staff supervision of reproduction recommending policies, procedures, and conventions	Sig	Sig	Sig
Copier management			
• determining need for requirement	User	User	User
• validating requirement	Staff	Staff	Sig
• assisting/advising in satisfying the requirement	Staff	Staff	Sig
Copier operation and user maintenance	User	User	User
PUBLICATIONS			
RESPONSIBILITIES	**BN**	**BDE**	**DIV/CORPS**
Staff supervision of publications recommending policies, procedures, and conventions	Sig	Sig	Sig
Publications account management consolidating, ordering, and distributing subordinate unit requests through the pinpoint distribution system. This function occurs only at the echelon owning the pinpoint account.	Staff	*User	*User
Identify publications requirement	User	User	User
Publications library • not a mandatory requirement • when applicable, geared towards user's function (for example, S2 and maintenance).	User	User	User
*Separate user pinpoint accounts			

Table E-1. Signal support responsibilities at battalion/brigade/division and corps. (continued)

FORMS			
RESPONSIBILITIES	**BN**	**BDE**	**DIV/CORPS**
Staff supervision of forms management			
• recommending policies, procedures, and conventions	Sig	Sig	Sig
• compiling, ordering, and distributing forms. This function occurs only at the elements owning the pinpoint account.	Staff	Staff	Staff
Requests for new forms			
• recommending	User	User	User
• approving	Staff/Sig	Staff/Sig	Staff/Sig
Adhere to forms usage policy			
• includes use management	Staff/User	Staff/User	Staff/User
• requesting resupply	User	User	User
FILES MANAGEMENT			
RESPONSIBILITIES	**BN**	**BDE**	**DIV/CORPS**
Staff supervision of files management recommending policies, procedures, and conventions	Sig	Sig	Sig
Files transfer to records holding area	Staff	Staff	Staff
Approval of file listings	Sig	Sig	Sig
Files maintenance	Staff/User	Staff/User	Staff/User
DISTRIBUTION			
RESPONSIBILITIES	**BN**	**BDE**	**DIV/CORPS**
Staff supervision of distribution recommending policies, procedures, and conventions	Sig	Sig	Sig

Table E-1. Signal support responsibilities at battalion/brigade/division and corps. (continued)

RESPONSIBILITIES	BN	BDE	DIV/CORPS
Internal HQ distribution			
• distribution center operations	Staff	Staff	Sig
• pickup of distribution	User	User	User
External distribution service			
• recommending policies, procedures, and conventions	Sig	Sig	Sig
• providing resources for necessary messenger service. (Maximum use is made of existing delivery systems (for example, Class I and V.))	User	User	User
• coordinating resources for messenger service	Sig	Sig	Sig
Official mail			
• official mail, internal distribution	Staff	Staff	Sig
• censorship	User	User	User
NOTE: Mail may be categorized as official and personal; however, once official mail is reviewed by a unit, it becomes normal distribution. Personal mail remains mail, subject to postal regulation until delivered to the intended recipient. Official mail contains military information. Personal mail contains personal information or subject (sometimes to censorship).			
PRIVACY ACT			
RESPONSIBILITIES	**BN**	**BDE**	**DIV/CORPS**
Staff supervision of Privacy Act recommending policies, procedures, and conventions	Sig	Sig	Sig
POC for Privacy Act	Sig	Sig	Sig
Implementation of Privacy Act	User	User	User
FREEDOM OF INFORMATION ACT (FOIA)			
RESPONSIBILITIES	**BN**	**BDE**	**DIV/CORPS**
Staff supervision of FOIA recommending policies, procedures, and conventions	Sig	Sig	Sig

Table E-1. Signal support responsibilities at battalion/brigade/division and corps. (continued)

