

CHAPTER 2

FUNDAMENTALS

Long-range surveillance units use infantry and ranger skills combined with skilled communication operators and intelligence personnel to collect and report battlefield intelligence. The fundamentals of LRS operations are command and control, communication, mission development, and operational security.

Section I. COMMAND AND CONTROL

Command and control (C2) is the process of directing and controlling military forces. For LRSU operations, C2 must be effective during all conditions, especially across the operational continuum with a special emphasis of operations conducted during the enemy's use of electronic warfare. (Figure 2-1.)

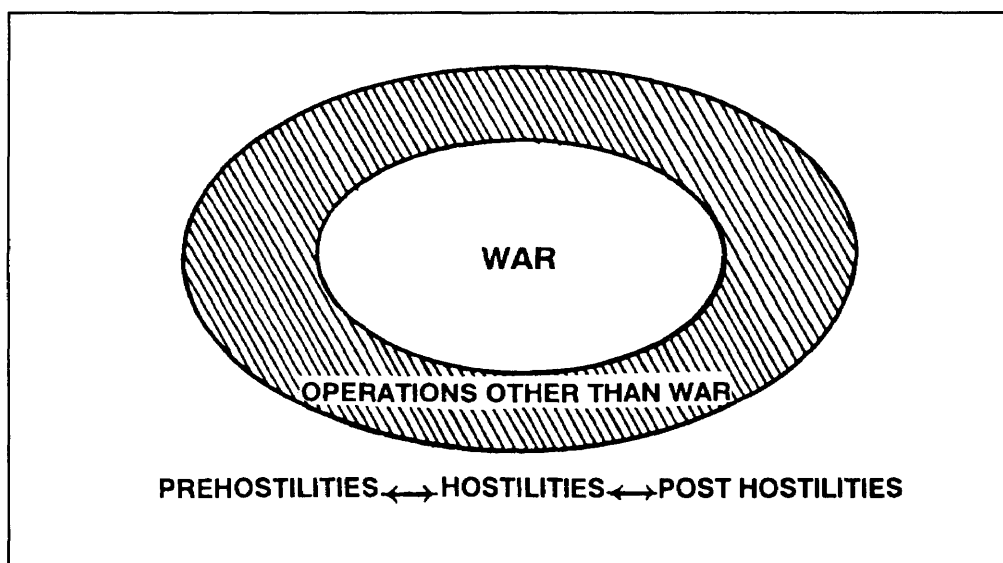


Figure 2-1. Operational continuum.

2-1. STRUCTURE

The LRSU's C2 system is structured for rapid deployment and collecting and reporting information. Communication, SOPs, and training to standard are critical to the success of C2.

a. The LRSC is organic to the tactical exploitation battalion of the military intelligence brigade. The corps G2 in coordination with other staff sections determines mission requirements for the LRSC.

b. The LRSD is organic to the MI battalion of the division. The division G2 in coordination with other staff sections determines mission requirements for the LRSD.

2-2. MISSION TASKINGS

Efficient C2 allows the LRSC and the LRSD to respond quickly to mission taskings from the corps or division G2 (collection management and dissemination [CM&D] section). Missions assigned to LRSUs support corps and division commanders' priority intelligence requirements (PIR) and information requirements (IR) as stated in the collection plan. The commander's PIR govern the organization and conduct of reconnaissance, surveillance, target acquisition, and damage assessment operations. First priority usually goes to the information required for continuous operations. The faster the change in battlefield conditions, the more important reconnaissance, surveillance, target acquisition, and damage assessment operations become. The PIR serve to focus the unit's collection effort on the most important features of the enemy and terrain. Intelligence collection efforts provide the commander with a complete and accurate picture of the total battlefield. The PIR and IR are the basis for collection operations; they are analyzed by the all-source analysis section in conjunction with the IPB. The all-source analysis section develops indicators for each PIR and IR. (Indicators are any evidence of enemy activity or any characteristics of the area of operations that point toward enemy capabilities, vulnerabilities, or intentions.) From those indicators, statements or questions are derived that will satisfy specific information requirements (SIR). These questions or statements form the basis for specific LRS taskings. (For more information, see FM 34-8.)

a. Sound tactical planning and operations depend on intelligence. The corps and division G2s plan and coordinate collection capabilities and other intelligence functions to give corps and division commanders the ability to see and fight throughout the depth of the battlefield. The commander can then consistently make decisions faster than the enemy. The corps and division intelligence systems support operations by obtaining specific information required to confirm or deny indicators to satisfy the commander's PIR. The LRSU is tasked to collect information on surveillance targets to satisfy some of these SIR. The G2 ensures that assigned LRSU targets satisfy both PIR and IR and offer a reasonable chance of mission accomplishment and team survivability. Examples of possible targets are —

- Critical points along avenues of approach.
- Critical points along key lines of communication.

- Airfields.
- River fords.
- Bridges or rail junctions.
- Ordnance or logistical depots.
- Railroad yards.
- Known enemy command posts and headquarters.
- Assembly areas.
- Air base traffic.
- Economic activity.
- Political and propaganda activity.
- Drug processing or drug growing activity.
- Refugee flow.

In operations other than war, the tasking procedure does not change, but types of surveillance targets do. Targets in an operation other than war environment include infiltration routes, supply bases, training bases, and assembly areas.

(1) The corps G2 nominates LRSC missions, which are normally approved by the corps commander. The G2 ensures the LRSC missions support the collection plan and do not conflict with other collection efforts. Coordination with echelons above corps ensures that LRS operations are planned and coordinated with reconnaissance and strike capabilities (US and allied) that may be used in the corps area. The G2 then coordinates with the G3 to validate external support requirements. The CM&D section then tasks the LRSC. The corps CM&D section coordinates with subordinate division G2s and ensures that LRS operations do not conflict.

(2) The division G2 nominates LRSD missions, which are normally approved by the division commander. The division G2 ensures that LRSD missions support the collection plan and do not conflict with other collection efforts. He then coordinates with the G3 to make sure that the mission can be supported and does not conflict with other unit missions. The CM&D section then tasks the mission to the LRSD.

b. The G2 tasks the LRSU by input to paragraph 3 of the corps or division OPORD, FRAGO, or freetext message. (See Section III for LRS planning.) (See Figure 2-2.)

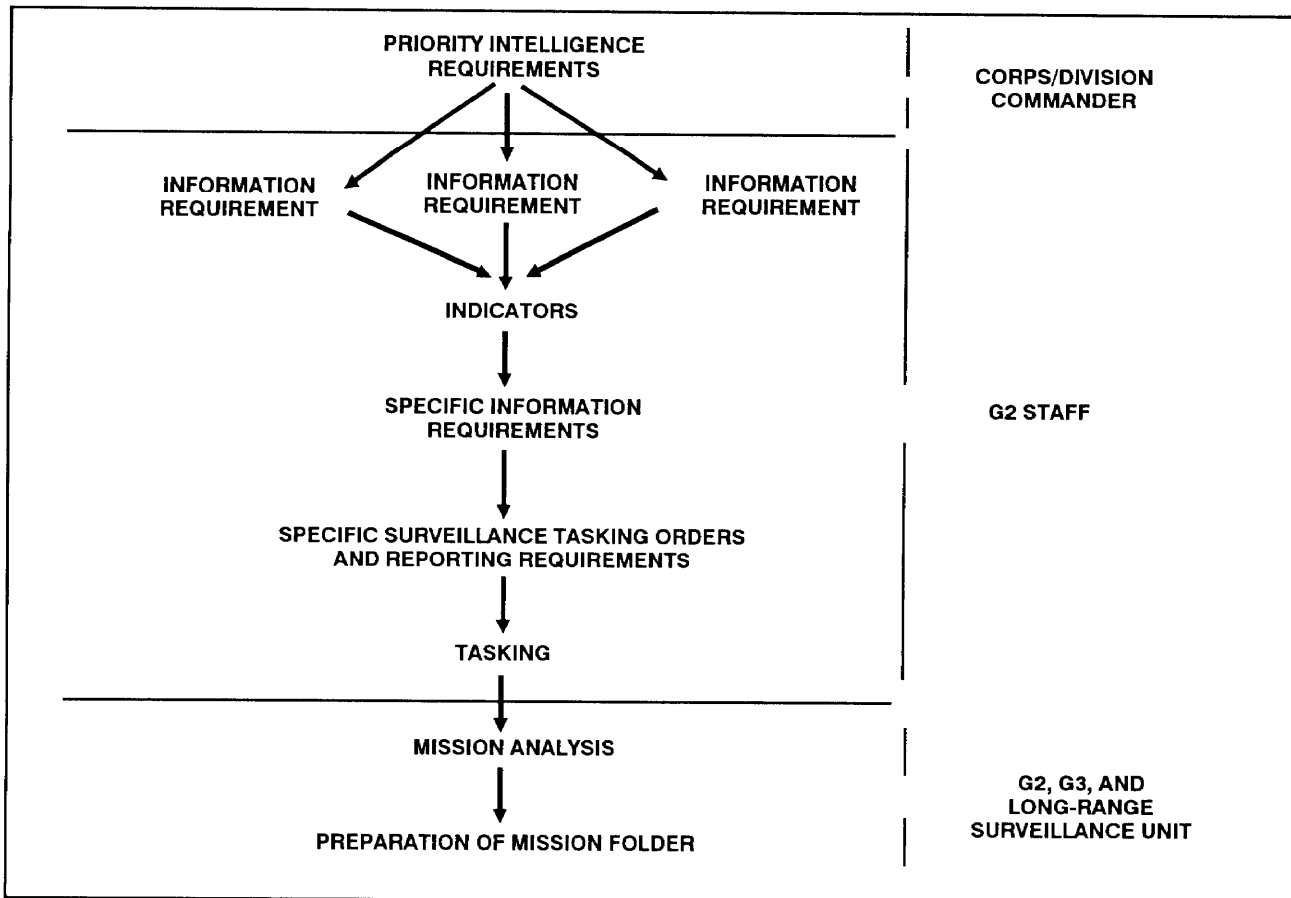


Figure 2-2. Long-range surveillance mission development sequence.

