# Chapter 2

# Capabilities

## 2-1. Introduction

a. Army and Marine Corps VI units in tactical environments have the capability to support the VI requirements of each level of command within the joint and service operational theater and extending to the national command authority (NCA). Tactical VI capabilities are executed with VI systems and procedures compatible with those of the military services, Department of Defense (DOD), and the NCA. Existing tactical and commercial communication systems are used to provide near real time image transmission. Army and Marine Corps VI capabilities permit the near real time flow of VI from the battlefield to the NCA with emphasis toward supporting tactical operational and functional mission requirements of the tactical commander.

b. Tactical VI capabilities include documentation, processing of VI products, and integration of various motion, still, audio, and graphics media into the operational decision-making process. COMCAM capabilities must be mobile, survivable, and capable of using available tactical, strategic, and commercial communication systems to transmit visual images in real or near real time from anywhere on the battlefield. In this manner, COMCAM serves as a decision-making tool and an element of combat power for the tactical commander.

## 2-2. Documentation

**a. General.** Army and Marine Corps tactical VI units support tactical joint and service missions with the capability to record still and motion images, create graphics images, and record audio information which is frequently embedded with motion media. Army and Marine Corps VI units provide ground, sea, and aerial coverage, and use organic or customer-provided transportation. COMCAM soldiers and Marines use durable, reliable, lightweight camera systems with appropriate lenses and accessories to permit coverage in any tactical situation, including extreme weather or near darkness. VI tactical units have the capability of forwarding documentation of significant activities through channels to the Joint Combat Camera Center (JCCC) or the Marine Corps Multi-Media Preassessions Point (MMPP). This record material can be made available to the DOD and Department of the Army (DA) staff or the Commandant of the Marine Corps (CMC), and other Army and Marine Corps users for briefings, publications and reports, planning, posture statements, reports to Congress, and subsequent forwarding to DOD records centers and the National Archives.

(1) Documentation is the straightforward recording of any subject or action as it occurs. It may be later integrated or assembled into a motion media production, multimedia presentation, or a series of still images for a particular purpose.

(2) Documentation directly supports command and control, operations, plans, logistics, MI, medical, administrative, PA, and other imagery requirements to support the battlefield operating system (BOS) and the NCA. Documentation on the battlefield will support combat, combat support, and combat service support requirements.

(3) Documentation maybe converted to digital format for transmission, storage, retrieval, display, or processing to a conventional medium (such as photos, slides, videotape, or multimedia presentation).

**b. Results.** Documentation resulting from COMCAM capabilities include—

• Military operations in preparation for day one of the battle.

• Friendly positions before, during, and after the battle.

• Enemy positions, fortifications, and obstacles before and after the battle.

• Terrain analysis documentation to support operational maneuverability, traffic planning, and barrier location and identification.

• Aerial spot imagery providing still or motion media images of friendly and enemy positions.

• Battlefield damage of friendly force equipment to give tacticians, logisticians, and materiel developers immediate information to develop effective countermeasures.

• Battlefield damage to civilian property for adjudicating claims.

• Battlefield damage of enemy equipment to show tacticians, logisticians, and materiel developers the effectiveness of friendly weapons and enemy vulnerabilities for use in long-range research and development.

• Captured enemy supplies, materiel, equipment, personnel, and documents for evaluating enemy combat, combat support, and combat service support. This imagery may be important to MI, PSYOP, MP, and PA communities, and for possible ultimate use by military historians or archivists.

• Evidence for prosecuting war crimes.

• Visuals of military operations for the president, Joint Chiefs of Staff (JCS), and the Army and Marine Corps staffs for strategic decision making.

• Combat and doctrinal material for training developers and military historians.

• Initial battle engagements of new weapons, new combat support systems, and revised tactics. This gives the Army and Marine Corps staffs; field commanders; and combat, doctrinal, materiel, and training developers information and validation of new equipment and doctrine.

• For the Marine Corps, COMCAM also provides imagery material for training developers and military historians.

**c. Support.** VI units provide all VI personnel, equipment, and processing support required to accomplish a tasking. COMCAM units require customer support to obtain imagery in the following areas:

• Billeting and rations.

• Staff support for coordination, taskings, and clearance.

• Tracked vehicle support as required.

• Helicopter or fixed wing support for transportation or aerial imagery.

• Subject matter expert to assist in image acquisition to satisfy specific taskings.