RESPONSIBILITIES	BN	BDE	DIV/CORPS
POC for FOIA	Sig	Sig	Sig
Implementation of FOIA	User	User	User
COMMUNICATIONS			
RESPONSIBILITIES	**BN**	**BDE**	**DIV/CORPS**
Determine specific communications requirements for joint and combined operations	Sig	Sig	Sig
Determine communications requirements for a heavy/light or integrated task force	Sig	Sig	Sig
Analyze/evaluate terrain using a map for signal site selection	Sig	Sig	Sig
Conduct signal site reconnaissance	Sig	Sig	Sig
Configure a signal node/site	Sig	Sig	Sig
Analyze communications systems and equipment outages	Sig	Sig	Sig
Prepare and update a signal estimate of the situation	Sig	Sig	Sig
Establish SOI	Sig	Sig	Sig
Implement SOI	User	User	User
Install, operate, and maintain CNR equipment	User	User	User
Identify unit communications requirements	User/Sig	User/Sig	User/Sig
Plan and coordinate communications operations, including preparing signal plans and orders	Sig	Sig	Sig
Coordinate with appropriate signal elements	User	User	User
Coordinate with appropriate units on signal support matters	Sig	Sig	Sig

Table E-1. Signal support responsibilities at battalion/brigade/division and corps. (continued)

RESPONSIBILITIES	BN	BDE	DIV/CORPS
Identify communications requirements for an EPLRS/JTIDS network	User/Sig	User/Sig	User/Sig
Install, operate, and maintain EPLRS/JTIDS user-owned and -operated equipment	User	User	User
Plan, design, and layout EPLRS/JTIDS network to include NCS-E/NCS-J (when fielded)	Sig	Sig	Sig
Identify and evaluate ECCM requirements and plans	Sig	Sig	Sig
Implement ECCM	User/Sig	User/Sig	User/Sig
Execute communications operations	User/Sig	User/Sig	User/Sig
Manage all frequencies	Sig/Staff	Sig/Staff	Sig/Staff
Manage COMSEC key distribution	User/Sig	User/Sig	User/Sig
Coordinate for signal support not available through organic assets	User/Sig	User/Sig	User/Sig
Plan the use of visual and audible signals	User/Sig	User/Sig	User/Sig
Protect communications equipment from EMP	User/Sig	User/Sig	User/Sig
Establish policies and procedures for signal and communications security	Sig	Sig	Sig
Follow policies and procedures for signal and communications security	User/Sig	User/Sig	User/Sig
MSE			
• plan, design, install, operate, and maintain an MSE communications network to include supporting transmission systems	N/A	N/A	Sig
• install, operate, and maintain user-owned terminal instruments (for example, telephones and facsimile machines)	User	User	User
• manage and control the MSE network	N/A	N/A	Sig
• maintain/update the MSE system database	Sig	Sig	Sig

Table E-1. Signal support responsibilities at battalion/brigade/division and corps. (continued)

RESPONSIBILITIES	BN	BDE	DIV/CORPS
Improved Army Tactical Command and Control System (IATACCS)			
• plan, design, install, and operate an IATACCS, TRI-TAC based communications network to include supporting transmission systems	N/A	N/A	Sig
• manage/control the IATACCS network	N/A	N/A	Sig
• prepare and maintain a field operation telephone directory	Sig	Sig	Sig
• install, operate, and maintain terminal instruments not user-owned and -operated	Sig	Sig	Sig
Calibration program			
• manage calibration program	User	User	User
• calibrate electronic equipment	ORD	ORD	ORD
Maintenance			
• perform operator PMCS on communications equipment	User	User	User
• perform organizational maintenance on signal unit communications equipment	Sig	Sig	Sig
• perform organizational maintenance on communications equipment from other than signal units	ORD	ORD	ORD
• evacuate communications equipment to next higher maintenance level	User/Sig	User/Sig	ORD
• perform DS and higher maintenance on communications equipment	ORD	ORD	ORD
NOTE: MSE unique communications equipment is evacuated by ordinance to the nearest regional support center.			
• maintain repair parts stockage for communications equipment	User	User/ORD	ORD
• plan, install, and operate all noncommunications electrical systems (for example, lighting, power security, intelligence, and entertainment systems)	User	User	User
• perform organizational maintenance for all noncommunications electrical systems	Sig	Sig	Sig

Table E-1. Signal support responsibilities at battalion/brigade/division and corps. (continued)

