Headquarters,
Department of the Army

FIELD MANUAL
11-45

Signal Support to Theater Operations

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***FM 11-45**

Field Manual
No 11-45

Headquarters
Department of the Army
Washington, DC 30 June 1999

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Contents

Page

Preface iii

Chapter 1 **SIGNAL SUPPORT TO THE OPERATIONAL COMMANDER** 1-1
Section I – Supporting Army Operations 1-1
Threat 1-2
Range of Military Operations 1-3
Force Projection 1-4
Section II – Supporting Army Operations in Theater 1-11
Principles of Supporting Campaigns and Major Operations 1-12
Planning Considerations 1-13

Chapter 2 **THEATER COMPOSITION** 2-1
Unified Commands 2-1
Commander in Chief Staff 2-3
Defense Information System Agency 2-4
Component Commands 2-5
Major Subordinate Commands (MSCs) of the ASCC 2-6

Chapter 3 **ORGANIZATION AND MISSION OF THE USASC** 3-1
USASC, Table of Organizations and Equipment (TOE) 11800A000 3-1
USASC Signal Battalion (Composite) General Support (GS) 3-3
US Army Network Engineering Telecommunications Activity (USANETA) 3-7

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*This publication supersedes FM 11-23, 28 November 1972; FM 11-25, 15 October 85; FM 11-26, 30 December 1985; FM 11-27, 15 October 1985; and FM 11-29, 1 August 1986.

Page

Chapter 4 **ORGANIZATION AND MISSION OF THE TSC AND THE HHC THEATER SIGNAL BRIGADE** 4-1
Theater Signal Command, TOE 11602L000 4-1
Signal Visual Information Company (TA), TOE 11613L0 4-6
HHC Theater Signal Brigade, TOE 11612L000 4-7
Major Support Company (Separate), TOE 11689A200 4-36
Theater Tactical Signal Company (Separate) (TTSC [SEP]) 4-38

Chapter 5 **STRATEGIC SIGNAL ORGANIZATIONS** 5-1
HHC Strategic Signal Brigade, TOE 11622A000 5-1
HHD Strategic Signal Battalion, TOE 11656A 5-1
Strategic Signal Detachment 5-2

Chapter 6 **THEATER COMMUNICATIONS NETWORK** 6-1
Section I – Theater Communications 6-1
Assets 6-1
Interfaces to DOD Networks 6-2
Theater Communications System Connectivity 6-5
Section II – Theater Signal Support 6-10
Battlefield Information Systems 6-10
Disciplines 6-11
Responsibilities 6-11
Battlefield Information Services Management 6-20

Appendix A **USASC ORGANIZATIONAL STRUCTURE** A-1

Appendix B **TSC AND HHC THEATER SIGNAL BRIGADE ORGANIZATIONAL STRUCTURE** B-1

Appendix C **STRATEGIC SIGNAL UNITS ORGANIZATIONAL STRUCTURE** C-1

Appendix D **THEATER STRATEGIC SIGNAL COMPANY** D-1

Glossary Glossary-1

Bibliography Bibliography-1

Index Index-1

Preface

This manual serves as a basis for signal support to theater Army (TA)/echelons above corps (EAC) doctrine and training. It is to be used in conjunction with FM 24-1 and the Joint Publication 6 series for the planning, installation, operation, and maintenance of communications at the theater level. FM 11-45 encompasses the concepts of the Force XXI vision discussed in TRADOC Pam 525-5 and FM 100-5 to provide the TA/EAC with the doctrine necessary to function and carry out their mission.

The proponent of this publication is the United States Army Signal Center. Send comments and recommendations on DA Form 2028 directly to Commander, United States Army Signal Center and Fort Gordon, ATTN: ATZH-CDD, (Doctrine Branch) Fort Gordon, Georgia 30905-5090 or via e-mail to **doctrine@emh.gordon.army.mil**. 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.

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

Chapter 1

Signal Support to the Operational Commander

This chapter describes how signal supports the Army's function in the future as the primary land force executing joint, multinational operations in war and in military operations other than war (MOOTW). Looking to the future, the Army must restructure its units to adapt to the new MOOTW requirements and be able to fight more than one conflict at a time.

SECTION I – SUPPORTING ARMY OPERATIONS

1-1. Army forces in a theater of operations, as part of a joint team, are central to a theater campaign. The Army service component command (ASCC) commander is the Army's senior operational-level commander. He can execute the operational fight, command and control tactical forces of multiple services, and manage the theater support structure. Thus, he requires command, control, communications, computers, and information systems (C4I) connectivity. Normally constructed around Army headquarters, the current ASCC in no way resembles the Army formations of World War II. Those formations were more akin to tactical formations with operational level responsibilities normally held at the army group.

1-2. Today, ASCC commanders employ forces within three states (peacetime, conflict, and war) of the theater operational environment. Because of this wide spectrum of operations and operational environments, command, control, communications, and computer (C4) support must connect the operational commander to local governments, coalition armies, and governmental and nongovernmental organizations. In addition, C4 support must interface with US commercial and strategic communications networks. The deployed ASCC must link to the Department of the Army (DA), the combatant commander, and when required, the national command authority (NCA).

1-3. The ASCC commander's challenge is to shape the military environment and set the conditions for unqualified success. Success depends on the ability of the commander to communicate across a wide spectrum of agencies and forces. "Congress can make a general, but only communications can make him a commander," said Omar Bradley, General of the Army, quoting an unnamed source in his book, *A Soldier's Story*. Bradley was the Army's senior operational level commander in Europe during World War II. His words ring true today. Communicators must provide links that will ultimately allow the ASCC commander to conduct his operational mission and enable his tactical commanders to accomplish their mission.

THREAT

1-4. Military operations can no longer be anticipated merely by analyzing an adversary's stage of economic development. Regional or local powers may employ extremely advanced military technologies. An adversary's actions require intelligent analysis of fields extending far beyond the traditional battlefield focus. Boundaries within the spectrum of operations will become even more blurred than they are now. Current political and technical trends suggest that successful conflict prosecution and termination will depend on multinational commitment, joint operations, and a high professional tolerance for the new forms of conflict. The days of the all-purpose doctrinal threat template are gone, just as the days of a single-prescription Army doctrine are gone.

1-5. The global environment for at least the next 15 years will be a time of constant instability. The information technology revolution, the evolution to a global marketplace, and the population explosion in the developing world may cause the collapse of governmental control and an increase of nongovernment military or paramilitary forces. Although no single power possesses the means to threaten the US, military forces will oppose a gamut of threats. These threats range from highly modern conventional armies to terrorists to computer hackers.

1-6. The collapse of the Warsaw Pact has unleashed a proliferation of weapons throughout the world. Although we do not foresee an adversary matching military parity with the United States, our adversaries can compete militarily in certain niches. When unable to compete, our adversaries will resort to asymmetric warfare to change battlefield conditions and enhance their chance to defeat us.

1-7. Asymmetric warfare encompasses, but is not limited to, weapons of mass destruction (WMD), information operations, and acts of terrorism. Our adversaries will support US advantages by countering our precision warfare weapons, negating our technical advantages, and attacking our vulnerabilities.

1-8. Anyone or any organization with enough money can buy modern, heavy weapons. Political ideology is no longer a limiting factor in weapons acquisition. New foreign consortiums purchase outdated Warsaw Pact weapons systems. They refurbish them with modern, high-tech levels of firepower, protection, and mobility and then sell them to the highest bidder. These hybrid systems compete against our state-of-the-art weaponry.

1-9. WMD have made the threat qualitatively different. WMD offer the potential to do extreme damage, both physical and psychological, with a single strike. Many nations are attempting to produce nuclear weapons. The proliferation and acceptance of chemical and biological weapons is growing because they are relatively inexpensive and easy to produce. Soldiers may face these deadly weapons at any time or place.

1-10. Information systems provide the vital link between tactical, operational, and strategic operations. Information operations attacks on the US military are particularly attractive to adversaries because attacks by a foreign power are indistinguishable from hacking or criminal activities. These

attacks may occur at the strategic, operational, or tactical level of operations at any time.

1-11. Terrorist groups are spread across the globe. The majority of terrorist attacks are bombings against infrastructure or military support facilities. Terrorists favor bombings because they become sensational media events that attract world attention to the terrorist cause.

1-12. Threats to our signal support systems occur in two distinct areas: electronic warfare (EW) and computer network attacks. They may occur independently or at the same time. These new means to attack our capabilities may preclude our adversaries from physically destroying our equipment and networks.

1-13. EW threat is expanding at an alarming rate. Advances in technology have increased the number, type, equipment, efficiency, and use of EW systems. Further, technology has decreased the cost of these systems so that almost any country can afford to purchase and field some type of EW capability. Any transmission from any type of signal can be intercepted, located, and/or jammed. Even our "jam resistant" systems are vulnerable to a certain extent. Electromagnetic pulse (EMP) research continues and may become a more plausible threat in the Information Age.

1-14. The Information Age has allowed millions of people access to information systems around the world. Attacks on our automated information systems (AISs) have greatly increased. Our AISs are vulnerable to inadvertent or deliberate attack by millions of people. Any person with a computer and a modem could probe or attack our AISs. Attackers vary from a disgruntled employee or an industrial espionage hacker to a political terrorist or foreign government. The possibilities are endless, as are the targets. An attack against an industrial or transportation target could have serious consequences for Army operations.

RANGE OF MILITARY OPERATIONS

1-15. The range of military operations stretches from war to MOOTW.

WAR

1-16. When instruments of national power (diplomatic, economic, and informational) are inappropriate or unable to achieve national objectives or protect national interest, the US national leadership may employ the military instrument of national power to conduct large-scale, sustained combat operations. The goal is to win as quickly and with as few casualties as possible, achieving national objectives and concluding hostilities on terms favorable to the United States and its multinational partners.

MOOTW

1-17.MOOTW focus on deterring war and promoting peace.

MOOTW Involving the Use or Threat of Force

1-18. When other instruments of national power are unable to influence a deteriorating, potentially hostile situation, military force may be required to

demonstrate US resolve and capability, support the other instruments of national power, or terminate the situation on favorable terms. The general goals of the US military operations during such periods are to support national objectives, deter war, and return to a state of peace. Such operations involve a greater risk that US forces could become involved in combat than operations conducted to promote peace.

MOOTW Not Involving the Use or Threat of Force

1-19. Use of military force in peacetime helps keep the day-to-day tensions between nations below the threshold of armed conflict and maintains US influence in foreign lands. These operations, by definition, do not involve combat, but military forces always need to be prepared to protect themselves and respond to a changing situation.

FORCE PROJECTION

1-20. Crisis response through power projection is one of the essential US strategic principles. Power projection applies to all or some of the instruments of national power. Effective power projection deters potential adversaries, demonstrates US resolve, or carries out military operations anywhere in the world. Credible power projection rapidly deploys military forces to terminate conflicts quickly with favorable terms to the United States and its allies.

1-21. Force projection is the military instrument of power projection, and its primary purpose is to deter threats to US interest. Force projection is the deployment, sustainment, employment, and redeployment of military forces from the continental United States (CONUS) or other locations for missions spanning the operational continuum. A highly credible Army force projection ability contributes significantly to deterrence.

1-22. The exact flashpoint of tomorrow is unpredictable. Worldwide threats to US interest require effective forces that can accomplish diverse missions. The end of the Cold War and the unraveling of the Soviet Union have resulted in a significant change in the international security situation. There has been a substantial rise in the political, economic, and military capability of many regional powers throughout the world.

1-23. Many regional powers now have formidable armed forces, including the latest generation weapons systems. Some are hostile to the United States and its allies. Many regional powers that are hostile towards the United States are located in areas of the world where they could threaten vital US interests; yet, there are no US forces permanently positioned ashore in those areas.

1-24. This highlights the need for a credible US force projection capability. It is certain that potential future enemies have closely observed the conduct of recent US military operations in Panama and the Persian Gulf, and could in the future seek to exploit what they may perceive as US vulnerabilities. Future opponents could seek to capitalize on the time required to deploy sizable amounts of American forces, US sensitivity to casualties, and any weakness they may have observed in our tactics and equipment.

1-25. The Army's role as the nation's strategic land force requires that it maintain its ability to command and control a mix of armored, light, and special operations forces (SOF) with appropriate combat support (CS) and combat service support (CSS) ready for global force projections. Therefore, the Army must prepare and field a force that is deployable, lethal, versatile, expandable, and sustainable so those missions can be accomplished rapidly and with minimal friendly casualties. Signal support architecture has to support global deployability, connectivity, and tactical agility. Signal units must be as strategically deployable and as tactically mobile as the forces they support.

1-26. Throughout all force projection stages, a paramount need exists for a signal support means to transport information from the sustaining-base power projection platforms at CONUS installations, through strategic gateways, to the forward-most warfighters. Signal support requirements to fulfill this task are enormous and vary greatly, depending on the military operation.

1-27. Effective communications and computer systems that ensure connectivity throughout the ASCC's battlespace are vital to planning, mounting, and sustaining a successful major operation. Operations, CSS, and intelligence all depend on responsive systems that tie together various aspects of joint and multinational operations. The ASCC commander must maintain an unbroken chain of rapid, reliable, and secure communications with his subordinate commanders and the combatant Commander in Chief (CINC) during all phases of a campaign. To perform his battle command responsibilities, the ASCC commander needs home station, en route, and intertheater/intratheater communications that are secure, flexible, and deployable. These systems must operate with joint forces, civilian agencies, and multinational or coalition forces.

PHASES OF FORCE PROJECTION

1-28. Force-projection operations follow a general flow of activity, although the phases often overlap in space and time. They seldom begin with a clear signal of what the entire package will be or with the ultimate purpose clearly in focus. No set arrangement of events should be assumed. Rather, commanders and units must be prepared to deal with activities at once, simultaneous and out of sequence; the force must be physically and mentally prepared to adjust as reality dictates.

1-29. Nonetheless, it helps to conceptualize a logical flow from phase to phase. These phases usually include predeployment, deployment, entry, decisive operations, sustainment and transition to future operations, and redeployment. The structure of force projection operations can be modified to account for specific demands of the crisis. Execution of these phases may not be distinct. The following paragraphs highlight force projection activities as they occur within the six-phase cycle.

Phase I – Predeployment

1-30. During normal peacetime operations, the Army prepares its units for force projection-missions. Army organizations must be designed, trained,

equipped, and led to prepare them for force projection. Armywide standards for readiness and deployability of all units are established, and collective deployment training emphasized. This requires frequent deployment training with Navy and US Air Force (USAF) controlled lift assets.

1-31. Army Forces (ARFOR) are alerted for force-projection missions via joint crisis action procedures (CAP). Timely and accurate portrayal of CINC requirements gives ARFOR maximum time to plan for deployment and employment. Based on forces available and needs of the joint force command (JFC) commander, the Joint Chiefs of Staff (JCS) allocate forces for the mission. At an appropriate time, signal units are allocated to a theater CINC. These signal units may or may not have been apportioned in the deliberate theater contingency plans.

1-32. Force projection is based on specific, predictive, and timely operational and logistical intelligence. Intelligence preparation must begin as early as possible so commanders can develop adequate plans. Intelligence support from a secure sanctuary (for example, CONUS) is critical to the success of a force-projection operation.

1-33. During the predeployment phase, signal planners must understand and plan for the complexity of joint, combined, and tactical network deployment and management needed to support the mission. They must have a clear understanding of the density of command posts (CPs), subscribers, and automation networks, so that plans are made to properly manage the network. They must ensure adequate control over the signal nodes, the number of transmission systems required, and their sustainability.

Phase II – Deployment

1-34. The JFC's mission statement should include a clear definition of the desired end-state of the campaign or operations. This enables commanders to tailor forces based on the factors of the operational environment and prepare for deployment based on the amount of strategic lift that is available. Based on JFC's mission, existing plans are reviewed, modified, or rewritten as necessary, and intelligence and logistics preparations accelerated. Signal commanders must conduct backward planning based on the force required for successful completion of the mission. This determines the correct mix of assets and their proper arrival sequence in the theater of operations.

1-35. During this stage, command, control, communications, and intelligence (C3I) and logistical relationships among the services of the joint force are finalized. The theater CINC or a subordinate JFC must resolve as early as possible the sequence in which Army units deploy in relation to the movement of forces of the other services. Signal commanders must clearly and quickly articulate their lift requirements following their evaluation of mission, enemy, terrain, troops, time, and civil consideration (METT-TC). Early resolution of the sequencing of signal assets into the area of operations solidifies the time-phased force and deployment data (TPFDD) and determines the time required to deploy the force.

1-36. The factors of the operational environment are the primary consideration in determining the composition of the crisis response force. The

needs of the JFC and the requirement for rapid deployment initially take priority over maximizing the efficiency of lift.

1-37. Simultaneous deployment of tactical and operational-level headquarters early in the operation, to include appropriate logistical command and control (C2), facilitates current operations, future planning, and coordination with host nation (HN) and allied forces. In addition, it allows for the reception and employment of early reinforcing units. The reception and employment of combat and signal assets are monitored to ensure sustained combat power is maintained. Throughout the deployment, signal units must maintain the flexibility to reconfigure units and adjust deployments should the needs of the JFC change while the deployment is in progress. This is particularly important during the entry phase, since the situation may rapidly change.

1-38. Corps and division-sized units that deploy into a theater of operation without echelons above corps (EAC) assets can request additional communication support. The theater signal commands (TSCs) and the US Army Signal Command (USASC) establish support packages that can provide necessary communications for those units without sufficient organic communications equipment. These signal support packages form the basis for the theater communications system (TCS) and expand as the theater matures. Some recommended capabilities, currently available assets, and lift requirements for various signal support packages are discussed below.

1-39. **Small Package (Primary)**. This package is the initial entry package. It deploys to support an initial headquarters (joint task force [JTF], US Army Central Command [USARCENT], ARFOR). It is deployable within 18 hours of notification and provides the following to a deploying HQ:

- Immediate tactical and commercial voice.
- Data (Global Command and Control System [GCCS]).
- Secret Internet Protocol Routing Network (SIPRNET).
- Nonclassified Internet Protocol Routing Network (NIPRNET).
- Video teleconferencing (VTC) support.

1-40. Equipment includes the tri-band terminal, the single-channel tactical satellite (TACSAT) team, and associated equipment. This package requires two C-130s for airlift.

1-41. **Small Package (Reserve)**. This package fulfills the primary role when all tri-bands are deployed. Although not as robust as the primary package, it is still used as an initial entry package deployed to support an initial headquarters. It is deployable within 18 hours of notification and provides immediate tactical and commercial voice, data, and VTC support to a deploying headquarters. Equipment includes the AN/TSC-93 TACSAT terminal and associated equipment. This package requires one C130 for airlift.

1-42. **Medium Package.** This package is deployed as a follow-on to the small package. It frees the small package to deploy forward to support a forward-operating base. This package can also be an initial entry package to support the intermediate staging base or headquarters. It is deployable

within 72 hours of notification and provides immediate tactical and commercial voice, data, and VTC support. Equipment includes the tri-band terminal, a single-channel TACSAT team, the mobile gateway van (MGV), and associated equipment. This package requires two C141s for airlift.

1-43. **Heavy Package**. This package is used in a developed theater for long term support of a large headquarters. It is deployable within six days of notification and provides large-scale tactical and commercial voice, data, and VTC support. Equipment includes the AN/TTC-39D, the AN/TSC-85B with 20-foot dish, the MGV, and associated equipment. This package requires two C5s for airlift.

Phase III – Entry

1-44. This is a critical phase in force projection. Depending on the mission and the threat, deploying units may have a combat or noncombat mission. In combat situations, it is likely that friendly forces are initially outnumbered. This makes this phase a particularly dangerous part of the overall operation. A forcible entry may be required, resulting in immediate combat operations. In addition, the combat force may greatly outnumber the required signal assets needed in the early stages of lodgment. This causes an austere C2 environment. Deploying appropriate C2 elements and theater distribution systems assists tactical commanders in focusing on their mission, while higher headquarters performs logistical support functions. It is critical to the execution of the operation to establish an operational level headquarters early to ensure that the tactical commander's focus is on employing forces.

1-45. Following initial deployment, the commander's focus changes to building up capabilities rapidly. The proper sequencing of forces into the area of operations contributes significantly to the stabilization of the situation and allows for rapid buildup of capabilities that permit the CINC to conduct decisive operations as early as possible. Combat may or may not be taking place; but in either case, the emphasis is on developing the theater and establishing the preconditions for executing decisive operations. Deployment will likely continue throughout the entry phase, until the conclusion of the operation. It is essential to retain the initiative throughout this phase. The signal commander enhances theater development by–

- Building stockage levels.
- Arranging civilian contractor and host/allied nation communication support.
- Firming up signal support to other services.
- Acclimatizing personnel.
- Conducting required training.
- Establishing secure throughput of supplies.
- Enhancing the quality of life for his troops.

1-46. Every effort must be made to accomplish or finalize these activities and to hedge against interruption of strategic lines of communication (LOC) in this phase. If sufficient ground combat is not available to conduct decisive operations, the commander must seek other means to attack and prevent the enemy from gaining the initiative. If combat has not begun, operations

continue in developing the communications architecture and shaping the battlefield concurrent with building up an overwhelming force to deter a potential aggressor.

1-47. In operations short of war, the deploying force must be able to perform the noncombat mission. Signal assets and CSS units will likely predominate in such operations. Based on the intelligence estimate, various degrees of force protection may be required and appropriate rules of engagement determined.

Phase IV – Decisive Operations

1-48. Commanders must always look for an opportunity to conduct decisive operations. This depends on the operational environment, but the goal is to achieve the desired end state as rapidly as possible. In some situations, deployment, entry, and sustainment and transition to future operations are conducted simultaneously, particularly when US forces can execute a coup de main.

1-49. Army forces are employed in decisive operations designed to reinstate precrisis conditions or bring about a settlement favorable to the United States and its allies. The efforts of the first three phases are realized here. Army forces will continue to interact closely with elements of the other services, US governmental agencies, and frequently with forces from allied nations. Therefore, it is extremely important to establish communication with these organizations.

1-50. For decisive operations to occur, an appropriate mix and quantity of forces must be available and sustainable over time. It is possible that the deploying force conducts decisive operations immediately upon arrival in the area of operations, thus precluding a possibly lengthy build-up phase.

1-51. In this phase, the JFC decides to move against the enemy. This point in time may be predetermined and stated in the campaign plan, or it may be tied to specific enemy action. In either case, the commander should base it on sufficient information and a clear picture of the enemy. Occasionally, a political decision may require commitment before such a picture is available. At this point, the ground commander might reposition forces to facilitate the imminent start of combat.

1-52. Decisive forcible entry operations may be required to gain access to the area of operations during the entry phase. Airborne, air assault, SOF, and Marine Corps units will be the primary ground forces for use in forcible entry situations. A forcible entry will take one of two basic forms: a coup de main or an enclave operation.

1-53. Coups de main are intended to achieve immediate, decisive effect. If circumstances allow for a coup de main, the enemy's center of gravity collapses and the desired end-state of the operation is achieved simultaneously with the initial deployment of force.

1-54. Other situations will not permit coup de main, in which case the focus of the forcible entry will be to achieve a secure enclave that allows for buildup and transition to decisive operations.

1-55. The JFC may designate a single commander to control Army and USAF elements during airborne forcible entry operations. After the airborne operation is complete, the JFC may dissolve this JTF or incorporate it within another JTF. To prepare for challenging forcible entry operations, Army, Air Force, Navy, and Marine Corps units frequently train together and continually stress signal interoperability.

Phase V – Sustainment and Transition Operations

1-56. This phase of force projection operations focuses on the activities that occur following the cessation of the open conflict. The emphasis is to restore order, minimize confusion following the operation, reestablish national infrastructure, and prepare forces for redeployment. In these situations, decision-makers balance political, economic, and information elements of power with military means to ensure that the HN is able to sustain the strategic objectives accomplished during decisive operations.

1-57. More so than any other service, the Army has the skill to assist in prisoner control, handling of refugees, destruction of minefields, civil affairs, or other activities. In conducting sustainment and transition operations, commanders emphasize activities such as nation assistance, civil affairs, and similar programs to reduce post-conflict or post-crisis turmoil and stabilize a situation until other US, international, interagency, or HN agency resumes control.

1-58. The cessation of the open conflict may be permanent or interrupted by the resumption of hostilities. Therefore, units must rapidly consolidate, reconstitute, train, and otherwise prepare to remain in theater should the fighting resume. During this time, security remains a paramount concern to prevent isolated enemy individuals or forces from bringing harm to the force. Particular emphasis should be placed on signal units, who themselves may be isolated, and may be prime targets for attack.

1-59. During this phase, signal planners should finalize plans for the commercialization of signal assets so that tactical systems could be freed up for redeployment.

Phase VI – Redeployment

1-60. The objective of this phase is to–

- Complete resolution of the situation.
- Restore optimum combat power.
- Prepare for future operations and eventual redeployment of forces to CONUS or the forward presence locations from where they deployed.

1-61. This phase includes ongoing sustainment, reorganization, and regeneration in preparation for redeployment. Redeployment planning must begin early in the force projection and be rapidly executed at the appropriate time. Redeployment of friendly forces will be heavily influenced by requirements for post-conflict operations, which could lead to further deployments.

SECTION II – SUPPORTING ARMY OPERATIONS IN THEATER

1-62. The application of operational art is the purview of the ASCC commander. While corps and divisions deal primarily with objectives and avenues of approach, the operational commander deals with centers of gravity lines of operation, and decisive points. It is around each of these that the ASCC commander achieves operational synergy through the simultaneous application of combat, CS, and CSS forces. This is what separates the operational commander from his tactical counterpart.

1-63. At the operational level, maneuver and support are co-equals. The operational commander manages the application of each portion of his force to ensure the tactical commander is able to conduct decisive operations. The inability of the logistician to coordinate the movement of support to the tactical commander can wreck the operational plan as surely as the late application of firepower. Planning and implementing C4 support at the operational level requires detailed planning to ensure that service is provided to each user.

1-64. The fundamentals of the operational art must be understood and used by the C4 planner to ensure the commander's requirement to maintain operational tempo can be achieved. In order for the ASCC commander to exercise battle command, the TSC commander must understand both friendly and enemy centers of gravity and decisive points. Through this understanding, nodes are established to support the most critical command centers and signal forces are positioned to avoid the enemies strengths.

1-65. Lines of operation also dictate the nodal structure used to provide connectivity throughout the operational area. By understanding the internal or external lines of the command, the C4 planning staff can build a nodal support structure that anticipates operational maneuver and limits the number of jumps required to support the commander's intent. An in-depth understanding of this single concept may preclude the unnecessary jumping of operational signal nodes throughout the operational battlespace. The relocation of tactical nodes is unavoidable, but stability of the nodal structure at the operational level is imperative to ensure support of the diverse organizations which comprise the ASCC.

PRINCIPLES OF SUPPORTING CAMPAIGNS AND MAJOR OPERATIONS

1-66. Support operations are designed and protected so they continue to sustain forces throughout a war or MOOTW, adapting as conditions change. Since support at the operational level can be a dominant factor in determining the nature and tempo of operations, it is imperative that C4 planners understand the "first principles" set forth in FM 100-16. Foremost for the C4 planner is the principle of connectivity.

1-67. Communications and computer systems ensure vital connectivity throughout the ASCC's battlespace. They allow the ASCC commander and his staff to plan, mount, and sustain successful major operations. Operations, intelligence, and CSS depend on responsive systems that tie together the various aspects of joint and multinational operations. To perform his duties, the ASCC commander requires an unbroken chain of secure communications that link home station, en route platforms, and in-theater forces. These communications must not be service-specific, but must be compatible with the mix of supporting forces, services, and civilian agencies present at the operational level.

1-68. The integration of operations and support plans at the ASCC level is essential to success. This achieves the synergy required to maintain the operational tempo. This integration allows C4 planners to participate as full partners in a process designed to allow them to proactively anticipate requirements. C4 planners also advise the commander and his staff of shortfalls that will have an impact on a desired course of action. It is essential to the success of C4 operations that C4 planners from the TSC participate in this process.

1-69. Operational intelligence preparation of the battlefield is an essential tool available to the ASCC commander, his staff, and major subordinate commanders. The TSC commander must be tied into this vital intelligence loop. It is important to maintain information on the enemy's intent to ensure adequate force protection measures are maintained. From an understanding of this process, C4 planners can gain insight into the location of critical intelligence nodes. With this knowledge, additional bandwidth can be planned and available to support the information requirements at these locations.

1-70. Logistics preparation of the battlefield is the optimization of force structure, resources, and strategic lift to support the ASCC's plan. Communications play a major role in this optimization process. Operational logistics cannot be provided without operational communications. Just as it is essential for C4 planners to participate in operational planning, it is equally important to participate at the same level in logistical planning. Planners from the TSC must be integral members of the logistics planning team. These planners ensure that logistics support nodes are placed where they can be supported with the best communications, and the requirements for these diverse organizations can be anticipated and provided.

1-71. Force protection of C4 facilities is essential. Since the TSC normally has a mix of mobile and fixed military communications, as well as contractor

provided communications, the ability to provide self-protection of every node varies. The ASCC commander integrates the TSC into his overall force protection plan. This plan requires communications support across the width and breadth of the ASCC area of operations. The TSC is required to integrate HN communications and military communications into a cohesive system that allows coordination of this effort.

PLANNING CONSIDERATIONS

1-72. Planning C4 support of the operational-level commander differs from the support provided to tactical commanders in that support requirements are different for every operation. Corps and division routinely establish communications networks that are nearly identical save for locations of nodes each time they support their respective corps or division. On the other hand, the TSC must develop each support plan with little reference to what has gone on before. This is due to a number of factors.

1-73. In some cases, the assigned signal force structure differs with each operation. However, the significant factor is the excess of different organizations that require C4 support or connectivity to the ASCC and how that connectivity is achieved. These organizations are never the same mix, and the requirements seem to represent an infinite set of possibilities. It is incumbent upon the TSC planner to examine each requirement carefully.

1-74. In planning the ASCC's communications network, the TSC must ensure robust connectivity to other participating services and the joint commander. At the operational level, this presents some technical challenges that must be taken into account. The Army's tactical communications system, mobile subscriber equipment (MSE), while compatible with the tri-service tactical communication (TRI-TAC) systems at the operational level and in the US Marine Corps (USMC) and USAF, does not provide an easy interface.

1-75. In a contingency situation, the joint commander is most often supported by the Joint Communications Support Element (JCSE). JCSE brings numerous capabilities to the operation. TSC planners must coordinate their plans closely with JCSE planners. The most important player is the Defense Information Systems Agency (DISA) Liaison Team in the AOR. This team closely monitors and coordinates the links between the operational and strategic communications systems.

1-76. The ASCC may be designated as the Joint Force Land Component Commander (JFLCC). This requires TSC planners to provide C2 links to USMC forces. Since the US Marine Corps (USMC) uses different automated C2 systems than does the Army, it is essential to carefully plan these links.

1-77. Just as mutual doctrine now calls for multiservice communications links between Army and Marine forces, it may be necessary to install multiple C2 systems. Planning for this role also causes the TSC planner to closely coordinate with the Navy. When USMC forces initially come ashore, they remain under the C2 of the Navy. When and where they transition to Army control dictate where Army C4 planners must provide connectivity.

1-78. Whether operating in a conflict or MOOTW, Army forces most often operate with forces of other countries. This may be under the auspices of the

United Nations (UN) or the result of a rapidly formed coalition. In most cases, interoperability issues have not been worked out in advance. North Atlantic Treaty Organization (NATO) is the rare exception to this. TSC planners can assume interoperability between NATO-standard equipment.

1-79. In planning for multinational operation with non-NATO countries, planners have to assume no interoperability and plan enough nodal assets to overcome this shortfall. This lack of standard interoperability is one of the key reasons the POWER Projection for Army Command, Control, and Communications (POWER PAC3) company was formed. Its six liaison-team packages provide an interface into six different national headquarters. Operations with non-NATO countries also lead planners to overcome the lack of bilateral agreements for the use of common communications security (COMSEC). US policies of releasability must be considered as a part of operational planning.

1-80. The US government has other agencies other than the Department of Defense (DOD) operating in cooperation with US forces, primarily the Department of State. These other organizations must link to the operational commander. They must have secure communications links to ensure that country team members can carry out their duties. Noncombatant evacuation operation (NEO) is planned and implemented if necessary and operational implications on national strategy discussed. In MOOTW, other agencies, such as the Red Cross, are present. Some of these agencies bring their own communications equipment. Interoperability between these packages cannot be assumed.

1-81. The UN provides support to operations. This may be in the form of refugee support or oversight if operations are under the auspices of the UN. Unlike US agencies, the UN normally expects to be serviced by US forces for communications. The TSC ensures the operational commander has reliable communications with UN agencies.

1-82. Numerous nongovernmental agencies are present. These agencies range from groups assisting refugees to private groups providing all manner of humanitarian assistance. These groups operate in cooperation with the ASCC if they are linked to the ASCC. They receive some form of C4 service or linkage as part of the TSC plan. These groups may interface commercially; but based on their role, they may require some level of COMSEC.

1-83. The simultaneous planning of an exit strategy is one of the keys to planning any operation. In the past, this has usually meant planning to revert to HN communications. In most cases, this causes delays in the exit of US communications forces. Recently, the use of commercial contractors supplements HN communications to speed up the process of transitioning from mobile communications to a more long-term capability.

1-84. At the operational level, the demands for large communications pipes may require the introduction of commercial communications to supplement mobile equipment from the start of operations. TSC planners can reduce airlift requirements and begin the transition process by the early introduction of commercial communications. There are various vendors available to provide these services and this must be considered as if it were a unit assigned to the TSC with respect for planning.

Chapter 2

Theater Composition

This chapter describes the current unified command structure, the operational chain of command, and the typical organizations and missions found at the theater level. Only by understanding who the supported customers are can signal support commanders and staffs properly plan for, prioritize, and allocate signal support. FM 100-16 and FM 100-20 provide in-depth coverage of the topics that are briefly covered in this chapter.

UNIFIED COMMANDS

2-1. A theater may have many organizations deployed that are unified and consist of armed forces from two or more US services and supporting commands, interagency activities, and combined forces. They assist in planning and support of the unified operations to the CINC or his designated force commander. All efforts in the theater contribute to the CINC's intent and concept of operations. The NCA supports the combatant CINC by providing service component commands. The NCA directs other DOD agencies and CINCs to support the combatant CINC as necessary. This support comes in the form of funding, personnel, and equipment.

2-2. The ASCC commander is charged with Title 10 responsibility and provides the CINC with Army forces that are trained, equipped, and tailored into force packages that enable the CINC to accomplish his mission. The effective use of the nation's armed forces requires a unity of effort in the operation of diverse military resources. This goal is achieved–

- Strategic direction of the armed forces.
- Operation under unified commands.
- Integration into an efficient team of land, sea, and air forces.
- Prevention of unnecessary duplication of efforts or resources.
- Coordination of operations.
- Effective combined (United States and allied) operations.

2-3. A unified command contains two or more component services and is established by the President, through the Secretary of Defense (SECDEF), with the advice and assistance of the Chairman, Joint Chiefs of Staff (CJCS). Figure 2-1 shows a generic theater operational organization.

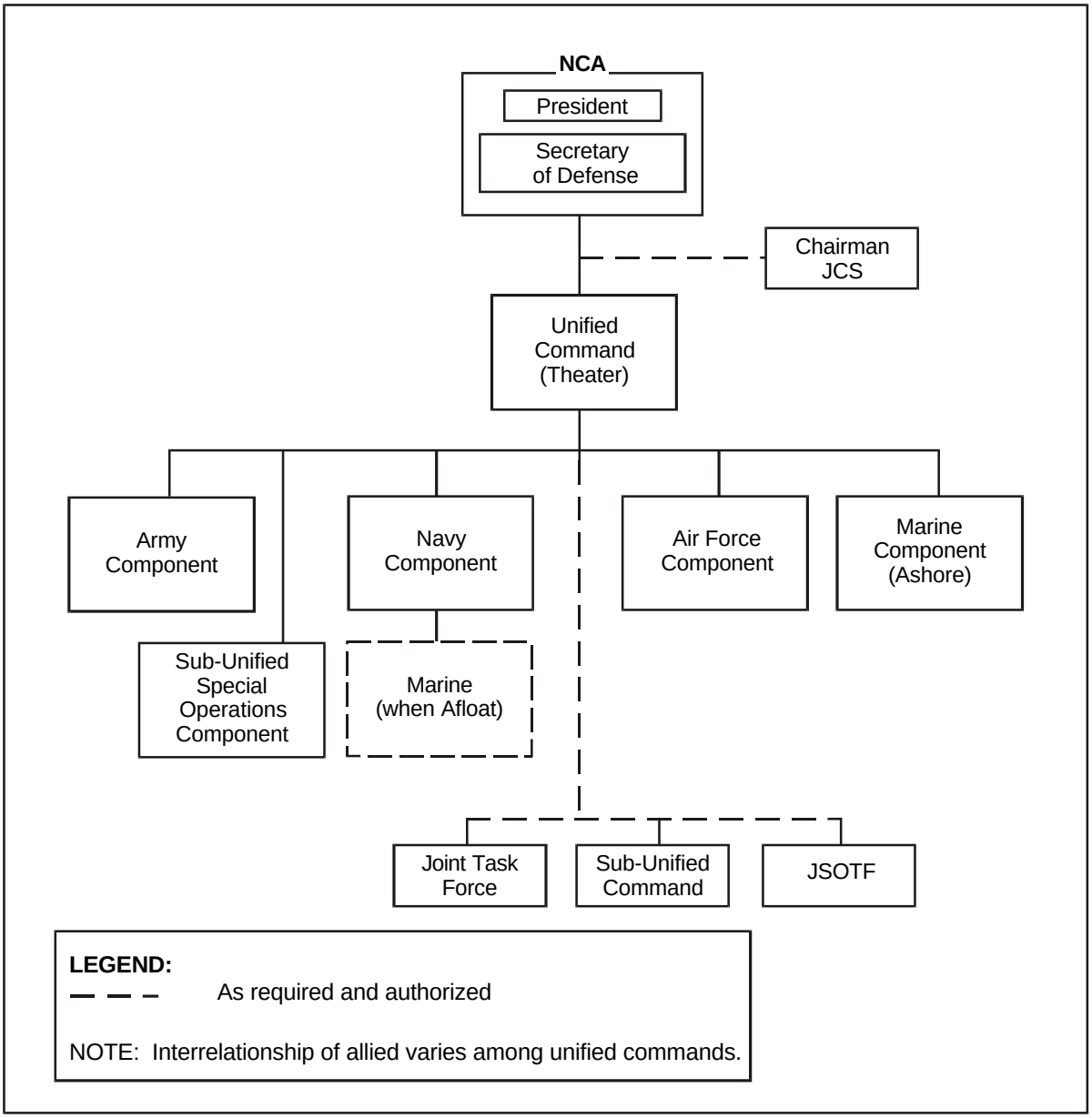


Figure 2-1. Generic Theater Operational Organization

2-4. The CINC exercises combatant command through–

- Service component commanders.
- Functional component commanders.
- Commander of a subordinate unified command.
- Single service force commander.
- Commander of a JTF.
- Directly over specified operational forces.

COMMANDER IN CHIEF STAFF

2-5. Each CINC has a joint staff organization. The CINC organizes his joint staff to carry out the duties and responsibilities with which he is charged. Members of the joint staff ensure that the joint commander understands the tactics, techniques, capabilities, needs, and limitations of the component parts of the force. Figure 2-2 shows a generic joint staff.

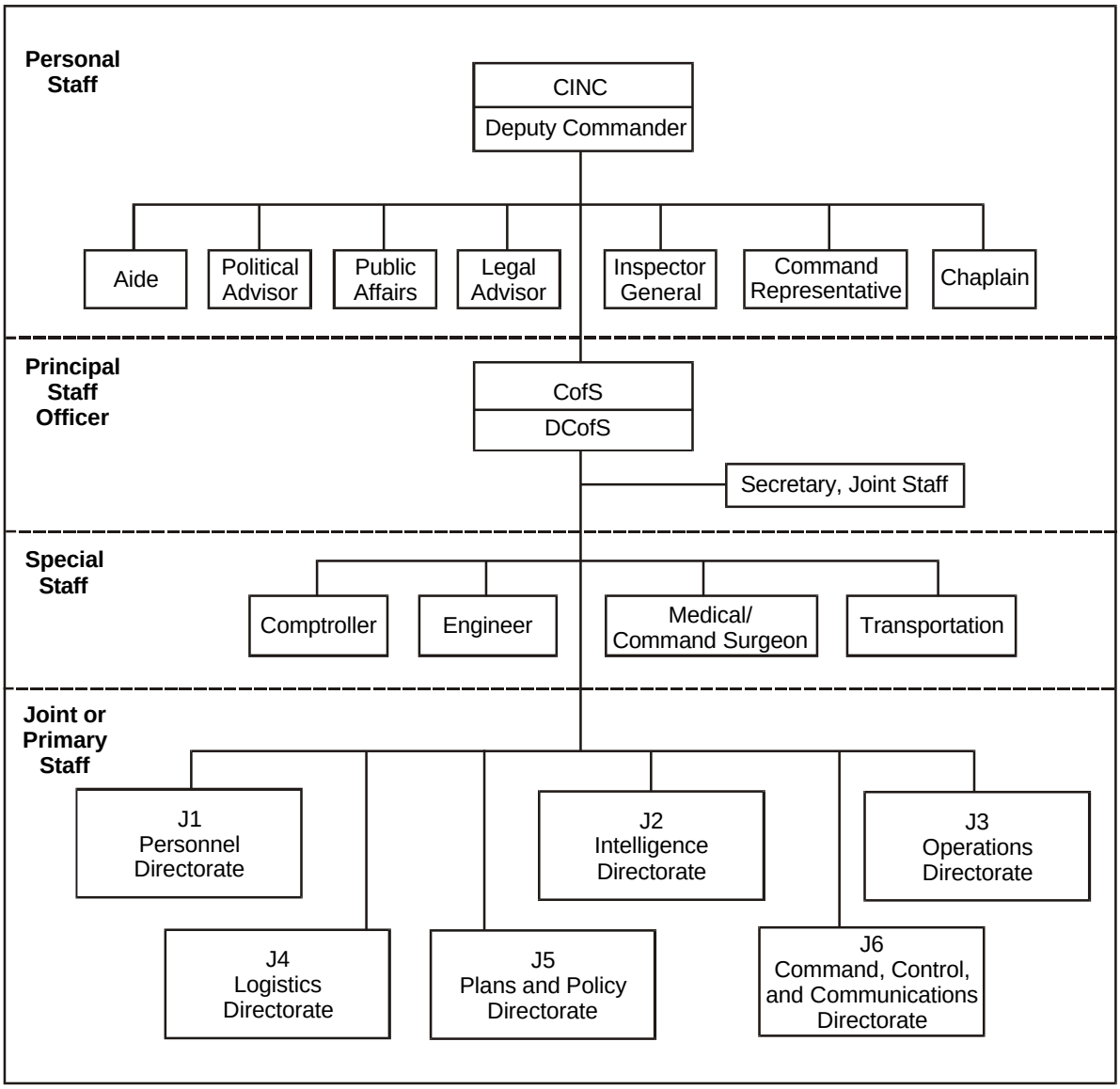


Figure 2-2. Generic Joint Staff

2-6. For joint communications management, the combatant command or JTF J6 directorate or equivalent office is responsible for joint communication management. Joint communications management provides centralized control with decentralized execution. It exercises dynamic technical control over TCS and coordinates their interfaces with the Defense Information

Systems Network (DISN) and other combatant commands' communications systems. The combatant command or JTF J6 directorate or equivalent office manages all joint communications (defined as circuits, systems, procedures, facilities, services, and equipment) that–

- Support the CINC or JTF commander and his operations facilities.
- Support other joint commands in the joint operations area (JOA).
- Interface with the components of the joint commands.
- Provide connectivity to the DISN, commercial communications systems, or allied communications systems.
- Provide connectivity to the C4 systems of the other combatant commands.

2-7. To manage deployed tactical communications systems to support joint operations and exercises, the combatant command or JTF J6 directorate or equivalent office establishes a Joint Communication Control Center (JCCC). The ASCC and the TSC's designated signal elements deploy as part of the JTF. This provides the expertise and capability necessary to plan and manage the EAC functions for the JCCC. Service components and subordinate joint commanders must establish C4 control centers to serve as single points of responsibility for joint C4 matters. The JCCC exercises staff supervision over C4 control centers belonging to deployed components and subordinate commands.

2-8. Army, Air Force, Marine, and joint special operations task force (JSOTF) components communications control centers are normally referred to as systems control (SYSCON). The JSOTF uses a JCCC that is subordinate to the JTF JCCC. The Navy refers to this as the technical control (TECHCON). The JCCC organization is found in Chairman, Joint Chief of Staff Manual (CJCSM) 6231.01A.

2-9. As the JTF grows with the mission, so does the need for additional signal support. Signal support must me et the increasing demands of the JTF. This is also true for the service component. Usually, the JCCC tasks the TSC through the ASCC to plan, engineer, and manage connectivity to the JTF, JTF's higher headquarters, and lateral to the service components.

DEFENSE INFORMATION SYSTEMS AGENCY

2-10. DISA plans, engineers, and manages communications and information processing systems that serve the federal government. The J6 must coordinate closely with DISA concerning the CINC's communications requirements to ensure that DISA can expand and reconfigure communications capabilities to meet the CINC's timetable. DISA provides personnel to the JCCC, as designated in the DISA's contingency plans.

2-11. DISA plans, engineers, and exercises operational direction and management control for the worldwide DISN. DISA employs communications resources at designated DISN entry stations and gateways to terminate long-haul tactical trunks and circuits from the JOA. DISA ensures that the required entry stations, gateways, and switching centers have the appropriate equipment and cryptographic devices to terminate tactical

headquarters circuits deployed worldwide. This agency is also responsible for systems engineering and technical support of high-priority signal systems established for C2 of our military forces.

2-12. DISA manages the Defense Satellite Communications System (DSCS) through the US Army Space Command's Regional Space Support Center (RSSC) to meet the requirements established by the JCS and the SECDEF. The DISA RSSC is the systems' architect for all military satellite communications (SATCOM) systems.

COMPONENT COMMANDS

2-13. The Army service component serves as the senior Army echelon in a theater and is the ASCC of a unified command. The USARCENT is an example of an ASCC. The ASCC includes the service component commander and all army personnel, organizations, units, and installations assigned to the unified command.

2-14. The Army's operational level organizations assist and augment tactical (corps and division) organizations. The CINC may designate an ARFOR commander as a subordinate JFC. The designation may be as a subunified commander, a JFLCC, or a commander of the JTF. Based on the ASCC structure, the Army JFC must reexamine the responsibilities and capabilities in order to perform the three tasks of the operational level commander.

2-15. Establishing a joint headquarters under these circumstances is a unique extension of the joint linkage task. Most US Army forces within the theater are placed under the command of the CINC and are operational control (OPCON) to ASCC commanders. Army organizations in the theater are flexible and vary from theater-to-theater based on the mission, enemy forces, unique geography, political environments, and the CINC's intent as outlined in his campaign plan.

2-16. The theater CINC assigns the ASCC's mission based on his selection of combatant command options, and may be a combination of logistical and operational missions, or exclusively logistical. Other levels of command assist in the performance of theater functions (subordinate logistical and/or operational echelons). Figure 2-3 shows a doctrinal ASCC Headquarters organization. Further information is found in FM 100-7.

2-17. The theater signal officer (TSO) is dual-hatted as the TSC commander and the ASCC G6. A separate staff exists, the Deputy Chief of Staff for Information Management (DCSIM), at the ASCC Headquarters to perform operational planning functions and day-to-day signal support to the ASCC. The TSC provides the operational element for communications support in the theater. The DCSIM is composed of TSC personnel assigned to the G6 ASCC.