**d. Augmentation.** In addition to its primary mission, COMCAM is capable of augmenting organic functional VI capabilities in MI, MP, PSYOP, civil affairs, PA, Special Forces, and Marine SOC units. Because these units have specific missions and require special training, augmentation is limited to processing support that is requested by a commander and for which the VI unit is equipped and trained. Additionally, Marine Expeditionary Force Combat Camera Units (MCCUs) are capable of augmenting or may be augmented by COMCAM teams of the Marine Corps Combat Camera Unit (MCCCU), as required.

**e. Methods.**

(1) Motion media.

(a) Motion media technology is a powerful means of individual and mass communication. Motion

media products inform soldiers, Marines, and the civilian population of studies in doctrination, training, and command and public information purposes. These products provide commanders the capability to review the operations and training of their forces, and introduce new and improved operational techniques and developments to subordinates. Units moving to new positions may be oriented with motion or still media imagery of terrain. Motion media technology can be used in daytime, nighttime, and limited visibility operations.

(b) Motion media provides the capabilities to support commanders with the following motion media services:

• Small format videotape documentation (such as the 8 millimeter [mm] high band). Applications include documentation in combat which requires light, highly portable systems that produce acceptable quality products. This service is normally used at COMCAM team level.

• Production format videotape documentation (such as Betacam). Applications include original materials to be used in sophisticated scripted video reports and transfer of unique-format COMCAM documentation, such as helicopter gun camera footage, to a standard format for archival, reproduction, and distribution uses. This format also permits broadcast use to support PA and PSYOP.

• Rough edit video report production. This service can be accomplished at the lowest COMCAM level to support the local commander and staff operational needs.

• Fully edited video production. This service is normally used at theater COMCAM level to support theater; joint; Headquarters, Department of the Army (HQDA); DOD; JCS; and NCA operational needs.

• Communication interconnectivity. VI units have organic capability to convert conventional film and analog electronic images to a digital format for transmission over tactical, strategic, or leased commercial satellite systems. (See Figure 2-2 on page 2-5.) Transmission of a nonencrypted National Television Standards Committee (NTSC) composite video signal requires a circuit conditioned for a 6.0 megahertz (MHz) bandwidth. An encrypted NTSC composite video signal requires a circuit conditioned for a 6.3 MHz bandwidth. This exceeds current capabilities of tactical and most strategic communication systems without preemption of priority circuits. Digital compression of NTSC composite video signals is being developed to compress composite video signals to 4.5 MHz bandwidth. Real time transmission of motion video requires VI units to have organic capabilities to access strategic or leased commercial satellite systems in the KU or C band to accomplish the mission. The Marine Corps will use communications interconnectivity through the joint combat camera team (JCCT) in theater.

(2) Digital still video.

(a) DSV enables timely transmission of critical still images such as terrain features, tactical deployments, intelligence information, and tactical operations directly from the battlefield through command levels to the NCA. DSV provides commanders with near real time still imagery to enhance critical and timely operational decisions.

(b) DSV cameras use a 2 1/2-inch floppy disk to capture images electronically with color prints available within seconds from a color printer. DSV cameras have night vision devices permitting use during darkness. DSV images can be transmitted on tactical, strategic, or leased commercial telephone and satellite systems. This permits the near real time transmission of DSV images to virtually anywhere in the world. (See Figure 2-1 on page 2-4.)

(c) DSV floppy disks can be copied and transported by courier or messenger to operational user locations throughout the battlefield. Current technology allows transmission of DSV images, using a modem, over existing 4-wire telephone lines conditioned from 300 to 9600 baud. VI units have organic DSV transceivers capable of interfacing with existing tactical and commercial telephone lines. The baud rate of the circuit determines the speed of the transmission. A 300-baud conditioned circuit can transmit a DSV image in 14 minutes. A 9600-baud

conditioned circuit can transmit a DSV image in 3 minutes. DSV images in their current format do not integrate into automated control systems being fielded. This issue is going to be addressed in future upgrades of automated control systems being fielded throughout the Army.

(3) Film-based still documentation.

(a) For tactical VI missions requiring top quality photographic images, Army and Marine Expeditionary Force (MEF) VI units will have the capability to record still images using film-based technology. Because of the mobility required for combat documentation, cameramen must expedite exposed film with complete captions to the corps or theater VI unit for processing and printing. (Captions for documentation products are discussed in more detail later in this chapter.)

