

C2 Support to MAGTF Intelligence



MAGTF Staff Training Program
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MSTP Pamphlet 6-7

C2 Support to MAGTF Intelligence

This pamphlet supports the academic curricula of the Marine Air Ground
Task Force Staff Training Program (MSTP).

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FOREWORD

1. **PURPOSE.** MSTP Pamphlet 6-7, *C2 Support to MAGTF Intelligence*, provides Marine expeditionary force (MEF) staff action officers information on how to use current and emerging command and control (C2) systems that support intelligence planning, execution and their interface with other related processes and information requirements (IRs).

2. **SCOPE.** This pamphlet focuses on the intelligence cycle used in a MEF level planning processes. It includes the processes, information management, and the C2 systems that it supports. It also addresses C2 systems support for conducting intelligence activities and analysis in a MEF combat operations center.

3. **SUPERSESSION.** None.

4. **CHANGES.** Recommendations for improvements to this pamphlet are encouraged from commands as well as from individuals. The attached User Suggestion Form can be reproduced and forwarded to:

Commanding General (C 467)
Training and Education Command
3300 Russell Road
Quantico, Virginia 22134-5001

Recommendations may also be submitted electronically to:
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5. **CERTIFICATION.** Reviewed and approved this date.

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Throughout this pamphlet, masculine nouns and pronouns are used for the sake of simplicity. Except where otherwise noted, these nouns and pronouns apply to either sex.

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Part I

Introduction

This pamphlet is designed as a guide for MEF-level staff planners for all types of operational planning, but is also useful at all echelons of a Marine air-ground task force (MAGTF). It is designed to provide some techniques on the “how to do” many of required staff actions and analysis during planning and execution. The focus is on where and how currently fielded systems and “tools” can aid the staff.

This pamphlet is designed as a resource for all staff planners to use during deliberate or crisis action planning. It focuses on the intelligence cycle, and describes it in terms of the plan, decide, execute and assess model and the G2 staff’s required actions. This pamphlet identifies and describes C2 systems and their associated intelligence products that support the analyst in properly portraying the capabilities and intentions of the threat or adversary.

1001. The Marine Corps Planning Process

The Marine Corps Planning Process (MCPP) supports the Marine Corps warfighting philosophy of maneuver warfare. Since planning is an essential and significant part of command and control, the MCPP recognizes the commander’s central role as the decisionmaker. It helps organize the thought processes of a commander and his staff throughout the planning and execution of military operations. The MCPP focuses on the mission and the threat. It capitalizes on the principle of unity of effort and supports the establishment and maintenance of tempo. The MCPP is applicable across the range of military operations and is designed for use at any echelon of command. The process can be as detailed or as abbreviated as time, staff, and resources allow.

The MCPP organizes the planning process into six manageable, logical steps. See Figure 1-1. It establishes procedures for analyzing a mission, developing and wargaming courses of action (COAs) against the threat,

comparing friendly COAs against the commander’s criteria and each other, selecting a COA, and preparing an operation order (OPORD) for execution. It provides the commander and his staff a means to organize their planning activities and transmit the plan to subordinates and subordinate commands.

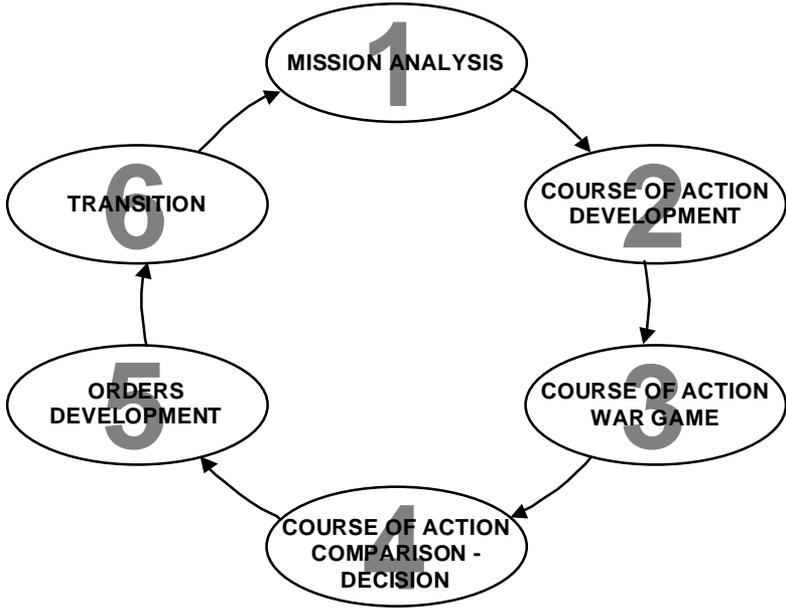


Figure 1-1. The Marine Corps Planning Process.

1002. The Intelligence Cycle

The intelligence cycle is a series of related activities that translate the need for intelligence about a particular aspect of the battlespace or threat into a knowledge-based product that is provided to the commander for use in the decisionmaking cycle. See Figure 1-2. In this sequence, intelligence needs are identified and a plan is developed for satisfying those needs. Data are collected, processed into information, and converted into intelligence through analysis and synthesis. The resulting knowledge is then provided to the commander as an intelligence product that is used in making decisions.

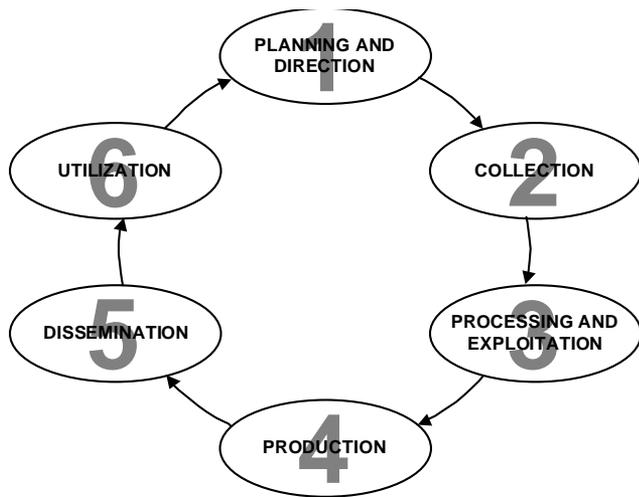


Figure 1-2. The intelligence cycle.

The intelligence cycle can be used during crisis or deliberate planning efforts as well as day-to-day intelligence planning in support of collection, targeting, or analytical efforts. Likewise it is applicable for all types of military planning from full spectrum warfare to military operations other than war. Figure 1-3 shows how the intelligence cycle meshes with and supports the MCPP, from the initial development of a plan through implementation. The MCPP focuses on the threat, the environment, and friendly forces. Therefore, the intelligence cycle, which is focused on the threat and the environment, is a primary element of the planning process.

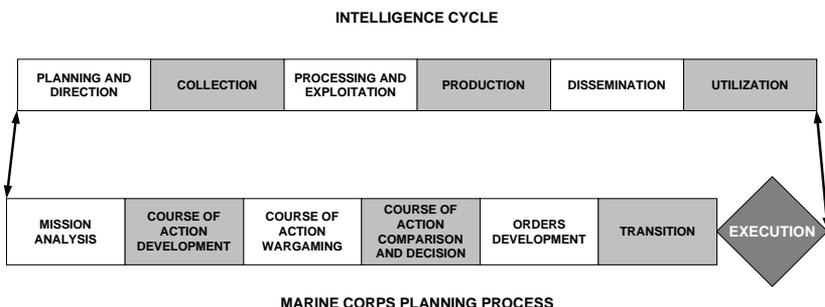


Figure 1-3. Relationship between the intelligence cycle and the MCPP.

The next five sections of this pamphlet address the different steps in the intelligence cycle. Each section identifies C2 systems used during that particular step in the intelligence cycle and discusses the intelligence products that each identified system produces.

Part II

Planning and Direction

The planning and direction phase of the intelligence cycle consists of those activities that identify pertinent intelligence requirements and provide the means for satisfying those requirements. Intelligence planning and direction is a continuous function and a command responsibility. The commander directs the intelligence effort; the intelligence officer manages this effort for the commander based on the intent, designation of priority intelligence requirements and IRs, and specific guidance provided during the planning process.

2001. Intelligence Analysis System

The AN/MYQ-7 intelligence analysis system (IAS) automates the intelligence activities of direction, collection, processing, production and dissemination of critical tactical intelligence from embedded databases and multiple sources. IAS is interoperable with other intelligence systems such as the Navy Tactical Command System-Afloat, Joint Deployable Intelligence Support System (JDISS), and all MAGTF intelligence systems to ensure a common intelligence picture of the battlefield during planning and direction. The IAS configuration also provides administrative support through the use of commercial off-the-shelf word processing, graphics, spreadsheet, and data base management programs. These software applications provide the required automated support for planning and direction.

2002. Requirements Management System

The requirements management system (RMS) provides the MAGTF and other users with a comprehensive national imagery collection management capability. RMS allows the Marine Corps component headquarters and MEF collection managers to access the national imagery requirements

tasking and tracking system. It supports the creation, review, and approval of imagery requests and tasks requirements for collection, production, and exploitation of imagery to appropriate locations. The collection manager determines, based upon knowledge of and availability of resources, what assets are best able to provide the data to satisfy each requirement. It also assists the collection manager to determine satisfaction of imagery requests. The collection manager can then modify imagery requests based on input from other sources of intelligence. RMS also provides a suite of analytical tools for collection management. The RMS generated messages are dispatched for approval and subsequent collection and exploitation tasking. RMS users generate imagery requirements nominations interactively via networked RMS or RMS-supported workstations. The nominations are automatically transferred to the appropriate review authority, and upon approval, tasking data is transmitted by RMS to the collectors, production and dissemination organizations, and exploitation centers.

