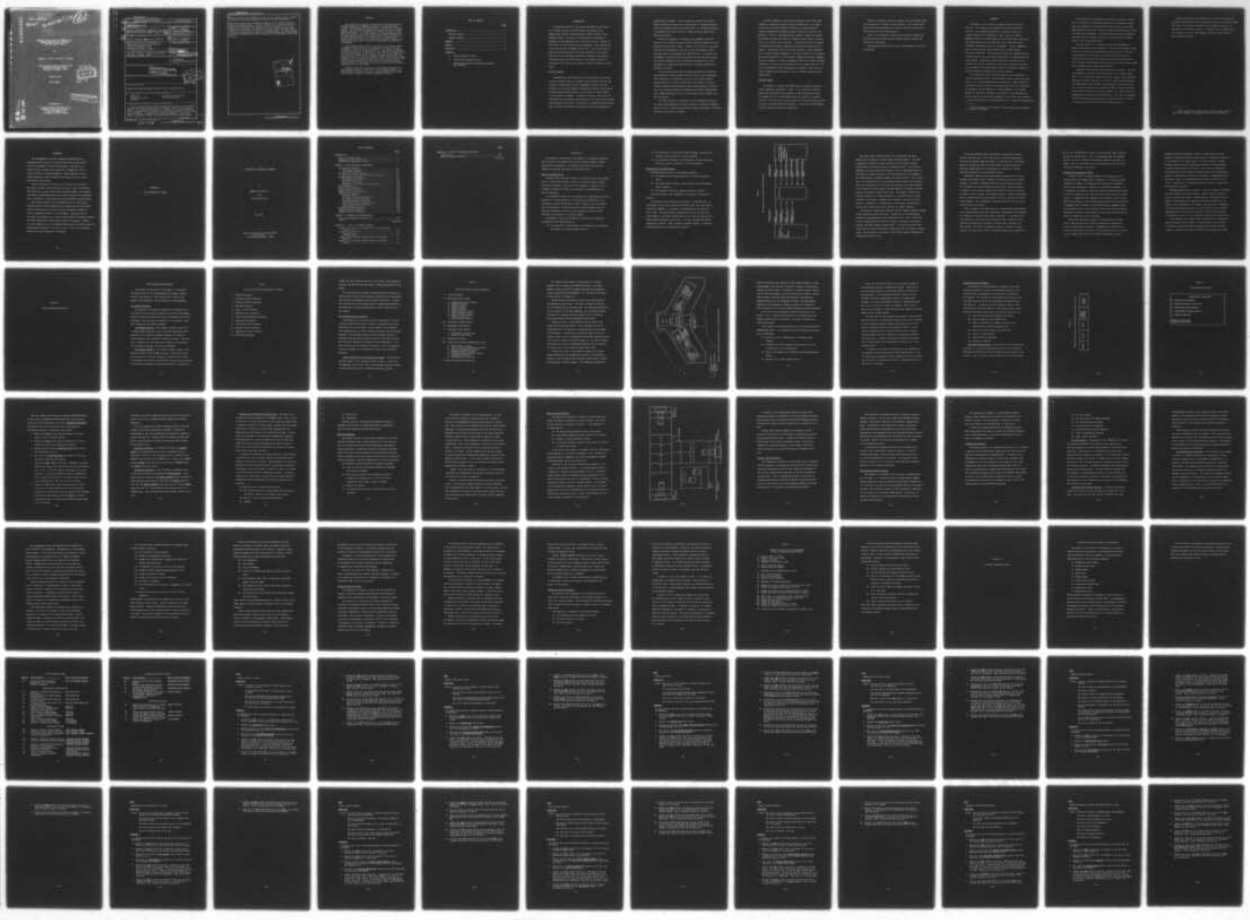
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RESEARCH ACCOMPLISHED IN SUPPORT OF THE COMBINED ARMS TACTICAL TRAINING SIMULATOR DEVICE (CATTS)

by

Theodore R. Powers and Arthur J. DeLuca

Human Resources Research Organization
300 North Washington Street
Alexandria, Virginia 22314

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Final Report

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This report describes research accomplished in support of the Combined Arms Tactical Training Simulator Device (CATTS) located at Fort Benning, Georgia. This device was developed as a command and control simulator and uses a mechanized infantry battalion tactical operations center as the simulated environment. A Command Group (Battalion Commander, Intelligence Officer, Operations Officer, Fire Support Officer, and Air Force Liaison

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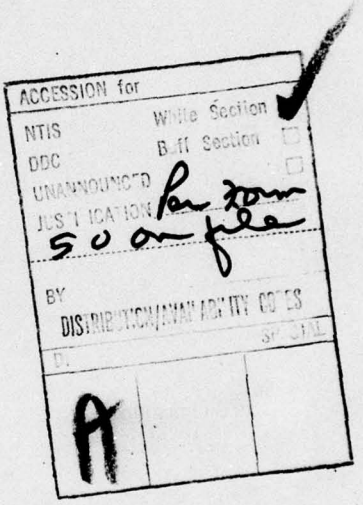
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Officer) interacts with Controllers, who, in turn, interact with a computer containing a programmed mathematical model for tactical assessments.

Three major products were developed in support of the Systems Definition Phase of the CATTS program. The first product was an interim Controller's Manual which provided initial guidance to those personnel acting in the capacity of Controllers. The second product was a behavioral assessment system that could be used to evaluate the Command Group. The final product involved the development of various attitude measurement questionnaires that were used to identify significant capabilities and limitations of the CATTS device.



PREFACE

This report describes work accomplished by the Human Resources Research Organization (HumRRO) in support of the Combined Arms Tactical Training Simulator (CATTS) project located at Fort Benning, Georgia. The work was performed under contract with the U.S. Army Research Institute for the Behavioral and Social Sciences (Contract DAHC 19-75-C-0010). Dr. George Burgess, Dr. Raymond Sidorsky, and Mr. Harold Strasel successively served as the Contracting Officer's Technical Representative. Mr. Strasel and Dr. Trueman Tremble reviewed and made substantial contributions to several research products and the final report. Their help and guidance are gratefully acknowledged.

This research was performed by personnel of the Columbus Office of HumRRO's Central Division. Dr. Wallace W. Prophet is the Vice President in charge of the Central Division. Dr. Joseph A. Olmstead is the Director of the Columbus Office. Mr. Theodore R. Powers was the Principal Investigator of the project at the time of its completion; Dr. Trueman R. Tremble was the original Principal Investigator. Mr. Jeffery L. Maxey, Dr. Joseph A. Olmstead, and Mr. Harold E. Christensen contributed to the research during various phases of the project. Mr. Arthur J. DeLuca worked on the project from its inception and was responsible for the development of training objectives which comprise a major product of the research.

Military support for the project was provided through the U.S. Army Research Institute's Field Unit at Fort Benning, Georgia. Mr. Harold Strasel is Chief of the Unit. Military support was arranged by LTC Robert G. Matheson and Captain Raymond S. Costner.

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INTRODUCTION

The general objective of the project described in this report was to assist the Army in the development and testing of the Combined Arms Tactical Training Simulator (CATTS) located at Fort Benning, Georgia. The project was initiated for the purpose of assisting in the operational test of the device (OT-1). However, in March 1975, OT-1 was cancelled by the government. Upon cancellation, a new scope of work for HumRRO was developed. This revised scope of work was followed from March 1975 until completion of the project. Since most of the substantive information concerning the CATTS was collected during the revised portion of the research, products of that phase of the work are the principal topics of discussion in this report.

MILITARY PROBLEM

Commanders and staff officers on the battlefields of the future will have a greater variety of complex tools to manage, and less time in which to manage them, than any commanders have had in the past. During the last several decades, technology has placed a large arsenal of sophisticated weapons systems at the disposal of combat leaders at every echelon of command. A commander's ability to move about the battlefield has been significantly improved by new generations of ground combat vehicles and aircraft. His ability to communicate, gain information, and issue orders has been increased by the new developments in

communications equipment. Current projections indicate that future weapons systems will become more complex, means of transportation more rapid, and communications even more efficient. As technology develops, the knowledges and skills required to manage these new systems will expand and increase.

To meet the challenge of training future commanders and staff officers, more realistic and more efficient training programs are being developed by Army service schools. However, all too often, it has been found that the availability and costs of real life systems preclude training using actual equipment and field exercises. Accordingly, the development of effective means for bridging the gap between the theory and doctrine presented in the classroom and the application of that knowledge in a combat environment has been a continuing challenge to military instructors.

One currently popular method of making the difficult transition from classroom to combat training involves the use of job simulations. These simulations, or simulators, can vary from a field expedient, plywood mock-up of a weapon, costing less than a dollar, to a multi-faceted, computer-driven simulator costing several millions of dollars. The latter category includes the Combined Arms Tactical Training Simulator (CATTS) developed at the U.S. Army Infantry School (USAIS), Fort Benning, Georgia.

The CATTS simulator was designed to enable appropriate personnel to practice the knowledges and skills required of a battalion commander and his staff in a realistically-simulated combat environment. The device consists of three major components.

The first component is the Tactical Operations Center (TOC) which represents a Mechanized Infantry Battalion command post. All players perform their activities within the TOC which is equipped with the standard communications equipment normally present in a battalion command post. Second, a Controller Section contains a number of consoles and cathode-ray tubes upon which are displayed various types of information (e.g., specific troop locations). The Controller Section is manned by instructors who mediate communications between the players and the computer. Instructors also act as certain friendly or enemy commanders (e.g., friendly company commanders). The third component is the Computer Section which consists of a Xerox Sigma 9 computer and support equipment. Within the computer is stored a mathematical model which permits automatic assessments of certain tactical activities (e.g., weapons effects). The use of a mathematical model interpreted by a computer, rather than subjective judgments made by umpires, is one of the major features of the CATTS system.

RESEARCH PROBLEM

The decision to activate the CATTS device at the USAIS resulted in several important requirements. First, it was necessary to develop a manual that would give initial guidance to those personnel who would be assigned the role of controllers during the conduct of a tactical scenario. This controller's manual would serve as interim guidance until the device was manufactured and installed. At that time, final guidance would be supplied by the device manufacturer.

Second, an assessment system was required that would enable objective observations to be made of player behavior. This system would also include general guidance for debriefing sessions that would be held at the end of each CATTS exercise.

Third, it was important to assess the attitudes of players who participated in the simulations and identify specific system capabilities and limitations.

The research described in this report was addressed to the above requirements.

APPROACH

Development of the Controller's Manual constituted the first activity. The contents of this manual were derived from several sources. First, HumRRO personnel made a systematic analysis of assumed controller job requirements. Next, visits were made by HumRRO personnel to the TRW Systems Group at Redondo Beach, California. This group manufactured the CATTS device and offered much useful information concerning controller requirements. Finally, HumRRO personnel interacted daily with personnel from the CATTS Program Directorate (CATTS PD). This directorate, which was composed entirely of Army personnel, had the primary responsibility for administering the CATTS program. In addition, CATTS PD personnel developed tactical scenarios and acted as controllers during the system definition phase of the program. From these diverse sources of information, HumRRO and CATTS PD personnel developed the Controller's Manual.

The second major area of work was devoted to the development of a Player Assessment System. The development process involved two steps. First, a set of Training Objectives was developed.[1] These objectives consisted of specific tasks, the conditions under which the tasks would be performed, and the standards for task performance. The Training Objectives, which were developed by an analysis of the knowledges and skills required of the battalion commander and his staff, were designed to serve as recognizable standards against which to measure player behavior.

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[1] Initial guidance for the content of these objectives was supplied to the project by TRADOC.

The second step in development of the player assessment procedure was to incorporate the Training Objectives into an assessment system. This was accomplished by analyzing the tactical scenario (code named FEBA GOLD) and constructing a series of behavioral checklists that could be used by umpire personnel. The final system consisted of administrative instructions, behavioral checklists, instructions for critique sessions, and Training Objectives.

The third major area of activity involved the measurement of player attitudes about the CATTS device. This work also included identification of specific system capabilities and limitations. This work was accomplished by developing draft questionnaires that would be completed by both players and personnel who acted as observers only. Then, the draft questionnaires were pilot-tested on several player groups from the USAIS and were revised and finalized.

Altogether four separate questionnaires were developed. The first was administered to players upon initial entry into a CATTS training week. In it, players were asked how they felt toward computer-assisted simulation (positive, negative, or neutral). The second questionnaire solicited players' opinions about the realism of 12 tactical factors (e.g., gasoline expenditures) simulated by CATTS. The third questionnaire solicited opinions about basic concepts (e.g., shoot, move, and communicate) as simulated by the CATTS device. The final questionnaire asked for opinions from both players and observers about such things as the place of simulation in the Army training structure.

These questionnaires were administered to five player groups[1] and thirteen observers during the System Definition Phase of the CATTS program. This phase of the program completed all of the CATTS research to be conducted at Fort Benning, Georgia. In December 1975, the CATTS device was relocated at the U.S. Army Command and General Staff College at Fort Leavenworth, Kansas.

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[1]Player groups were supplied by Fort Sill, Fort Knox, the U.S. Army Forces Command, the National Guard, and Fort Leavenworth.

RESULTS

The Controller's Manual is reproduced in its entirety as Appendix A. It discusses and presents procedures for the use of various CATTS subsystems, controller man-machine tasks, and candidate performance objectives. This manual was used by CATTS PD during the initial stages of controllers' training. Since part of this manual was designed to directly support the cancelled OT-1, it was eventually superseded by an Operator's Manual developed by TRW Systems, Incorporated, the CATTS manufacturer.

The documents which comprise the Player Assessment System are shown as Appendix B. This system was pilot tested on several groups, revised, and finalized. During the period of testing, it became apparent that there was a conflict between the concept of "free play" and the use of detailed training objectives that were based on player behavior. "Free play," as used in the CATTS scenarios, meant that the battalion commander could undertake any type of tactical action (within certain practical limits) in order to complete the mission of the battalion. This unrestrained decision making environment meant that specific tactical actions could not be predicted prior to the exercise. On the other hand, training objectives were designed for anticipated tactical actions and specific sequence of events. During the pilot testing, it became apparent that certain training objectives were not being met due to the unpredictability of behavior, but not necessarily due to the inability of the players to complete the mission.

Another, and highly correlated problem, was that the standard CATTS exercise was of four hours duration. This long time created certain vigilance problems with those personnel who assessed the player behavior. To test the theory that free play and problems with a long time frame were negative influences on player assessment procedures, a special 30-minute scenario was developed that involved rather narrow tactical limits. The assessment procedure was then applied to this special scenario, and it was found that it could be a meaningful and useful instrument for evaluating player behavior.

A summary report which presents both the attitude measurement questionnaires and data resulting from their administration is presented in Appendix C. The questionnaires proved to be meaningful instruments for both assessing player behavior and identifying specific system capabilities and limitations. For example, it was determined that most players viewed the CATTS device in a very positive manner. They believed that it was an excellent tactical simulator and could be effectively used by the Army.

System capabilities were also clearly delineated. For example, it was found that, although the device realistically simulates personnel casualties, equipment losses, and friendly movement rates, it does not realistically simulate either gasoline expenditures or organic air defense weapons employment.

An additional finding concerned both players' and observers' views on the general concept of tactical simulation. It was generally agreed that due to the increasing costs associated with ammunition, vehicles, and petroleum, the decreasing availability of training areas for large scale tactical exercises, and the increasing concern with environmental contamination, large scale tactical simulation would be an increasingly important concept in the future Army training system.

DISCUSSION

The development of this first generation CATTS device has demonstrated the feasibility of using large scale tactical simulation as a supplement to actual field training. This device is unique in that it requires the practicing of command and control functions which are basically cognitive. Many simulators, such as flight simulators, require cognitive functioning, but focus on the practicing of motor skills.

Another advantage of the device is the creation of an environment where realistic staff interaction can occur. Since the effective functioning of any staff requires that individual members work together for mission accomplishment, this device offers training in an environment that is conducive to the practicing of both individual and group skills.

Much research remains to be accomplished with the CATTS device. Although specific system capabilities and limitations have been identified for varying types of tactical factors, the general command and control capabilities remain to be investigated. Questions such as the proper participants (e.g., service school student or incumbent staffs), and proper composition of player groups need to be answered. Finally, it is most important that the training effectiveness of the CATTS device be systematically determined. This latter issue is the critical question whenever real world simulation is attempted.

APPENDIX A

CATTS CONTROLLER'S MANUAL

INTERIM CATTS CONTROLLER'S MANUAL

by

HumRRO Division No. 4

and

CATTS Directorate

May 1975

Human Resources Research Organization
Division No. 4
Fort Benning, Georgia 31905

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Introduction

The purpose of this section of the manual is to acquaint controllers with the aims of the Combined Arms Tactical Training Simulator (CATTS) System and its composition. In addition, this section will briefly address the rationale and history of the CATTS System.

Aims of the CATTS System

The basic aim of the CATTS System is to train battalion level command groups to effectively perform a variety of tactically oriented command and control functions. Implicit in this statement of purpose is the requirement to promote the effective development and implementation of tactical decisions.

It is generally agreed that the primary factor influencing the effectiveness of a tactical decision is the accuracy and reliability of the information on which the decision is based. Further, it is also agreed that the execution of tactical decisions is highly dependent upon the effective initiation, direction, and coordination of the activities involved in the solution of a tactical problem.

Accordingly, it may be concluded that the skills to be addressed and affected by the CATTS System are:

(a) the acquisition, interpretation, and integration of information pertaining to an ongoing combat operation.

(b) the application of previously learned knowledge, concepts, and doctrine to the solution of a tactical problem.

(c) the initiation, direction, and coordination of those activities required to effect a solution to a tactical problem.

Composition of the CATTS System

The CATTS System consists of three major components:

(a) the battalion level command group in its tactical operation center,

(b) the ground combat simulation model resident in a Xerox Sigma 9 digital computer,

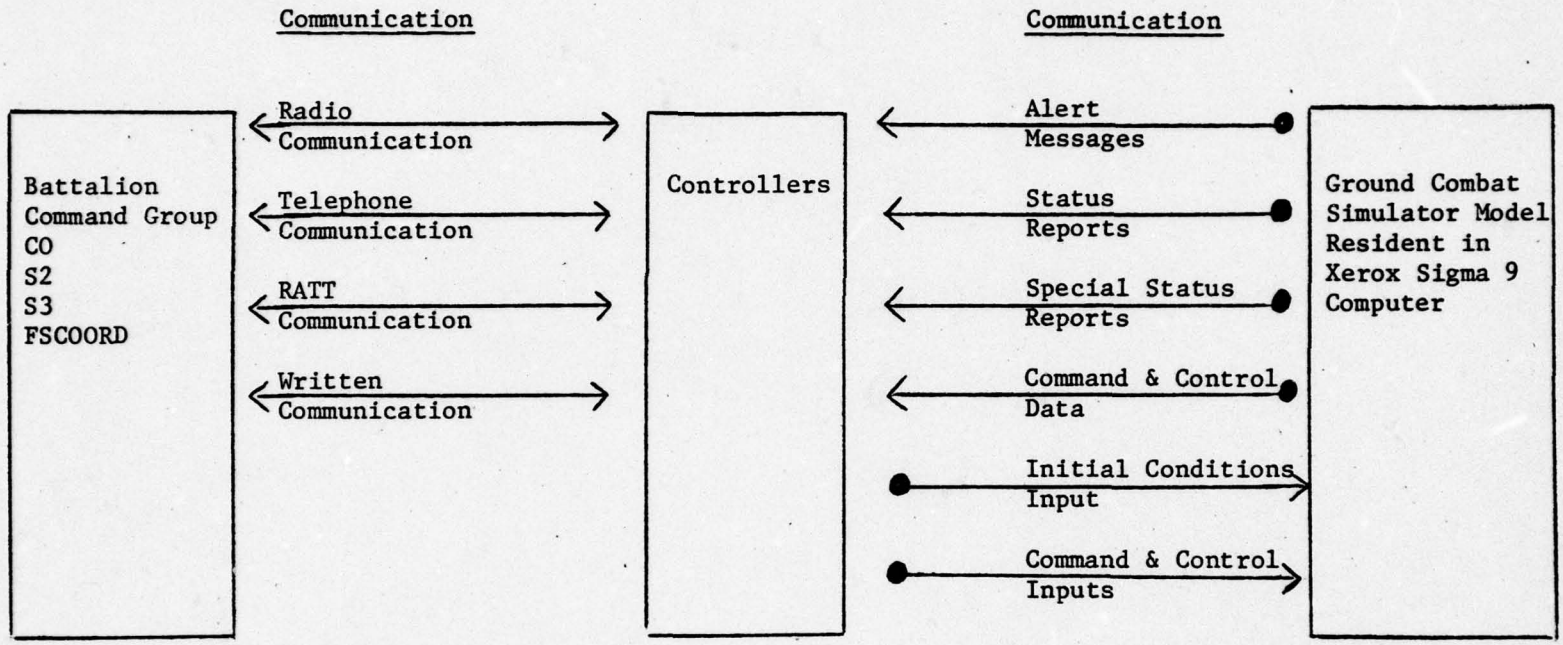
(c) the controllers and their command and control consoles.