(b) Compact, low-quantity processors for color and for black and white film and prints are organic to Army and Marine Corps COMCAM units located to support corps rear headquarters. Capabilities for high-quantity production and volume printing exists at VI units located to support theater rear headquarters. As technology evolves, equipment will be authorized at the division level to convert film-based documentation products and captions into analog or digital format for near real time transmission.

(4) Audio documentation.

(a) Army and MEF VI units maintain the capability to provide audio documentation in support of tactical missions. Audio documentation is provided by portable microphones and audio recorders or by audio recording systems which are integrated with video tape recorders.

(b) Audio documentation uses high-fidelity sound technology and standard size magnetic cassette recording tape.

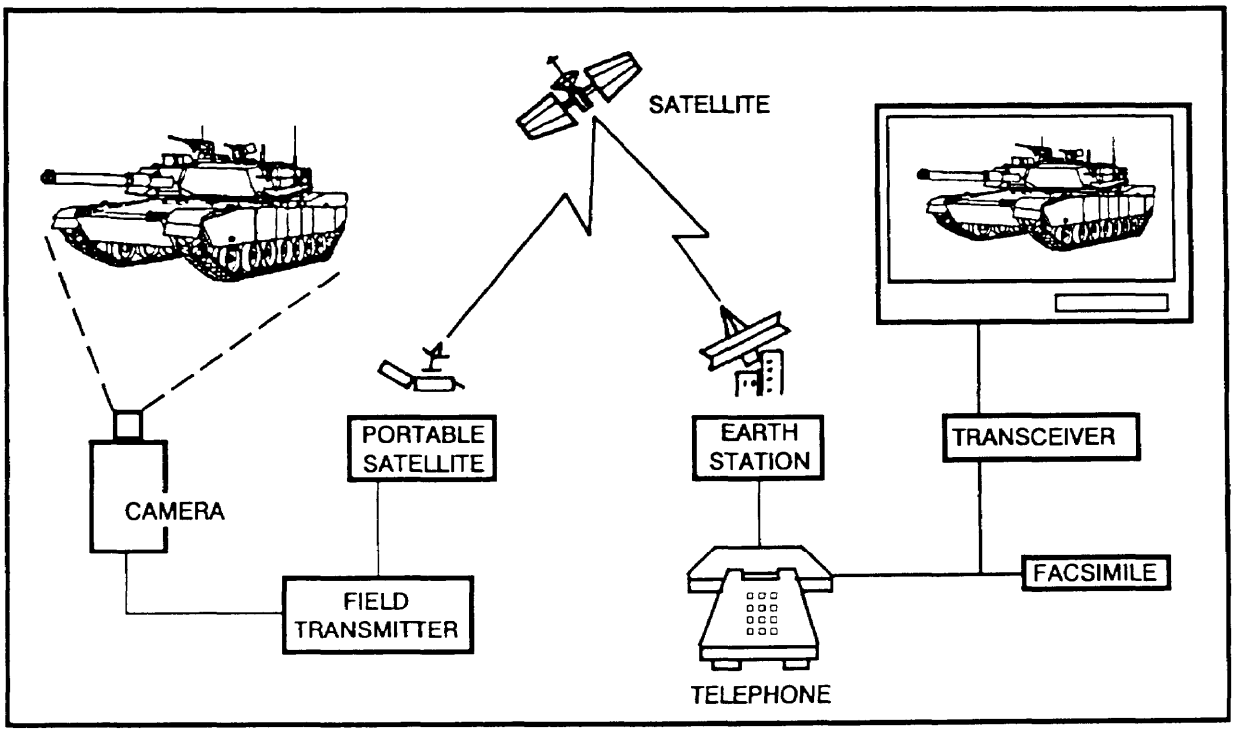


*Figure 2-1. DSV transmission links.*

(5) Graphics.

(a) The design, creation, and preparation of two-and three-dimensional graphic products manually or with computer-assisted imaging equipment is a dedicated support capability of the VI graphics documentation specialists. In the tactical environment, the VI soldiers perform several critical tasks for the commander, to include—

• Production of accurate and informative operational decision graphics.

• Enhancement of maps, aerial photographs, and satellite imagery.

• Creation of overlays with terrain, friendly and enemy positions, and targeting positions.

• Incorporation of visual imagery into maneuver control systems to enhance accurate representation of the battlefield.

(b) The graphics documentation specialists also prepare charts, posters, and visual materials for brochures, publication covers, briefings, displays, and models, along with rough sketches and paintings for operational and historic purposes.