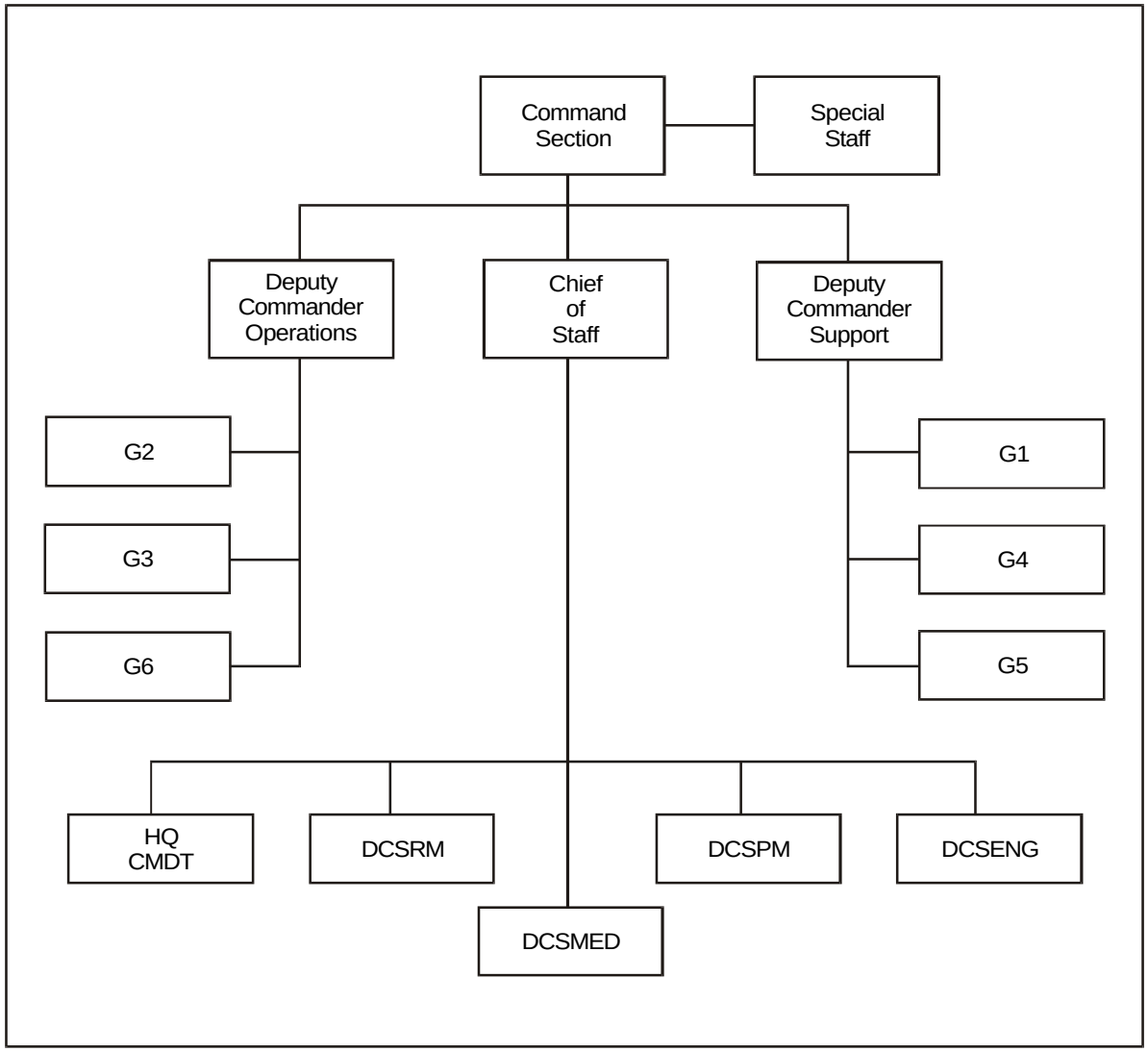


Figure 2-3. Generic ASCC Headquarters

MAJOR SUBORDINATE COMMANDS (MSCs) OF THE ASCC

2-18. The ASCC, staff, and organizational structures provide for centralized planning and coordination. The structures also provide for decentralized execution by a combination of subordinate area-oriented and functional organizations (see Figure 2-4). The ASCC Headquarters manages CS and CSS operations by establishing broad plans and policies for guidance to MSCs.

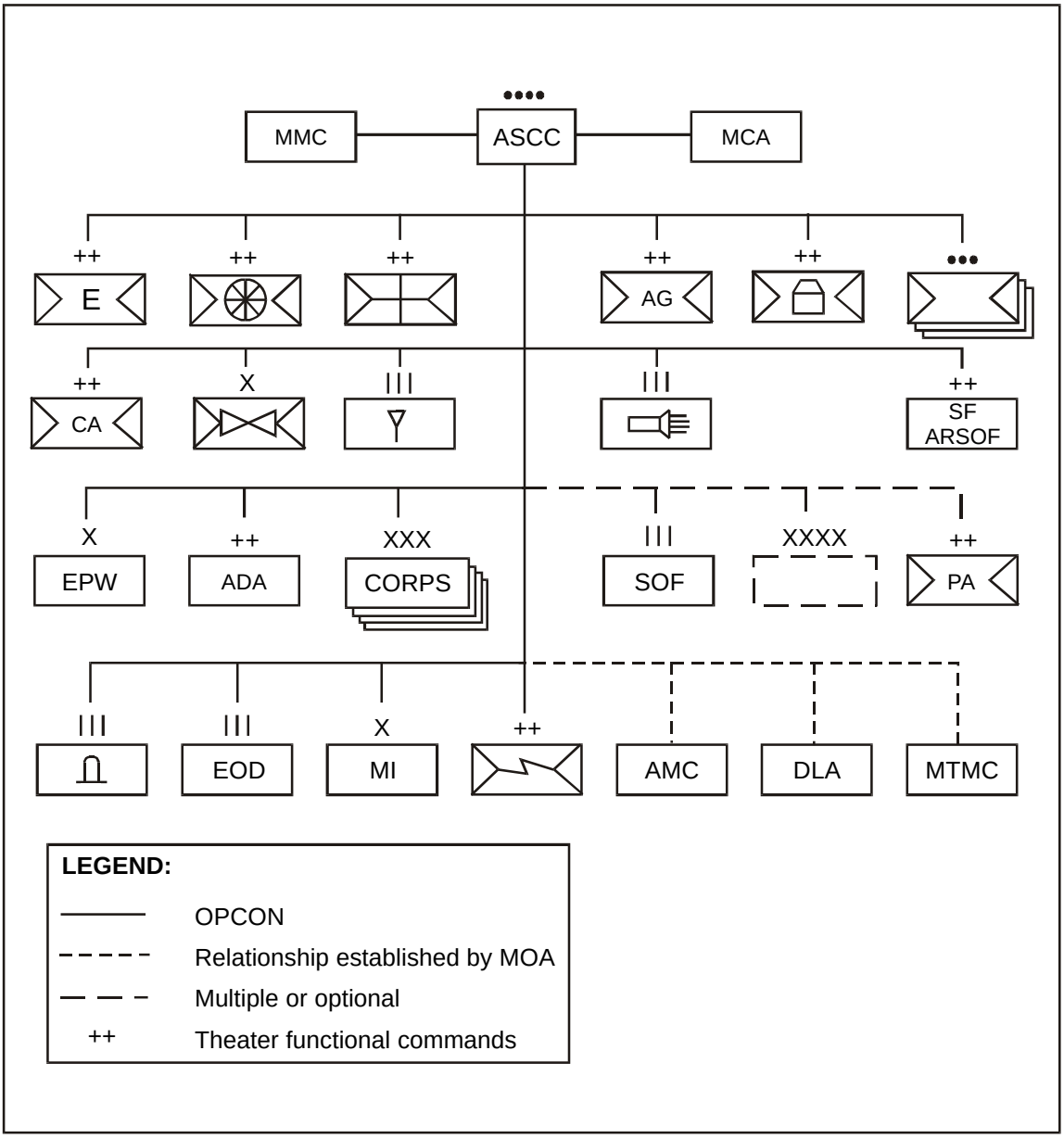


Figure 2-4. Functional Organizations

THEATER SUPPORT COMMAND

2-19. The theater support command provides supply, maintenance, and services to the ASCC subordinate commands, corps, and units located in or passing through its support area.

TRANSPORTATION COMMAND (TRANSCOM)

2-20. The TRANSCOM provides Army transportation services to the theater. It provides support in the functional areas of staff assistance, mode operations, and terminal services.

ENGINEER COMMAND (ENCOM)

2-21. The ENCOM provides general troop and contractual construction support, topographic support, and real property maintenance activity technical supervision or sustaining support to the area command. It also provides combat engineering to the corps on a tasked basis, as required.

PERSONNEL COMMAND (PERSCOM)

2-22. The PERSCOM directs and coordinates personnel services, administrative management, and morale support activities. It also directs, coordinates, and provides postal services, enemy prisoner of war (POW) internment, and control and internment of US military prisoners to the theater when augmented with units.

MEDICAL COMMAND (MEDCOM)

2-23. The MEDCOM provides medical support within the communications zone (COMMZ). It also provides C2, staff planning, supervision of operations, medical supply control, training and administration of hospital centers, and medical groups engaged in COMMZ-level medical support.

THEATER FINANCE COMMAND (TFC)

2-24. The TFC provides policy and technical guidance for all finance and accounting activities in the theater currency. It is responsible for centralized support of theater currency funding, commercial accounting, foreign national pay, and appropriated and nonappropriated fund accounting. The TFC exercises OPCON over the area finance support centers when assigned.

THEATER SIGNAL COMMAND

2-25. The TSC provides communications support to the ASCC, ARFOR, and joint forces. The TSC also provides an integrated communications network that links out-of-theater communications systems to the theater. The integrated communications network also links each of the MSCs by interfacing to customer-provided voice, data, and video equipment.

MILITARY INTELLIGENCE BRIGADE

2-26. The military intelligence brigade provides interrogation, controlled collections, counterintelligence, signal intelligence (SIGINT), imagery intelligence (IMINT), and all-source analysis.

THEATER ARMY MATERIEL MANAGEMENT CENTER (TAMMC)

2-27. The TAMMC is the nerve center of most supply and maintenance operations. It provides centralized management for the decentralized activities of the Theater Army Area Command (TAACOM). The TAMMC ensures visibility of critical items and balanced maintenance efforts and serves as the prime interface with the CONUS sustaining-base.

THEATER ARMY (TA) DEPUTY CHIEF OF STAFF (DCOFS)

2-28. The TA DCofS operates the Theater Army Movement Control Agency (TAMCA) for logistics. It provides theater-wide movement management services in coordination with its allied and HN counterparts. This agency is the primary link between the theater and CONUS transportation agencies.

CIVIL AFFAIRS COMMAND (CACOM)

2-29. The CACOM provides staff support to a special operations command (SOC), other component services, and the joint theater staff as required, and commands attached to civil affairs units.

ARMY AIR MISSILE DEFENSE COMMAND (AAMDC)

2-30. The AAMDC provides the Army's contribution to theater air missile defense in joint and multinational operations. The senior Army air defense commander provides the majority of Army rear area theater air defense and active missile defense forces.

Chapter 3

Organization and Mission of the USASC

Headquarters, USASC is the Army's CONUS-based, worldwide signal force and service provider. It supports the CONUS-centric Army's force projection mission through its integrated, worldwide deployable theater tactical units, strategic and sustaining-base units, and global network and systems management. USASC also supports the Army's forward presence through its operator-based operation and maintenance of European, Korean, Pacific, Central America, and Southwest Asia strategic, theater tactical, and sustaining-base signal support systems and units.

USASC, TABLE OF ORGANIZATIONS AND EQUIPMENT (TOE) 11800A000

3-1. The USASC is the Army's senior, worldwide operational signal command providing strategic and operational (through MSCs) signal support both CONUS and outside continental United States (OCONUS). Figure 3-1 shows the USASC under the C2 of the US Army Forces Command (FORSCOM). The USASC commander also serves as the Deputy Chief of Staff for command, control, communications, and computers (DCSC4) of FORSCOM. USASC TOE provides a deputy commander to oversee the DCSC4 functions, with the remainder of the DCSC4 staff on FORSCOM's personnel authorization documents.

3-2. The assigned missions of the USASC range from operational to strategic/ sustaining-base. The USASC is responsible for the operation and maintenance (O&M) of the Army's portion of the DISN. Therefore, subcommands are required to provide operational reports to DISA as required in accordance with (IAW) DISA regulations on matters pertaining to the DISN. The USASC is responsible for supporting other US forces as directed or as formalized by interservice support agreements and JCS tasking. The USASC has Executive Agency missions to include, but not limited to:

- DSCS.
- Defense Red Switch Network (DRSN).
- Automatic digital network (AUTODIN) to Defense Message Switch (DMS).
- Defense Information Infrastructure [DII] (NIPRNET/SIPRNET).
- DII (microwave/fiber optics cable).

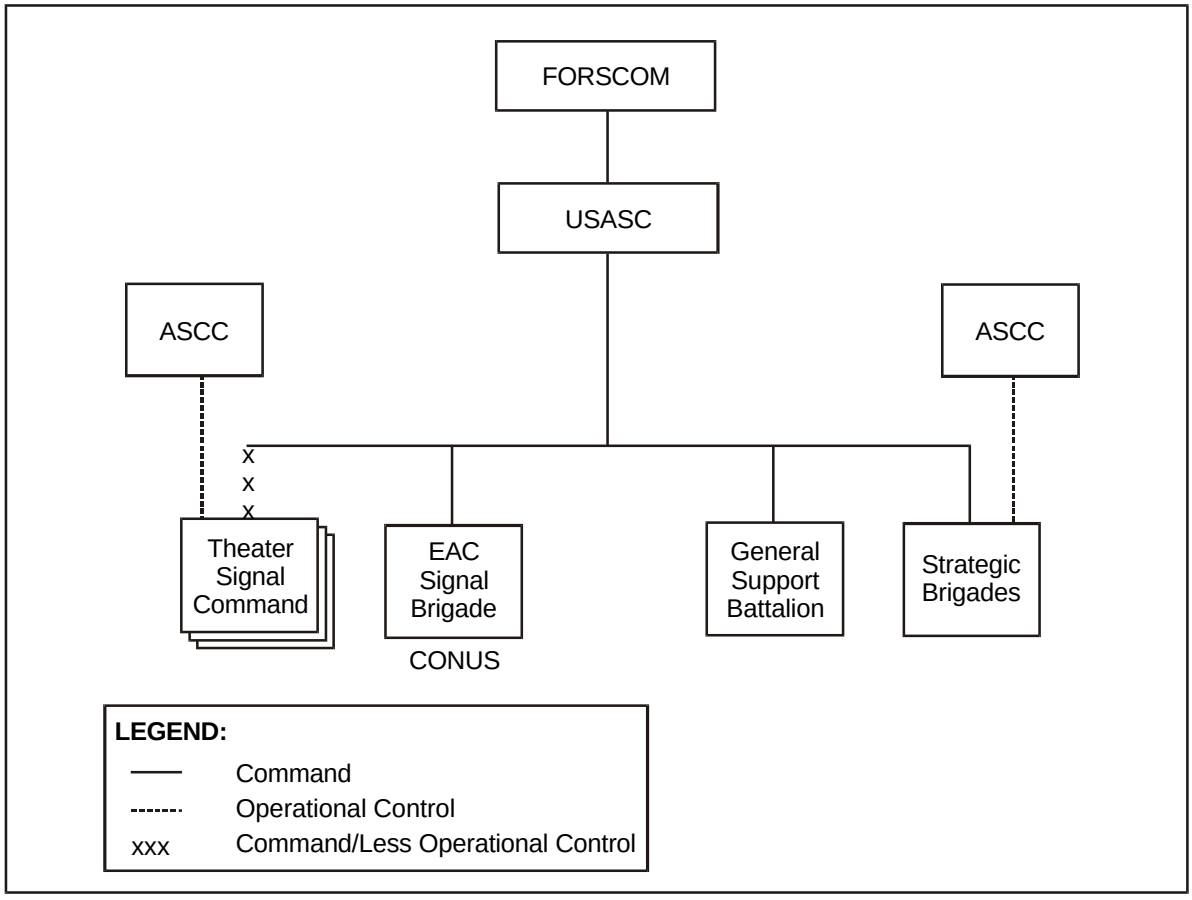


Figure 3-1. USASC's C2 Relationship

3-3. In today's world environment, the USASC provides signal support in support of MOOTW. The USASC must be flexible and versatile enough to provide support to US national interests worldwide.

3-4. The USASC is structured in two entities: rear and forward. The rear section, lead by the commanding general (CG), is expected to remain in CONUS and provide the expertise, guidance, and command to units forward deployed. The forward section, under the deputy commander, is deployed in those contingencies other than a major theater war (MTW). It will provide the necessary signal expertise or augmentation to a corps-based JTF or JFLCC not supported by a TSC.

MOOTW

3-5. In MOOTW outside a TSC's AOR, USASC performs the warfighter information responsibility at the operational level for all US forces as assigned. The support is provided by the forward element of the USASC. The forward element commands and controls all EAC signal elements deployed to MOOTW AOR.

MAJOR THEATER WAR

3-6. The primary mission of the USASC is the command of its MSC, the TSC that supports the ASCC. The TSC is under the OPCON of the ASCC. The commander of the TSC also serves as the G6 of the ASCC. The TSC commands and controls all assigned EAC signal units in theater. The USASC provides general support to the TSC in the TSC's support role for the ASCC and the ARFOR commander's concept of operations and priorities. The USASC also provides DISN restoration support and tactical signal augmentation to the TSC, using CONUS-based tactical, strategic, and power projection platforms assets. See Appendix A for detailed information on this command.

3-7. The USASC–

- Provides the organizational structure and professional and technical personnel to staff a headquarters for support of an Army signal command.
- Provides C2 and supervision of all assigned and attached personnel.
- Commands and controls the Army portion of the DISN.
- Performs Army administrative functions over all assigned or attached units, as directed.
- Maintains a deployable power projection capability to support the US national security interests.
- Provides advice and assistance to supported commands and/or HN organizations.
- Plans, coordinates, and integrates, signal support for a joint campaign or MOOTW, when directed.
- Provide a deployable J6/JFLCC staff element to a JTF.
- Maintains the capability to augment a TSC.
- Plans for and coordinates EAC Signal Reserve Component Training, as directed
- Fulfills the DA's assigned Executive Agency responsibilities.
- Advises the Commander, FORSCOM on all communications issues and all signal support issues.
- Executes protection of Army networks through the TSC network operation center and the co-located regional computer emergency response team (RCERT), with land information warfare activity (LIWA).

USASC SIGNAL BATTALION (COMPOSITE) GENERAL SUPPORT (GS)

3-8. This CONUS-based GS battalion, a subordinate unit to the USASC, provides communications support to strategic, sustaining-base, and theater/tactical brigades as tasked by the USASC. Figure 3-2 shows the organization of the USASC Signal Battalion (Composite). It contains unique, one of a kind units or single functional units. These units are modularized to allow deployment of teams to forward-presence areas supporting MTW or

MOOTW. The battalion/company headquarters could be deployed to a MTW, if required.

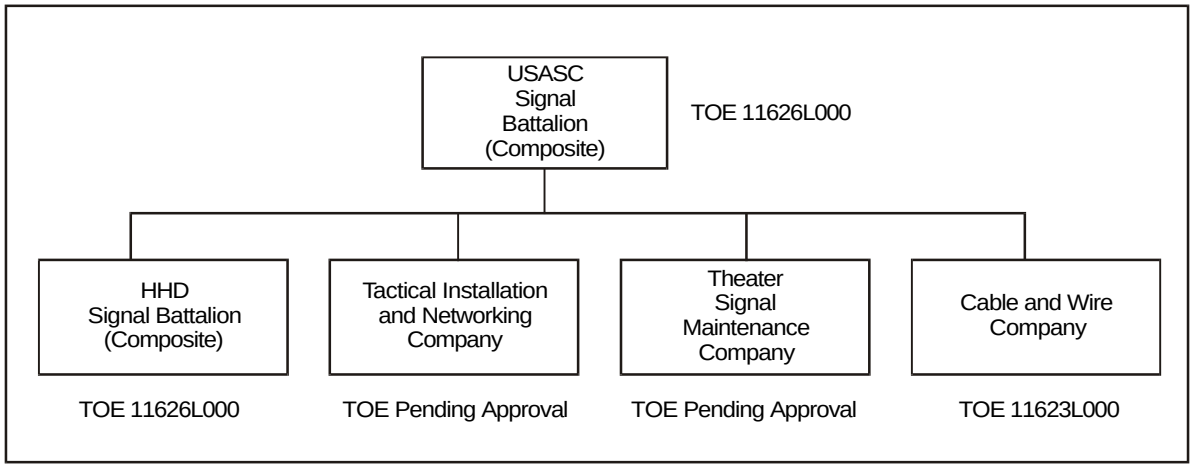


Figure 3-2. USASC Signal Battalion (Composite) Structure

HHD SIGNAL BATTALION (COMPOSITE), TOE 11626L000

3-9. This unit's mission is to provide C2 of assigned or attached units logistics support and internal security to the headquarters.

3-10. This unit–

- Provides C2, staff planning, and supervision of a signal battalion, consisting of two to five companies.
- Maintains a consolidated property book for assigned units.
- Supplements an assigned unit with food service and motor maintenance support.
- Provides religious support for the battalion.
- Provides a unit maintenance technician (light), who is responsible for ensuring that maintenance is correctly performed in the unique communications companies.

TACTICAL INSTALLATION AND NETWORKING (TIN) COMPANY, TOE PENDING APPROVAL

3-11. The mission of the TIN company is to deploy in support of warfighting CINCs, ASCC, and TSC commanders to provide immediate DISN installation and restoration, tactical automation, network installation, and information system support to their deployed headquarters. The mission is tailored and scaled to provide contingency support and systems integration to sustaining-base, strategic, and theater tactical C4 information systems.

3-12. This organization supports the combatant commander and his staff's initial signal needs. It deploys in teams, sections, or multifunctional platoons to provide communications, automation, VTC, and official mail/distribution support. This unit is able to restore or install critical pieces of the DISN, which include the Defense Switched Network (DSN) and DSCS. It brings

software application expertise, network installation, network administration, and information system security support to the battlefield.

3-13. This unit must be trained, equipped, and prepared to deploy anywhere in the world to support a wide range of information requirements. It serves as a springboard for organic theater communications and information systems providers, assisting in the integration of reinforcing signal forces for the warfighting commander. The TIN company is organized to assist the gaining command in three main areas of information system support: automation, network installation, and DISN restoration. Figure 3-3 shows the organization of a TIN company.

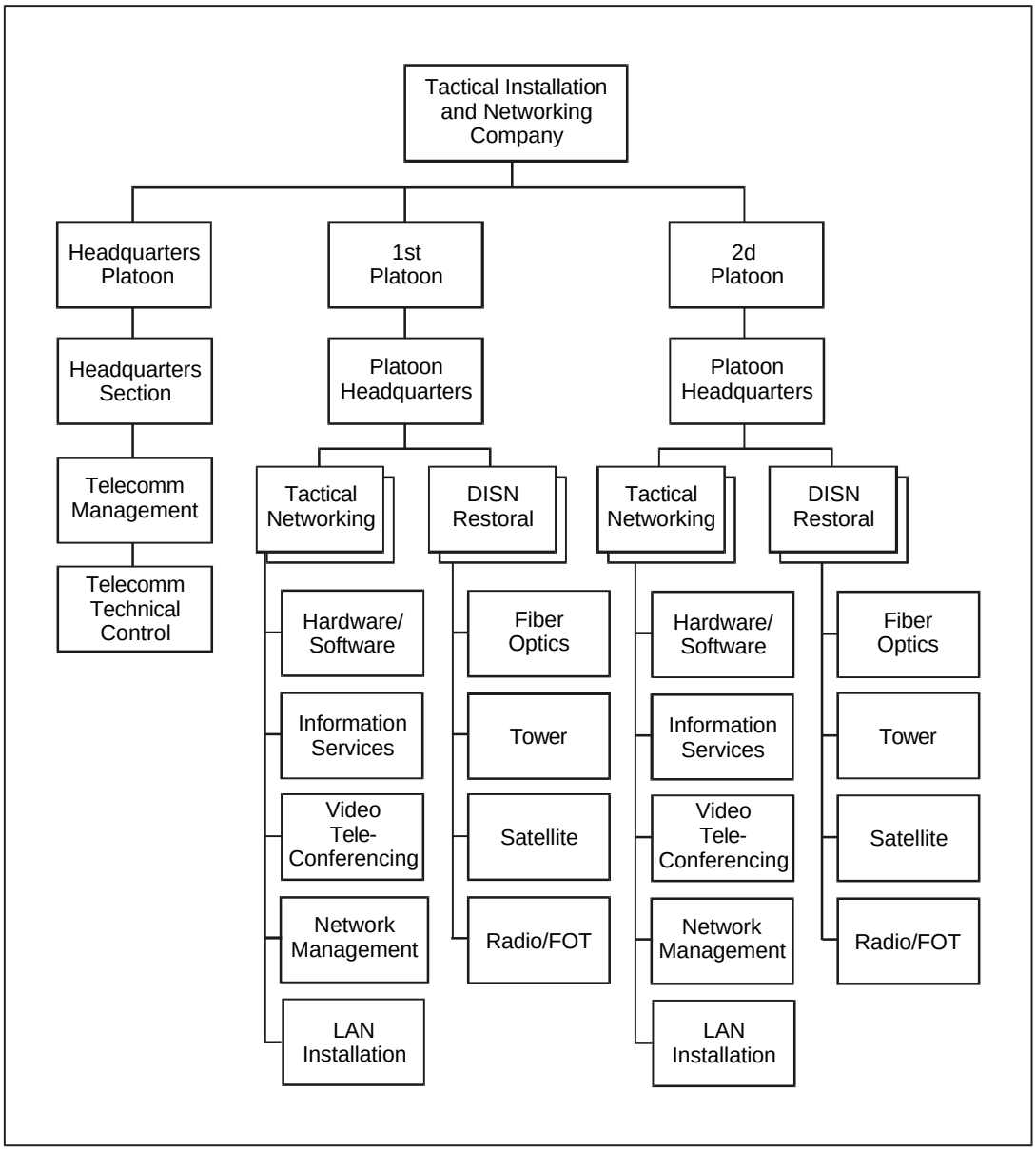


Figure 3-3. TIN Company

Services Provided

3-14. **Automation Support.** The TIN company provides–

- Government-off-the shelf (GOTS) hardware/software.
- Commercial-off-the shelf (COTS) hardware/software.
- System integration.
- VTC systems.
- Information system security (ISS) support.
- Official mail/distribution.

3-15. **Network Installation Support**. The TIN company provides–

- LAN/WAN installation and initialization.
- System administration and analysis.
- Administrator training and network hand-over.

3-16. **DISN Restoration**. The TIN company provides–

- Cable installation.
- Satellite installation.
- Radio system and fiber-optic terminal (FOT) installation.
- Tower installation.

Limitations

3-17. Deployed modules of this unit will not possess life support or administrative capabilities. They will depend on the gaining command for–

- Health, finance, legal, food, and transportation service support.
- Personnel administration.
- Billeting.
- Chaplain assistance.
- Nuclear, biological, chemical (NBC) decontamination.

3-18. Some ground transportation assets are required if this unit is deployed in whole. Rotary wing support will be necessary to provide automation services to dispersed sites.

3-19. This organization is limited by available technology to support initial headquarters messaging requirements. With the fielding of the tactical portion of the DMS, this organization brings application expertise to the supported headquarters. Team members are trained on:

- DMS architecture.
- DMS connectivity.
- DMS user agents (UA).
- Directory user agents (DUA).
- Message transfer agents (MTA).

3-20. Team members must be able to support initial DMS messaging capabilities for the deployed headquarters.

3-21. This organization lacks organic electrical, network, and switch engineers. It relies on parent unit staffs for technical and engineering support in areas such as planning, O&M, and contingency technical support. This limitation can be overcome by a thorough planning phase, which accounts for this unit and includes the aforementioned personnel as required.

3-22. Initial audio/visual capabilities are restricted to VTC and access to commercial news services. With the fielding of Global Broadcast System (GBS) technologies, this unit will have the technical ability to install and provide the integrated satellite broadcast services offered by GBS.

THEATER SIGNAL MAINTENANCE COMPANY (TSMC), TOE PENDING APPROVAL

3-23. Maintenance is the key to effective EAC signal support. To provide reliable communications, the EAC signal brigades tasked with the mission for theater signal support requires a ready and reliable maintenance unit. The TSMC provides maintenance for–

- TRI-TAC communications and electronic major end items and sub-assemblies.
- Environmental control units.
- MSE assemblages assigned to EAC signal brigades.
- Nondevelopmental items.
- COMSEC/controlled cryptographic items (CCI).

3-24. In addition, this unit provides direct support for power generation units and automated data processing equipment (ADPE) and provides back-up direct support overflow maintenance for TRI-TAC communications equipment.

SIGNAL COMPANY, CABLE AND WIRE, TOE 11623L000

3-25. The cable and wire company's modular platoons and teams–

- Lay cable and wire between major headquarters and subordinate units.
- Provide cable and wire support from multichannel radio sites to terminating or switching equipment.
- Provide cable and wire connectivity between area signal nodes and theater communications systems as tasked by the USASC and required by the ASCC or other major commanders.

US ARMY NETWORK ENGINEERING TELECOMMUNICATIONS ACTIVITY (USANETA)

3-26. The USANETA, a subordinate unit of the USASC, is comprised of four directorates: Army Network and Systems Operations Center (ANSOC), Direct Support Engineering Directorate (DSED), Army Telecommunications Office (ATO), and Information Technology Integration Directorate (ITID). Figure 3-4 illustrates the USANETA structure.

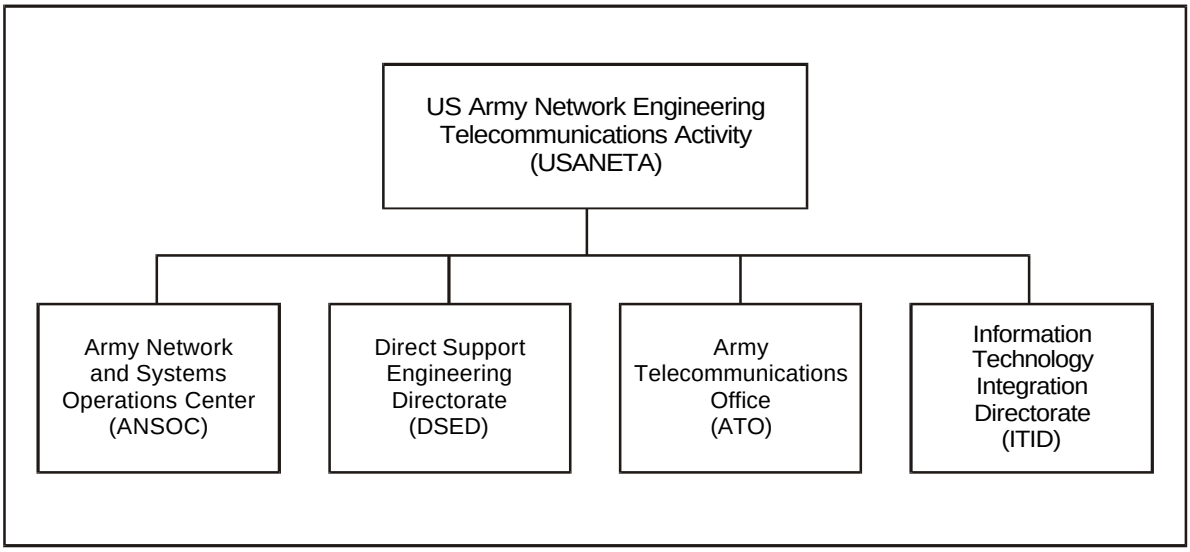


Figure 3-4. USANETA Structure

ARMY NETWORK AND SYSTEMS OPERATIONS CENTER

3-27. ANSOC provides worldwide operational and technical support to networks and systems across the tactical, strategic, and sustaining-base environments. The operational concept is to use advanced network and systems management (NSM) technologies in support of the warfighter in today's split-base environment. The mission is performed in cooperation with the following other service providers:

- Directorate of Information Management (DOIM) at the CONUS installations.
- Tactical signal officers at the EAC and echelons corps and below (ECB) levels.
- DISA and commercial wide area network (WAN) managers.

3-28. Responsibilities are within the confines of USASC's mission as the Army's network manager, with primary focus on network and system assets located on Army installations or within the tactical environment.

DIRECT SUPPORT ENGINEERING DIRECTORATE

3-29. DSED provides an information systems engineering force with worldwide deployment capability to support FORSCOM units in the planning, integration, implementation, and O&M of C4 systems. On order, this unit provides contingency information systems engineering support to warfighting CINCs.

ARMY TELECOMMUNICATIONS OFFICE

3-30. ATO assists commanders in defining and developing long-haul and short-haul telecommunication requirements and evaluates service requests for technical adequacy, applicability, and cost effectiveness. It provides technical and financial regulatory oversight certification of leased

requirements, serving as the interface between Army customers, service providers, and DISA.

INFORMATION TECHNOLOGY INTEGRATION DIRECTORATE

3-31. ITID is responsible for implementing projects on a worldwide basis for USASC and USASC-supported AORs. It develops engineering, acquisition, installation, and testing and quality assurance tasks, and tracks the execution of these tasks to ensure they meet cost, performance, and schedule parameters. An integrated logistics team documents, acquires, coordinates, and tracks the acquisition of project BOM. A deployable installation support element performs site and facility surveys and installs, de-installs, restores, and upgrades C4 systems for USASC and FORSCOM customers. The training team teaches basic installation procedures, including wiring, cabling, and fiber optics. The directorate maintains the capability to deploy installation teams for contingency operations.

Chapter 4

Organization and Mission of the TSC and the HHC Theater Signal Brigade

This chapter discusses the mission and organization of the TSC and its subordinate units. There is no definite force structure for the TSC. Its composition is established by theater specific requirements based on the CINC's understanding of METT-TC. This chapter also discusses the mission and organization of units that can comprise the signal assets needed to support a theater of operation.

THEATER SIGNAL COMMAND, TOE 11602L000

4-1. The TSC consists of all operational and strategic level signal organizations within the AOR supporting the ASCC. These organizations may include–

- Two to five EAC signal brigades.
- One strategic signal brigade.
- One combat camera (COMCAM) company.
- One theater signal maintenance company.
- One or more reproduction detachments.

4-2. The actual number of EAC signal brigades and the number and type of their subordinate signal units deployed to the theater of operation depend on the METT-TC. Figure 4-1 shows the organization of a TSC.

4-3. The TSC plans, engineers, and manages the Army's portion of the TCS and provides the G6 staff to the ASCC. The TSC is an MSC of the USASC and is under the OPCON of the ASCC.

4-4. The TCS must be flexible and responsive to operational changes if the necessary C2 systems are to be available at the right time and place. C2 tools, such as information systems and VTC capabilities, have become increasingly important to the JTF and ASCC commanders. Complex systems such as these require that the TSC's early entry module be in the theater early to ensure the commander's C2 requirements are met in the very fluid deployment and entry phase of the operation.

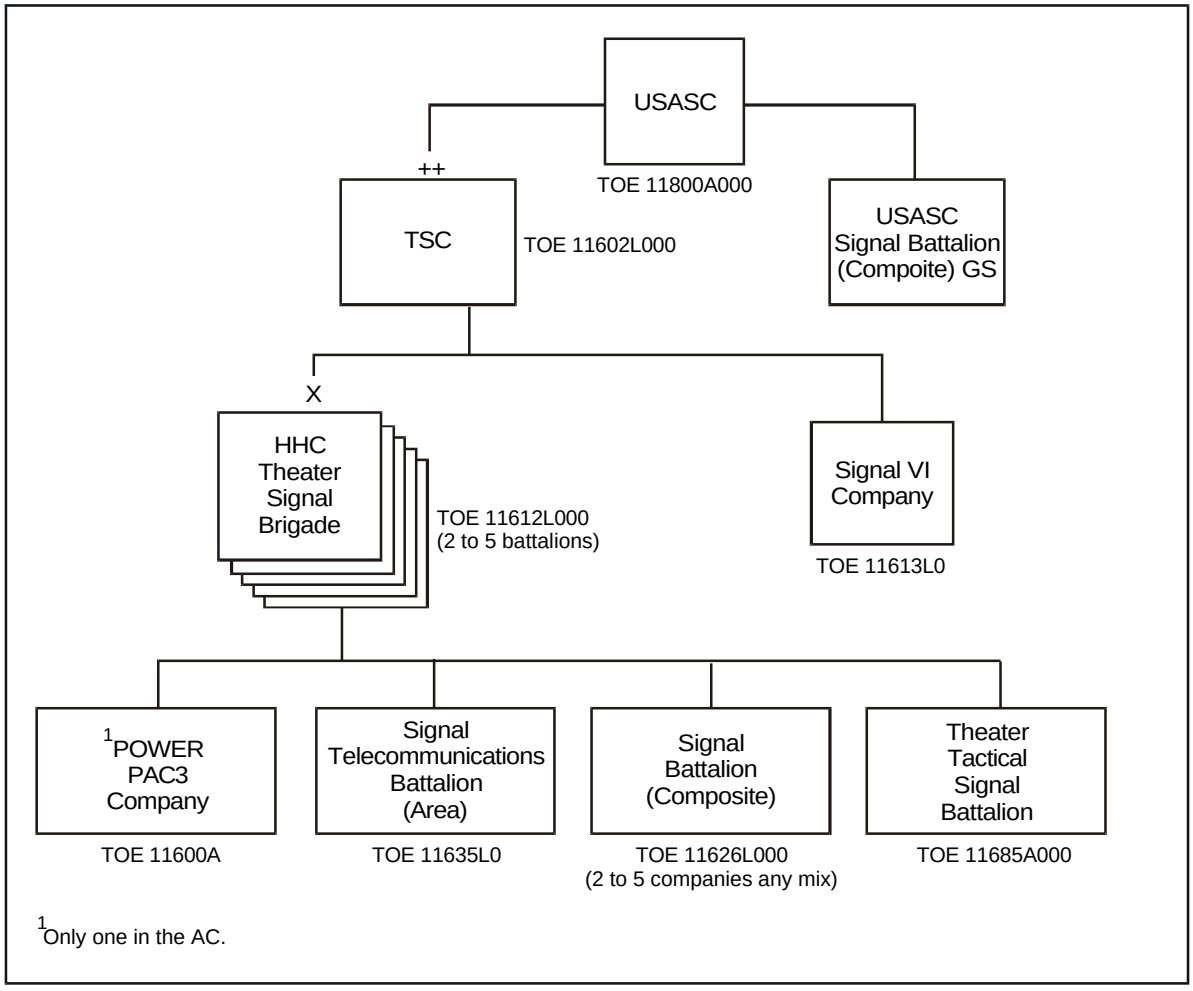


Figure 4-1. Organization of the TSC

4-5. Immediately on the start of contingency operations, the TSC will furnish an early entry module composed of engineers, planners, and operators. Their mission is to plan, engineer, and manage the EAC TCS architecture by coordinating and interacting with the operational planners as they respond to their commander's changing intent and objectives.

4-6. Recent military operations have demonstrated the requirement for timely follow-on deployment of the remaining C2, planning, and engineering capabilities inherent in a TSC, even when there is one or no deployed EAC signal brigades OPCON to the TSC.

4-7. Two types of EAC signal brigades aligned under the TSC that provide global connectivity are–

- **Strategic signal brigades**. Located in certain theaters and are responsible for fixed, strategic communications support to the warfighter. During peace, each strategic signal brigade is doctrinally under the C2 of the USASC. During MTW or MOOTW, each brigade becomes OPCON to the TSC.
- **Theater signal brigades.** Deployed to provide mobile, tactical communications support to the ASCC, as required. Upon deployment, the TSC commands each brigade. The mission of this unit is to provide C2 to assigned and attached signal units, and to install, operate, and maintain assigned portions of the TCS as directed by the TSC.

4-8. The TSC provides centralized management and engineering of the entire theater data network. The TSC directs and coordinates local area networks (LANs) as they are connected to the WAN. This includes configuration of databases and domain name servers, to include data network and electronic mail (e-mail) addressing and routing. Figure 4-2 reflects the type of units that the TSC would support.

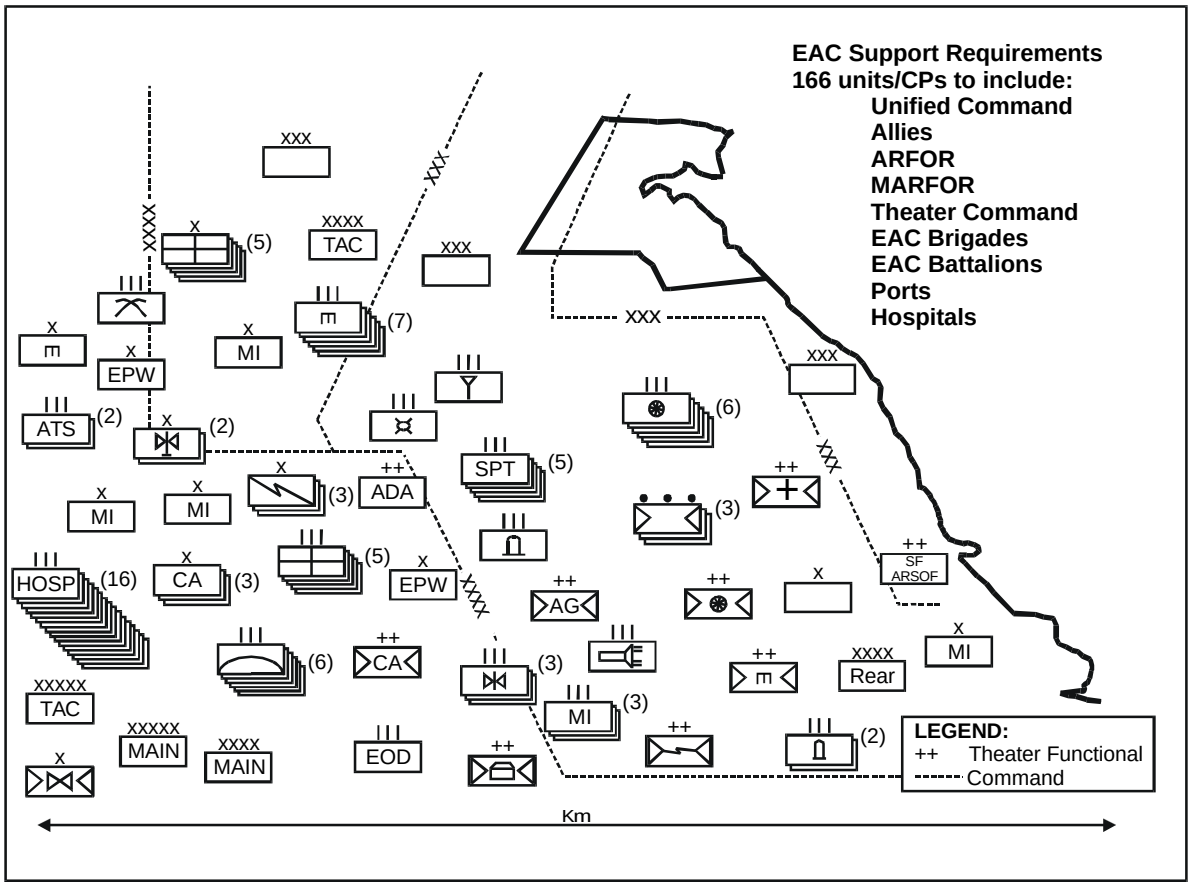


Figure 4-2. EAC Units Requiring Signal Support

HHC TSC, TOE 11602L000

4-9. The following paragraphs describe the tasking, mission, and capabilities of the HHC TSC.

4-10. The tasking of the HHC TSC varies due to the military operation or situation. In some cases, the CINC may task the HHC TSC to provide overall signal C2, direction, and guidance to a JTF, or apportion elements of the signal mission to the TSC.

4-11. HHC TSC's mission is to–

- Provide C2 and supervision for units assigned and attached to the TSC.
- Formulate and implement plans, policies, and procedures for the engineering, installation, operation, and management of assigned portions of the TCS.
- Provide management of the TCS, to include centralized management of voice, data, messaging, and VTC capabilities.
- Provide communications planning and management of special purpose communications/information systems.
- Provide internal signal support to the ASCC Headquarters through the DCSIM staff section.
- Provide intelligence and security support and oversight to subordinate commands.
- Provide ASCC information assurance and protection planning and management for the theater communications system, and to support the protect, detect, and react strategies of the Army as directed by the ASCC G-6.
- Execute protection of Army networks in conjunction with collated RCERT.
- Provide the Army's portion to the JCCC, when established.
- Establish the JCCC, with augmentation from other services, when tasked.

4-12. The TSC–

- Plans, engineers, and manages signal support systems installed by the TSC, and network interface with systems installed by other units, to include joint, combined, and allied.
- Formulates and implements signal support plans, policies, and procedures for the ASCC. Provides staff management of the TCS, to include theater operational COMSEC and information assurance and protection.
- Provides OPCON over the theater COMSEC Logistics Support Center and other facilities that provide GS/specialized repair activity (SRA). Backs up direct support (DS) COMSEC maintenance and supply in those theaters where TAACOM TSC does not perform the function.
- Provides battlefield spectrum management (BSM) to include allocation, assignment, and control of radio frequencies for Army,

joint, and coalition elements throughout the theater in coordination with HN agencies, if so tasked.

- Provides communications engineering support and coordination of requirements for special-purpose communications/information systems.
- Provides planning and staff management of the ground mobile forces (GMF)/TACSAT Theater Satellite Communications Monitoring Center and Army GMF in the theater of operations.
- Provides planning and coordination of TSC's transportation requirements.
- Provides planning, staff supervision, and implementation of the public affairs program and command information programs for the TSC.
- Provides staff management and coordination of battlefield information systems (BISs), recommending policy, procedures, standards, and convention. BIS are files and forms management, classified document control, Freedom of Information Act (FOIA), Privacy Act, official mail, and distribution.
- Provides staff supervision of all personnel and administrative matters of planning, developing, and implementing command policies for personnel management and human affairs programs; centralized personnel records management and human affairs programs; and centralized personnel records management within the TSC.
- Provides staff supervision, investigation, inquiries, surveys, studies, and reports of inspector general matters within the TSC.
- Provides staff supervision of comptroller matters of management consultant services, management surveys, and programming, budgeting, and controlling funds within the TSC.
- Provides coordination of operations and planning and evaluates and prepares reports of NBC activities throughout the TSC.
- Provides coordination of engineering support facilities supporting the TSC.
- Assists in the coordinated defense of the unit's area or installation.
- Performs unit maintenance on organic equipment.
- Provides management and coordination of volume reproduction units and visual information (VI) units at EAC.
- Provides staff supervision of software management, to include managing all signal software, managing all noncombatant service support software, and advising the command and staff on automation matters.

4-13. The TSC depends on Army units for health, finance, legal, personnel, and administrative services and supplemental transportation, to include aviation for maintenance contact teams and C2. This unit requires that 100 percent of its TOE and supplies be transported in two surface movements, using its authorized organic vehicles and supplemental transport. It depends on the signal telecommunications battalion (area) for signal communications facilities. See Appendix B for further information on this organization.

4-14. The TSC is authorized an additional 70 secure telephones and 100 nonsecure telephones with appropriate associated support items of equipment (ASIOE) to provide service to those organizations who do not provide their own instruments.

SIGNAL VISUAL INFORMATION COMPANY, TOE 11613L0

4-15. The signal VI company's (TA) mission is to provide visual imagery acquisition and exploitation support to satisfy the operational requirement of the ASCC and joint headquarters when required. The unit can assist in the coordinated defense of its area or installation. Figure 4-3 shows the organization of a signal visual information company.