The relationship of these components to each other is presented in Figure 1.

The battalion level command group composed of a Commander (CO), an Intelligence Officer (S2), an Operations Officer (S3), and a Fire Support Coordinator (FSCOORD). It operates in a simulated tactical operation center (TOC). The simulated TOC configuration consists of three full-scale mockups of the M577A1 Command Post, and one full-scale mockup of an M113B1 Armored Personnel Carrier (APC). The TOC is equipped with three communication systems: radio, telephone, and RATT systems. In addition, written messages may be transmitted by courier.

Figure 1

Relationship of the CATTS System Components



The ground combat simulation model is an interactive real-time simulate and is resident in a Xerox Sigma 9 digital computer. The model is designed to simulate the many activities of units during a ground combat operation involving friendly and aggressor forces. Its data base addresses those factors which are thought to have a significant impact on the course of a combat operation: the characteristics of the engagement, the characteristics of ground movement, the characteristics of the environment, the characteristics of the friendly and enemy organic and supporting units, the characteristics of the tactical operation, the characteristics of the friendly and enemy targets, the detectability of friendly and enemy units and interactions among these factors. The computer simulate also provides reports of the combat situation on a real-time basis to trainer personnel (controllers): messages, status reports, and special status reports. In addition, it provides data to the trainers' consoles which can be used to assess the current status of the combat operation.

The battalion command group interacts with the computer simulate through trainer personnel called controllers. Controllers in the CATTS System assume three distinguishable, yet interrelated roles. First, controllers serve as command and staff officers of higher, subordinate, and adjacent maneuver and combat support friendly units. It is when performing these duties that the controllers directly communicate with the battalion command group. The controllers' activities in this respect involve commanding and controlling friendly forces.

In the two remaining roles, controllers do not directly interact with the battalion team. In the second role, controllers manage enemy forces and the ground combat operations. In the third role, controllers operate as trainers and have the responsibility of ensuring that the battalion command group has an opportunity to complete the training objectives developed for a given combat exercise.

Controllers communicate with the battalion command group over three communication systems (radio, telephone, and RATT system) and by written messages. Controllers communicate with the computer simulate through a set of command and control switches located on their operating consoles. In addition, these consoles contain controls which allow the controllers to obtain a visual overview of the combat operation. Finally, controllers receive communications from the computer in terms of the alert and status report messages. As a consequence, controllers play the key role in the effective use of the system.

Thus, in summary, the CATTS System is a computer-supported simulator with a sophisticated audio-visual system and a mathematical model designed to realistically simulate ground combat operations. It includes a full-scale mockup of a battalion tactical operation center (TOC) with fully functional communications equipment to include radio, telephone, and RATT systems. The system is designed to provide a realistic training situation (in real-time) in which a battalion command group composed of a

CO, S2, S3, and FSCOORD can conduct a tactical ground combat operation against an aggressor force. This is accomplished under the guidance and with the aid of controller personnel who implement and guide the system. Thus, it can be seen that the controllers are the key to the effective functioning of the system.

Rationale and Background of CATTS.

In March of 1969, a Brigade Commander in Vietnam wrote to the Infantry School and suggested that a simulator for training battalion commanders was needed. He indicated that new battalion commanders generally were unprepared to command in an airmobile environment. As a consequence, he indicated, these new battalion commanders went through a totally new experience when they went into battle for the first time. Further, he suggested these commanders did not perform as well as they might have performed if they had been better prepared for the experience. He suggested that a simulator for training battalion commanders might be a possible solution to this problem. Such a device would provide an opportunity to bridge the gap between the theoretical and actual application of command and control principles.

This letter identified a critical training need which extends, both in time and importance, beyond the immediate circumstances in which it gained formal recognition. Commanders and staff officers in future battlefields are likely to have a greater variety of complex tools to manage, and less time in which to manage them, than any

commanders since the beginning of warfare. During the past several decades, technology has placed a large arsenal of sophisticated weaponry at the disposal of the combat leader -- at every echelon of command. Commander mobility has been significantly improved by new generations of ground combat vehicles and aircraft; his ability to communicate, gain information and give orders, far exceeds that of his predecessors. Logically, arsenals will become even more complex; transportation will become more rapid; and communications will be more efficient in the future. Consequently, the knowledge and skill required to manage these new systems will increase.

Advancing technology will continue to have its influence on reducing the time available for decision making. Sensing changes in the situation, evaluating the impact of those changes on the organization and mission, and responding with appropriate actions and orders will, as always, be the responsibility of command. The challenge of commanding and controlling combat operations on future battlefields will require commanders that not only know what action to take in a broad variety of situations, but how to do it within the constraints of limited time.

New challenges to the combat leader carry with them a challenge to those who prepare him for combat. For the instructor, the challenge of tomorrow's battlefield means developing more and better training programs. Obviously, the logical candidate for exercising the student

in the management of complex man-machine systems would be programs that stress realistic, hands-on training. All too often, however, the availability and cost of those elaborate systems preclude actual equipment and live exercise training. Therefore, it becomes the instructor's task to bridge the gap between conventional means of presenting theory and doctrine in the classroom and the application of that theory in actual combat.

Simulation, as a training technique, is one way of bridging the gap. The CATTS System, as it now exists, represents the end product of a plan of research into the application of simulation techniques to the training of infantry officer personnel. The first stage in this research was to develop a special class that permitted prospective commanders to exercise their skills by responding to the demands of a simulated airmobile operation in Vietnam. This simulation was developed using recorded radio transmissions, film strips, slides, and Vu-graph transparencies.

The second stage in this research was to incorporate a terrain model into the existing visual aids and to expand the number of players to include an entire command and control team.

The third stage is the CATTS System, for which this Controllers' Manual was written. As indicated above, it is a computer-supported simulator with a sophisticated audio-visual system and a resident

simulator which models the events of a confrontation between friendly and aggressor forces accenting to the inputs from a command and control team. It is believed that this system will exploit the full potential of simulation as a training technique and allow for the production of officer personnel ready to accomplish battalion level missions at a high level of proficiency.

Chapter I

CATTS Subsystems Descriptions

CATTS Subsystems Descriptions

The purpose of this section of the manual is to acquaint controllers with the various subsystems that together comprise the CATTS (see Table 1). This discussion will focus on the purpose, the composition, and the operation of each subsystem.

The Computer Subsystem

The purpose of the computer subsystem is to execute the instructions of the math model software and to serve as the primary interface between the simulated tactical environment and the other subsystems. This subsystem is composed of two components: hardware elements and the software elements.

The Hardware Elements. The hardware component consists of a standard XEROX Sigma main frame, a multiple input/output (I/O) processor, the I/O devices required to support the other subsystem functions, and a character oriented controller. This hardware is designed and inter-connected to support the functioning of the executive software and the other subsystems.

The Software Elements. The software elements consist of the Executive Software and the CATTS data base. The Executive Software controls all real-time, interactive processes within CATTS. To accomplish this function all switches and input devices monitored by the Executive software are polled periodically to identify any

Table 1

List of the Subsystems Comprising the CATTS

1. Computer Subsystem
2. Controller Station Subsystem
3. Simulation Control Subsystem
4. Map-Video Subsystem
5. Player Station Subsystem
6. Observer Station Subsystem
7. Audio Recording/Playback Subsystem
8. Communication Subsystem
9. Alert Message/RATT Subsystem
10. Graphics Display Subsystem
11. Command and Control Subsystem
12. Math Model Subsystem

changes that have occurred since the last polling. When a change is observed, the Executive Software makes a response appropriate to the change.

The CATTS data base contains the information which defines the current status of the tactical operation simulated by the math model. This data base is updated by the math model periodically. In addition the data base is the primary means of communication between the math model and the remaining subsystems via their respective software modules.

The Controller Station Subsystem

The purpose of the controller station subsystem is to provide individual controller personnel a means of communicating and interacting with (a) the math model, (b) the members of the battalion level command group, (c) other controller personnel, and (d) observer personnel. The subsystem consists of three hardware consoles: a principal controller console and two assistant controller consoles. Each console is designed to be manned by three controllers: a primary controller and two secondary controllers. Thus, the system as a whole is designed to be operated by a total of nine controller personnel.

General Description of the Controller Consoles. The controller consoles consist of the components listed in Table 2. Except for the components noted in this table, the principal controller console is exactly the same as the two assistant controller consoles.

Table 2

List of Controller Console Components

I. Video CRT Display

II. Simulation Control Panel

- a. Command and Control controls
- b. Graphics controls
- c. Elements controls
- d. Sensor controls
- e. Weapons controls
- f. Control Measures controls
- g. Video Contrast control
- h. Remote TV Camera control
- i. Simulation Controls*
- j. Audio Recorder controls*

III. Analog Data Pen/Data Tablet

IV. Alphanumeric CRT Display

V. Alphanumeric CRT Keyboard

- a. Alphanumeric function keys
- b. Special function keys

VI. Alphanumeric Printer

VII. Primary and Secondary Communication Panels

- a. Radio Monitor controls
- b. Clear and Secure Transmission controls
- c. Radio Static/Jamming controls*
- d. Telephone Monitor controls
- e. Telephone/Intercom Dialing controls
- f. Switchboard controls*
- g. Background Noise controls*

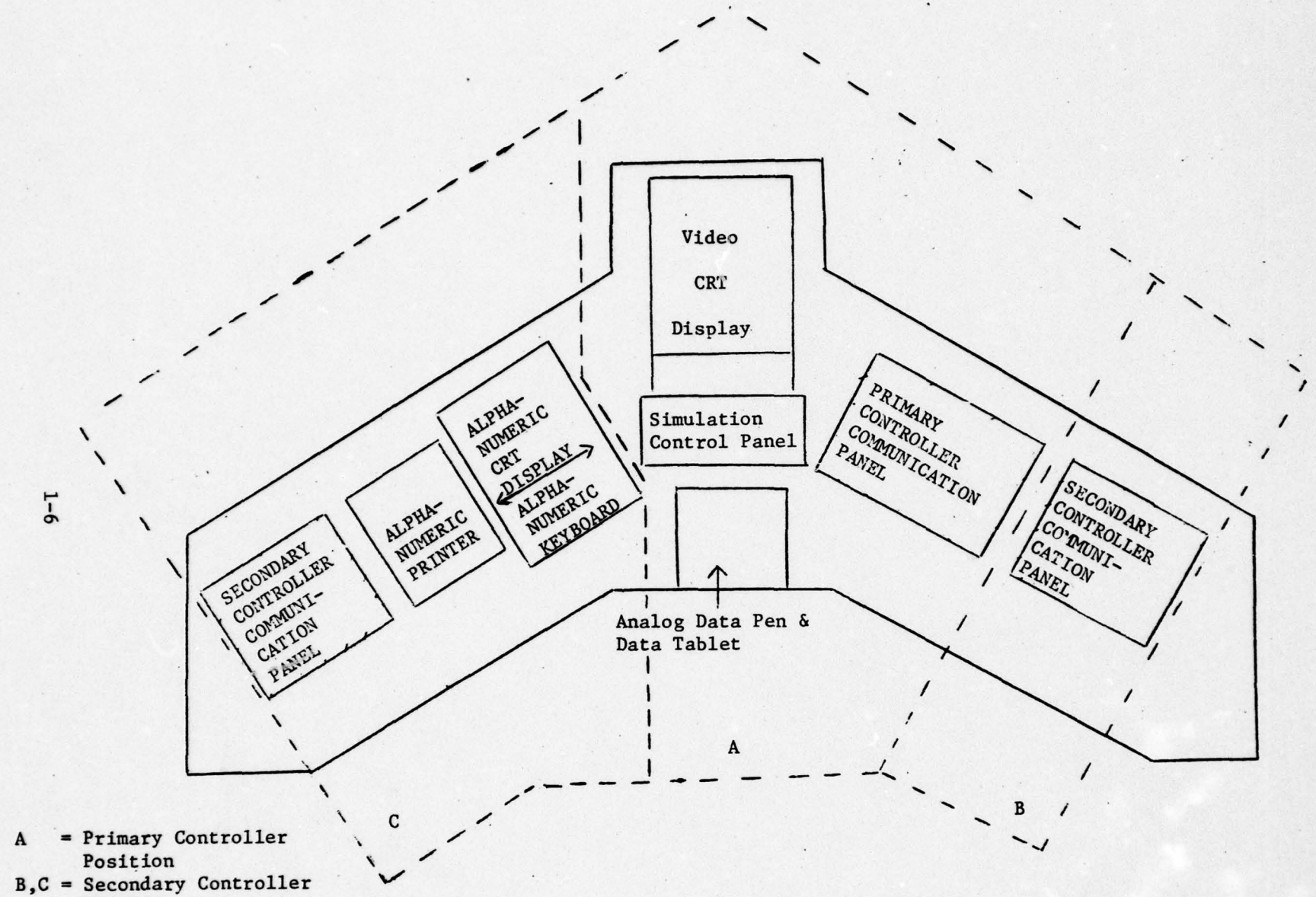
* Principal Controller Console Only

The primary visual display of each console is a 19-inch diagonal color TV monitor, the Video CRT display. The Video display is used to present the gaming area map with appropriate tactical symbols being superimposed. It is located in the center of each console (see Figure 1).

Mounted directly below and in front of the Video display is the Simulation Control Panel. This panel contains the controls for (a) interacting with the math model, (b) running the simulation, (c) "calling-up" the tactical symbology, (d) orienting the remote TV camera, (e) changing the Video contrast, and (f) recording audio input from the Tactical Operations Center (TOC).

Directly in front of the Simulation Control Panel is the Analog Data Pen and Data Tablet. These components are used in conjunction with the controls for interacting with the math model in the computer. In particular, the pen and tablet are used to control a cursor (a set of horizontal and vertical lines which intersect to form a cross) on the Video display to: (a) select command and control menu items, (b) designate selected units or points on the tactical map, and (c) erase or draw control lines.

Located to the left of the Video CRT display in the Alphanumeric Display and the Alphanumeric keyboard. The Alphanumeric Display is used to display Alert Messages, Status Reports, Special Status Reports, and RATT messages. The Alphanumeric keyboard is



A = Primary Controller Position
B,C = Secondary Controller Position

Figure 1, Controller Console Layouts & Controller Positions

used for instructing the computer to send "canned" messages, current Alert messages, and specially constructed messages to the battalion command and control group. In addition, it contains special function keys for editing messages, calling up Special Status Reports, saving Alert Messages, recalling saved Alert Messages, deleting Alert Messages displayed on the Alphanumeric display, printing messages displayed on the Alphanumeric display, sending Alert Messages to other controllers, and creating "canned" messages for RATT transmittal.

On the left of the Alphanumeric Display and keyboard is the printer. It is a receive-only terminal with a variable print rate which is preset prior to an exercise. Both upper and lower case letters are printed.

On the right of the Video CRT display is the Primary Controller's Communication Panel. It is designed so that the following activities can be accomplished:

(a) monitor any one or combination of 17 simulated radio channels

(b) transmit over any one simulated radio channel at a time in either the clear or secure mode

(c) monitor and transmit as a telephone/intercom communication system

(d) announce over a public address system

On the far left and far right of the controller console is the secondary controllers' communication panels. These have exactly the same functions as the primary controller's panel with two exceptions. At the principal controller console, the two secondary controller communication consoles are additionally equipped. The left hand secondary controller communication panel has a set of controls for static and jamming. These controls can be set to introduce on each simulated radio channel a specified amount of static and/or jamming.

The right hand secondary communication panel, at the Principal Controller Console, is additionally equipped with a set of controls for introducing battleground noises into specified areas of the Tactical Operation Center and the Commander's Vehicle. In particular, background noise, incoming artillery noise, outgoing artillery noise, and battle sounds may be separately introduced into these areas. Further, the intensity (volume) and directionality of these sounds may be appropriately varied as the circumstances dictate.

It should be noted that the description of the components of the Controller Station Subsystem has been relatively brief. This is because these components represent subsystems in their own right and as such will be addressed more fully in subsequent sections of this part of the manual.