**NOTE:** MEF COMCAM units do not possess graphic support capability at this time.

### f. Captions.

(1) All Army and Marine Corps VI units supporting tactical missions must have the capability to caption documentation at the time visual images and sounds are recorded. Original captions are an integral and permanent record of the documentation. Still and motion media documentation will include captions in accordance with DOD Directive 5040.2, DOD Directive 5040.4, AR 25-1, and DA Pamphlet (Pam) 25-91, or MCO P5290.1 and MCO 5290.4.

(2) COMCAM soldiers who originate documentation will verify accuracy and security classification of caption information with the command they are supporting. Captions will be factual and objective.

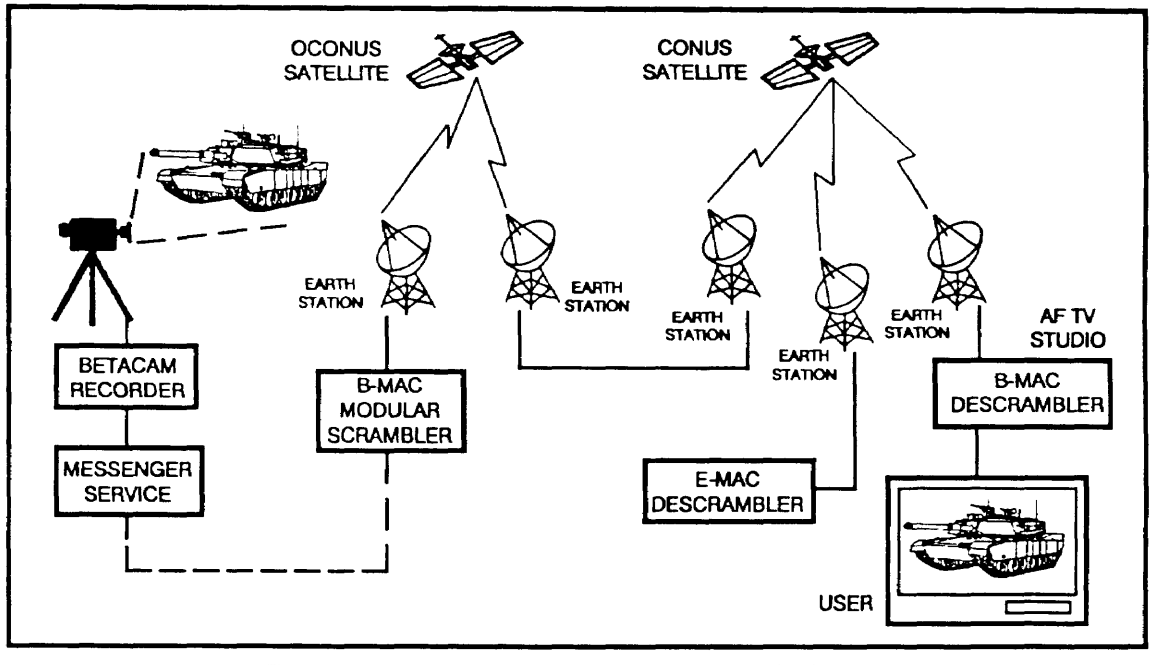


*Figure 2-2. Motion video transmission links.*

## 2-3. Conferencing

a. Conferencing capabilities in support of tactical missions range from simple, user-oriented audio and video display systems in tactical operations centers (TOCs) to automated multimedia presentation systems in theater operations centers. Conferencing supports one headquarters or electronically links tactical or strategic headquarters through audio for VTC networks. (See Figure 2-3.)

b. VTC permits interaction among participants linked by a secure or nonsecure telecommunications system. Capabilities include two-way electronic audio and video communications between two or more locations or fully interactive audio and one-way video. VI soldiers or Marines who perform VTC functions are assigned to the supporting COMCAM unit. Tactical VI documentation used in VTC is prepared by COMCAM units supporting the theater.