2-3. TYPES OF MISSIONS

LRSUs are tasked to conduct several different types of missions to satisfy G2 collection requirements. Although surveillance is the primary mission, LRSUs can also perform limited reconnaissance, target acquisition, and battle damage assessment. Weather and terrain conditions reporting is an inherent capability of LRSUs. LRSUs can also perform in limited collateral activities such as pathfinder operations and combat search and rescue operations. The individual unit METL defines the mission it must perform. Surveillance teams use stealth in conducting their missions. Movement within the target areas is limited to mission accomplishment. In restricted visibility conditions, observers may move closer to the target area. Surveillance teams can be assigned the following missions.

a. **Surveillance.** Surveillance is the primary LRS mission. Surveillance sites are established using mission, enemy, terrain, and troops and time

available (METT-T) factors. Stand-off from the target is desirable, but METT-T factors may dictate the positioning of the surveillance site close to the objective. METT-T factors may also dictate multiple surveillance sites to compensate for daily changes in terrain, weather, and light. Surveillance is either maintained for a specified period or until the required information is obtained.

b. **Reconnaissance.** Surveillance teams can conduct limited reconnaissance missions. Reconnaissance missions are area, zone, and route. Movement by teams is minimized to avoid detection. (See Appendix B for specifics on reconnaissance.)

c. **Target Acquisition.** The detection, identification, and location of key enemy targets may be a mission of LRS teams. In addition to the acquisition of specific targets, teams may emplace sensors or other unattended devices.

d. **Damage Assessment.** The LRS team members are trained and equipped to conduct tactical damage assessment. They can conduct chemical and radiological monitoring if equipped.

e. **Terrain and Weather Reporting.** The LRS team can provide accurate terrain data and current weather conditions in and around potential targets. Human intelligence on current conditions helps greatly to ensure success of operations. (See Appendix C for information on operational environments.)

f. **Collateral Activities.** The LRS team can also conduct disaster relief, coalition support, combat search and rescue, and pathfinder operations.

2-4. LEADERSHIP

Leadership gives purpose, direction, and motivation in combat. A leader's competence and confidence results in effective unit action. A leader must know how to analyze the situation quickly and make decisions rapidly.

a. **Long-Range Surveillance Company.** LRSC leadership includes the company commander, executive officer, operations officer, intelligence officer, first sergeant, liaison noncommissioned officer, chemical noncommissioned officer, communications platoon leader, surveillance platoon leaders, platoon sergeants, and team leaders.

(1) *Company commander.* The company commander is responsible for the tactical employment, training, administration, personnel management, and logistics of the company. He does this by planning, making timely decisions, issuing orders, assigning tasks, and supervising company activities. He must know the capabilities of his surveillance teams and how to use them. He must also know the capabilities of the units supporting the company. He exercises command through his executive officer, operations officer, platoon leaders, and first sergeant. He employs the company based on missions and

taskings from the corps G2 CM&D and on his consideration of METT-T. He prepares plans with help from his operations section. He stays abreast of the situation at all times. The commander maintains close coordination and liaison with the military intelligence brigade tactical operations center (TOC) and corps TOC.

(2) *Executive officer.* The executive officer is the administrative and logistical coordinator for the company. He coordinates supply, maintenance, medical, and mess support. He also supervises the operation, movement, security, internal arrangement, and organization of the company operations base (COB). The executive officer works closely with the operations officer, operations NCO, first sergeant, supply sergeant, communications platoon leader, and communications chief. He keeps abreast of the tactical situation.

(3) *Operations officer.* The operations officer is the main planner and coordinator for the company. He plans in detail the employment of the teams. He coordinates the efforts of the operations section in controlling the execution of team missions. He stays abreast of the tactical situation and advises and assists the company commander.

(4) *Intelligence officer.* The intelligence officer is directly responsible for all intelligence training within the company. He must devote specific attention to enemy recognition and order of battle training to help the surveillance teams provide accurate combat information. He assists the operations officer in briefing and debriefing surveillance teams. He task-organizes company intelligence personnel to maintain a 24-hour capability.

(5) *First sergeant.* The first sergeant is the senior NCO in the company. He advises the commander and assists him by performing assigned duties to include supervising unit administration, training, logistics, and maintenance activities. He recommends appointments, promotions, reductions, assignments, and disciplinary actions pertaining to NCOs and enlisted soldiers to the commander. He also assists the executive officer in CSS functions.

(6) *Liaison noncommissioned officer.* The liaison NCO represents the company at higher, supporting, and other headquarters. Through his knowledge of LRS operations and the status of his unit, he coordinates support of ongoing and planned operations, advises, and exchanges essential information.

(7) *Chemical noncommissioned officer.* The chemical NCO assists the commander in planning and conducting operations in an NBC environment. His assistance primarily includes team training in the area of NBC survival, tactical damage assessment, and chemical and radiological monitoring.

(8) *Communications platoon leader* The communications platoon leader is the communications planner and coordinator. He keeps abreast of the status of communications personnel and equipment. He is responsible for the tactical employment, training, administration, personnel management, and logistics of his platoon. He advises the commander on matters pertaining to communication security (COMSEC), electronic counter-countermeasures (ECCM), and signal training of the company. He decides and coordinates the location for the alternate operations base (AOB). He disseminates information from current signal operating instructions (SOI) and makes sure that each team radiotelephone operator is briefed before and debriefed after each operation. He identifies, coordinates, and requests external communication and COMSEC support through his MI battalion signal officer.

(9) *Surveillance platoon leader.* The surveillance platoon leader is responsible for the training, administration, personnel management, and logistics of his platoon. He details teams for assigned missions and makes sure they are available and ready. He assists in the infiltration and exfiltration of his surveillance teams as directed. He accompanies team leaders during aerial reconnaissance and assists in selecting landing zones (LZs), drop zones (DZs), and pickup zones (PZs). During insertion, he flies in the command and control aircraft and exercises overall control of the insertion. He may be required to conduct extractions. He can also serve as a liaison when his platoon is task-organized to another unit.

(10) *Platoon sergeant.* The platoon sergeant is the senior NCO in the platoon. He advises the platoon leader and helps him with administration, training, logistics, and maintenance activities. He recommends appointments, promotions, reductions, assignments, and disciplinary actions as they pertain to NCOs and enlisted soldiers. He keeps abreast of the tactical situation, and he is prepared to assume platoon leader responsibilities, if required.

(11) *Team leader.* The team leader is responsible for the tactical employment, training, administration, personnel management, and logistics of his team. He does this by planning, making timely decisions, issuing orders, assigning tasks, and supervising team activities. He must know the capabilities of his team members and supporting units. He is a key man in the planning, preparation, and execution of LRS missions. Success depends largely on how well he performs and influences the performance of his team. He must be alerted early in the planning stage to allow time for him to complete necessary actions.

b. **Long-Range Surveillance Detachment.** The LRSD leadership includes the detachment commander, executive officer, detachment

sergeant, detachment communications sergeant, detachment operations sergeant, base radio station section chief, and team leaders.

(1) *Detachment commander.* The detachment commander is responsible for the tactical employment, training, administration, personnel management, logistics, and maintenance of the detachment. He does this by planning, making timely decisions, issuing orders, assigning tasks, and supervising detachment activities. He must know the capabilities of his detachment and how to tactically employ them. He must also know the capabilities of the CS and CSS units supporting the detachment. He exercises command through his team leaders, base radio station section chiefs, and detachment sergeant. He employs the detachment based on missions and taskings from the division G2 CM&D. He maintains close liaison with the staff of the headquarters to which he is assigned, to include participation in mission planning. He stays abreast of the situation at all times and locates where he can best influence the action.

(2) *Executive officer.* The executive officer is the administrative and logistical coordinator for the detachment. He coordinates supply, maintenance, medical, and mess support. He also supervises the operation, movement, security, internal arrangement, and organization of the detachment operations base (DOB). The executive officer works closely with the operations NCO, detachment sergeant, supply sergeant, and detachment communications sergeant. He keeps abreast of the tactical situation.

(3) *Detachment first sergeant.* The detachment first sergeant advises the commander and assists him by performing assigned duties to include supervising unit administration, logistics, and maintenance activities. He is also the primary unit trainer. He recommends appointments, promotions reductions, assignments, and disciplinary actions pertaining to NCOs and enlisted soldiers to the commander. He also assists the executive officer in CSS functions. He keeps abreast of the tactical situation.

(4) *Detachment operations sergeant.* The detachment operations sergeant assists the commander in planning and coordinating for the detachment. He plans in detail the employment of the teams, and he coordinates the efforts of the headquarters section in controlling the execution of team missions. He stays abreast of the tactical situation and advises and assists the detachment commander. He develops, reviews, and reproduces graphics.

(5) *Detachment communications sergeant.* The detachment communications sergeant plans and coordinates all communications for the detachment. He maintains the status of the communications equipment and personnel in the detachment. He is responsible for the tactical employment,

training, administration, personnel management, and logistics of all communications assets. He advises the commander on matters concerning COMSEC, ECCM, and signal training of the detachment. He disseminates information from the SOI and makes sure each team RATELO is briefed before and debriefed after each operation. He identifies, requests, and coordinates all external communications and COMSEC through his MI battalion signal officer. He recommends to the commander and coordinates the location for the AOB.

(6) *Base radio station section chief.* Each section chief is responsible for the tactical employment, training, administration, personnel management, and logistics of his base radio stations. He coordinates with the detachment commander for the employment of his base radio stations and the communications requirements for each operation. He coordinates administrative and logistical support with the detachment sergeant.

(7) *Team leader.* The team leader is responsible for the tactical employment, training, administration, personnel management, and logistics of his team. He does this by planning, making timely decisions, issuing orders, assigning tasks, and supervising team activities. He must know the capabilities of his team members and supporting units. He is a key man in the planning, preparation, and execution of LRS missions. Success depends largely on how well he performs and influences the performance of his team. He must be alerted early in the planning stage to allow time for him to complete necessary actions.