Simulation Control Subsystem

The Simulation Control Subsystem is designed to allow the principal controller to control the sequential operation of the tactical operation simulated by the math model by controlling the computer. The controls for this subsystem are located on the principal controller console at the primary controller position (see Figure 2). In addition to these controls, there is a Simulation Control Menu (see Figure 3). With these controls and the associated simulation control menu the principal controller can:

(a) load the math model and initialize the system

(b) place the system in the "Freeze" mode

(c) cause the simulation to commence execution after initialization or from the "Freeze" mode

(d) restart the exercise from a prior time step

(e) replay a current exercise

(f) reinitialize the math model

(g) terminate an exercise

Math Model Initialization. The first step in the initializing procedure is to select the appropriate scenario, time, and Alert/RATT message loading decks and place these into the computer's card recorder. Next, the letter C and the New Line key are successively

Figure 2

Simulation Controls on the Principal Controller's Console

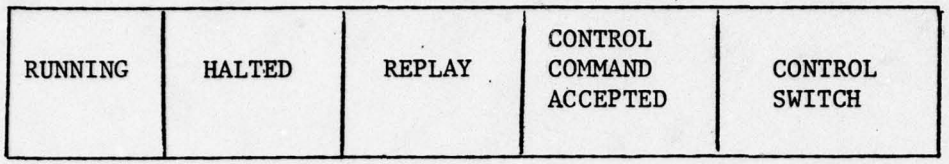
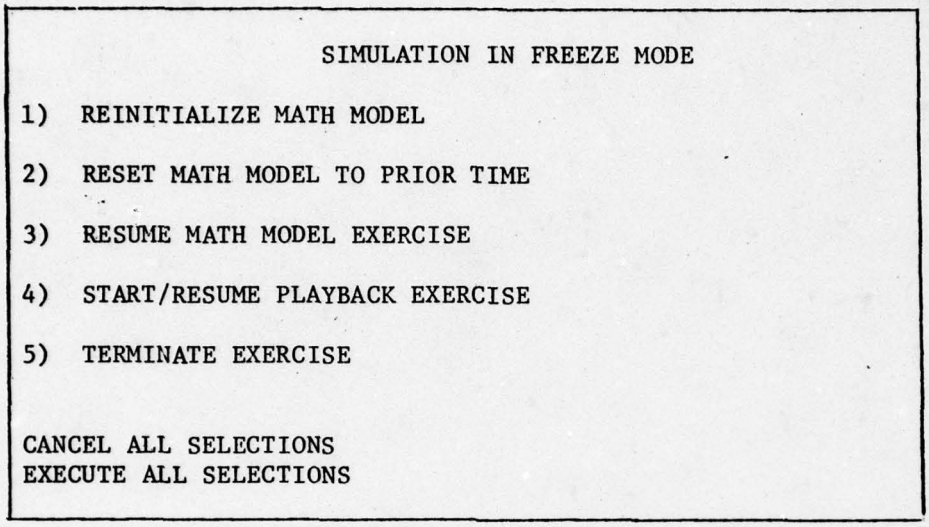


Figure 3

Simulation Control Menu



typed into the computer on the Alphanumeric keyboard. The card decks will then be read by the card reader. After this is completed, the message, "RELOCATE UNITS", will appear on the Video display. At this point, the CHANGE UNIT LOCATION command and control function key on the Simulation Control Panel may be employed to call up the CHANGE UNIT LOCATION MENU. This menu may be called up and units may be relocated by following the sequence of operations listed below:

1. Depress the FORCE control corresponding to the force having a unit relocated.
2. Depress the LEVEL control corresponding to the level to which the unit being relocated is a member.
3. Depress and hold down the CHANGE UNIT LOCATION control until the lamp behind it is lit.
4. Wait until the CHANGE UNIT LOCATION menu appears on the lower one-third of the Video CRT display.
5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the unit is to be relocated. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the unit relocation is to occur. Then, go on to the next step.

6. Employ the CAMERA JOYSTICK and GRAPHIC controls to display the current location of the unit being relocated.
7. Employ the CAMERA JOYSTICK control to display the battlefield area in which the unit will be relocated.
8. Inspect the UNIT column of the menu and place the Video Cursor over the unit which is being relocated.
   Next, activate the Analog Data Pen's tip switch.
9. Position the tip of the Video Cursor over the new location of the unit in the upper two-thirds of the Graphic CRT display and activate the Analog Data Pen's tip switch.
10. Position the Video Cursor over the point on the LENGTH SCALE corresponding to the unit's length at its new location. Next, activate the Analog Data Pen's tip switch.
11. Position the Video Cursor over the point on the WIDTH SCALE corresponding to the unit's width at its new location. Next, activate the Analog Data Pen's tip switch.
12. Position the Video Cursor over the direction on the DIRECTION SCALE in which the unit will fire at its new location. Next, activate the Analog Data Pen's tip switch.
13. Position the Video Cursor on the word DONE in the lower right hand portion of the menu and activate the Analog Data Pen's tip switch.

In addition, any other command and control function key may be employed at this time to change other initial conditions.

Next, the computer will display the message "DEACTIVATE UNITS". At this point, the DEACTIVATE UNITS command and control special function key may be employed to call up the DEACTIVATE UNITS MENU. This menu may be called up and units may be deactivated by following the sequence of operations listed below:

1. Depress the FORCE control that corresponds to the force that will have a unit deactivated.
2. Depress the LEVEL control that corresponds to the level at which the unit being activated is assigned.
3. Depress and hold down the DEACTIVATE UNITS control until the lamp behind it is lit.
4. Wait until the DEACTIVATE UNITS menu appears on the lower one third of the Video CRT display.
5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the unit deactivation is to occur. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the unit is to be deactivated. Then, go on to the next step.
6. Inspect the UNIT column of the menu and place the Video Cursor over all units except the one to be deactivated, activating the Analog Data Pen's tip switch at each placement.
7. Position the Video Cursor on the word DONE in the lower right hand portion of the menu and activate the Analog Data Pen's tip switch.

In addition, any other command and control function keys may be employed at this time to accomplish other changes in the initial conditions.

Next, the computer will display a message asking if any other changes in the initial conditions are desired. These may be accomplished at that time by employing the appropriate command and control function keys. Finally, after all changes have been completed, the computer will finalize initialization and the model will be ready to run.

Math Model Activation. To activate the model, the CONTROL SWITCH on the Simulation Control Panel is depressed twice in succession. This will cause the system to be put briefly in the "FREEZE" mode and then in the "RUNNING" mode. When in the "FREEZE" mode the HALTED light will come on, while in the "RUNNING" mode, the RUNNING light will come on.

Halting the Math Model. After the model is running, it may at any time be stopped by depressing the CONTROL SWITCH. After control has been accepted, the CONTROL ACCEPTED light is turned on. When the model reaches the next time step the RUNNING light will turn off, the CONTROL ACCEPTED light will turn off, and the HALTED light will turn on. At this time the exercise will be in the "FREEZE" mode. Also, the Game Clock will increment itself at this time.

Employment of the Simulation Control Menu. This menu is employed only when the modeliis in the "FREEZE" mode. First, to call up the menu, the Video Fade Control on the Simulation Control Panel is employed to fade out the video image. The menu will then appear after this is completed, the Video Cursor manipulated by the Analog Data Pen will appear on the screen with the menu. At this point, any selection on the menu may be designated by employing the Analog Data Pen to move the Video Cursor over the selection identified for initiation and depressing the pen's tip switch. After the tip switch has been depressed, an asterisk will anpear before the selected menu selection.

To execute the selection, the Analog Data Pen is used to place the Video Cursor over the phrase "Execute All Selections" which appears at the bottom of the menu. After placement, the pen's tip switch is activated and instructions for initiating the selection will appear on the video screen for items 1, 2, and 5. For items 3 and 4 the selection will be immediately executed. To cancel a selection, the Video Cursor is placed over the phrase "Cancel All Shlections" which also appears at the bottom of the menu and is activated.

By using this menu, the model exercise may be:

(a) Reinitialized either by reinitializing the game time of the current scenario or by loading a new scenario.

(b) Reset to a prior time during the exercise.

(c) Resumed.

(d) Played back.

(e) Terminated.

Finally, after all input has been accomplished using the Simulation Control Menu, the Video Fade Control is employed to fade the video image back onto the video display.

Map-Video Subsystem

The primary function of the map-video subsystem is to provide controller personnel with a visual presentation of the operations area of the math model exercise with appropriately superimposed tactical symbology. Through this subsystem, controller personnel receive the visual stimuli required for interacting with the math model to implement (a) player orders and actions, and (b) controller directed performance objectives appropriate to a tactical situation.

This subsystem consists basically of hardware components:

(a) three TV cameras and associated hardware for mounting and control of movement

(b) three special purpose, free standing map boards of cylindrical configuration (8' x 4.67' x 6') with appropriate terrain maps: (scale, 1:50,000)

(c) three video displays

(d) one Ramtek Graphics system for generating the tactical symbology

The system is arranged in the following manner: For each of the Video CRT displays at the three controller consoles, there is a corresponding TV camera and map board with a terrain map. Thus, controllers are presented with separate camera views of these maps. By employing the pan/tilt and zoom controls on the Simulation Control Panel they can cause the TV camera associated with their video display to rotate left or right, up or down, or zoom in and out. These controls are continuous in nature and uncalibrated. Thus, their employment is entirely on a qualitative basis. As desired controllers can select particular areas of the map to be viewed. Tactical symbology for the areas viewed can then be displayed by engaging the appropriate controls on the Simulation Control Panel. In all cases, friendly forces will be shown in blue, aggressor forces will be shown in red, and control measures will be shown in white.

Further, since each camera is connected to its own map board, controllers can independently view and make decisions relating to the terrain map and area of operations.

Finally, the Ramtek Graphics system is the heart of this subsystem. It provides the means by which the tactical symbology can be superimposed on the video image of the area display. The computer determines the portion of the map in each camera's field of view and operates the Ramtek system to present tactical symbology for that area.

Player Station Subsystem

This subsystem is designed to simulate a tactical operation center (TOC) which is employed in a field situation. The layout of this subsystem is presented in Figure 4. The components of the subsystem are:

(a) one M113A1 armored personnel carrier (APC) mockup

(b) three M577A1 command and control vehicles (CCV) mockups

(c) tentage to connect the M577A1 mockups

(d) the military equipment required to duplicate the interior of each vehicle mockup

In particular, with respect to equipment, the full communication system employed in a field TOC is simulated. This includes fully functional radios, telephones, and a radio teletypewriter (RATT) indistinguishable from the real-world items

Specifically, the following communication equipment is contained in each simulated vehicle: In the M113A1 mockup there is a radio and a telephone system appropriate for a CO. The M577A1 mockup contains radio and telephone systems appropriate for the three staff-officer roles (S2, S3, and FSCOORD). Further, the RATT equipment is placed in the S2's simulated vehicle. As described in the Communication Subsystem section, radios are set up so that jamming and static may be introduced by the controller personnel at the Principal Controller Console. Radios and telephones are operated according to standard U.S. Army practice.

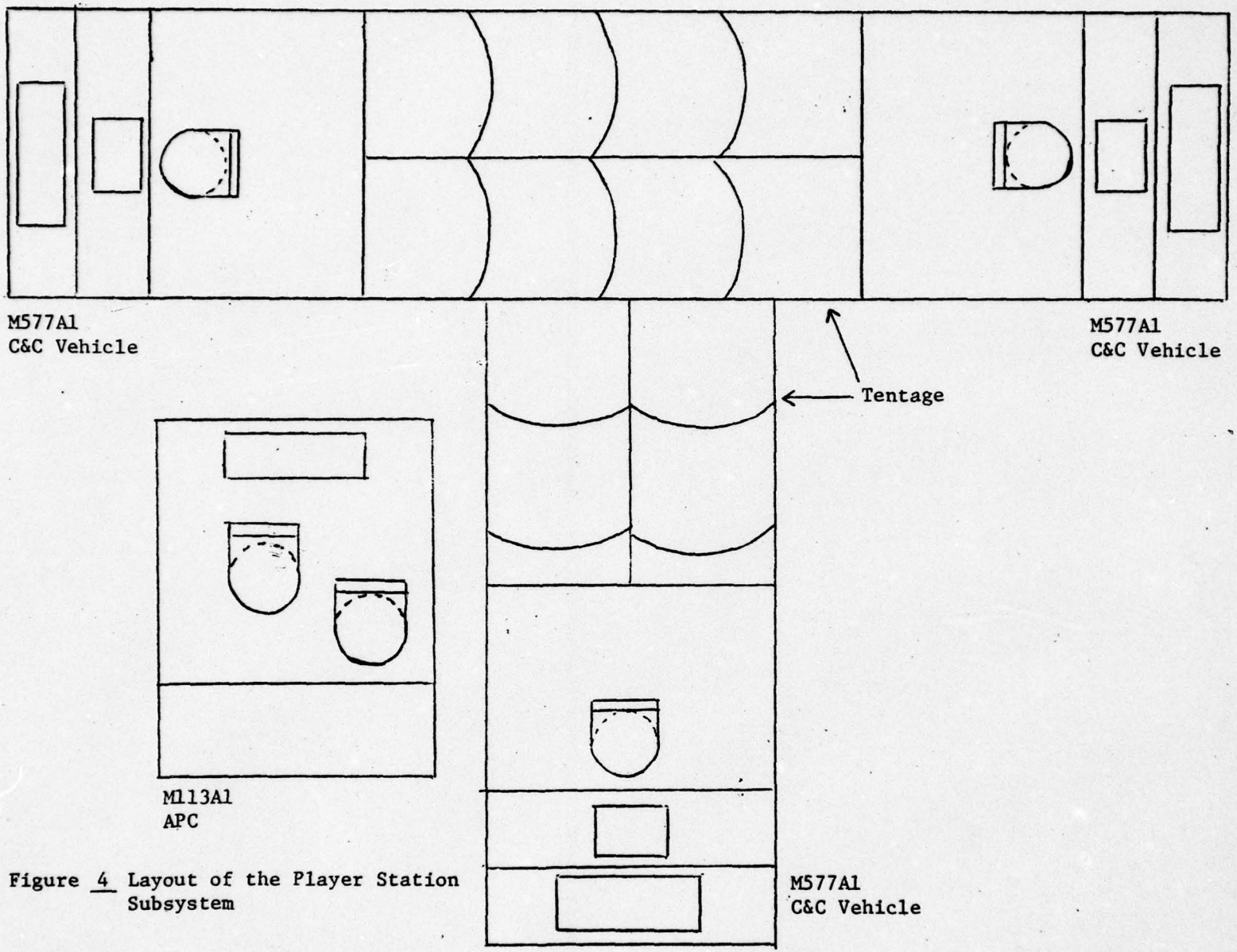


Figure 4 Layout of the Player Station Subsystem

In addition to the communication system in the TOC, five microphone pickups are contained in each of the simulated vehicles. These devices provide a means by which intra-TOC communications can be monitored by observers and/or controllers or recorded for playback.

Finally, high fidelity speakers are situated in the CO's vehicle and the TOC area for the purpose of broadcasting a variety of background military sounds: incoming and outgoing artillery, battle noise, and APC motor and generator noise. This noise is regulated by controller personnel at the Principal Controller Console according to the tactical situation surrounding the TOC area.

Observer Station Subsystem

This subsystem is designed to provide eight observer personnel with the capability of monitoring all battalion level command group-controller communications activity and viewing the development of the tactical situation associated with the exercise simulated by the math model. This is accomplished through the monitoring of command group/controller and intra controller conversations which occur over the simulated radio and telephone channels and through the observation of controller video map/graphics displays.

This subsystem is essentially composed of hardware components that are tied into a set of eight control panels mounted in metal consoles. Each panel is similar to the controller communications panel. In particular, these panels have a series of alternate action, push buttons for monitoring all clear and secure radio transmissions and transmissions over the simulated telephone circuits. Observers may only communicate with each other over their own intercom system. Finally, all observers are equipped with a headset for the monitoring activity.

To complete this subsystem each set of four observers has a 19-inch, color, video monitor located in front of it. The information displayed on any of the three controller monitors can be relayed and presented on the monitors. One observer in each group is provided a set of controls for selecting which controller monitor is to be observed by the group.

Audio Record/Playback Subsystem

This subsystem is designed to allow two sets of communications to be recorded: (1) controller-player and player-player communications taking place over the simulated communications channels and (2) conversations recorded over the microphones placed in the player's stations. The principal controller has the capability of replaying any or portions of the recorded communications. As these are replayed, the controller can synchronize the conversations with the recorded visual graphics.

This subsystem is composed of a multi-channel recording system. Control pushbuttons are located on the principal controller's console. They are designed to allow him to record, play, stop, advance the recordings fast, or rewind fast.

In addition, through application of the Simulation Control Menu, there exists the capacity to record and playback selectively and to synchronize replay of the audio recordings with the playback of the graphics recordings.

Communication Subsystem

The primary purpose of the Communication Subsystem is to provide a means for controller-battalion command staff and intra controller radio and telephone/intercom communications. In addition, this subsystem has components designed to provide (a) simulated static and jamming for the radio component of the subsystem, (b) a background noise input into the battalion command staff area, (c) a means for monitoring intra command group conversations, (d) a means for recording and playing back all radio and telephone conversations, as well as, intra command group conversations, and (e) a means for addressing all personnel in the immediate area of CATTS. The system consists of seven hardware subsystems:

(a) the radio network

(b) the radio static and jamming subsystem

(c) the telephone/intercom network

(d) the background noise subsystem

(e) command group audio pickup subsystem

(f) audio record/playback subsystem

(g) public address subsystem

The Radio Network. The purpose of this component is to provide the command group members with realistic radio communication utilizing equipment in the TOC indistinguishable from actual field radio gear. The network as it now exists has 17 active audio channels with the capability of expansion to 22 active audio channels. The audio channels are provided for command staff-controller communication and, as well for intra-controller communication called for by the tactical situation. In addition, controllers may simultaneously monitor any of these channels. The eight observer personnel have the capability to simultaneously monitor any or all channels, but do not have transmission capability. Description of the initiation and completion of radio communications are found in the Man-Machine Task section of this manual.

The Radio Static/Jamming Subsystem. The static and jamming sounds are realistic and were developed for the CATTS by the U.S. Army. This input into the radio network is derived from a TRW

recorder/playback system. These signals are added to the audio signals of the designated radio channel(s) regardless of mode. The system is set up so that all input is heard in all headsets, simulated radios, and recordings that monitor the designated channel(s).

These signals are added to the audio channel(s) only during the time a transmission switch is operated. The controls for this subsystem are located on the left hand secondary controller communication console at the Principal Controller Console. A description of the procedure for using this subsystem is presented in the Man-Machine Task section of this manual.

The Telephone/Intercom Network. This network is also designed to provide for command group-controller communication, intra-controller communication, and intraobserver communication. In addition, observers and controllers may monitor any telephone conversation. Five telephones are located in the command staff area and are connected to a telephone switchboard located at a secondary controller position. The controller switchboard operator has the responsibility for answering all calls from the command staff. Descriptions of the initiation and completion of telephone/intercom communications, as well as, switchboard operation are presented in the Man-Machine Task section of this manual.

The Background Noise Component. This component is made up of two sets of four speakers and the other equipment and input required to produce realistic battlefield sounds. Four speakers are located in the TOC area so as to provide north, east, south and west sounds. In addition, four speakers are located in the commander's vehicle, located to provide north, east, south and west sounds. The input for this subsystem is provided by U.S. Army developed recordings of actual battlefield sounds (incoming artillery, outgoing artillery, battle noises, and vehicle noises) which are derived from a TRW recorder/playback system. The volume and direction of this noise is controlled by controls located on the right hand secondary controller communication panel at the Principal Controller Console. A description of the procedure for using this subsystem is presented in the Man-Machine Task section of this manual.

Command Group Audio Pickup Subsystem. This subsystem provides controllers and observers with the capability of monitoring command staff communications from any or all of five strategically placed microphone pickups. All microphones and their associated support equipment are installed in the battalion command staff area. When monitoring it is possible for a given individual to simultaneously monitor radio, intercom, and telephone conversations, and as well as, command staff audio pickup signals. A description of the procedure for using this subsystem is presented in the Man-Machine Task section of this manual.

Audio Record/Playback Subsystem. This subsystem has the capability of recording 16 radio channels, 5 player audio pickups and 5 player telephone conversations. A TRW 20 channel audio recorder is employed to perform the record/playback function. A set of remote controls for this recorder is located on the Principal Controller Console on the Simulation Control Panel. A description of the procedure for recording/playing back is found in the Man-Machine Task section of this manual. During playback, audio signals are heard by everyone in the same way they would have heard them during the exercise.

Public Address Subsystem. This subsystem provides controllers the capability of broadcasting over all headsets and speakers in the CATTS area. The procedure for using the public address system is described in the Man-Machine Task section of this manual.

Message/Report/RATT Subsystem

This subsystem is designed to provide controller personnel (a) information about the events occuring within the math model exercise and (b) with the capability of communicating with the battalion command staff group via Radio Teletypewriter (RATT).