AUTOMATION			
RESPONSIBILITIES	**BN**	**BDE**	**DIV/CORPS**
Planning and Advising AIS			
• establish standards for the design and implementation of locally developed AIS	Sig	Sig	Sig
• develop information requirements/needs	Staff/User	Staff/User	Staff/User
• establish priorities for information	Staff/User	Staff/User	Staff/User
• allocate automation devices	Staff	Staff	Staff
• develop continuity of operations plan (COOP)	Sig	Sig	Sig
• plan WAN	Sig	Sig	Sig
• design database	Staff/User	Staff/User	Staff/User
• determine initialization information for devices and databases	User	User	User
• advise user regarding AIS	Sig	Sig	Sig
Installing AIS			
• install equipment for operation	User	User	User
• install local area network (LAN)	User	User	User
• coordinate interface requirements with communications network	User	User	User
• define standards for interface network	Sig	Sig	Sig
• load system and functional software	User	User	User
Operating AIS			
• operate functional AIS	User	User	User
• perform basic word processing and spreadshee functions	User	User	User
• update and manipulate databases	User	User	User
• backup and restore databases	Staff/User	Staff/User	Staff/User
• employ automation security procedures	Staff/User	Staff/User	Staff/User
• supervise AIS network operations	Staff/User	Staff/User	Staff/User
• develop and produce unique reports for commander/staff	User	User	User
• control software versions	Sig/Staff	Sig/Staff	Sig/Staff
Maintaining AIS			
• perform operator maintenance	User	User	User
• perform unit level maintenance/evacuation	Sig	Sig	User
• troubleshoot and isolate faults to hardware or software	User	User	User

Table E-1. Signal support responsibilities at battalion/brigade/division and corps. (continued)

RESPONSIBILITIES	BN	BDE	DIV/CORPS
Training of AIS			
conduct operator/crew training	*User	*User	*User
*Signal assists			

Glossary

ACRONYMS AND ABBREVIATIONS

AB	aviation brigade
ABMOC	Air Battle Management Operations Center
ACCS	Army Command and Control System
ACSO	assistant corps signal officer
ACUS	Area Common-User System
AD	air defense
ADA	air defense artillery
ADDS	Army Data Distribution System
ADP	automatic data processing
ADSO	assistant division signal officer
AFATDS	Advanced Field Artillery Tactical Data System
AFSAT	Air Force satellite
AIS	Automated Information System
APO	Army post office
ASAS	All Source Analysis System
ATACS	Army Tactical Communications System
ATCCS	Army Tactical Command and Control System
ATSO	assistant theater signal office/officer
AV	audiovisual
avn	aviation
BAS	Battlefield Automated Systems
BECS	Battlefield Electronic CEOI System
BFA	battlefield functional areas
BSO	brigade/battalion signal officer
C2	command and control
CE	Communications-Electronics
CNR	combat net radio
COMCAM	combat camera
comm	communications
COMSEC	communications security
coop	continuity of operations
COSCOM	corps support command
CP	command post
CS	combat support
CSO	corps signal officer
CSPE	communications system planning element
CSS	combat service support
CSSCS	Combat Service Support Control System
CT	communications terminal
CTASC-I	Corps Theater ADP Service Center
CTOC	corps tactical operations center
CV	Chaparral/Vulcan
DAS3	Decentralized Automated Service Support System
DISCOM	division support command
DIVARTY	division artillery
DJRU	dedicated JTIDS relay unit
DMD	digital message device
DNVT	digital nonsecure voice terminal
doc	documentation
DOIM	Director of Information Management
DS	direct support
DSO	division signal officer
DSV	digital still video
DSVT	digital subscriber voice terminal
EAC	echelons above corps
ECB	echelons corps and below
ECCM	electronic counter-countermeasures
ECM	electronic countermeasures
ECS	engagement control station
EGRU	EPLRS grid reference units
EMP	electromagnetic pulse
EN	electronic notebook
EPLRS	Enhanced Position Location Reporting System
EPUU	EPLRS user units
EW	electronic warfare
FA	field artillery
FAAD	forward area air defense
FAADC2I	Forward Area Air Defense Command, Control, and Intelligence
FAC	forward air controller
FDC	fire direction center
FH	frequency hopping
FIST	fire support team