2-5. SURVEILLANCE TEAM OPERATIONS

Long-range surveillance teams operate within the area of operations of their respective corps or division.

a. The specific operational area is identified and coordinated for each mission. The target, in conjunction with the insertion and extraction plan, determines the area in which a team operates. This area is not so large that it unduly restricts the employment of corps or division assets, but it is large enough to give the team flexibility. LRSD teams are employed forward of the forward edge of the battle area in the division area of operation. The LRSC teams are employed in the corps area of operation forward of the detachment teams. The distances LRSD and LRSC teams operate forward of the forward edge of the battle area vary depending on terrain, operational tempo of the battlefield, and intelligence needs of the commander. (See Figure 2-3.)

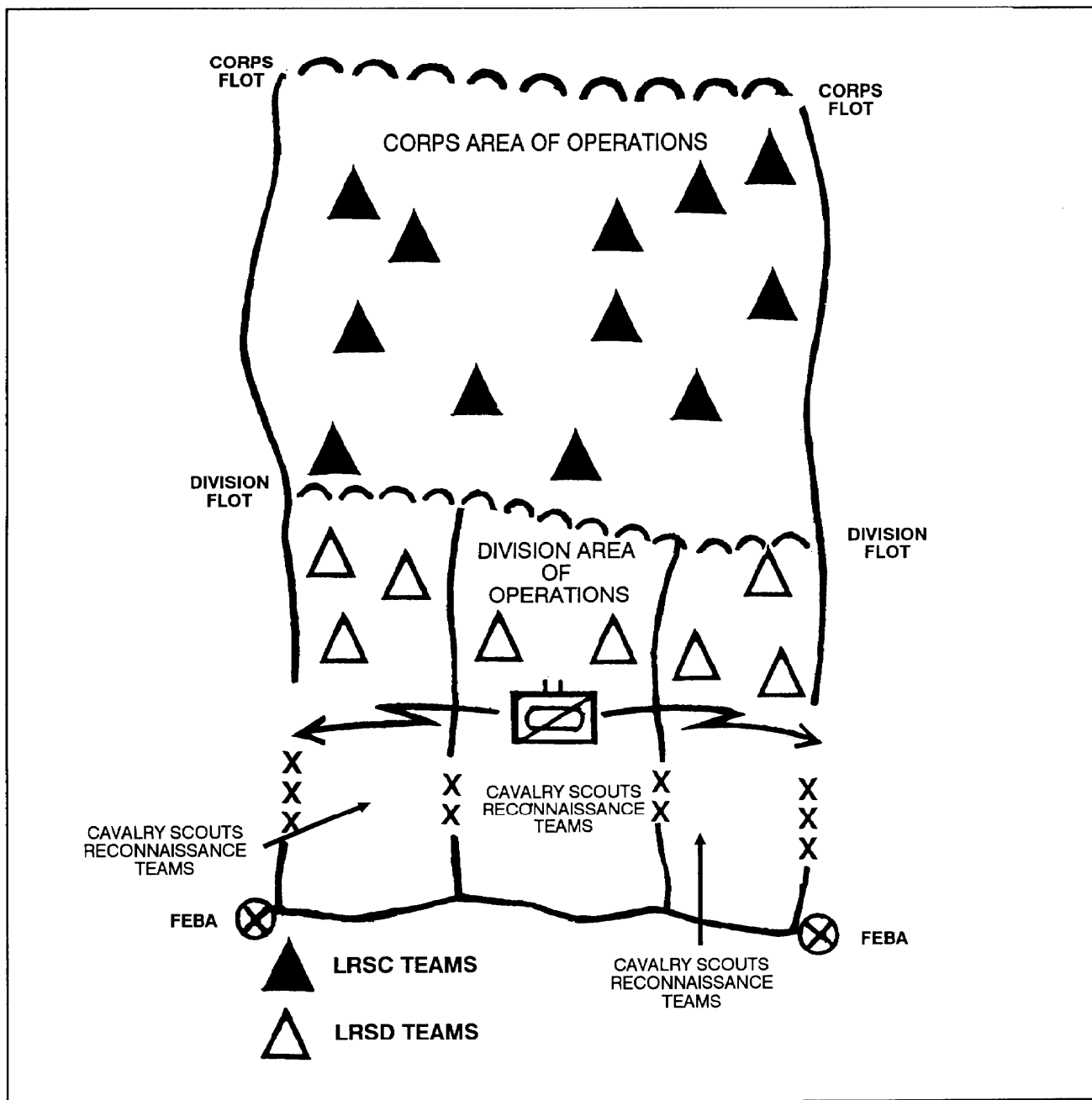


Figure 2-3. Areas of operations.

b. Operations by teams in areas forward of friendly soldiers can create possibilities for fratricide. To protect the LRS teams from friendly fires, the following coordination is conducted before insertion.

(1) Hide site and surveillance site locations are normally included in coordination of restricted areas (no-fire areas) established by the controlling headquarters. The controlling headquarters informs higher, lower, and adjacent headquarters of the no-fire areas. For security reasons, the nature of the mission is not normally stated and additional dummy or false no-fire areas are added to reduce the signature of the LRS teams. To maintain operation security, all no-fire areas are listed as on order.

(2) Teams may operate in areas in which fires cannot be restricted. In such instances, the committed team is briefed on known strikes and warning procedures of impending friendly fires, air strikes, and nuclear and chemical operations.

(3) Detailed planning is required in situations where an LRS team may link up with advancing friendly units. The team must be familiar with general linkup procedures. As details become available, the commander informs the team of frequencies, call signs, and code words. The LRS team is normally the stationary element. The linkup unit is briefed to the lowest level possible. A liaison team is sent from the company operations base or detachment operations base or alternate operations base (AOB) to ensure that this coordination takes place. Once linkup has occurred, the team debriefs the S2 of the linkup unit. This ensures that information gets to the organization that needs it the most. The team is then expedited to the COB or DOB for further debriefing and refitting operations.

(4) Detailed planning is required if the team must infiltrate or exfiltrate by foot. Formal passage of lines coordination is essential to prevent fratricide. A liaison team from the COB, DOB, or AOB provides assistance and information to the team or the friendly forward unit.

(5) The G2 normally coordinates with other reconnaissance or surveillance assets to reduce the risk of fratricide.

2-6. OPERATIONS BASE

The operations base is a location from which the LRSC or the LRSD operates. (See Figure 2-4, page 2-12, for an example long-range surveillance company or detachment operations base.) The LRSC operations base locates with or near the CM&D section of the corps G2. The LRSD operations base locates with or near the CM&D section of the division G2.

a. The operations base for the LRSC and the LRSD are similar. They include areas for a TOC, company or detachment headquarters, communications platoon or base radio station, motor park, isolation facility or area, LZ, and platoon or team defensive areas.

b. The primary mission of the AOB is to act as communication relay for the COB or DOB and deployed LRS teams. The AOB planning

considerations are based on communication requirements of the COB or DOB and the deployed LRS teams.

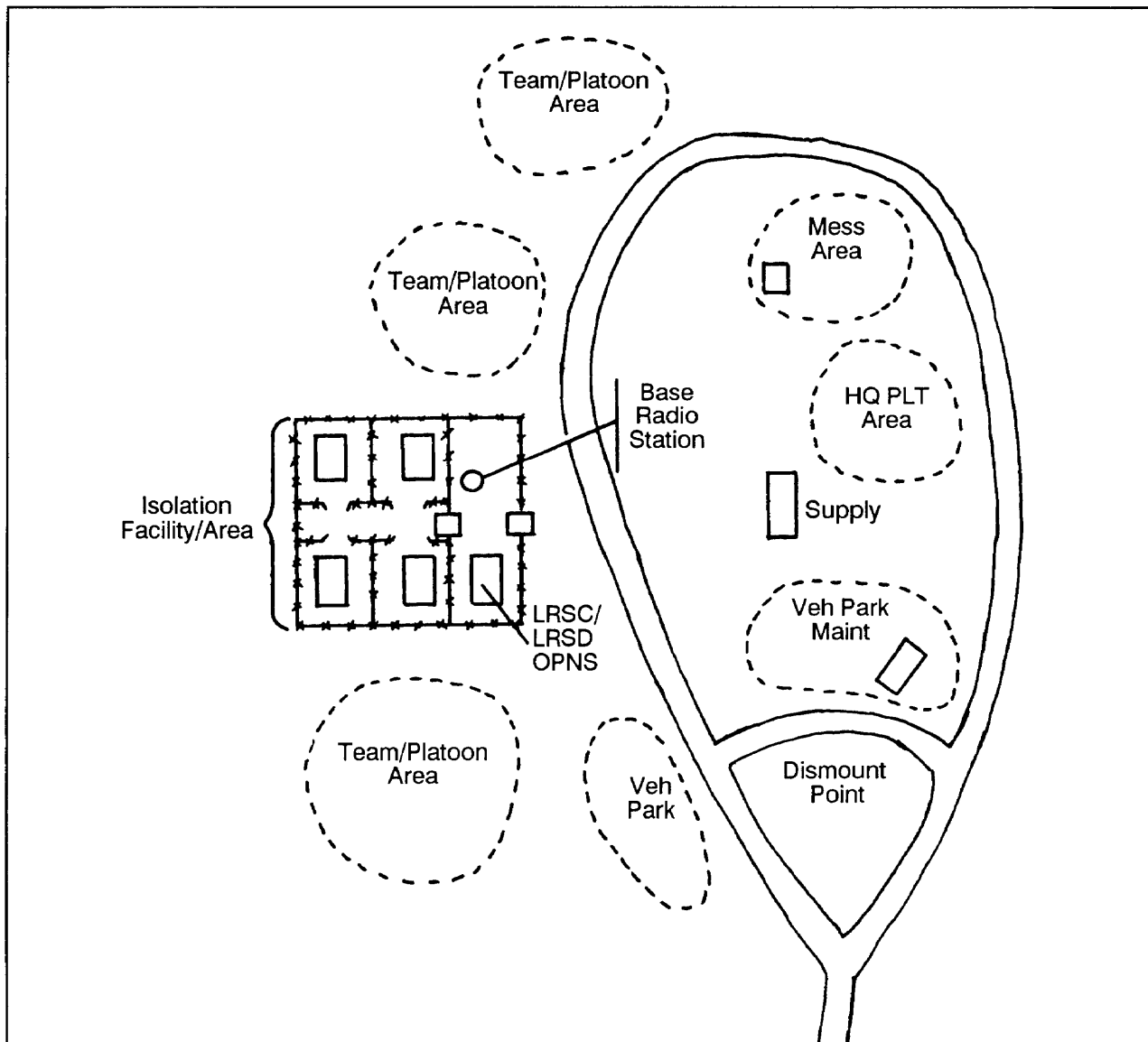


Figure 2-4. Example long-range surveillance company or detachment operations base.