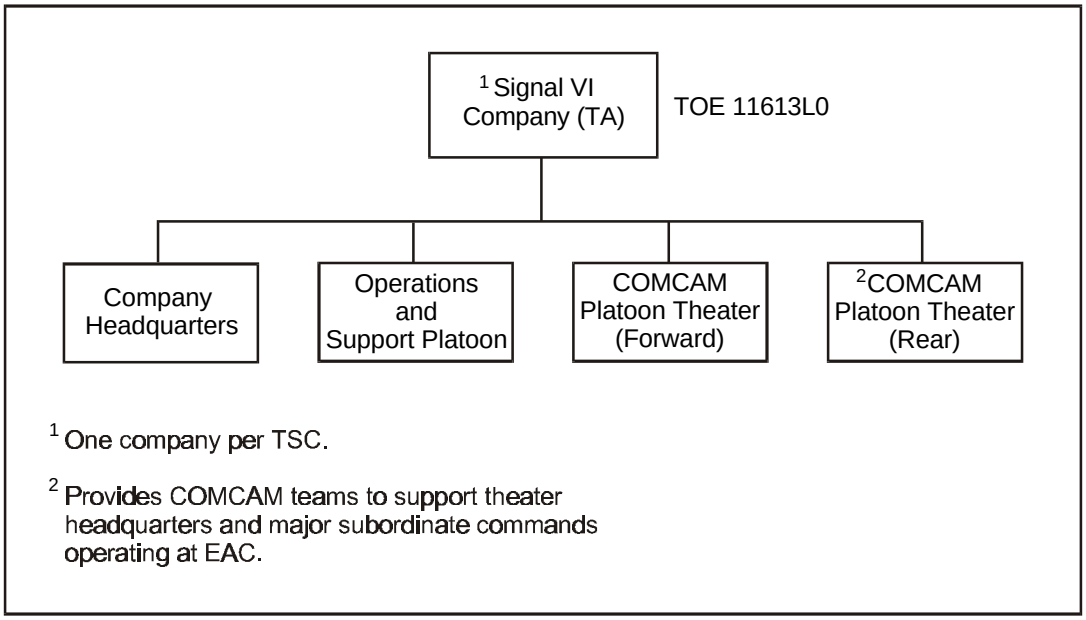


Figure 4-3. Signal VI Company

4-16. Signal VI company (TA) provides–

- Tailored VI products, including graphics, to support operational requirements.
- Historical documentation to support the Army VI documentation program.
- Processing, maintenance, and repair support of VI to ASCC units beyond the capacity of those units.

4-17. This unit depends on the ASCC for health, legal, religious, finance, personnel, and administrative services; transportation; communications; and support for transmission of VI on data capable communication lines across the corps. The TSC provides food service and communications-electronics (CE) maintenance support. See FM 24-40 for further information on this organization.

HHC THEATER SIGNAL BRIGADE, TOE 11612L000

4-18. The EAC HHC theater signal brigade has two to five signal battalions depending on mission and theater requirements. Units assigned to the brigade include one or two POWER PAC3 companies, signal telecommunications battalion (area), theater tactical signal battalion, and signal battalion (composite). The theater signal brigade is modular to allow for the tailoring of a suitable force to accomplish the specific mission.

4-19. This unit provides theater tactical communications support to a theater CINC. It is doctrinally under the C2 of the deployed TSC. If there is not a TSC deployed to the theater, then it is under the C2 of the USASC and OPCON to the deployed ASCC Headquarters.

4-20. Each battalion is tailored to the supported theater. Each brigade can establish up to 12 or 16 area nodes**.** The organization reflects the planned or expected needs of the COMMZ.

4-21. This unit's mission is to–

- Provide C2 of assigned and attached units.
- Install, operate, and maintain assigned portions of the TCS as directed by the TSC.
- Coordinate the training, administration, and logistical support of assigned units.

4-22. This unit provides–

- Provides staff planning, C2, and supervision of the brigade.
- Coordinates the training, administration, and logistical support of assigned units.
- Performs unit maintenance on organic equipment, except CE equipment.

4-23. This unit depends on Army units for–

- Health, finance, legal, personnel, and administrative support services.
- NBC decontamination.
- Supplemental transportation services, to include aviation support for C2 of dispersed sites.
- Evaluation and replacement of critical equipment.
- CP/relay site reconnaissance, as required.

4-24. This unit also depends on subordinate battalions (signal telecommunications battalion or theater tactical signal battalion) for DS maintenance of signal and COMSEC equipment, food service and signal unit maintenance.

4-25. Each theater signal brigade can directly control up to 16 nodes. Figure 4-4 gives an example of a notional theater signal brigade force structure. See Appendix B for further information on this organization.

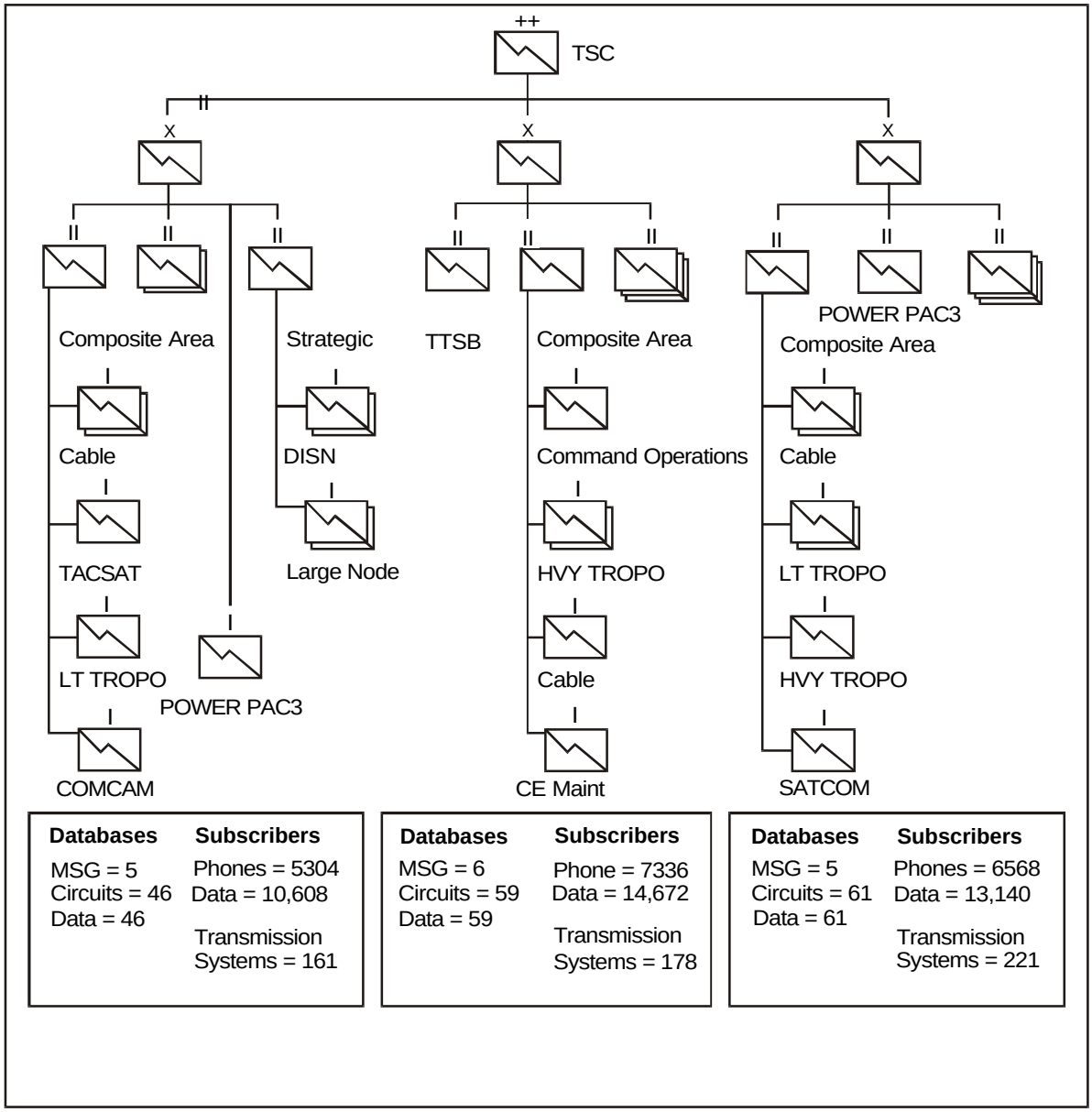


Figure 4-4. Notional Signal Brigade Force Structure

POWER PAC3 COMPANY, TOE 11600A

4-26. The following paragraphs describe the mission and capabilities of the Power PAC3 company (also known as the EAC contingency company). Figure 4-5 shows the unit structure during the intermediate TOE life of the unit. Figure 4-6 shows the objective TOE structure (the desired end-state configuration of the unit after all equipment upgrades have occurred).

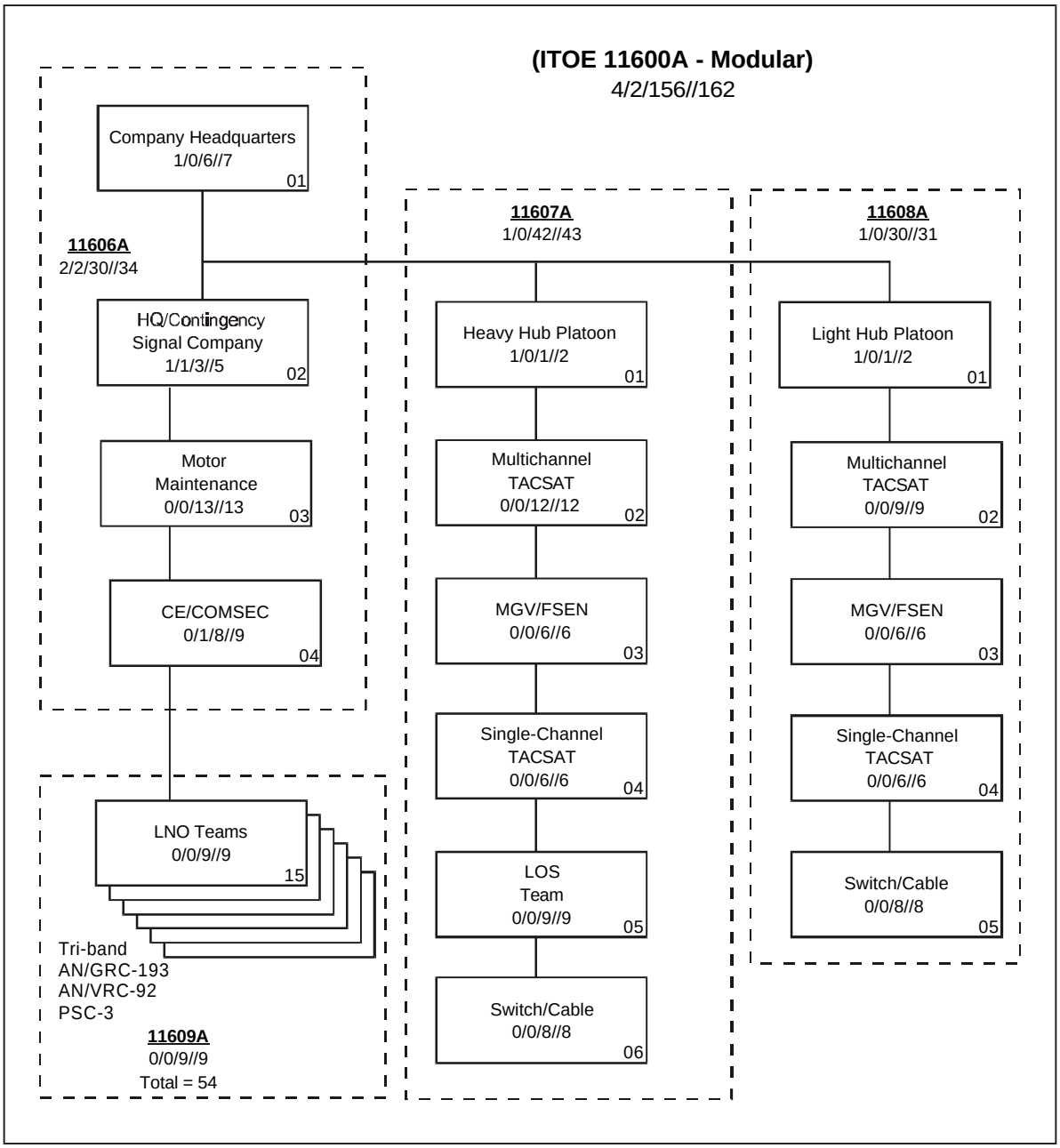


Figure 4-5. EAC POWER PAC3 Company Intermediate TOE Structure

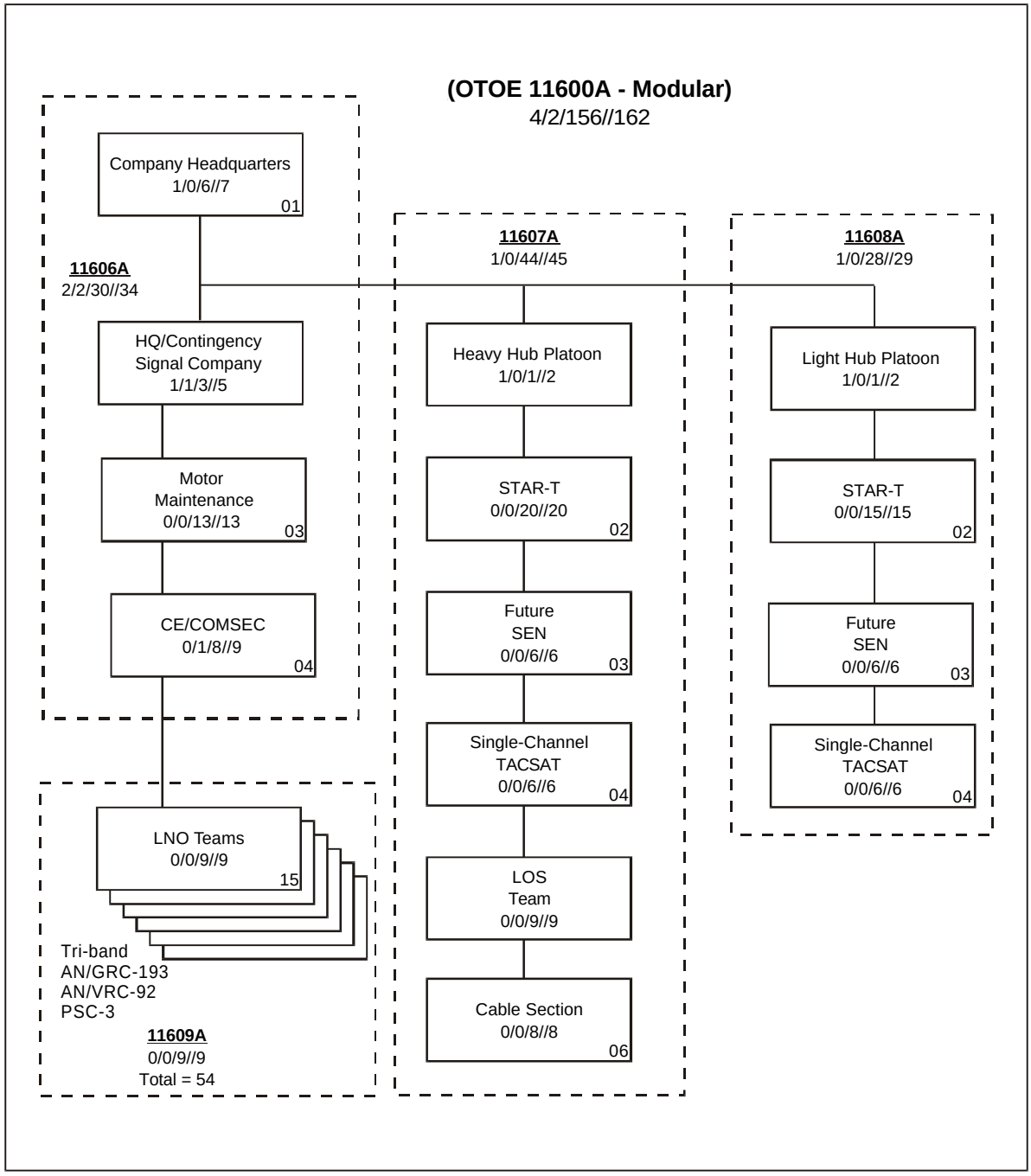


Figure 4-6. POWER PAC3 Company Objective TOE Structure

4-27. The POWER PAC3 company's mission is to rapidly deploy and support initial information service requirements of the ASCC. Working in concert with deployed Army mobile liaison teams, the organizations are mutually supportive and can meet the entire gamut of communications/ information needs of the ground component commander until the arrival of the TSC. The

company can extend US strategic communications systems to support of allied forces.

4-28. The POWER PAC3 company is a critical C2 communications provider, which serves to ensure success during power projection operations. The unit is highly mobile and is tailored to any warfighting ground component commander's mission essential communications and information needs.

4-29. The POWER PAC3 company can deploy into a logistically austere theater with little or no communications infrastructure. The unit must sustain itself for up to 45 days; therefore, the operator/maintainer must maximize all equipment.

4-30. This unit provides–

- Command, staff planning, control, and supervision of the operations of the company to include any augmenting of personnel or material assets.
- Vehicular, electronic, and COMSEC maintenance and repair, as well as supply facilities to support company operations.
- Communications network planning and management.

4-31. On ARFOR deployment, POWER PAC3 company's configuration is determined by mission requirements. Generally, the POWER PAC3 company is broken down into three sections: the ARFOR Main CP, ARFOR Forward CP, and six liaison officer (LNO) signal support teams (SSTs). Each section provides a variety of communications capabilities for the headquarters it supports. Assets from the LNO teams could extend the theater information infrastructure to support other or additional support missions. Figure 4-7 shows the POWER PAC3 company's AOR support requirements.

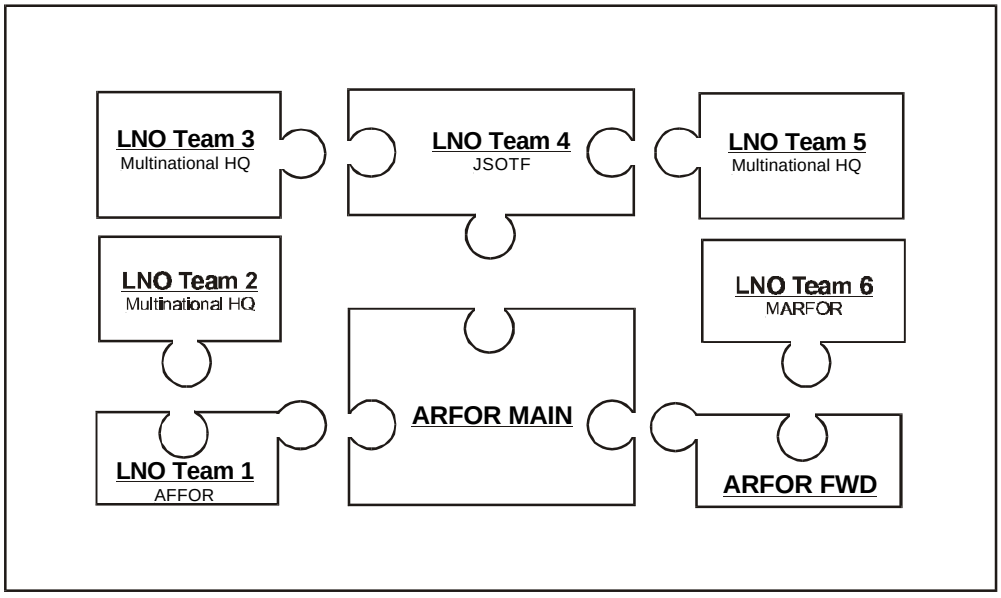


Figure 4-7. POWER PAC3 Company's AOR Support Requirements

4-32. The POWER PAC3 company depends on the TSC for health, religious, finance, personnel, administration, petroleum, oils, and lubricants (POL), ammunition, and food services. Army aviation units provide intertheater supplemental air transportation. The company is a modular organization that has a headquarters/contingency company with an LNO team, a heavy hub platoon, and a light hub platoon.

Headquarters/Contingency Company, TOE 11606A000

4-33. The headquarters/contingency company has a company headquarters section, network management section, motor maintenance section, CE/COMSEC maintenance section, and LNO team.

4-34. This company is responsible for the C2, management, network engineering, maintenance, supervision, and support of company personnel to include LNO SSTs and any augmentation assets.

4-35. The contingency company engineers the installation of the communications systems required for the ARFOR, supervises and manages the operation of the network, and resolves technical problems.

LNO Team, TOE 11609A000

4-36. The LNO team has six SSTs. Each SST has a super high frequency (SHF) tri-band advanced range extension terminal (STAR-T) team and a retransmission/single-channel TACSAT team. The SST is assigned to an Army LNO team and attached to a designated joint, coalition, or allied headquarters.

4-37. The POWER PAC3 company's LNO signal support team installs, operates, and maintains communications equipment and provides information services to the liaison team. This is done by SATCOM, digital voice switching, and commercial and HN communications access. Each LNO SST is tailored to mission requirements and has a standardized integrated CP shelter.

4-38. Each team has the necessary equipment assigned to them for direct communications back to ARFOR Main CP and/or ARFOR Forward CP. A typical support package provides 32 local secure terminal connections, one local LAN loop, and connectivity to two extended LANs via X.25 ports which support access to the tactical packet network (TPN). For full-scale POWER PAC3 company deployment, these SSTs should provide full information services to 16 subscribers per site.

4-39. This unit is authorized an additional 12 secure telephones and 48 nonsecure telephones with appropriate ASIOE to provide service to those organizations who do not provide their own instruments.

Heavy Hub Platoon, TOE 11607A000

4-40. The heavy hub platoon has a STAR-T section, retransmission/single-channel TACSAT section, line-of-sight (LOS) radio section, future small extension node (SEN) section, and cable and wire section. This platoon is responsible for the following information services (secure and nonsecure) at the ARFOR Main CP:

- Digital voice switching.
- Commercial and HN communications access.
- LOS multichannel radio.
- SATCOM.
- Cable and wire operations and message processing.
- NIPIRNET (e-mail) access.

4-41. A typical support package provides 128 local secure terminal connections, four local LAN loops, and connectivity to eight extended LANs via X.25 ports which support access to the TPN.

4-42. This unit is authorized an additional 70 secure telephones and 222 nonsecure telephones with appropriate ASIOE to provide service to those organizations who do not provide their own instruments.

Light Hub Platoon, TOE 11608A000

4-43. The light hub platoon has a STAR-T section, retransmission/single-channel TACSAT section, and future SEN section. This platoon installs, operates, and maintains communications equipment at ARFOR Forward CP and provides information services (secure and nonsecure) to include message processing and NIPIRNET (e-mail) access. This is done through SATCOM, cable and wire operations, digital voice switching, and commercial and HN communications.

4-44. A typical support package provides 96 local secure terminal connections, three local LAN loops, and connectivity to six extended LANs via X.25 ports which support access to the TPN.

4-45. This unit is authorized an additional 70 secure telephones and 222 nonsecure telephones with appropriate ASIOE to provide service to those organizations who do not provide their own instruments.

POWER PAC3 Company Capabilities

4-46. **Combat Net Radio (CNR).** Secure single-channel TACSAT provides an unlimited range for contingency deployment en route communications, in-theater communications, mobile operations, intelligence broadcast, and CNR users. The ARFOR Main CP, ARFOR Forward CP, and each LNO team have single-channel TACSAT terminals.

4-47. Commercial single-channel TACSAT provides worldwide voice and data access at low- to medium-data rates. The ARFOR Main CP, ARFOR Forward CP, and each LNO team have commercial terminals.

4-48. Improved high-frequency radio (IHFR) systems provide long-haul secure voice and limited low-rate data. Its primary mission is to provide

redundant internal C2 and engineering between geographically dispersed signal teams. IHFR is located at the ARFOR Main CP, ARFOR Forward CP, and each LNO team location.

4-49. Secure frequency modulated (FM) radio/Single-Channel Ground and Airborne Radio System (SINCGARS) is located at the ARFOR Main CP, ARFOR Forward CP, and each LNO team location.

4-50. **Multichannel Communications**. The STAR-T provides multichannel communications connectivity internal to the theater and external between the theater and sustaining base. The transponder-based satellite system operates in the X (DSCS), C, and Ku (commercial) SHF bands. The ARFOR Main CP, ARFOR Forward CP, and each LNO team have STAR-T terminals. The STAR-T has an integrated switching capability, supports local subscribers, terminates digital trunk groups (DTGs) from LOS terminals and other STAR-Ts.

4-51. The AN/TSC-143, (tri-band) terminal is the prototype STAR-T and will be fielded as an interim solution. It has embedded switching which functions as both tandem and private branch exchange (PBX). It will replace the current AN/TTC-39 and AN/TTC-48 switches and the AN/TSC-85 and AN/TSC-93 satellite terminals.

4-52. The STAR-T will replace the currently fielded multichannel TACSAT assets. During the transition, the STAR-T interoperates with the AN/TSC-85 and AN/TSC-93 SATCOM terminals. These terminals provide low-, medium-, and high-capacity multiplexed data and voice circuits and can be used in point-to-point, hub-spoke, and mesh networks. These terminals operate in the military portion of the SHF X-band frequency range over the DSCS and can only interface with the STAR-T in the X-band.

4-53. The POWER PAC3 company uses LOS equipment to interface with the STAR-T integrated switch. It will be used at the ARFOR Main CP to allow for geographical dispersion of site circuits throughout the CP AOR.

4-54. **HN and Commercial Communications**. HN and commercial communications has local switching centers, loop distribution networks, and interswitch transport systems (radio, cable, fiber optics, and satellite). HN systems vary from country to country, but basic international standards apply.

4-55. **Tactical Packet Network.** The TPN is a data network made up of interconnected packet switches overlaid on the circuit switched network. Users access the TPN by directly connecting to the packet switch or to a LAN. The TPN provides users the ability to pass data throughout the battlefield and back to the sustaining base through defense integrated secure network (DISNET) 1.

4-56. The STAR-T located at the ARFOR Main CP, ARFOR Forward CP, and each LNO team site provides packet switching. The STAR-T has an integrated packet switching capability and supports users via LANs. Additional users can connect directly to the packet switch or through dial-up into the circuit switch.

4-57. **Mobile Gateway Van.** The absence of multilevel security (MLS) prevents users on the TPN from sending and receiving e-mail messages to the sustaining base through the unclassified NIPIRNET. The MGV provides an interim solution for tactical users.

4-58. The MGV provides a tactical extension of the unclassified NIPIRNET for tactical users through router technology/packet network. The MGV provides users e-mail, file transfer, and telecommunications network (TELNET) capabilities over the NIPIRNET.

4-59. Two MGVs are available for each POWER PAC3 company. The MGV will provide NIPIRNET access to all users on the battlefield. The data team located at the ARFOR Main CP installs, operates, and maintains the MGV.

4-60. **Down-Sized Message Switch**. POWER PAC3 company provides messaging capability via DMS products directly connected to the tactical network which may be used for sending and receiving both general support (GENSER) (R) and DSSCS (Y) formal record traffic.

4-61. Users can access the switch directly through an encryption device or by dialing the circuit switch with a secure telephone. Subscribers without a direct or dial-up connection can send and receive messages directly from the message center (over-the-counter). The message center is located at the ARFOR Main CP.

4-62. **Tactical VTC System.** VTC service with worldwide connectivity is possible through tactical communications systems. Recent lessons learned demonstrate enhancement of the commander's span of control through VTC support. A deployed commander can meet face-to-face with either subordinate or senior commanders on a moment's notice through tactical VTC systems. Secure networks support these systems. A tactical VTC system would be based out of the ARFOR Main CP and provide connectivity with the Forward and LNO sites and as strategic locations via network gateways.

4-63. Emerging technology has made VTC communications an extremely viable combat multiplier for the commander. As additional services become available, they will be integrated with POWER PAC3 company's capabilities.

SIGNAL TELECOMMUNICATIONS BATTALION (AREA), TOE 11635L

4-64. This unit's mission is to install, operate, and maintain communications nodes. This unit provides two extension nodes to support medium-sized functional commands (such as the MEDCOM or PERSCOM).

4-65. This unit can install area communications system facilities consisting of three or four area nodes, 12 SENs, and two medium headquarters extension nodes with three organic area signal companies (see Figure 4-8).

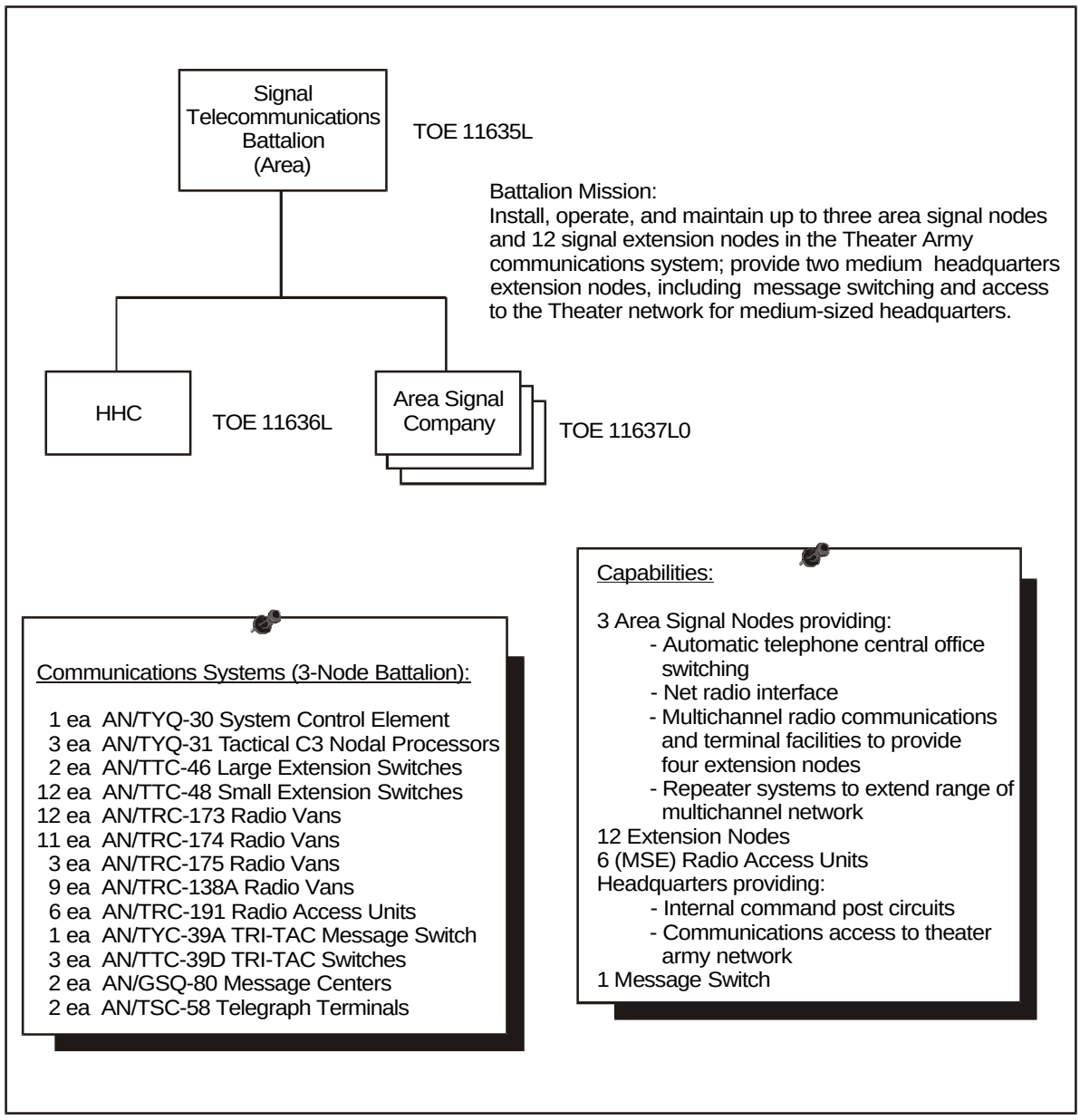


Figure 4-8. Signal Telecommunications Battalion (Area)

4-66. Figure 4-9 shows an example of three telecommunications battalion's doctrinal employment.

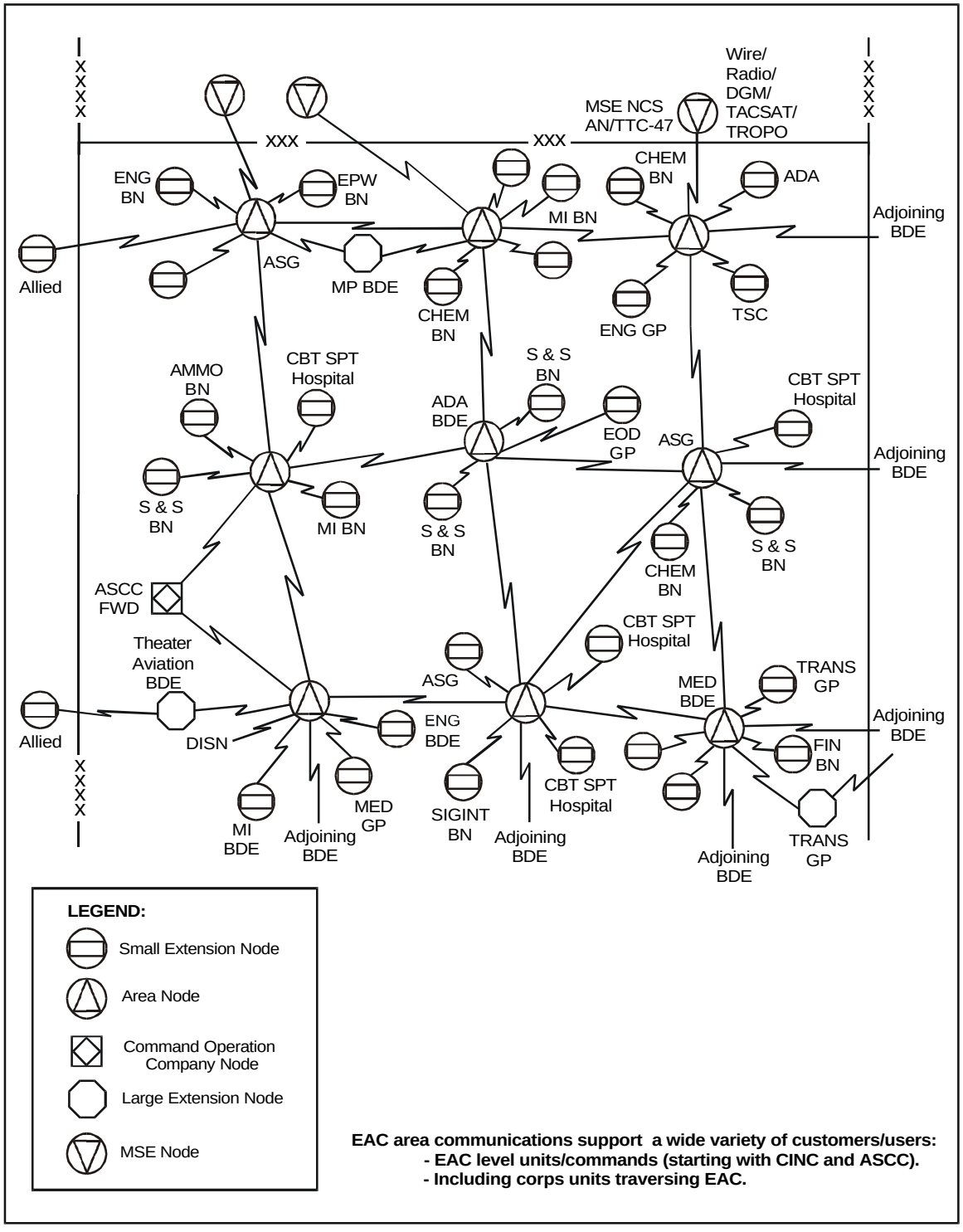


Figure 4-9. Doctrinal Employment of Telecommunications Battalions

HHC Signal Telecommunications Battalion (Area), TOE 11636L

4-67. This unit's mission is to–

- Provide C2 and administrative and logistical support for a signal telecommunications battalion (area).
- Install, operate, and maintain two medium headquarters extension nodes for internal CP communications and access to the area communications system.

4-68. Figure 4-10 shows the organization of a HHC signal telecommunications battalion (area).

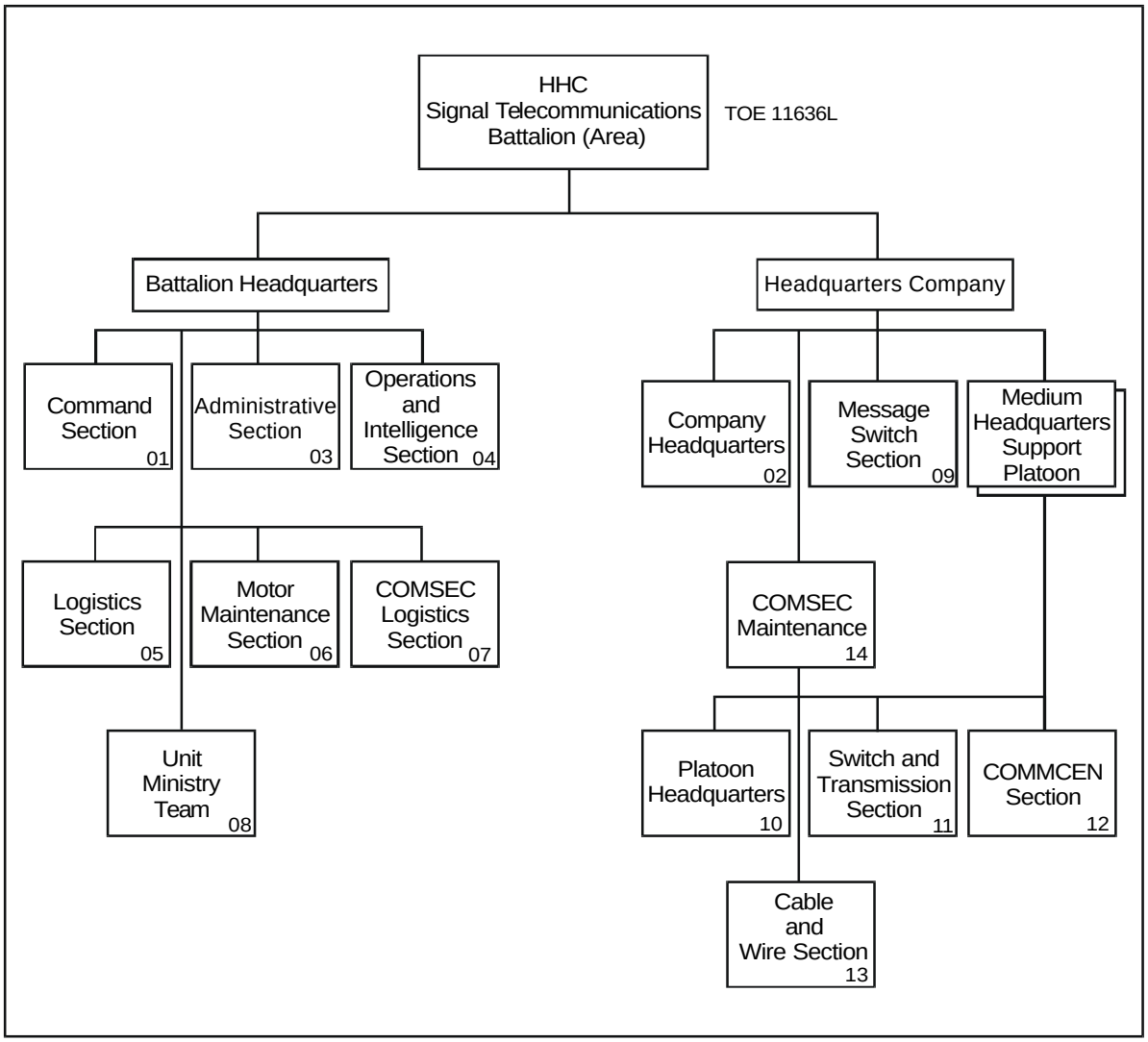


Figure 4-10. HHC Signal Telecommunications Battalion (Area)

4-69. This unit provides–

- C2, staff planning, and supervision of the battalion.
- Administrative and logistical support for the battalion to include–
  - Unit administration for assigned or attached units.
  - Staff supervision of automotive, power generation, and air conditioning equipment maintenance.
  - Backup unit maintenance and vehicle recovery for organic companies.
  - Bulk fuel resupply for units assigned to the battalion.
  - COMSEC DS maintenance for the battalion.
- Two medium headquarters extension node platoons that provide internal CP circuit and message switching, communications access, and over-the-counter service to the ASCC area communications systems for a medium size headquarters. (For example, TAACOM, MEDCOM, ENCOM, PERSCOM, TRANSCOM, and other comparable sized units.)
- Message switching facility for operation at one of three area nodal centers.
- Consolidated property book for assigned units.

4-70. This unit is authorized an additional 70 secure telephones and 100 nonsecure telephones with appropriate ASIOE to provide service to those organizations who do not provide their own instruments.

4-71. This unit depends on the ASCC for health, personnel; finance, legal, and administrative services; supplemental transportation; and photographic and construction engineer support. It is colocated with an area signal company for DS maintenance for CE equipment and food service support.

Area Signal Company, TOE 11637L0

4-72. This unit's mission is to install, operate, and maintain an area node and extension signal nodes in the common-user area nodal system of the TCS Figure 4-11 shows the organization of an area signal company. Figure 4-12 shows the area signal company site layout.

4-73. An area signal company area node provides–

- Automatic telephone office switching facilities, AN/TTC-39D.
- Net radio interface (NRI) for FM voice radio access to the TCS.
- Multichannel radio communications facilities that terminate systems between the area node, adjacent area nodes, and extension nodes.
- Multichannel radio terminal facilities, AN/TRC-173, that provide four extension switching nodes for units requiring access to the TCS.
- Multichannel radio communications repeater stations, AN/TRC-174, that extend the range of the multichannel radio system.
- Communications system control element (CSCE), AN/TYQ-31, for the management and control of the signal node facilities.

- Food service and unit level maintenance of organic equipment and DS maintenance on organic signal equipment.
- Two MSE radio access units (RAUs), AN/TRC-191, that provide subscriber access to the TCS.
- Food service and DS maintenance for CE equipment organic to headquarters and headquarters company (HHC) signal telecommunications battalion (area).

4-74. Each telecommunications company (area) is authorized an additional 97 secure telephones and 168 nonsecure telephones with appropriate ASIOE to provide service to those organizations who do not provide their own instruments.

4-75. This unit depends on the HHC signal telecommunications battalion (area) for refueling services, unit level administration, religious support, and DS for COMSEC equipment. The unit depends on the ASCC for health services, finance, legal, and transportation services.

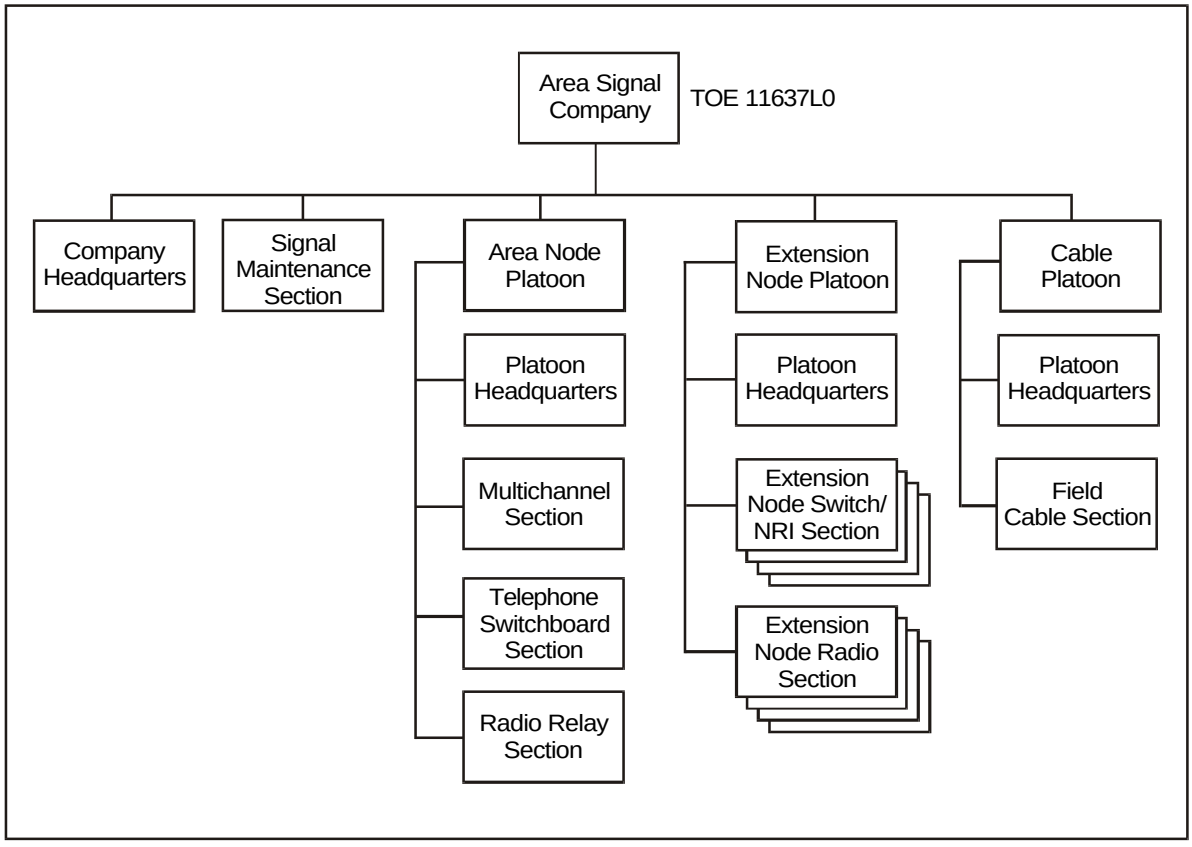


Figure 4-11. Area Signal Company

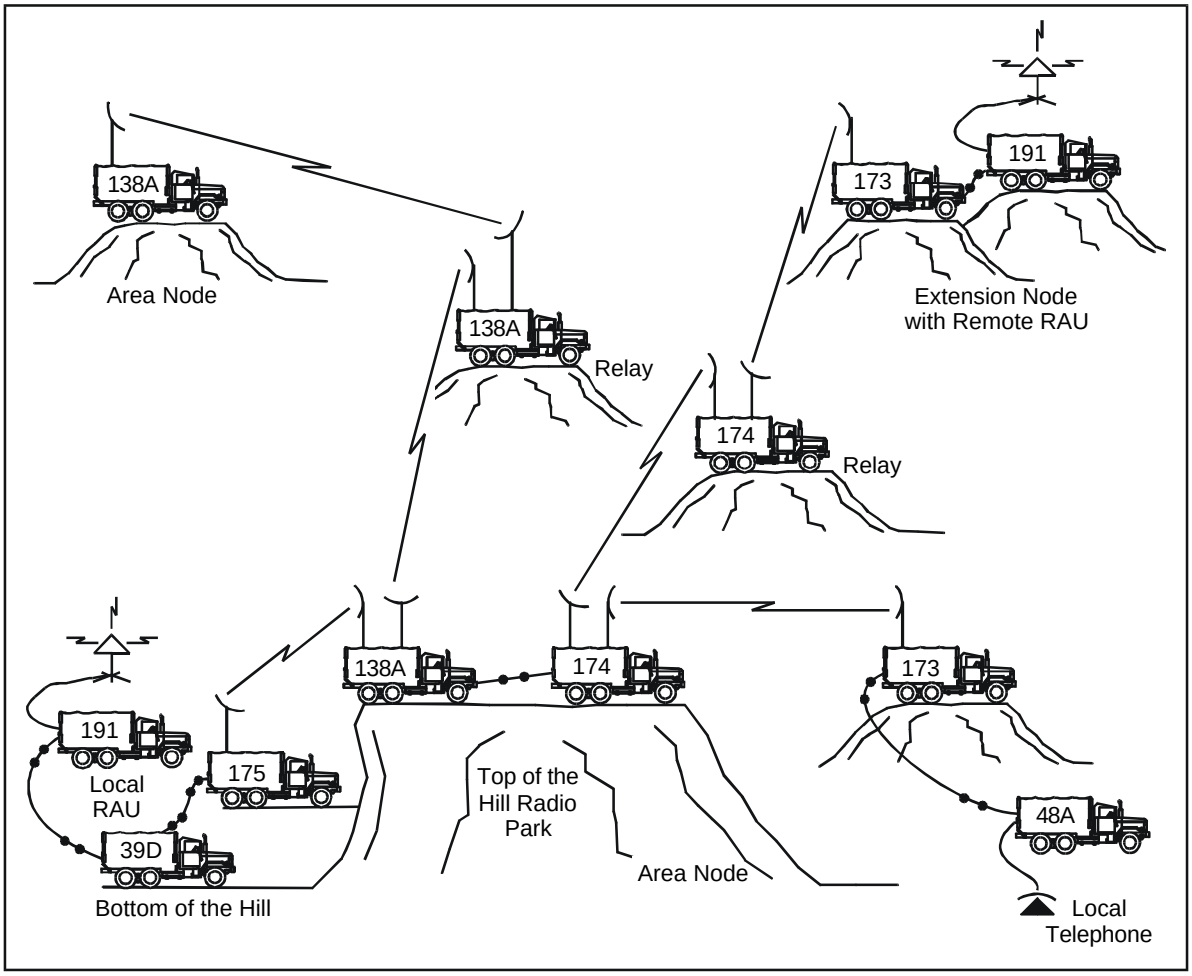


Figure 4-12. Area Signal Company Site Layout

SIGNAL BATTALION (COMPOSITE)

4-76. The signal battalion's (composite) mission is to install, operate, and maintain long-haul communications as part of the TSC and provide communications equipment to support JCS operations. Figure 4-13 shows the organization of the signal battalion (composite).