RMS is a sensitive compartmented information (SCI)-high system. Major components include a fileserver, tape library system, access server for remote troubleshooting, an ASCII terminal, a network laser printer, and the workstation itself. RMS connectivity requirements include the Joint Worldwide Intelligence Communications System (JWICS), Automatic Digital Network, SCI communications network, site local area networks (LANs), and national site LANs.

2003. Joint Collection Management Tools

The Joint Collection Management Tools (JCMT) is the standard software used by all collection requirements managers within the Department of Defense (DOD). It provides tools for recording, organizing and tracking intelligence collection requirements for all intelligence disciplines.

JCMT assists the collection manager to allocate collection requirements to collection assets and to plan collection strategies. Its tools include feasibility models, status matrices, look-ahead tools, schedule timelines, and track and coverage displays. Once the collection manager has determined which asset types are most appropriate, JCMT will assist the generation of tasking/requests appropriate for the requirement.

A key feature of JCMT is the automated support it provides to a collection manager to ascertain the status of requirements that have been forwarded to other organizations for action. This feedback mechanism is currently possible so long as organizations are willing to place their requirements registries on Intelink.

JCMT also provides automated support for a collection manager to review selected discipline reporting to determine whether existing data might satisfy the collection requirements. If acceptable data are not available, JCMT's various databases and platform/sensor models can be queried for data about asset capabilities and availabilities. This allows a collection manager to determine if existing collection missions are adequate or whether new collection is required. JCMT also supports the collection manager to develop collection plans and generate tasking and request messages.

When intelligence information is returned from collection assets or preprocessors, JCMT can automatically correlate selected key words in these responses (e.g., basic encyclopedia number, place or unit name, etc.) with the requirements that generated them. In this way, the collection manager can evaluate the satisfaction of requirements and the effectiveness of collection activities.

2004. Community On Line Intelligence System for End Users and Managers

The Community On Line Intelligence System for End Users and Managers (COLISEUM) is a Defense Intelligence Agency automated intelligence production/requirements management system. It provides the MAGTF with the capability to conduct on-line research of the COLISEUM database to determine if intelligence products exist that will satisfy their operational intelligence requirements and to obtain copies through INTELINK. If no such product exists, COLISEUM can then determine if there is an existing production requirement covering the issue. If no requirement can be found, COLISEUM facilitates the registration and validation of new production requirements, and the assignment and scheduling of production. It also provides the capability to track and manage overall production activities across operational and national intelligence planners and consumers.

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Part III

Collection, Processing, and Exploitation

Collection is the gathering of intelligence data and information to satisfy the identified requirements. The collection phase encompasses assembling relevant information from sources that are already on hand or available from other intelligence organizations: intelligence databases, studies, maps, and a workbook or situation map. Collection is normally considered those activities of organic, attached, and supporting intelligence collection assets that gather new data and deliver it to the appropriate processing or production agency.

Processing and exploitation is the conversion of collected data into information that is suitable for the production of intelligence. Processing is largely a technical function that does not add meaning to the data but is necessary to convert the data into a form that people can understand. Examples of processing include developing a piece of film, translating a document or communications intercept from a foreign language, or converting electronic data into a standardized report that can be analyzed by a system operator. Some types of data require minimal processing; they may be collected in a form that is already suitable for production. Processing may also take place automatically during collection. Other types of data require extensive processing, which can affect the timeliness and accuracy of the resulting information. In addition to processing, during this phase data may be further exploited to gain the fullest possible advantage. For example, an aerial photograph or a frame of unmanned aerial vehicle (UAV) video may be exploited by imagery interpreters to identify specific pieces of equipment or measure the dimensions of structures found on that image.

Although collection and processing/exploitation are two distinct steps in the intelligence cycle and require different activities, they are frequently supported by the same C2 systems. To avoid duplication, both steps and their supporting systems are addressed simultaneously in this section of the pamphlet. The discussion is further broken down into the primary types of intelligence data used to produce tactical intelligence. The IAS is addressed separately because it can support all types of intelligence.

3001. Imagery Intelligence

Imagery intelligence (IMINT) is intelligence information derived from the exploitation of collection by visual photography, infrared sensors, lasers, electro-optics, and radar sensors such as synthetic aperture radar wherein images of objects are reproduced optically or electronically on film, electronic display devices, or other media.

a. Pioneer Unmanned Aerial Vehicle

The Pioneer UAV system provides real-time intelligence and reconnaissance capability to the field commander. This highly mobile system provides high quality video imagery for artillery or naval gunfire adjustment, battle damage assessment, and reconnaissance over land or sea. The Pioneer is capable of both day and night operations using the TV or the forward looking infrared cameras respectively. It is often used to confirm high-priority mobile targets first detected by other collection assets.

b. F/A-18 (Reconnaissance Capable)

The F/A-18D and F reconnaissance capable (RC) aircraft is currently being developed by the U.S. Navy as a land/carrier based IMINT collector. The F/A-18 (RC) will be equipped with the advanced tactical airborne reconnaissance system (ATARS) and the Radar Upgrade Phase II with synthetic aperture radar (SAR). The F/A-18 RC will be the Marine Corps follow-on tactical platform to the RF-4. The results of collection will be digitally disseminated to a Joint Service Imagery Processing System (JSIPS) for exploitation. JSIPS-N will be deployed on each of the Navy aircraft carriers as well as the large-deck amphibious ships (i.e., LHA and LHD).

c. Advanced Tactical Air Reconnaissance System

ATARS is a real-time digital package providing day/night, under the weather overflight capability. Radar Upgrade Phase II will provide real-time digital, long range, all-weather SAR capability. ATARS is designed to provide U.S. Marine Corps F/A-18D aircraft the capability to fulfill the airborne tactical reconnaissance role left open upon the retirement of the RF-4. It will provide near real time high resolution digital imagery in day, night, or under-the-weather conditions.

ATARS possesses unique capabilities that will provide a commander with timely imagery, including day and night infrared electro-optic, and all-weather SAR intelligence collection. ATARS currently provides digitally-formatted reconnaissance data via mission tapes downloaded upon landing for processing, exploitation, and dissemination. Additionally, it provides an all-weather capability. The imagery collected by ATARS provides sufficient detail and accuracy to permit delivery of appropriate air and ground weapons, assist with battle damage assessment, and provide tactical commanders with information about the enemy.

d. Joint Service Imagery Processing System

JSIPS is the common DOD ground station which receives, processes, exploits, and disseminates time sensitive all source imagery products and imagery derived intelligence reports. The Navy version (JSIPS-N) is a shipboard imagery exploitation system with the capability to receive, process, exploit, store, and disseminate imagery, imagery-derived products, and imagery reports based on multi-source imagery. The primary mission of JSIPS-N is to assist strike planners, tactical aviators, and Marine Corps amphibious planners in the delivery of precision ordnance on target. Secondary missions of the system are to provide near-real-time imagery and support to fleet intelligence assets, and to support primary exploitation and dissemination of tactical organic and theater IMINT products. The JSIPS-N will be installed in intelligence and mission planning spaces of all aircraft carriers (CVs/CVNs), large deck amphibious ships (LHAs/LHDs) and fleet flagships (AGFs/LCCs).

e. Tactical Exploitation Group

The tactical exploitation group (TEG) is a highly mobile MEF-level imagery exploitation system. It receives, processes, screens, and exploits ATARS, theater SAR imagery, or secondary imagery received from mission tapes or datalink. The TEG allows the operator to identify pre-planned or targets of interest recorded on ATARS mission tapes. Integrated with the IAS, the TEG can transmit imagery intelligence products (softcopy imagery textual reports) to the MEF IAS or to subordinate commands for fusion and analysis with other intelligence data. The TEG can transmit and receive imagery from the Marine Corps imagery support unit (MCISU) via digital tactical backbone communication systems. A tactical datalink will be integrated with the TEG to provide near real-time reception of ATARS and theater SAR imagery.

f. Marine Corps Imagery Support Unit

The MCISU provides national imagery analysis support to the operating forces, supporting establishment, and other commands as directed. MCISU is physically located at Camp Pendleton, California and is under the administrative control of the 1st Intelligence Battalion. As the sole source of primary national imagery receipt, processing and exploitation for the Marine Corps, the MCISU receives its operational tasking through the Marine Corps Intelligence Activity (MCIA). It is responsible for production of imagery and imagery-derived products based on the exploitation of national imagery. The MCISU complements and supports the full range of imagery exploitation and production requirements of the analysis and production (A&P) cell at the supported MAGTFs. Products may be posted to an imagery server for electronic retrieval, or disseminated directly via electronic means. The key resource utilized by the MCISU is the joint service imagery processing system, national input segment.