Information to the controller from the math model is provided in three forms: alert messages, periodic status reports, and special status reports. Alert messages and periodic status reports are generated by the model without any input from controllers. Special Status Reports, however, are called up by controllers.

The alphanumeric display and keyboard are the primary controls involved in this subsystem. The display is a 25 line alphanumeric display. The lines on the display are blocked out so that each message can be presented in one of a number of standard military message formats (e.g., the format for the situation report). Messages are routed selectively to one or more controllers according to his role so that each controller does not have to receive all messages. Messages are classfied for routing on a unit basis so that all messages originating from the selected units will be sent to the designated controllers.

The first message received by a controller will be presented in the lowest block of the Alphanumeric display. This message remains "current" by residing in the lowest block until the controller acts upon it. Messages arriving after the current on occupy successively higher blocks on the display. When no more blocks are available for presentation, messages are lined up for display based on their arrival times.

The alphanumeric display also presents three indicators of interest. The first is the number of newly arrived messages waiting to be presented on the current message block. This information serves to indicate the extent of system overload. The larger the number, the more messages stacked up, and hence, the larger the overload. The second is the number of messages placed in the save file. Finally, the third is the battle time.

Alert messages report information about the following kinds of events during an exercise:

(a) the crossing of control measures

(b) changes in environmental conditions

(c) changes in the disposition, strength, and location of friendly and enemy units

(d) the departure or entry by a unit into the map area

(e) changes in combat readiness/effectiveness of units

(f) change in the mode of travel

(g) changes in the rate of travel or movement

(h) the impact of ordnance

(i) the initialization or cessation of engagement by a weapons system

(j) the incapacitation of a unit due to lack of fuel or ammunition

These messages are generated by the computer each time one of the above classes of events occurs. They are displayed on the Alphanumeric display. Using the appropriate special function keys, these messages may be saved, printed, sent (to another controller), or dropped. The specific procedure for these operations are presented in the Man-Machine Task section of this manual.

Periodic Status Reports on each unit modeled by the math model are provided on a periodic basis, the length of the time period being determined prior to the exercise. Generally, unless otherwise changed, this time interval will be 15 minutes. These reports present the following information about each unit:

(a) unit designation

(b) unit location

(c) unit speed (KM/HR)

(d) current unit strength and amount of losses since last report

(e) unit equipment, basic load, current load, and percent change since last report

(f) unit ammunition, basic load, current load, and percent change since last report.

(g) unit fueld, basic load, current load, and percent change since last report

These reports are printed automatically on a printer located in the CATTS computer room and provide a permanent record for controller personnel.

Special Status Reports on particular units are provided only when the controller requests these reports from the computer. They are printed on the Alphanumeric line printer. These reports present the same information as Periodic Status Reports, but only for the units specifically requested. These reports can

be dropped or printed using the appropriate special function keys on the Alphanumeric keyboard. The specific procedure for this operation is found in the Man-Machine Task section of this manual.

In addition to providing information to the controllers concerning the status of the exercise simulated by the math model, this subsystem also provides controllers with the capability of composing and transmitting RATT messages.

There are two varieties of RATT messages: completely formated, canned messages and composed, real-time messages. Procedures for creating and transmitting these messages are provided in the Man-Machine Task section of this manual.

Graphics Display Subsystem

This subsystem is designed to allow controller personnel to display the tactical symbology associated with the friendly and aggressor forces simulated by the math model on the Video display.

The controls for calling up this tactical symbology are located on the Simulation Control Panel of each controller console. In general, controllers can call up the desired symbology by pushing the proper combination of alternate action pushbuttons located on this panel. When a button is depressed, it lights up and remains lit until it is depressed a second time. While lit, the symbology corresponding to the control is displayed. Guidance for displaying particular types of graphics information is provided in the Man-Machine Task section of this manual.

Five specific kinds of tactical information may be displayed on the video display using these controls. The first kind of information is called GRAPHICS. The Graphics controls are designed to display (a) the grid coordinates of the map area being viewed, (b) the minefields (if any) in this area, (c) the fortifications (if any) in this area, (d) the obstacles (if any) in this area, and (e) the front line traces associated with the area. In addition, an overview of the tactical situation for the area may be obtained. This kind of information may be called up for friendly and aggressor forces, separately or together.

The next kind of information is called ELEMENTS. The Elements controls are designed to display the area occupied, the command post location, and the direction of movement for combat, combat support, and combat service support elements. This kind of information may be obtained for both friendly and aggressor forces.

SENSOR information is the next kind of information that may be displayed in this system. The Sensor controls may be employed to indicate the coverage of the following types of sensors or intelligence systems: ground radar, unattended ground sensors, observation posts, night vision devices, and aerial survey/recon.

WEAPONS information is also presented using this system. The Weapons controls may be employed to indicate preplanned targets and impacting fire for the following weapon systems: AT rockets,

AT missiles, mortars, artillery, air defense systems, and air strike systems. As above, this information is available for both friendly and aggressor forces.

Finally, CONTROL MEASURES information is the last type of information handled by this system. Employing the control measure controls presents the control measures (points, lines, and/or areas) for platoon, company/teams, battalion/task force, brigade, and division command levels. Friendly and aggressor control measures may be displayed separately or together.

As indicated above, detailed instructions for employing each of these kinds of controls are found in the Man-Machine Task section of this manual.

Command and Control Subsystem

The purpose of this subsystem is to provide controller personnel with a means of interacting with the modeled tactical situation in a real-time manner. Thus, through this subsystem controllers cause the modeled battalion elements to behave as they or the command group orders.

This subsystem is composed of the following elements:

(a) the command and control pushbutton switches.

(b) the Analog Data Pen and Tablet.

(c) the Video monitor.

All of these elements are utilized by the controller during the employment of this subsystem. Control of the tactical situation during an exercise is achieved by making a variety of inputs using these controls. These inputs are summarized in Table 3. Such command and control inputs can be made for either friendly or aggressor forces. For friendly forces these inputs are made at the platoon, company, team and battalion levels. For aggressor forces the inputs are made at the company, team, and battalion levels.

In addition to the actions listed in Table 3, two additional actions may be performed using this system: Relocate units, or deactivate units. These actions, however, are only performed prior to the exercise to achieve changes in the initial conditions governing the modeled exercise.

In general, prior to making any command and control input, the controller must use the camera controls to adjust the orientation of the TV camera to bring into view the map area associated with a contemplated input. In addition, the map area of interest should be positioned so that most of it resides in the upper two-thirds of the Video display. This particular adjustment is necessary since the lower one-third of the display will be covered with the menu associated with the indicated input once the input sequence is initiated.

Table 3

Command & Control Actions Accomplished
Using the Command & Control System

1. Attach a Unit to a Team.
2. Delete a Unit from a Team.
3. Create a New Team.
4. Redeploy a Unit Within a Team.

5. Define a New Air Mission.
6. Delete an Old Air Mission.

7. Redefine the Air Defense Role of a Unit.

8. Move a Control Measure.
9. Add a Control Measure.
10. Delete a Control Measure.

11. Implement a Preplanned Operation.

12. Change the Percent of Basic Load Supply Level of a Unit.
13. Change the Standard Units Supply of a Unit.

14. Change the Percent of Fire Employed Against a Target.
15. Change the Rounds Per Minute Fired Against a Target.

16. Move a Unit to a Destination Along a Predefined Path.
17. Move a Unit to a Destination Along a New Path.
18. Change the Destination of a Unit.
19. Change the Unit Mission.
20. Change the Engagement Intent of a Unit.
21. Change the Compass Orientation of a Unit.

22. Change the Type of Weather Prevailing in the Battle Area.

Once map orientation has been completed, the actual input sequence for a particular command and control function may be initiated. Specific directions for accomplishing each input action, listed in Table 3, are found in the Man-Machine Task section of this manual. In general, the performance of these input actions follows this pattern:

(a) activate appropriate Force control switch

(b) activate appropriate Command Echelon switch

(c) activate appropriate Command and Control switch

(d) wait for the appearance of the Command and Control menu which provides a format for inputting the information required to accomplish the action

(e) input the time at which the Command and Control action is to take place

(f) input information required to effect the command and control action into the menu.

(g) input an execute instruction into the computer

Thus, this system represents the means by which changes may be inputted into the modeled situation without actually getting into the computer software.

Chapter II

Controller Man-Machine Tasks

Controller Man-Machine Tasks and Descriptions

The purpose of this section of the manual is to provide a detailed performance description of the Man-Machine Tasks that can be accomplished using the components of the CATTS system. These tasks fall into the following categories:

a) Command and Control Tasks

b) Graphics Display Tasks

c) Elements Tasks

d) Sensor Tasks

e) Weapons Tasks

f) Control Measures Tasks

g) Alphanumeric Keyboard Tasks

h) Communication Tasks

i) Miscellaneous Tasks

Tasks falling in categories (a) through (f) involve the use of controls found on the Simulation Control Panel. The Alphanumeric keyboard tasks involve controls found on the Alphanumeric keyboard. The Communication tasks involve controls found on the controller communication panels. Finally, the miscellaneous task category involves the use of the Analog Data Pen, the Camera Control Joystick and the Camera Zoom Control.

The first part of this section of the manual consists of a list of these tasks, while the second part consists of the detailed performance descriptions of each task which includes the task statement, the condition under which the task is performed, and the procedure for performing the task.

Controller Man-Machine Task Inventory

Command & Control Tasks

Task No.	Task Statement	Major Control(s) Employed
1	Attach a Unit to a Team.	CHANGE TASK ORGANIZATION
2	Delete a Unit From a Team.	
3	Create a New Team.	
4	Redeploy a Unit Within a Team.	
5	Define a New Air Mission	AIR MISSION
6	Delete an Old Air Mission.	
7	Redefine the Air Defense Role of a Unit.	AIR DEFENSE
8	Move a Control Measure.	CONTROL MEASURE CONTROLS
9	Add a Control Measure.	
10	Delete a Control Measure.	
11	Implement a Preplanned Operation.	EXECUTE PREPLANNED MISSION
12	Change the Percent of Basic Load Supply Level of a Unit.	RESUPPLY
13	Change the Standard Units Supply of a Unit.	
14	Change the Percent of Fire Employed Against a Target.	FIRE CONTROL
15	Change the Rounds Per Minute Fired Against a Target.	
16	Move a Unit to a Destination Along a Predefined Path.	MANEUVER CONTROL
17	Move a Unit to a Destination Along a New Path.	
18	Change the Destination of a Unit.	
19	Change the Unit Mission.	
20	Change the Engagement Intent of a Unit.	
21	Change the Compass Orientation of a Unit.	
22	Change the Type of Weather Prevailing in the Battle Area.	WEATHER CONTROL

Graphics Display Tasks

Task No.	Task Statement	Major Control(s) Employed
23	Display the Corner Grid Coordinates of the Battle Area.	GRID COORDINATE
24	Display the Minefields of a Particular Force.	MINEFIELD
25	Display the Fortification of a Particular Force.	FORTIFICATIONS
26	Display the Obstructions to Movement Other than Minefields or Fortification for a Particular Force.	OBSTACLES
27	Display the Current Tactical Situation.	TACTICAL OVERVIEW
28	Display the Front Line Trace of All Forward Battalion Elements.	FRONT LINE TRACE
	Elements Tasks	
29	Display the Direction in Which the Elements of a Battalion are Moving.	ELEMENT/DIRECTION OF MOVEMENT
30	Display the Command Post Locations of the Elements of a Battalion.	ELEMENT/COMMAND POST LOCATION
31	Display the Positions of the Elements of a Battalion	ELEMENT/AREA OCCUPIED
	Sensor Tasks	
32	Display the Coverage of a Particular Type of Sensor.	SENSOR TYPE
33	Display All Sensors of a Particular Type.	SENSOR TYPE/COVERAGE
	Weapons Tasks	
34	Display the Location of Pre-Planned Targets for Particular Weapons Systems.	WEAPON TYPE/PREPLANNED TARGETS
35	Display the Location of Impacting Fire for a Particular Weapon System(s)	WEAPON TYPE/IMPACTING FIRES.

Control Measures Tasks

Task No.	Task Statement	Major Control(s) Employed
36	Display the Control Measures Associated with a Particular Echelon of Command.	UNIT TYPE/COMMAND ECHELON

Alphanumeric Keyboard Tasks

37	Transmit a "Canned" RATT Message to the Trainee.	RATT ON/OFF KEY
38	Transmit the Current ALERT Message to the Trainee.	RATT ON/OFF KEY
39	Transmit an Original RATT Message to the Trainee.	RATT ON/OFF KEY
40	Call up a Special Status Report for A Designated Unit.	SPECIAL STATUS REPORT KEY
41	Recall an ALERT Message.	SCAN KEY
42	Delete a Current ALERT Message Displayed on the A/N CRT	DROP KEY
43	Save a Current ALERT Message.	SAVE KEY
44	Print a Current ALERT Message.	PRINT KEY
45	Send an Original Message to Another Controller.	SEND KEY
46	Print a Hand-Carried Message.	PRINT KEY
47	Create a "Canned" RATT Message.	A/N KEYBOARD
48	Instruct a "Canned" RATT Message.	A/N KEYBOARD

Communication Tasks

49	Monitor a Simulated Radio Channel.	RADIO MONITOR CONTROL
50	Communicate with a Trainee Via Radio.	RADIO CHANNEL CONTROL
51	Control Simulated Radio Jamming and/ or Static Introduction.	RADIO JAMMING & STATIC CONTROLS
52	Monitor a Simulated Telephone Circuit.	TELEPHONE MONITOR CONTROLS
53	Initiate a Communication Via Telephone	INCOMING-OUTGOING CONTROL/ TELEPHONE DIALING SWITCHES
54	Receive a Communication From Another Controller Via Telephone.	INCOMING/OUTGOING BUTTON
55	Receive a Communication From a Trainee Via Telephone.	INCOMING-OUTGOING CONTROL/ TELEPHONE DIALING SWITCHES
56	Clear a Telephone Circuit.	CLEAR CONTROL
57	Switch an Incoming Telephone Transmission.	INCOMING-OUTGOING CONTROL/ TELEPHONE DIALING SWITCHES

Communication Tasks (cont'd)

Task No.	Task Statement	Major Control(s) Employed
58	Announce Over the Public Address System.	TELEPHONE DIALING CONTROL
59	Monitor a Specified Audio Pick-Up in the Trainee Operations Area.	TRAINEE MONITOR CONTROLS
60	Introduce a Background Noise Into the Trainee Operation Area.	BACKGROUND NOISE CONTROLS
61	Record Trainee Communication (Radio or Telephone) Signals or Trainee Conversation in the TOC or Commander Areas.	RECORD CONTROLS
	Miscellaneous Tasks	
62	Employ the Analog Data Pen to Change the Time Show as a Command and Control Menu to Save Specified Time.	ANALOG DATA PEN
63	Employ the Camera Joystick Control to Pan the Camera's View of the Map.	CAMERA JOYSTICK
64	Employ the Camera Joystick Control to Tilt the Camera's View of the Map.	CAMERA JOYSTICK
65	Employ the Camera Zoom Control to Adjust the Dimension.	ZOOM CONTROL

TASK:

Attach a Unit To a Team.

CONDITIONS:

Given: The type of force (friendly or enemy) having a unit attached to a team.

The code name of the team to which the unit is to be attached.

The platoon/company/battalion-brigade designation of the unit that is to be attached to the team.

The location the attached unit is to occupy relative to the other units in the team.

The time at which the unit is to be attached to the team.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control on the Simulation Control Panel that corresponds to the force having a unit attached to a team.

2. Depress the COMPANY/TEAM level control.

3. Depress and hold down the CHANGE TASK ORGANIZATION control until the lamp behind it is lit.

4. Wait until the TASK ORGANIZATION MENU appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the addition of the unit is to take place. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the addition is to take place. Then, go on to the next step.

6. Position the ANALOG DATA PEN over the word PLUS in the CHANGE column of the menu and activate the pen's tip switch.

7. Inspect the TEAM column of the menu and place the tip of the ANALOG DATA PEN over the code name of the team to which the unit is to be attached. Next, activate the pen's tip switch.

8. Inspect the UNIT columns of the menu and place the tip of the ANALOG DATA PEN over the unit to be attached to t he team. Next, activate the tip switch.

9. Position the tip of the ANALOG DATA PEN over the words "GO TO PAGE 2" which are located in the lower right hand corner of the menu and activate the tip switch.

10. Position the tip of the ANALOG DATA PEN over the "*" in the top left hand corner of the second page menu and activate the tip switch to obtain instructions for locating the attached unit within the team.

11. Indicate the position of the unit attached to the team by following the instructions presented in the box located on the lefthand side of the second page menu, i.e., by (a) further touching the unit name in the UNIT column with the tip of the ANALOG DATA PEN, (b) next, touching the appropriate location on the second page menu grid with the tip of the pen, and (c) activating the pen's tip switch.

12. Position the ANALOGA DATA PEN over the word DONE at the extreme right edge of the menu and activate the tip switch.

TASK:

Delete a Unit From a Team.

CONDITIONS:

Given: The type of force (friendly or enemy) having a unit deleted from a team.

The code name of the team from which a unit is to be deleted.

The platoon/company/battalion-brigade designation of the unit that is to be deleted from the team.

The time at which the deletion is to take place.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control on the Simulation Control Panel that corresponds to the force having a unit deleted from a team.

2. Depress the COMPANY/TEAM level control.

3. Depress and hold down the CHANGE TASK ORGANIZATION control until the lamp behind it is lit.

4. Wait until the TASK ORGANIZATION MENU appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the deletion of the unit is to take place. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the deletion is to take place. Then, go on to the next step.

6. Position the ANALOG DATA PEN over the word MINUS in the CHANGE column of the menu and activate the pen's tip switch.

7. Inspect the TEAM column of the menu and place the tip of the ANALOG DATA PEN over the code name of the team from which a unit is to be deleted. Next, activate the pen's tip switch.

8. Inspect the UNIT columns of the menu and place the tip of the ANALOG DATA PEN over the unit to be deleted from the team. Next, activate the pen's tip switch.

9. Position the tip of the ANALOG DATA PEN over the words "GO TO PAGE 2" which are located in the lower right hand corner of the menu and activate the tip switch.

10. Position the ANALOG DATA PEN tip over the word DONE at the extreme right edge of the second page menu and activate the tip switch.

TASK:

Create a New Team.

CONDITIONS:

Given: The type of force (friendly or enemy) for which a new team is being created.

The code name for the new team.

The platoon/company/battalion-brigade designation of the units that will compose the new team.

The time at which the new team is to be created.

The relative location of the units composing the new team.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control on the Simulation Control Panel that corresponds to the force for which a new team is being created.

2. Depress the COMPANY/TEAM level control.

3. Depress and hold down the CHANGE TASK ORGANIZATION control until the lamp behind it is lit.

4. Wait until the TASK ORGANIZATION MENU appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the creation of the new team is to take place. If the two times are the same, go on to the next step. If they are different, employ the *ANALOG DATA PEN to change the time shown* to the time at which the creation is to take place. Then, go on to the next step.

6. Position the ANALOG DATA PEN over the word NEW in the CHANGE column of the menu and activate the pen's tip switch.

7. Inspect the TEAM column of the menu and place the tip of the ANALOG DATA PEN over the code name of the new team to be created. Next, activate the pen's tip switch.

8. Inspect the UNIT columns of the menu and place the tip of the ANALOG DATA PEN over each unit designated to compose the new team, activating the pen's tip switch over each unit.