FLOT	forward line of own troops
FLTSAT	fleet satellite
FM	frequency modulated/field manual (when used with a number)
FOIA	Freedom of Information Act
FS	fire support
FSB	forward support battalion
FSCOORD	fire support coordinator
FSK	frequency shift keying
GRU	grid reference unit
HF	high frequency
HIMAD	high-to-medium altitude air defense
IATACCS	Improved Army Tactical Command and Control System
ICBM	intercontinental ballistic missile
ICC	Information Control System
IEW	intelligence and electronic warfare
IHFR	improved high frequency radio
IMA	Information Mission Area
IOM	installation, operation, and maintenance
ISSO	Information Services Support Office
JCCC	Joint Combat Camera Center
JCCT	joint combat camera team
JCS	Joint Chiefs of Staff
JTIDS	Joint Tactical Information Distribution System
kb/s	kilobits per second
kW	kilowatt
LAN	local area network
LDF	lightweight digital facsimile
LEN	large extension node
LENS	large extension node switch
LID	light infantry division
log	logistics
LOS	line of sight
mchan	multichannel
MCS	Maneuver Control System
METT-T	mission, enemy, terrain, troops, and time available
MI	military intelligence
MIJI	meaconing, intrusion, jamming, and interference
MMC	Materiel Management Center
MOA	Memorandum of Agreements
MOS	military occupational specialties
MSE	mobile subscriber equipment
msg	message
msgr	messenger
msl	missile
MSRT	mobile subscriber radiotelephone terminal
MTCC	modular tactical communications center
mux	multiplex
mvr	maneuver
N/A	not applicable
NAI	NATO analog interface
NATO	North Atlantic Treaty Organization
NBC	nuclear, biological, chemical
NC	node center
NCS	net control station
NCS-E	net control station-EPLRS
NCS-J	net control station-JTIDS
NDI	nondevelopmental items
NMCC	National Military Command Center
NRI	net radio interface
NS	node switch
OPCON	operational control
OPDOC	operations documentation
OPFAC	operational facility
OPLAN	operation plan
OPORD	operation order
OPSEC	operations security
ops/intel	operations/intelligence
OTAR	over-the-air-rekeying
PA	public affairs
PCP	platoon command post
PERSCOM	personnel command
POL	petroleum, oils, and lubricants
PSYOP	psychological operations
RATT	radio teletypewriter
RAU	radio access unit
retrans	retransmission
RF	radio frequency
RMC	remote multiplexer combiner
rptr	repeater
RR/EO	race relations/equal opportunity
RWI	radio wire integration
SAFK	stand-alone field kit
SCC	system control center
SEN	small extension node

SENS	small extension node switch
SHF	super high frequency
SHORAD	short-range air defense
SINCGARS	Single-Channel Ground and Airborne Radio System
SLR	single lens reflex
SOI	signal operation instructions
SOP	standing operating procedure
SSI	signal standing instructions
STAMIS	Standard Army Management Information System
SYSCON	system control
TA	theater Army
TACCS	Tactical Army Combat Service Support (CSS) Computer System
TACFIRE	Tactical Fire Direction System
TACOM	tactical Army COM
TACSAT	tactical satellite
TCC	telecommunications center
TCO	telephone control officer
tech	technical
telecom	telecommunications
TOC	tactical operations center
TP	telephone
TRI-TAC	Tri-Service Tactical Communications
tropo	tropospheric
TRTS	Tactical Record Traffic System
TSC(A)	Theater Signal Command (Army)
TSO	theater signal officer
tt	teletypewriter
UHF	ultra high frequency
USCINCEUR	United States Commander in Chief, Europe
VFMED	variable format message entry devices
VHF	very high frequency
VHF-FM	very high frequency-frequency modulated
VI	visual information
VIRIN	visual information record identification number
WAN	wide-area network
WP	Warsaw Pact
xmsn	transmission

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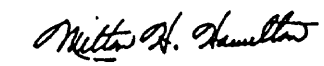

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