3002. Human Intelligence

Human intelligence (HUMINT) is intelligence derived from information collected and provided by human sources. HUMINT operations cover a wide range of activities, including reconnaissance patrols, air-crew reports and debriefs, debriefing of refugees, interrogations of prisoners of war, and the conduct of counterintelligence (CI) force protection source operations. Principal dedicated HUMINT resources are ground reconnaissance units; the CI and interrogator-translator (IT) assets of the MEF CI/HUMINT company; and national, theater, and other-Service HUMINT elements. In addition, all Marines participating in an operation can obtain significant information about the threat and environment. HUMINT can provide insight into intangible factors such as tactics, training, morale, and combat effectiveness that cannot be collected by technical means (IMINT or signals intelligence [SIGINT]) and offers the best potential source about the enemy's future plans and intentions. It can also provide significant intelligence information on enemy movements and activities.

a. Defense Counterintelligence Information System

The Defense Counterintelligence Information System (DCIIS) is a DOD system which automates and standardizes CI functions at all command

echelons. DCIIS contains standardized DOD forms (for CI investigations, collections, operations, and analysis and production) and shared CI databases. DCIIS also contains supplemental forms to satisfy tactical reporting requirements of Marine and Army CI elements. DCIIS is interoperable with JDISS and other intelligence systems. Communications connectivity is through the SECRET Internet Protocol Routing Network (SIPRNET).

b. CI/HUMINT Automated Tool Set

The AN/PYQ-3 CI/HUMINT Automated Tool Set (CHATS) consists of hardware and software designed to meet the unique requirements of MAGTF CI/HUMINT elements. Operating up to the SECRET level and using the baseline DCIIS software suite, the system provides the capability to manage MAGTF CI assets and analyze information collected through CI investigations, interrogations, collection, and document exploitation. With CHATS, CI units may electronically store collected information in a local database, associate information with digital photography, and transmit/receive information over existing military and civilian communications. CHATS provides these functions primarily with commercial-off-the-shelf software operating in a laptop computer within a hardened transport case.

3003. Signals Intelligence

SIGINT is intelligence information derived from the interception, processing, and analysis of foreign communications, noncommunications electronic emissions, and instrumentation signals. SIGINT is provided by the radio battalion; the Marine tactical electronic warfare squadron (VMAQ); and an integrated network of national, theater, and joint force SIGINT support agencies. SIGINT provides timely and accurate data on enemy forces that may include details on enemy composition, identification, and location; it can also give insight into the enemy's current status and activities as well as future intentions. SIGINT is one of the primary means for providing indications and warning (I&W) of enemy actions. It is also a principal contributor to intelligence support to command and control warfare through its analysis and exploitation of the enemy's C2 system.

a. Mobile Electronic Warfare Support System

The AN/MLQ-36 Mobile Electronic Warfare Support System (MEWSS) provides a multifunctional capability that gives SIGINT electronic warfare

(EW) operators limited armor protection. This equipment is ideally suited to provide SIGINT EW support for highly mobile mechanized and military operations in urban terrain where maneuver and/or armor protection is critical. The MEWSS comprises a signals intercept system, a radio direction finding system, an electronic attack (EA) system, a secure communications system, and an intercom system installed in a logistics variant of the light armored vehicle (LAV)-25. Electronic warfare support activities are accomplished through the use of two WJ-8618B(S1) acquisition receivers and the WJ-32850 MANTIS direction finding system. EA activities are conducted with the AN/ULQ-19(V) electronic attack set.

b. Technical Control and Analysis Center

The AN/TSQ-130(V)2/(V)5 technical control and analysis center (TCAC) is an all-weather, tactical, transportable, SIGINT-processing, analysis and reporting system installed in a large, self-contained, modified S-280G shelter. TCAC is the primary analytical system used by the radio battalion SIGINT support unit. It is capable of performing semiautomated-SIGINT collection management, data base maintenance, analysis, technical and tactical reporting, and SIGINT technical control of forward deployed radio battalion elements or teams.

c. EA-6B

The EA-6B Prowler aircraft is the base platform for airborne SIGINT collection systems. The four VMAQ squadrons are the only units fully capable of performing airborne electronic reconnaissance. VMAQ squadrons normally support the air reconnaissance missions with six aircraft; however, the situation and size of the MAGTF may dictate additional aircraft or detachments. The VMAQ aircraft are employed to perform electronic protection, electronic support, and EA. The VMAQ aircraft also process and disseminate information from digital tape recordings obtained during EW missions to update and maintain enemy electronic OOB and for use in subsequent air operations. The EA-6B is capable of suppressing enemy air defense or conducting escort or standoff jamming in support of strike aircraft as they enter and exit threat corridors during approaches to target areas. The EA-6B system is limited by the accuracy of the collection sensor location data. Additionally, the sensors are passive systems which require the threat emitters to be active in order to collect.

d. Tactical Electronic Reconnaissance Processing and Evaluation System

The AN/TSQ-90D(V) Tactical Electronic Reconnaissance Processing and Evaluation System (TERPES) has the capability to process EA-6B information recorded in flight during operational missions. This data contains emitter position, identification and parametric information. A tactical intelligence database is maintained and electronic intelligence (ELINT) analysis support is provided to determine the nature of the enemy threat and plan combined arms operations. Collected intelligence data and multi-source information serves as the primary source of ELINT and EW data for intelligence fusion, command and control, and DOD tactical mission planning systems.

TERPES develops, maintains and distributes a tactical electronic OOB. It assists the SIGINT analysts in providing EW analysis and reporting. Data link or secure voice interfaces allow rapid dissemination of information to requesting units. Outputs are in electronic message formats, hard copy, or electronic media.

3004. Measurement and Signature Intelligence

Measurement and signature intelligence (MASINT) is intelligence information gathered by technical instruments such as radars, passive electro-optical sensors, radiation detectors, and remote ground sensors. Although the primary tactical application of these devices is to collect sensor data, which is generally provided directly to operations centers for immediate decisionmaking, the data collected can also provide significant intelligence information on enemy movements and activities. Key MAGTF MASINT capabilities are remote ground sensors, weapons locating radars, and air surveillance radars. These sensors provide an efficient means to maintain surveillance over large portions of the battlespace. Their limitations include the logistic support required to maintain the equipment, the requirement to place the sensors in proximity to the surveillance area, and the exploitable electronic signatures associated with some of the sensors.

The tactical remote sensor system (TRSS) provides the capability to establish an integrated sensor network in support of the MAGTF intelligence collection plan. TRSS equipment includes a variety of hand-

emplaced and air-deliverable sensors, ground relays, and portable and mobile monitoring devices. Monitoring equipment receives data from sensors and relays, processes the data to derive the maximum amount of information, and generates an automated sensor report. Sensor operators verify the reports and disseminate them to the appropriate agency. TRSS uses two types of monitoring equipment: the sensor mobile monitoring system and port-able monitors. Both can receive, decode, and display sensor data from Marine Corps and Army sensors.

a. Joint Surveillance, Target Attack Radar System

The Joint Surveillance, Target Attack Radar System (Joint STARS) is a long-range, air-to-ground surveillance system that locates, classifies and tracks ground targets in all weather conditions. In virtually any weather, in real-time, Joint STARS can look deep to detect and track ground movements in both forward and rear areas. It has a range of more than 150 miles (250 km) and can cover an estimated 386,100 square miles in a single eight-hour sortie.

The radar's fundamental operating mode is the wide area surveillance and moving target indicator (WAS/MTI). WAS/MTI is designed to detect, locate and identify slow-moving targets. Through advanced signal processing, it can differentiate between wheeled and tracked vehicles. By focusing on smaller terrain areas, the radar image can be enhanced for increased resolution display. This high resolution is used to define moving targets and provide combat units with accurate information for attack planning.

The SAR/fixed target indicator (FTI) produces a photographic-like image or map of selected geographic regions. SAR data maps contain precise locations of critical non-moving targets such as bridges, harbors, airports, buildings, or stopped vehicles. The FTI display is available while operating in the SAR mode to identify and locate fixed targets within the SAR area. The SAR and FTI capability used in conjunction with MTI and MTI history display allows post-attack assessments to be made by onboard or ground operators following a weapon attack on hostile targets.

b. Counterbattery Radars

Counterbattery radars are mobile radars that detect and accurately locate enemy mortars, artillery, and rockets, permitting rapid engagement with

counterfire. These systems detect and track a projectile in flight, rapidly locating both the point of impact and the firing or launch position. Once the firing position is acquired, the type of weapon and its location is sent digitally to the target processing center at the artillery regiment. Information concerning enemy order of battle (OOB) and locations derived from counterbattery radar detections, or hits, are reported via intelligence systems and communication nets to higher, adjacent and subordinate headquarters.

There are two counterbattery radars operated by the counterbattery radar platoon of the artillery regiment's headquarters battery. The AN/TPQ 46A has a range of 750 meters to 24 kilometers and is primarily focused on high-trajectory indirect fire systems such as mortars. This system is mounted in high mobility, multipurpose wheeled vehicles (HMMWVs) and can rapidly emplace and displace. It can be transported in C-130 aircraft. The AN/TPQ 37 is similar to the Q-46 but is considerably larger and has a range of 50 kilometers. It is primarily used to detect the enemy's lower trajectory artillery and rocket systems. This system is mounted on trailers towed by 5 ton trucks.

3005. Intelligence Analysis System

The IAS serves as the principal node of the MAGTF intelligence effort. IAS is an automated intelligence collection and fusion system, compatible with the JDISS systems which form the foundation for Joint Intelligence Centers (JICs) and deployable joint task forces. IAS assists in the requesting of national, theater, and tactical collection assets. IAS itself contains a limited automated collection management tool for organic intelligence collection assets. IAS is fielded at the MEF through battalion and squadron levels, in tiered configurations.

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Part IV

Production

Production is the activity that converts information into intelligence. It involves the evaluation, interpretation, integration, analysis, and synthesis of all information that is relevant to a particular IR to answer the question that has been asked. Production fuses new information and existing intelligence from all sources to provide meaningful knowledge that can be applied to the decisionmaking process.

4001. Intelligence Analysis System

IAS can automatically filter incoming messages according to specified parameters such as location, time, and type of report. IAS can also speed the process by correlating incoming information to existing unit tracks within the database. The system operator must continually review the filtering parameters and assess if the system is filtering the information effectively.