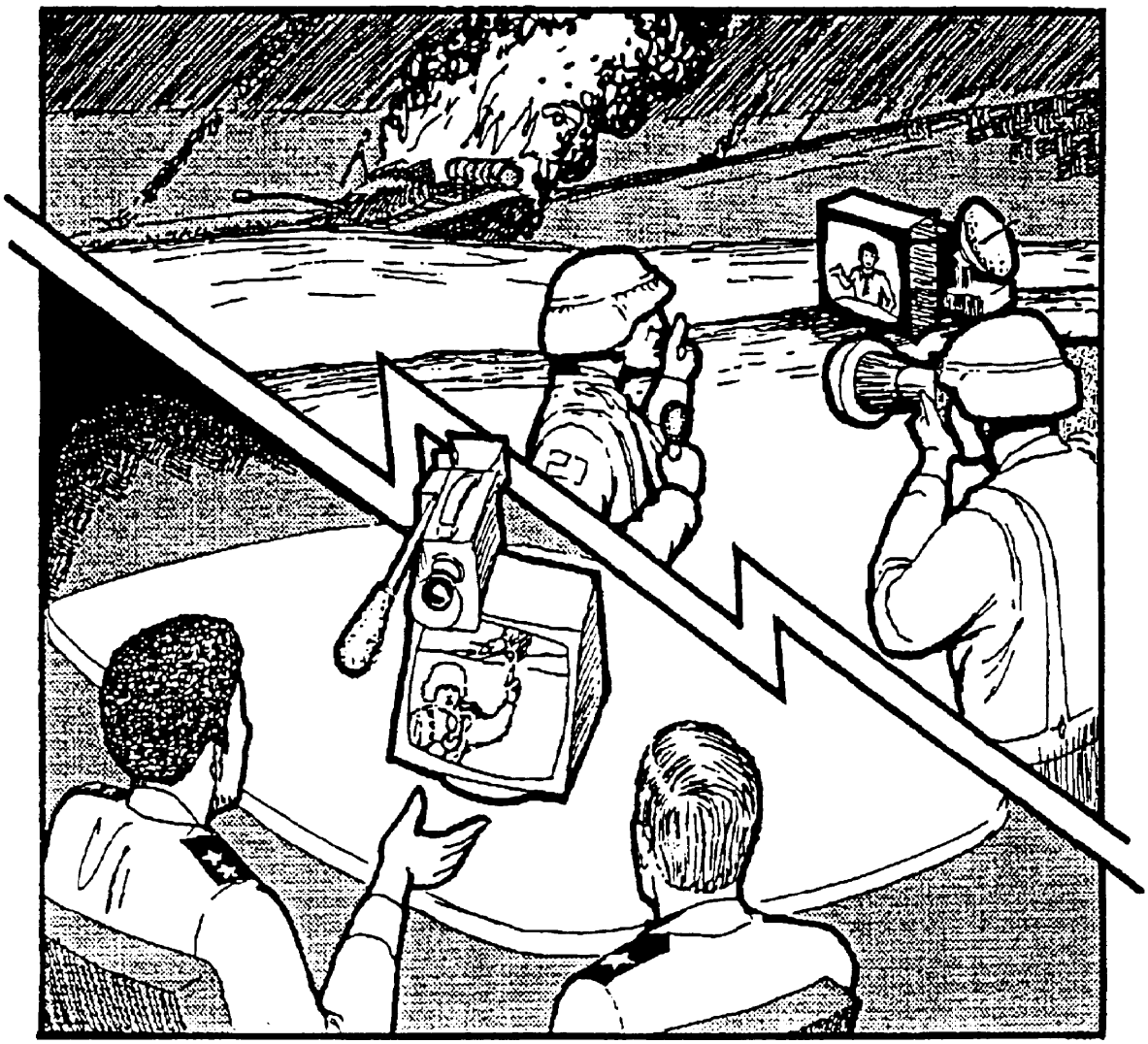

*Figure 2-3. VTC networks.*

## 2-4. Multimedia Products

VI units maintain the capability to combine still, motion, and graphics documentation into a VI product which satisfies specific information requirements of supported tactical or strategic commanders. Examples of these products include video reports and multimedia products.

a. Video reports are distributed on l/2-inch video home system (VHS) format. A video report may be a loosely-edited sequence of COMCAM documentation with simple graphics, with or without narration, used as a "quick-and-dirty" product for the tactical commanders immediate operational needs. Such video reports are produced by the supporting COMCAM unit. A video report for a strategic or tactical requirement will be edited according to a script narration with COMCAM documentation, sophisticated graphics, some special effects, and audio narration. VI units would produce such reports in support of the theater headquarters. Video reports have content of short-term use of about a year or less. They do not qualify as "productions," which require life cycle management and approvals through DOD and DA under provisions of the Office of Management and Budget (OMB) Circular A-114 and related DOD and DA regulations, and the Marine Corps Visual Information Management (VIM).

b. Multimedia products are typically done in digital form. They may include motion media, still, graphics, and audio narration which is digitized, stored, and assembled in a computer. (See Figure 2-4.)