9. Position the tip of the ANALOG DATA PEN over the words "GO ON TO PAGE 2" which are located in the lower right hand corner of the menu and activate the tip switch.

10. Position the tip of the ANALOG DATA PEN over the "*" in the top left hand corner of the second page menu and activate the tip switch to obtain instructions for locating the units composing the new team.

11. Indicate the position of each unit attached to the new team by following the instructions presented in the box located on the left hand side of the second page menu, i.e., by successively for each unit (a) touching the unit name in the UNIT column with the tip of the ANALOG DATA PEN, (b) next, touching the appropriate location on the second page menu grid with the tip of pen, and (c) activating the pen's tip switch.

12. Position the tip of the ANALOG DATA PEN over the direction in which the team should deploy and activate the tip switch.

13. Position the ANALOG DATA PEN tip over the word DONE at the extreme right edge of the menu and activate the tip switch.

TASK:

Redeploy a Unit Within a Team.

CONDITIONS:

Given: The type of force (enemy or friendly) for which a team unit will be redeployed.

The code name of the team having a unit redeployed.

The platoon/company/battalion-brigade designation of the unit to be redeployed.

The time at which the redeployment is to take place.

The new location of the unit being redeployed.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control on the Simulation Control Panel that corresponds to the force for which a team unit will be redeployed.

2. Depress the COMPANY/TEAM level control.

3. Depress and hold down the CHANGE TASK ORGANIZATION control until the lamp behind it is lit.

4. Wait until the TASK ORGANIZATION MENU appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the redeployment is to take place. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the redeployment is to take place. Then, go on to the next step.

6. Inspect the TEAM column of the menu and place the tip of the ANALOG DATA PEN over the code name of the team for which a unit will be redeployed. Next, activate the pen's tip switch.

7. Inspect the UNIT columns of the menu and place the tip of the ANALOG DATA PEN over the unit designated for redeployment. Next activate the pen's tip switch.

8. Position the tip of the ANALOG DATA PEN over the words "GO ON TO PAGE 2" which are located in the lower right hand corner of the menu and activate the tip switch.

9. Position the tip of the ANALOG DATA PEN over the "*" in the top left hand corner of the second page menu and activate the tip switch to obtain instructions for changing the location of a unit within a team.

10. Indicate the new position of the unit to be redeployed by following the instructions presented in the box located on the left hand side of the second page menu, i.e., by (a) touching the unit name in the UNIT column with the tip of the ANALOG DATA PEN, (b) next, touching the new location of the redeployed unit on the second page menu grid with the tip of the pen, and (c) activating the pen's tip switch.

11. Position the ANALOG DATA PEN tip over the word DONE at the extreme right edge of the menu and activate the tip switch.

TASK:

Define a New Air Mission.

CONDITIONS:

Given: The force (friendly or enemy) having a new air mission defined.

The time at which the new mission is to be implemented.

The type of mission.

The aircraft type to be employed on the new mission.

The number of aircraft involved in the new mission.

The name of the new mission (seven or less characters).

The type and amount of equipment to be carried on the new mission.

The flight path of the aircraft defined in terms of eight or less points including the start point, the target point, and the landing point.

The altitude and velocity of the aircraft at each specified point on the flight path.

The type of target for the new mission.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control that corresponds to the force having a new air mission defined.

2. Depress the COMPANY/TEAM LEVEL control.

3. Depress and hold down the AIR MISSION control until the lamp behind it is lit.

4. Wait until the AIR MISSION menu appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the new air mission is to be implemented. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the new mission is to be implemented. Then, go on to the next step.

6. Inspect the MISSION column of the menu and position the tip of the ANALOG DATA PEN over the type of mission to be defined. Next, activate the pen's tip switch.

7. Inspect the TYPE column of the menu and position the tip of the ANALOG DATA PEN over the words "DEFINE NEW". Next, activate the pen's tip switch.

8. Inspect the AIRCRAFT column of the menu and position the tip of the ANALOG DATA PEN over the type of aircraft to be employed on the new mission. Next, activate the pen's tip switch.

9. Inspect the NUMBER column of the menu and position the tip of the ANALOG DATA PEN over the number of aircraft to be employed on the new mission. Next, activate the pen's tip switch.

10. Inspect the NAME column of the menu. Employ the ANALOG DATA PEN to construct the name of the new mission by placing the tip of the pen over each character of the name in succession in the NAME column of the menu and depressing the tip switch after each placement.

11. Inspect the LOAD/AIRCRAFT, EQUIPMENT and AMOUNT columns of the menu and position the tip of the ANALOG DATA PEN successively over the type and amount of equipment to be carried on the new mission, activating the pen's tip switch at each placement.

12. Employ the CAMERA JOYSTICK controls to display the battle area over which the aircraft will fly.

13. Employ the ANALOG DATA PEN to define the flight path of the aircraft in the following manner: Position the pen over the take-off point and activate the tip switch. Next, position the pen over the second point on thepath and activate the tip switch. Then go to the ALTITUDE and VELOCITY column of the menu and position successively the tip of the pen over the altitude and velocity of the aircraft at that point, activating the tip switch at each placement. For the target point, in addition to altitude and velocity information, position the pen over the target type on the menu and activate the tip switch. Continue this process for all remaining points except the last one. For the last point on the path, position the pen over the landing point and activate the tip switch.

14. Position the ANALOG DATA PEN over the word DONE at the extreme right edge of the menu and activate the tip switch.

TASK:

Delete an Old Air Mission.

CONDITIONS:

Given: The force (friendly or enemy) having an air mission deleted.

The time at which the mission is to be deleted.

The type of mission that is to be deleted.

The name of the mission to be deleted.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control that corresponds to the force having an old mission deleted.

2. Depress the COMPANY/TEAM control.

3. Depress and hold down the AIR MISSION control until the lamp behind it is lit.

4. Wait until the AIR MISSION menu appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the old mission is to be deleted. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the deletion is to occur. Then go on to the next step.

6. Inspect the MISSION column of the menu and position the tip of the ANALOG DATA PEN over the type of mission to be deleted. Next, activate the tip switch.

7. Inspect the TYPE column of the menu and position the tip of the ANALOG DATA PEN over the words "DELETE OLD". Next, activate the pen's tip switch.

8. Inspect the NAME column of the menu and position the tip of the ANALOG DATA PEN over the name of the mission to be deleted. Next, activate the pen's tip switch.

9. Position the ANALOG DATA PEN over the word DONE at the extreme right edge of the menu and activate the tip switch.

TASK:

Redefine the Air Defense Role of a Unit.

CONDITIONS:

Given: The type of force (friendly or enemy) to which the unit having its air defense role redefined belongs.

The level at which the unit having its air defense role redefined belongs.

The time at which the air defense role is to be redefined.

The unit having its air defense role redefined.

The new air defense role of the unit.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control that corresponds to the force to which the unit having its air defense role redefined belongs.

2. Depress the LEVEL control that corresponds to the level at which the unit having its air defense role redefined belongs.

3. Depress and hold down the AIR DEFENSE control until the lamp behind it is lit.

4. Wait until the AIR DEFENSE menu appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the air defense role of the unit is to be redefined. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the air defense role is to be redefined. Then, go on to the next step.

6. Inspect the UNIT column of the menu and place the tip of the ANALOG DATA PEN over the unit having its air defense role redefined. Next, activate the pen's tip switch.

7. Inspect the MODE column of the menu and place the tip of the ANALOG DATA PEN over the mode of air defense the unit is to take on. Next, activate the pen's tip switch.

8. Position the ANALOG DATA PEN over the word DONE at the extreme right edge of the menu and activate the tip switch.

TASK:

Move a Control Measure.

CONDITIONS:

Given: The type of force (friendly or enemy) associated with the control measure being moved.

The level at which the movement in the control measure is to be accomplished.

The type of control measure (area, point, or line) that is to be moved.

The time at which the movement is to take place.

The new location of the control measure, defined in terms of eight or less points on the Graphic (Video) CRT.

The control measure's code name.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control that corresponds to the force associated with the control measure being moved.

2. Depress the LEVEL control that corresponds to the level at which the movement is to take place.

3. Depress, and hold down, the CHANGE CONTROL MEASURE control corresponding to the measure to be moved, until the lamp behind the control is lit.

4. Wait until the CONTROL MEASURE MENU appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the movement of the control measure is to take place. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the movement is to occur. Then, go on to the next step.

6. Inspect the CHANGE column of the menu and place the tip of the ANALOG DATA PEN over the MOVE command. Next, activate the pen's tip switch.

7. Move the camera to view the area of the map where the control measure is currently located.

8. Employ the graphics control corresponding to the control measure to be moved to call up the measure for display on the Graphic CRT.

9. Inspect the NAME column of the menu and place the tip of the ANALOG DATA PEN over the control measure's code name. Next, activate the pen's tip switch.

10. Position the ANALOG DATA PEN over the map display in the top two-thirds of the Graphic CRT display at the points (nine or less) which defines the new position of the control measure, activating the pen's tip at each point.

11. Position the ANALOG DATA PEN tip over the word DONE at the extreme right edge of the menu and activate the tip switch.

TASK:

Add a Control Measure.

CONDITIONS:

Given: The type of force (friendly or enemy) having a control measure added.

The level at which the control measure is being added.

The type of control measure (area, point, or line) that is being added.

The location of the control measure that is to be added.

The code name for the new control measure.

The unit which is associated with the control measure.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control that corresponds to the force having a control measure added.

2. Depress the LEVEL control that corresponds to the level at which the control measure is being added.

3. Depress and hold down the CHANGE CONTROL MEASURE control corresponding to the measure to be added until the lamp behind it is lit.

4. Wait until the CONTROL MEASURE MENU appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the addition of the measure is to take place. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the addition is to take place. Then, go on to the next step.

6. Inspect the CHANGE column of the menu and place the tip of the ANALOG DATA PEN over the NEW MEASURE command. Next, activate the tip switch.

7. Move the camera to view the area of the map where the control measure is to be added.

8. Inspect the NAME column of the menu and place the tip of the ANALOG DATA PEN over the code name selected for the new control measure. Next, activate the pen's tip switch.

9. Inspect the UNIT column of the menu and place the tip of the ANALOG DATA PEN over the unit with which the control measure is associated. Next, activate the pen's tip switch.

10. Position the ANALOG DATA PEN over the map display in the top two-thirds of the Graphic CRT display at the points (eight or less) which define the position of the new control measure, activating the pen's tip at each point.

11. Position the ANALOG DATA PEN tip over the word DONE at the extreme right edge of the menu and activate the tip switch.

TASK:

Delete a Control Measure.

CONDITIONS:

Given: The type of forces (friendly or enemy) associated with the control measure being deleted.

The level at which the control measure is to be deleted.

The type of control measure (area, point, or line) that is to be deleted.

The time at which the deletion is to occur.

The control measure's code name.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control that corresponds to the force associated with the control measure being deleted.

2. Depress the LEVEL control that corresponds to the level at which the deletion is to take place.

3. Depress, and hold down, the CHANGE CONTROL MEASURE control corresponding to the measure to be deleted until the lamp behind the control is lit.

4. Wait until the CONTROL MEASURE MENU appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the deletion of the measure is to take place. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the deletion is to take place. Then, go on to the next step.

6. Inspect the CHANGE column of the menu and place the tip of the ANALOG DATA PEN over the DELETE command. Next, activate the pen's tip switch.

7. Move the camera to view the area of the map where the control measure is to be added.

8. Employ the graphics control corresponding to the control measure to be deleted to call up the measure for display on the Graphic CRT.

9. Inspect the NAME column of the menu and place the tip of the ANALOG DATA PEN over the code name of the measure to be deleted. Next, activate the pen's tip switch.

10. Position the ANALOG DATA PEN over the word DONE at the extreme right edge of the menu and activate the tip switch.

TASK:

Implement a Preplanned Operation.

CONDITIONS:

Given: The type of forces (friendly or enemy) that will execute the preplanned operation.

The level at which the preplanned operation will be conducted.

The time at which the operation will be conducted.

The code name for the operation.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control that corresponds to the force that will execute the preplanned operation.

2. Depress the LEVEL control that corresponds to the level at which the preplanned operation will be conducted.

3. Depress and hold down the EXECUTE PREPLANNED MISSION control until the lamp behind the control is lit.

4. Wait until the PREPLANNED OPERATION MENU appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the preplanned operation is to take place. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the operation is to occur. Then, go on to the next step.

6. Inspect the CODE NAME column of the menu and place the tip of the ANALOG DATA PEN over the operation's code name. Next, activate the pen's tip switch.

7. Position the ANALOG DATA PEN tip over the word DONE at the extreme right edge of the menu and activate the tip switch.

TASK:

Change the Percent of Basic Load Supply Level of a Unit.

CONDITIONS:

Given: The force (friendly or enemy) having a unit supplied.

The level at which supply is to occur.

The time at which resupply is to occur.

The unit that is to be resupplied.

The source of the resupply.

Type of resupply materials.

Sub-type of resupply materials.

The amount to be resupplied.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control that corresponds to the force that will have a unit resupplied.

2. Depress the LEVEL control that corresponds to the level at which resupply will occur.

3. Depress and hold down the RESUPPLY control until the lamp behind it is lit.

4. Wait until the RESUPPLY MENU appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which resupply is to take place. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the operation is to occur. Then go on to the next step.

6. Position the tip of the ANALOG DATA PEN over the first UNIT heading on the menu and activate the tip switch.

7. Inspect the first UNIT column of the menu and position the tip of the ANALOG DATA PEN over the unit to be resupplied. Next, activate the tip switch.

8. Position the tip of the ANALOG DATA PEN over the second UNIT heading in the menu and activate the tip switch.

9. Inspect the second UNIT column of the menu and position the tip of the ANALOG DATA PEN over the organization providing resupply.

10. Inspect the METHOD box of the menu and position the tip of the ANALOG DATA PEN over the words "PERCENT OF BASIC LOAD". Next, activate the tip switch.

11. Inspect the TYPE box of the menu and position the tip of the ANALOG DATA PEN over the particular type of supply to be furnished. Next, activate the tip switch.

12. Inspect the sub-type box of the menu and position the tip of the ANALOG DATA PEN over the particular sub-type of the material to be resupplied. Next, activate the tip switch.

13. Position the tip of the ANALOG DATA PEN over the point on the NEW PERCENT BASIC LOAD scale in the menu that corresponds to the level of resupply for the sub-type of the material to be resupplied. Next, activate the tip switch.

14. Position the tip of the ANALOG DATA PEN over the word "DONE" in the lower right hand side of the menu and activate the pen's tip switch.

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TASK:

Change the Standard Units Supply of a Unit.

CONDITIONS:

Given: The force (friendly or enemy) being resupplied.

The level at which resupply will take place.

The time at which resupply will take place.

The unit that will be resupplied.

The source of the resupply.

Type of resupply material.

Sub-type of resupply material.

The amount of resupply.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control that corresponds to the force that will have a unit resupplied.

2. Depress the LEVEL control that corresponds to the level at which resupply will occur.

3. Depress and hold down the RESUPPLY control until the lamp behind it is lit.

4. Wait until the SUPPLY MENU appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which resupply is to take place. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the operation is to occur. Then go on to the next step.

6. Position the tip of the ANALOG DATA PEN over the first UNIT heading on the menu and activate the tip switch.

7. Inspect the first UNIT column of the menu and position the tip of the ANALOG DATA PEN over the unit to be resupplied.

8. Position the tip of the ANALOG DATA PEN over the second UNIT heading in the menu and activate the tip switch.

9. Inspect the second UNIT column of the menu and position the tip of the ANALOG DATA PEN over the organization providing resupply.

10. Inspect the METHOD box of the menu and position the tip of the ANALOG DATA PEN over the words "STANDARD UNITS". Next, activate the pen's tip switch.

11. Inspect the TYPE box of the menu and position the tip of the ANALOG DATA PEN over the particular type of supply to be furnished. Next, activate the tip switch.

12. Inspect the sub-type box of the menu and position the tip of the ANALOG DATA PEN over the particular sub-type of the material to be resupplied. Next, activate the tip switch.

13. Position the tip of the ANALOG DATA PEN over the point on the NEW STANDARD UNITS scale in the menu that corresponds to the level of resupply for the sub-type of the material to be resupplied. Next, activate the tip switch.

14. Position the tip of the ANALOG DATA PEN over the word "DONE" in the lower right hand side of the menu and activate the pen's tip switch.

TASK:

Change the Percent of Fire Employed Against a Target.

CONDITIONS:

Given: The type of force (friendly or enemy) that will be directing its fire against a target.

The level at which fire is to be directed.

The unit delivering fire.

The target type and its location.

The weapon type to be employed.

The time at which weapon fire is to commence.

The duration of firing.

Percent of fire to be delivered against the target.

STANDARDS:

To complete this task the following operations must be performed:

1. Depress the FORCE control that corresponds to the force that will be directing its fire against a target.

2. Depress the LEVEL control that corresponds to the level at which fire is to be directed.

3. Depress and hold down the FIRE CONTROL control until the lamp behind it is lit.

4. Wait until the FIRE CONTROL MENU appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the weapon firing is to commence. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which weapon firing is to commence. Then, go on to the next step.

6. Inspect the UNIT column of the menu and place the tip of the ANALOG DATA PEN over the unit which will be delivering fire. Next, activate the pen's tip switch.

7. Inspect the TARGET column of the menu and place the tip of the ANALOG DATA PEN over the target type onto which fire is to be delivered. Next, activate the pen's tip switch.

8. Position the tip of the ANALOGA DATA PEN over the location of the target in the upper two-thirds of the Graphic CRT display and activate the tip switch.

9. Inspect the WEAPON column of the menu and place the tip of the ANALOG DATA PEN over the weapon type to be employed to deliver fire at the target. Next, activate the pen's tip switch.

10. Inspect the CHANGE column of the menu and place the tip of the ANALOG DATA PEN over the PERCENT OF FIRE alternative. Next, activate the tip switch.

11. Inspect the PERCENT OF FIRE scale on the menu and position the tip of the ANALOG DATA PEN over the point corresponding to the percent of fire to be employed against the target. Next, activate the tip switch.

12. Inspect the FIRE DURATION scale on the menu and position the tip of the ANALOG DATA PEN over the point corresponding to the time in minutes fire should be laid on the target. Next, activate the tip switch.

13. Position the ANALOG DATA PEN on the word DONE in the lower right hand portion of the menu and activate the tip switch.

TASK:

Change the Rounds Per Minute Fired Against a Target.

CONDITIONS:

Given: The type of force (friendly or enemy) that will be directing its fire against a target.

The level (battalion, team, company, or platoon) at which fire is to be directed.

The unit delivering fire.

The target type and its location.

The weapon type to be employed.

The time at which weapon fire is to commence.

The duration of firing.

The rate of fire to be employed.

STANDARDS:

To complete this task the following operations must be performed:

1. Depress the FORCE control that corresponds to the force that will be directing its fire against a target.

2. Depress the LEVEL control that corresponds to the level at which fire is to be directed.

3. Depress and hold down the FIRE CONTROL until the lamp behind it is lit.

4. Wait until the FIRE CONTROL menu appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the weapon firing is to commence. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which weapon firing is to commence. Then go on to the next step.

6. Inspect the UNIT column of the menu and place the tip of the ANALOG DATA PEN over the unit which will be delivering fire. Next, activate the pen's tip switch.

7. Inspect the TARGET column of the menu and place the tip of the ANALOG DATA PEN over the target type onto which fire is to be delivered. Next, activate the pen's tip switch.