The automated functions of IAS greatly assist the maintenance of an enemy situation map. Different scale views of the battlefield can be obtained by zooming in and out through various maps. The number, size, and types of enemy units displayed can be changed quickly by the operator to enhance the visualization of the information. Information concerning last report, location, etc can be called up by clicking on the unit of interest. Electronic “overlays” can be forwarded to other IAS users or to systems such as the tactical combat operations (TCO) system for display. Information can be easily displayed for briefings using large-screen displays. With robust communications connectivity, a “common picture of the battlespace” can be shared in rear-real time with users at separate locations. Some limitations, however, are available communications bandwidth and the size and quality of the information in the data base.

The IAS can parse portions of incoming messages into numerous sections of an electronic data base/workbook simultaneously, based on the

operator's selections. Used properly, this capability can significantly streamline the maintenance of an intelligence workbook.

IAS provides automated recording and analytical tools. Tailored OOB overlays based on available database information can be generated. Taking a subset of an existing data base produced at the national and theater level such as the modernized integrated data base (MIDB), IAS can automatically receive, filter, parse, collate, update, and display threat-related data. That data can be manipulated to provide the functionality of the intelligence journal, enemy situation map, workbook, OOB overlays, OOB files, and target files. Desktop applications software can be used to generate spread sheets for strength tabulations and other types of files.

4002. Topographic Production Capability

The topographic production capability (TPC) is a network of geographic information systems that allows the topographic platoon to receive, process, exploit, analyze, produce, disseminate, store, and retrieve geospatial information with higher, adjacent, and subordinate units. The TPC will be employed in command posts and combat intelligence centers, connected via a MAGTF tactical data network (TDN), the United States Imagery and Geospatial Information System and the Global Command and Control System (GCCS). The TPC is comprised of state-of-the-art hardware, software and input/output devices combined to provide automated access to the geospatial database. It will significantly reduce the physical size and logistical footprint of the existing topographic platoons equipment suite. Mission unique functions will be pull-down menu or icon based, point and click selectable from every workstation. TPC hardware components will be modular and man-transportable. The TPC gives the topographic platoon the ability to conduct terrain analysis, combining digital data with the results of tactical aerial and ground reconnaissance and weather factors into finished terrain studies. Products include tailored terrain, littoral, and infrastructure studies and terrain factor overlays. TPC can be scaled up or down, dependent on the type of mission, in one of three configurations:

- **Topographic Set.** The topographic set (TOPOSET) with a client-server deploys with the MEF command element. It maintains connectivity to the combatant command's JIC or joint analysis center

(JAC), Geospatial Analysis Branch (MCIA), and other topographic platoons via the GCCS and MAGTF command, control, communications, computers, and intelligence (C4I) networks. A single cluster (with multiple workstations) can be deployed with the lead echelon of the MEF command element deploying to a JOA.

- **Digital Terrain Analysis Mapping Set.** A digital terrain analysis mapping set (DTAMS) is generally organic to a terrain analysis support team that may be attached to or placed in direct support of the major subordinate command's intelligence sections. Capabilities and connectivity are similar to TOPOSET.
- **Geospatial Information and Replication System.** A single geospatial information and replication system is generally organic to the terrain analysis team that is attached to a MEU(SOC) command element. Again, capabilities and connectivity are similar to TOPOSET and DTAMS.

4003. Community On Line Intelligence System for End Users and Managers

COLISEUM is the core module of a national intelligence production management system for validating requirements, deconfliction and assignment for DOD. The COLISEUM database provides a central repository for each production site's specific information. Production centers use COLISEUM to register product information which is generated for one or more production requirements. Production centers can then use COLISEUM to perform production deconfliction, production scheduling, and assess production shortfalls. Management uses COLISEUM and the information in the various databases to generate several types of reports. These reports are used to determine bottlenecks in the production requirement or production process.

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Part V

Dissemination

Dissemination involves establishing dissemination priorities, selecting dissemination means, and monitoring the flow of intelligence throughout the command. The objective of dissemination is to deliver the required intelligence to all appropriate users in the proper forms, at the right times, while ensuring that individual users and the dissemination systems are not overloaded by irrelevant intelligence and information. The dissemination system must ensure sufficient streamlined communications and information systems (CIS) connectivity with all supporting intelligence resources and be integrated with internal intelligence as well as the broader operational C2 structure. With the fielding of numerous operational and intelligence-related automated systems, as well as the challenges of joint, combined, and allied operations, MAGTF intelligence dissemination has become a complicated endeavor.

The CIS architecture must integrate all production elements' C2 and supporting CIS operations (to include both general service (message) (GENSER) and SCI communications) with the primary CIS channels of all supported commanders. In addition to transmitting imagery, geographic intelligence (GEOINT), and other intelligence products with large data files, the dissemination requirement includes the capability to disseminate SCI and GENSER all-source and intelligence discipline unique reports digitally via fiber-optics, wire, or radio formats; and the capability to disseminate products in voice formats.

The intelligence battalion command section headquarters provides the core C2 for MEF intelligence dissemination operations. The key CIS resources are IAS and JDISS. They require access to the full range of communications (SIPRNET, various TDNs, Defense Secure Network [DSNET], JWICS, etc.) for external dissemination; and IAS via the MEF TDN and other communications resources for internal dissemination.

5001. Intelligence Analysis System

IAS is the central node and workstation in the dissemination of intelligence products throughout the MAGTF. When used with the TROJAN Special Purpose Intelligence Remote Integrated Terminal (SPIRIT) II (TS II) and the TDNs, IAS is the link between the intelligence analyst, the major subordinate commands, and the theater and national intelligence activities. The IAS workstation is the terminal used to access all of the networks described in the following sections.

5002. Secondary Imagery Dissemination System

The manpack Secondary Imagery Dissemination System (SIDS) device provides the capability to electronically collect, manipulate, transmit, and receive imagery products throughout the MAGTF, as well as to adjacent, higher, and external commands and other theater commands, and to receive secondary national collector's imagery. The MAGTF SIDS software is resident in all versions of the IAS.

5003. TROJAN Special Purpose Intelligence Remote Integrated Terminal II

The AN/TSQ-190(V) TSII is a mobile super-high frequency satellite communications (SATCOM) system that uses commercial or military satellites to receive, transmit, and process secure, voice, data, video teleconferencing (VTC), and facsimile communications. TSII will receive, display, and transmit digital imagery, weather and terrain products, templates, graphics and text. TS II provides 14 channels of digital voice or data (eight SCI and six GENSER). LAN communications are supported by SCI and GENSER ethernet. Routers provide access to the SIPRNET, JWICS, National Security Agency platforms, and the defense SATCOM system. These capabilities provide the necessary dedicated communications for coordinating MAGTF SIGINT and other intelligence operations. Additionally, early entry into the TROJAN network can be gained through the use of the TSII Lightweight Integrated Telecommunications Equipment. This equipment suite provide the same basic capabilities as TSII, but it only requires two-person transport and can be set-up in 30 minutes.

5004. Joint Deployable Intelligence Support System

The JDISS is an all-source automated intelligence tool that is the principle means of disseminating and receiving intelligence among joint forces. Within the MAGTF, a JDISS capability is organic to the MEF and its major subordinate commands, and can be emulated via other systems at lower units. JDISS connectivity is available at both the GENSER (via SIPRNET) and SCI (via JWICS) levels. JDISS is a multi-user, multi-tasking, Unix-based system that provides intelligence personnel with SIDS, interactive analytical text exchanges (chat and email), access to national databases/host machines, and word processing and graphics support. JDISS employs a transportable workstation and communications suite that electronically extends a JIC to a joint task force and other tactical users.

5005. Joint Maritime Command Information System

The Joint Maritime Command Information System (JMCIS) is an automated C4I system designed to meet tactical forces specific situation assessment, information fusion, and dissemination needs. Its core software package contains track database and correlation management, communications interfaces, message processing, relational database management and tactical display capabilities. The unit's specific needs will determine additional applications and the level of information security (i.e., SCI or GENSER) required. Additional intelligence applications include Naval Intelligence Processing System archiving and querying; JDISS integration; collection management; and a SCI sanitizer.

5006. Joint Worldwide Intelligence Communications System

JWICS is the major SCI data network component of the Defense Information Systems Network (DISN). It operates continuously to meet the requirement for secure (top secret, SCI), high-speed multi-media intelligence community communications between national intelligence agencies, the combatant commands, and deployed joint task forces. It has both secure data and VTC capabilities.

5007. SECRET Internet Protocol Routing Network

SIPRNET is a worldwide network of internet protocol routers that supports secret applications. It exchanges classified data among GCCS, Defense Message System, contingency theater automated planning system (CTAPS), TCO, IAS, and other tactical information systems. The primary method for secret-level network connectivity is via base secret-level networks which in turn provide base router connectivity to SIPRNET. This secret router layer of the DISN supports national defense C4I requirements, to include communications security keys used with the STU-III to make secure dial-up SIPRNET communications server connections. SIPRNET is primarily used for passing data at the secret-not releasable to foreign nationals (SECRET-NOFORN) classification level. MAGTFs use the SIPRNET both aboard ship and ashore to transfer operational and tactical intelligence data.

5008. Unclassified but Sensitive Internet Protocol Router Network

The Unclassified but Sensitive Internet Protocol Router Network (NIPRNET) is designed for sensitive but unclassified information transfer. It supports unclassified networks such as the Marine Corps Data Network and the Tactical Automated Weather Distribution System. MAGTFs use the NIPRNET both aboard ship and ashore to transfer administrative data.