(1) The AOB for the LRSC locates with or near the corps rear main, corps artillery headquarters, corps MI brigade, or MI tactical exploitation battalion headquarters. The LRSC AOB can also locate with an LRSD for specific operations requiring coordination or information exchange with a

division. A base station from the LRSC AOB, as part of a liaison team, can locate with a brigade for linkup operations.

(2) The AOB of the LRSD locates with or near the division rear main, the division artillery TOC, MI battalion TOC, or with the COB or LRSC AOB. The LRSD AOB moves toward the rear of the area of operations so it can relay communication between the deployed teams and the DOB. The AOB can locate with the division tactical command post when communication with the deployed teams and the DOB is reliable. A vehicle from the LRSD AOB, as part of a liaison team, can locate with a brigade for linkup operations.

c. The company commander selects the general location of the LRSC COB and AOB.

(1) The company executive officer decides the exact location of the operations base based on the commander's guidance. He supervises the setting up of both the operations base and security.

(2) The operations section sets up the company TOC. The company TOC is a secure, restricted-access area. In addition to the TOC, the operations section prepares and marks an LZ near the operations base. The LZ is normally controlled by the assistant operations NCO; however, during some operations, a team may be tasked to set up and control the LZ.

(3) Each surveillance platoon is assigned a platoon area within which it sets up a platoon CP. When a team is deployed, the platoon sergeant provides for security in the team area and for equipment not required for the mission.

(4) The communications platoon is assigned a working area where it sets up and operates the company wire net and provides communication equipment maintenance and logistical support. The communications platoon establishes a circuit to the nearest switchboard with access to the corps switching system.

(5) The company headquarters is assigned an area from which it provides administrative and logistical support as required. The executive officer initiates and enforces the operations base security plan.

d. The detachment commander coordinates a location at or near the division main command post for the DOB. He also selects the general location for the AOB.

(1) The detachment executive officer determines the best location within the command post for the detachment headquarters, base radio station, and surveillance teams.

(2) The operations section sets up the detachment TOC. The detachment TOC is a secure, restricted-access area. In addition to the TOC, the operations section prepares and marks an LZ near the operations base.

The LZ is normally controlled by the operations NCO; however, during some operations, a team or the communications section is tasked to set up and control the LZ.

(3) Each surveillance team is assigned an area within which it sets up a team CP. When a team is deployed, the detachment sergeant provides security for the team area and equipment not required for the mission.

(4) The communications section is assigned a working area where they set up and operate the detachment wire net and provide communication equipment maintenance and logistical support. The section establishes a telephone circuit to the nearest division switchboard to provide access to the division switching system.

(5) The detachment headquarters is assigned an area from which it provides administrative and logistical support as required. The executive officer initiates and enforces the operations base security plan.

2-7. TACTICAL OPERATIONS CENTER

The LRSC and the LRSD TOCs set up in the operations base. They give LRSU commanders a command and control capability and a communication with higher headquarters capability.

a. **LRSC TOC Organization and Responsibilities.** In the LRSC TOC, personnel perform specific functions as follows.

(1) *Operations officer.* The operations officer is responsible for the operation of the TOC. He plans and coordinates the company's tactical operations based on the commander's guidance. He also —

- Analyzes assigned missions, plans employment of teams, and prepares or approves operation orders before they go to the commander.
- Keeps the commander informed of current and projected tactical situations at all times.
- Supervises the preparation of all operational and intelligence documents.
- Supervises coordination with higher and supporting headquarters.
- Reports the operational status of committed and uncommitted LRS teams.

(2) *Assistant operations officer.* The assistant operations officer assumes responsibility for the TOC in the absence of the operations officer. He also —

- Makes sure that the current situation is posted on all maps and charts.

- Forwards combat information from the LRS teams to higher headquarters.
- Approves all situation reports and other status reports in the absence of or at the direction of the operations officer.
- Maintains the operations workbook.
- Approves the TOC personnel work schedule.
- Ensures preparation of the briefing area and maps.
- Plans and coordinates training for platoons and sections during temporary lags in operations.
- Posts the mission planning chart.
- Acts as a shift leader to maintain a 24-hour capability.

(3) *Operations sergeant.* The operations sergeant supervises the TOC enlisted personnel and assumes responsibility for the TOC in the absence of the operations officer and the assistant operations officer. He also —

- Helps prepare and edit all tactical operations plans.
- Supervises the operation of the detailed planning area.
- Posts the current situation on the friendly situation overlay and ensures that current information received from deployed teams is posted on the mission status charts.
- Establishes the TOC personnel work schedule.
- Coordinates with the first sergeant for TOC messengers and guards.
- Makes sure that only authorized personnel have access to the TOC.
- Posts the manning chart.
- Prepares the situation report for the period.
- Assists the assistant operations officer in maintaining the operation workbook.
- Acts as a shift leader to maintain a 24-hour capability.

(4) *Intelligence officer.* The intelligence officer is responsible for the intelligence personnel in the TOC. He also —

- Maintains a data base and map base sufficient to support the general area studies and the mission-specific detailed planning of LRS teams.

- Collects combat information for LRS team operations and keeps mission folders updated after they are received from G2.
- Provides intelligence input of the enemy situation for operation orders.
- Posts and maintains the enemy situation overlay.
- Assists the operations officer in briefing and debriefing LRS teams.
- Keeps LRS teams informed of critical information impacting on missions.
- Conducts final security inspections of LRS teams before deployment.

(5) *Intelligence sergeant.* The intelligence sergeant assists the intelligence officer in collecting combat information for LRS team operations and assumes responsibility for the TOC and the planning area in the absence of the operations sergeant. He also —

- Posts the enemy situation overlay in the absence of the intelligence officer.
- Assists the operations personnel in ensuring that security and OPSEC measures are followed within the TOC and the planning area.
- Briefs and debriefs LRS teams with operations personnel as directed by the intelligence officer.
- Splits shifts with the intelligence officer to maintain a 24-hour capability.

(6) *Assistant operations sergeant.* The assistant operations sergeant coordinates air support with US Army aviation or USAF units supporting team operations. He also —

- Assists the operations sergeant.
- Maintains a list and an overlay showing locations and descriptions of possible LZs, DZs, and PZs.
- Coordinates requests for airborne and air movement insertions, extractions, and visual reconnaissance with aviation support units.
- Posts the schedule of infiltration and exfiltration operations.

(7) *Chemical NCO*. The chemical NCO assists in establishing, administering, and applying defensive NBC operations. He also —

- Supervises preparation of NBC reports, maintenance of NBC supply, and unit and individual NBC training records.
- Collects, interprets, analyzes, and disseminates chemical information and data.
- Serves as principal NCO of the NBC defense team.

(8) *Liaison NCO*. The liaison NCO coordinates operations with supported and adjacent units, higher headquarters, and US Army aviation or USAF units.

b. **LRSD TOC Organization and Responsibilities.** In the LRSD TOC, the commander, executive officer, detachment sergeant, operations sergeant, and communications personnel perform all functions.

c. **Operations (LRSC or LRSD).** Before each mission, the TOC personnel (operations, intelligence, and communication) are prepared to —

- Present a detailed briefing to the team leaders on the specific area of operations.
- Coordinate infiltration and exfiltration operations.
- Assist the team leaders in coordinating fire support, aviation assets, resupply, and so forth.
- Receive pre-mission briefbacks from committed teams.

(1) *Ongoing actions*. During the mission, the TOC personnel monitor the progress of surveillance teams and are prepared —

- To coordinate resupply for committed teams.
- To coordinate emergency extractions.
- To coordinate medical evacuations.
- To coordinate other required support.
- To plan and coordinate additional missions as directed by the commander.
- To monitor scheduled communication times.
- To coordinate for friendly or partisan linkups by sending updated situation reports and any changes to the LRS team's mission; receiving, decoding, and disseminating combat and administrative information from the teams; and monitoring the guard frequency 24 hours a day.

(2) *Debriefing*. Immediately after exfiltration, TOC personnel debrief each surveillance team. G2 personnel conduct the debriefing, if available. The LRSC communications platoon leader or LRSD communication section sergeant debriefs the team RATELO.

(3) *Messages*. The TOC duty officer or NCO provides a receipt for all incoming messages. Other requirements are as follows:

- A receipt of each message is recorded in the staff journal.
- Information from each message is posted to the appropriate maps and charts.
- Each message is filed in the journal file according to the journal entry number.
- All outgoing messages originate from the TOC and are recorded in the journal.
- Intelligence reports are forwarded from the teams to G2 as necessary.

(4) *Journal*. The staff journal is a chronological record of events pertaining to the unit during a given period. The TOC duty officer or NCO maintains the journal.

(a) All items are cross-referenced to the journal entries by journal item number.

(b) All messages are posted to the journal with the following information noted:

- The sender.
- The title of the message or a description of the event.
- The time of receipt of the message.
- The journal item number and message center number (if applicable).
- The action taken.
- The initials of the person making the entry.

(5) *Security*. Personnel access to the TOC and the predeployment detailed planning area is restricted and controlled. SOP establishes procedures for control and identification of visitors.

(a) The TOC and the detailed planning area should have only one entrance.

(b) Appropriate security measures are taken in the safeguarding and handling of all classified material to include a well-rehearsed emergency destruction SOP.

(6) *Displacement.* When directed to displace, the on-duty shift continues to operate; the off-duty shift breaks down all equipment and loads it on the vehicles. The COB or DOB notifies the AOB of the departure time and route and the proposed relocation site. The AOB continues to monitor committed teams. When the COB or DOB is once again operational, the AOB sends an update.