8. Position the tip of the ANALOG DATA PEN over the location of the target in the upper two-thirds of the Graphic CRT display and activate the tip switch.

9. Inspect the WEAPON column of the menu and place the tip of the ANALOG DATA PEN over the weapon type to be employed to deliver fire at the target. Next, activate the pen's tip switch.

10. Inspect the CHANGE column of the menu and place the tip of the ANALOG DATA PEN over the ROUNDS PER MINUTE alternative. Next, activate the tip switch.

11. Inspect the FIRE DURATION scale on the menu and position the tip of the ANALOG DATA PEN over the point on the scale corresponding to the time in minutes fire should be laid on the target. Next, activate the tip switch.

12. Inspect the ROUNDS/MIN FIRE scale on the menu and position the tip of the ANALOG DATA PEN over the point of the scale corresponding to rate of fire to be employed against the target. Next, activate the tip switch.

13. Position the ANALOG DATA PEN on the word DONE in the lower right hand portion of the menu and activate the tip switch.

TASK:

Move a Unit to a Destination Along a Predefined Path.

CONDITIONS:

Given: The type of force (friendly or enemy) that will travel to a destination along a predefined path.

The level at which the movement is to take place.

The operational status of the unit.

The time at which the move is to be initiated.

The unit which will move along the predefined path.

The name of the predefined path.

The final destination of the unit.

The direction (angle) the unit will face at its destination.

The "Engagement Intent" of the unit.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control that corresponds to the force that will move along the predefined route.

2. Depress the LEVEL control that corresponds to the level of the unit moving along the predefined path.

3. Depress and hold down the MANEUVER CONTROL control until the lamp behind it is lit.

4. Wait until the MANEUVER MENU appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the change in unit route is to take place. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the route change is to occur. Then, go on to the next step.

6. Inspect the UNIT column of the menu and place the tip of the ANALOG DATA PEN over the unit that is to move along the predefined path. Next, activate the pen's tip switch.

7. Inspect the OPERATION-TYPE column of the menu and place the tip of the ANALOG DATA PEN over the operation status of the unit which will move along the predefined path. Next, activate the pen's tip switch.

8. Inspect the DESTINATION column of the menu. If the mission destination has been previously defined, place the tip of the ANALOG DATA PEN over the type of objective and activate the tip switch. If the mission destination has not been previously defined, place the tip of the pen over the words "XY COORDINT", and activate the tip switch.

9. Position the tip of the ANALOG DATA PEN over the location of the mission destination on the upper two-thirds of the Graphic CRT display and activate the tip switch.

10. Position the tip of the ANALOG DATA PEN over the words "OLD ROUTE," and activate the tip switch.

11. Position the tip of the ANALOG DATA PEN over the name of the predefined route on the menu and activate the tip switch.

12. Position the tip of the ANALOG DATA PEN over the direction (angle) the unit will face at its destination on the MANEUVER MENU GRID. Next, activate the pen's tip switch.

13. Inspect the INTENT column of the menu. Position the ANALOG DATA PEN over the "intent" associated with the mission destination. Next, activate the pen's tip switch.

14. Position the ANALOG DATA PEN over the word DONE in the lower right hand portion of the menu and activate the tip switch.

TASK:

Move a Unit to a Destination Along a New Path.

CONDITIONS:

Given: The type of force (friendly or enemy) that will travel to a destination along a predefined path.

The level at which the movement is to take place.

The operational status of the unit.

The time at which the move is to be initiated.

The unit which will move along the new path.

The "points" defining the new path.

The final destination of the unit.

The direction (angle) the unit will face at its destination.

The "Engagement Intent" of the unit.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control that corresponds to the force that will move along the new path.

2. Depress the LEVEL control that corresponds to the level of the unit moving along the new path.

3. Depress and hold down the MANEUVER CONTROL control until the lamp behind it is lit.

4. Wait until the MANEUVER MENU appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the change in unit route is to take place. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the route change is to occur. Then, go on to the next step.

6. Inspect the UNIT column of the menu and place the tip of the ANALOG DATA pen over the unit that is to move along the new path. Next, activate the pen's tip switch.

7. Inspect the OPERATION-TYPE column of the menu and place the tip of the ANALOG DATA PEN over the operation status of the unit which will move along the new path. Next, activate the pen's tip switch.

8. Inspect the DESTINATION column of the menu. If the mission destination has been previously defined, place the tip of the ANALOG DATA PEN over the type of objective and activate the tip switch. If the mission destination has not been previously defined, place the tip of the pen over the words "XY COORDINT", and activate the tip switch.

9. Position the tip of the ANALOG DATA PEN over the location of the mission destination on the upper two-thirds of the Graphic CRT display and activate the tip switch.

10. Position the tip of the ANALOG DATA PEN over the words "NEW PATH", and activate the tip switch.

11. Touch 8 or fewer points along the route on the Graphic CRT display and activate the pen's tip switch at each performance.

12. Position the tip of the ANALOG DATA PEN over the direction (angle) the unit will face at its destination on the MANEUVER MENU GRID. Next, activate the pen's tip switch.

13. Inspect the INTENT column of the menu. Position the ANALOG DATA PEN over the "intent" associated with the mission destination. Next, activate the pen's tip switch.

14. Position the ANALOG DATA PEN over the word DONE in the lower right hand portion of the menu and activate the tip switch.

TASK:

Change the Destination of a Unit.

CONDITIONS:

Given: The type of force (friendly or enemy) that will have the destination of a unit changed.

The level at which the change will take place.

The time at which the destination is to be changed.

The unit whose destination is being changed.

The new destination of the unit.

The route to the new destination.

The operational status of the unit.

The direction of unit deployment.

The "Engagement Status" of the unit and its destination.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control that corresponds to the force with a unit having a destination change.

2. Depress the LEVEL control that corresponds to the level at which the unit destination change is to be made.

3. Depress and hold down the MANEUVER CONTROL control until the lamp behind it is lit.

4. Wait until the MANEUVER MENU appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the change in unit destination is to take place. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the destination change is to occur. Then, go on to the next step.

6. Inspect the UNIT column of the menu and place the tip of the ANALOG DATA PEN over the unit that is to have its destination changed. Next, activate the pen's tip switch.

7. Inspect the OPERATION-TYPE column of the menu and place the tip of the ANALOG DATA PEN over the operation status of the unit having its destination changed.

8. Inspect the DESTINATION column of the menu. If the new destination has been previously defined, place the tip of the ANALOG DATA PEN over the type of destination and activate the tip switch. If the destination has not been previously defined, place the tip of the pen over the words "XY COORDINT", and activate the tip switch.

9. Position the tip of the ANALOG DATA PEN over the location of the new destination in the upper two-thirds of the Graphic CRT display and activate the tip switch.

10. Continue to inspect the DESTINATION column of the menu. If an old route to the new destination is to be used, place the ANALOG DATA PEN over the words "OLD ROUTE" and activate the tip switch. Next, select the name of the route from the menu by positioning the ANALOG DATA PEN over this name and activating the tip switch. If a new route to the new destination is to be used, trace this route by touching 8 or fewer points along the route on the CRT display, activating the pen's tip switch at each point.

11. Position the tip of the ANALOG DATA PEN over the angle at which the unit should deploy at the new destination on the MANEUVER MENU GRID and activate the tip switch.

12. Position the tip of the ANALOG DATA PEN over the words describing the engagement intent of the unit at its destination in the INTENT column.

TASK:

Change the Unit Mission.

CONDITIONS:

Given: The type of force (friendly or enemy) that will have its mission changed.

The level at which the change will take place.

The time at which the mission is to change.

The unit for which the mission will change.

The type of operation defining the new mission.

The objective (destination) of the new mission.

The engagement intent of the new mission.

The route to the new mission's objective.

The direction (angle) of unit deployment.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control that corresponds to the force that will have a unit's mission changed.

2. Depress the LEVEL control that corresponds to the level at which the unit mission is to be changed.

3. Depress and hold down the MANEUVER CONTROL control until the lamp behind it is lit.

4. Wait until the MANEUVER MENU appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the change in unit mission is to take place. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the mission change is to occur. Then, go on to the next step.

6. Inspect the UNIT column of the menu and place the tip of the ANALOG DATA PEN over the unit that is to have its mission changed. Next, activate the pen's tip switch.

7. Inspect the OPERATION-TYPE column of the menu and place the tip of the ANALOG DATA PEN over the name of the new mission in which the unit is to engage.

8. Inspect the DESTINATION column of the menu. If the mission objective has been previously defined, place the tip of the ANALOG DATA PEN over the type of objective and activate the tip switch. If the mission objective has not been previously defined, place the tip of the pen over the words "XY COORDINT," and activate the tip switch.

9. Position the tip of the ANALOG DATA PEN over the location of the mission objective on the upper two-thirds of the Graphic CRT display and activate the tip switch.

10. Continue to inspect the DESTINATION column of the menu. If an old route to the mission objective is to be used, place the ANALOG DATA PEN over the words "OLD ROUTE" and activate the tip switch. Next, select the name of the route from the meny by positioning the ANALOG DATA PEN over the name and activating the tip switch. If a new route to the objective is to be used, trace this route by touching 8 or fewer points along the route on the CRT display and activate the pen's tip switch at each performance.

11. Position the top of the ANALOG DATA PEN over the angle at which the unit should deploy at its new objective on the MANEUVER MENU GRID and activate the tip switch.

12. Inspect the INTENT column of the MANEUVER MENU and position the ANALOG DATA PEN over the "intent" associated with the new mission. Next, activate the pen's tip switch.

13. Position the ANALOG DATA PEN over the word DONE in the lower right hand portion of the menu and activate the tip switch.

TASK:

Change the Engagement Intent Of a Unit.

CONDITIONS:

Given: The type of forces (friendly or enemy) that will have its intent to engage the opposite force changed.

The level at which the engagement intent will change.

The time at which the intent to engage will be changed.

The unit having its engagement intent changed.

The new engagement intent of the unit.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control panel that corresponds to the force that will have its engagement intent changed.

2. Depress the LEVEL control panel that corresponds to the level at which the engagement intent is to be changed.

3. Depress and hold down the MANEUVER CONTROL control until the lamp behind it is lit.

4. Wait until the MANEUVER MENU appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the change in the unit's engagement intent is to occur. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the intent change is to take place. Then, go on to the next step.

6. Inspect the UNIT column of the menu and place the tip of the ANALOG DATA PEN over the unit that is to have its engagement intent changed. Next, activate the pen's tip switch.

7. Inspect the INTENT column of the menu and position the tip of the ANALOG DATA PEN over the engagement intent category describing the new intent for the unit and activate the tip switch.

8. Position the ANALOG DATA PEN over the word DONE in the lower right portion of the menu and activate the tip switch.

TASK:

Change the Compass Orientation Of a Unit.

CONDITIONS:

Given: The type of force (friendly or enemy) that will have its compass orientation changed.

The level at which the compass orientation change is to take place.

The time at which the compass orientation change is to take place.

The unit which will have its compass orientation changed.

The new compass orientation of the unit.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control that corresponds to the force that will have its compass criterion changed.

2. Depress the LEVEL control that corresponds to the level at which the compass orientation of a unit is to change.

3. Depress and hold down the MANEUVER CONTROL control until the lamp behind it is lit.

4. Wait until the MANEUVER MENU appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the compass orientation change is to take place. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the change in compass orientation is to occur. Then, go on to the next step.

6. Inspect the UNIT column of the menu and place the tip of the ANALOG DATA PEN over the unit that is to have its compass orientation changed. Next, activate the pen's tip switch.

7. Position the tip of the ANALOG DATA PEN over the angle at which the unit should deploy at its mission objective on the MANEUVER MENU GRID and activate the tip switch.

8. Position the ANALOG DATA PEN over the word DONE in the lower right hand portion of the menu and activate the tip switch.

TASK:

Change the Type of Weather Prevailing in the Battle Area.

CONDITIONS:

Given: The type of weather it is desired to have on the battlefield.

The time at which weather is to be changed.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the BLUE FORCE control.

2. Depress the PLATOON LEVEL control.

3. Depress and hold down the WEATHER control until the lamp behind it is lit.

4. Wait until the WEATHER menu appears on the lower one-third of the Graphic CRT display.

5. Inspect the TIME column of the menu. Determine if the time shown is the same as the time at which the weather change is to occur. If the two times are the same, go on to the next step. If they are different, employ the ANALOG DATA PEN to change the time shown to the time at which the weather is to change. Then, go on to the next step.

6. Inspect the WEATHER CLASS column of the menu. Position the tip of the ANALOG DATA PEN over the weather class to which the battlefield weather is to be changed and activate the pen's tip switch.

7. Position the ANALOG DATA PEN on word DONE in the lower right hand portion of the menu and activate the tip switch.

TASK:

Display the corner grid coordinates of the battle area.

CONDITION:

A section of the battle area displayed on the Graphic CRT.

STANDARD:

To complete this task the following operation must be performed:

1. Depress the GRID COOR. control.

TASK:

Display the minefields of a particular force.

CONDITIONS:

Given: The force (friendly, enemy, or both) for which minefields are to be displayed.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control (s) that correspond(s) to the force(s) that will have its (their) minefields displayed.

2. Depress the MINEFIELD control.

TASK:

Display the fortification of a particular force.

CONDITIONS:

Given: The force (friendly, enemy, or both) for which fortification are to be displayed.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control(s) that correspond(s) to the force(s) that will have its (their) minefields displayed.

2. Depress the FORTIFICATIONS control.

TASK:

Display the obstructions to movement other than minefields or fortification for a particular force.

CONDITIONS:

Given: The force (friendly, enemy, or both) for which obstructions are to be displayed.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control(s) that correspond(s) to the force(s) that will have obstruction to movement displayed.

2. Depress the OBSTACLES control.

TASK:

Display the current tactical situation.

CONDITION:

A section of the battle area displayed in the Graphic CRT.

STANDARD:

To complete this task the following operation must be performed:

1. Depress the TACTICAL OVERVIEW control.

TASK:

Display the front line trace of all forward battalion elements.

CONDITIONS:

Given: The type of force (friendly or enemy) having its forward elements displayed.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control corresponding to the force having its forward battalion elements displayed.

2. Depress the FRONT LINE TRACE control.

TASK:

Display the direction in which the elements of a battalion are moving.

CONDITIONS:

Given: The type of force (friendly or enemy) having its direction of movement displayed.

The elements (combat, combat support, or combat service support) whose direction of movement are to be displayed.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control that corresponds to the force that will have its direction of movement displayed.

2. Depress the ELEMENT control that corresponds to the type of elements having their direction of movement displayed.

3. Depress the DIRECTION OF MOVEMENTS control.

TASK:

Display the command post locations of the elements of a battalion.

CONDITION:

Given: The type of force (friendly or enemy) having its command post location displayed.

The elements (combat, combat support, or combat service support) whose command post location are to be displayed.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control that corresponds to the force that will have the command post location displayed.

2. Depress the ELEMENT control that corresponds to the type of element having their command post position displayed.

3. Depress the COMMAND POST LOCATION control.

TASK:

Display the positions of the elements of a battalion.

CONDITIONS:

Given: The type of force (friendly or enemy) having its position displayed.

The elements (combat, combat support, or combat service support) whose positions are to be displayed.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control on the Simulation Control Panel that corresponds to the force that will have the positions of its elements displayed.

2. Depress the ELEMENT control on the Simulation Control Panel that corresponds to the type of elements having their position displayed.

3. Depress the AREA OCCUPIED control on the Simulation Control Panel.

TASK:

Display the coverage of a particular type of sensor.

CONDITIONS:

Given: The type of force (friendly or enemy) for which sensor coverage is to be displayed.

The type of sensor for which coverage is to be displayed.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control corresponding to the force for which sensor coverage is to be displayed.

2. Depress the SENSOR control corresponding to the sensor system having its coverage displayed.

3. Depress the COVERAGE control.

TASK:

Display all sensors of a particular type.

CONDITIONS:

Given: The type of forces (friendly, enemy, or both) for which sensor are to be displayed.

The type(s) of sensors to be displayed.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control corresponding to the force(s) for which sensor are to be displayed.

2. Depress the SENSOR control(s) corresponding to the type(s) of sensor to be displayed.

TASK:

Display the location of pre-planned targets for particular weapons systems.

CONDITIONS:

Given: The type of force (friendly or enemy) having pre-planned targets displayed.

The type of weapon system(s) for which pre-planned targets are being displayed.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control corresponding to the force having pre-planned targets displayed.

2. Depress the WEAPON TYPE control(s) corresponding to the weapon system(s) having its (their) pre-planned targets displayed.

3. Depress the PREPLANNED TARGETS control.

TASK:

Display the location of impacting fire for a particular weapon system(s).

CONDITIONS:

Given: The type of force (friendly or enemy) having the location of impacting fire displayed.

The type of weapon system(s) for which impacting fire will be displayed.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control corresponding to the force having impacting fire displayed.

2. Depress the WEAPON TYPE control(s) corresponding to the weapon system(s) having its (their) impacting fire displayed.

3. Depress the IMPACTING FIRES control.

TASK:

Display the control measures associated with a particular echelon of command.

CONDITIONS:

Given: The type of force (friendly or enemy) having control measures displayed.

The type of control measure to be displayed.

The echelon of command for which the control measure will be displayed.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the FORCE control that corresponds to the force having control measures displayed.

2. Depress the CONTROL MEASURE TYPE control corresponding to the type of control measures to be displayed.

3. Depress the COMMAND ECHELON control corresponding to the level of command desired for display.

TASK:

Transmit a "canned" message to the trainee via RATT.

CONDITIONS:

Given: The Category Number of the "canned" message.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the RATT ON/OFF A/N function key.
2. Read the instructions which appear on the A/N CRT.
3. Type in the CATALOG NUMBER of the canned message.
4. Edit the message if this is required.
5. Position the A/N cursor at the far left on the line immediately following the last line of the message.
6. Depress the ON LINE A/N function key.
7. Depress the RATT ON/OFF A/N function key.
8. Read the instructions that appear on the A/N CRT.
9. Type in the instruction SEND.
10. Depress the NEW LINE A/N function key.

TASK:

Transmit the current ALERT message to the trainee via RATT.

CONDITIONS:

Given: A set of ALERT messages on the A/N CRT.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the RATT ON/OFF A/N function key.
2. Read the instructions which appear on the A/N CRT.
3. Type in the instruction ZERO.
4. Edit the message if this is required.
5. Position the A/N cursor at the far left on the line immediately following the last line of the message.
6. Depress the ON LINE A/N function key.
7. Depress the RATT ON/OFF A/N function key.
8. Read the instructions that appear on the A/N CRT.
9. Type in the instruction SEND.
10. Depress the NEW LINE A/N function key.

TASK:

Transmit an original message to the trainee via RATT.

CONDITIONS:

Given: An original message.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the RATT ON/OFF A/N function key.
2. Read the instructions which appear on the A/N CRT.
3. Type in NONE.
4. Type in the original message.
5. Position the A/N cursor at the far left on the line immediately following the last line of the message.
6. Depress the ON LINE A/N function key.
7. Depress the RATT ON/OFF A/N function key.
8. Read the instructions that appear on the A/N CRT.
9. Type in the instruction SEND.
10. Depress the NEW LINE A/N function key.

TASK:

Call up a special status report for a designated unit.

CONDITIONS:

Given: A requirement for a special status report for a particular unit.