5009. Tactical Receive Equipment and TRE-Related Applications Program Data Dissemination System

Tactical receive equipment (TRE) and TRE-related applications program (TRAP) provides timely global SIGINT surveillance information for sensor cueing and I&W. SIGINT data is forwarded through sensor communications gateways/relays for dissemination to worldwide military users via geosynchronous ultra high frequency (UHF) satellite links. TRAP data dissemination system data sources include national and tactical sensors. TRE and TRAP monitors are usually located within the intelligence battalion's production and analysis cell and radio battalion's operations control and analysis center (OCAC).

5010. Intelink

Intelink is both an architectural framework and an integrated intelligence dissemination and collaboration service providing uniform methods for exchanging intelligence among intelligence providers and users. The Intelink intelligence network links information in the various classified databases of the U.S. intelligence agencies to facilitate communication and the sharing of documents and other resources. Intelink is set of commercial-off-the-shelf internet tools (browsers and servers) along with policies and procedures that have become institutionalized on the classified networks (SIPRNET and JWICS). Intelink has five networks, each with a different classification level—

- Intelink-U (formerly the Open Source Information System).
- Intelink-C (coalition).
- Intelink-S (secret).
- Intelink-SCI.
- Intelink-P (prohibited).

5011. Video Teleconferencing

Higher echelons use VTC with increasing frequency. Within the operating forces, it is used primarily for MAGTF-to-joint task force/combatant command coordination. Currently, VTC supports only point-to-point conferencing. In the future, multipoint conferencing will also be supported.

5012. Tactical Transmission Methods

Traditionally single-channel radios and record message traffic have been used to support C2 of MAGTF intelligence units, particularly below the major subordinate commands. At the Marine Corps component, MAGTF, and major subordinate commands, high capacity communications networks now are the principal means supporting intelligence production C2, operations, and product dissemination. In semi-static situations, secure e-mail or telephone will also provide significant communications capabilities, while in highly fluid or mobile scenarios, cellular, SATCOM, and very high frequency (VHF) and high frequency (HF) radio may be used.

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Part VI

Utilization

Intelligence has no inherent value; its value is realized through its support to operations. Thus, the intelligence cycle is not complete until the intelligence that has been developed is used in decisionmaking during planning or execution. The utilization phase is also the basis for the continuous functioning of the intelligence cycle. Utilization will determine whether a requirement has been completely satisfied. Requirements that have not been met will require additional intelligence development efforts. Additionally, the satisfaction of one requirement may generate new or additional requirements, the answers to which are needed to further refine or focus the decisionmaking process. In either case, utilization provides guidance and feedback used to initiate the next iteration of the cycle.

6001. Intelligence Analysis System

The IAS is the primary C2 tool used by the intelligence officer to ensure that the intelligence developed is used in decisionmaking during planning and execution. Using the previously described capabilities, the IAS gives the intelligence officer the ability to supervise the entire intelligence development effort, as well as assist the commander and the staff in understanding the intelligence product and its application. The IAS will assist in determining whether a requirement has been completely satisfied and initiate new intelligence development if the requirements have not been met. In either case, the IAS facilitates the development of guidance and feedback necessary to initiate the next iteration of the intelligence cycle.

6002. Tactical Combat Operations System

The TCO system is the primary information system supporting maneuver. TCO provides commanders and staffs with shared situational awareness based on an integrated picture of the battlespace. This common picture is

supported by the collection, processing, integration, and analysis of data from the IAS. However, there is no automated method to transfer this information to the TCO. Through the common operating picture/common tactical picture, the commander and his staff gain an understanding of the situation and act on that understanding. The TCO system supports utilization by allowing the commander and his staff to monitor the collection and production of intelligence, assess results, and act based on the changed situation.

Future enhancements to the TCO system will provide automated support for the development of courses of action and the preparation and dissemination of operation plans (OPLANs) and OPORDs, including overlays that are geographically referenced to an electronic map. The TCO system supports the operations sections of all MAGTF units of battalion/squadron size and larger as well as planning sections at the MEF level. The system consists of computer workstations operating at the secret level on multiple LANs interconnected on the SIPRNET.

Appendix A

MAGTF Intelligence Systems

This appendix discusses a number of systems the Marine Corps uses, which provide valuable information to the G2 section. These intelligence systems support the timely planning, collection, processing, production, and dissemination of all-source intelligence. In addition, these systems support the effective employment of reconnaissance, surveillance, and target acquisition resources.

Although many of the MAGTF C4I systems use UNIX software, new items being developed are based on Windows NT®. Both IAS and TCO workstations are transitioning to a common PC-based Windows NT® environment. All systems will be defense information infrastructure (DII) common operating environment (COE) MAGTF C4I compliant.

A-1. Intelligence Analysis System

IAS is the principal Marine Corps intelligence information system. The IAS provides semi-automated intelligence support to operations, all-source intelligence fusion at all command levels, and current information on the enemy, weather and terrain. It facilitates timely information access; efficient imagery and local intelligence data fusion; rapid tactical intelligence production and dissemination; and access to joint, theater and national intelligence.

IAS will tie into the TDN at all Marine command levels. TDN will provide IAS the communications backbone, switching, and data routing to SIPRNET. TDN will be fielded throughout the Marine Corps beginning in calendar year 2000. There are three tiers of the IAS:

- **MEF Intelligence Analysis System.** Each MEF IAS consists of two HMMWVs with mounted shelters, trailers, tents, computer equipment, peripheral devices, and other miscellaneous equipment. Each shelter (two total) has a database server, communications server

(SunSparc 20) and communications interface equipment. Remoted to the tent are 4 workstations (8 total) and peripherals. There are 7 fielded IAS shelters at the MEF level.

- **Intelligence Analysis System Suite.** The IAS suite contains HP 712 UNIX computers configured as both servers and workstations. These suites are portable, but are less capable in the communications interface than the IAS shelters at the MEF. There are two versions of the IAS suite. The V1 has two CPU boxes with duty as both servers and workstations. One is the *intelligence shared data* server and the other is a *track management services* server. The V2 has the same configuration with two additional workstations. There are 70 IAS suites fielded at the Marine divisions, Marine aircraft wings, force service support groups, MEUs, regiments and Marine aircraft groups.
- **Intelligence Operations Workstation.** The intelligence operations workstation (IOW) is built around the IBM Thinkpad 770® laptop computer. The IOW is portable but has only a single channel communications interface. It runs the Windows NT® system and has a wide variety of peripheral devices. Besides the standard Windows software, it has Microsoft® Internet, is a Windows NT® server, an information server and is a command and control personal computer (C2PC) intelligence client. It also contains the ELT 3500 for imagery access and processing. The 300+ IOW laptops were originally fielded at the battalion level, but are now at all echelons.

IAS uses Marine common hardware suite (MCHS) equipment and will transition to the DII COE. IAS hosts the SIDS, and links are planned with other intelligence systems at the national (DOD Intelligence Information Systems), theater, and tactical (including TCAC, TERPES, and JSIPS) levels.

A-2. MAGTF Secondary Imagery Dissemination System

The SIDS is a man-packed device which provides the capability to electronically collect, transmit, and receive imagery products throughout the MAGTF, in addition to adjacent, higher, and external commands. The MAGTF SIDS uses MAGTF communications networks and it complies fully with the national imagery transmission format Version 2.0 and the

Tactical Communications Protocol. Two SIDS configurations have been fielded. One configuration is hosted on the IAS; the other is a standalone man-packed configuration. An analyst can use both configurations to display, annotate, manipulate, transmit, print, and receive images on a multipurpose workstation.

A-3. Tactical Control and Analysis Center Product Improvement Program

The TCAC product improvement program (TCAC PIP) is part of the radio battalion. It provides a fully capable SIGINT processing, production, and dissemination system (and other C2 information systems). TCAC PIP is shelter-mounted on a heavy variant HMMWV. It includes three SUN workstations, two SUN servers, and five radios (one HF, two VHF, one UHF, and one UHF SATCOM). TCAC PIP provides enhanced overall control and management of SIGINT assets. Additionally, its automated processing, analysis, and reporting capability aid in developing and disseminating SIGINT products. Timely, fused, and filtered SIGINT products are provided to MAGTF commanders, usually through the MAGTF all-source fusion center (MAFC).

A-4. Joint Surveillance Target Attack Radar System

The U.S. Air Force has the Joint STARS aircraft, which provides the MAGTF commander with a near-real-time surveillance information and battlespace situational awareness. Joint STARS detects and tracks moving and stationary ground forces in the area of operations, both enemy and friendly. Access to this theater asset aids a number of activities such as: target acquisition and identification, postattack combat assessment, I&W, cueing/cross-cueing among intelligence collectors, operations planning and execution, and pattern analysis/intelligence fusion.

Joint STARS has two major components: the U.S. E-8C aircraft and the common ground station (CGS), which provides connectivity to the aircraft. The sensor suite provides target detection and tracking through MTI, FTI, and SAR data. The aircraft transmits data sets to the CGS via a surveillance control data link. The CGS terminates the surveillance control data link and

allows the operators to process and manipulate the sensor data sets. The MAGTF will have up to four CGS remote workstations to simultaneously receive the Joint STARS picture. These CGS workstations may be located in the MAFC, the current operations cell, the future operations cell, the force fires coordination center, or other C2 nodes. The MAFC should serve as the principal node for correlating, analyzing, and interpreting Joint STARS information and for disseminating it to subordinate units.

Future Joint STARS improvements include full data sets (MTI, FTI, and SAR imagery), fused intelligence, track database information, and contact and track data information. This information will be available throughout the MAGTF down to regiment/aircraft group levels via IAS, TCO, and the Advanced Field Artillery Tactical Data System by using the TDN backbone.