4-77. The battalion accomplishes its long-haul mission with a headquarters and headquarters detachment (HHD) signal battalion and five unique signal communications companies.

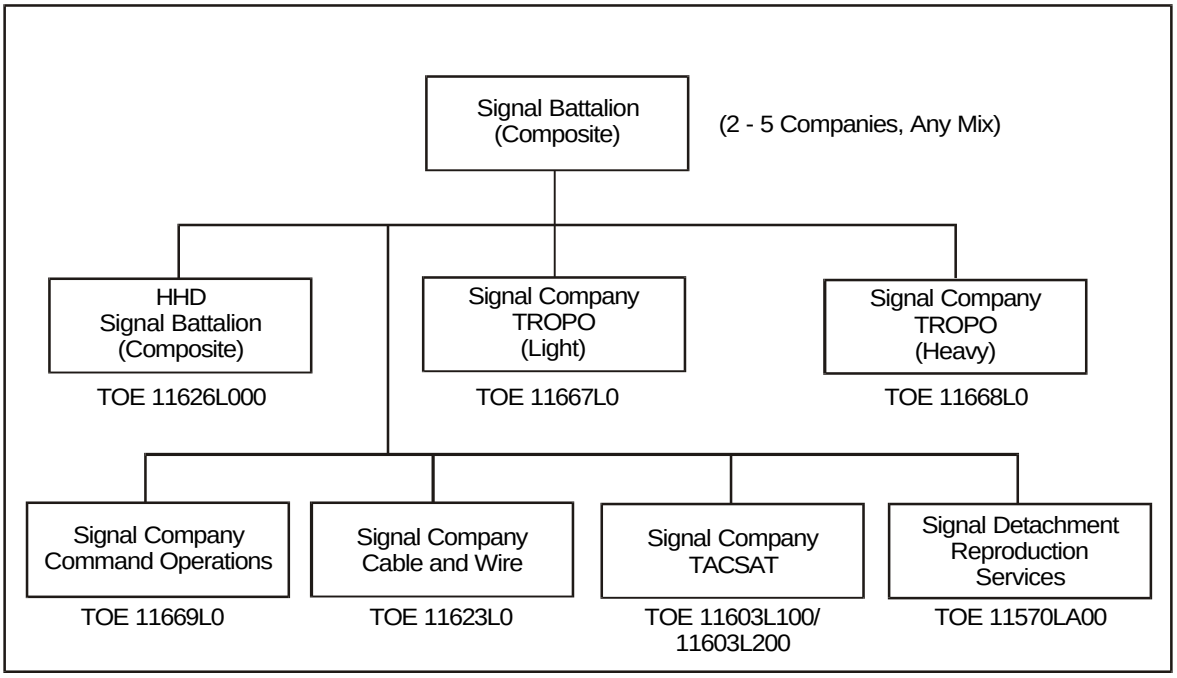


Figure 4-13. Signal Battalion (Composite)

HHD Signal Battalion (Composite), TOE 11626L000

4-78. This unit's mission is to provide C2 of assigned or attached units logistics support and internal security to the headquarters. Figure 4-14 shows the organization of a HHD signal battalion (composite).

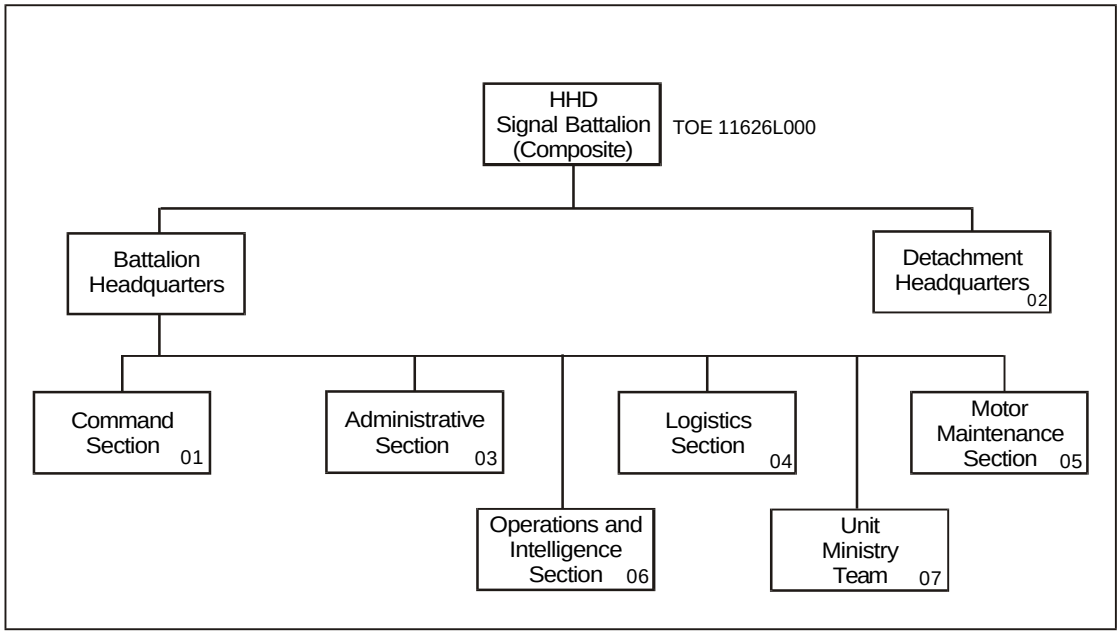


Figure 4-14. HHD Signal Battalion (Composite)

4-79. This unit–

- Provides C2, staff planning, and supervision of a signal battalion, consisting of two to five companies.
- Maintains a consolidated property book for assigned units.
- Supplements an assigned unit with food service and motor maintenance support.
- Provides religious support for the battalion.
- Provides a unit maintenance technician (light), who is responsible for ensuring that maintenance is correctly performed in the unique communications companies.

4-80. This unit depends on assigned units for maintenance of wheeled vehicles, generators, and air conditioners. It also depends on the ASCC for unit-level health, legal, finance, personnel, administrative, and food services; COMSEC maintenance; and supplemental transportation and vehicle recovery. This unit depends on subordinate companies for DS of CE/COMSEC maintenance.

Signal Company, Tropo (Light), TOE 11667L0

4-81. This unit's mission is to provide multichannel troposcatter radio communications links for long-distance communications. Figure 4-15 shows the organization of a signal company, tropo (light).

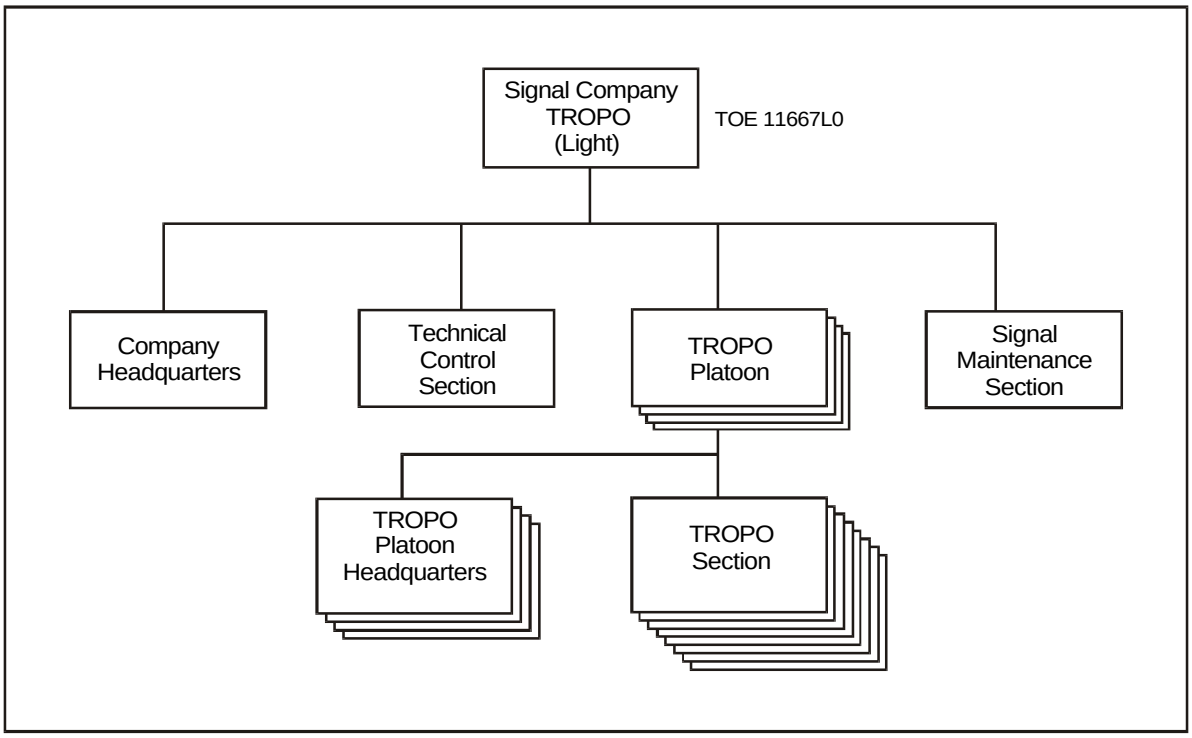


Figure 4-15. Signal Company, Tropo (Light)

4-82. This unit (AN/TRC-170V3)–

- Installs, operates, and maintains eight troposcatter radio communications links (two terminals per link). These links can span a distance of up to 161 kilometers (100 miles) with maximum traffic channels.
- Provides circuit patching and limited test facilities that provide a limited technical control capability.
- Provides food service and performance of DS maintenance on all organic signal and COMSEC equipment, and unit maintenance and vehicle recovery on organic equipment.

4-83. This unit depends on the ASCC for health services; legal, religious, finance, personnel, and administrative services; and supplemental transportation.

Signal Company, Tropo (Heavy), TOE 11668L0

4-84. The unit's mission is to provide multichannel troposcatter radio communications links for long-distance communications in the COMMZ. Figure 4-16 shows the organization of a signal company, tropo (heavy).

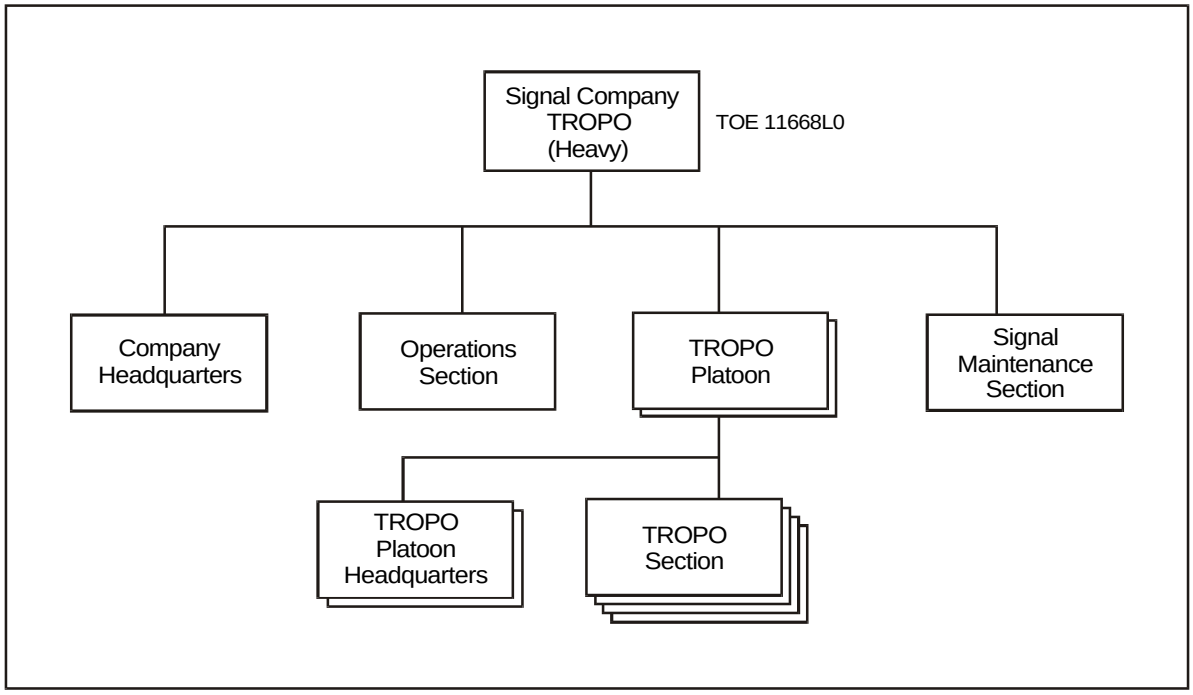


Figure 4-16. Signal Company, Tropo (Heavy)

4-85. This unit–

- Installs, operates, and maintains four troposcatter radio communications links (two terminals per link). These links can span up to 241 kilometers (150 miles).
- Operates in dual or quad diversity mode (space and frequency).
- Provides food service.
- Provides DS maintenance on all organic signal and COMSEC equipment.
- Provides unit maintenance and vehicle recovery on organic equipment.

4-86. This unit depends on the ASCC for–

- Health, legal, religious, financial, personnel, and administrative services.
- Supplemental transportation.
- Communications systems engineering support, to include frequency allocation, transmission path determination, antenna or orientation survey, and communications plan layout.
- Logistics support of CE equipment.

Signal Company (Command Operations Theater), TOE 11669L0

4-87. This unit's mission is to provide communications facilities in the TCS for an EAC MSC, ASCC Headquarters or an equivalent size headquarters Figure 4-17 shows the organization of a signal company (command operations theater).

4-88. The signal company (command operations theater) provides–

- Installation, operation, and unit maintenance of communications facilities supporting a major headquarters, which includes a main and rear or jump capability.
- Food service and unit-level maintenance of organic equipment and DS maintenance of CE/COMSEC equipment.
- Two circuit switches, AN/TTC-39D, providing service for up to 744 local telephones and one large extension switch providing service for up to 176 subscribers, both secure and nonsecure.
- Two technical control centers (TCC) for circuit patching, testing, and controlling terminal communications facilities.
- Four high-capacity LOS radio repeaters.
- Two 96-channel multiplex terminals for terminating the connecting links between the headquarters and two separate TCS switching centers.
- Two message switches, AN/TYC-39, equipped to provide facsimile service and normal message handling services to include over-the-counter service and messenger services with limited motor messenger capability.

- Two antenna erection teams to assemble and disassemble the antenna towers, extending the LOS multichannel over natural and manmade obstruction.

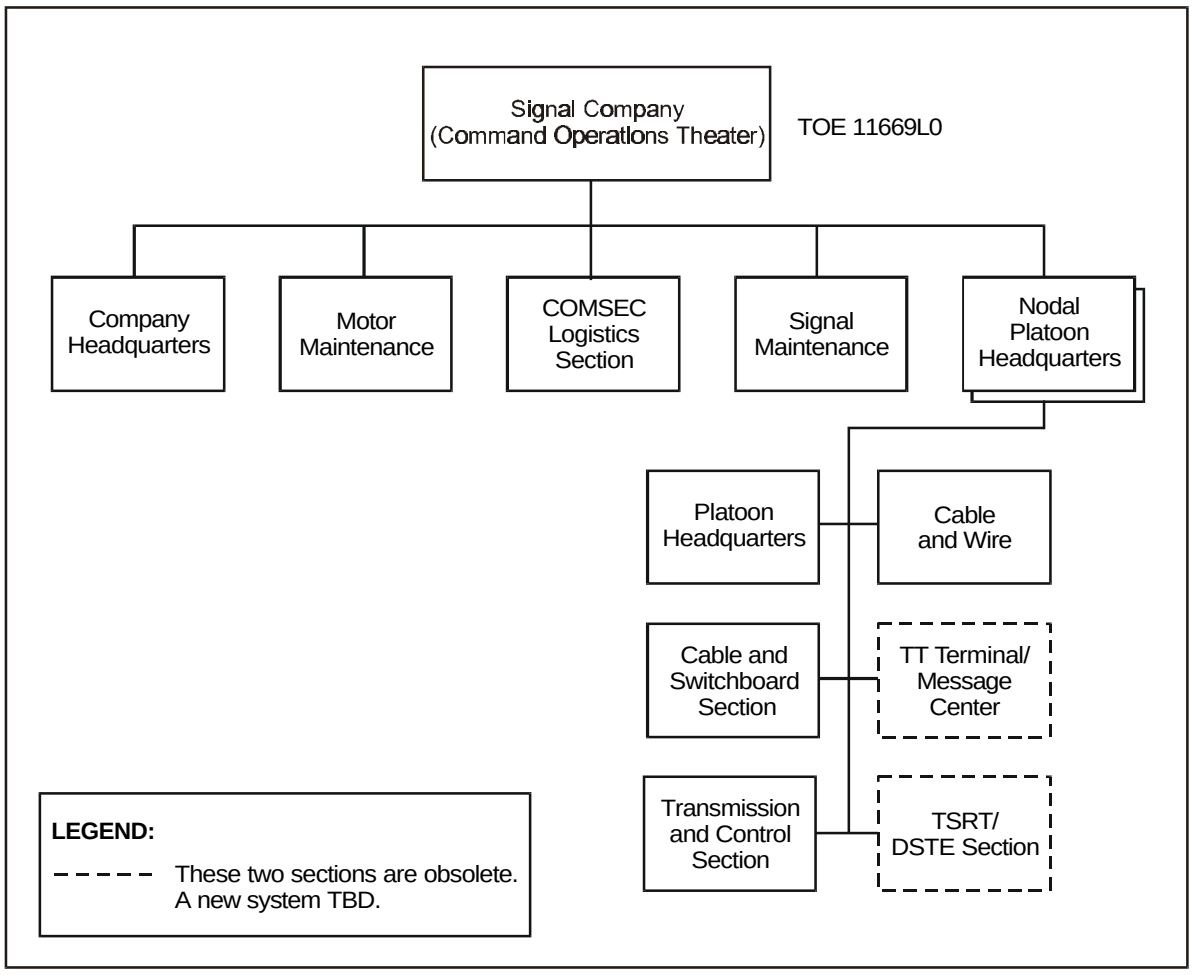


Figure 4-17. Signal Company (Command Operations Theater)

4-89. The signal company (command operations theater) is authorized an additional 157 secure telephones and 290 nonsecure telephones with appropriate ASIOE to provide service to those organizations who do not provide their own instruments.

4-90. This unit depends on the ASCC for health, financial, legal, religious, personnel, and administrative services; engineer construction support; and supplemental transportation requirements. It also depends on a signal cable and wire company for constructing all external coaxial cable systems.

Signal Company, Cable and Wire, TOE 11623L000

4-91. This unit's mission is to provide–

- Cable and wire circuits between major headquarters and subordinate units.
- Cable and wire circuits from multichannel radio sites to terminating or switching equipment.
- Interconnecting cables and wire between area nodes and the TCS.

4-92. Figure 4-18 shows the organization of a signal company, cable and wire.

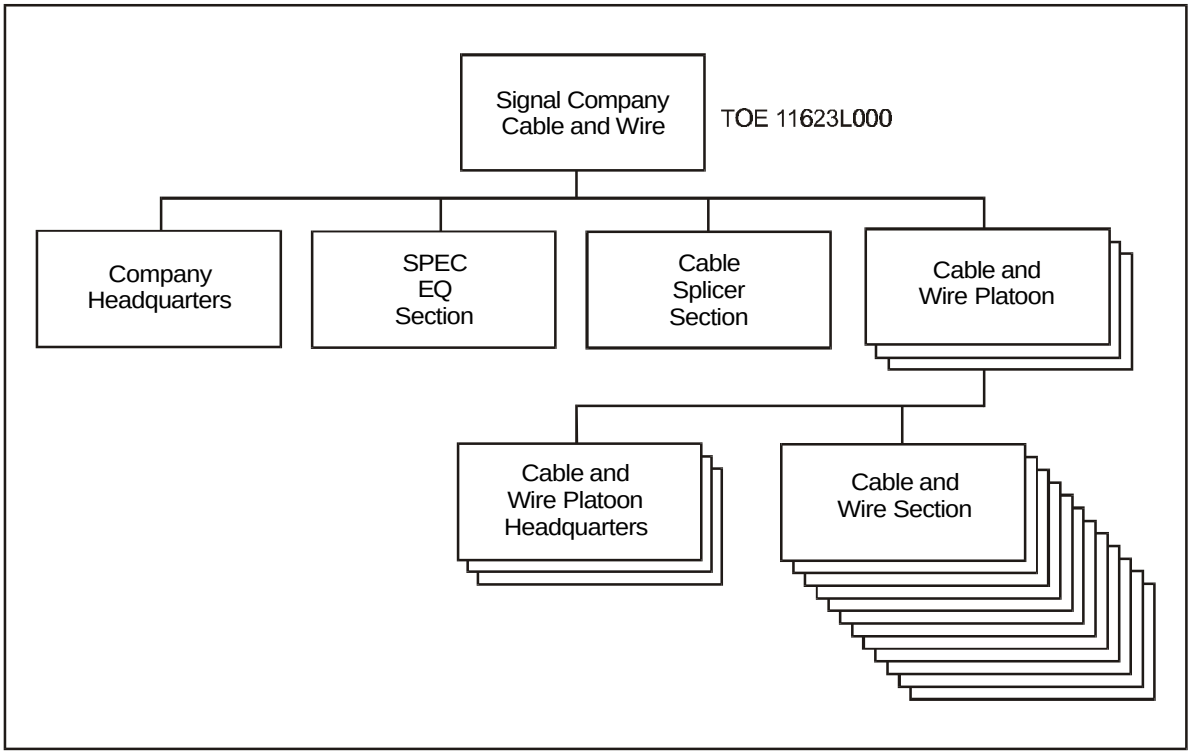


Figure 4-18. Signal Company, Cable and Wire

4-93. This unit–

- Installs, maintains, and repairs aerial, buried, or underground cable, wire, and fiber-optic transmission systems (FOTSs).
- Repairs and maintains indigenous cable and wire systems.
- Provides food service and unit maintenance on organic equipment.

4-94. This unit depends on the ASCC for unit-level health, finance, legal, personnel, and administrative services; supplemental transportation; COMSEC maintenance; and vehicle recovery over 5 tons. It also depends on a HHD, signal battalion for religious support.

Signal TACSAT Communications Company, TOE 11603L100/11603L200

4-95. This unit's mission is to provide TACSAT terminal facilities at major communications switching nodes and CPs in a TCS. The mission determines the type and quantity of TACSAT systems and identifies the tailoring of the TOE to support the requirement. Figure 4-19 shows the organization of a signal TACSAT communications company.

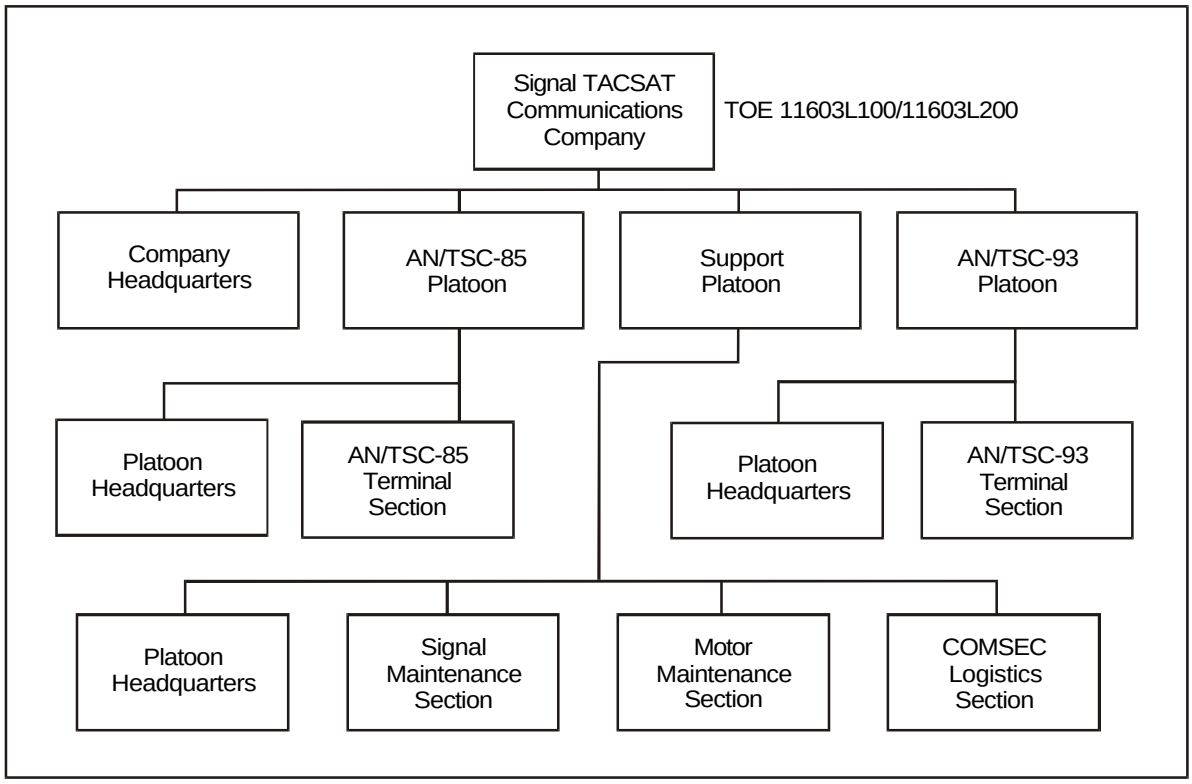


Figure 4-19. Signal TACSAT Communications Company

4-96. This unit–

- Installs, operates, and maintains eight SATCOM terminals (AN/TSC-85) and eight SATCOM terminals (AN/TSC-93) or six SATCOM terminals (AN/TSC-85) and 10 SATCOM terminals (AN/TSC-93).
- Provides multichannel TACSAT that provides connectivity between key EAC headquarters based on distance, terrain, criticality of links, and the need to augment LOS relays.
- Provides unit maintenance on all organic equipment and DS maintenance on organic COMSEC and signal equipment.
- Provides supplemental food service support.

4-97. This unit depends on Army units for–

- Health, religious, legal, financial, personnel, administrative, and food services.
- Bulk POL resupply.
- Supplemental transportation, including aircraft support for maintenance contact teams and critical equipment evacuation.

Signal Detachment, Reproduction Services, TOE 11570LB00

4-98. The signal detachment, reproduction services' mission is to provide volume reproduction for all Army units at theater level. Individuals of these organizations can assist in the coordinated defense of the unit's area or installation. Figure 4-20 shows the organization of a signal detachment, reproduction services.

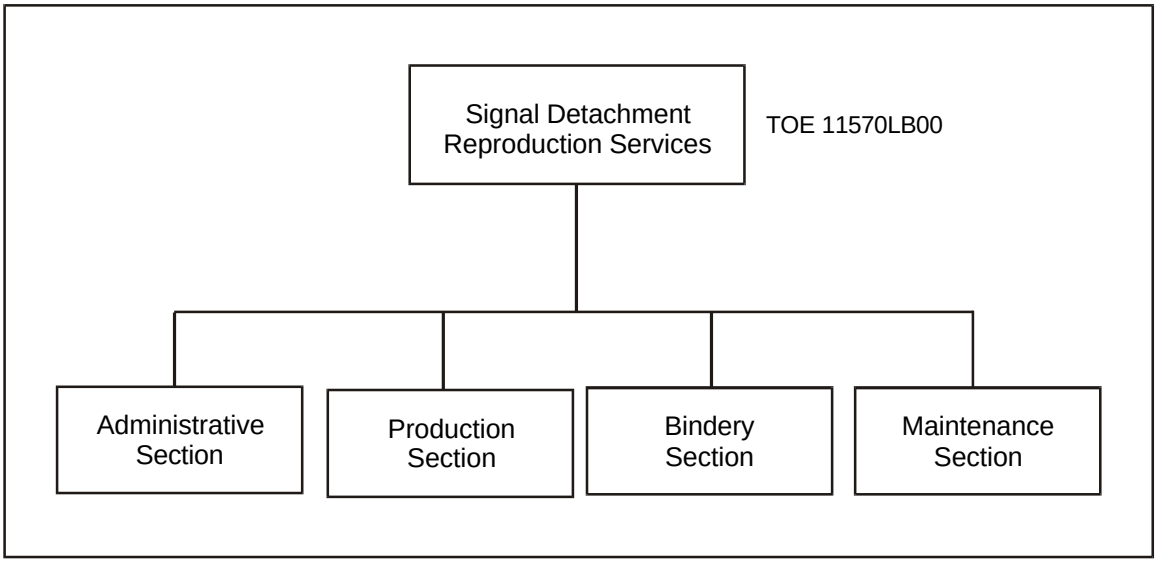


Figure 4-20. Signal Detachment, Reproduction Services

4-99. This unit installs, operates, and maintains a reproduction facility that provides volume reproduction services to units serviced. Reproduction services include duplicating, collating, binding, and packaging.

4-100. This unit depends on the ASCC for health services; legal, religious, finance, personnel, and administrative services; transportation; communications; and unit maintenance. This unit requires external support of truck tractors to deploy semi-trailers.

THEATER TACTICAL SIGNAL BATTALION, TOE 11685A000

4-101. The theater tactical signal battalion's mission is to install, operate, and maintain nodal communications support for the commander of the ARFOR component to a CINC or JTF contingency operation or a major regional conflict (MRC) deployment.

4-102. This unit accomplishes its mission with a HHC signal battalion and four communications companies (two command support companies, a minor support company, and a major support company). Figure 4-21 shows the organization of a theater tactical signal battalion. Figure 4-22 shows the notional deployment of a theater tactical signal battalion.

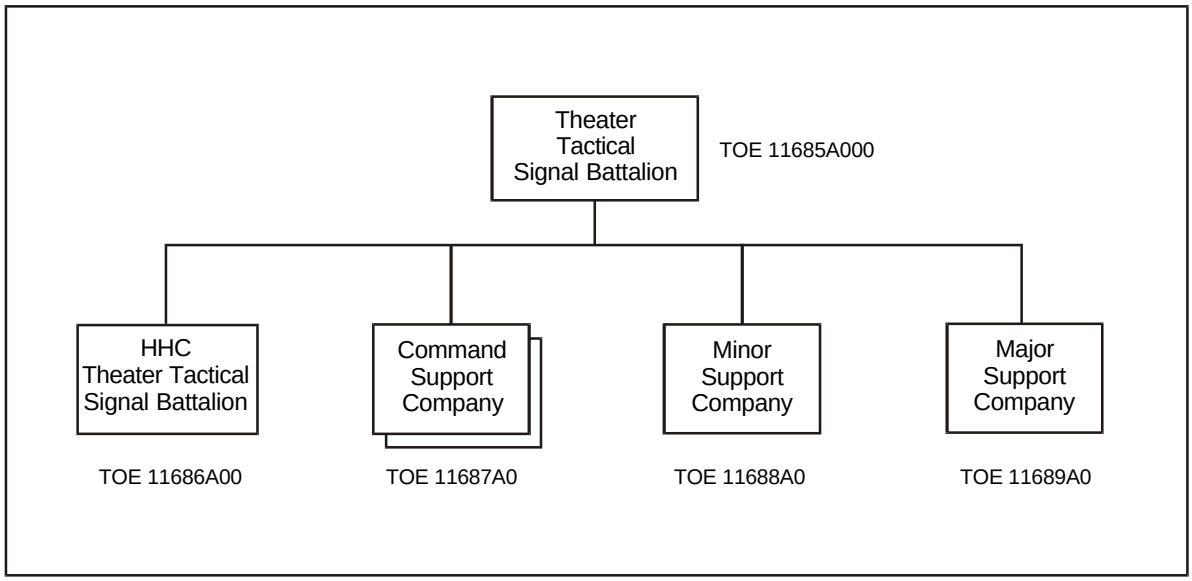


Figure 4-21. Theater Tactical Signal Battalion

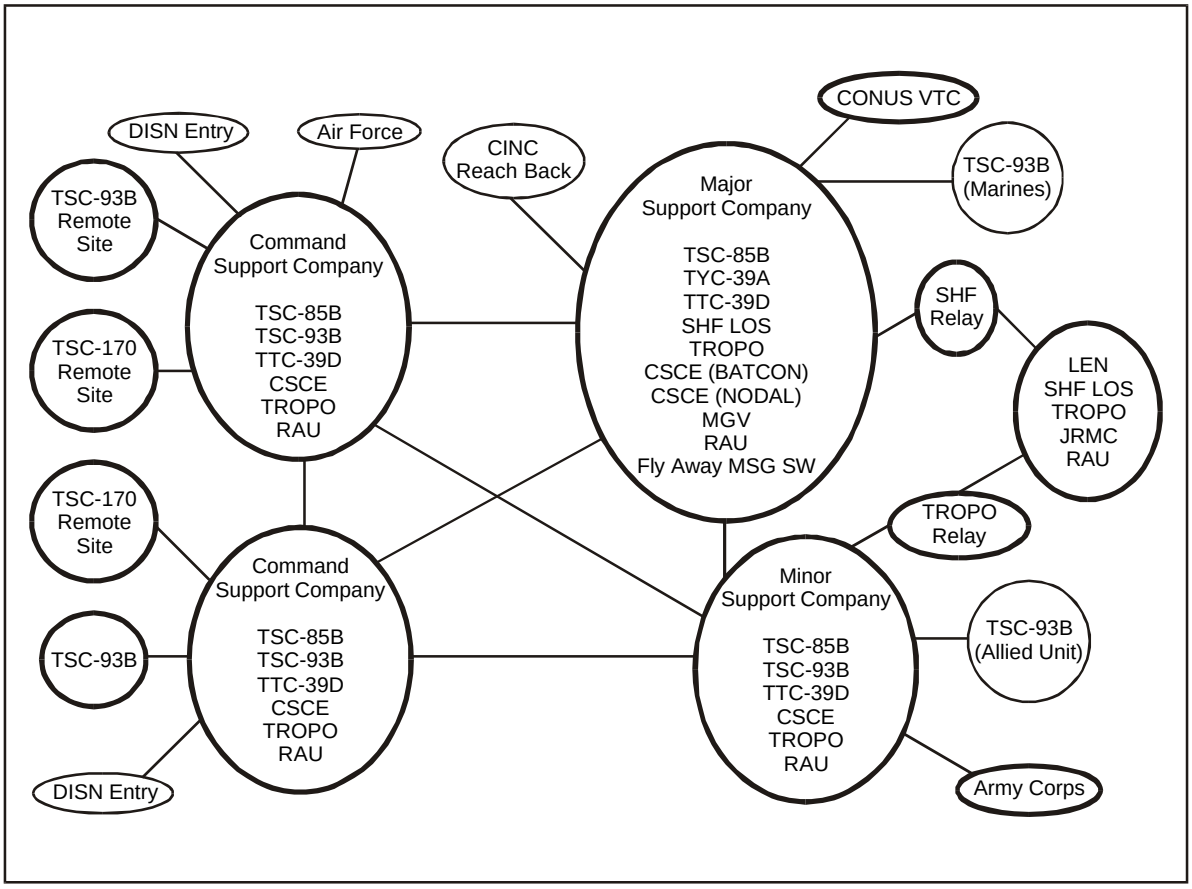


Figure 4-22. Notional Deployment of a Theater Tactical Signal Battalion

HHC Theater Tactical Signal Battalion, TOE 11686A00

4-103. This unit's mission is to provide C2 of assigned or attached units and logistics support and internal security to the headquarters. Figure 4-23 shows the organization of a HHC theater tactical signal battalion.

4-104. This unit–

- Provides C2, staff planning, and supervision of a signal battalion consisting of four companies.
- Maintains a consolidated property book for assigned units.
- Provides organic food service and unit maintenance support, as well as DS maintenance of organic CE/COMSEC equipment.
- Provides religious support, food service support, and DS of organizational COMSEC equipment.

4-105. This unit depends on assigned units for unit maintenance of wheeled vehicles, generators, and air conditioners. It also depends on the ASCC for unit-level health, legal, finance, personnel, administrative, and food services; COMSEC maintenance; and supplemental transportation and vehicle recovery.

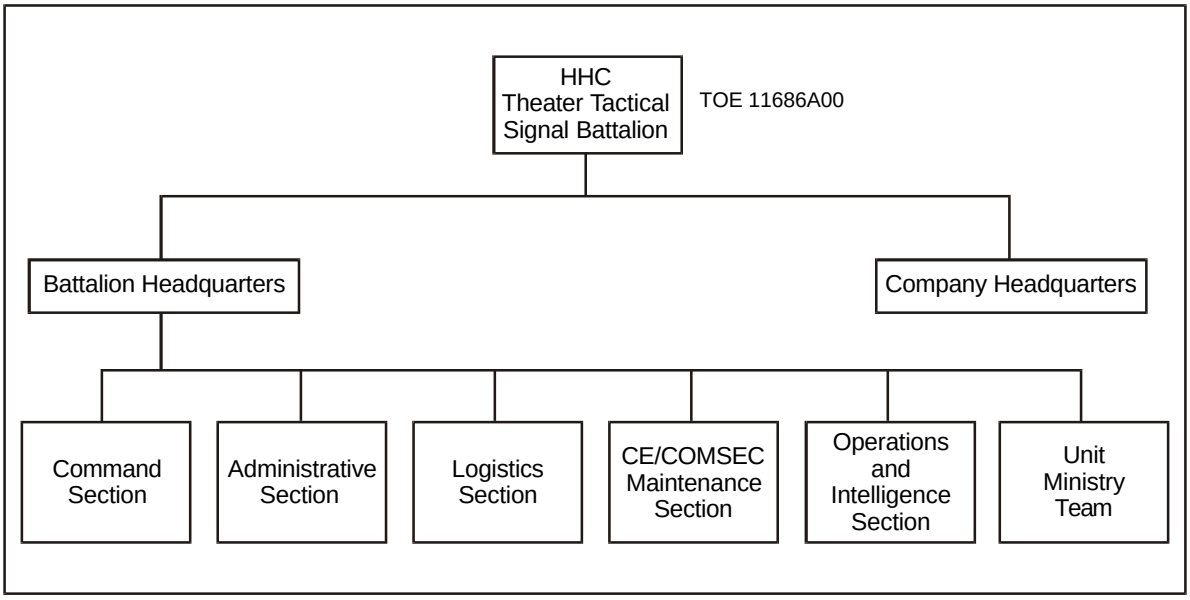


Figure 4-23. HHC Theater Tactical Signal Battalion

Command Support Company, TOE 11687A0

4-106. This unit's mission is to provide nodal communication support for the ARFOR components to a CINC or JTF contingency operation or a MRC deployment Figure 4-24 shows the organization of a command support company.

4-107. This unit provides–

- Food service and unit level maintenance of organic equipment, as well as DS of organic CE/COMSEC equipment.
- Automatic telephone office switching facilities, AN/TTC-39D.
- CSCE, AN/TYQ-31, for the management and control of the signal node facilities.
- AN/TSC-85B/93B SATCOM terminals to provide secure, high data rate communication via satellite link.
- Installation, operation, and maintenance of two troposcatter radio systems, AN/TRC-170 V2. These systems can span a distance of up to 161 kilometers (100 miles) with maximum traffic channels.
- One MSE RAU, AN/TRC-191, to provide subscriber access to the TCS.
- Installation, maintenance, and repair of indigenous cable and wire systems.

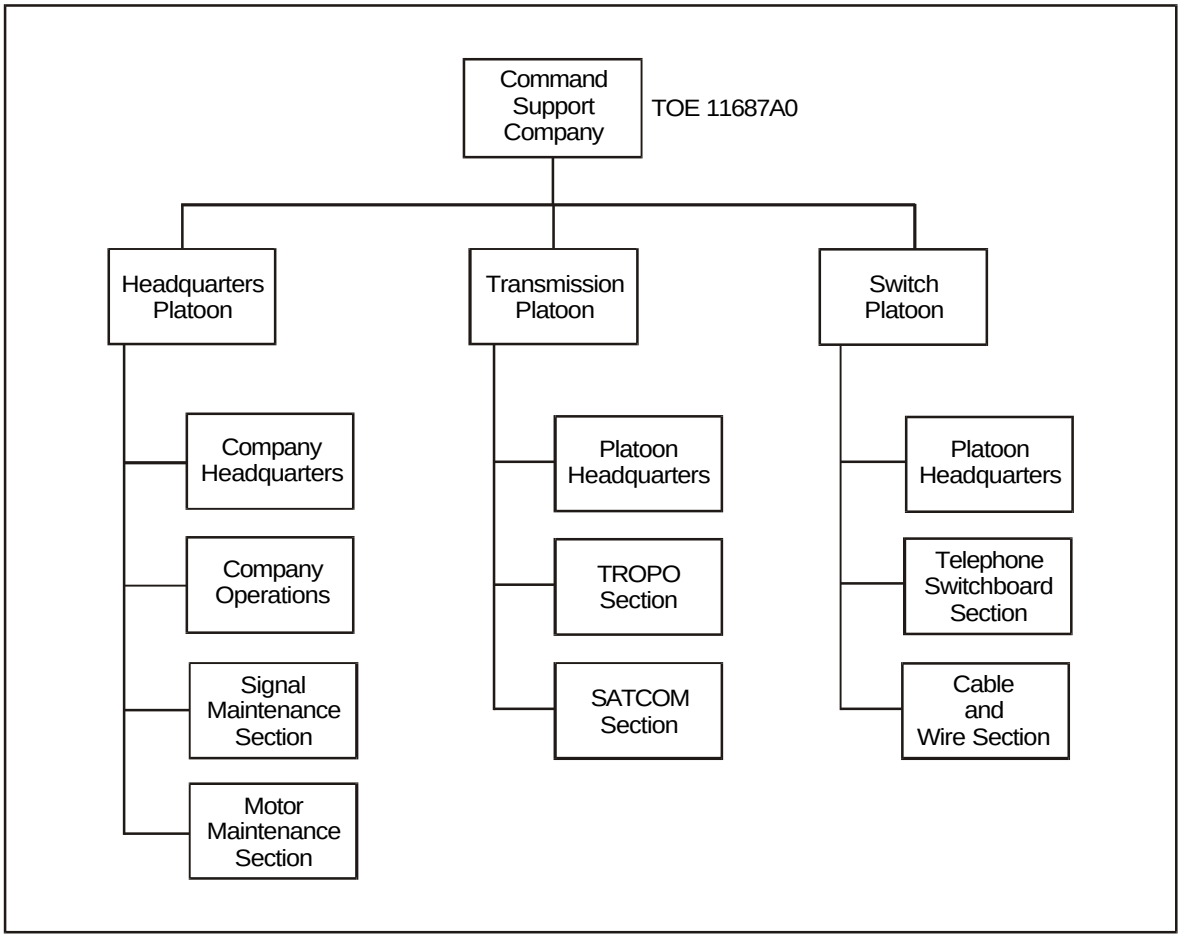


Figure 4-24. Command Support Company

4-108. Each command support company is authorized an additional 61 secure telephones and 210 nonsecure telephones with appropriate ASIOE to provide service to those organizations who do not provide their own instruments.

4-109. This unit depends on the HHC theater tactical signal battalion for refueling services, unit-level administration, religious support, and DS for COMSEC equipment. The unit depends on the TSC for health, finance, legal, and transportation services.

Minor Support Company, TOE 11688A0

4-110. This unit's mission is to provide nodal communication support for the ARFOR components to a CINC or JTF contingency operation or a MRC deployment. Figure 4-25 shows an example of a minor support company.

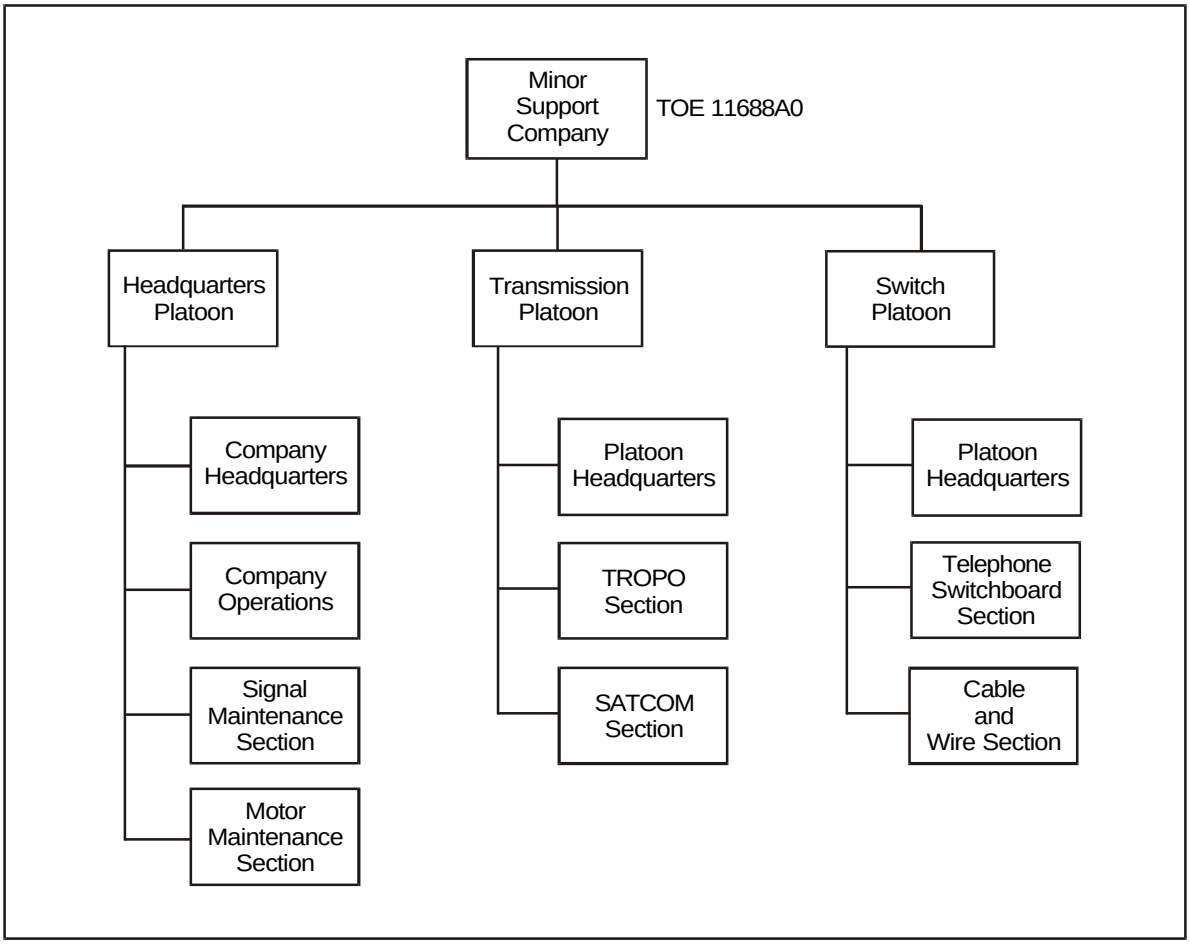


Figure 4-25. Minor Support Company

4-111. This unit provides–

- Food service and unit-level maintenance of organic equipment and DS maintenance of CE/COMSEC equipment.
- Automatic telephone office switching facilities, AN/TTC-39D.
- CSCE, AN/TYQ-31, for the management and control of the signal node facilities.
- Two AN/TSC-93B SATCOM terminals to provide secure, high data rate communication via satellite link.
- Installation, operation, and maintenance of two troposcatter radio systems. These systems can span a distance of up to 161 kilometers (100 miles) with maximum traffic channels.
- One MSE RAU, AN/TRC-191, to provide subscriber access to the TCS.
- Installation, maintenance, and repair of indigenous cable and wire systems.