The name and designation of the unit.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the SPECIAL STATUS REPORT key on the A/N Keyboard.

2. Type in the unit name and designation.

3. Depress the NEW LINE key on the A/N Keyboard.

TASK:

Recall an ALERT message.

CONDITIONS:

Given: A set of "saved" ALERT messages.

A requirement for reviewing a particular Alert message in the set of Alert messages.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the SCAN key on the A/N Keyboard.

2. Observe the current message block on the A/N CRT.

3. Wait until the desired ALERT message appears in the current message block on the A/N CRT and then perform the desired operation (Drop or Print).

4. Depress the SCAN control to return conditions to the state they were in prior to first activating the SCAN key.

TASK:

Delete a message displayed on the A/N CRT.

CONDITIONS:

Given: An A/N CRT with a message display unit.

STANDARD:

To complete this task the DROP key on the A/N Keyboard is depressed.

TASK:

Save a current ALERT message.

CONDITION:

Given: An A/N CRT display with a set of ALERT messages.

STANDARD:

To complete this task the SAVE key on the A/N keyboard is depressed.

TASK:

Print a message displayed on the A/N CRT.

CONDITION:

Given: An A/N CRT with a message displayed on it.

STANDARD:

To complete this task the PRINT key on the A/N keyboard is depressed.

TASK:

Send an Alert Message to Another Controller.

CONDITIONS:

Given: An alert message to be sent to the trainee which is displayed on the A/N CRT.

A sending point (a console) and a receiving point (a console).

The Destination Control number of the receiving point.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the SEND A/N function key.
2. Type in the "Destination Control Number" of the machine to receive the message.
3. Depress the NEW LINE A/N function key.
4. Type in a one line message to indicate to the sender from where the message is coming.
5. Depress the NEW LINE key of the A/N Keyboard.
6. Clear the transmitted alert message from the A/N CRT by Dropping, Saving, or Printing it.

TASK:

Print a Hand-Carried Message

CONDITIONS:

Given: The message content

The type of message (controller generated or a message received on the alphnumeric display)

STANDARD:

To complete this task, type the message on the alphanumeric keyboard (for a controller-originated message) or press the PRINT key on alphanumeric keyboard (for a message received on alphanumeric display).

TASK:

Create a "canned" RATT message.

CONDITIONS:

Given: A message displayed on the A/N CRT which was controller composed or computer composed (e.g., an alert message).

The catalog number to be assigned the message.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Type in the instruction SAVE.
2. Depress the NEW LINE A/N function key.
3. Responding to the computer generated message asking about the message's assigned CATALOG NUMBER, type in the CATALOG NUMBER.
4. Depress the NEW LINE A/N function key.

TASK:

Instruct the computer to Forget a Message Entered on the A/N CRT.

CONDITIONS:

Given: A message entered on the A/N CRT for transmission via RATT.

STANDARD:

To complete this task the folling requirements of operation must be performed:

1. Type in the instruction FORGET
2. Depress the NEW LINE A/N function key.

TASK:

Monitor a simulated radio channel.

CONDITIONS:

Given: The radio channel to be monitored.

The Radio Communication Controls.

STANDARDS:

To complete this task the following sequence of operations is performed:

1. Engage the MONITOR control corresponding to the channel to be monitored.

2. Disengage the MONITOR control when it is desired to cease monitoring the channel.

TASK:

Communicate via radio.

CONDITIONS:

Given: The radio channel over which communication is desired.

The Radio Communication Controls.

The mode of communication (clear or secure mode).

STANDARDS:

To complete this task the following sequence of operations is performed:

1. Engage the MONITOR control corresponding to the channel on which the communication is to occur.

2. Depress the TRANSMIT MOMENTARY PUSHBUTTON in the desired mode of communication (clear or secure) which corresponds to the channel on which communication is to be conducted.

3. Depress the transmission foot pedal to transmit.

4. Transmit your message according to Army SOP.

5. Release the transmission foot pedal to receive.

6. Continue the transmission/reception sequence until communication has been established or it is determined that the transmission can not be completed.

TASK:

Control Simulated Radio Jamming and/or Static Instroduction

CONDITIONS:

Given: The particular channels that will have jamming and/or static introduced.

The level of jamming and/or static that will be introduced into target channels.

The Jamming and Static CONTROL PANEL.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Identify which channels are to have jamming and/or static introduced.

2. For each target channel, set the jamming and static controls to the level of intensity required.

3. Depress the Jamming and Static pushbuttons corresponding to the channels that are to have jamming and/or static introduced.

TASK:

Monitor a Simulated Telephone Circuit.

CONDITIONS:

Given: The telephone circuit to be monitored.

The Telephone Monitor Controls.

STANDARDS:

To complete this task the following sequence of operations is performed:

1. Engage the MONITOR control corresponding to the trainee telephone to be monitored and observe that the top half of this control lights up.

2. Disengage the MONITOR control when it is desired to cease monitoring the trainee telephone.

TASK:

Communicate from a Controller Console via telephone/intercom with a trainee or controller/aide.

CONDITIONS:

Given: The individual (trainee or controller/aide) with whom it is desired to communicate.

The dialing code for the individual with whom it is desired to communicate.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the console INCOMING/OUTGOING pushbutton control.

2. Employ the TELEPHONE DIALING PUSHBUTTONS to dial the code corresponding to whom it is desired to communicate.

3. If the called station's telephone/intercom is in use, a busy tone will be heard for 5 seconds, after which the dialing procedure is again initiated.

4. Continue the dialing sequence until communication has been established or it is determined that the communication cannot be completed.

TASK:

Receive a communication from another controller/aide via Telephone Intercom

CONDITIONS:

Given: The incoming portion of the INCOMING/OUTGOING button flashing.

An audible ringing tone in the radio/telephone headset.

STANDARD:

To complete this task depress the INCOMING/OUTGOING pushbutton.

TASK:

Receive a communication from a trainee via telephone.

CONDITIONS:

Given: Blinking trainee telephone monitor pushbuttons on Communication Console.

An audible ringing tone in the radio/telephone headset.

The trainee's dialing code.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the console INCOMING/OUTGOING control.

2. Employ the TELEPHONE DIALING SWITCHES to dial the trainee's dialing code.

TASK:

Clear a Telephone Circuit.

CONDITIONS:

Given: An activated telephone circuit with personnel on both ends of the circuit.

A requirement to terminate the telephone conversation.

STANDARD:

To complete this task depress the CLEAR control on the console.

TASK:

Switch an Incoming Telephone Transmission.

CONDITION:

Given: The dialing codes for all trainees and controller/aides.

Blinking trainee telphone monitor pushbuttons on communication console.

An audible tone in the switchboard operator's headset.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Depress the switchboard INCOMING/OUTGOING pushbutton.
2. Accept the request for connection to another (other) individual(s).
3. Employ the TELEPHONE DIALING SWITCHES to dial in the dialing code for the individuals with whom it is desired to communicate.
4. Depress the CLEAR control on the console.

TASK:

Announce over the public address system.

CONDITIONS:

Given: A requirement to address all trainees, instructors, aides and observers.

Public Address Dialing Code.

STANDARDS:

To announce over the public address system the following steps must be completed:

1. Dial the Public Address dialing code.
2. Speak into headset and make desired announcement.
3. Depress the CLEAR pushbutton to deactivate the Public Address System.

TASK:

Monitor a specified audio pick-up in the trainee operations area.

CONDITIONS:

Given: The audio pick-up to be monitored.

The Trainee Monitor Controls.

STANDARDS:

To complete this task the following sequence of operations must be performed:

1. Identify which audio pick-up will be monitored.

2. Depress the TRAINEE MONITOR controls corresponding to the audio pick-ups that are to be monitored.

TASK:

Introduce a background noise into the trainee operation area.

CONDITIONS:

Given: The types of background noise to be introduced (vehicle noise, incoming artillery noise, outgoing artillery noise, battle noise, or some combination of these noises).

The intensity level of the noise(s) to be provided (low, medium, high).

The compass direction of the noise (for incoming and outgoing artillery and battle noise).

The area into which noise is to be introduced (commander's area, TOC area, or both areas).

The Background Noise Control Panel.

STANDARDS:

To complete this task the following procedure must be completed:

1. Identify which area(s) are to have noise introduced.
2. For each type of noise to be introduced, set the intensity level control to the specified setting.
3. For incoming and outgoing artillery and battle noise, set the direction of noise control to the specified setting.
4. Depress the background noise pushbutton(s) corresponding to the area(s) that are to have noise introduced.

TASK:

Introduce a background noise into the trainee operation area.

CONDITIONS:

Given: The types of background noise to be introduced (vehicle noise, incoming artillery noise, outgoing artillery noise, battle noise, or some combination of these noises).

The intensity level of the noise(s) to be provided (low, medium, high).

The compass direction of the noise (for incoming and outgoing artillery and battle noise).

The area into which noise is to be introduced (commander's area, TOC area, or both areas).

The Background Noise Control Panel.

STANDARDS:

To complete this task the following procedure must be completed:

1. Identify which area(s) are to have noise introduced.

2. For each type of noise to be introduced, set the intensity level control to the specified setting.

3. For incoming and outgoing artillery and battle noise, set the direction of noise control to the specified setting.

4. Depress the background noise pushbutton(s) corresponding to the area(s) that are to have noise introduced.

TASK:

Record trainee communication (radio or telephone) signals or trainee conversation in the TOC or Commander areas.

CONDITIONS:

Given: The type material to be recorded (trainee communication signals, trainee conversation or both).

For radio or telephone signals, the particular channels/ circuits to be recorded.

For trainee conversation, the particular area(s) (TOC, battalion or both) to be recorded.

STANDARDS:

To complete this task the following procedure must be followed:

1. Select the type of material to be recorded and engage the controls for the corresponding channels/areas.

2. Depress the RECORD control of the tape recorder system.

TASK:

Employ the Analog Data Pen to change the time shown as a command and control menu to save specified time.

CONDITIONS:

Given: A specified time to be inputted onto a command and control menu.

A command and control menu with an incorrect time shown.

The Analog Data Pen.

The Graphic CRT display.

STANDARDS:

To complete this task the following procedure must be followed:

1. Inspect the TIME column of the menu and determine which digits of the time shown are different from the time to be inputted to the menu.

2. Position the ANALOG DATA PEN over the first incorrect digit in the time shown and activate the pen's tip switch.

3. Position the ANALOG DATA PEN over the desired digit in the list of numbers below the time shown and activate the pen's tip switch.

4. Repeat steps 2 and 3 for each additional incorrect digit until the time shown is the same as the time specified to be shown in the TIME column of the menu.

TASK:

Employ the camera joystick control to pan the camera's view of the map.

CONDITIONS:

Given: A requirement for the camera's view of the map to be panned right/left.

The direction of pan (left or right).

The Camera Joystick control on the Simulation Control Panel.

STANDARD:

To complete this task the CAMERA JOYSTICK control is moved right to pan the camera to the right, while it is moved left to pan the camera to the left. Right panning will provide a view of the map to the right of its initial position. A left panning will provide a view of the map to the left of its initial position.

TASK:

Employ the camera joystick control to tilt the camera's view of the map.

CONDITIONS:

Given: A requirement for the camera's view of the map to be tilted up/down.

The direction of tilt (up or down).

The Camera Joystick control on the Simulation Control Panel.

STANDARD:

To complete this task the CAMERA JOYSTICK control is moved upwards to tilt the camera upwards and is moved downwards to tilt the camera downwards. Upwards movement will provide an upward view of the map, while downwards movement will provide a downward view of the map.

TASK:

Employ the camera zoom control to adjust the dimensions of the Graphic CRT viewing window.

CONDITION:

Given: A requirement for a smaller/larger viewing window.

The adjusted dimensions of the viewing window.

Zoom Control on Simulation Control Panel.

STANDARD:

To complete this task the ZOOM control on the Simulation Control Paenl is depressed at the top of the control to make the viewing window smaller (bring the map closer) or is depressed at the bottom of the control to make the viewing window larger (take the map away). The control is kept depressed until the viewing window is adjusted to the desired size.

Chapter III

CATTS OT I Exercise Scenario

CATTS Exercise Scenarios

The purpose of this section of the CONTROLLER'S MANUAL is to acquaint controllers with the scenario which will be employed in OT-1 CATTS exercise. This section will address the following topics:

a. Background of the Events Preceeding the Friendly-Aggressor Confrontation.

b. Overview of the Scenario.

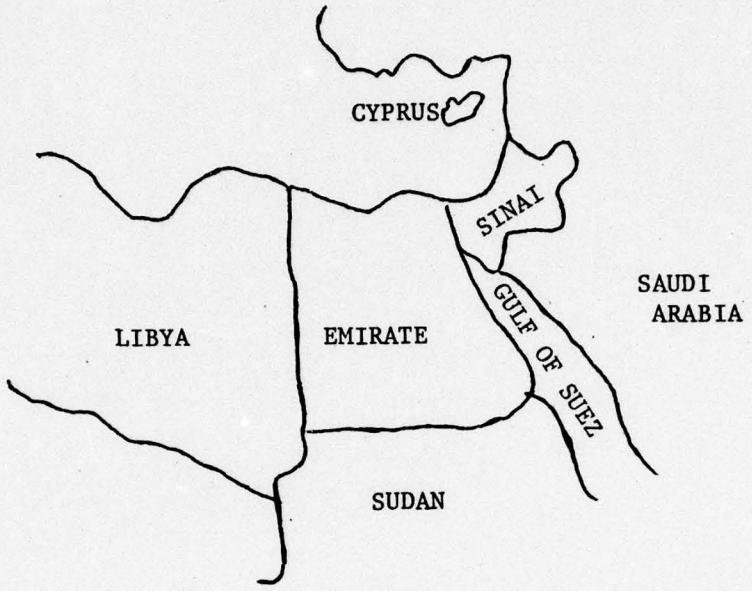
c. Summary of the Friendly Defensive Phase of the CATTS Exercise.

d. Summary of the Friendly Offensive Phase of the CATTS Exercise.

Background of the Events Preceeding the Friendly-Aggressor Confrontation.

The country of Emirate is located west of the Suez Canal and south of the Mediterranean Sea (see Map Sketch A). Emirate received its independence after World War I and has relied heavily on Western foreign aid. Its economy has an agricultural base which, coupled with a low level of industrialization, has not provided adequate employment for its population. Further, due to world wide inflation, unemployment rose substantially in the last year. This added to the country's other major problems (overpopulation, an unfavorable balance-of-trade, limited natural resources, and dissatisfaction with the status quo) to create a very difficult internal situation.

Recently, a revolutionary group, led by the country's military leaders, disestablished the constitutionally elected government of Emirate and replaced it with a military government having very definite anti-western



MAP SKETCH A

(Not to Scale)

attitudes and policies. The military leaders of the new government claim that they replaced the constitutional government because it was aloof from the great masses of the population and unresponsive to the country's economic and domestic problems.

The first actions of the new government were to (a) declare a state of emergency and (b) assume decree making powers. Intellectuals and key government officials who supported the constitutional government were then either jailed, exiled, or executed. New economic and domestic policies aimed at solving the country's problems were rapidly developed and implemented. However, these policies have largely been unsuccessful. This has been due to three factors: (a) the policies were ill defined and their goals were unrealistic, (b) the technical expertise required to successfully implement these policies was not present in the country, and (c) the capital required to support these policies was beyond the current capabilities of the country's economy. As a consequence, the ruling military government is itself now in danger of being disestablished. Recognizing this danger, the new government has decided to embark on a policy that will divert attention from the country's difficult internal situation. This will allow the new government an opportunity to more fully solidify its political position and thus, forestall any attempt at counter revolution by exiled factions.

As one means of diverting attention from internal problems, the new government has declared that an external threat to the nation's security

now exists. In particular, they have taken the position that traditional values have been corrupted by the influence of western capitalism and by neighbors to the east of Emirate who have close ties with the Western Nations. One means of countering this threat, they believe, is to eliminate the western influence through an eastern expansion into their neighbor's territory. This would then be followed by a return to the "old ways".

In addition, by eliminating this threat through an expansion into the eastern neighbor's territory, several economic and domestic problems would be partially solved: additional capital would be available from captured oil fields, mobilization would provide additional employment, and captured land would be available to help reduce pressures from over population.

In order to lay the way for a major eastern expansion, Emirate has strengthened its military alliances with the Aggressor Nation. In addition, as a consequence of a massive propoganda campaign, the peasant element of Emirate has begun to conduct terrorist operations against the eastern neighbor's settlement along their's and Emirate's common border. Finally, in preparation for the expansion, Emirate has mobilized her military forces along the common border to conduct "yearly training exercises" and maintain internal stability.