A-5. Mobile Electronic Warfare Support System Product Improvement Program

The MEWSS product improvement program (MEWSS PIP) is a LAV mounted platform found within the radio battalion. It provides SIGINT/EW support to a wide variety of missions, including LAR operations. The MEWSS PIP provides the radio battalions with an upgraded SIGINT/EW suite. The MEWSS PIP is a wide-band intercept system that provides the ground commander with a mobile SIGINT/EW system capable of operating in a variety of tactical situations. It is a multi-Service, open-systems architecture developed by the Marine Corps and the Army. The MEWSS PIP is completely interoperable with Army's intelligence and electronic warfare common sensor system, thereby allowing cooperative engagement and data sharing.

The MEWSS PIP provides a complete picture of the enemy electronic OOB and state of the art electronic warfare support measures. The system contains three primary mission subsystems that are also part of the Army's Intelligence/EW Common Sensor program. The primary mission subsystems consist of communications intelligence (COMINT), and ELINT, and a precision location system. The COMINT system provides intercept, collection, and geolocation across a broad frequency range and a capability against a variety of modern threat communications emitters. The ELINT system provides interception, identification, and geolocation of non-

communications emitters, including counter-battery and battlefield radar. The precision location system locates communications emitters to within targeting accuracy. The MEWSS PIP system also includes an EA module that is capable of “smart” and conventional jamming.

A-6. Tactical Electronic Reconnaissance Processing and Evaluation System

TERPES supports the reception, processing, evaluation, and dissemination of electronic reconnaissance information from EA-6B aircraft and other theater and national ELINT assets. Data is received from EA-6B aircraft by data links, magnetic tape, and crew logs. TERPES also supports EA-6B mission planning, briefing, and debriefing and generates intelligence for strike mission planning. TERPES fuses data from EA-6B missions with information from other national and theater sources to update the electronic OOB and passes intelligence to the IAS for further processing and dissemination. TERPES is housed in one 8-foot by 8-foot by 20-foot shelter that is dedicated to mission analysis, mission planning, and mission support. It may be transported in a variety of ways to include commercial or tactical ground vehicle, shock-mounted air-ride, aircraft, or an attachable mobilizer for short distances.

A-7. Tactical Combat Operations System

The TCO system is considered a maneuver information system. However through proper track management of the data placed in TCO, it provides timely information on friendly and enemy units to help commanders and their staffs conduct operations planning and make critical C2 decisions. TCO aids in processing and fusing tactical information to form a common picture of the battlefield (see MSTP Pamphlet 6-2 for more details). The TCO system supports the development of COAs and the preparation and dissemination of OPLANs and OPORDs, including overlays that are geographically referenced to an electronic map.

The TCO system consists of computer workstations operating at the secret level on multiple LANs interconnected on the SIPRNET through MAGTF communications networks. TCO system components include the MCHS terminals, the tactical communications interface module for radio interface, and LAN equipment.

JMCIS-Afloat and TCO are both built around the JMCIS Unified Build core software. This permits Marine forces embarked aboard Navy ships to “plug in” to the JMCIS-Afloat. Furthermore, because the JMCIS Unified Build served as the baseline for the DII COE, migration of TCO to the DII COE is occurring rapidly. DII COE compliance will provide complete interoperability with GCCS and other DII COE compliant systems.

A-8. Command and Control Personal Computer

C2PC is a Windows®-based software application designed to assist military command and control functions. Used as a stand-alone tool, trained C2PC operators can produce digital overlays and operational graphics for a unit’s use. When connected to a C4I computer network, complete with a tactical database manager, C2PC has the capability to visually depict friendly and enemy unit locations, as well as to transmit intelligence preparation of the battlespace (IPB) products. C2PC has been fielded throughout the Marine Corps down to the battalion level on the IOW. Additionally, any Pentium® 120 MHz computer with 32 megabytes of random access memory can be configured to run C2PC software. (See MSTP Pamphlet 6-5, *The Planner’s Guide to C2PC*, for additional information).

A-9. Pioneer Unmanned Aerial Vehicle

A Pioneer system consists of up to eight UAVs, a ground control station (GCS), a tracking communication unit, a portable control station (PCS), four remote receiving stations, pneumatic launchers, and net or runway arrestment recovery systems. The Pioneer UAV has a mission endurance of over six hours. At sea, Pioneer can be launched from LPD-class ships.

The heart of the Pioneer system is the GCS. This control station directs the UAV throughout the mission from the highly mobile shelter. Whether land-based or installed on-board ship, the GCS aids in mission planning and execution. The GCS consists of three electronics bays manned by two operators. The pilot bay includes all controls and displays required for safe effective operation of the UAV. The observer bay provides control and display of the imaging payloads. The tracking bay displays the UAV position, using data from the tracking communication unit.

The PCS provides the external pilot the ability to control the UAV during preflight, launch, and recovery operations. Easily transportable, the PCS is designed to operate UAVs in a designated launch and recovery area, freeing the GCS for other battlefield assignments.

The small ruggedized remote receiving station provides real-time reception of the UAV video picture at forward locations. This ability allows a commander to have immediate reconnaissance of an operational area.

A-10. Advanced Tactical Air Reconnaissance System

The F/A-18 ATARS is a real-time/near real-time imaging system for image acquisition, data storage, and data link. It consists of the ATARS with infrared and visible light sensors, two digital tape recorders, and a reconnaissance management system; an interface with the APG-73 Radar Upgrade (Phase II) which records SAR imagery; and a digital data link mounted in a centerline pod. ATARS fits in the nose of any post-Lot 14 F/A-18D in place of the nose gun, with a small datalink pod mounted on the centerline station. The digital data link will transmit imagery and auxiliary data to any common imaging ground/surface station compatible system including the JSIPS, Marine TEG based ashore, and JSIPS-N aboard ship.

A-11. Tactical Remote Receiver System

The sensor mobile monitoring system receives, stores, processes, displays, and reports remote sensor reports. A system has two workstations mounted on the back of a HMMWV, each of which can monitor up to 504 sensors. Either one of the monitoring workstations can be displaced from the shelter to provide limited, stand-alone monitoring capability at remote locations. The portable monitor is a hand-held receive/display unit that receives, decodes, and displays sensor identification code transmissions. It is primarily used to perform field operational checks at the sensor implant site. It can be used to monitor sensor activations on a limited basis, but all data received by the portable monitor must be processed manually.

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Appendix B

MAGTF Intelligence C2 Nodes

This appendix discusses a number of the organizations a MAGTF uses to organize the collection, exploitation and processing, production, and dissemination of intelligence for the G2 section. These intelligence organizations use the C2 systems discussed previously in this pamphlet to accomplish their purposes as described below.

B-1. Combat Intelligence Center

The Combat Intelligence Center (CIC) and its subordinate elements is the principal MAGTF intelligence C2 node that provides the facilities and infrastructure for the centralized direction for the MEF's comprehensive intelligence, CI and reconnaissance operations. Since the CIC must effectively support the entire MEF, it must remain responsive to the requirements of all elements of the MAGTF. In supporting this objective, the CIC integrates and supports both MEF G-2 section and intelligence battalion operations. As the overarching intelligence operations center established within the MEF main command post, the CIC includes the sub-elements listed below.

a. G-2 Operations

The G-2 Operations section is responsible for—

- Coordinating and providing intelligence support to the MEF commander, battle staff, and current operations center elements.
- Target intelligence support to the force fires and future operations.
- Intelligence requirements management activities.
- Red Cell support.
- MEF intelligence liaison with external commands and organizations.

b. Intelligence Operations Center

The intelligence operations center performs intelligence requirements management and has staff cognizance of ongoing organic and supporting collection operations, intelligence analysis and production, and intelligence dissemination. It is established by the intelligence battalion. Subordinate to the intelligence operations center are the—

- **Support Cell.** The support cell conducts MEF-wide intelligence requirements management; weather support; collections and dissemination planning and direction; and intelligence staff cognizance of MEF organic and supporting intelligence and reconnaissance operations.
- **Analysis and Production Cell.** The A&P processes and produces all-source intelligence products and is the principal IMINT and GEOINT production element of the MEF.
- **Surveillance and Reconnaissance Cell.** The surveillance and reconnaissance cell directs, coordinates, and monitors intelligence collection operations conducted by organic, attached, and direct support collection assets. Within the cell are representatives from most organic and supporting intelligence and reconnaissance units to provide C2 and reporting of ongoing intelligence operations.

c. G-2 Plans

The G-2 Plans section is the element of the G-2 section responsible for coordinating and providing intelligence support to the MEF future plans team; and leadership and direction of the G-2 section's imagery and mapping, SIGINT, and weather sections.

d. CI/HUMINT Company Command Post

The CI/HUMINT CP conducts CI/HUMINT planning and direction, command and control, and coordinates MEF CI/HUMINT operations with external CI/HUMINT organizations. The CI/HUMINT CP will control HUMINT support team (HST) activities. The HST is a task-organized team comprised of CI and IT personnel. The HST is drawn from the CI/HUMINT company of each of the MEF intelligence battalions. As a hybrid organization, the HST has capabilities and limitations similar to the other HUMINT assets (CI and IT). An HST will generally operate in support of each MAGTF that deploys.