4-112. The minor support company is authorized an additional 61 secure telephones and 210 nonsecure telephones with appropriate ASIOE to provide service to those organizations who do not provide their own instruments.

4-113. This unit depends on the HHC theater tactical signal battalion for refueling services, unit-level administration, religious support, and DS for COMSEC equipment. The TSC provides health, finance, legal, and transportation services.

Major Support Company, TOE 11689A0

4-114. This unit's mission is to provide nodal communication support for the ARFOR components to a CINC or JTF contingency operation or a MRC deployment. Figure 4-26 shows the organization of a major support company.

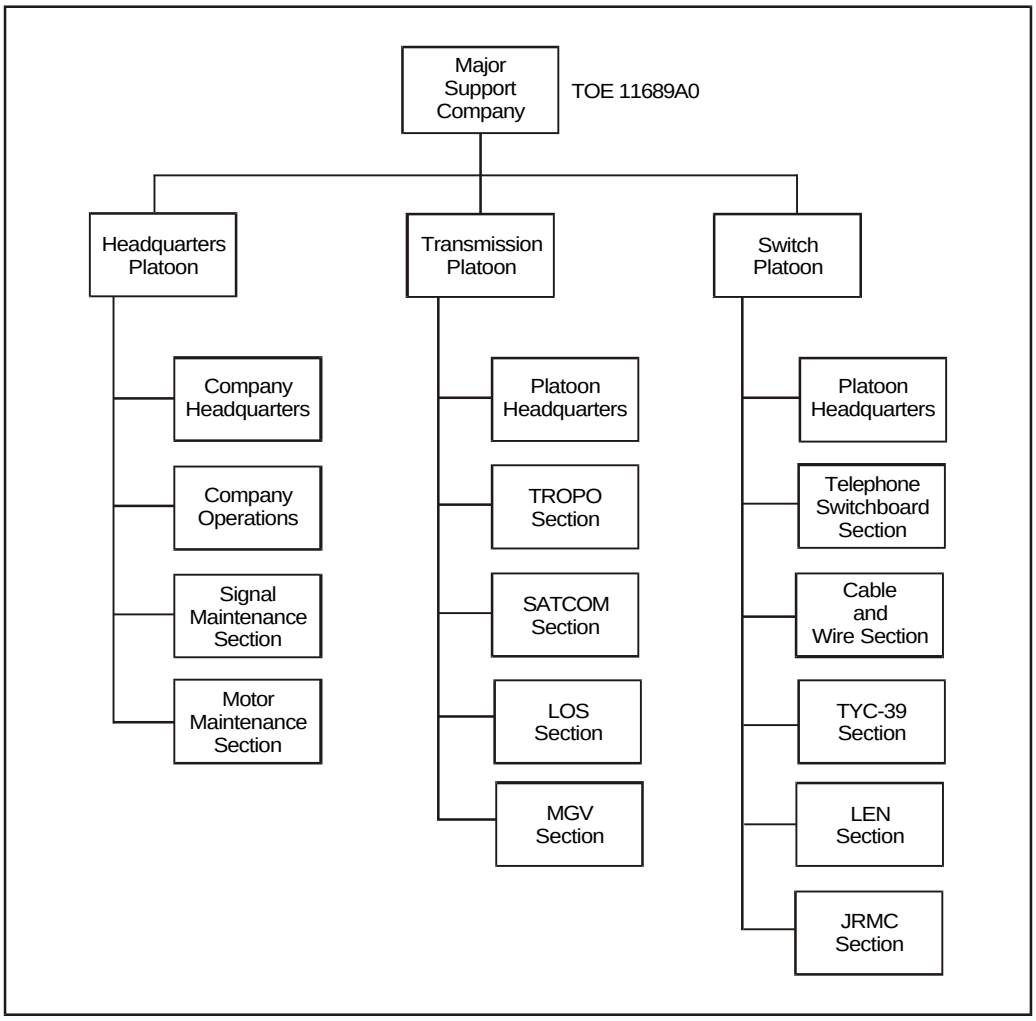


Figure 4-26. Major Support Company

4-115. This unit provides–

- Food service and unit-level maintenance of organic equipment and DS maintenance of CE/COMSEC equipment.
- Automatic telephone office switching facilities: one AN/TTC-39D and one AN/TTC-46.
- CSCE, AN/TYQ-31, for the management and control of the signal node facilities.
- Message switch, AN/TYC-39, equipped to provide secure automatic message switching service.
- Two each AN/TSC-85B SATCOM terminals to provide secure, high data rate communication via satellite link.
- Installation, operation, and maintenance of two troposcatter radio systems. These systems can span a distance of up to 161 kilometers (100 miles) with maximum traffic channels.
- One MSE RAU, AN/TRC-191, to provide subscriber access to the TCS.
- Installation, maintenance, and repair of indigenous cable and wire systems.
- Multichannel radio communications facilities to terminate systems.
- A fly-away message switch to provide record data communications message support and over-the-counter service for both classified and unclassified customers.
- A MGV to provide an extension of the nonclassified NIPRNET into the tactical deployed theater.

4-116. The major support company is authorized an additional 105 secure telephones and 319 nonsecure telephones with appropriate ASIOE to provide service to those organizations who do not provide their own instruments.

4-117. This unit depends on the HHC, theater tactical signal battalion for refueling services, unit-level administration, religious support, and DS for COMSEC equipment. The TSC provides health, finance, legal, and transportation services.

MAJOR SUPPORT COMPANY (SEPARATE), TOE 11689A200

4-118. The major support company's (separate) mission is to install, operate, and maintain nodal communications support for the commander of an ARFOR component to a CINC or JTF contingency operation or an MRC. Figure 4-27 shows the organization a major support company separate. This unit can be assigned to a strategic signal battalion, theater signal brigade, or TSC. The basis of allocation is as required in a MRC not to exceed one per TOE 11602L000.

4-119. The major support company (separate) provides the following information and signal support services:

- Secure and nonsecure voice and data.
- HN/commercial telephone access.
- Network entry for mobile subscriber radio terminal (MSRT).

- MSRT users.
- Increased theater connectivity.
- CNR interface.
- TPN interface.
- Global Command and Control System-Army (GCCS-A) connectivity.
- LAN tech support (systems management assistance).
- Multiple means of long-range communications.
- Mobile e-mail host.
- Flood search routing.

4-120. This unit is authorized an additional 96 secure telephones and 297 nonsecure telephones with appropriate ASIOE to provide service to those organizations who do not provide their own instruments.

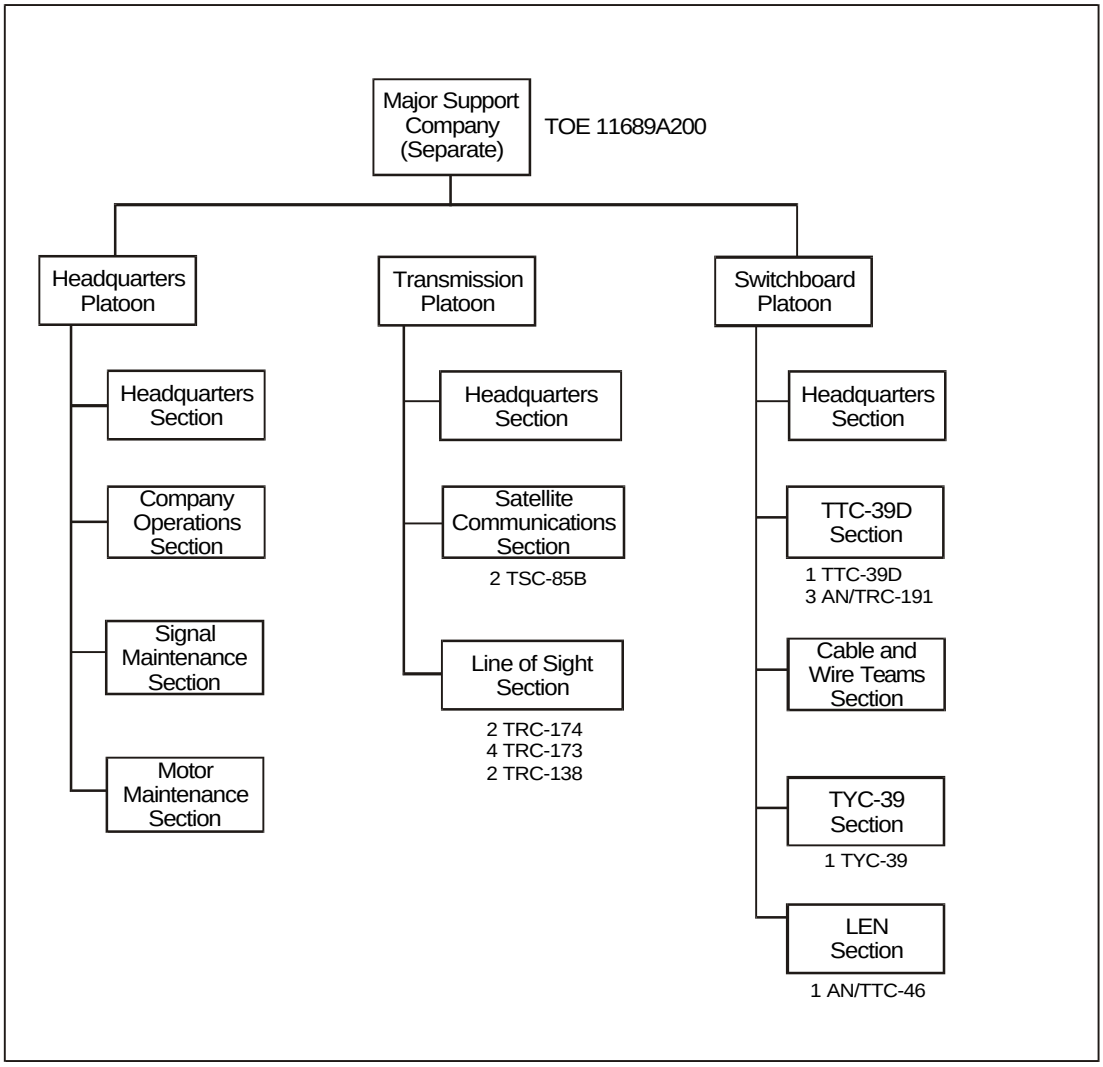


Figure 4-27. Major Support Company (Separate)

THEATER TACTICAL SIGNAL COMPANY (SEPARATE) (TTSC [SEP]), TOE 11674A000

4-121. The TTSC's (SEP) mission is to install, operate, and maintain nodal communications support for the commander of an ARFOR component to a CINC or JTF contingency operation or a MTW. The TTSC (SEP), as a separate company, can be assigned to a strategic signal battalion, theater signal brigade, or TSC. The unit may be forward deployed or CONUS-based and deployed in support of an ASCC JFLCC, subordinate unified command, JTF, single-service force, or theater CINC. Figure 4-28 shows the organization of a TTSC (SEP). The basis of allocation is as required in a MTW not to exceed one per TOE 11800A000.

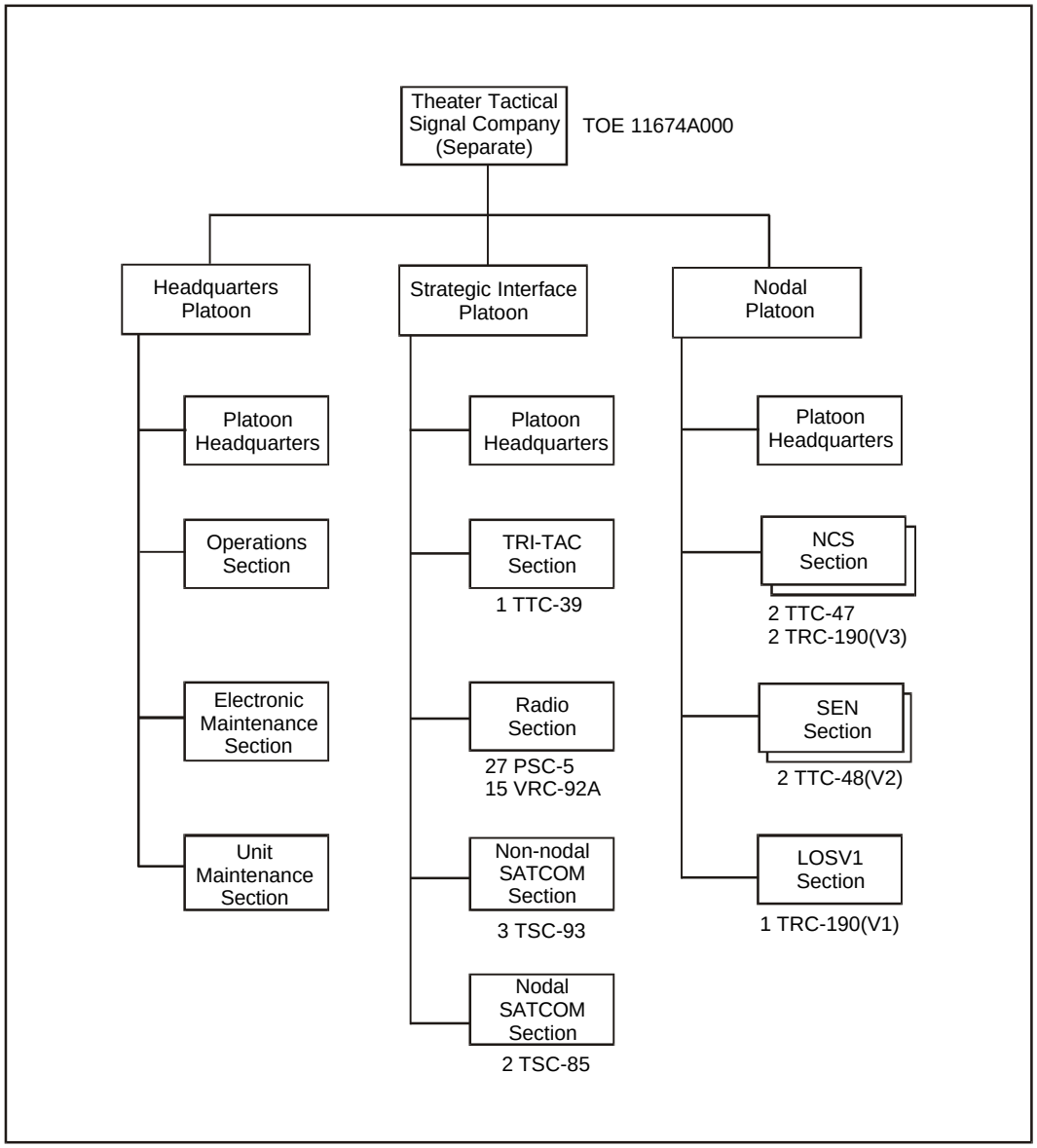


Figure 4-28. Organization of the Theater Tactical Signal Company (Separate)

4-122. The TTSC (SEP) provides the following information and signal support services:

- Secure and nonsecure voice and data.
- HN/commercial telephone access.
- Increased theater connectivity.
- CNR interface.
- TPN interface.
- GCCS-A connectivity.
- LAN technical support (systems management assistance).
- Multiple means of long-range communications.
- Flood search routing.

4-123. The TTSC (SEP) is authorized an additional 79 secure telephones and 144 nonsecure telephones with appropriate ASIOE to provide service to those organizations who do not provide their own instruments.

Chapter 5

Strategic Signal Organizations

The strategic signal organizations support the warfighter by providing intra-theater and/or inter-theater communications to support power projection and C2 of forces. These units can provide C2 systems from the NCA to CINCs. Organizational structure of theater missions is different and unique; thus, there are no set standards that meet all theater requirements. However, the fundamental mission (C2 and signal support) remains the same for all organizations.

HHC STRATEGIC SIGNAL BRIGADE, TOE 11622A000

5-1. This unit's mission is to command and control EAC strategic signal battalions and sustaining-base organizations and to be organized to support the power projection platform required to support force projection and split-based operations. This unit can be assigned to a TSC, if there is a TSC in the theater, or to the USASC. See Appendix C for further information on this organization.

5-2. This unit provides–

- C2, staff planning, and supervision of assigned and attached units.
- Supervision of the functions of signal support: communications, automation, and VI.
- Planning, engineering, and control of strategic communications systems.
- Coordination of training, administration, and logistical support to assigned units.

HHD STRATEGIC SIGNAL BATTALION, TOE 11656A

5-3. This unit's mission is to provide C2 and supervision of the operations and activities of its assigned units. This unit has four versions due to the various equipment and information mission needs of the theater (see Table 5-1). See Appendix C for further information on these organizations.

5-4. This unit provides–

- C2, staff planning, and supervision of assigned and attached units.
- Supervision of the signal support functions of communications, automation, and visual information support to units and headquarters within its area of operations.

- Planning, engineering, and control of the strategic communications systems.
- Coordination of training, administration, and logistical support to assigned units.

Table 5-1. Versions of the HHD Strategic Signal Battalion

Version	Description
V1, TOE 11656A100	Units needing a basic signal support staff. All personnel are assigned to a subordinate unit for strength accounting, administration, logistics, and Uniform Code of Military Justice (UCMJ).
V2, TOE 11656A200	Units operating independently, needing a headquarters detachment in addition to basic signal support requirements.
V3, TOE 11656A300	Units needing a headquarters detachment and maintenance and chaplain support in addition to basic signal support requirements.
V4, TOE 11656A400	Units that are authorized a basic signal support staff. This unit relies on tables of distribution and allowances (TDA) augmentation for strength accounting, administrative, and logistics functions.

ARMY MAINTENANCE SUPPORT FACILITY (AMSF), TOE PENDING APPROVAL

5-5. There are two maintenance facilities worldwide, one assigned to a strategic signal battalion and the other assigned to a TSC. In time of war, these facilities support the appropriate CINC from their current location. The units currently support the USASC worldwide mission, with one supporting theater/strategic communications in Europe-Southwest Asia and another supporting the Pacific area.

5-6. These facilities provide centralized DS/GS supply and maintenance and depot level repair of communications and automation equipment for the Army and other DOD and non-DOD customers. They support a multitude of different items including computers, sophisticated technical equipment, CE components, and strategic and tactical DSCS.

STRATEGIC SIGNAL DETACHMENT

5-7. The strategic signal detachment's tasking, mission, and capabilities are discussed below. It has four versions due to the various equipment and information mission of the theater.

STRATEGIC SIGNAL DETACHMENT (V1) THEATER COMSEC LOGISTICS SUPPORT CENTER (TCLSC), TOE PENDING APPROVAL

5-8. This unit is forward deployed and can provide mission support to intra-theater and inter-theater. Its mission is to provide:

- Theater level DS/GS COMSEC logistic support.
- DS/GS COMSEC and controlled cryptographic items (CCI) maintenance support to US Army forces, other military departments, US government agencies, and allied forces, as directed or required.

5-9. This unit–

- Commands, controls, and supervises assigned and attached personnel.
- Operates and safeguards a COMSEC facility.
- Sustains theater strategic C4I COMSEC systems.
- Deploys C4I COMSEC systems.

5-10. This unit depends on the appropriate Army units for health, financial, legal, and food service support; chaplain assistance; NBC decontamination; supplemental transportation services; and appropriate units for DS/GS maintenance of CE equipment. The force has only one of these units.

5-11. This unit has a detachment headquarters, COMSEC management platoon, COMSEC maintenance platoon, and SRA section (see Figure 5-1).

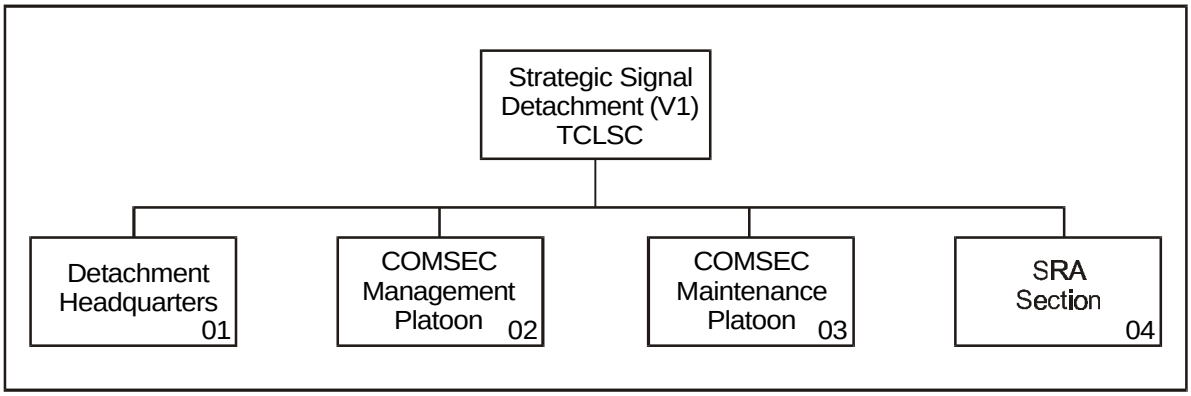


Figure 5-1. Strategic Signal Detachment (V1) TCLSC

Detachment Headquarters

5-12. This section provides C2 and supervision over personnel assigned or attached to the detachment.

COMSEC Management Platoon

5-13. This section–

- Provides operation of the Army Theater Central Office of Record (TCOR) for centralized management and control.
- Reports all accountable COMSEC material to Army COMSEC Central Office of Record (ACCOR) within the AOR.
- Serves as the COMSEC drop/pickup point for the defense courier service and other secure means for COMSEC material entering or leaving the theater.
- Provides approval authority for direct delivery to theater accounts during peacetime operations; provides delivery to theater accounts during wartime operations.

COMSEC Maintenance Platoon

5-14. This section provides COMSEC maintenance support to all US Army forces, military departments, US government agencies, and allies as directed in the AOR.

Specialized Repair Activity Section

5-15. This section is programmable automated test equipment (ATE) used to repair circuit boards and assemblies down to component level for CCI and COMSEC equipment.

STRATEGIC SIGNAL DETACHMENT (V2) TCLSC, TOE PENDING APPROVAL

5-16. This unit is forward deployed and can provide mission support to intra-theater. Its mission is to provide:

- Theater level DS/GS COMSEC logistic support.
- DS/GS COMSEC and CCI maintenance support to US Army forces, other military departments, US government agencies, and allied forces, as directed or required.

5-17. This unit provides C2 and supervision of assigned and attached personnel. It is responsible for operating the Army TCOR. It also provides GS and limited SRA and backup DS maintenance.

5-18. This unit depends on the appropriate Army units for health, financial, legal, and food service support; chaplain assistance; NBC decontamination; supplemental transportation services; and appropriate units for direct and general support maintenance of CE equipment. The force has only one of these units.

5-19. This unit has a detachment headquarters, COMSEC management platoon, and COMSEC maintenance platoon (see Figure 5-2).

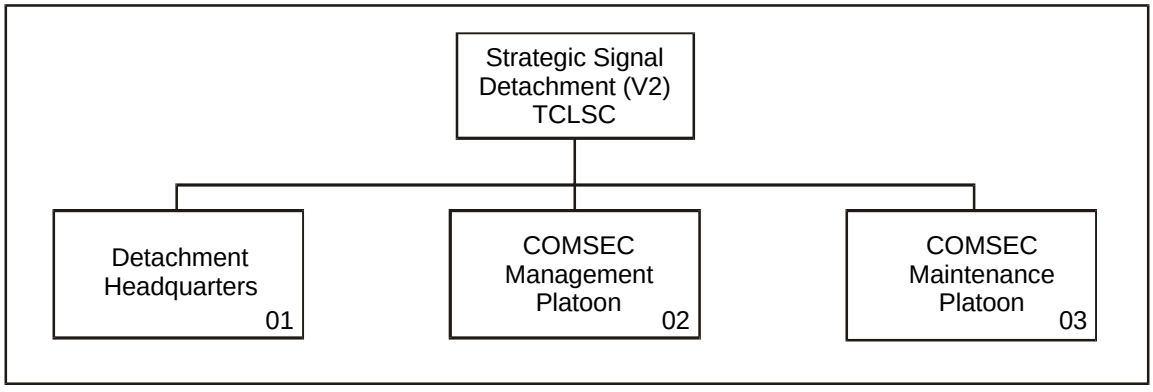


Figure 5-2. Strategic Signal Detachment (V2) TCLSC

Detachment Headquarters

5-20. This section provides C2 and supervision over personnel assigned or attached to the detachment.

COMSEC Management Platoon

5-21. This section provides operation of the Army TCOR for centralized management and control. It–

- Reports to ACCOR for all accountable COMSEC material within the AOR.
- Serves as the COMSEC drop/pickup point for the defense courier service and other secure means for COMSEC material entering or leaving the theater.
- Provides approval authority for direct delivery to theater accounts during peacetime operations; provides delivery to theater accounts during wartime operations.

COMSEC Maintenance Platoon

5-22. This section provides COMSEC maintenance support to all Army forces, military departments, US government agencies, and allies as directed in the AOR.

STRATEGIC SIGNAL DETACHMENT (V3) SIGNAL SYSTEMS ENGINEERING AND IMPLEMENTATION DETACHMENT, TOE PENDING APPROVAL

5-23. This unit is forward deployed provides mission support to intra-theater. Its mission is to provide overall management, technical oversight, and coordination of TA signal projects. This includes engineering, installation, acceptance, and follow-on life-cycle performance evaluation of signal systems and facilities that are part of the TA strategic/sustaining-base information architecture.

5-24. This unit's primary mission is to reconstitute/sustain the strategic communications systems in a combat environment. In case of hostilities, normal strategic communications systems can experience disruption to varying degrees.

5-25. This unit provides the military spaces used to reestablish/restore strategic communications systems within the TSC. It exercises final technical authority within the TSC or forward-stationed brigade over engineering and scientific aspects for design, applications, automation, test, and installation of signal systems.

5-26. This unit represents the TSC or forward-stationed brigade as a recognized signal authority by providing technical assistance to higher and lateral headquarters and to joint service activities. It assists the TSC or forward-stationed brigade in developing TSC policies and implementing USASC policies in accomplishing the USASC warfighting mission.

5-27. This unit–

- Commands, controls, and supervises assigned and attached personnel.
- Provides demonstrative and logistical support for assigned and attached personnel.
- Tactical deploys, sustains, and defends the detachment during contingency operations.

5-28. This unit depends on the appropriate Army units for health, finance, legal, and food service support; chaplain assistance; NBC decontamination; supplemental transportation services; and appropriate units for DS/GS maintenance of CE equipment. The force has only one of these units.

5-29. This unit has a detachment headquarters, operations/assessment team, reconstitution/installation team, and a quality assurance team (see Figure 5-3).

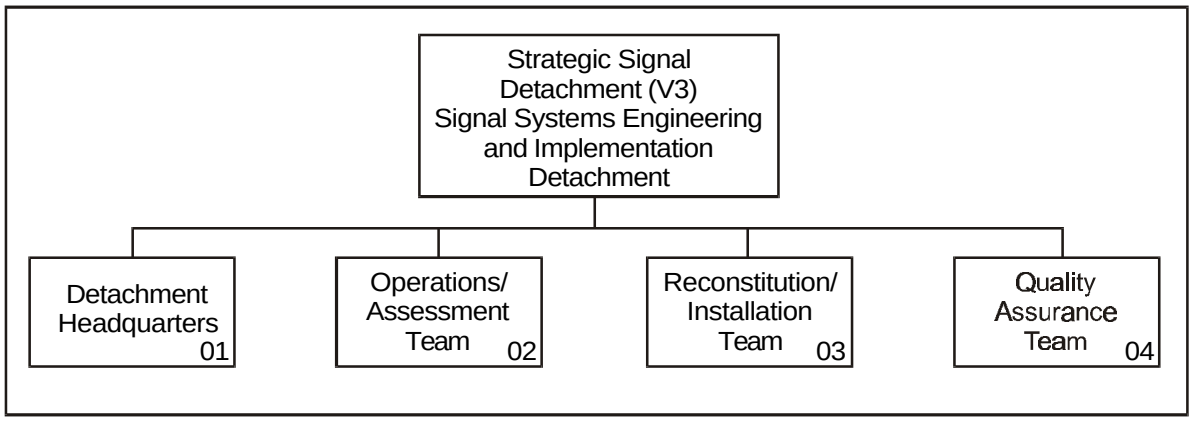


Figure 5-3. Strategic Signal Detachment (V3) Signal Systems Engineering and Implementation Detachment

Detachment Headquarters

5-30. This section provides C2 and supervision over personnel assigned or attached to the detachment.

Operations/Assessment Team

5-31. This team plans and assesses survivability/ sustainment of strategic signal systems and evaluates collateral damage to strategic signal systems as a result of hostilities.

Reconstitution/Installation Team

5-32. This team provides reconstitution/rehabilitation of damaged strategic signal equipment, systems, and networks to a minimum acceptable level of service in support of the TA C2 infrastructure.

Quality Assurance Team

5-33. This team performs follow-on quality assurance on strategic/sustaining-base communications systems to bring full level of service as battlefield conditions permit.

STRATEGIC SIGNAL DETACHMENT (V4) SPECIAL COMMUNICATIONS SUPPORT, TOE PENDING APPROVAL

5-34. This unit is forward deployed and can provide mission support to intra-theater. Its mission is to provide COMSEC logistical support to specified intelligence and security command (INSCOM) units.

5-35. This unit–

- Commands, controls, and supervises assigned and attached personnel.
- Maintains the classified and unclassified LAN.
- Maintains classified circuits.
- Provides secure and unsecure phones inside a controlled access building.

5-36. This unit depends on the appropriate Army units for health, finance, legal, and food service support; chaplain assistance; NBC decontamination; supplemental transportation services; and appropriate units for DS/GS maintenance of CE equipment. The force has only one of these units.

5-37. The unit has a detachment headquarters, COMSEC maintenance section and a DISN section (see Figure 5-4).

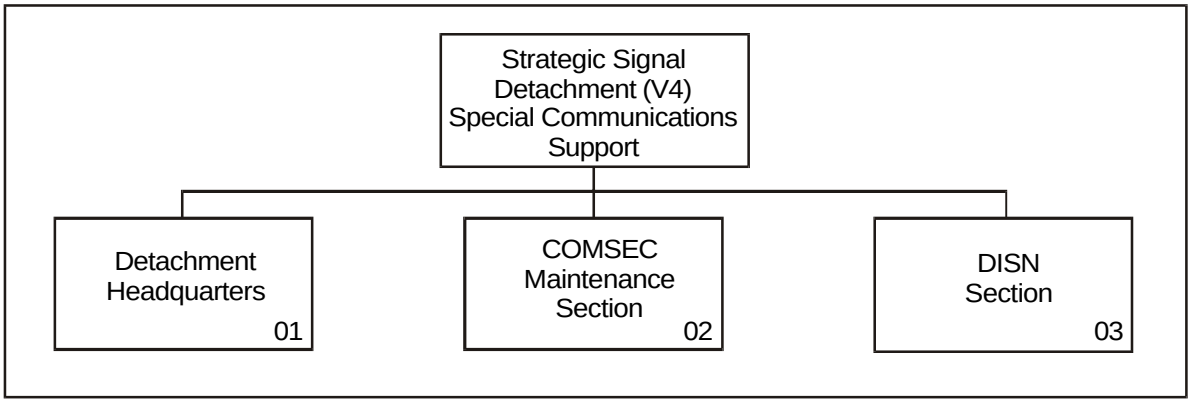


Figure 5-4. Strategic Signal Detachment (V4) Special Communications Support

Detachment Headquarters

5-38. This section provides C2 and supervision over personnel assigned or attached to the detachment.

COMSEC Maintenance Section

5-39. This section provides COMSEC maintenance support to all US Army forces, other military departments, NATO forces, and US government agencies within the European and Middle Eastern theaters, as directed.

DISN Section

5-40. This section provides installation, operation, and maintenance of microwave communications and technical control systems and facilities.

THEATER NETWORK AND SYSTEMS OPERATIONS CENTER (TNSOC), TOE PENDING APPROVAL

5-41. This unit provides 24-hour-a-day proactive and reactive support to Army information customers in forward-deployed theaters. This capability is organic to a TSC, but is required when a brigade is deployed without a TSC. This unit's mission includes managing–

- Army data/Internet protocol (IP) networks.
- Systems such as GCCSs, DMS, and standard army retail supply system-objective (SARSS-O).
- Long-haul (fiber optic, microwave, satellite, and technical control) communications systems.
- DSN.
- WAN.
- Tactical networks, when deployed.

5-42. TNSOC must also provide network support to DOIMs located in Alaska, Hawaii, Japan, and Okinawa.

5-43. TNSOC provides–

- Status information from the monitor and control functions of the network elements.
- Graphical and text representations of the overall network or system(s), individual sites, logical diagrams, and individual pieces of equipment that comprise the network or system.
- Combined network and systems management focus.
- An automated, distributed trouble-ticketing, and action request system.
- A single point of contact for problem resolution.
- Instrumentation of the managed elements to enable a remote management capability.

5-44. This unit operates as an attachment to a brigade headquarters, dependent on said headquarters for health, finance, legal, personnel, and food services; administration; billeting; chaplain assistance; NBC decontamination; and supplemental transportation services.

5-45. TNSOC has two versions of TNSOC that have the following common sections:

- Command Cell.
- Data Network Management Branch.
- Systems Management Branch.
- Information/Circuit Operations Branch.

V1 also has a transmission systems branch, and V2 has a voice switch systems branch (see Figures 5-5 and 5-6).

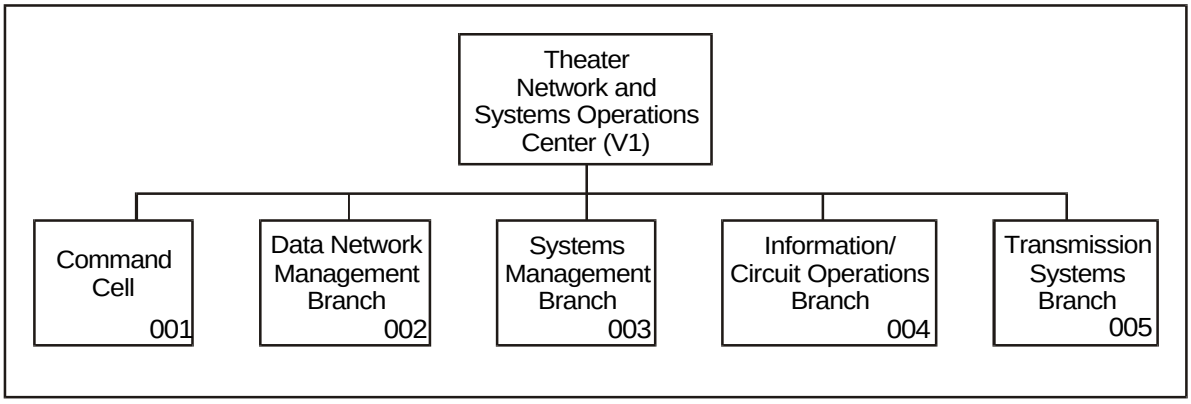


Figure 5-5. TNSOC (V1)

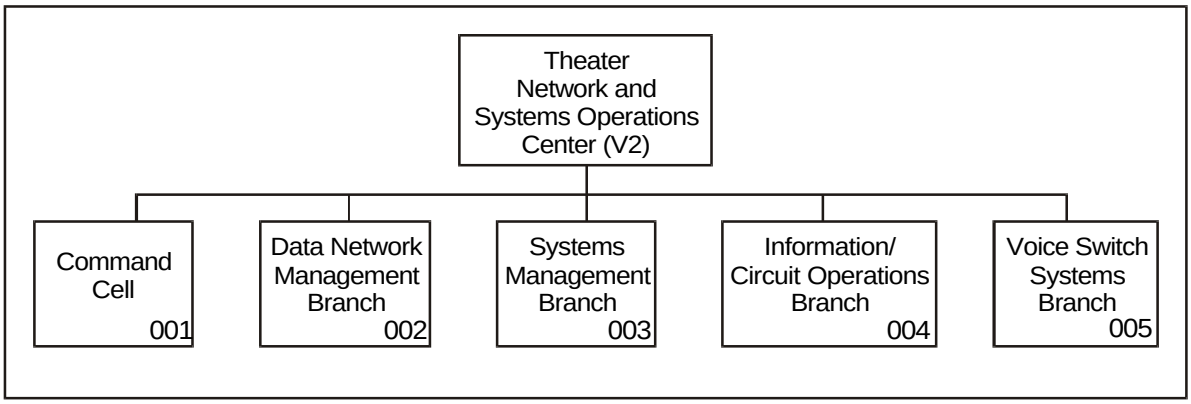


Figure 5-6. TNSOC (V2)

Command Cell

5-46. This cell provides C2 and staff supervision over the TNSOC.

Data Network Management Branch

5-47. This branch is responsible for router/terminal server installation, configuration, control, and monitoring.

5-48. **Configuration Management Cell**. This cell provides expertise and control over router/terminal server installation and configuration, as well as access control. It tests, configures, and evaluates new network equipment. This cell also troubleshoots and corrects network anomalies.

5-49. **Network Administration Cell**. This cell monitors network assets and network performance data. It also prepares and processes network performance reports.

Systems Management Branch

5-50. This branch is responsible for hardware/software configuration, TNSOC account and database maintenance, network security, and e-mail/DMS management.

5-51. **Information Systems Administration Cell**. This cell authorizes hardware/software configuration and operating system upgrades. It is responsible for network security administration, e-mail/DMS and domain name service (DNS) management, host registration, and Terminal Server Access Controller System (TSACS)administration.

5-52. **Database Management Cell**. This cell maintains the TNSOC accounts and data integrity. It performs database administration functions to include test, implementation, manipulation, and report generation.

Information/Circuit Operations Branch

5-53. This branch provides help desk service and prepares and presents the Hazcon/Outage Report for the brigade. This branch opens, assigns, and closes-out trouble tickets. It monitors outages as reported by the battalions, maintains quality assurance checks, and compiles and analyzes outage trend statistical data.

Transmission Systems Branch (V1)

5-54. This branch is for a HHC theater signal brigade without a TSC in theater. It monitors and maintains the synchronous optical network (SONET) microwave and fiber-optic systems, as well as the digital patch and access (DPAS) frames and matrix switches.

5-55. **Transmission Cell**. This cell ensures the databases, equipment, and software configurations for the associated SONET microwave and fiber-optic systems are updated and maintained. It coordinates with the regional control centers (RCCs) to collect transmission data and provide data distribution.

5-56. **Circuit Control Cell.** This cell performs the remote operations of the five DPAS frames to include circuit provisioning and administration. This cell also performs remote technical control operation of the matrix switches for automated technical control functions at six locations.

Voice Switch Systems Branch (V2)

5-57. This branch is for a HHC strategic signal brigade without a TSC in theater. It monitors the Pacific Command (PACOM) DSN assets. This branch performs outage trend analysis, compiles statistics, and forecasts DSN growth and future requirements.

THEATER STRATEGIC SIGNAL COMPANY (TSSC) MODULES, TOE PENDING APPROVAL

5-58. The TSSC consists of selected modules tailored to meet specific mission requirements. Its mission is to provide sustaining-base and strategic signal support (communications, automation, and VI) in support of the warfighter in a geographical AOR. The TSSC Headquarters provides C2, operations, logistics, and administrative support for all assigned communications and signal support teams. The company headquarters has three versions, which are regionally based due to varying equipment and information mission requirements in each region. The company headquarters with appropriate submodules are designed using METT-TC and regional CINC requirements. Each company headquarters has modular communications and signal

support teams assigned by mission requirements. The modular teams, some having several versions (small, medium, and large), are assigned based on the size of the AOR for support and/or the volume of equipment and customers supported. See Appendix D for a description of each module.

Chapter 6

Theater Communications Network

At the theater level, organizations and the operational chain-of-command are unified, possibly consisting of armed forces from two or more US service components and supporting commands, other US government agencies, and combined forces. They plan joint operations in support of a single theater commander, the CINC, or CJTF. All efforts in the theater of operations contribute to the CINC's intent and concept of operations.

SECTION I – THEATER COMMUNICATIONS

ASSETS

6-1. There are seven potential sources of communications assets to the theater of operations for the execution of the CINC or CJTF's or operational intent. In some theaters, part or all of these sources may be well developed; in others, they may be underdeveloped or nonexistent.

SERVICE COMPONENT TACTICAL COMMUNICATIONS

6-2. These are military tactical communications assets organic to assigned theater ARFOR, Air Force Forces (AFFOR), Navy Forces (NAVFOR), Marine Forces (MARFOR), and SOC forces. These assets interconnect under the direction and management of the CINC/JTF C3 systems directorate (J6) to form a hybrid network that is called the TCS.

SUSTAINING-BASE COMMUNICATIONS

6-3. These communications assets normally support base operations at posts, camps, and stations worldwide. The USASC manages US Army assets. Other services have similar operations. During war, these systems continue to support routine garrison operations, as well as any intermediate staging of mobilizing or deploying forces.

STRATEGIC COMMUNICATIONS

6-4. These communications assets provide connectivity between the sustaining base and theater/tactical environments on a worldwide basis. The DISA has overall management responsibility for the DISN. The USASC manages the segments of strategic systems provided by the Army. During war, at the direction of the CINC, these systems may be reconstituted or extended into the JOA via tactical communications assets. These systems provide the JOA with critical C2 gateways to the sustaining-base environment.

COMMERCIAL LEASED COMMUNICATIONS

6-5. These are existing US commercial communications systems throughout the world. These assets are made available through the Defense Certification Office-Army (DCO-A). As the Army's advocate for telecommunications, the DCO-A manages Army service requests for leased commercial communications. The CINC/JTF J6 must validate these service requests.

COMBINED COMMUNICATIONS

6-6. These are existing commercial and tactical communications systems provided by combined forces. Interoperability with these systems is not well documented and continues to be an item of serious study by the various CINC staffs and the Joint Interoperability Engineering Organization (JIEO).

CJCS CONTROLLED COMMUNICATIONS

6-7. These are tactical US military communications assets under the direct OPCON of the CJCS. These assets may be organic to a joint organization such as the JCSE or to a tactical unit of one of the services. The TSC may submit a Chairman, Joint Chief of Staff Instruction (CJCSI) 6110.01 request to release CJCS-controlled assets to support theater requirements for which assets are not available in the JOA. This request is required before deploying a tactical unit of one of the services that has organic CJCS-controlled assets.

HN COMMUNICATIONS

6-8. These are communications assets, indigenous to foreign nations, used to support the public. Past operations have demonstrated the importance of a complete understanding of these systems. Sophistication and availability vary from theater to theater and country to country. It is especially important at EAC to understand the availability of these systems and the requirements to interface with them.

INTERFACES TO DOD NETWORKS

6-9. The TCS provides circuit or message switches and direct access to various worldwide DOD networks. Some of these DOD networks are briefly discussed in this section.

AUTOMATIC DIGITAL NETWORK

6-10. AUTODIN is the principal, long-haul, DOD automatic digital network. It provides message switching to transmit record data traffic on a store and forward basis between AUTODIN switching centers, tactical message switching equipment (such as the TYC-39[A]), and fixed or transportable subscriber terminals. Types of subscriber terminals include teletypewriters, teleprinters, local digital message exchanges, and computers.

6-11. AUTODIN is designed around remote, interconnected AUTODIN switching centers. Subscribers may access the AUTODIN switching centers using the Allied Communications Publication (ACP) 127, Joint Army-Navy-Air Force Publication (JANAP) 128(I), US Message Text Format (USMTF), and Defense Operating Instructions (DOI) 103 formats. The AUTODIN switching centers transmit record or data traffic between dissimilar

terminals by virtue of code, format, and line-speed conversions. AUTODIN switching centers processes GENSER, or R type traffic, and Defense Special Security Communications System (DSSCS), or Y type traffic, separately. Elaborate security measures protect against the inadvertent transmission of DSSCS traffic to unauthorized terminals.

6-12. Tactical theater subscribers usually gain switched access to the AUTODIN via the AN/TYC-39(A) message switch. The AN/TYC-39(A) emulates an AUTODIN switching center in capabilities and characteristics. This switch is a store and forward message system that forms the message switched network at theater level and can provide a gateway to AUTODIN and allied networks.

6-13. There are currently two messaging classes: organizational and individual. AUTODIN provides the majority of organizational messaging. Within the DISN, standard mail transfer protocol (SMTP)-based systems and other proprietary LAN-based e-mail systems provide individual messaging. Users demand additional features that SMTP-based systems do not provide. Users also want to connect to a single system that provides both organizational and individual messaging capabilities.

6-14. AUTODIN is based on 30-year old technology with high operational costs and staffing. DMS updates this technology while lowering the operational costs and level of staffing. DMS is implemented in three phases. A transitional phase is underway with the placement of some gateways between AUTODIN and DISN, allowing AUTODIN and SMTP users on DISN to exchange messages.

- **Phase I**. With the initial fielding of Phase I, some DMS components will be added to DISN. DMS Phase I security level will be unclassified but sensitive.
- **Phase II**. During this phase, transitional components will replace some of the AUTODIN components, and users will begin to transition to the new services. DMS is MLS.
- **Phase III**. During this phase, the SMTP and AUTODIN systems will disband. All e-mail and AUTODIN users will transition to X.400/X.500/DMS.

DEFENSE SWITCHED NETWORK

6-15. The DSN is the principal common-user, switched, nonsecure voice communications network within the DISN that provides long-haul voice communications.

6-16. The CONUS DSN consists of commercial-leased facilities, while OCONUS DSN is principally government owned.

6-17. The DSN processes traffic using common control cell switching and stored program routing. A multilevel precedence and preemption (MLPP) feature is used to ensure completion of high precedence telephone calls. The DSN accommodates all levels of precedence.

6-18. Tactical subscribers usually gain common-user, circuit switched access to DSN via the TCS. Interswitch trunks (ISTs) are established between DSN switching centers and several TCS gateways employing an AN/TTC-39(A)

circuit-switch. Call processing throughout the circuit switched network supports the DSN MLPP features. The ISTs may be established to support any level of precedence and preemption. Subscribers must be individually class-marked in the network switching database for DSN access and maximum precedence allowed.

DEFENSE INFORMATION SYSTEMS NETWORK

6-19. The DISN consists of three IP router networks separated by classification level.

- NIPRNET, which replaces military network (MILNET).
- SIPRNET, which replaces DISNET 1, 2, and 3. NOTE: SIPRNET provides transport for the TOP SECRET Support System (TSSS).
- Joint Worldwide Intelligence Communications System (JWICS) (TOP SECRET [TS]/sensitive compartmented information [SCI]).

6-20. The formal definition for DISN was originally established by the Assistant Secretary of Defense for C3I. It states–

> *A subelement of the Defense Information Infrastructure, the DISN is the DOD's consolidated worldwide enterprise-level telecommunications infrastructure that provides the end-to-end information transfer network for supporting military operations. It is transparent to its users, facilitates the management of information resources, and is responsive to national security and defense needs under all conditions in the most efficient manner.*

6-21. The new DISNs provide the warfighter with a full range of government-controlled and secure information transfer services for exchanging voice, video, data, and imagery to support warfighter requirements into the 21st Century. It will be structured to satisfy requirements that are evolving in response to changing military strategy, changing threat conditions, and advances in information and communications technology.

6-22. The chosen alternatives maximize the use of commodity services that exploit off-the-shelf technology. DISA will capitalize on efforts and resources previously expended in consolidating the DISN router and multiplexer networks. Multiple procurements will be executed for the replacement of expiring contracts and aging systems (MILNET, DSNET).