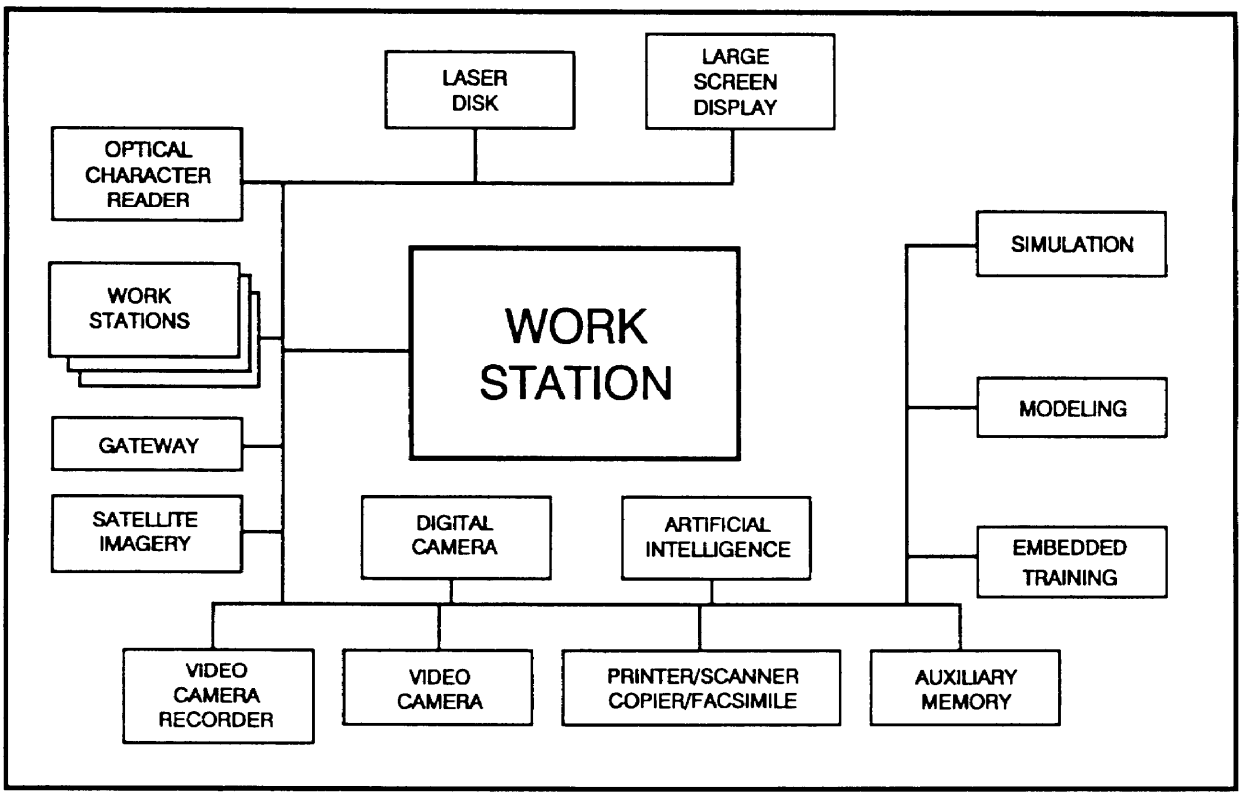


*Figure 2-4. Multimedia.*

## 2-5. Product Handling and Distribution

a. The exploitation and handling of all VI products follows a basic four-step procedure—processing, transmitting, reproducing, and distributing. Local VI officers will ensure that all VI products are handled and distributed to customers in an expeditious manner. For Marine Corps COMCAM units, particular emphasis will be placed on imagery duplication capability, as this is the key to customer satisfaction at all theater levels. (See Figure 2-5 below and Figure 2-6 on page 2-9.)

(1) Electronic movement of VI products (transmission).

- Digital transceivers (DSV).
- Military tactical telephone systems.
- Tactical satellite.
- Microwave.
- Allied or host nation military communications.
- Defense Communication System (DCS).
- Leased commercial satellites and land lines.

(2) Nonelectronic movement of VI products.

- Messenger/courier.