B-2. Red Cell

The Red Cell consists of individuals of various backgrounds and specialties that are brought together temporarily to simulate an enemy during a war game. The Red Cell provides the operational planning team (OPT) with additional detailed information on the enemy, tailored to its planning needs. The Red Cell plays the war game using enemy tactics, weapons, and doctrine. It is a “thinking enemy” and uses operational experience and enemy doctrine to fight against the friendly COAs in the COA war game. While the OPT conducts mission analysis and COA development, the Red Cell is under the staff cognizance of the G-2. During the COA war game the Red Cell is under the staff cognizance of the G-3. It reverts to the control of the G-2 when the COA war game is complete.

Although the Red Cell does not have a table of equipment, it does need some support equipment to operate: a computer, a printer, an overhead projector and access to a copier. The Red Cell should be located close to the OPT to integrate its findings into the planning process.

B-3. Analysis and Production Company, Intelligence Battalion

The A&P company produces and disseminates all-source fused tactical intelligence, IMINT, and GEOINT products in support of the MAGTF, major subordinate commands, and other commands as directed. It conducts the deliberate production effort to satisfy IRs for the entire MAGTF. Using the MEF’s contingency planning priorities, it prepares contingency intelligence studies, estimates, and other products to support MEF OPLANs and contingency plans. The A&P company has the personnel and equipment resources and CIS connectivity to external organizations’ intelligence products and production resources at the national, theater, and Services levels to augment organic capabilities

B-4. Intelligence Direct Support Teams

Two intelligence direct support teams are organic to the A&P company and to each of the major subordinate command’s G-2 sections. They are

designed to allow the MEF or major subordinate commander and their G-2s to focus intelligence support to designated subordinate units, such as fire support or logistics are focused to support the main effort. The teams are made up of six enlisted personnel who have a mix of intelligence specialty skills. Direct support teams provide IR management, analytical, production, and dissemination capability to the supported unit's intelligence section and to link the supported unit to external intelligence support. Direct support teams carry out the following functions:

- Provide an extension of the intelligence battalion's A&P cell or major subordinate command G-2 intelligence operations element for the receipt, collaborative analysis, production, and dissemination of intelligence to the supported unit.
- Tailor higher and external intelligence products to the needs of the supported unit.
- Assist the supported unit's intelligence officer in the formulation and management of external IRs.
- Assist the supported unit in the production of IPB and other intelligence products to support detailed mission planning and execution.
- Augment and enhance the intelligence dissemination efforts of the supported unit's intelligence section

B-5. Imagery Intelligence Platoon

The imagery intelligence platoon (IIP) of the A&P company provides imagery interpretation support for all MEF requirements and maintains the imagery data base and imagery library for the MAGTF. The IIP is capable of providing IMINT derived from all available sources of imagery in support of MEF A&P cell products. This includes annotated imagery to support MEF A&P cell production or in response to separate IRs. A key imagery exploitation resource organic to the IIP is the TEG, an element of the broader JSIPS. The IIP will normally concentrate on the exploitation of imagery and production of IMINT from MEF, joint task forces, and other tactical resources such as UAVs or the F/A-18D (RC) ATARS.

B-6. Reconnaissance Operations Center

The reconnaissance operations center controls force reconnaissance company's operations and coordinates MEF ground reconnaissance operations. It processes, analyzes, produces, and disseminates ground reconnaissance-derived information in support of MEF intelligence requirements. The reconnaissance operations center directs amphibious reconnaissance, surveillance, and limited-scale raids in support of the MEF, other MAGTFs, or joint task forces as directed. Other missions can include specialized terrain reconnaissance and preparing products to support hydrographic, beach, roads, bridges, routes, urban areas, helicopter landing zones, drop zones, landing craft air cushion landing zones, and aircraft forward operating sites intelligence studies.

B-7. Operations Control and Analysis Center

The OCAC controls radio battalion SIGINT operations and coordinates MEF SIGINT operations. It processes, analyzes, produces, and disseminates SIGINT-derived information and directs the ground-based EW activities of the radio battalion. The OCAC also provides the principal SIGINT analytical and production support for all command IRs. The OCAC maintains the electronic OOB and SIGINT data bases and provides SIGINT analytical and production support to A&P cell production. Time-sensitive SIGINT and product reporting will be provided to various units in the MAGTF in accordance with intelligence reporting criteria and the MAGTF intelligence dissemination plan.

B-8. National Intelligence Support Team

The national intelligence support team (NIST) is an all-source national intelligence asset. It is a task-organized unit generally consisting of Defense Intelligence Agency, National Security Agency, Central Intelligence Agency, and, as appropriate, National Imagery and Mapping Agency personnel and equipment. Its mission is to provide a tailored, national level all-source intelligence team to deployed commanders (generally at the joint task force-level, but support could be provided to the MAGTF) during crisis or contingency operations. Depending upon the supported unit's

requirements, a NIST can be task-organized to provide coordination with national intelligence agencies, analytical expertise, I&W, special assessments, targeting support, streamlined and rapid access to national intelligence databases and other products, and assistance to facilitate request for information management.

A NIST's organic capabilities generally consist of intelligence and some unique CIS support. NIST CIS capabilities will be task-organized. It may range from voice connectivity with a single agency to a fully equipped NIST with JDISS and JWICS VTC capabilities.

Appendix C

Joint Information and Intelligence Systems

This appendix describes a number of joint level information and intelligence systems of value to MAGTF G2 sections. These systems allow the MAGTF G2 to tie into the joint task force and service component headquarters J2/G2 sections to share intelligence data.

C-1. Global Command and Control System

The GCCS implements the joint C4I for the warrior concept. This concept calls for the capability to move a joint force anywhere on the globe at any time and to provide that force with the information necessary to accomplish its mission. The GCCS is a revolutionary approach designed to resolve joint C2 interoperability issues and evolve incompatible, Service-specific C2 programs into a single integrated C2 system.

The GCCS also supports readiness assessment and reporting by the Services. It uses a modern client-server architecture using commercial, open systems standards and will, through the ongoing DOD migration strategy, reduce the large number of information systems in use today. The GCCS is evolving from a baseline of existing C2 systems. This baseline has served as the corner stone for the rapid implementation of an initial system capable of fulfilling the most critical user requirements. As new GCCS versions are subsequently fielded, existing legacy systems will be replaced. The common functional, physical, and operational characteristics of GCCS are based on a single COE. All future joint and Service/combatant command-specific C2 systems must be compatible with this COE. The goal is to achieve a fully integrated, single GCCS in which all C2 functions are provided through GCCS application programs that have a common look and feel.

The GCCS contains several mission application programs built within a single COE. It also includes the network that supports sharing, displaying, and

exchanging information. The GCCS infrastructure consists of a client-server environment incorporating UNIX-based servers and client terminals as well as microcomputer workstations operating on a standardized LAN. Although GCCS currently employs a UNIX-centric architecture there is movement toward an architecture that exploits the capabilities of Windows NT®.

The GCCS infrastructure supports data transfer among workstations and servers. Connectivity between GCCS sites is provided by the SIPRNET. Remote user access is also supported by using dial-in communications and the telecommunication network (TELNET) protocol. The baseline GCCS architecture consists of a suite of relational database servers and application servers. At most GCCS sites, the relational database server acts as a typical file server by hosting user accounts, user-specific data, and site-specific files that are not part of GCCS. The application servers host the automated message handling system, applications not loaded on the database server, and other databases. At each GCCS site, one application server is configured as the executive manager. This server acts as the user interface and provides access to GCCS application programs through user identification and discrete passwords. GCCS software application programs are categorized into two groups: COE applications and mission applications. GCCS is an evolutionary program with mission applications being added or improved in each new software release.

C-2. Global Reconnaissance Information System

The Global Reconnaissance Information System supports the planning and scheduling of monthly Communications and Information Systems sensitive reconnaissance operations theater requests. The Joint Staff passes these requests through the Office of the Secretary of Defense, the Central Intelligence Agency, and the State Department for National Security Council approval. Incoming reconnaissance 1/2/3/4 formatted messages are received by an automated message handling system, validated, and passed to the Global Reconnaissance Information System application for automated processing and database update. The Global Reconnaissance Information System generates all reconnaissance messages and also monitors the monthly execution of theater reconnaissance missions approved in the previous month. The Joint Staff and theater commands exercising OPCON over airborne reconnaissance assets use the Global Reconnaissance Information System.

C-3. Evacuation System

The evacuation system collects and displays information about U.S. citizens located outside the United States as collected by U.S. State Department embassies and consulates. It accesses the database server via TELNET from a GCCS-compatible client. This is a valuable source of information for the G2 and G3 during planning and execution of noncombatant evacuation operations.

C-4. Joint Deployable Intelligence Support System

JDISS applications provide access to national, theater, and tactical intelligence sources through the joint architecture for intelligence. It provides connectivity and interoperability with intelligence systems required to support forces during peacetime, crisis, and war. JDISS provides access to intelligence link (INTELINK) at both the secret and top secret-SCI classification level. INTELINK-S is an intelligence dissemination service that enhances the sharing of intelligence information electronically over the SIPRNET. INTELINK disseminates intelligence by providing the user networked information discovery, retrieval, and browsing services. Its “point and click” technology makes intelligence products widely available to both users and producers of intelligence. JDISS applications are also able to exchange SCI—video and data—using JWICS.

C-5. Air Tasking Order

The air tasking order (ATO) application allows the user to view and print selected portions of ATOs. This tool allows the G2 to confirm theater intelligence assets’ tracks and times to synchronize collection and analysis efforts to support the commander’s decisionmaking. A query function allows the user to tailor requests for information in a specified order for viewing. ATO interfaces with CTAPS and its follow-on theater battle management core systems.