6-23. The DISN architecture represents a technological evolution from the use of networks and systems that are owned and operated by the DOD to the use of commodity services wherever possible. DISN is the subset of the DII, primarily providing information transport services in and across the DII boundaries. The DII is a seamless web of communications networks, computers, software, databases, applications, and other capabilities that meet the information processing and transport needs of DOD users in peace, crises, conflict, humanitarian support, and wartime roles.

6-24. The DII is a subset of the government systems information infrastructure, which provides the same service functions for the US government. DII is also a subset of the national information infrastructure and the global information infrastructure, providing the same service functions for the nation, including private and commercial concerns.

6-25. Tactical theater subscribers access the DISN via the TCS. Access methods depend on the theater of operations. Access may be via a sustaining-base host computer, tactical host computer, a tactical Army CSS computer system (TACCS), or a tactical packet switched network (PSN).

GLOBAL COMMAND AND CONTROL SYSTEM (GCCS)

6-26. The GCCS is an AIS used to support deliberate and crisis planning with the use of an integrated set of analytic tools and flexible data transfer capabilities. It provides a means to migrate from the proprietary architecture of the Worldwide Military Command and Control System (WWMCCS) to an open systems architecture. The GCCS provides combatant and supporting commanders with the required C2 capabilities that the WWMCCS provided, plus much more. When fully implemented, GCCS will become the single C4I system to support the warfighter from the foxhole to the CP. The goal is to implement GCCS by linking LANs by SIPRNET among the CINCs and supporting defense agencies. The Army's portion of the GCCS is the GCCS-A.

DEFENSE SATELLITE COMMUNICATIONS SYSTEM

6-27. DSCS is the DOD high capacity transcontinental transmission system, providing long-haul service between CONUS and various OCONUS locations. Operating in the extremely high frequency (EHF)/SHF bands, the space and associated ground segments provide critical strategic connectivity and directly support the GMF.

6-28. DSCS normally provides theater access to the DISN. DSCS can provide analog and digital transmission paths for virtually every type of military telecommunications application. In the JOA, GMF/SHF provides theater access to the DSCS. Special user requirements can be accommodated via the DSCS with JCS approval. These requirements are for critical voice and secure voice (2.4 to 50 kbps), computer-to-computer connectivity (9.6 to 56 kbps), and low-to-medium speed (75 bps to 4.8 kbps) data/teletype duplex circuits.

THEATER COMMUNICATIONS SYSTEM CONNECTIVITY

6-29. As the CINC describes his operational intent, theater strategy, and campaign plans, communications at the theater level must be an integration of all the multigeneration advanced communications systems throughout the JOA. Communications equipment and facilities cannot be employed in the JOA without regard for overall theater system integration and the standards and procedures established by the CINC.

6-30. In general, the TCS–

- Supports joint or combined US military and allied/host country forces.
- Provides inter-theater and intra-theater common-user services for component elements and allied/host forces.
- Integrates all communications, component services, equipment, and personnel into a composite system. These can include DISN/DSCS entry and exit station, mobile/transportable equipment, and submarine cable heads.
- Links with the DISN to provide worldwide connections.
- Connects theater headquarters to each component service and allied/host forces headquarters.

THEATER COMMAND, CONTROL, AND SUPPORT SYSTEMS

6-31. The theater C2 and support systems include both communications and automation systems. The area common-user system (ACUS) consists of communications equipment and facilities installed, operated, and maintained for common-user access by the Army. The ACUS, primary provider of Army EAC subscriber access to communications at theater level, simultaneously provides theater level network switching, gateway access, and redundancy. The GCCS-A is a user-owned, operated, and automated C2 support system used throughout the operational continuum. GCCS-A assists theater commanders in the execution of crisis and wartime EAC sustainment and limited operational maneuver functions. Centralized control and management of the TCS, associated communications facilities (by signal support units), and automated C2 support systems (by commanders and staffs) are imperative. They are fundamental to survivable, robust, and redundant communications and automation support at the theater level in support of the CINC's intent.

AREA NODAL TOPOLOGY

6-32. Communications at the theater level employ an area nodal topology, with the AN/TTC-39(D) family of circuit switches as the key piece of equipment in an area node (see Figure 6-1). The AN/TTC-39(D) provides subscriber access and tandem switching to the area node. The area node primarily provides tandem switching for communications at the theater level, while generally supporting a few loop devices. Redundant trunking of these circuit switches forms the basis of the theater architecture.

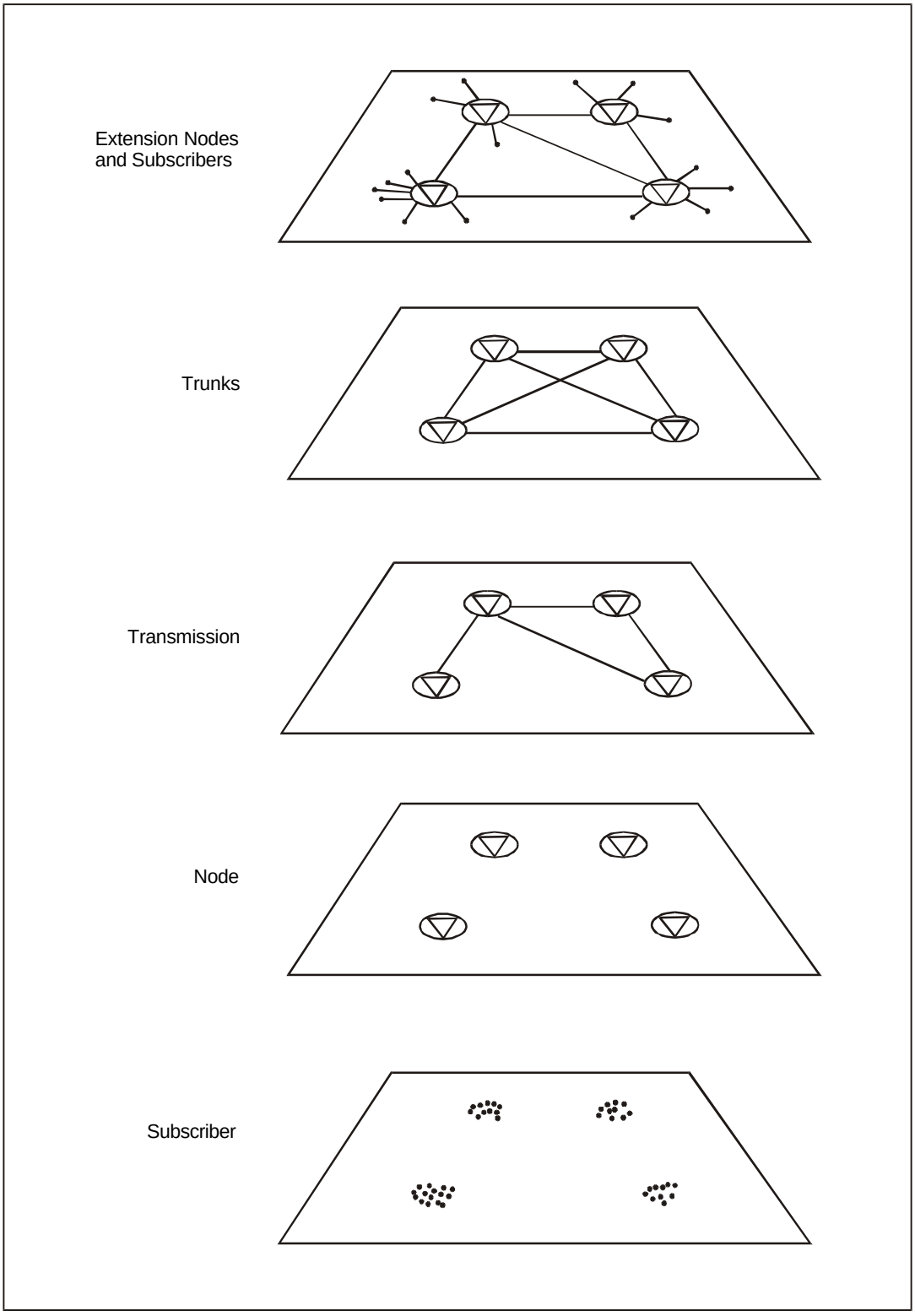


Figure 6-1. Area Nodal Topology

SUBSCRIBER ACCESS

6-33. Extension nodes, either the SEN or the large extension node (LEN), provide subscriber access on a geographic area basis at the theater level. Extension nodes connect to an area node for tandem switching and network access. SENs connect to one area node, and LENs connect to two area nodes. The LENs support large command group clusters.

SUBSCRIBER TERMINALS

6-34. Terminal instruments for subscribers at the theater level are generally user-owned and user-operated. The only exception is when the signal unit is supporting a non-army unit (joint or multidepartmental), then the signal unit provides the necessary equipment to effectively accomplish the mission. In addition to secure and nonsecure digital voice terminals, there are:

- Personal computers and integrated services digital network (ISDN) terminals.
- Processor driven, single subscriber communications terminals for access to the message switched network and AUTODIN (GENSER and DSSCS).
- Lightweight digital facsimile machines.

6-35. Data ports on some voice terminals allow for data transmission on a dial-up basis.

RESPONSIBILITIES

6-36. Through unified commands, DISA, and military services, the CJCS ensures that the commander at each echelon has the communications necessary to accomplish his assigned mission. The required communications capability is provided from the DISN, other national level agencies' communications systems, or other DOD communications systems.

6-37. The director of the DISA provides engineering support, technical support, and commercial leasing assistance to the JCCC. This ensures seamless architecture and satisfaction of user requirements for the DISN interfaces and fulfillment of any requirements of the NCA and GCCS.

6-38. The CINC prepares and submits to the CJCS (with information copies to the services, defense agencies, and the JIEO) requirements for tactical communications capabilities for joint operations within the scope of their respective missions and functions. Included are the requirements for JCS-controlled mobile/transportable communications assets, when normal military departments or military service processes do not satisfy such requirements. The CINC controls, reviews, and coordinates assigned communications resources and actions affecting C4 resources. Tactical communications in the JOA and/or theater is phased-in and established according to appropriate plans and orders. These are prepared based on CJCSM 6231 Series.

6-39. The CINC reports to the director, DISA incompatibilities or lack of interoperability among tactical C3 systems and between tactical systems and the DISN. As a part of JCS-sponsored or command-sponsored exercises, the

CINC tests the communications portions of the appropriate operation plan (OPLAN).

6-40. Service components and subordinate unified commands submit requirements for all tactical and strategic communications equipment applicable to joint operations through the CINCs to the military departments or services according to required operational capability procedures. CINCs biannually submit a C4 system master plan to the CJCS.

6-41. The US unified commander provides communications between the unified headquarters and the US service component headquarters and, as required, to other US government agencies and allied commands within the theater of operations. The US unified commander assigns these communications tasks to one or more of the service components.

6-42. The US unified commander normally assigns the J6 the task of planning and managing the TCS. The J6, in conjunction with the service components, develops a responsive and redundant secure and nonsecure communications system to ensure positive C2 during each critical phase of operations in the JOA. The J6 places emphasis on the planning and engineering requirements for a joint, integrated circuit switched network supporting communications at the theater level.

6-43. The JIEO, in coordination with the unified commands, develops technical interoperability standards for tactical communications use during joint operations.

6-44. The J6 establishes the JCCC to manage and control the TCS. The JCCC establishes and promulgates the plans, policies, and procedures used to implement, monitor, direct, and control the TCS. Each service component establishes a similar staff to interface with the JCCC. The TSC has this responsibility for the Army. Changes to the TCS are not made without prior approval of the JCCC. With the advent of TRI-TAC automatic switching systems, which require intensive database management to ensure interoperability throughout the switching network, the JCCC takes on the role of the network manager for the TCS.

6-45. Each service component is generally tasked to install, operate, and maintain a portion of the communications at the theater level. The integration of each of the service component's communications equipment provides for joint common-user access on a geographic area basis at the theater level. The CINC/J6 may task an individual component to install, operate, and maintain a portion of the TCS that is in direct and primary support of another service component. The CINC/J6 may also task the TSC to take on the unified theater role as either the J6 or the JCCC. All service components should comply with joint communications doctrine as prescribed in JCS publications and as supplemented by the US unified commander.

SECTION II – THEATER SIGNAL SUPPORT

BATTLEFIELD INFORMATION SYSTEMS

6-46. At the theater level, commanders need to have a robust information system that supports the CINC's operational intent. Theater level information systems must accurately process and disseminate information in sufficient time for forces to process and respond appropriately. The goal of the theater level information system is to enhance and facilitate agility, initiative, depth, synchronization, and versatility on the battlefield**.** This concept supports implementation, operation, and signal support management in the theater/tactical environment.

6-47. Individuals collect, process, store, create, and distribute information to support the commander. Information systems are built to perform these same functions. The user of an information system determines what information is needed to support the commander. Users own and operate the requisite means to provide that information. Information managers determine how the information is collected, processed, transferred, presented, stored, and disposed of when no longer needed. Centralized control is a constraint rather than an aid in such an environment. However, a consistent direction is necessary and information management provides that direction.

6-48. The commander manages of his information just as any other critical resource. The commander is assisted in his information management role by his signal element, which has the responsibility to provide the technical direction, assistance, and integration of the required support.

6-49. The approved concept of user-owned and user-operated with TSC advice and technical assistance is fundamental. The user-owned and user-operated concept means that the commander manages information by operating owned information systems (hardware, software, and people) to create and use information internal to his needs. The commander must rely on external information systems to distribute and retrieve information external to his command.

6-50. The TSC provides interfaces to external systems, as well as the technical oversight and direction that produce an integrated system of systems. The concept is extended to individual responsibilities, since the production, control, dissemination, and disposal of information is the responsibility of the originator or user of the information. The TSC provides the interfaces for transferring permanent battlefield information and records to Army and national archives.

6-51. Information management at the theater level includes all resources and activities employed in the acquisition, development, collection, processing, integration, transmission, dissemination, distribution, use, retention, retrieval, maintenance, access, disposal, security, and management of information.

6-52. Theater level tactical signal support is the implementation of signal support at the strategic through tactical levels of war. It is also the collective,

integrated, and synchronized use of information systems to support warfighting capabilities across the operational continuum.

DISCIPLINES

6-53. The concept of signal support at the theater level is more than communications and involves more than the TSC. Signal support consists of the disciplines of communications, automation, and VI.

6-54. Technological advances are causing the disciplines to converge on a common foundation. Today's manual methods are being converted to automated processes. Smaller, more sophisticated and powerful devices have led to the era of user-owned and user-operated systems. All of the disciplines are evolving towards one integrated information system capability within the Army at the theater level.

RESPONSIBILITIES

6-55. At the theater level, the signal support disciplines must directly support the tactical commander. Each unit commander is ultimately responsible for how well the information created and used in his unit is managed. The primary office/staff supporting the commander in his information management responsibilities is the signal office.

6-56. The signal office/staff–

- Advises and assists the commander in the role as a coordinating staff office.
- Supports the operational needs of the headquarters by providing signal support to the commander's unit and tenant units in the area.
- Supports and manages the informational needs of the headquarters staff. This requires an expansion of the traditional role for the signal officer.

6-57. At the theater level, the division of responsibilities between the user, functional managers, and the signal office/staff is complex. Table 6-1 delineates signal support responsibilities to ASCC units and units traversing the COMMZ. Signal support will be tailored to meet the unique requirements of the specific theater and the operational intent of the US unified commander. AR 25-1 prescribes the policies and responsibilities for the management of information and information systems.

Table 6-1. Signal Support Responsibilities at the Theater Level[1]

	TACTICAL	SUSTAINING-BASE
CORRESPONDENCE	User[2]	User
Preparing correspondence: Establishing distribution schemes	OS (Organic Signal)	TSC/OS
Authenticating correspondence: (defined as approved for release)	User	User
Reading file:		
Management	Staff	Staff
Input	User	User
Staff supervision of correspondence:	OS	TSC
Setting local procedures		
Governing authentication (who, what, when, how)		
Setting local procedures		
Governing reading files		
Correspondence training	User	User
CLASSIFIED DOCUMENT CONTROL		
Classification authority	J2/G2	J2/G2
Classification document control: policies, procedures, and inspections	OS	TSC
Classified document distribution	OS	TSC[3]
Classified document storage	User	User
TOP SECRET centralized repository	OS	TSC
Document destruction:		
SECRET	User	User
TOP SECRET	OS	TSC

[1] In this table, OS elements are the signal assets on the modified TOE(MTOE)/TDA of a given unit. The OS elements are not only limited to nonsignal units, but also refer to duties a signal element in a signal unit must do. Under the Tactical column, TSC refers to the tactical signal units assigned to the TSC. Under the Sustaining-base column, TSC refers to the strategic and sustaining-base signal units within the TSC. Signal support denotes the DCSIM/DOIM staff. When used in this table, the term staff refers to the functional staff element and user refers to user responsibilities.

[2] User refers to the organization or individual and signal represents ISSO responsibilities assigned to the supporting signal unit.

[3] Distribution internal to community for sustaining-base.

Table 6-1. Signal Support Responsibilities at the Theater Level[4] (Continued)

	TACTICAL	SUSTAINING-BASE
PRINTING		
Process requests	OS	TSC
Identify requirement	User	User
Approve requirement	Staff	Staff
REPRODUCTION		
Setting policy and procedure	OS	TSC
Staff supervision of reproduction	OS	TSC
Copier management:		
Determine need for requirement	User	User
Validate requirement	OS	TSC
Assist/advise in satisfying requirement	OS	TSC
Copier operation and user maintenance	User	User
Centralized reproduction	OS	TSC
PUBLICATIONS		
Staff supervision of publications:		
Setting policy and procedures	OS	TSC
Publications account management	OS	User
Identify publications requirement	User	User
Publications library:	Staff	Staff
Not a mandatory requirement		
When applicable, geared towards user's function (for example, maintenance)		
Command unique publications storage and distribution	NA	TSC

[4] In this table, OS elements are the signal assets on the modified TOE(MTOE)/TDA of a given unit. The OS elements are not only limited to nonsignal units, but also refer to duties a signal element in a signal unit must do. Under the Tactical column, TSC refers to the tactical signal units assigned to the TSC. Under the Sustaining-base column, TSC refers to the strategic and sustaining-base signal units within the TSC. Signal support denotes the DCSIM/DOIM staff. When used in this table, the term staff refers to the functional staff element and user refers to user responsibilities.

Table 6-1. Signal Support Responsibilities at the Theater Level[4] (Continued)

	TACTICAL	SUSTAINING-BASE
FORMS		
Forms management:		
Setting policy and procedures	OS	TSC
Compiling, ordering, and internal distribution of forms	OS	NA
Area stockage, acquisition, and distribution	Staff	TSC
Requests for new forms (Recommend approval)	User	User
Adhere to forms usage policy:		
Includes use management	User	User
Requesting resupply	User	User
Resupply stockage	OS	TSC
FILES MANAGEMENT		
Staff supervision of files management	OS	TSC
Files transfer to records holding area	User	User
Operate records holding facility	Sig Spt	Sig Spt
Approval of files listings and electronic conventionalizing	OS	TSC
Files maintenance	User	User
DISTRIBUTION		
Staff supervision	OS	TSC
Community distribution	NA	TSC
Unit Distribution	OS	NA
Pickup and internal distribution	User	User
External distribution service:		
Set policy and procedure	Sig Spt	Sig Spt
Provide resources for necessary messenger service	User	User
Official mail:[5]		
Official mail delivery	OS	TSC
Censorship	User	Use

[5] Delivery of mail is a postal function, not a signal function. Official mail is delivered by a postal unit. Once it is received by headquarters, it becomes distribution.

Table 6-1. Signal Support Responsibilities at the Theater Level[4] (Continued)

	TACTICAL	SUSTAINING-BASE
PRIVACY ACT AND FREEDOM OF INFORMATION ACT (FOIA)		
Staff supervision of FOIA	Sig Spt	Sig Spt
Implementation of FOIA	User	User
Point of contact (POC) for Privacy Act/FOIA	OS	TSC
VISUAL INFORMATION[6]		
Establish policy and procedures	Sig Spt	Sig Spt
Staff supervision of VI policy and procedures	Sig Spt	TSC
Develop VI requirements/needs	User	Sig Spt
Allocate VI resources	User	Sig Spt
Integrate VI into OPLANs, battle plans, and standing operating procedures (SOPs)	OS	TSC
Determine interface requirements	Use	User
Perform technical integration of VI into functional communications and information systems	OS	TSC
Provide technical integration assistance for systems integration and standardization of VI into functional information systems	OS	TSC/Sig Spt
Install, operate, maintain VI equipment/systems designated user-owned and user-operated	User	User
Effective maintenance beyond preventive maintenance checks and services (PMCS)	Sig Spt	TSC
Effect disposition of record/file VI material	User	User
Coordinate VI support not available through organic assets	OS	Sig Spt

[6] Functional commanders and users are responsible for integrating VI (enhancements) into their information systems and activities to support their own requirements on the battlefield. Units such as psychological operations (PSYOP), intelligence, medical, and public affairs, own and operate their own VI equipment and systems in support of their mission. Irrespective of its functional application, the sole purpose of VI equipment/system is to perform VI functions, provide VI services, and produce VI products. The application of all VI on the battlefield is governed by VI (signal support) doctrine.

Table 6-1. Signal Support Responsibilities at the Theater Level[4] (Continued)

	TACTICAL	SUSTAINING-BASE
COMCAM[7]		
Coordinate COMCAM support	OS	Sig Spt
Establish COMCAM policy and procedures	Sig Spt	Sig Spt
Staff supervision of COMCAM policy and procedures	Sig Spt	Sig Spt
Develop COMCAM requirements, and needs	User	User
Establish priorities for COMCAM	TSC	TSC
Allocate COMCAM resources plans and SOP	Sig Spt	Sig Spt
COMCAM OPCON		
Determine interface requirements and perform functional and technical integration of COMCAM into communications and information systems	OS	NA
Manage technical standardization of COMCAM (such as formats and standards)	Sig Spt	Sig Spt
Install, operate, maintain COMCAM equipment/systems	TSC	NA
Produce and distribute unique COMCAM reports/support products for commander/staff	TSC	NA
MAINTENANCE		
Perform user maintenance on COMCAM equipment	TSC	TSC
Perform organizational maintenance on COMCAM equipment	TSC	TSC
Maintain repair parts stockage for COMCAM equipment	TSC	TSC
Maintain direct exchange or backup COMCAM equipment stockage	TSC	TSC

[7] COMCAM is VI documentation covering air, sea, and ground actions of armed forces in combat and combat support operations, and in related peacetime training activities such as exercises, war games, and operations. COMCAM capabilities are external to any specific functional (user-owned and -operated) information system, and are provided by TSC COMCAM teams and signal units. COMCAM is not meant to replace user-owned and user-operated VI systems such as those used specifically for intelligence, medical, prisoner documentation, and PSYOP. The purpose of COMCAM is to provide combat documentation in support of the NCA, and the local commander's decision making process, and to create an operational record of unit activities on the battlefield. COMCAM will augment functional VI systems only when they cannot provide the required support. VI is the responsibility of the echelon signal office.

Table 6-1. Signal Support Responsibilities at the Theater Level[4] (Continued)

	TACTICAL	SUSTAINING-BASE
COMMUNICATIONS		
Determine specific communications requirements/needs for joint, combined operations	Joint Staff (JS)/Sig Spt/User [8]	JS/Sig Spt/User [8]
Determine communications requirements/needs for a heavy/light, light/heavy, integrated Army task force	Sig Spt	Sig Spt
Analyze/evaluate terrain using a map for signal site selection	TSC	TSC
Conduct signal site reconnaissance	TSC/OS	TSC
Configure a signal nodal/site	TSC/OS	TSC
Analyze communications systems and communications equipment outages	TSC/OS	OS
Prepare and update a signal estimate of the situation	OS	OS
Establish signal operation instructions (SOI)	Sig Spt	Sig Spt
Implements SOI	User	User
Identify individual unit communications requirements	OS	TSC
Plan and coordinate communications operations, including preparation of signal plans and orders	OS	Sig Spt
Provide over-the-counter service	TSC	TSA
Coordinate with appropriate signal supporting elements	User/OS	User/OS
Coordinate for external signal support	OS	TSC
Install, operate, and maintain “user-owned” and “user-operated” equipment	User	User
Identify and evaluate electronic counter-counter measure (ECCM) requirements and plans	OS/TSC	TSC
Implement ECCM	User/OS	User/TSC
Execute communications operation	User/OS/TSC	TSC
Frequency management	TSC	TSC
Manage COMSEC key distribution	OS	OS
Protect communications equipment from EMP	User/OS	User/OS

[8] All three must participate simultaneously on a single concept of operations.

Table 6-1. Signal Support Responsibilities at the Theater Level[4] (Continued)

	TACTICAL	SUSTAINING-BASE
Signal and communications securities: Establish policy and procedures	Sig Spt	User/Sig Spt
Follow policy and procedures	User/OS	User/TSC
MAINTENANCE – SIGNAL AND COMMUNICATIONS SECURITIES		
Perform operator PMCS on communications equipment	User	User
Perform organizational maintenance on signal communications equipment	OS	TSC
Perform organizational maintenance on communications equipment from other than signal units	User	User
Evacuate communications equipment to next higher maintenance level	User/OS	User/TSC
Perform direct support and higher maintenance on communications equipment	OS/Ordinance	TSC/Ordinance
Maintain repair parts stockage for communications equipment	User/OS/Ordinance	User/TSC/ Ordinance
Plan, install, and operate all noncommunications electrical systems (lighting, power security, intelligence, and entertainment systems)	User	User
Perform organizational maintenance for all noncommunications electrical systems	User	User
PLANNING AND ADVICE FOR AISs [9][10]		
Determine specific automation requirements for joint and combined operations	JS	JS
Established standards for the design and implementation of locally developed AIS	Sig Spt	Sig Spt
Define standards for interface with net	Sig Spt	TSC
Develop information requirements/needs	User	User
Establish priorities for information	User	User

[9] At the theater level, the automation responsibilities of the US unified commander overlap those of the USASC. In this table, the USASC provides support to the theater on a regional basis. While some of the organizations within the theater are actual USASC assets, they are considered part of the theater, specifically the TSC.

[10] At the theater level, all planning for and staff supervision of TA automation activities are generally performed by the TSC. DCSIM staff validates user requirements. Identification of needs and allocation of resources to meet the needs are performed by the user. For joint automation activities, these functions are generally performed by joint staff.

Table 6-1. Signal Support Responsibilities at the Theater Level[4] (Continued)

	TACTICAL	SUSTAINING-BASE
Allocate automation devices	User	User
Develop continuity of operations plan (COOP)	Sig Spt	TSC
Plan WAN	TSC	TSC
Design databases	User/ Sig Spt	TSC
Determine initialization information for devices and data	User	TSC
Advise user regarding AIS bases	Sig Spt	TSC
INSTALLATION OF AIS[11]		
Install equipment for operation	TSC/User	TSC
Install LAN	User	User
Coordinate interface requirements with communications network	TSC/ User	TSC/User
Local system, functional software	TSC/ User	TSC
OPERATION OF AIS[12]		
Operate functional AIS	TSC	TSC
Perform basic word processing and spreadsheet functions	User	User
Update and manipulate databases	User	User
Backup and restore databases	User	User
Employ automation security procedures	User	User
Supervise AIS network operations	TSC/User	TSC/User
Develop and produce unique reports for commander/staff	TSC/User	TSC/User
Control software versions	Sig Spt	TSC

[11] Installation of major, theater-wide Army AIS is generally the responsibility of the TSC. Other AIS and local area networks are installed by using organizations.

[12] Operation of TA AIS is generally the responsibility of the TSC. Other AIS and local area networks are operated by the using units.

Table 6-1. Signal Support Responsibilities at the Theater Level[4] (Continued)

	TACTICAL	SUSTAINING-BASE
MAINTENANCE OF AIS		
Perform operator maintenance	User	User
Perform unit level maintenance/evacuate	User/OS	User/OS
Troubleshoot and isolate faults to hardware or software	User/OS	User/OS
AIS TRAINING		
Conduct operator/crew training	User	User

BATTLEFIELD INFORMATION SERVICES MANAGEMENT

6-58. The signal officer's tool for the management and coordination of the BIS in support of the theater and subordinate unit headquarters is the Information Services Support Office (ISSO). BISs include correspondence, files and forms management, classified document control, Privacy Act and FOIA, distribution, printing, publications, official mail, and reproduction.

6-59. The ISSO has staff supervision responsibility for all BIS, recommending policy, procedures, standards, and conventions to facilitate information services support. The ISSO provides for the centralized execution of and central point of contact for BIS requiring centralized management to the headquarters (distribution and official mail, Privacy Act and FOIA, and printing requests).

6-60. An ISSO is established at every echelon at the theater level and is under the signal officer's control. At battalion and brigade, the S1 accomplishes the ISSO function. At support units with no organic supporting signal unit, the signal office is the proponent for information services on the staff. The functional staff remains responsible for its execution. The responsibilities of the ISSO at the theater level are listed in Table 6-2.

6-61. Each functional staff element implements signal support policies, procedures, and standards within the functional area of operation. For instance, the S3 provides internal distribution at the tactical operations center location when tactically deployed.

6-62. Generally, the signal unit, the ISSO, and signal staff at each echelon at the theater level will have the same mission and functions.

Table 6-2. Signal Support/ISSO Responsibilities at the Theater Level

	THEATER
CORRESPONDENCE	
Supervision of correspondence:	ISSO
Recommending policy, procedures, and conventions	
Preparing correspondence:	User
Establishing distribution schemes	ISSO
Authenticating correspondence:	CDR
(authentication is defined as approved for release)	
Reading file:	
Management	Staff
Input	User
Staff supervision of correspondence:	ISSO
Recommending local procedures and conventions governing authentication (who, what, when, how)	
Recommending local procedures governing reading files	ISSO
CLASSIFIED DOCUMENTS CONTROL	
Staff supervision of classified document control:	ISSO
Recommending policy, procedures, and convention	
Classification authority:	CDR
Recommending classified document control, policies, procedures, and inspections[1]	ISSO
Classified document distribution	ISSO
Classified document storage	User
TOP SECRET repository	ISSO
Classified document control:	User
As correspondence or file	
Document destruction:	
SECRET	User
TOP SECRET	ISSO

[1] Classified document control must apply in all phases and areas of the signal support (correspondence, printing/reproduction, distribution/mail, and file management).

Table 6-2. Signal Support/ISSO Responsibilities at the Theater Level (Continued)

	THEATER
PRINTING[2]	
Staff supervision of printing:	ISSO
Recommending policy, procedures, and conventions	
POC for any request to be forwarded	ISSO
Priority establishment	User
REPRODUCTION	
Staff supervision of reproduction:	ISSO
Recommending policy, procedures, and conventions	
Copier management:	User
Determine need for requirement	ISSO
Validate requirement	ISSO
Assist/advise in satisfying requirement	
Copier operation and user maintenance	User
Contracting and maintenance coordination	ISSO
PUBLICATIONS	
Staff supervision of publications:	ISSO
Recommending policy, procedures, and conventions	
Publications account management:	ISSO[3]
Consolidating, ordering, and distributing subordinate unit requests through pin-point distribution requests through function occurs only at the echelon owning the pin-point account.	
Identify publications requirement	User
Publications library:	User
Not a mandatory requirement	
When applicable, geared towards user's function (S2, maintenance)	

[2] The signal reproduction detachment provides volume printing (reproduction) support at theater when required. If the need arises, the ISSO forwards printing requests through signal channels to the signal reproduction unit.

[3] Separate user pin-point accounts.

Table 6-2. Signal Support/ISSO Responsibilities at the Theater Level (Continued)

	THEATER
FORMS	
Staff supervision of forms management:	ISSO
Recommending policy, procedures, and conventions	
Compiling, ordering, and distributing forms:	ISSO
This function occurs only at the element owning pin-point account	
Requests for new forms:	
Recommending	User
Approving	Staff/ISSO
Adhere to forms usage policy:	
Includes use management	Staff/User
Requesting resupply	User
Separate user pin point accounts	Staff
FILES MANAGEMENT	
Staff supervision of files management:	
Recommending policy, procedures, and conventions	ISSO
Files transfer to records holding area	Staff
Approval of files listings and electronic conventionalizing	ISSO
Files maintenance	Staff/User
DISTRIBUTION	
Staff supervision of distribution	
Recommending policy, procedures, and convention	ISSO
Internal Headquarters distribution POC	ISSO
Distribution center operations	ISSO
Pickup of distribution	User

Table 6-2. Signal Support/ISSO Responsibilities at the Theater Level (Continued)

	THEATER
External distribution service:	
Recommend policy, procedures, and convention	ISSO
Provide resources for necessary messenger service.	User
Maximum use is made of existing delivery systems (Classes I, V)	
Task resources for necessary messenger service	ISSO
Official mail distribution	ISSO
Censorship[4]	User
PRIVACY ACT AND FREEDOM OF INFORMATION ACT	
Staff supervision of privacy act and FOIA:	
Recommending policy, procedures, and convention	ISSO
Implementation	User
POC	ISSO

[4] Mail may be categorized as both official and personal; however, once a unit receives official mail, 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, subject (sometimes) to censorship.

Appendix A

USASC Organizational Structure

The USASC is structured into two entities, rear and forward, each with a separate TOE. Listed below by corresponding TOE paragraph numbers are the duties and responsibilities for each section. Except where noted, the TDA augments sections within the TOE.

USASC REAR, TOE 11801A000

A-1. The rear section, under the commanding general, remains in CONUS and provides the expertise, guidance, and command to units forward deployed. Figure A-1 shows the organization of the USASC Rear.

COMMAND SECTION, PARAGRAPH 01

A-2. The USASC consists of a commander who functions as directorate for information systems for command, control, communications, and computers (DISC4) FORSCOM and two deputy commanders (a deputy DISC4 and a deputy commander in the USASC Forward). The command section includes the USASC commander and executive support personnel. This section–

- Provides oversight of the command's mission to support the warfighter and fulfilling the Army's assigned Executive Agency responsibilities.
- Establishes a command climate that provides operational intent and direction to subordinates, ensuring they understand their mission and military objectives and their contribution to the attainment of the CINC's strategic concept and intent.
- Devises military objectives, concepts, and resource plans for a broad range of activities in his AOR.

CHIEF OF STAFF SECTION (CofS), PARAGRAPH 02

A-3. The Chief of Staff is the senior staff officer of the headquarters. supervises the USASC staff for the commander. He directs, coordinates, and supervises the headquarters staff and assigned or attached liaison officers, and devises staff policies to support the commander's guidance. The LNO, safety office, equal employment opportunity office, protocol, and unit historian are included in the CofS section. LNO personnel are assigned to this section with duty station at appropriate organizations.

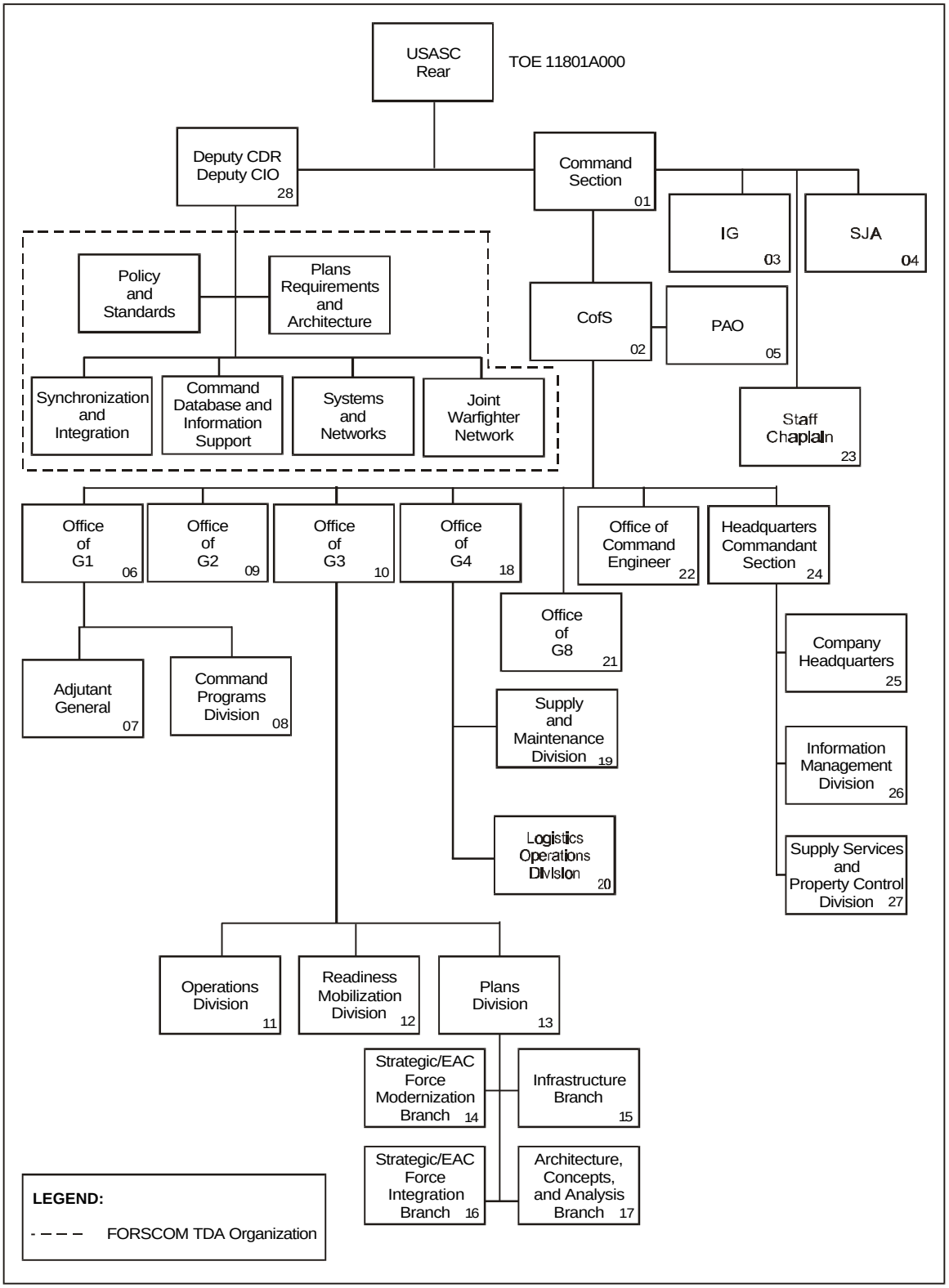


Figure A-1. USASC Rear Elements

INSPECTOR GENERAL (IG), PARAGRAPH 03

A-4. The IG serves as the confidential advisor to the commander. He–

- Inquires into and reports on matters pertaining to the performance of the mission, state of discipline, efficiency, and economy of the command.
- Teaches, trains, and conducts inspections, investigations, surveys, and studies IAW the commander and by laws and regulations.
- Provides the commander with assessments of the overall state of the command. Conducts and reports on special follow-up and contractual inspections IAW the commander and as authorized by laws and regulations.
- Receives, reviews, and processes inspector general action requests (IGAR). Conducts follow-up to ensure action is taken to resolve IGARs.
- Conducts investigations by prescribed regulations IAW the Commander, FORSCOM or DA IG.

STAFF JUDGE ADVOCATE (SJA), PARAGRAPH 04

A-5. The SJA section provides legal advice to the commander, staff, and subordinate commanders on all matters involving military law.

- Supervises and is responsible for the administration of military justice, administrative law, fiscal law, environmental law, ethics and standards of conduct, Status of Forces Agreements, other international agreements, operational law, and other legal matters in the command.
- Provides legal advice to the USASC commander and staff.
- Supervises the administration of military justice during transition to war.
- Supervises legal advice on civil law (military personnel law, civilian personnel law, contract law, and labor law).
- Directs the legal assistance program during transition from peace to war.
- Provides legal support for contingency contract missions.
- Deploys in support of USASC, as required.

PUBLIC AFFAIRS OFFICE (PAO), PARAGRAPH 05

A-6. PAO–

- Advises the commander on all aspects of command and public information functions to include information planning, publication of command information newspapers, and other information media.
- Ensures that material for public release is reviewed for security clearance and prepares public and command information portion of SOPs and operations orders (OPORDs).
- Plans and executes PA functions in support of USASC Headquarters operations.

- Provides PA guidance to the command group, staff, and all local and worldwide elements of the command.
- Directs, advises, and coordinates public affairs activities of subordinate command PAOs.

OFFICE OF THE G1, PARAGRAPH 06

A-7. The G1 has general staff responsibility for the personnel readiness of the command. G1 is primary advisor to the commander on matters relating to the quality and quantity of assigned personnel and is responsible for the care and keeping of the force. G1 supervises the development of plans, polices, and procedures related to military and civilian personnel management functions. Other responsibilities include quality of life programs, equal opportunity, personnel planning, personnel services, recruiting and retention programs, command records management, and printing and publications services. The USASC's TDA provides additional personnel for this section.

ADJUTANT GENERAL (G1), PARAGRAPH 07

A-8. The adjutant general (AG) oversees the strength management of the command to include military replacement flow, addresses soldier readiness, handles all soldiers' actions, and oversees the retention and transition of military personnel.

COMMAND PROGRAMS DIVISION (G1), PARAGRAPH 08

A-9. This division oversees mobilization planning, command records management, printing and publications services, and civilian personnel management.

OFFICE OF THE G2, PARAGRAPH 09

A-10. The G2 provides intelligence and multidisciplined security support to the USASC Headquarters and subordinate elements. The G2 develops and implements programs designed to protect C4 systems and personnel.

OFFICE OF THE G3, PARAGRAPH 10

A-11. The G3 is the principle staff assistant to the commander in matters pertaining to C2, operations security (OPSEC), war plans, force structure, force management, operations, training, readiness, NBC warfare, and information operations.

OPERATIONS DIVISION (G3), PARAGRAPH 11

A-12. The G3 serves as the commander's clearing house for critical operational information. The G3–

- Coordinates and monitors operations.
- Acquires and communicates operational and strategic level information and maintains force status.
- Evaluates information to assess the operational situation.
- Obtains critical information required by the commander in his decision-making process.

- Maintains current operational estimates of the situation in coordination with other staff agencies.
- Prepares, authenticates, and publishes the overall command tactical SOP with contributions from other staff agencies.
- Recommends priorities for allocating critical resources of the command.
- Recommends task organization and mission assignment to subordinate elements of the command.

READINESS MOBILIZATION DIVISION (G3), PARAGRAPH 12

A-13. This division–

- Assists and reviews general war and contingency plans for Army, joint, and combined operations.
- Provides policy, tasks, and guidance on the development of supporting plans of subordinate units.
- Coordinates USASC plans with higher and adjacent commands to ensure mutual understanding, integration, and mutual support.
- Plans, coordinates, and directs training and education for the USASC.
- Reviews unit status reports (USR) and monitors the training readiness of EAC active component (AC) and reserve component (RC) units.

PLANS DIVISION (G3), PARAGRAPH 13

A-14. This division provides the planning and technical support for the implementation, sustainment, and integration of C4 signal systems in support of the warfighter and deploying signal forces. The USASC's TDA provides additional personnel for this section.

STRATEGIC/EAC FORCE MODERNIZATION BRANCH (PLANS DIVISION, G3), PARAGRAPH 14

A-15. This branch is responsible for the planning, oversight, and coordination of force modernization. It reviews Army, joint, and combined concepts, doctrine, tactics, techniques, and procedures. This branch provides policy guidance in the fielding of new equipment.

INFRASTRUCTURE BRANCH (PLANS DIVISION, G3), PARAGRAPH 15

A-16. The USASC's TDA authorizes the necessary personnel for this branch. This branch plans, costs, engineers, installs, and tests the resolution of problems, restoration of operational capability, and/or establishment of limited signal systems capability.

STRATEGIC/EAC FORCE INTEGRATION BRANCH (PLANS DIVISION, G3), PARAGRAPH 16

A-17. The USASC's TDA authorizes the necessary personnel for this branch. This branch is responsible for the USASC command-wide structure and

organization management, and the documentation of the command's manpower and equipment in the applicable manning documents.

ARCHITECTURE, CONCEPTS, AND ANALYSIS BRANCH (PLANS DIVISION, G3), PARAGRAPH 17

A-18. This branch provides technical assistance and information technology planning for the reception, staging, and integration of deploying, redeploying, and reinforcing signal systems and their interfaces with existing strategic communications systems.

OFFICE OF THE G4, PARAGRAPH 18

A-19. The G4 has the general staff responsibility for sustainment of the force that includes logistics (less medical and maps), transportation, services, and POL. The G4 is also responsible for logistical impact and support of G3 plans, coordinating material management, setting logistics priorities, establishing stockage levels, managing critical materials, and obtaining support from civilian economy.

SUPPLY AND MAINTENANCE DIVISION (G4), PARAGRAPH 19

A-20. This division–

- Prepares, coordinates, and manages supply (all classes) and maintenance policies and procedures, including COMSEC throughout the command.
- Implements the USASC excess management and redistribution program.
- Provides worldwide technical assistance in troubleshooting and repairing command unique equipment.
- Performs staff oversight on the USR and resolves logistics readiness issues within the command's capabilities.

LOGISTICS OPERATIONS DIVISION (G4), PARAGRAPH 20

A-21. This division–

- Prepares, coordinates, and implements the logistics annexes to OPLANs and OPORDs.
- Is responsible for USASC logistics concepts and develops/implements USASC logistics support structures.
- Provides policy and implements the command contingency contracting program.
- Prepares, coordinates, and manages transportation policies and procedures throughout the command.
- Sustains logistics support to USASC units during reception, staging, onward movement, and integration.
- Coordinates logistics budget planning and monitors expenditure of funds required to support material programs, supplies, and equipment.

OFFICE OF THE G8, PARAGRAPH 21

A-22. The USASC's TDA provides all personnel for the G8. The G8 provides resource management and management analysis functions. The G8 supervises–

- Cost/economic analysis and decision analysis functions.
- Development, evaluation, revision, defense, execution, and reporting of the command operating budget.
- Program objective memorandum.
- Manpower programs.
- Budget execution.

OFFICE OF COMMAND ENGINEER, PARAGRAPH 22

A-23. The command engineer–

- Manages all facilities and engineering and environmental issues incident to the deployment, sustainment, and redeployment of EAC signal assets.
- Provides facilities, engineering expertise, and advice to the USASC commander, staff, and subordinate elements.
- Ensures that USASC facilities worldwide are adequately maintained.

STAFF CHAPLAIN, PARAGRAPH 23

A-24. The staff chaplain–

- Provides and coordinates the commander's religious support mission to the USASC to include assigned or attached units.
- Advises the commander and staff on religion, morale, and conduct.
- Assists the commander in ensuring that policies and leadership practices of the command are kept with the highest moral, ethical, and humanitarian standards.

HEADQUARTERS COMMANDANT (HEADQUARTERS CMDT) SECTION, PARAGRAPH 24

A-25. Headquarters CMDT exercises operational control over headquarters troops not assigned or attached to subordinate commands. This section supervises training, logistics support, and morale activities of headquarters personnel.

COMPANY HEADQUARTERS, PARAGRAPH 25

A-26. The company headquarters provides for the organization, control, and supervision of life support functions within the headquarters.

INFORMATION MANAGEMENT DIVISION, PARAGRAPH 26

A-27. This division provides the information management support for the USASC Headquarters. This includes e-mail services and operation, configuration management, programming support, hardware/software support, and life-cycle management for automation/telecommunications

resources. Information Management Division manages appropriate contracts that support the headquarters.

SUPPLY SERVICES AND PROPERTY CONTROL DIVISION, PARAGRAPH 27

A-28. This division requisites all supplies and equipment to support the headquarters. It maintains the property book for the headquarters.

OFFICE OF THE G6, CHIEF INFORMATION OFFICER (CIO), FORSCOM, PARAGRAPH 28

A-29. The G6/CIO advises the commander, FORSCOM on all communications issues and information management area issues. The deputy commander/deputy CIO is located on USASC's TOE, with the remainder of the G6 staff on FORSCOM's TDA.

USASC FORWARD, TOE 11802A000

A-30. The forward section, under the deputy commander, is deployed in those instances where the TSC is not deployed or where augmentation to the TSC is required. Figure A-2 shows the organization of the USASC Forward.