2-8 TASK ORGANIZATION

The LRSCs and LRSDs assigned to corps organizations use the same company-level SOPs and communication procedures. Therefore, the corps commander can task-organize LRS assets as battlefield conditions change. LRSC and LRSD teams initially are employed in their respective areas of interest. The rapid pace of operations may require the LRSC and LRSD to coordinate command and control of deployed LRS teams and exchange information to meet the intelligence needs of the commander.

a. **Echelons Above Corps.** During retrograde operations, command, control, and communications of LRS teams beyond the corps area of operations is given to echelons above corps. This action requires a liaison with a radio station from a LRSU AOB to locate with echelons above corp controlling headquarters. Control of extracted teams is returned to the parent LRSU.

b. **Brigade Task Organization.** An LRSD, or portions of an LRSC, are under operational control of a brigade for certain operations. This OPCON occurs as part of a contingency operation. It most often occurs in an operation other than war environment and before the main control cell of the G2 deploys to the area of operations. It also occurs when brigades expand control of a sector and deployed LRS teams are operating in that sector. When this situation occurs, a liaison with a base radio station from the COB, DOB, or AOB locates with the brigade TOC. A G2 CM&D liaison may accompany the LRS control element for mission planning.

Section II. COMMUNICATIONS

The accurate and timely reporting of information by the surveillance teams is the most important aspect of the LRSU mission. Without communications, there is no reason to insert a team deep into the enemy's rear area. Well thought out, planned, and practiced communication procedures helps ensure the success of a mission. Communication is a two-way event and everyone must know the procedures.

2-9. COMMUNICATION NETS

The LRSU team deploys out of line-of-sight communication range. Ordinary combat net radio systems cannot support the reporting requirements of the LRSU. Tactical FM radios, like single-channel ground and airborne radio system, must be in sight of each other electronically to communicate.

a. LRSUs must rely on and train with communication systems with extended range capabilities. Two systems available in the Army system are HF and tactical satellite radios.

(1) An HF radio is a reliable communication system with an unlimited range. Manpack improved, high-frequency radios like the AN/PRC-104 have simplified HF radio communication and increased reliability. HF communication requires extensive training and frequency management. The right frequency must be chosen for each communication scenario, and the right antenna must be built to satisfy each transmission path. (See Appendix D for more information.)

(2) Tactical satellite radio is a reliable communication system with an unlimited range. Tactical satellite radios come in manpack versions. However, satellite channels and tactical satellite radios are in short supply and high demand. The priority for tactical satellite circuits goes to echelons above corps and other strategic operations. The LRSU normally does not have access to circuits on a tactical satellite system.

b. The COB or DOB and their respective AOBs maintain communication with employed teams using HF radio. Each team has a separate frequency and cryptographic for OPSEC purposes. Communication between the two operations bases is maintained using the tactical switching system between the two locations. Backup communication between the base operations is maintained using either line-of-sight or HF radio systems as METT-T requires. The LRSC communication net has 18 teams and eight AN/TSC-128s. Figure 2-5 shows the LRSD communications net.

c. The COB or DOB maintains communication with their G2s using the tactical switching system and with combat net radio in the corps or division intelligence net.

d. Communication within the operations bases is accomplished with an internal wire net (Figure 2-6, page 2-22). The unit's communication personnel establish this net using organic wire and telephones.

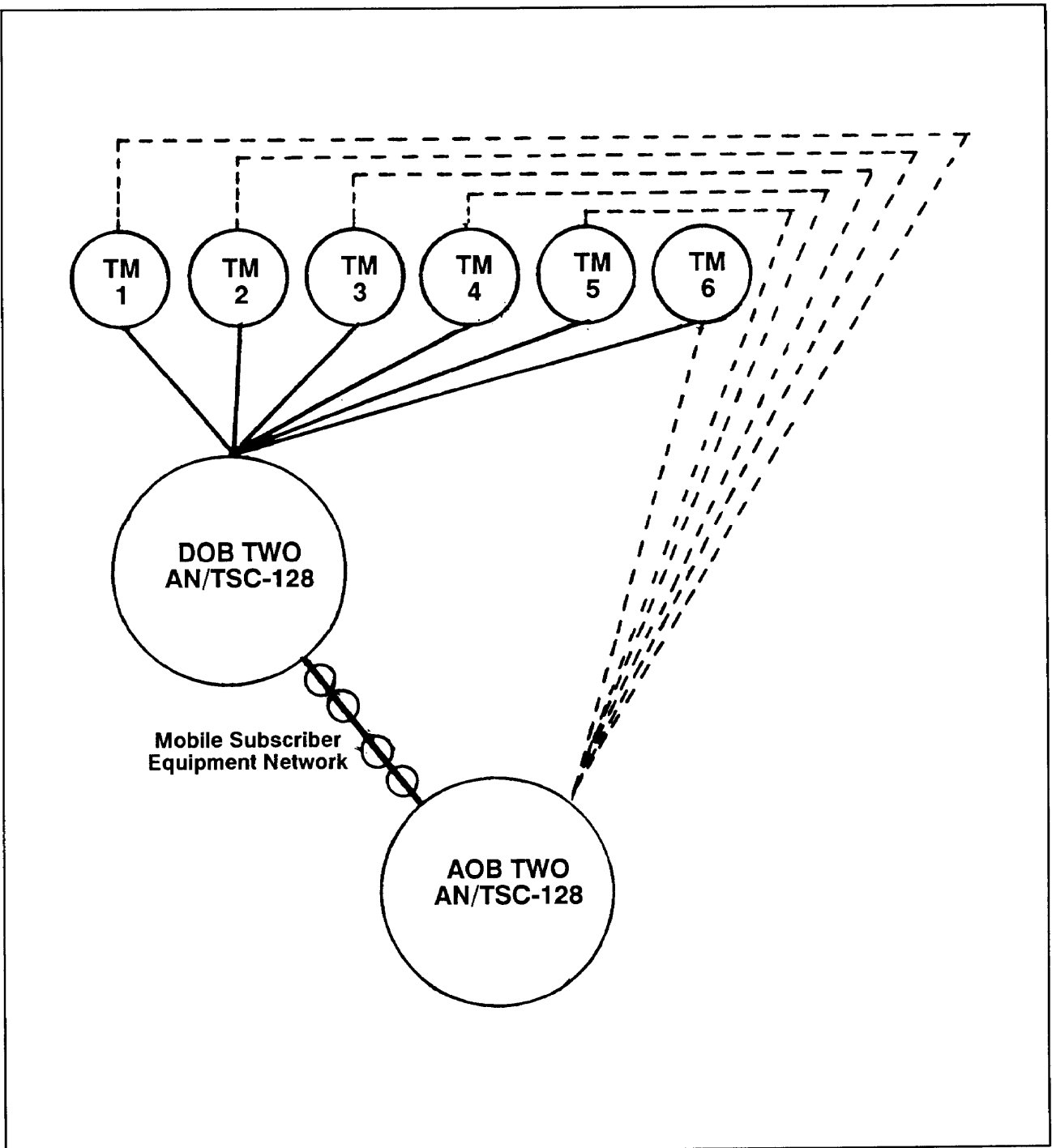


Figure 2-5. LRSD communications net.

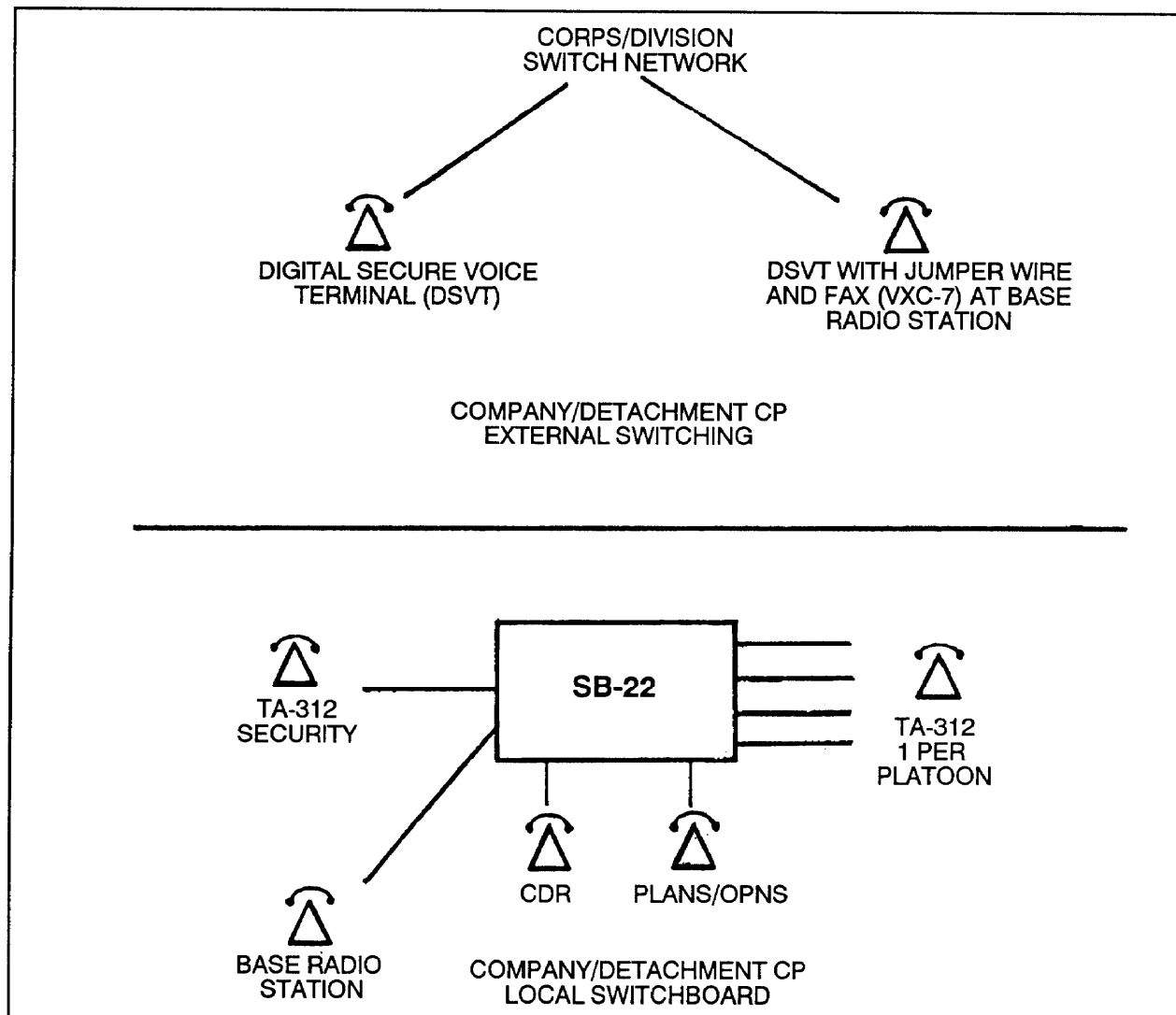


Figure 2-6. Internal wire net.