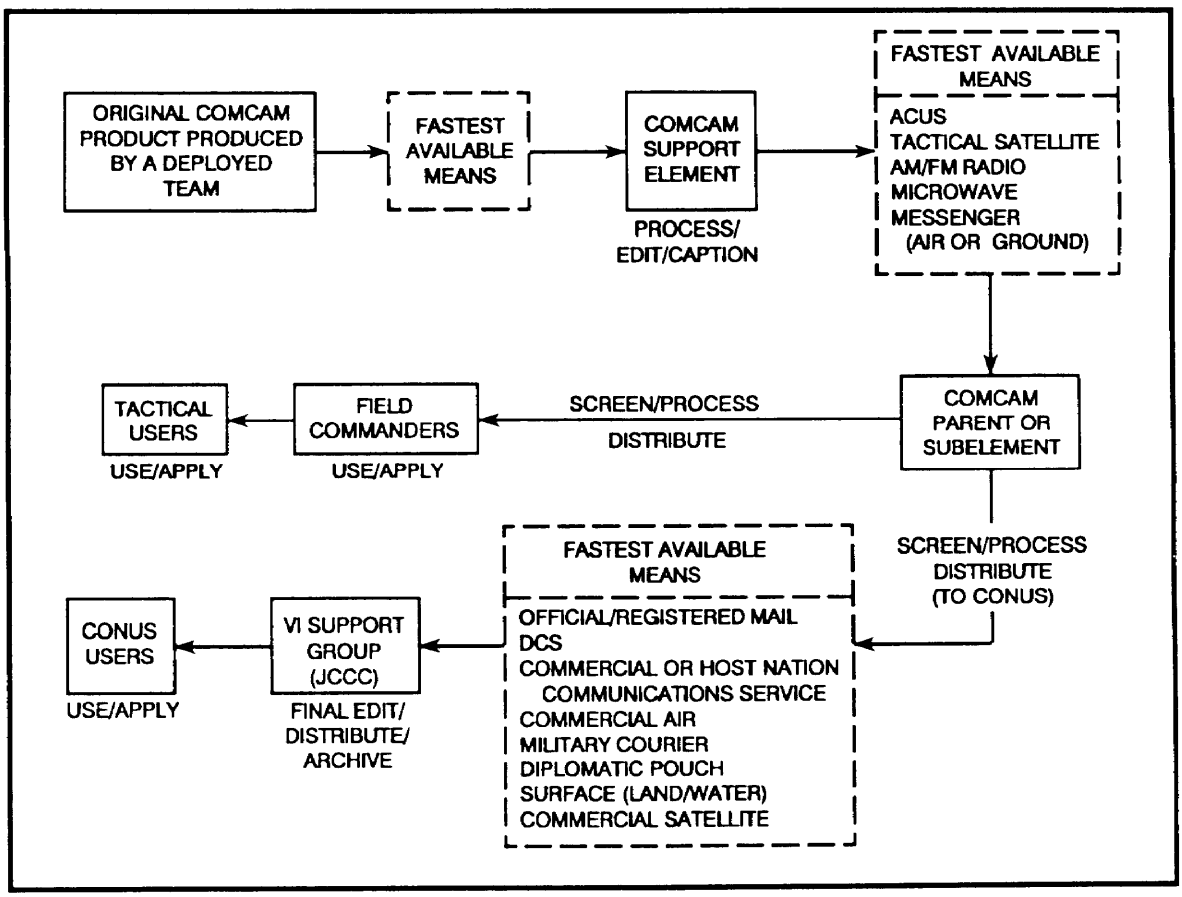


*Figure 2-5. Distribution and flow of COMCAM products (Army).*

• PA media pool.

• Official mail.

• Military air.

• Allied or host nation transportation systems.

• Commercial air or air express.

• Diplomatic pouch (to continental United States [CONUS]).

• Defense courier service (to CONUS).

• Registered mail (to CONUS).

b. VI documentation products (still and motion media) will be delivered directly to the requesting staff section. The distribution of VI imagery is prioritized as follows:

• On-scene commander.

• Joint task force (JTF) commander.

• Supported unified or specified commander.

• NCA, JCS, joint staff, and military services.

• Office of the Assistant Secretary of Defense (OASD) PA, when appropriate.

• After-action requirements for historical records.