COMMAND SECTION FORWARD, PARAGRAPH 01

A-31. This section includes the deputy commander and executive support personnel. This forward element is responsible for oversight of the command's forward mission to support the warfighter. The deputy commander directs the daily activities of USASC Forward.

CHIEF OF STAFF FORWARD ELEMENT, PARAGRAPH 02

A-32. Representatives of the Secretary of the General Staff (SGS) are in this element and perform normal SGS functions.

FORWARD ELEMENT (G1), PARAGRAPH 03

A-33. This deployed element serves as the coordinator of personnel support with the senior Army command AG. This element provides personnel support required for the HHC USASC Forward, which includes personnel management functions, oversight of Red Cross notifications, relief of combat stress, and morale, welfare, and recreation (MWR) programs.

FORWARD ELEMENT (G2), PARAGRAPH 04

A-34. This element provides intelligence and multidisciplined security support to the forward elements of the USASC Headquarters and subordinate elements. It develops and implements programs designed to protect C4 systems and personnel.

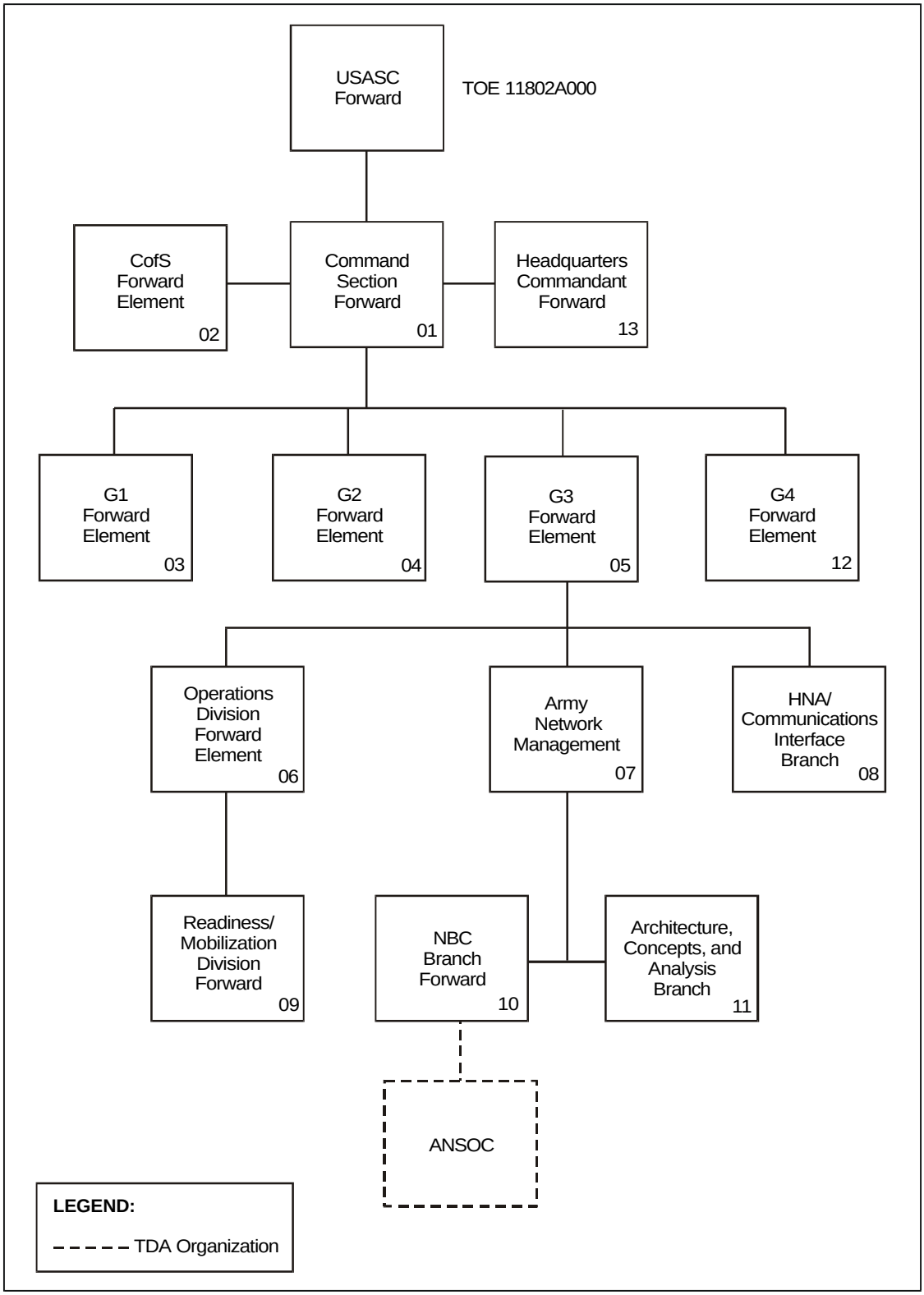


Figure A-2. USASC Forward Elements

FORWARD ELEMENT (G3), PARAGRAPH 05

A-35. This element is the deployable portion of the G3 and performs those functions identified for the Office of the G3, Rear in a forward-deployed location.

OPERATIONS DIVISION FORWARD ELEMENT (G3), PARAGRAPH 06

A-36. This element serves as the G3 Forward clearing house for critical operational information. It–

- Coordinates and monitors operations.
- Acquires and communicates operational and strategic level information and maintains force status.
- Continuously evaluates information received through reports to assess the operational situation.
- Obtains critical information required by the G3 in the decision-making process.
- Maintains current operational estimates of the situation in coordination with other staff agencies.
- Prepares, authenticates, and publishes the overall forward element tactical SOP with contributions from other staff agencies.
- Recommends priorities for allocating critical resources.
- Recommends task organization and mission assignment to subordinate elements.

ARMY NETWORK MANAGEMENT (G3), PARAGRAPH 07

A-37. This forward element manages networks in the USASC Forward AOR and coordinates with–

- Other services (Navy, Air Force, Marines, and allied services).
- DISA controllers.
- Other control elements as appropriate.

HOST NATION AGREEMENT (HNA)/COMMUNICATIONS INTERFACE BRANCH (G3), PARAGRAPH 08

A-38. This branch works closely with DISA concerning the DISN and coordinates with the host nation communications organizations for planning and use of their assets.

READINESS/MOBILIZATION DIVISION FORWARD (G3), PARAGRAPH 09

A-39. This forward element–

- Develops and coordinates general war and contingency plans.
- Provides policy, tasks, and guidance on the development of supporting plans of subordinate units.
- Coordinates USASC Forward plans with higher and adjacent commands to ensure mutual understanding, integration, and support.

- Plans, coordinates, and directs training and education for the USASC Forward elements.
- Reviews USRs and monitors training readiness of forward-deployed EAC signal units.

NBC BRANCH FORWARD (G3), PARAGRAPH 10

A-40. This branch manages the USASC Forward's NBC program and arms control.

ARCHITECTURE, CONCEPTS AND ANALYSIS BRANCH (PLANS DIVISION, G3), PARAGRAPH 11

A-41. This branch plans, costs, engineers, installs, and tests the resolution of problems, restoration of operational capability, and/or establishment of limited signal systems capability in the USASC Forward AOR.

G4 FORWARD ELEMENT, PARAGRAPH 12

A-42. The USASC's TDA provides additional personnel for this section. This forward element–

- Prepares, coordinates, and manages supply, maintenance, and transportation policies and procedures throughout the USASC Forward AOR.
- Provides technical assistance in troubleshooting and repairing command unique equipment in the USASC Forward AOR.
- Sustains logistic support to USASC Forward and subordinate units during reception, staging, onward movement, and integration.
- Serves as the coordinating office for logistics budget planning and monitors expenditure of funds required to support material programs, supplies, and equipment for the USASC Forward.

HEADQUARTERS COMMANDANT FORWARD, PARAGRAPH 13

A-43. This forward element–

- Exercises operational control over headquarters troops not assigned or attached to subordinate commands.
- Supervises training, logistics support, and morale activities of headquarters personnel in the USASC Forward AOR.
- Provides billeting, hygiene facilities, and all classes of supply.
- Exercises UCMJ authority.

Appendix B

TSC and HHC Theater Signal Brigade Organizational Structure

The duties and responsibilities for the TSC and the HHC theater signal brigade are listed below by corresponding TOE paragraph numbers.

SECTION I – THEATER SIGNAL COMMAND, TOE 11602L000

B-1. The following paragraphs describe the tasking, mission, and capabilities of the TSC Headquarters. Figure B-1 shows the organization of an HHC TSC.

COMMAND SECTION, PARAGRAPH 01

B-2. This section provides C2 and staff supervision over the TSC and exercises staff supervision over the DCSIM staff.

CHIEF OF STAFF SECTION, PARAGRAPH 02

B-3. This section directs, supervises, and integrates the work of all staff sections.

Deputy Chief of Staff for Personnel (DCSPER), Paragraph 06

B-4. The DCSPER serves as the principal staff assistant in matters pertaining to military and civilian personnel services and administrative programs of the signal commands. This includes use, replacement operations, strength accepting, casualty reporting, classification, assignment promotion, safety, welfare, morale services, and administration.

B-5. **Office of Personnel Management (OPM) Branch, Paragraph 07.** This branch assists the office of the DCSPER in performing matters pertaining to personnel, both military and civilian.

B-6. **Personnel Actions Branch, Paragraph 08.** This branch assists the Office of the DCSPER in performing personnel administrative actions.

Deputy Chief of Staff for Intelligence (DCSINT), Paragraph 09

B-7. The DCSINT serves as the principal staff assistant to the commander in all matters pertaining to intelligence and security.

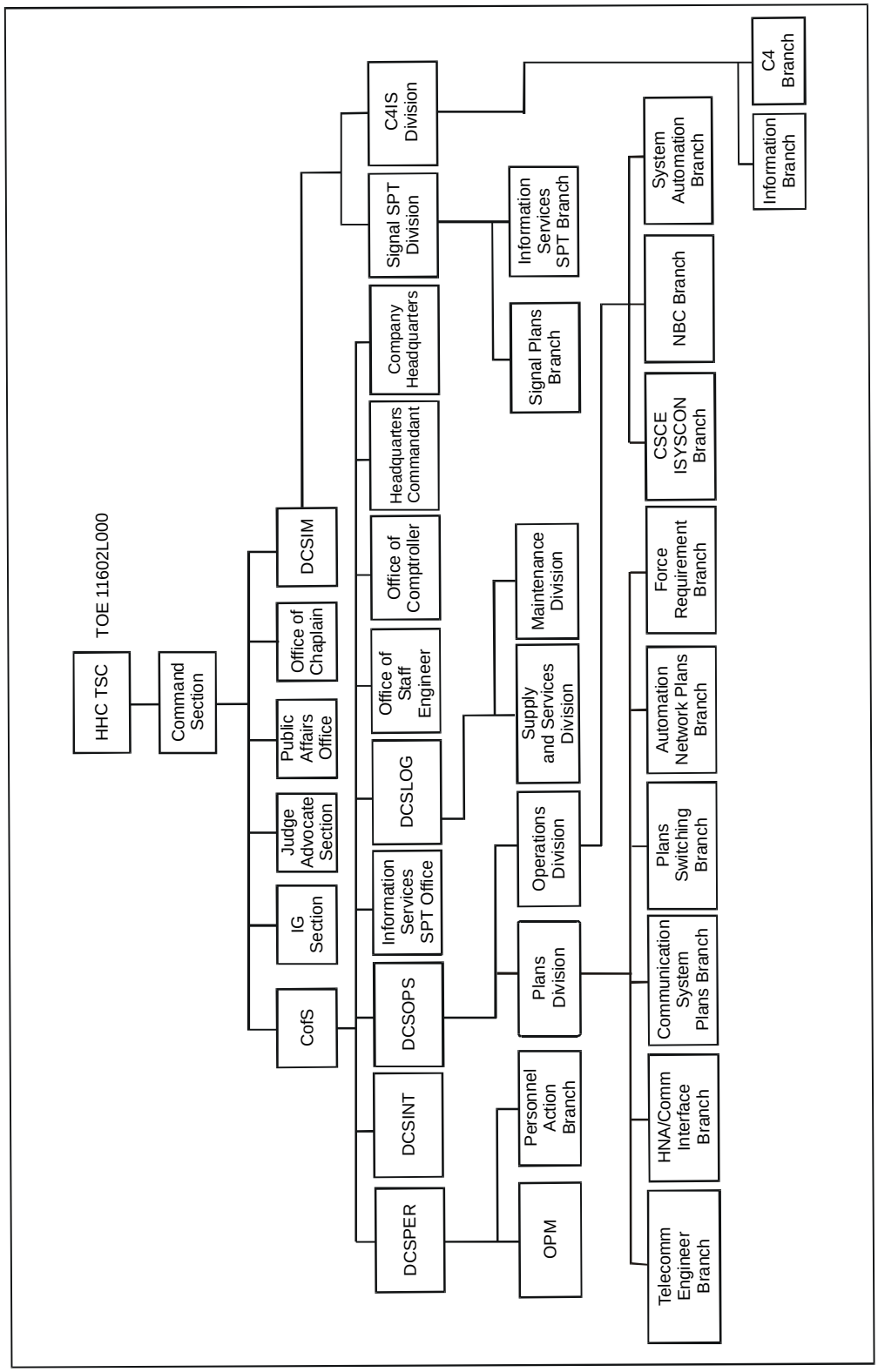


Figure B-1. HHC TSC

Deputy Chief of Staff for Operations and Plans (DCSOPS), Paragraph 10

B-8. The DCSOPS–

- Provides day-to-day operations of the TSC and the TCS, and formulates plans, policies, and procedures.
- Develops, coordinates, and interoperates communications plans and requirements for automated data teleprocessing systems, special systems, and Army communications requirements.
- Prepares orders to implement the communications systems planning element (CSPE).
- Plans and performs short-term traffic-engineering and makes adjustments in system configuration.

B-9. **Plans Division, Paragraph 11**. This division devises plans, policies, and procedures for the establishment, operation, and maintenance of high quality, high capacity, multimeans, multiaxis, automated, and integrated signal support systems network in sufficient detail to task subordinate units.

- **Telecommunications Engineering Branch, Paragraph 12**. This branch is responsible for the development, coordination, and interoperability of communications plans and requirements for automated data processing (ADP) systems.
- **Host Nation/Communications Interface Branch, Paragraph 13.** This branch works closely with the DISA concerning DISN and coordinates with the host nation communications organizations for planning and using the assets within the ASCC.
- **Communications Systems Plans Branch, Paragraph 14**. This branch devises plans, policies, and procedures for employment of communications systems supporting tactical, theater, strategic, and base operations.
- **Plans Switching Branch, Paragraph 15**. This branch develops network performance standards and connectivity requirements for adjacent, higher, and lower units.
- **Automation Network Plans Branch, Paragraph 16**. This branch directs and plans requirements for automated data teleprocessing systems, special systems, and Army communications requirements.
- **Force Requirements Branch, Paragraph 17**. This branch develops, applies, and ensures compliance with policies and procedures for programming and allocation of signal manpower and equipment resources.

B-10. **Operations Division, Paragraph 18.** This division prepares orders to use plans developed by the Communications System Plans Branch, Plans Division; performs short-term traffic engineering; makes adjustments in system configuration; manages reproduction; and resolves routine system problems.

- **CSCE ISYSCON Branch, Paragraph 19**. This branch prepares and disseminates priority lists and detailed emergency schedules for coordination restoration of circuits in the event of disruption of communications or damage to any part of the system. The branch

provides ongoing management of all subordinate brigades' system control elements, coordination with joint communications controllers, coordination with other services and DISA communications controllers, and coordination with subordinate CSCEs.

- **NBC Branch, Paragraph 20** This branch is responsible for the supervision of NBC elements in the TSC.
- **Systems Automation Branch, Paragraph 21**. This branch is responsible for the development, coordination, and interoperability of automation data systems.

Information Services Support Office (ISSO), Paragraph 22

B-11. The ISSO reports to the G-6. The ISSO is responsible for the internal information needed for HHC, TSC. This includes records management, printing and publications, internal distribution, automation, telecommunications, and mail handling for the headquarters.

Deputy Chief of Staff for Logistics (DCSLOG), Paragraph 23

B-12. The DCSLOG supervises matters pertaining to TSC logistics requirements and provides general and technical guidance, direction, control, supervision, and coordination of logistics matters.

B-13. **Supply and Services Division, Paragraph 24**. This division plans and directs the supply and services activities for the TSC. It engages in the acquisition, receipt, storage, preservation, and issue of all classes of supply.

B-14. **Maintenance Division, Paragraph 25**. This division plans and directs activities and organizations engaged in materiel management and maintenance matters.

Office of Staff Engineer, Paragraph 26

B-15. This office serves as the principal staff assistant to the commander and exercises staff supervision over all engineer matters within the TSC.

Office of the Comptroller, Paragraph 27

B-16. This office serves as the primary staff officer for resource management.

Headquarters Commandant, Paragraph 29

B-17. This office is responsible for the support function within the headquarters.

Company Headquarters, Paragraph 30

B-18. This company has a company headquarters, unit supply section, food service section, and motor maintenance section.

INSPECTOR GENERAL (IG) SECTION, PARAGRAPH 03

B-19. As a member of the commander's personnel staff, this section makes necessary inquiries and reports to the commander on matters pertaining to the performance of the mission, state of discipline, efficiency, and the economy of the command.

JUDGE ADVOCATE SECTION, PARAGRAPH 04

B-20. This section provides legal services and advice and assistance to commanders and staffs on operational and administrative law. The primary mission of this section includes law of war and code of conduct advice, procurement law, and Status of Forces Agreement (SOFA) legal issues. This section maintains liaison with the theater support command SJA.

PUBLIC AFFAIRS OFFICE, PARAGRAPH 05

B-21. This office advises the commander and staff on command information functions, including command information newspapers and distribution of command information.

OFFICE OF THE CHAPLAIN, PARAGRAPH 28

B-22. This office advises the commander on the use of chaplains within the TSC.

DCSIM STAFF, PARAGRAPH 31

B-23. The DCSIM staff provides support to the ASCC on a day-to-day basis. This DCSIM staff develops the policies and procedures for using signal support assets within the ASCC. It provides assistance to units within the area of operations and to other ASCC staff elements. The personnel within the DCSIM staff are assigned to the HHC, TSC, but they are normally collocated with the ASCC Headquarters.

Signal Support Division, Paragraph 32

B-24. This division has a signal plans branch and information services branch.

B-25. **Signal Plans Branch, Paragraph 33**. This branch prepares the signal support management annex to the ASCC OPLANs, directives, and orders; reviews and validates the signal support portion of all MSC OPLANs.

B-26. **Information Services Branch, Paragraph 34**. This office manages, prepares, coordinates, and develops TSC Headquarters information capabilities, to include the headquarters LAN, e-mail system, and distribution system.

Command, Control, Communications, and Computers Information Systems (C4IS) Division, Paragraph 35

B-27. This division has an information branch and a C4 branch, which provide information systems database analysis, programming assistance, oversight on records management, and overall control of frequency management and COMSEC for the ASCC.

B-28. **Information Branch, Paragraph 36**. This branch provides an oversight management function for records management within the ASCC.

B-29. **C4 Branch, Paragraph 37**. This branch provides technical staff support for the ASCC signal support activities, frequency management, and COMSEC oversight.

SECTION II – HHC THEATER SIGNAL BRIGADE, TOE 11612L000

B-30. The following paragraphs list the responsibilities of the HHC theater signal brigade. Figure B-2 shows the organization of the HHC theater signal brigade.

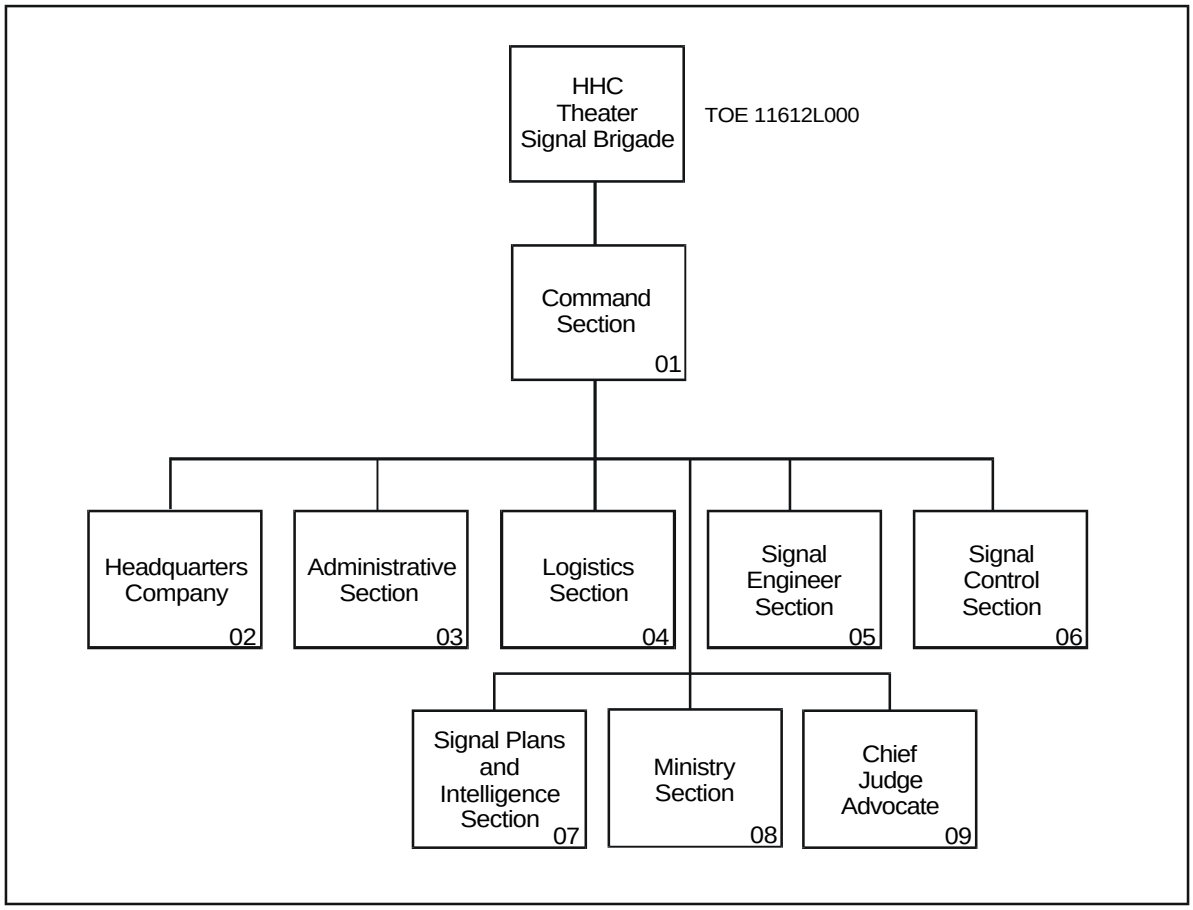


Figure B-2. HHC Theater Signal Brigade

COMMAND SECTION, PARAGRAPH 01

B-31. This section provides C2 and staff supervision over the HHC theater signal brigade.

HEADQUARTERS COMPANY, PARAGRAPH 02

B-32. The HHC commander is responsible for C2 and coordination of the company's mission.

ADMINISTRATIVE SECTION, PARAGRAPH 03

B-33. This section operates under the staff supervision of the S1 officer and provides administrative and personnel actions for the entire brigade, advising the commander on all issues pertaining to personnel administration. This section also provides staff assistance to the subordinate units.

LOGISTICS SECTION, PARAGRAPH 04

B-34. This section operates under the staff supervision of the S4 officer, and provides staff supervision for all logistics actions and develops logistics plans for the brigade. This section also advises the brigade commander on all matters pertaining to logistics and maintenance.

SIGNAL ENGINEER SECTION, PARAGRAPH 05

B-35. This section is the CSPE for the brigade. It conducts detailed systems engineering studies and develops plans for establishing communications systems. Some of the specific actions performed by this branch include–

- Determining the technical characteristics of circuits.
- Determining equipment suitability and adaptability with existing military indigenous communications systems.
- Ascertaining the types of installations and employment required to provide quality transmission over installed circuits and systems.
- Handling of frequency requests and associated records for the brigade units.

B-36. The branch also maintains direct coordination with the CSCE section, keeping the section informed of current and future needs for rerouting or reconstituting circuits and facilities throughout the communications system.

SIGNAL CONTROL SECTION, CSCE, PARAGRAPH 06

B-37. This section provides effective operational management and responsive systems control. This section's main objective is to optimize the performance of the deployed network in the face of a constantly changing network configuration. A database is established and maintained to assist in near real-time control of communications systems and to assist the signal plans and intelligence section in systems planning and engineering.

SIGNAL PLANS AND INTELLIGENCE SECTION, PARAGRAPH 07

B-38. This section plans, coordinates, and supervises the plans and intelligence requirements of the brigade.

MINISTRY SECTION, PARAGRAPH 08

B-39. This section provides religious and welfare support.

CHIEF JUDGE ADVOCATE, PARAGRAPH 09

B-40. This section provides legal services support by personnel of the JAG Corps and provides advice and assistance to commanders and staffs on matters concerning operational and administrative law.

Appendix C

Strategic Signal Units Organizational Structure

Each strategic signal brigade and theater strategic signal battalion is unique. They are tailored to support specific theater requirements. The duties and responsibilities for the HHC strategic signal brigades and HHD strategic signal battalions are listed below by corresponding TOE paragraph numbers.

HHC STRATEGIC SIGNAL BRIGADE, TOE 11622A000

C-1. The following paragraphs describe the tasking, mission, and capabilities of the HHC strategic signal brigade. Figure C-1 shows the organization of an HHC strategic signal brigade.

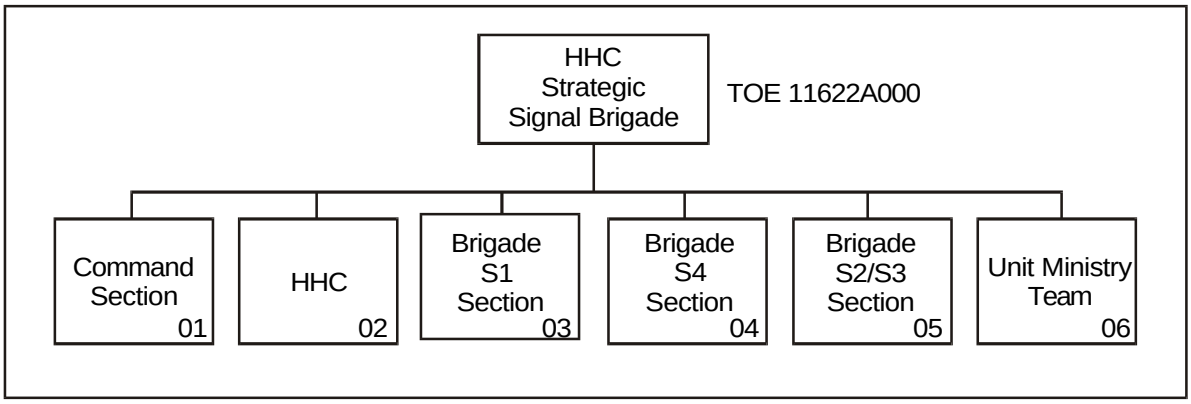


Figure C-1. HHC Strategic Signal Brigade

COMMAND SECTION, PARAGRAPH 01

C-2. This section provides C2 and staff supervision over the brigade's units.

HEADQUARTERS AND HEADQUARTERS COMPANY, PARAGRAPH 02

C-3. The HHC provides the command and administrative personnel for housekeeping operations.

BRIGADE S1 SECTION, PARAGRAPH 03

C-4. This section provides the personnel and equipment to support the administrative requirements of the brigade.

BRIGADE S4 SECTION, PARAGRAPH 04

C-5. This section provides the personnel and equipment to support the logistical requirements of the brigade.

BRIGADE S2/S3 SECTION, PARAGRAPH 05

C-6. This section has staff responsibility for planning, coordinating, and supervising the operational function of the brigade.

UNIT MINISTRY TEAM, PARAGRAPH 06

C-7. The unit ministry team is responsible for ministering to the members of the brigade. This team has a chapel activities specialist (E4, 71M), who works under the supervision of the brigade's chaplain and is responsible for the administrative functions associated with assisting the chaplain.

HHD STRATEGIC SIGNAL BATTALION, TOE 11656A

C-8. The following paragraphs describe the tasking, mission, and capabilities of the HHD strategic signal battalion. This unit has four versions due to the various equipment and information mission of the theater. Figures C-2 through C-5 shows the organization of each version.)

HHD STRATEGIC SIGNAL BATTALION (V1), TOE 11656A100

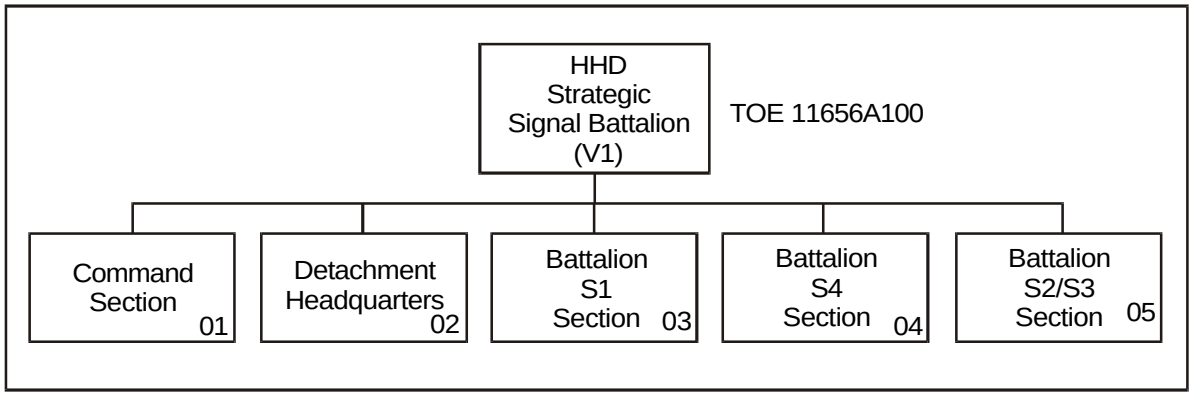


Figure C-2. HHD Strategic Signal Battalion (V1)

Command Section, Paragraph 01

C-9. This section provides C2 and staff supervision over the battalion's units.

Detachment Headquarters, Paragraph 02

C-10. The detachment headquarters provides the command and administrative personnel for housekeeping operations. It is downsized due to the number of personnel assigned.

Battalion S1 Section, Paragraph 03

C-11. This section provides the personnel and equipment to support the administrative requirements of the battalion.

Battalion S4 Section, Paragraph 04

C-12. This section provides the personnel and equipment to support the logistical requirements of the battalion.

Battalion S2/S3 Section, Paragraph 05

C-13. This section has staff responsibility for planning, coordinating, and supervising the operational function of the battalion.

HHD STRATEGIC SIGNAL BATTALION (V2), TOE 11656A200

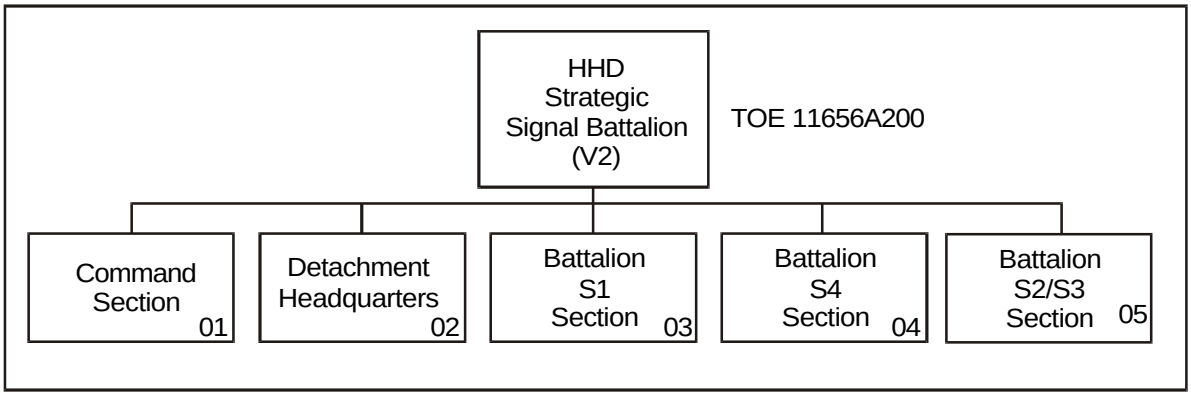


Figure C-3. HHD Strategic Signal Battalion (V2)

Command Section, Paragraph 01

C-14. This section provides C2 and staff supervision over the battalion's units.

Detachment Headquarters, Paragraph 02

C-15. The detachment headquarters provides the command and administrative personnel for housekeeping operations.

Battalion S1 Section, Paragraph 03

C-16. This section provides the personnel and equipment to support the administrative requirements of the battalion.

Battalion S4 Section, Paragraph 04

C-17. This section provides the personnel and equipment to support the logistical requirements of the battalion.

Battalion S2/S3 Section, Paragraph 05

C-18. This section has staff responsibility for planning, coordinating, and supervising the operational function of the battalion.

HHD STRATEGIC SIGNAL BATTALION (V3), TOE 11656A300

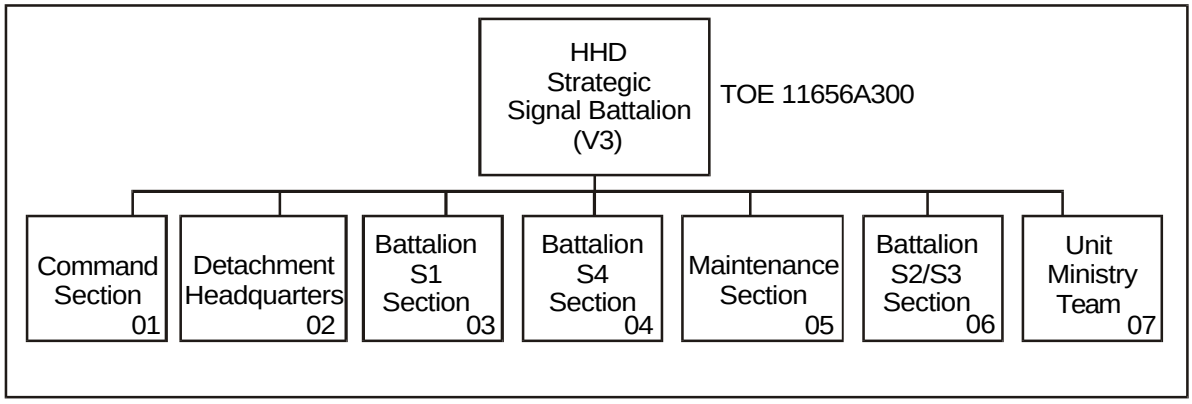


Figure C-4. HHD Strategic Signal Battalion (V3)

Command Section, Paragraph 01

C-19. This section provides C2 and staff supervision over the battalion's units.

Detachment Headquarters, Paragraph 02

C-20. The detachment headquarters provides the command and administrative personnel for housekeeping operations.

Battalion S1 Section, Paragraph 03

C-21. This section provides the personnel and equipment to support the administrative requirements of the battalion.

Battalion S4 Section, Paragraph 04

C-22. This section provides the personnel and equipment to support the logistical requirements of the battalion.

Maintenance Section, Paragraph 05

C-23. The maintenance section has the staff responsibility for planning, coordinating, and supervising the maintenance of all of the battalion's equipment.

Battalion S2/S3 Section, Paragraph 06

C-24. This section has staff responsibility for planning, coordinating, and supervising the operational function of the battalion.

Unit Ministry Team, Paragraph 07

C-25. The unit ministry team is responsible for ministering to the members of the battalion. This team has a chapel activities specialist (E4, 71M), who works under the supervision of the battalion's chaplain and is responsible for the administrative functions associated with assisting the chaplain.

HHD STRATEGIC SIGNAL BATTALION (V4), TOE 11656A400

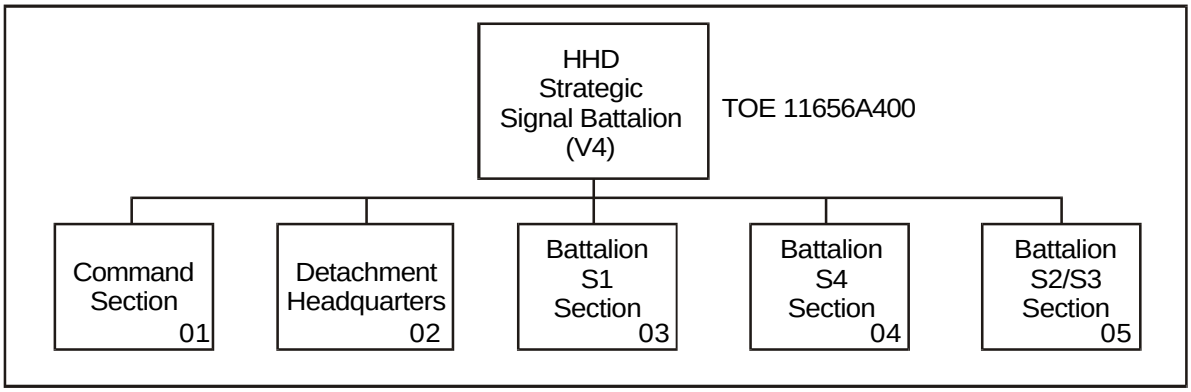


Figure C-5. HHD Strategic Signal Battalion (V4)

Command Section, Paragraph 01

C-26. This section provides C2 and staff supervision over the battalion's units. The commander is dual-hatted as the DOIM for the area support groups (ASGs). The battalion commander (05, 25C) is assisted by the executive officer (04, 25C), who is charged with supervising the battalion staff. The S1/S4 officer (03, 25C) advises the commander on the administrative and logistical matters of the command and serves as the detachment commander. The command sergeant major (E9, 00Z) is the principal enlisted assistant to the commander and provides guidance to the noncommissioned officers (NCOs) assigned to the battalion.

Detachment Headquarters, Paragraph 02

C-27. The detachment headquarters provides the command and administrative personnel for housekeeping operations. It is downsized due to the number of personnel assigned. The detachment headquarters has a detachment sergeant (E7, 31W40), who is responsible for administration and control of personnel.

Battalion S1 Section, Paragraph 03

C-28. This section provides the personnel and equipment for administrative support to the battalion. It has–

- A personnel sergeant (E7, 75H), who advises the commander and S1/S4 officer on matters dealing with personnel management and utilization.
- A personnel administrative sergeant (E5, 75B), who handles the administrative functions of the battalion headquarters, such as forms and publications management and distribution.

Battalion S4 Section, Paragraph 04

C-29. This section provides the personnel and equipment for logistical support to the battalion. It has–

- A unit supply NCO (E7, 92Y), who coordinates logistical activities with other staff elements supply and service and motor transport units for the battalion.
- A supply sergeant, who assists the unit supply NCO with all the logistics activities.

Battalion S2/S3 Section, Paragraph 05

C-30. This section provides staff management oversight and supervision of the operational information services activities for the battalion. It has–

- An S3/2 (04, 25C), who is responsible for plans, operations, and security functions.
- A CE operations officer (CPT, 25C), who is responsible for direct supervision and operation of the team.
- An operations NCO (E7, 31W), who plans, coordinates, and supervises the installation, operation, and maintenance of telecommunications systems and networks.
- A COMSEC material manager (E6, 74C), who coordinates the COMSEC requirements of the battalion.

Appendix D

Theater Strategic Signal Company

Figure D-1 shows the organization of a TSSC. The TSSC (TOE Pending Approval) has a company headquarters and selected modules tailored to meet specific mission requirements. Figure D-2 shows all modules associated with the TSSC, and Table D-1 discusses the module requirements. The company headquarters has three versions that are designed to support a specific theater of operation. This is due to varying equipment and information mission requirements for each region. The company headquarters with the appropriate submodules are designed to meet regional CINC requirements.

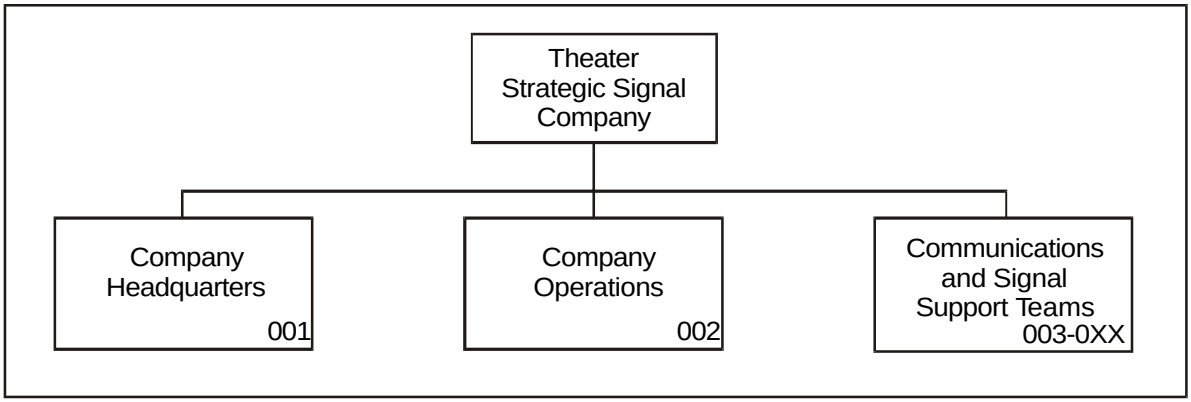
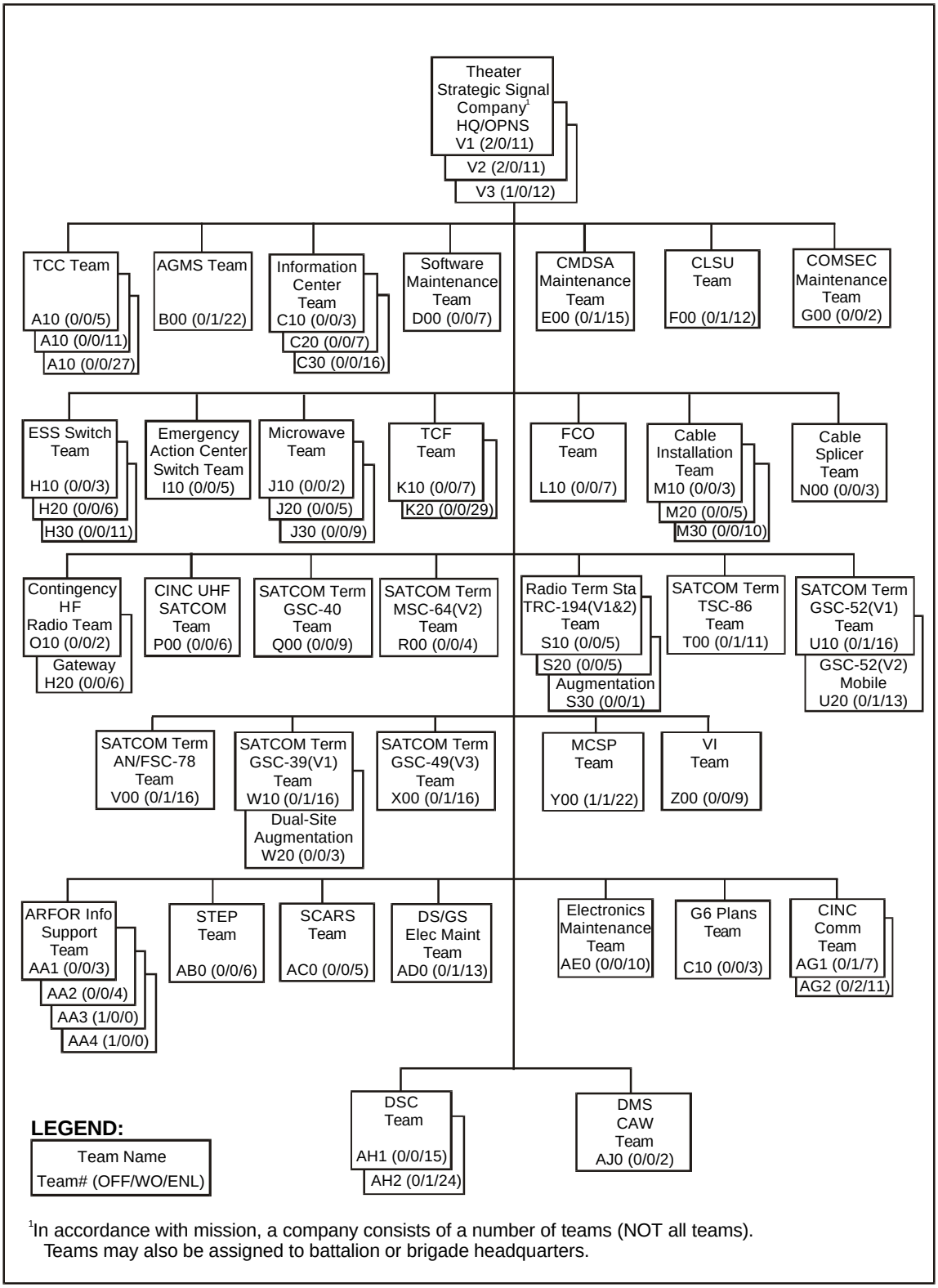


Figure D-1. TSSC Organizational Structure



[1]In accordance with mission, a company consists of a number of teams (NOT all teams). Teams may also be assigned to battalion or brigade headquarters.

Figure D-2. TSSC Diagram

Table D-1. TSSC Modules

Module	Description
EAC TSSC (V1-V3)*	***NOTE: V1 through V3 are the same except for the MOS and grades.** **Mission:** Provide C2 and supervision of the operations and activities of its assigned communications and signal support teams. The company headquarters provides administrative and logistical support for all assigned personnel. **Capabilities:** The unit– • Provides C2 and operational supervision of assigned teams. • Supervises the functions of signal support, to include communications, automation, and visual information. • Operates and maintains the strategic communications systems. • Provides training, administrative, and logistical support to assigned teams. • Depends on the appropriate organizations for health and financial services. **Basis of Allocation:** One per two or more communications and signal support teams. **Organization:** Figure D-2 shows the TSSC organizational structure.
EAC TCC TEAM	**Mission:** V1 – Provides record telecommunications for a small sized regional area. V2 – Provides record telecommunications for a medium sized regional area. V3 – Provides record telecommunications for a large sized regional area.

Table D-1. TSSC Modules (Continued)

Module	Description
	Capabilities: The TCC team– • Operates and maintains automated telecommunications equipment central and associated peripheral devices 24 hours a day, 7 days a week. • Maintains record copy files. • Provides methods and results analysis. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required. **Organization:** V1 – 5-person team. V2 – 11-person team. V3 – 27-person team.
EAC AUTOMATED GATEWAY MESSAGE SWITCH (AGMS) TEAM	**Mission:** Provides record telecommunications and e-mail to a regional area as part of the DMS. **Capabilities:** The AGMS team– • Operates and maintains the AGMS and DMS equipment and ancillary devices. • Performs traffic and circuit monitoring and restoration. • Provides GENSER records communications and e-mail to a regional area. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required. **Organization:** 23-person team.

Table D-1. TSSC Modules (Continued)

Module	Description
EAC INFORMATION CENTER TEAM	**Mission:** V1 – Provides automation and information support to all units in a small sized regional area. V2 – Provides automation and information support to all units in a medium sized regional area. V3 – Provides automation and information support to all units in a large sized regional area. **Capabilities:** The information center team– • Provides signal support including information and data automation. • Installs, operates, and maintains multi-functional/multiuser information processing systems including peripheral equipment and auxiliary devices. • Provides planning, requirements analysis, design, development, testing, installation, maintenance, and training for all ADP systems in a region. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required. **Organization:** V1 – 3-person team. V2 – 7-person team. V3 – 16-person team.
EAC SOFTWARE MAINTENANCE TEAM	**Mission:** Provides software support for a regional area. **Capabilities:** The software maintenance team– • Troubleshoots and repairs existing application software.