2-10. MESSAGES AND REPORTS

The base radio station communicates with teams during specified communication times. A separate time is established for each team. The number of scheduled times used by the LRSU depends on METT-T. The employed team must be protected from enemy interception and direction finding. Too many scheduled times put a team at risk, while not enough scheduled times could minimize the importance of time-sensitive intelligence. OPSEC demands must be weighed with frequency availability.

a. In addition to scheduled communication times, an HF guard frequency is established. The base radio station monitors the guard

frequency 24 hours a day. The guard frequency provides the teams with a second frequency for transmitting outside the scheduled time, when communication on the primary frequency cannot be established. The guard frequency changes periodically to accommodate changes in the atmosphere, but changing it more than twice a day is not recommended; one frequency for daytime operation and one for nighttime operation is suggested. Instances where a team may use the guard frequency include —

- Report PIR.
- Request for extraction or fire support, because the team has been compromised.
- Request for medical evacuation.
- Start of evasion and escape.

b. The base radio station and teams communicate using data-burst devices; for example, the OA-8990 digital message device group (DMDG) and the KL-43C. A data-burst device sends messages over the radio as quickly as possible. The shorter the transmit time, the less likely a team will be detected by enemy direction-finding equipment. Interception is also a major concern of the LRSU. Data-burst devices do not preclude the enemy from intercepting the radio traffic. To minimize the effectiveness of enemy interception, teams and the base radio station encrypt messages. The DMDG has no internal cryptographic capability, so teams use a one-time pad with a trigraph to encode messages before sending them. The KL-43C has an internal cryptographic capability and does not require the team to manually encrypt the message. In addition to encrypting the message, teams can use brevity codes to assist in shortening the message. However, brevity codes increase the message processing time and increase the possibility for error.

c. Message formats between teams and the base radio station are part of the SOP. If a message has an exacting format, even a partially received message is useful, because it is recognizable. The following is an example of the messages a team should be prepared to transmit during a mission. (See Appendix D for illustrations.) (See the Special Forces SOI supplemental instructions for additional message formats.)

- ANGUS—Initial entry report.
- BORIS—Spot intelligence report.
- CYRIL—Situation report.
- UNDER—Cache report.
- WESAW—Ground order of battle report.

d. Intelligence reports received by the base radio station go directly to the corps or division G2. The LRSU operations base does not delay or change any intelligence report. If a message is received by the base radio station at the AOB and not the COB or DOB, the message is sent by the fastest, secure means to the corps or division G2 and the COB or DOB exactly as received. (See Figure 2-7.)

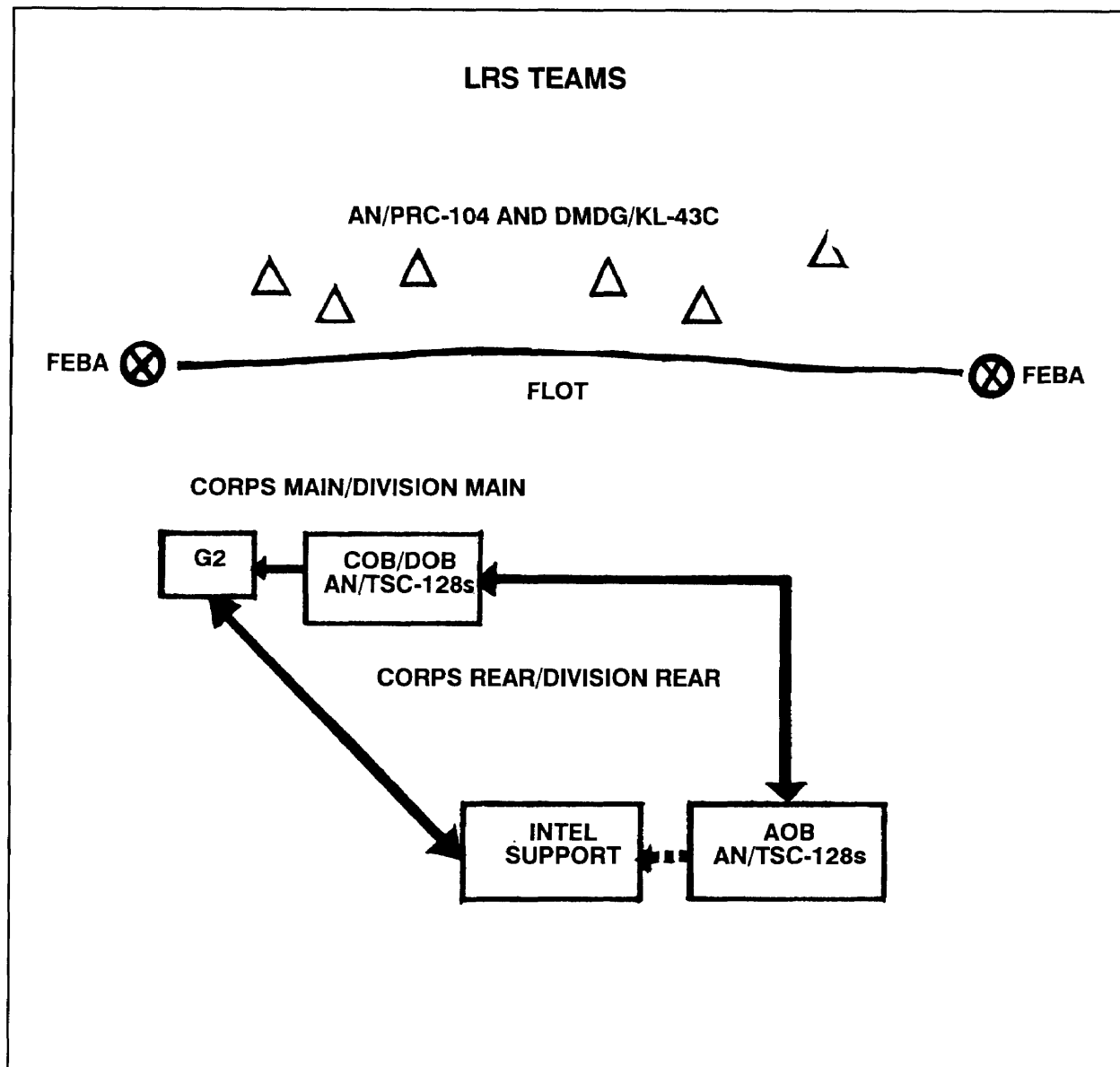


Figure 2-7. LRSU data flow.

2-11. BASE RADIO STATION OPERATIONS

The primary mission of the base radio station is to receive and transmit messages between the operations base and employed teams. Each base radio station monitors all deployed team frequencies. The AN/TSC-128 is the basic system for the base radio station. Two AN/TSC-128s makeup one base radio station. Each AN/TSC-128 maintains communication to three LRSU teams. To accomplish this, the AN/TSC-128 is equipped with three HF radios (AN/GRC-213) to receive communication from deployed team and one HF radio (AN/GRC-193) to transmit to the teams and other stations. In addition, the AN/TSC-128 is equipped with four DMDGs or KL-43Cs, one UGC-74 teletype terminal, one VRC-series radio (or mobile radiotelephone for mobile subscriber equipment), and a UGC-7 facsimile machine.

a. The LRSC establishes two base radio stations at the COB and two at the alternate sites. The LRSD establishes a base radio station at the DOB and at an alternate site. The base radio stations at the COB or DOB are the primary link to teams in the field. The base radio stations at the AOB serve as backup. They are prepared to receive messages the COB or DOB cannot, take over the mission if the COB or DOB displaces, and take over the mission if the COB or DOB is destroyed.

b. The success of HF communication often depends on the type of antenna erected. The best antenna is resonant to the transmitter frequency. The antenna cut to the proper length adds gain to the antenna and increases the success of communication. The base radio station will have the terrain, security, and time to construct matching full-wave and half-wave antennas. Employed LRSU teams often compromise in their antenna selection, depending on METT-T. The base radio station takes all actions necessary to ensure communication. The base radio stations at the AOB build different types of antennas than the COB or DOB. This adds flexibility and provides different paths for transmission. (See Appendix D for more information.)

c. Constant communication between the COB or DOB and AOB is necessary. The AOB must be ready to assume the mission of the COB or DOB and must track the battle. The primary communication link between the COB or DOB and the AOB is the corps or division tactical switching system. As a backup, the base radio stations at the COB or DOB and the AOB maintain communication with tactical FM radios using the published frequencies in the SOI and with their HF radios using the HF guard frequency. Message traffic between the two stations is sent by data burst, facsimile, teletype, or secure voice.

d. COMSEC is management intensive for LRSU operations. Each team has individual cryptographic for communicating with the base radio station. In addition, local nets have their own cryptographic requirements. The LRSC or LRSD commander ensures the unit's COMSEC custodian keeps the proper material in the correct amount on hand, both for training and contingency missions. Possible COMSEC keys needed for LRSU operations are —

- Corps or division intelligence net.
- MI brigade or battalion net.
- Internal company or detachment net.
- One key per team (KL-43C or one time pad) with one copy of this key for each base radio station monitoring the team.
- Digital secure voice terminal key for mobile subscriber equipment network.

e. In addition to cryptographic, LRSU COMSEC requires intensive frequency management. The nature of HF communication and the OPSEC requirements for LRSU teams places a high demand on multiple HF allocations. HF reliability changes with the time of day, time of year, position of the transmitters on the earth's surface, and the type of equipment used. Good OPSEC demands different frequencies for each team employed and a separate frequency for the HF guard. For an LRSC, that can mean as many as 19 frequencies at a given time of day and as many as 7 for the LRSD. The LRSU commander coordinates with the corps or division signal officer to ensure the LRSU is allocated the frequencies it needs for the mission.

f. Each base radio station maintains a log of all messages. The team chief ensures all messages for committed teams originate from the operations section. When a team message is received, the operator logs in the message, then forwards it to the operations section for decryption. If there is an outgoing message for a team, the operation section encrypts it. The operator then transmits it to the team during the team's next scheduled communication time.