C-6. Joint Maritime Command Information System

JMCIS is the foundation for the GCCS fused operational battlespace picture. It displays near real-time ground, sea, and air tracks. JMCIS uses a

core service known as unified build to provide geographic display, contact correlation, and track database management. JMCIS Unified Build was the basis for the original GCCS COE, which has evolved into the DII COE.

C-7. Joint Collection Management Tools

JCMT is a software-only product. Each site is responsible for providing and maintaining its own hardware. The software currently operates on SUN-UNIX SPARC 10 or 20 platforms. After its operating system was upgraded to Solaris 2.5, JCMT was able to operate on other SUN platforms (e.g. SPARC 1000 or 2000). In addition, JCMT can also operate on Hewlett Packard 9000/700 series workstations running HP-UX 9.X or 10.X. JCMT requires 128 MB of RAM and an 8.4 GB disk drive. Most of the disk space is allocated to the databases, including reference databases such as Military Intelligence Integrated Data System/Integrated Data Base (or its successor MIDB). The executables which require run-time libraries and the supporting program files take up 350 MB.

C-8. Integrated Broadcast Services

Integrated broadcast services (IBS) is a worldwide, DOD standard network for transmitting tactical and strategic intelligence information and targeting data. IBS will integrate intelligence broadcast using the DII for both broadcast and interactive dissemination. IBS will migrate tactical terminals/receivers to a single, related Joint Tactical Terminal (JTT) family. The JTT Common IBS modules will enable seamless information displays on GCCS. The goal of IBS is to resolve the proliferation of stovepipe intelligence broadcast formats by providing the tactical commander with an integrated means of delivering intelligence information to the warfighter.

C-9. Commander's Tactical Terminal

The AN/USC-55, Commander's Tactical Terminal, is a multi-Service developed special application UHF satellite communications receiver that provides critical, time-sensitive intelligence to commanders and intelligence centers at all echelons, in near-real-time, at GENSER or SCI levels. Its receiver provides one full duplex and two receive-only channels. Planned

concept of employment for commander's tactical terminal is similar to that of the TRE; i.e., fielded widely within the MAGTF to allow access to intelligence broadcasts and intelligence collectors.

C-10. Joint Tactical Terminal

JTT, with its common IBS modules, can receive diverse broadcasts into terminals with common capabilities. These terminals use multiple communications transmission paths and sound information management to provide each user in the battlespace the ability to view a common operational picture/common tactical picture. The modular feature of these terminals allows producers and users in the MAGTF to incorporate IBS into their existing CIS. Hardware and software existing in the MAGTF (IAS, TCO, aviation systems, etc.) can integrate the common IBS modules that add the required capability. Alternatively, users may also obtain completely configured tactical terminals. Employment of JTT/common IBS modules facilitates a seamless transition from current dissemination systems to the IBS without degrading the capabilities provided by the current systems.

C-11. TROJAN SPIRIT II

TS II is a mobile, super-high frequency SATCOM system that is capable of receiving, transmitting, and processing multimedia products to include imagery and secure dial-up voice, data, facsimile, and video. This system will be deployed to provide GENSER and SCI communications for intelligence operations.

TS II consists of two heavy HMMWVs with lightweight multipurpose shelters, trailer-mounted power generation units, and a towed 2.4-meter (C, Ku band) or 6.1-meter tri-band (C, Ku, and X band) antenna. The Marine Corps does not use the 6.1-meter antenna. The second heavy HMMWV is used as a maintenance shelter. TS II provides 16 channels of digital voice or data when used exclusively for SCI or collateral secret traffic. This mode of operation allows a maximum T1 aggregate data rate. If both SCI and collateral secret traffic are handled, a 2-channel separation between SCI and collateral secret traffic results in a lower aggregate data rate. TS II provides LAN communications supported by two separate Ethernet LANs (SCI and collateral secret) and entry to the SIPRNET and the JWICS.

C-12. Joint Worldwide Intelligence Communications System

JWICS is an information network designed for exchange of SCI-level video and data information. It supports the MAGTF's use of INTELINK and other services such as those accessed by using JDISS and TCAC. MAGTFs access JWICS while aboard ship and in operations ashore.

C-13. Community On Line Intelligence System for End Users and Managers

COLISEUM is a client-server database application that supports the national intelligence community for the registration, validation, tracking, and management of crisis and non-crisis intelligence requirements. It was developed with commercial off-the-shelf technology to provide a graphical user interface for interaction with the database host at DIA. COLISEUM provides easy search mechanisms for reviewing and registering requirements. It is a UNIX based system that has been successfully tested on platforms under Windows NT®. Hardware components include: JDISS platform (with 64MB of memory); JWICS hardware and software communications infrastructure used by the JDISS workstation for connectivity to remote databases and applications; file server; color and laser printer(s); a tape backup device; and for bomb damage assessment analysts and users, a Parallax video card. COLISEUM provides access, through JDISS/JWICS communications, to other intelligence applications and databases. It is installed at all unified commands, military Services, DOD production centers, Defense Intelligence Agency, Central Intelligence Agency, National Security Agency, National Military Joint Intelligence Centers, and national support teams.

Appendix D

Glossary

Note: Acronyms change over time in response to new operational concepts, capabilities, doctrinal changes and other similar developments. The following publications are the sole authoritative sources for official military acronyms:

1. Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*.
 2. MCRP 5-12C, *Marine Corps Supplement to the Department of Defense Dictionary of Military and Associated Terms*.
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A&P	analysis and production
ATARS	advanced tactical airborne reconnaissance system
ATO	air tasking order
C2	command and control
C2PC	Command and Control Personal Computer
C4I	command, control, communications, computers, and intelligence
CGS	common ground station
CHATS	CI/HUMINT Automated Tool Set
CI	counterintelligence
CIC	Combat Intelligence Center
CIS	communication and information system
COA	course of action
COE	common operating environment
COLISEUM	Community On Line Intelligence System for End Users and Managers
COMINT	communications intelligence
CTAPS	contingency theater automated planning system
DCIIS	Defense Counterintelligence Information System

DII	defense information infrastructure
DISN	Defense Information Systems Network
DOD	Department of Defense
DSNET	Defense Secure Network
DTAMS	digital terrain analysis mapping set
EA	electronic attack
ELINT	electronic intelligence
EW	electronic warfare
FTI	fixed target indicator
GCCS	Global Command and Control System
GCS	ground control station
GEOINT	geographic intelligence
GENSER	general service (message)
HF	high frequency
HMMWV	high mobility, multipurpose wheeled vehicles
HUMINT	human intelligence
HST	HUMINT support team
I&W	indications and warning
IAS	intelligence analysis system
IBS	integrated broadcast service
IIP	imagery intelligence platoon
IMINT	imagery intelligence
INTELINK	intelligence link
IOW	intelligence operations workstation
IPB	intelligence preparation of the battlespace
IR	information requirement
IT	interrogator-translator
JCMT	Joint Collection Management Tools
JDISS	Joint Deployable Intelligence Support System
JIC	Joint Intelligence Center
JMCIS	Joint Maritime Command Information System
JSIPS	Joint Services Imagery Processing System
Joint STARS	joint surveillance, target attack radar system

JTT	joint tactical terminal
JWICS	Joint Worldwide Intelligence Communications System
LAN	local area network
LAV	light armored vehicle
MAFC	MAGTF all-source fusion center
MAGTF	Marine air ground task force
MASINT	measurement and signature intelligence
MCIA	Marine Corps Intelligence Activity
MCDP	Marine Corps doctrinal publication
MCHS	Marine common hardware suite
MCISU	Marine Corps imagery support unit
MCPP	Marine Corps Planning Process
MCWP	Marine Corps warfighting publication
MEF	Marine Expeditionary Force
MEWSS	Mobile Electronic Warfare Support System
MIDB	modernized integrated data base
MSTP	MAGTF Staff Training Program
MTI	moving target indicator
NIPRNET	Unclassified but Sensitive Internet Protocol Router Network
NIST	national intelligence support team
OCAC	operations control and analysis center
OOB	order of battle
OPCON	operational control
OPLAN	operation plan
OPORD	operation order
OPT	operational planning team
PCS	portable control station
PIP	product improvement program
RMS	requirements management system
SAR	synthetic aperture radar
SATCOM	satellite communications
SCI	sensitive compartmented information

SIDS	Secondary Imagery Dissemination System
SIGINT	signals intelligence
SIPRNET	SECRET Internet Protocol Router Network
TCAC	technical control and analysis center
TCO	tactical combat operations
TDN	tactical data network
TEG	tactical exploitation group
TELNET	telecommunications network
TERPES	Tactical Electronic Reconnaissance Processing and Evaluation System
TOPOSET	topographic set
TPC	topographic production capability
TRE	tactical receive equipment
TRSS	tactical remote sensor system
TS II	TROJAN Special Purpose Intelligence Remote Integrated Terminal (SPIRIT) II
UAV	unmanned aerial vehicle
UHF	ultra high frequency
UNIX	an open-architecture operating system
VHF	very high frequency
VMAQ	Marine tactical electronic warfare squadron
VTC	video teleconferencing
WAS	wide area surveillance

Appendix E

References

Joint Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms*

MCDP 2, *Intelligence*

MCDP 5, *Planning*

MCDP 6, *Command and Control*

MCWP 2-1, *Intelligence Operations*

MCWP 5-1, *Marine Corps Planning Process*

MCWP 6-22, *Communications and Information Systems*

MCRP 5-12C, *Marine Corps Supplement to the Department of Defense Dictionary of Military and Associated Terms*

FM 34-130/MCRP 2-12A, *Intelligence Preparation of the Battlefield*

MSTP Pamphlet 5-0.2, *Operational Planning Team (OPT) Facilitator's Guide*, 20 April 1998

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