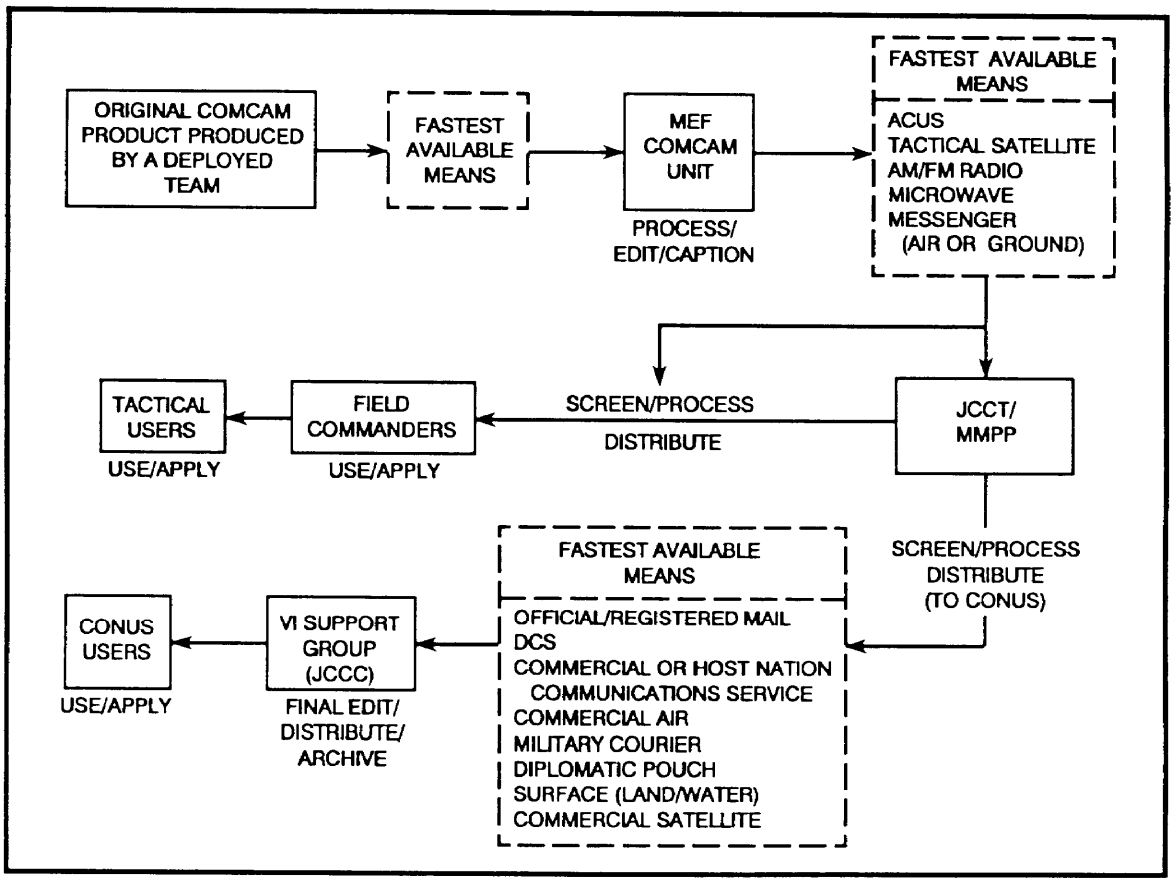


*Figure 2-6. Distribution and flow of COMCAM products (Marine Corps).*

c. VI imagery from the field will be edited by VI soldiers for technical acceptability. The VI staff which first receives the raw material evaluates and screens the contents to ensure it meets functional, operational, and quality requirements.

d. Processing services include—

• Converting conventional still negatives and transparencies into electronic images.

• Transmitting still images over tactical frequency modulated (FM) radio, Single Channel Ground and Airborne Radio Systems (SINCGARS), military tactical telephone systems, and tactical satellite communications systems.

• Making color prints or transparencies from electronic images.

• Reviewing motion and still imagery for quick and refined video reports.

• Duplicating and distributing video reports and still imagery.

• Preparing and shipping unedited material to the JCCC located in the Pentagon, Washington, D.C.

• Processing still negative and color slide film with conventional wet chemistry. Conventional film is used as a backup capability only. Negatives and slides are converted into electronic imagery for transmission and future use.

• Maintaining and repairing VI equipment and systems organic to COMCAM units and functional users with compatible equipment.

e. The JCCC is the single center in the National Capital Region (NCR) for ensuring that COMCAM imagery is received and then distributed to the JCS, military services, and other federal agencies. After satisfying the requirements of these organizations, the imagery will be returned to the originating military service.