2-12. SURVEILLANCE TEAM COMMUNICATIONS

HF radio is the surveillance team's primary means of communication with the base radio station. Data-burst equipment is used to shorten transmission times. Encryption systems are used to preclude enemy interception. In addition to HF radio, teams use tactical satellite assets when available.

a. The RATELO selects the communication site, with the team leader's approval, using METT-T. Communication site considerations are security, cover and concealment, space to erect an antenna, and an escape route.

b. Teams transmit and receive routine messages during the scheduled communication times. For messages requiring transmission outside the time schedule, the team first tries to transmit on the designated team frequency. If communication cannot be achieved on the team frequency, the team then transmits on the HF guard frequency.

c. Internal communication within the team is maintained using secure FM and visual and sound signals. (See Appendix E.) Leaders ensure proper OPSEC and COMSEC precautions are followed.

2-13. ELECTRONIC WARFARE

Electronic warfare is a military action used to prevent the enemy's use of the electromagnetic spectrum, while retaining friendly use of the spectrum. This is accomplished through both offensive and defensive measures.

a. Offensive electronic warfare operations include the use of electronic warfare support measures and electronic countermeasures.

(1) Electronic warfare support measures are actions taken to search for, intercept, locate, record, and analyze radiated electromagnetic energy.

(2) Electronic countermeasures are actions taken to prevent or reduce effective use of the electromagnetic spectrum by the enemy.

b. Defensive electronic warfare operations include electronic counter-countermeasures (ECCM). ECCM are actions taken to ensure effective use of the electromagnetic spectrum despite electronic warfare activity by the enemy.

c. To protect themselves from enemy electronic warfare activity, LRSUs apply ECCM. ECCM have two categories: **preventive** and **remedial**.

(1) *Preventive measures* are those actions taken to prevent or lessen the effectiveness of enemy electronic warfare. They include emission security, transmission security, cryptography security, and physical security.

(a) Emission security includes —

- Turning radios and other emitters on only when they are to be used.
- Using brevity lists.
- Masking antenna locations.
- Using directional antennas.
- Using the lowest possible output power.

(b) Transmission security includes —

- Using voice communication only when essential.
- Developing and using brevity lists.
- Minimizing transmission time.
- Planning messages.
- Always using brevity lists when sending essential elements of friendly information.
- Encrypting messages.

(c) Cryptography security includes using authorized codes and key lists. Only National Security Agency approved codes are authorized for encoding and decoding US Army message traffic. The same is true of mechanical cryptography systems.

(d) Physical security of all cryptography and equipment includes a comprehensive and workable plan for the destruction of material and equipment. It also includes the SOPs that identify to all team members where material and equipment are kept by the RATELO. Priority for the destruction of material and equipment is as follows:

- All superseded cryptography keys.
- All current cryptography keys.
- Zero KL-43C.
- All future cryptography keys.
- Communications log.
- KL-43C.
- Radios.
- Brevity list.

(2) *Remedial measures* apply to interference and jamming. When interference is heard and jamming is suspected, the following actions should be taken:

- (a) Remain calm and continue to operate as if nothing is happening.
- (b) Do not allow the enemy to know his jamming is successful or detected.
- (c) Go to a higher power on the radio.
- (d) Reorient the antenna to the receiving station.

(e) Report the jamming using the reconnaissance, intrusion, jamming, and interference report format in the SOI supplemental instructions. Do not file the report on the same net that is being jammed.

(f) Use an alternate frequency if communication cannot be established or maintained.

Section III. MISSION DEVELOPMENT

Long-range surveillance missions are specific, require detailed planning, and support the collection plan of the supported corps or division. All LRSU missions are carefully planned and coordinated to prevent duplication of effort, conflicting requirements, and the possibility of overlapping or intermingling with other friendly forces in the area. Corps ensure LRSC missions do not conflict with subordinate division LRSDs, between divisions, or with the echelons above corps special operations forces. Divisions ensure LRSD missions do not conflict with friendly forces working in their area.

2-14. PLANNING

The LRSU commander or his representative (liaison officer, operations officer, operations NCO, or platoon leader) assists the intelligence and operations sections of the division or corps headquarters in the initial planning for LRS missions. Methods of operations while deployed, communication procedures, reporting, and other standard practices are in the LRSU SOP. An LRS team normally requires 24 to 48 hours planning time to execute a mission. The recommended planning time is often not available. The following minimum-essential information is provided for hasty mission execution:

- Mission statement to include area or object to be kept under surveillance, eyes-on-target time, and anticipated length of mission.
- PIR, IR, and associated SIR.
- Enemy situation in the target area.
- Corps or division commander's intent for intelligence (can be stated by the G2 or G3).
- Method of insertion with abort criteria. Coordination time and place are included, if applicable.
- Fire support plan to include assets available.

- Exfiltration plan.
- Communication plan (provided by the LRSU headquarters).
- Linkup, if applicable.

a. **Special Considerations.** METT-T guides the planning for LRS operations. The reverse planning sequence is used during planning. Among the many planning considerations, the following are particular to LRS operations.

(1) *Mission.* This includes the type of mission (surveillance, reconnaissance, target acquisition, damage assessment), the anticipated length of the mission, and the time the information is required to be collected.

(2) *Selection of tentative hide site.* The position selected must offer good observation, concealment, communication requirements, and an adequate area for team rest, maintenance, and personal hygiene. When ground or air reconnaissance is impossible, the position is selected by map and photograph reconnaissance and line-of-sight survey data. The position should provide observation of the objective, avoid detection, and provide suitable signal communication. Closeness to and access from the infiltration and exfiltration sites are also considered. At a minimum, a tentative primary site and an alternate site are always selected. (See Appendix E.)

(3) *Selection of tentative surveillance site.* Performing all mission requirements from the hide site is not always possible or desirable. Under those circumstances, a separate surveillance site(s) is chosen. The general location is determined during planning and pinpointed after the team is on the ground. The surveillance site is normally close to the hide site with an accessible route over terrain that conceals the connecting route. A primary site and an alternate site are always selected. In some environments, primary and alternate sites are selected for both day and limited visibility conditions.

(4) *Selection of tentative communication site.* Conducting communication from the hide site is not always possible or desirable. Under those circumstances, a separate communication site is chosen. The general location is determined during planning and pinpointed after the team is on the ground. The communication site should be near the hide site with an accessible route over terrain that conceals the connecting route. Additionally, when selecting the communication site, the LRS team should consider all aspects of ECCM and site selection criteria discussed in Appendix D.

(5) *Selection of tentative infiltration site.* The location of the infiltration site is considered after the selection of hide, surveillance, and communication sites. Infiltration site selection is based on the infiltration method, the distance to the hide site, enemy and local populace activity in the area,

availability of a concealed route to the hide site, and any impassable obstacles on the route.

(6) *Selection of an infiltration method.* The method and route of infiltration into the area is considered after an infiltration site is selected. Frequently, several suitable insertion methods are available. METT-T is used to determine the best method. Specific considerations include mission, enemy situation, terrain and weather, resources available depth of penetration, training of the team, team survival, and simplicity. (See Chapter 6.)

b. Detailed Planning. G2, G3, and LRSU operations personnel prepare the detailed mission folder according to guidance from the commander and the controlling headquarters. Selected team leaders, a representative from the units providing transportation, SEAD, and fire support are briefed early in the planning phase. They should also participate in the detailed planning that follows. During briefings, team leaders are furnished minimal information about friendly units to maintain OPSEC. Essential details of the LRS team plan normally include the following.

(1) An overview of the enemy and friendly situation, followed by specific information in the immediate area of the operations. How the situation, light, and weather data will affect team operations are critical.

(2) Clearly stated PIR and associated SIR, and IR and associated SIR.

(3) Mission statement.

(4) Commander's intent for the mission.

(5) The area to be kept under surveillance and possible places from which this can be done.

(a) General team positions are determined as far as possible in advance of employment of the teams. Positions are selected based on the study of terrain, road and rail nets, enemy situation, delivery means available, operations plans of controlling headquarters, and the LRSU commander's guidance.

(b) When possible, positions are reconnoitered before occupation. Specific positions are selected to cover the desired surveillance objective, and communication checks are made. Physical or air reconnaissance is desirable. The team leader selects and reports the specific position location when he gets to the area.

(c) Actions taken if enemy contact is made in the objective area; at the hide, surveillance, and communication sites are covered. Criteria for using weapons with reduced signatures is also covered.

(6) The air mission briefing, which discusses the number and type of aircraft needed, flight routes, air cover or fire support required, primary and alternate insertion points, false insertion or extraction points, and frequency

and call signs. For extraction, the same information is covered including pickup zone locations and markings, and the date and time for the aircraft to be at the pickup zone. Contingency plans are covered including actions in the case of a downed aircraft, point of no return criteria, and actions in the case of enemy fire on the landing or pickup zone.

(7) Movement routes, formations, and actions at danger areas and halts from the infiltration site to the objective area.

(8) The fire support plan, which includes plans for indirect and aerial delivered fires. Specific plans include —

- Planned fires on movement routes and on and around the objective area.
- Planned fires on known, suspected, templated, and anticipated enemy positions.
- Use of smoke to mask movement.
- Use of illumination to help observation.
- Fires to aid navigation.
- Suppressive fires as part of an SEAD.
- Restrictive-fire areas or no-fire areas.
- Use of laser designators or beacons.

(9) The timing for execution of major events in the operation.