Table D-1. TSSC Modules (Continued)

Module	Description
	• Designs, prepares, edits, and tests computer programs. • Modifies existing application programs to support the user's requirements. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required. **Organization:** 7-person team.
EAC COMSEC MATERIAL DIRECT SUPPORT ACTIVITY (CMDSA) TEAM	**Mission:** Provides COMSEC custodian functions, COMSEC equipment maintenance, and COMSEC logistics functions to a geographic area. **Capabilities:** The COMSEC CMDSA team– • Provides COMSEC custodian functions to include COMSEC material account management, safeguarding of COMSEC material, and COMSEC material inventories and reports. • Provides DS/GS level maintenance of COMSEC equipment, CCI, radio receivers and transmitters, and other associated equipment. • Provides COMSEC logistics functions to include procurement, maintenance, and transport of COMSEC equipment and material. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required. **Organization:** 16-person team

Table D-1. TSSC Modules (Continued)

Module	Description
EAC COMSEC LOGISTICS SUPPORT UNIT (CLSU) TEAM	**Mission:** Provides COMSEC and radio equipment maintenance and COMSEC logistics functions to a geographic area. **Capabilities:** The CLSU team– • Provides DS/GS level maintenance of COMSEC equipment, CCI, radio receivers and transmitters, and other associated equipment. • Provides COMSEC logistics functions to include procurement, maintenance, and transport of COMSEC equipment and material. • Depends on the appropriate organizations for administrative and logistical support, and health and financial services. **Basis of Allocation:** As required. **Organization:** 13-person team.
EAC COMSEC MAINTENANCE TEAM	**Mission:** Provides electronic maintenance of COMSEC and radio equipment for a geographic AOR. **Capabilities:** The COMSEC maintenance team– • Provides COMSEC and radio equipment maintenance for a geographic AOR. • Provides DS/GS level maintenance of radio receivers, transmitters, COMSEC equipment, CCI, and other associated equipment. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required. **Organization:** 2-person team.

Table D-1. TSSC Modules (Continued)

Module	Description
EAC ELECTRONIC SWITCHING SYSTEM (ESS) SWITCH TEAM	**Mission:** V1 – Provides operation and maintenance of commercial electronic switching systems and equipment associated with switched network operations in a small sized regional area. V2 – Provides operation and maintenance of commercial electronic switching systems and equipment associated with switched network operations in a medium sized regional area. V3 – Provides operation and maintenance of commercial electronic switching systems and equipment associated with switched network operations in a large sized regional area. **Capabilities:** The ESS switch team– • Installs, initializes, and operates unit level and DS maintenance on electronic switches and network operations equipment 24 hours a day. • Implements network control center-generated changes to support operational requirements. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required. **Organization:** V1 – 3-person team. V2 – 6-person team. V3 – 11-person team.
EAC EMERGENCY ACTION CENTER SWITCH TEAM	**Mission:** Provides emergency and contingency switching communications to a region during peace, war, and MOOTW.

Table D-1. TSSC Modules (Continued)

Module	Description
	Capabilities: The EAC emergency action switch team– • Operates and maintains emergency and contingency switching communications 24 hours a day. • Plans, engineers, and controls emergency and contingency switching communications. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required. **Organization:** 5-person team.
EAC MICROWAVE TEAM	**Mission:** V1 – Provides installation, operation, and maintenance of microwave communications systems at a small microwave site. The team performs engineering quality control and continuity testing of microwave circuits, trunks, links, systems, and facilities. V2 – Provide installation, operation, and maintenance of microwave communications systems at a medium microwave site. The team performs engineering quality control and continuity testing of microwave circuits, trunks, links, systems, and facilities. V3 – Provides installation, operation, and maintenance of microwave communications systems at a large microwave site. The team performs engineering quality control and continuity testing of microwave circuits, trunks, links, systems, and facilities. **Capabilities:** The microwave team– • Configures, aligns, operates, and performs unit level and direct support maintenance on microwave communications equipment and associated devices. • Monitors, fault isolates, and restores telecommunications circuits, trunk groups, systems, and associated commercial and military interface equipment.

Table D-1. TSSC Modules (Continued)

Module	Description
	• Maintains circuit, link, system, and station records and reports. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required. **Organization:** V1 – 2-person team. V2 – 5-person team. V3 – 9-person team.
EAC TECHNICAL CONTROL FACILITY (TCF) TEAM	**Mission:** V1 – Provides an intermediate level of O&M control within the DISN. The TCF provides OPCON and technical direction over a small to medium sized geographic area and number of DISN facilities and systems. V2 – Provides an intermediate level of O&M control within the DISN. The TCF provides OPCON and technical direction over a large sized geographic area and number of DISN facilities and systems. **Capabilities:** The TCF team– • Responds to operational direction from the DISA and to O&M control elements. • Exercises technical control, coordination, and supervision over subordinate DISN facilities, transmission systems, and networks. • Responds immediately to any deterioration or failure of DISNs, equipment, trunks, or circuits that are causing degradation to or loss of service to users of the DISN. • Performs quality control tests and measurements on all trunks, channels, circuits, and equipment for which the TCF is responsible.

Table D-1. TSSC Modules (Continued)

Module	Description
	• Directs and managing HF radio communications systems in support of the DISN. • Depends upon the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required by DISA. **Organization:** V1 – 7-person team. V2 – 29-person team.
EAC FACILITY CONTROL OFFICE (FCO) TEAM	**Mission:** Provides the highest level of O&M control within the DISN. FCOs are designated by each DISA area to provide OPCON and technical supervision over level 4 and level 5 DISN facilities within a designated geographical area. **Capabilities:** The FCO team– • Provides operational direction over TCF within its region. • Provides operations 24 hours a day, with sufficient communications capabilities to coordinate with the appropriate DISA level 2 facility and provides OPCON over subordinate facilities. • Schedules and coordinates with Defense Communications Agency (DCA) for approval of authorized outages. • Functions as the reporting facility for all assigned subordinate DISN facilities, transmission systems, and networks. • Develops specific operating procedures pertinent to the area of assigned responsibility. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required by DISA.

Table D-1. TSSC Modules (Continued)

Module	Description
	Organization: 7-person team.
EAC CABLE INSTALLATION TEAM	**Mission:** V1 – Provides installation and maintenance of base support cable and wire systems in a small sized regional area. V2 – Provides installation and maintenance of base support cable and wire systems in a medium sized regional area. V3 – Provides installation and maintenance of base support cable and wire systems in a large sized regional area. **Capabilities:** The cable installation team– • Installs and maintains copper and fiber optic cable systems. • Installs and maintains repeaters, restorers, voltage protection devices, telephones, distribution frames, and related equipment. • Installs and uninstalls wire systems, including telephones. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required. **Organization:** V1 – 3-person team. V2 – 5-person team. V3 – 10-person team.
EAC CABLE SPLICER TEAM	**Mission:** Provides permanent and emergency splicing of copper and fiber optic cable systems, as well as installation and maintenance of base-support cable and wire systems.

Table D-1. TSSC Modules (Continued)

Module	Description
	Capabilities: The cable splicer team– • Provides permanent and emergency splicing of copper and fiber optic cable systems. • Installs and maintains copper and fiber optic cable systems. • Installs and maintains repeaters, restorers, voltage protection devices, telephones, distribution frames, and related equipment. • Installs and uninstalls wire systems, including telephones. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required. **Organization:** 3-person team.
EAC CONTINGENCY HF RADIO TEAM	**Mission:** Provides emergency and contingency radio communications to a region during peace, war, and MOOTW. **Capabilities:** The contingency HF radio team– • Operates and maintains contingency HF radio communications 24 hours a day. • Plans, engineers, and controls contingency HF radio communications. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required. **Organization:** 2-person team.

Table D-1. TSSC Modules (Continued)

Module	Description
EAC CONTINGENCY HF RADIO GATEWAY TEAM	**Mission:** Provides C2 functions of emergency and contingency radio networks in a region during peace, war, and MOOTW. **Capabilities:** The contingency HF radio gateway team– • Operates and maintains contingency HF radio communications 24 hours a day. • Plans, engineers, and controls contingency HF radio communications. • Commands and controls the HF radio networks in a region. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required. **Organization:** 6-person team.
EAC CINC UHF SATCOM TEAM	**Mission:** Establishes CINC ultra high frequency (UHF) SATCOM networks for emergency and contingency operations. **Capabilities:** The CINC UHF SATCOM team– • Operates and maintains UHF SATCOM 24 hours a day. • Plans, engineers, and controls UHF SATCOM networks. • Commands and controls the CINC UHF SATCOM networks. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required.

Table D-1. TSSC Modules (Continued)

Module	Description
	Organization: 6-person team.
EAC SATCOM TERMINAL TEAM, AN/GSC-40	**Mission:** Provides earth terminal communications as part of the special communications system (SCS) to establish CINC networks and to disseminate highly specialized critical user information. **Capabilities:** The AN/GSC-40, SATCOM terminal team– • Provides UHF SATCOM deployed in a network configuration as part of the SCS, which is operated and maintained by the Army, Navy, and Air Force. • Provides a fixed CP terminal configured to provide specific SCS network C2 functions and the means for disseminating highly specialized critical user information. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required by JCSs. **Organization:** 9-person team.
EAC SATCOM TERMINAL TEAM, AN/MSC-64(V2)	**Mission:** Provides earth terminal communications as part of the SCS to establish CINC networks and to disseminate highly specialized critical user information. **Capabilities:** The AN/MSC-64(V2), SATCOM terminal team– • Provides UHF SATCOM deployed in a network configuration as part of the SCS, which is operated and maintained by the Army, Navy, and Air Force. • Provides a mobile terminal to deploy and access the SCS network and to disseminate highly specialized critical user information.

Table D-1. TSSC Modules (Continued)

Module	Description
	• Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required by JCSs. **Organization:** 4-person team.
EAC RADIO TERMINAL STATION TEAM, AN/TRC-194 (V1) and (V2)	**Mission:** Provides satellite ground communications as part of the military strategic and tactical relay (MILSTAR) system. It establishes CINC networks and emergency action message (EAM) dissemination, force direction and integrated tactical warning and assessment (ITW&A) reception, and summary transmissions. **Capabilities:** The AN/TRC-194, radio terminal team– • Provides EHF uplink and SHF downlink interfaces to the MILSTAR and fleet SATCOM (FLTSATCOM) EHF package (FEP) payloads. • Manages assigned communications resources and user priorities. • Provides baseband interfaces to user equipment groups, which supports the transmission of voice, teletype, and facsimile. • Provides backward compatibility with existing military SATCOM (MILSATCOM) systems. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required by JCSs. **Organization:** 5-person team.

Table D-1. TSSC Modules (Continued)

Module	Description
EAC RADIO TERMINAL STATION AUGMENTATION TEAM, AN/TRC-194(V)	**Mission:** Provides a supervisor for two or more MILSTAR AN/TRC-194(V) systems. **Capabilities:** The AN/TRC-194(V), radio terminal augmentation team– • Supervises two or more AN/TRC-194(V) terminal teams. • Provides overall maintenance, training, and mission sustainment of two or more ground CP terminals. • Provides daily coordination and contact with supported CINCs regarding mission support requirements and system status. • Manages assigned communications resources and user priorities. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** One per two or more AN/TRC-194(V) teams required by JCSs. **Organization:** 1-person team.
EAC SATCOM TERMINAL TEAM, AN/TSC-86	**Mission:** Provides earth terminal communications as part of the DSCS to establish CINC networks and for EAM dissemination, force direction and ITW&A reception, and summary transmissions. **Capabilities:** The AN/TSC-86, SATCOM terminal team– • Provides SHF interfaces to the DSCS that provides simultaneous communications with up to four other terminals. • Manages assigned communications resources and user priorities.

Table D-1. TSSC Modules (Continued)

Module	Description
	• Processes multiple, medium, wideband-digital voice, data, and teletype signals. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required by JCSs. **Organization:** 12-person team.
EAC SATCOM TERMINAL TEAM, AN/GSC-52(V1)	**Mission:** Provides earth terminal communications as part of the DSCS to establish CINC networks and for EAM dissemination, force direction and ITW&A reception, and summary transmissions. **Capabilities:** The AN/GSC-52(V1), SATCOM terminal team– • Provides SHF interfaces to the DSCS that can simultaneous transmit and receive up to 12 communications carriers. • Manages assigned communications resources and user priorities. • Provides survivable antijam, antiscintillation voice, and digital data SATCOM using the universal modem system. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required by JCSs. **Organization:** 17-person team.

Table D-1. TSSC Modules (Continued)

Module	Description
EAC SATCOM TERMINAL TEAM, AN/GSC-52(V2) - MOBILE	**Mission:** Provides earth terminal communications as part of the DSCS to establish CINC networks and for EAM dissemination, force direction and ITW&A reception, and summary transmissions. **Capabilities:** The AN/GSC-52(V2)-mobile, SATCOM terminal team– • Provides SHF interfaces to the DSCS that can simultaneous transmit and receive up to 12 communications carriers. • Manages assigned communications resources and user priorities. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. The AN/GSC(V2) - mobile requires theater transportation assets not organic to the team to be moved. Site teardown and loading to move takes approximately five days, while site setup takes approximately two weeks. **Basis of Allocation:** As required by JCSs. **Organization:** 14-person team.
EAC SATCOM TERMINAL TEAM, AN/FSC-78	**Mission:** Provides earth terminal communications as part of the DSCS to establish CINC networks and for EAM dissemination, force direction and ITW&A reception, and summary transmissions. **Capabilities:** The AN/FSC-78, SATCOM terminal team– • Provides SHF interfaces to the DSCS that can transmit up to 9 communications carriers and receive up to 18 communications carriers. • Manages assigned communications resources and user priorities.

Table D-1. TSSC Modules (Continued)

Module	Description
	• Provides survivable, antijam, antiscintillation, voice, and digital data SATCOM using the universal modem system. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required by JCSs. **Organization:** 17-person team.
EAC SATCOM TERMINAL TEAM, AN/GSC-39(V1)	**Mission:** Provides earth terminal communications as part of the DSCS to establish CINC networks and for EAM dissemination, force direction and ITW&A reception, and summary transmissions. **Capabilities:** The AN/GSC-39(V1), SATCOM terminal team– • Provides SHF interfaces to the DSCS that can transmit up to 9 communications carriers and receive up to 18 communications carriers. • Manages assigned communications resources and user priorities. • Provides survivable, antijam, antiscintillation, voice, and digital data SATCOM using the universal modem system. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required by JCSs. **Organization:** 17-person team.

Table D-1. TSSC Modules (Continued)

Module	Description
EAC DUAL-SITE SATCOM TERMINAL AUGMENTATION TEAM, AN/GSC-39(V1)	**Mission:** Provides satellite system operator-maintainer augmentees to a site having two SATCOM systems. Provides earth terminal communications as part of the DSCS to establish CINC networks and for EAM dissemination, force direction and ITW&A reception, and summary transmissions. **Capabilities:** The AN/GSC-39(V1), dual-site SATCOM terminal augmentation team– • Provides augmentation of SATCOM system operator-maintainers to a site with two SATCOM terminals. • Provides SHF interfaces to the DSCS that can transmit up to 9 communications carriers and receive up to 18 communications carriers. • Manages assigned communications resources and user priorities. • Provides survivable, antijam, antiscintillation, voice, and digital data SATCOM using the universal modem system. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** Augments a site with two SATCOM terminals. **Organization:** 3-person team.
EAC SATCOM TERMINAL TEAM, AN/GSC-49(V3)	**Mission:** Provides earth terminal communications as part of the DSCS to establish CINC networks and for EAM dissemination, force direction and ITW&A reception, and summary transmissions.

Table D-1. TSSC Modules (Continued)

Module	Description
	Capabilities: The AN/GSC-49(V3), SATCOM terminal team– • Provides SHF interfaces to the DSCS and a single carrier with beacon and spread spectrum communications tracking. The universal modem system provides conference selected terminals. • Manages assigned communications resources and user priorities. • Provides survivable antijam, antiscintillation, voice, and digital data SATCOM using the universal modem system. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required by JCSs. **Organization:** 17-person team.
EAC MOBILE COMMAND SUPPORT PLATOON	**Mission:** Provides CINC communications support in the form of secure FM radio, UHF TACSAT, and record telecommunications message support. **Capabilities:** The mobile command support platoon– • Installs, operates, and maintains secure FM radio communications. • Installs, operates, and maintains UHF TACSAT communications. • Installs, operates, and maintains record telecommunications message support. • Installs, operates, and maintains data communications and information systems. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required.

Table D-1. TSSC Modules (Continued)

Module	Description
	Organization: 24-person team.
EAC VISUAL INFORMATION TEAM	**Mission:** Provides a means to document combat and noncombat Army, joint, and combined operations using film, video, audio, multimedia imaging, and VI equipment. **Capabilities:** The visual information team– • Operates film, video, and audio equipment to document combat and noncombat Army, joint and combined operations. • Operates broadcast, collection, television production, and distribution equipment. • Installs, operates, and maintains VI equipment and systems to VTC equipment in support of Army, Joint, and Combined operations. • Operates electronic multimedia imaging equipment to provide decision graphics and images to Army, joint, and combined operations. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required. **Organization:** 9-person team.
EAC ARFOR INFORMATION SUPPORT TEAM	**Mission:** Provides staff oversight and coordination for C4 support to combat and noncombat Army, joint, and combined headquarters. **Capabilities:** The ARFOR information support team– • Plans, operates, coordinates, and manages the supported unit's telecommunications systems and information systems support functions for C4.

Table D-1. TSSC Modules (Continued)

Module	Description
	• Coordinates and directs information processing systems, to include data system studies, and prepares documentation and specifications for proposals. • Provides oversight of the installation and maintenance of copper and fiber optic cable systems, wire systems (including telephones), repeaters, restorers, voltage protection devices, distribution frames, and related equipment. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required. **Organization:** V1 – 3-person team. V2 – 5-person team. V3 – 1-person team. V4 – 1-person team.
EAC STANDARD TACTICAL ENTRY POINT (STEP) TEAM	**Mission:** Provides a tactical interface to the DSCS that establishes CINC and JTF networks, and for EAM dissemination, force direction and ITW&A reception, and summary transmissions. **Capabilities:** The STEP team– • Provides SHF interfaces to the DSCS that can provide simultaneous communications with up to four other terminals. • Manages assigned communications resources and user priorities. • Processes multiple, medium, wideband-digital voice, data, and teletype signals. • Depends on the appropriate organizations for administrative and logistical support and health and financial services.

Table D-1. TSSC Modules (Continued)

Module	Description
	Basis of Allocation: As required by JCSs. **Organization:** 6-person team.
EAC STATUS CONTROL ALERTING AND REPORTING SYSTEM (SCARS) TEAM	**Mission:** Provides data transmission and reception of EAM traffic for NATO affiliated organizations. **Capabilities:** The SCARS team– • Provides only NATO-approved EAM injection into NATO EAM system. • Links US CINC, Europe (USCINCEUR) into NATO EAM system. • Provides two-man (NATO) control over system and crypto materiel and equipment. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required by NATO. **Organization:** 5-person team.
EAC DS/GS ELECTRONIC MAINTENANCE TEAM	**Mission:** Provides electronic equipment maintenance of microwave, cable, and wire systems and VI equipment for a geographic area. **Capabilities:** The DS/GS electronic maintenance team provides DS/GS level maintenance– • For a geographic AOR. • On microwave communications equipment and associated devices.

Table D-1. TSSC Modules (Continued)

Module	Description
	• On repeaters, restorers, voltage protection devices, telephones, distribution frames, and related equipment. • On VI equipment and systems to include VTC equipment. The team depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required. **Organization:** 14-person team.
EAC ELECTRONIC MAINTENANCE TEAM	**Mission:** Provides electronic equipment maintenance of COMSEC, radio, telecommunications, and microcomputer equipment for a geographic AOR. **Capabilities:** The electronic maintenance team– • Provides electronic equipment maintenance for an AOR with a small volume of equipment. • Provides DS/GS level maintenance on radio receivers, transmitters, COMSEC equipment, CCI, and other associated equipment. • Provides DS/GS level maintenance on microcomputers, electromechanical telecommunications terminal equipment, facsimile machines, and other associated equipment and devices. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required. **Organization:** 10-person team.

Table D-1. TSSC Modules (Continued)

Module	Description
EAC G6 PLANS TEAM	**Mission:** Provides plans, operations, staff oversight, and coordination for C4 support to Army, joint, and combined headquarters. **Capabilities:** The G6 plans team– • Plans, operates, coordinates and manages the supported unit's telecommunications systems and information systems support functions for C4. • Provides spectrum planning and management. • Coordinates and directs information processing systems, to include data system studies, and prepares documentation and specifications for proposals. • Provides oversight of the installation, operation, and maintenance of electronic switches and network operations equipment, radio receivers and transmitters, and other associated equipment. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** To support Army, joint, or combined headquarters as required. **Organization:** 7-person team.
EAC CINC COMMUNICATIONS TEAM	**Mission:** Provides CINC communications support in the form of secure FM radio, UHF TACSAT, and COMSEC equipment maintenance. **Capabilities:** The CINC communications team– • Installs, operates, and maintains secure FM radio communications. • Installs, operates, and maintains UHF SATCOM.

Table D-1. TSSC Modules (Continued)

Module	Description
	• Maintains COMSEC equipment. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required to support Army, joint, or combined CINCs. **Organization:** V1 – 8-person team. V2 – 13-person team.
EAC DMS SERVICE CENTER (DSC) TEAM	**Mission:** V1 – Provides organizational and individual messaging for customers in a medium sized regional area. V2 – Provides organizational and individual messaging for customers in a large sized regional area. **Capabilities:** The DSC team– • Operates and maintains the DMS equipment and ancillary devices. • Provides organizational and individual messaging to customers in a geographic AOR. • Performs systems administration and help desk functions for electronic messaging and mail systems. • Performs COMSEC material management functions and information systems security functions for the DMS. • Installs, operates, and performs unit level maintenance on the DMS cable and wire communications systems, COMSEC devices, and associated equipment. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required.

Table D-1. TSSC Modules (Continued)

Module	Description
	Organization: V1 – 15-person team. V2 – 25-person team.
UNIT REFERENCE SHEET (URS) EAC DMS CERTIFICATION AUTHORIZATION WORKSTATION (CAW) TEAM	**Mission:** Provides DMS COMSEC material support and management for customers in a regional area. **Capabilities:** The DMS CAW team– • Provides COMSEC material issue and support to DMS users in a geographic AOR. • Performs COMSEC material management functions and information systems security functions for the DMS. • Depends on the appropriate organizations for administrative and logistical support and health and financial services. **Basis of Allocation:** As required. **Organization:** 2-person team.

Glossary

AAMDC	Army Air Missile Defense Command
AC	active component
ACCOR	Army COMSEC Central Office of Record
ACP	Allied Communications Publication
ACUS	Area Common User System
ADA	air defense artillery
ADP	automated data processing
ADPE	automated data processing equipment
AFFOR	Air Force forces
AG	Adjutant General
AGMS	automated gateway message switch
AIS	automated information systems
AMC	US Army Materiel Command
AMMO	ammunition
ANSOC	Army Network and Systems Operations Center
AOR	area of responsibility
ARFOR	Army forces
ARSOF	Army Special Operations Forces
ASCC	Army Service Component Command
ASD	Assistant Secretary of Defense
ASG	area support groups
ASIOE	associated support items of equipment
ATE	automated test equipment
ATO	Army Telecommunications Office
ATS	air traffic services
ATTN	attention
AUTODIN	automated digital network
BATCOM	battalion control
BDE	brigade
BIS	battlefield information system

BN	battalion
BOM	bill of materials
BSM	battlefield spectrum management
C2	command and control
C3	command, control, and communications
C3I	command, control, communications, and intelligence
C4	command, control, communications and computers
C4IS	command, control, communications, and computers information systems
CA	Civil Affairs
CACOM	civil affairs command
CAP	crisis action procedures
CAW	certification authorization workstation
CBT	combat
CCI	controlled cryptographic items
CDR	commander
CDR	commander
CE	communications-electronics
centers of gravity	Those characteristics, capabilities, or localities from which a military force derives its freedom of action, physical strength, or will to fight.
CG	commanding general
CG	commanding general
CHEM	chemical
CID	
CINC	Commander in Chief
CIO	chief information officer
CJCS	Chairman, Joint Chiefs of Staff
CJCSI	Chairman, Joint Chiefs of Staff Instruction
CJCSM	Chairman, Joint Chiefs of Staff Manual
CJTF	Commander, Joint Task Force
CLSU	COMSEC logistics support unit
CMD	command
CMDSA	COMSEC material direct support activity
CMDT	commandant

coalition	An ad hoc arrangement between two or more nations for common action.
CofS	Chief of Staff
COMCAM	combat camera
Comm	communications
COMMCEN	communications center
COMMZ	communications zone
COMSEC	communications security
CONUS	continental United States
COOP	continuity of operations plan – assists each core business process, application manager, or facility business manager in completing Y2K contingency plans (i.e., risk assessment and continuity of operations plan).
COTS	commercial-off-the-shelf
coup de main	An offensive operation that capitalizes on surprise and simultaneous execution of supporting operations to achieve success in one swift stroke.
CPT	captain
CS	combat support
CSCE	communications system control element
CSPE	communications systems planning element
CSS	combat service support
DA	Department of the Army
DCA	Defense Communications Agency
DCO-A	Defense Certification Office-Army
DCofS	Deputy Chief of Staff
DCSC4	Deputy Chief of Staff for command, control, communications, and computers
DCSENG	Deputy Chief of Staff Engineer
DCSIM	Deputy Chief of Staff for Information Management
DCSINT	Deputy Chief of Staff for Intelligence
DCSLOG	Deputy Chief of Staff for Logistics
DCSMED	Deputy Chief of Staff Medical
DCSOPS	Deputy Chief of Staff for Operations and Plans
DCSPER	Deputy Chief of Staff for Personnel
DCSPM	Deputy Chief of Staff Provost Marshall

DCSRM	Deputy Chief of Staff Resource Management
DGM	digital group multiplex
DII	defense information infrastructure
DISA	Defense Information System Agency
DISC4	Directorate for Information Systems for C4
DISN	Defense Information Systems Network
DISNET	defense integrated secure network
DLA	Defense Logistics Agency
DMS	defense message switch
DNS	domain name service
DOD	Department of Defense
DOI	defense operating instructions
DOIM	Directorate of Information Management
DPAS	digital patch and access
DRSN	defense red switch network
DS	direct support
DSC	DMS Service Center
DSCS	Defense Satellite Communications System
DSED	Direct Support Engineering Directorate
DSN	defense switched network
DSSCS	Defense Special Security Communications System
DSTE	digital subscriber terminal equipment
DTG	digital trunk group
DUA	directory user agents
ea	each
EAC	echelons above corps
EAM	emergency action message
ECB	echelons corps and below
EHF	extremely high frequency
Elec	electronic
e-mail	electronic mail
ENCOM	engineer command
ENG	engineer
ENL	enlisted

EOD	explosive ordinance disposal
EPW	enemy prisoner of war
EQ	equipment
ESS	electronic switching system
EW	electronic warfare
FCO	Facility Control Office
FEP	FLTSATCOM EHF package
FIN	finance
FLTSATCOM	fleet satellite communications
FM	frequency modulated; field manual
FOIA	Freedom of Information Act
FORSCOM	US Forces Command
FOT	fiber-optic terminal
FOTS	fiber-optic transmission systems
FSEN	future small extension node
FWD	Forward
G1	Assistant Chief of Staff, Personnel
G2	Assistant Chief of Staff, Intelligence
G3	Assistant Chief of Staff, Operations
G4	Assistant Chief of Staff, Logistics
G5	Assistant Chief of Staff, Civil Affairs
G6	Assistant Chief of Staff, Communications
G8	Assistant Chief of Staff, Resource Management
GBS	Global Broadcast Service
GCCS	Global Command and Control System
GCCS-A	Global Command and Control System-Army
GENSER	general service
GMF	ground mobile forces
GOTS	government-off-the-shelf
GP	group
GS	general support
HF	high frequency
HHC	headquarters and headquarters company
HHD	headquarters and headquarters detachment

HN host nation

HNA host nation agreement

HOSP hospital

HQ headquarters

humanitarian assistance Programs conducted to relieve or reduce the results of natural or manmande disasters or other endemic conditions such as human pain, disease, hunger, or privation that might present a serious threat to life or that can result in great damage to or loss of property. Humanitarian assistance provided by US forces is limited in scope and duration. The assistance provided is designed to supplement or complement the efforts of the host nation civil authorities or agencies that may have the primary responsibility for providing humanitarian assistance.

IAW in accordance with

IGAR Inspector General Action Request

IHFR improved high frequency radio

IMINT imagery intelligence

Info information

Info information

information system The organized collection, processing, transmission, and dissemination of information, IAW defined procedures, whether automated or manual. In information warfare, this includes the entire infrastructure, organization, and components that collect, process, store, transmit, display, disseminate, and act on information.

INSCOM intelligence and security command

IP Internet protocol

ISDN integrated service digital network

ISS information system security

ISSO Information Services Support Office

IST interswitch trunk

ISYSCON integrated system control

ITID Information Technology Integration Directorate

ITOE intermediate table of organizations and equipment

ITW&A integrated tactical warning and assessment

IW information warfare – actions taken to achieve information superiority by affecting adversary information, information-based processes, information systems, and computer-based networks while leveraging and defending one's own information, information-based processes, information systems, and computer-

	based networks.
JANAP	Joint Army-Navy-Air Force Publication
JCCC	Joint Communication Control Center
JCS	Joint Chiefs of Staff
JCSE	Joint Communications Support Element
JFC	joint force command(er)
JFLCC	joint force land component commander
JIEO	Joint Interoperability Emergency Organization
JOA	joint operations area
JRMC	joint remote multiplexer combiner
JSOTF	joint special operations task force
JTF	joint task force
JWICS	Joint Worldwide Intelligence Communications System
km	kilometer(s)
LAN	local area network
LEN	large extension node
lines of operation	Lines which define the directional orientation of the force in time and space in relation to the enemy. They connect the force with its base of operations and its objectives.
LIWA	land information warfare activity
LNO	liaison officer
LNOSST	liaison officer signal support teams
LOC	lines of communication
LOS	line-of-sight
Maint	maintenance
MARFOR	Marine forces
MCA	Movement Control Agency
MCSP	mobile command support platoon
MED	medical
MEDCOM	medical command
METT-TC	mission, enemy, terrain, troops, time, and civil consideration
MGV	mobile gateway van
MI	military intelligence
MILNET	military network

MILSATCOM	military satellite communications
MILSTAR	military strategic and tactical relay
MLPP	multilevel precedence and preemption
MLS	multilevel security
MMC	Materiel Management Center
MOA	Memorandum of Agreement
MOOTW	military operations other than war
MOS	military occupational specialty
MRC	major regional conflict
MSC	major subordinate commands
MSE	mobile subscriber equipment
MSG	message
MSRT	mobile subscriber radio terminal
MTA	message transfer agent
MTMC	Military Traffic Agreement Command
MTOE	modified table of organizations and equipment
MTW	major theater war
MWR	morale, welfare, and recreation
NATO	North Atlantic Treaty Organization
NAVFOR	Navy forces
NBC	nuclear, biological, chemical
NCA	national command authority
NCO	noncommissioned officer
NCS	node center switch
NEO	noncombatant evacuation operation
NIPRNET	Nonclassified Internet Protocol Routing Network
NRI	net radio interface
NSM	network and systems management
O&M	operation and maintenance
OCONUS	outside continental United States
OFF	officer
op	operations
OPCON	operational control
operational art	The deployment of military forces to attain strategic and/or

	operational objectives through the design, organization, integration, and conduct of strategies, campaigns, major operations, and battles. Operational art translates the joint force commander's strategy into operational design and, ultimately, tactical action by integrating the key activities at all levels of war.
OPLAN	operation plan
OPM	Office of Personnel Management
OPNS	operations
OPORD	operations order
OPSEC	operations security
OTOE	objective table of organizations and equipment
PA	public affairs
PACOM	Pacific command
PAO	Public Affairs Office
PAO	Public Affairs Office
PBX	private branch exchange
peace operations	A broad term that encompasses peacekeeping operations and peace enforcement operations conducted in support of diplomatic efforts to establish and maintain peace.
PERSCOM	personnel command
PMCS	preventive maintenance checks and services
POC	point of contact
POL	petroleum, oils, and lubricants
POW	prisoner of war
POWER PAC3	POWER Projection for Army Command, Control and Communications
PROP CONT	property control
PSN	packet switch network
PSYOP	psychological operations
RAU	radio access unit
RC	reserve component
RCC	regional control centers
RCERT	regional computer emergency response team
RSSC	Regional Space Support Center
S & S	supply and services
S1	Personnel Staff Office

S2	Intelligence Staff Office
S3	Operations and Training Staff Office
S4	Logistics Staff Office
SARSS-O	standard Army retail supply system-objective
SATCOM	satellite communications
SCARS	Status Control Alerting and Reporting System
SCI	sensitive compartmented information
SCS	special communications system
SECDEF	Secretary of Defense
SEN	small extension node
SF	special forces
SGS	Secretary of the General Staff
SHF	super high frequency
SIGINT	signal intelligence
SINCGARS	Single-Channel Ground and Airborne Radio System
SIPRNET	Secret Internet Protocol Routing Network
SJA	Staff Judge Advocate
SMTP	standard mail transfer protocol
SOC	special operations command
SOF	special operations force
SOFA	Status of Forces Agreement
SOI	signal operation instructions
SONET	synchronous optical network
SOP	standing operating procedure
SPEC	special
SPT	support
SRA	specialized repair activity
SST	signal support team
Sta	station
STAR-T	Super High Frequency Tri-band Advanced Range Extension Terminal
STEP	standard tactical entry point
SYSCON	systems control
TA	theater Army

TAACOM	theater army area command
TAC	tactical command post
TACCS	Tactical Army CSS Computer System
TACSAT	tactical satellite
TAMCA	Theater Army Movement Control Agency
TAMMC	Theater Army Materiel Management Center
TBD	to be determined
TCC	technical control center
TCCOR	Theater COMSEC Central Office of Record
TCF	technical control facility
TCLSC	Theater COMSEC Logistics Support Center
TDA	tables of distribution and allowances
TECHCON	technical control
telecomm	telecommunications
TELNET	telecommunications network
Term	terminal
TFC	theater finance command
TIN	Tactical Installation and Networking
TNSOC	Theater Network and Systems Operations Center
TOE	tables of organization and equipment
TPFDD	time-phased force and deployment data – the Joint Operation Planning and Execution System database portion of an operation plan; it contains time-phased force data, non-unit related cargo and personnel data, and movement data for the operation plan.
TPN	tactical packet network
TRANS	transportation
TRANSCOM	transportation command
TRI-TAC	tri-service tactical
TROPO	troposcatter
TS	TOP SECRET
TSACS	Terminal Server Access Controller System
TSC	theater signal command
TSMC	theater signal maintenance company
TSO	theater signal officer
TSRT	typewriter subscriber terminals

TSSC	theater strategic signal company
TSSS	Top Secret Support System
TT	teletype
TTSB	theater tactical signal brigade
TTSC (SEP)	theater tactical signal company (Separate)
UA	user agent
UCMJ	Uniform Code of Military Justice
UHF	ultra high frequency
UN	United Nations
URS	unit reference sheet
US	United States
USAF	US Air Force
USANETA	US Army Networks, Engineering and Telecommunications Activity
USARCENT	US Army Forces Central Command
USASC	US Army Signal Command
USCINCEUR	US Commander in Chief, Europe
USMC	US Marine Corps
USMTF	US message text format
USR	unit status reports
V	version
VI	visual information
VTC	video teleconferencing
WAN	wide area network
WMD	weapons of mass destruction – in arms control usage, weapons that are capable of a high order of destruction and/or of being used in such a manner as to destroy large numbers of people. Can be nuclear, chemical, biological, or radiological weapons, but excludes the means of transporting or propelling the weapon where such means is a separable and divisible part of the weapon.
WO	warrant officer
WWMCCS	Worldwide Military Command and Control System

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TOE 11570LB00. *Signal Detachment, Reproduction Services.*

TOE 11600A. *EAC Contingency Company.*

TOE 11602L000. *Theater Signal Command.*

TOE 11603L100. *TACSATCOM Company.*

TOE 11603L200. *TACSATCOM Company.*

TOE 11606A000. *Headquarters/Contingency Signal Company.*

TOE 11607A000. *Heavy Hub Platoon.*

TOE 11608A000. *Light Hub Platoon.*

TOE 11609A000. *LNO Team.*

TOE 11612L000. *HHC Theater Signal Brigade.*

TOE 11613L0. *Signal Visual Information Company (TA).*

TOE 11622A000. *HHC Strategic Signal Brigade.*

TOE 11623L000. *Signal Company, Cable and Wire.*

TOE 11626L000. *HHD Signal Battalion (Composite).*

TOE 11635L. *Signal Telecommunications Battalion (Area).*

TOE 11636L. *HHC Signal Telecommunications Battalion (Area).*

TOE 11637L0. *Area Signal Company.*

TOE 11656A (100-400). *HHD Strategic Signal Battalion.*

TOE 11667L0. *Signal Company, Tropo (Light).*

TOE 11668L0. *Signal Company, Tropo (Heavy).*

TOE 11669L0. *Signal Company (Command Operations Theater).*

TOE 11674A000. *Theater Tactical Signal Company (Separate).*

TOE 11685A000. *Theater Tactical Signal Battalion.*

TOE 11686A00. *HHC Theater Tactical Signal Battalion.*

TOE 11687A0. *Command Support Company.*

TOE 11688A0. *Minor Support Company.*

TOE 11689A0. *Major Support Company.*

TOE 11689A200. *Major Support Company (Separate).*

TOE 11800A000. *HHC Army Signal Command.*

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Index

A

AN/FSC-78, D-19 – D-20
AN/GSC-39(V1), D-20 – D-21
AN/GSC-40, D-15
AN/GSC-49(V3), D-21 – D-22
AN/GSC-52(V1), D -18
AN/GSC-52(V2) – mobile, D-19
AN/MSC-64(V2), D-15 – D-16
AN/TRC-194 (V1) and (V2), D-16
AN/TRC-194(V), D-17
AN/TSC-86, D-17 – D-18
area signal company, 4-19 – 4-21
  site layout, 4-21
army air missile defense command (AAMDC), 2-9
army maintenance support facility (AMSF), 5-2
automatic digital network, 6-2 – 6-3
  phase I, 6-3
  phase II, 6-3
  phase III, 6-3

B

battlefield information, 6-10 – 6-24
  services management, 6-20 – 6-24
  systems, 6-10 – 6-20

C

civil affairs command (CACOM), 2-9
CJCS controlled communications, 6-2
combat net radio (CNR), 4-13 – 4-14
combined communications, 6-2
command support company, 4-32 – 4-33
commercial leased communications, 6-2
component commands, 2-5

D

Defense Information Systems Agency (DISA), 2-4 – 2-5
defense information systems network (DISN), 6-4 – 6-5
Defense Satellite Communications System (DSCS), 6-5
defense switched network, 6-3 – 6-4
down-sized message switch, 4-15

E

EAC, D-1 – D-29
  ARFOR information support team, D-23 – D-24
  automated gateway message switch (AGMS) team, D-4
  cable installation team, D-12
  cable splicer team, D-12 – D-13
  CINC communications team, D-27 – D-28
  CINC UHF SATCOM team, D-14 – D-15
  COMSEC logistics support unit (CLSU) team, D-7
  COMSEC maintenance team, D-7
  COMSEC material direct support activity (CMDSA) team, D-6
  contingency HF radio gateway team, D-14
  contingency HF radio team, D-13
  DMS service center (DSC) team, D-28 – D-29
  DS/GS electronic maintenance team, D-25 – D-26
  dual-site SATCOM terminal augmentation team, D-21
  electronic maintenance team, D-26
  electronic switching system (ESS) switch team, D-8
  emergency action center switch team, D-8 – D-9
  facility control office (FCO) team, D-11 – D-12
  G6 plans team, D-27
  information center team, D-5
  microwave team, D-9 – D-10
  mobile command support platoon, D-22 – D-23
  radio terminal station augmentation team, D-17
  radio terminal station team, D-16
  SATCOM terminal team, D-15 – D-22
  software maintenance team, D-5 – D-6
  standard tactical entry point (STEP) team, D-24 – D-25
  status control alerting and reporting system (SCARS) team, D-25
  technical control center (TCC) team, D-3 – D-4
  technical control facility (TCF) team, D-1 – D-11
  TSSC (V1-V3), D-3

visual information team, D-23
engineer command (ENCOM), 2-8

F

force projection, 1-4 – 1-11
phase I – predeployment, 1-5 – 1-6
phase II – deployment, 1-6 – 1-8
phase III – entry, 1-8 – 1-9
phase IV – decisive operations, 1-9 – 1-10
phase V – sustainment and transition operations, 1-10
phase V – redeployment, 1-10 – 1-11

G

global command and control system (GCCS), 6-5

H

HHC signal telecommunications battalion (area), 4-18 – 4-19
HHC strategic signal brigade, 5-1, C-1 – C-2
brigade S1 section, C-1
brigade S2/S3 section, C-2
brigade S4 section, C-1
command section, C-1
headquarters and headquarters company, C-1
unit ministry team, C-2
HHC theater signal brigade, 4-7 – 4-36, B-6 – B-7
command section, B-6 – B-7
POWER PAC3 company, 4-9 – 4-15
HHC theater tactical signal battalion, 4-31 – 4-32
HHC TSC, 4-4 – 4-6
HHD signal battalion (composite), 3-4, 4-22 – 4-23
HHD strategic signal battalion, 5-1 – 5-2, C-2 – C-6
Army maintenance support facility (AMSF), 5-2
V1, 5-2, C-2 – C-3
V2, 5-2, C-3
V3, 5-2, C-4
V4, 5-2, C-5
host nation (HN), 4-14, 6-2
commercial communications, 4-14
communications, 6-2

I

interfaces to DOD networks, 6-2 – 6-5
automatic digital network (AUTODIN), 6-2 – 6-3
defense information systems network (DISN), 6-4 – 6-5
Defense Satellite Communications System (DSCS), 6-5
defense switched network, 6-3 – 6-4
global command and control system (GCCS), 6-5
ISSO, 6-20 – 6-24

M

major subordinate commands (MSCs) 2-6 – 2-9
army air missile defense command (AAMDC), 2-9
civil affairs command (CACOM), 2-9
engineer command (ENCOM), 2-8
medical command (MEDCOM), 2-8
military intelligence brigade, 2-8
organizations, 2-6
personnel command (PERSCOM), 2-8
Theater Army (TA) Deputy Chief of Staff (DCofS), 2-9
Theater Army Materiel Management Center (TAMMC), 2-8
theater finance command (TFC), 2-8
theater signal command (TSC), 2-8
theater support command, 2-7
transportation command (TRANSCOM), 2-7
major support company (separate), 4-36 – 4-37
major support company, 4-35 – 4-36
major theater war, 3-3
medical command (MEDCOM), 2-8
military intelligence brigade, 2-8
military operations other than war (MOOTW), 1-3 – 1-4, 3-2
minor support company, 4-33 – 4-35
mobile gateway van (MGV), 4-15
multichannel communications, 4-14

N

notional signal brigade force structure, 4-8

P

personnel command (PERSCOM), 2-8
POWER PAC3 company, 4-9 – 4-15
AOR support requirements, 4-11
capabilities, 4-13 – 4-15
down-sized message switch, 4-15
headquarters/contingency company, 4-12
heavy hub platoon, 4-13

HN and commercial communications, 4-14
intermediate TOE structure, 4-9
light hub platoon, 4-13
combat net radio (CNR), 4-13 – 4-14
LNO team, 4-12
mobile gateway van (MGV), 4-15
multichannel communications, 4-14
objective TOE structure, 4-10
tactical packet network (TPN), 4-14 – 4-15
tactical VTC system, 4-15

R

range of military operations, 1-3 – 1-4
MOOTW, 1-3 – 1-4
war, 1-3

S

service component tactical communications, 6-1
signal battalion (composite), 4-21 – 4-29
HHD signal battalion (composite), 4-22 – 4-23
signal company, tropo (light), 4-23 – 4-24
signal company, tropo (heavy), 4-24 – 4-25
signal company, cable and wire, 4-27
signal company, command operations theater, 4-25 – 4-26
signal detachment, reproduction services, 4-29
signal TACSAT communications company, 4-28 – 4-29
signal company, 3-7, 4-23 – 4-27
cable and wire, 3-7, 4-27
command operations theater, 4-25 – 4-26
tropo (heavy), 4-24 – 4-25
tropo (light), 4-23 – 4-24
signal detachment, reproduction services, 4-29
supporting army operations, 1-1 – 1-15
planning considerations, 1-13 – 1-15
principles of supporting campaigns and major operations, 1-12 – 1-13
range of military operations, 1-3 – 1-4
signal support 1-1 – 1-15
theater, 1-11 – 1-15
threat, 1-2 – 1-3
signal TACSAT communications company, 4-28 – 4-29
signal telecommunications battalion (area), 4-15 – 4-21
area signal company, 4-19 – 4-21
doctrinal employment, 4-17
HHC signal telecommunications battalion (area), 4-18 – 4-19
signal visual information company, 4-6 – 4-7
strategic communications, 6-1
strategic signal detachment, 5-2 – 5 -11
TNSOC, 5-8 – 5-10
TSSC modules, 5-10 – 5-11
V1, TCLSC, 5-2 – 5-4
V2, TCLSC, 5-4 – 5-5
V3, signal systems engineering and implementation detachment, 5-5 – 5-6
V4, special communications support, 5-7
sustaining-base communications, 6-1

T

tactical installation and networking (TIN) company, 3-4 – 3-7
limitations, 3-6 – 3-7
services provided, 3-6
tactical packet network (TPN), 4-14 – 4-15
tactical VTC system, 4-15
TCS connectivity, 6-5 – 6-9
area nodal topology, 6-6 – 6-7
responsibilities, 6-8 – 6-9
subscriber access, 6-8
subscriber terminals, 6-8
theater command, control, and support systems, 6-6
Theater Army (TA)
Deputy Chief of Staff (DCofS), 2-9
Materiel Management Center (TAMMC), 2-8
theater communications, 6-1 – 6-24
assets, 6-1 – 6-2
connectivity, 6-5 – 6-9
interfaces to DOD networks, 6-2 – 6-5
network, 6-1 – 6-24
theater composition, 2-1 – 2-9
Commander in Chief Staff, 2-3 – 2-4
generic joint staff, 2-3
organization, 2-2
unified commands, 2-1 – 2-2
theater finance command (TFC), 2-8
Theater Network and Systems Operations Center (TNSOC), 5-8 – 5-10
V1, 5-9
V2, 5-9

theater signal command (TSC), 2-8, 4-1 – 4-6, B-1 – B-5
command section, B-1 – B-5
HHC TSC, 4-4 – 4-6
HHC TSC, B-2
organization, 4-2
strategic signal brigades, 4-3
theater signal brigades, 4-3
theater signal maintenance company (TSMC), 3-7
theater signal support, 6-10 – 6-24
battlefield information services management, 6-20 – 6-24
battlefield information systems, 6-10 – 6-11
disciplines, 6-11
responsibilities, 6-11 – 6-20
theater strategic signal company (TSSC), 5-10 – 5-11, D-1 – D-29
organizational structure, D-1
TSSC modules, D-3 – D-29
theater support command, 2-7
theater tactical signal battalion, 4-30 – 4-36
command support company, 4-32 – 4-33
HHC theater tactical signal battalion, 4-31 – 4-32
major support company, 4-35 – 4-36
minor support company, 4-33 – 4-35
notional deployment , 4-31
theater tactical signal company (separate) (TTSC [SEP]), 4-38 – 4-39
organization, 4-38
transportation command (TRANSCOM), 2-7

U

US Army network engineering telecommunications activity (USANETA), 3-7 – 3-9
Army network and systems operations center (ANSOC), 3-8
Army telecommunications office, 3-8 – 3-9
direct support engineering directorate, 3-8
information technology integration directorate, 3-9
structure, 3-8
USASC, 3-1 – 3-9, A-1 – A-11
forward, A-8 – A-11
organization and mission, 3-1 – 3-9
rear, A-1 – A-8
signal battalion (composite) general support (GS), 3-3 – 3-7
structure, 3-4, A-1 – A-2

FM 11-55
30 June 1999

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