(10) Movement routes, formations, rally points, and actions at danger areas and halts from the objective area to the exfiltration site.

(11) Plans for evasion and escape to include planned evasion corridor, designated areas for recovery, and actions at recovery areas. (See Appendix F.)

(12) Plans for the use of guides, technical specialists, or special equipment.

(13) Coordination measures with friendly forces for the passage of lines or linkup.

(14) Plans for treatment of sick or wounded team members in the operational area or evacuation from the operational area.

(15) Actions to take in the case of captured enemy personnel and equipment.

(16) The communication plan, which includes frequencies, logs, reporting schedule, emergency reporting procedures, and alternate communication plans. The plan also includes actions if communication cannot be established.

(17) Plans for logistical support to include emergency resupply and use of caches.

- (18) Uniform and equipment for the team.
- (19) Abort criteria for each phase of the mission.

2-15. COORDINATION

Throughout planning, coordination is made with the following elements at the TOC of the controlling headquarters.

a. **Intelligence Element.** The detailed patrol plan is given to the G2 element. An update on the enemy situation, terrain, and weather forecasts must be added to the mission folder. A final check is made of the LRSU plans and the plans of other information-gathering agencies to make sure all collection elements of the unit's intelligence plan are coordinated. Coordination is made with other units and staff elements.

b. **Operations Element.** The patrol plan is also given to the G3 element. The latest information is obtained on the friendly situation. For security reasons, only essential information is provided to the team. The G3 element is responsible for initial coordination with the unit providing transportation for the LRS team. The G3 element coordinates as necessary with the division air management element, Air Force liaison, and naval gunfire liaison.

c. **Division or Corps Fire Support Element.** The location of the team is coordinated with all fire support elements to ensure personnel safety. Constant coordination ensures the team's safety during employment of conventional nuclear or chemical weapons. Procedures are set up for processing LRS team calls for fire and informing teams of planned fires and passive protection measures to be adopted. In addition, requirements for target damage assessment and reporting procedures are coordinated, and a fire support plan is completed for each LRS team. Team locations must be coordinated with division fire support coordinator so that the location can be designated as no-fire areas or restrictive-fire areas. This information is disseminated to units on a need-to-know basis.

d. **NBC Element.** The NBC element is given the location of all committed teams, and plans are coordinated for monitoring requirements in the area of the team's operation. Information on contaminated areas is distributed as necessary.

2-16. WARNING ORDER

After the unit has been alerted for a mission, the operations section of the LRSC, or the LRSD commander, issues a warning order (mission alert notification) to one of the platoon leaders (LRSC) or the team leader (LRSD), and finalizes the mission folder. The warning order is based on the

commander's guidance. The surveillance platoon leader in the LRSC designates a team for the mission and issues a warning order to the team. In the LRSD, the commander selects the team. Upon receipt of the OPORD and after issuing a warning order, the team leader coordinates the following requirements with the platoon leader or the platoon sergeant (LRSC), or the detachment commander (LRSD), as applicable:

- Infiltration method.
- Exfiltration method.
- Transportation.
- Special equipment.
- Passage of lines.
- Linkup procedures.
- Communication procedures and equipment checks.
- Checkpoints, phase lines, and code words.
- Fire support and restrictive-fire areas.
- Evasion and escape plan.
- Ammunition and pyrotechnics.

Section IV. OPERATIONAL SECURITY

Avoiding detection by the enemy and the populace is a prime requisite for the success of LRS operations. LRSU subelements and supporting elements must rely extensively on OPSEC measures.

2-17. TACTICAL AND ADMINISTRATIVE MEASURES

Control of information pertaining to past, present, and future LRS missions is important. Periodic security orientations and inspections, including communication elements and procedures, are conducted regularly to make sure that OPSEC requirements are understood and followed. Tactical security and deception measures necessary to teams and their support elements include the following:

- While en route to the area of operations, they use false landings, feints, and circular or winding routes.
- During insertion, they spend only minimum time on the LZ or dismount point, and they remove or obscure any tell-tale signs.

- In the surveillance area, they use cover, concealment, and camouflage; control of movement, stealth; light, noise, and odor discipline; and litter removal or burial.
- During aerial emergency resupply, they use night air drops and drops on dummy positions.
- During extraction, they make careful observation of the PZ or designated recovery area, rapid entry of the helicopter (ground or water vehicle), and quick assembly, boarding, and departure of the helicopter (ground or water vehicle).

2-18. ELECTRONIC MEASURES

Radio intercept and radio direction finding are the primary methods of gathering intelligence through electronic means. Radio intercept entails monitoring and understanding message content. Radio direction finding locates transmitting stations by tracking their signals.

a. Many potential adversaries have an extensive intercept capability for electronic transmissions. They can intercept transmissions within the following distances from the forward edge of the battle area:

- Artillery ground radar—about 25 kilometers.
- VHF—about 40 kilometers.
- HF groundwaves—about 80 kilometers.
- HF skywave—unlimited.

NOTE: These ranges are greatly extended when airborne intercept is employed.

b. Ground-based and airborne intercept equipment available throughout the world is technically sophisticated, rugged, and easy to maintain. Enemy forces must be considered to have a modern intercept capability.

c. Enemy direction-finding capability is comparable to their intercept capability. Various types of mobile, directional antenna systems can be used in a radio direction-finding role. Forward-area mobile elements include a VHF tactical radio direction finder with an Adcock antenna, as well as the pole dish radar direction finder. Tactical FM radios operating on low power can be detected by radio direction-finding units for more than 10 kilometers and high-power signals can be detected at distances up to 40 kilometers. Radio direction finding is usually accurate within plus or minus 3.5 degrees.

d. Direction finding is used —

- To provide approximate locations of electronic emitters.
- To provide locations that when applied with signal intelligence, terrain analysis, or other means, can be refined to a target area of sufficient accuracy for artillery fires.
- To develop a picture of the battlefield that reveals the disposition and possible intent of enemy units.
- To provide adequate locations for firing on most radars and jammers.

e. Figure 2-8 illustrates enemy ground-based electronic intercept and direction-finding capabilities. Once begun, the targeting sequence can continue even if friendly communication cease. The location of radios transmitting in excess of 20 to 25 seconds will be plotted within two to three minutes of the intercept. LRS team members must be aware of this and must adhere to approved operating procedures.

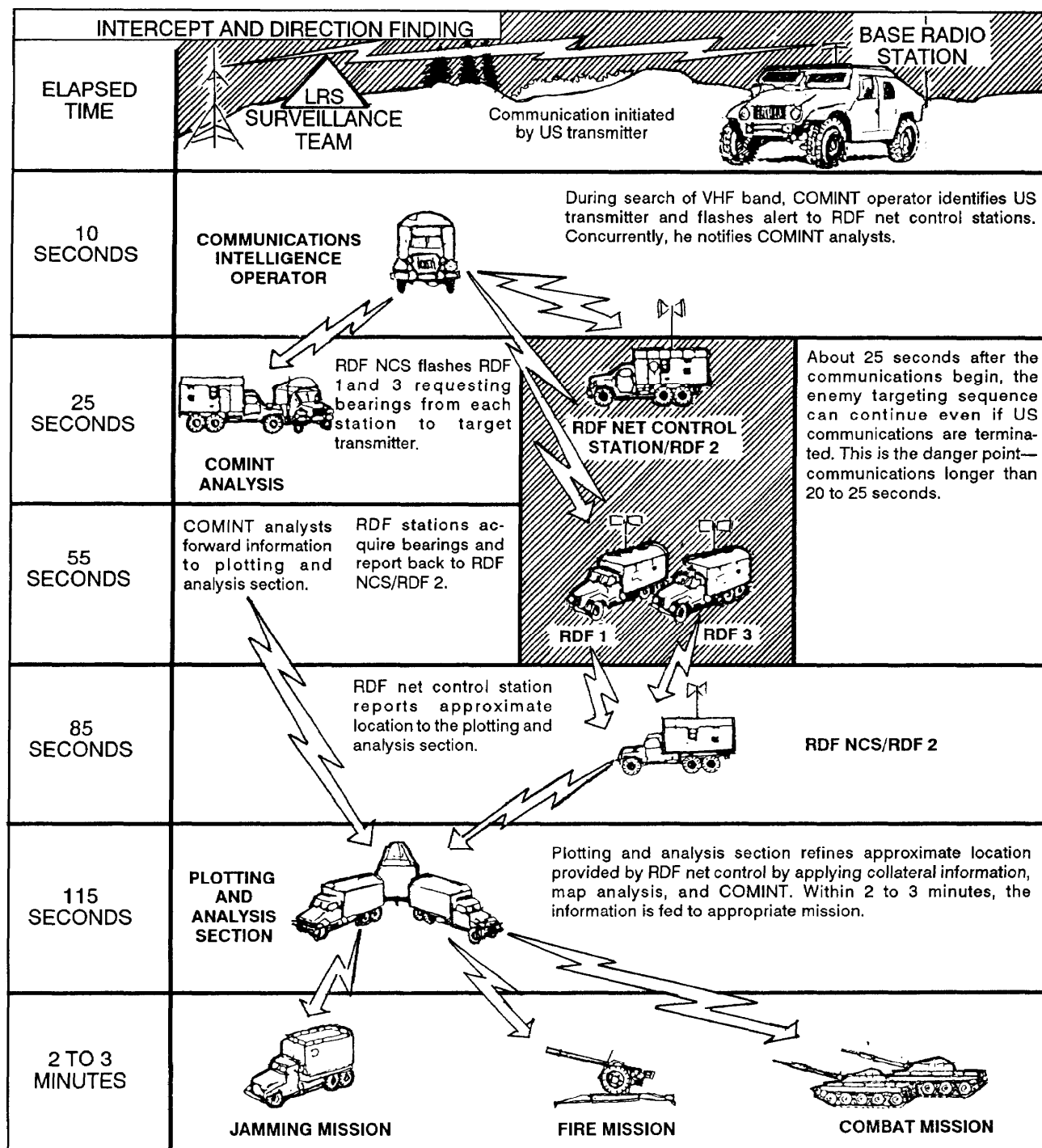


Figure 2-8. Enemy intercept and direction finding.