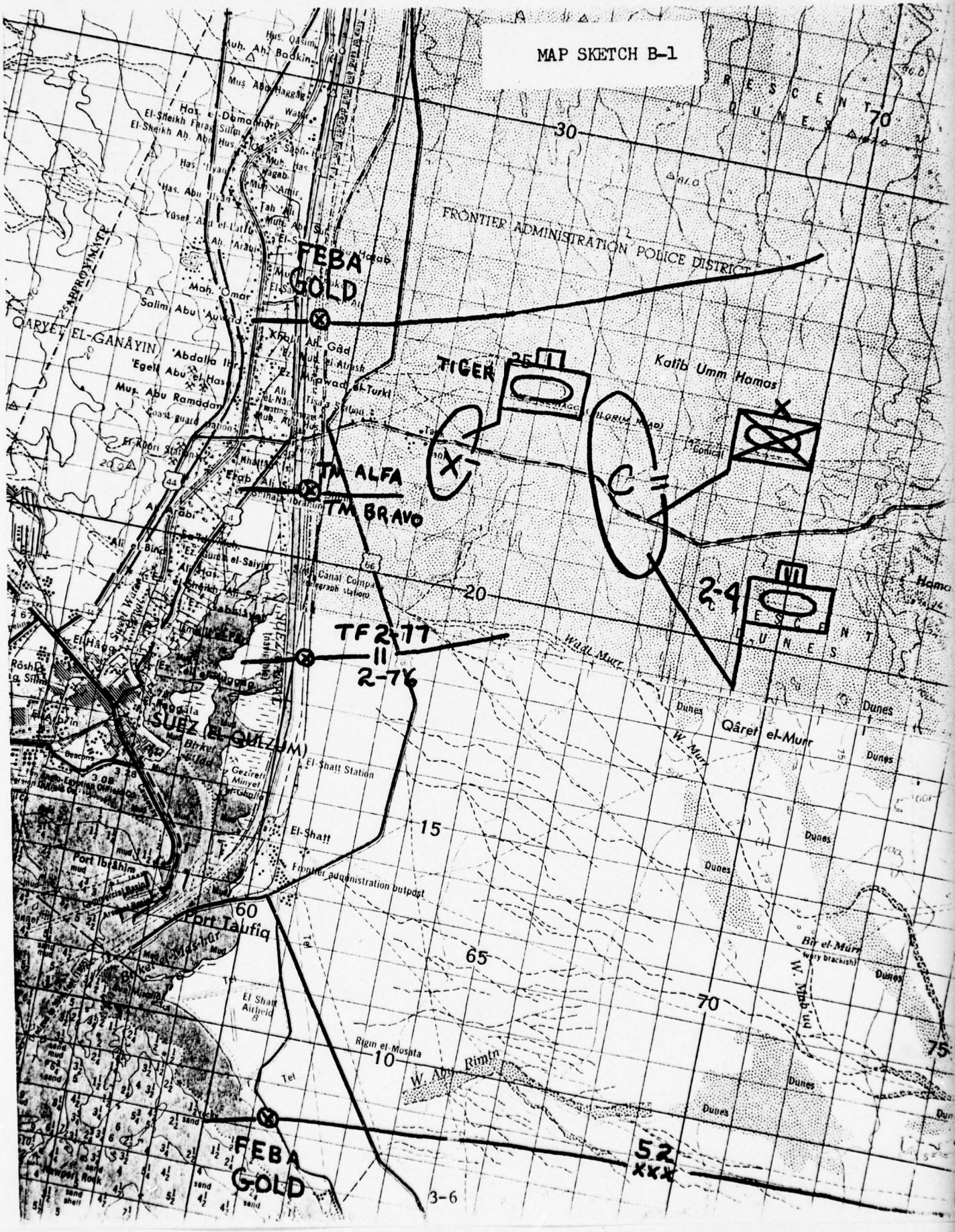
These events have not gone unnoticed by the governments of the Western Nations or by Emirate's eastern neighbors. In response to the mobilization,

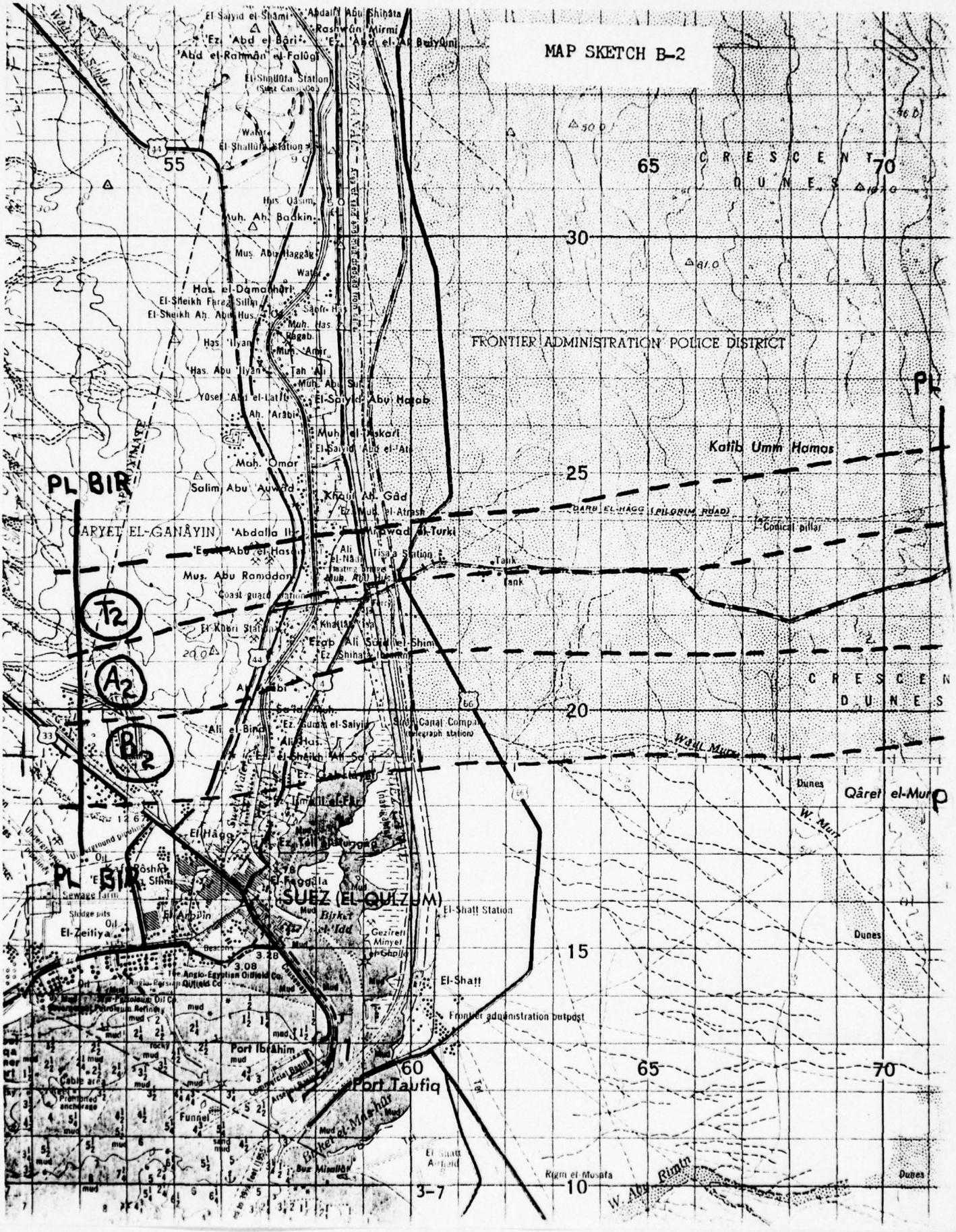
the friendly nations have increased their own military preparedness. Further, at the request of other friendly nations, and in particular, Emirate's eastern neighbor, U.S. Forces have been deployed 20 miles east of the Suez Canal. The purpose of this deployment is to prevent any expansion by Emirate into its eastern neighbor's territory.

Overview of the Scenario

Defensive Phase. The play battalion, TF 2-77, is attached to the 1st Brigade of the 52nd Inf. Div. (Mech). Initially, they will occupy a larger area near the Mitla Pass in the Sinai Desert (see Map Sketch B). The Suez Canal is an international boundary. As such, any play across or near the canal prior to a given time is not permitted. Brigade headquarters will provide intelligence to TF 2-77 to build up the play of the problem. Subsequently, TF 2-77 will be ordered to (a) defend in sector, (b) defend against a canal crossing at FEBA GOLD, (c) prepare for both a voluntary and an involuntary withdrawal from FEBA GOLD, and (c) defend FEBA SILVER subsequent to withdrawal. If withdrawal is involuntary, it will be conducted through a brigade covering force.

Offensive Phase. The play task force will conduct a coordinated attack which will require a passage of lines. This will be followed by an exploitation which will include a meeting engagement. Following these events, the play task force will link-up with an airmobile force and will conduct a river crossing. Finally, play will be terminated with all units preparing to pursue the aggressor forces on their own territory.


MAP SKETCH B-1
FEBA GOLD
TIGER
Katib Umm Hamas
TM ALFA
TM BRAVO
TF 2-77
2-76
2-4
SUEZ (EL QULZUM)
Port Ibrahim
Port Taufiq
El-Shatt Station
El-Shatt
Frontier administration butpost
Qâret el-Murr
W. Murr
Bir el-Murr
W. Mabtuh
W. Abu Rimth
Rigm el-Musata
FRONTIER ADMINISTRATION POLICE DISTRICT
QARYET EL-GANÂYIN
RESCENT DUNES
FEBA GOLD
3-6


MAP SKETCH B-2
FRONTIER ADMINISTRATION POLICE DISTRICT
CRESCENT DUNES
CRESCENT DUNES
Katib Umm Hamas
DARB EL-HAGG (PILGRIM ROAD)
Conical pillar
Tank
Tank
Tisa'a Station
Qâret el-Mun
W. Mun
Dunes
Dunes
Dunes
SUEZ (EL-QUIZUM)
El-Shatt Station
El-Shatt
Frontier administration outpost
Port Ibrahim
Port Taufiq
Bir el-Mashar
Rigm el-Musafa
W. Abu Rimth
Qaryet el-Ganâyin
El-Hâga
El-Zeitiya
Sewage farm
Sludge pits
Oil
Anglo-Egyptian Oilfield Co.
Anglo-Persian Oil Co.
Petroleum Refinery
Cable area
Prohibited anchorage
Funnel
Beacons
Underground pipelines
Suez Canal Company (telegraph station)
Suez Canal
Water
Mud
Sand
Rocky
PL BIR
PL BIR
PL
PL
A2
B2
T2
55
65
70
30
25
20
15
60
65
70
10
3-7
3.08
3.28
El-Shallûfa Station
El-Shallûfa
El-Saiyid el-Shâmi
'Abd el-Rahmân el-Falûgi
Ez. 'Abd el-Bâri
Rashwân Mirmi
Ez. 'Abd el-Al Beiyûmi
Muh. Ah. Badkin
Mus. Abu Haggag
El-Sheikh Fared Silim
El-Sheikh Ah. Abu Hus.
Muh. Has
Has. el-Damashiri
Has. 'Ilyan
Has. Abu 'Ilyan
Yôsef 'Abd el-Latîf
Ah. 'Arâbi
Muh. Omar
Salim Abu Awwad
Khalil Ah. Gâd
Ez. Muh. el-Atrash
Muh. el-'Askari
El-Saiyid 'Abd el-'Al
El-Saiyid Abu Hagab
Muh. Abu Sur
Tah 'Ali
Muh. Has
Muh. 'Amr
Mus. Abu Ramadan
'Egeil Abu el-Hasan
'Abdalla Ibr
Ali Nasr
Ali Sa'id el-Shimi
Ez. Shihata
Ali el-Bindari
Ez. Gumm el-Saiyid
Ali Hus.
el-Sheikh 'Ali Sa
Ez. Gabr Hayel
Ilmail el-Far
Ez. Tell Shurunga
El-Faggala
Bir el-'Idd
Gezirett Minyet el-Faggala
El-Arbain
Ez. Muh. el-Atrash
Ez. Muh. el-Turki
Khalîfa
Ez. Shihata
Ali el-Arabi
Sa'id Ouh.
Khalîfa
Ez. Muh. el-Atrash
Ez. Muh. el-Turki
Ali
El-Nasr

Summary of the Friendly Defensive Phase of the CATTS Exercise

The defensive phase of the CATTS exercise will be accomplished in the following manner:

(a) TF 2-77 will prepare for the defense of FEBA GOLD over a period of approximately three days.

(b) On the morning of D-Day, an aggressor force will be launched against the units in sector. If this assault is not successfully repulsed, the battalion will withdraw under pressure through a brigade covering force to FEBA SILVER, the next defensible terrain east of the Suez Canal in the vicinity of the Mitla Pass. If the assault is successfully repulsed, a withdrawal to FEBA SILVER will still be required due to an exposed northern flank created by an aggressor success in a northern sector.

(c) At FEBA SILVER, TF 2-77 will effect attachments and detachments and will prepare for the defense of FEBA SILVER.

(d) An aggressor force will attempt to penetrate FEBA SILVER in the southern portion of the zone but this will be successfully eliminated. A second attempt at penetration in the center will be successful and will not be eliminated by battalion counterattack. However, it will be contained by the commitment of reserve team TIGER (TF 2-4).

(e) Brigade will successfully counterattack and eliminate the penetration with TF 2-4. But due to a high casualty rate within TF 2-77, TF 2-4 will be ordered to relieve TF 2-77 in place. TF 2-77 will then become brigade reserve.

Summary of the Friendly Offensive Phase of the CATTS Exercise

The offensive phase of the CATTS exercise will be accomplished in the following manner:

(a) TF 2-77 consisting of four Combined Arms Teams will commence the attack at 1100 hours by passing through the southern portion of the TF 2-4 sector.

(b) Main aggressor resistance will be met in each flank with TEAM ABLE (the main attack force) being most successful in the center.

(c) Upon seizure of the brigade rupture objective (OBJECTIVE SAND), the Task Force commander will order a local exploitation to seize the brigade penetration objective (OBJECTIVE 1, division rupture objective: OBJECTIVE FLATS).

(d) At this point the division will order the exploitation by forward brigades (1st and 2nd Brigades). The reserve (3rd Brigade) will be alerted to prepare an airmobile force to seize the ferry crossing sites.

(e) Due to intervention by the Aggressor 2nd Echelon, the 1st Brigade will be delayed and Division will commit the airmobile forces (3rd Brigade) to seize the ferry.

(f) Exploiting forces will overrun the aggressor resistance and will link up and conduct a hasty river crossing over the Suez Canal at approximately 2100 hours.

(g) Shortly afterwards, the aggressor defense will collapse totally and the division will be ordered to pursue these forces to the NW at 0500 hours.

Chapter IV

CATTS OT I Performance Objectives

CATTS OT I Performance Objectives

The purpose of this section of the manual is to acquaint controllers with the proposed performance objectives (POs) for the CATTS Operational Test I (OT #1).

There are 10 POs. These describe at a very general level the kinds of performances which battalion level command groups may be expected to achieve in any tactical operation. The POs are described at the level of terminal performance.

The POs are presented in the standard format for such material. Each PO consists of an action statement, a conditions statement, and a standards statement. The action statement indicates the nature of the task that is to be accomplished. The conditions statement indicates the conditions under which the task is to be accomplished. Finally, the standards statement indicates the level and/or quality of performance that is to be manifested upon task completion. That is, it specifies what constitutes acceptable terminal performance.

In addition, for some POs which were found to be quite complex, Enabling Objectives (EOs) were developed. These EOs were prepared in the PO format. As implied by their name, the accomplishment of the EOs enables the command group to accomplish the desired terminal performance.

FINAL PO LIST

7 Nov. 74	/ 31 Oct. 74	
PO #1	(PO #1)	- Collect information about the enemy, record it, evaluate it with respect to the tactical situation, disseminate it, and use it to minimize the adverse effects of unanticipated enemy actions.
EA #1A	(EA #1A)	- Collect information about the enemy.
EA #1B	(EA #1B)	- Record information.
EA #1C	(EA #1C)	- Evaluate and interpret information with respect to the tactical situation.
EA #1D	(EA #1D)	- Disseminate intelligence.
PO #2	(PO #2)	- Analyze the military aspects of terrain in the area of operations, i.e., observation and fields of fire, cover and concealment, obstacles, key terrain, and avenues of approach.
	(EA #2A)	- Deleted (USAIS and CATTS joint meeting 7 Nov. 74).
	(EA #2B)	- Deleted (USAIS and CATTS joint meeting 7 Nov. 74).
PO #3	(PO #3)	- Determine the enemy's most probable course of action.
	(EA #3A)	- Deleted (USAIS)
EA #3A	(EA #3B)	- Know the enemy's current activities.
PO #4	(PO #4)	- Categorize, evaluate, and take countermeasures against enemy fires.
	(PO #5)	Deleted (USAIS)
	(PO #6	- Deleted (USAIS)
PO #5	(PO #7)	- Take counterintelligence and security measures.
	(EA #7A)	- Deleted (USAIS)
EA #5A	(EA #7B)	- Employ communications security.
PO #6	(PO #8)	- Employ organic and supporting fires to maximize their fullest capabilities.

7 Nov. 74 / 31 Oct. 74

EA #6A	(EA #8A)	- Shift fires, mass fires, change priorities to maximize the destructive capabilities of ground organic and supporting fires.
EA #6B	(EA #8B)	- Modify pre-planned requests to maximize the destructive capabilities of air supporting fires.
PO #7	(PO #9)	- Revised (USAIS and CATTS joint meeting 7 Nov. 74). - During tactical operations, identify problem areas, battalion capabilities and vulnerabilities, formulate and select a course of action and take immediate action to continue the mission with available and requested resources.
	(PO #10)	- Deleted (USAIS and CATTS joint meeting 7 Nov. 74).
	(EA #10A)	- Deleted (USAIS and CATTS joint meeting 7 Nov. 74).
	(EA #10B)	- Deleted (USAIS and CATTS joint meeting 7 Nov. 74).
	(PO #11)	- Deleted (USAIS)
PO #8	(PO #12)	- Effect timely resupply in command controlled items of equipment and supplies to minimize interruptions in executing tactical operations.
PO #9	(PO #13)	- Maintain communications.
	(EA #13A)	- Deleted (USAIS)
	(EA #13B)	- Deleted (USAIS)
PO #10	(PO #14)	- Interact with subordinates, superiors, and staff members in a manner that insures intended outcomes.

CATTS Performance Objective #1

ACTION: Collect information about the enemy, record it, evaluate it with respect to the tactical situation, disseminate it, and use it to minimize the adverse effects of unanticipated enemy actions.

CONDITIONS: (a) Information is being communicated among all agencies and sources intermittently.

(b) Specific information is being sought on a continuing basis.

(c) Subordinate units are tasked with intelligence collection requirements.

(d) Recent and past activities of the enemy indicate the unexpected action is now a common characteristic in all operations.

STANDARD: The Command Group will collect, record, and evaluate that information which will yield the intelligence needed for issuing timely orders and taking correct actions to minimize the adverse effects of unanticipated enemy actions.

Enabling Objective #1A

ACTION: Collect information about the enemy.

CONDITIONS: (a) Higher and adjacent headquarters can obtain new information on request.

(b) Subordinate headquarters can obtain new information on demand.

(c) Subordinate elements (patrols, etc.) can obtain new information on demand.

STANDARD: The Command Group will collect complete, timely, and accurate information about the enemy to include:

(a) disposition

(b) strength

(c) composition

(d) recent and present significant activities

(e) peculiarities and weaknesses ad defined in Appendix J, Section III, FM 30-5

Enabling Objective #1B

ACTION: Record information.

CONDITIONS: (a) Assorted pieces of information are being reported to the TOC.

(b) Joint operations/intelligence, map, S2/S3 Journal, S2 Workbook, and intelligence files, are available.

STANDARD: The Command Group will record in a timely, complete, and accurate manner, pertinent information of the current situation on the joint OPN/INTEL map and at least in one of the following:

(a) S2/S3 Journal

(b) S-2 Workbook

(c) intelligence files

Enabling Objective #1C

ACTION: Evaluate and interpret information with respect to the tactical situation.

CONDITIONS: (a) Assorted pieces of information are known in the TOC.

(b) Several periodic intelligence reports from higher headquarters are available.

(c) Most recent Intelligence Summaries from Brigade are available.

(d) Information from subordinate, attached, supporting, adjacent, and higher headquarters continues to be received by the TOC.

(e) The situation map is updated.

STANDARD: The Command Group will evaluate and interpret information and produce intelligence that is concise, free from irrelevant matter and ready for immediate use and dissemination.

Enabling Objective #1D

ACTION: Disseminate intelligence.

CONDITIONS: (a) An assortment of intelligence is available.

(b) Available intelligence requires dissemination in a variety of ways to subordinate, supporting, higher and adjacent units.

STANDARD: The Command Group will disseminate available intelligence for one or more of the following reasons in a timely and correct manner:

(a) Presenting oral estimates

(b) Making spot reports

(c) Issuing fragmentary orders

(d) Conducting briefings and conferences

(e) Solving problems

(f) Making decisions

CATTS Performance Objective #2

ACTION: Analyze the military aspects of terrain in the area of operations, i.e., observation and fields of fire, cover and concealment, obstacles, key terrain, and avenues of approach.

CONDITIONS: (a) Terrain in the area of operations is varied in (1) avenues of approach, (2) key terrain, (3) observation, and fields of fire, (4) cover and concealment, and (5) obstacles.

(b) Enemy actions occur that give terrain new significance in light of current mission, or

(c) New mission is received that gives terrain new significance, or

(d) Weather changes occur that give terrain new significance, or

(e) On-going operations reveal new information about terrain.

STANDARD: The Command Group will enhance the capabilities of own forces by accurate and timely use of terrain that best offers:

(a) Observation and fields of fire.

(b) Cover and concealment.

(c) Obstacles.

(d) Key terrain.

(e) Avenues of Approach.

CATTS Performance Objective #3

ACTION: Determine the enemy's most probable course of action.

CONDITIONS: (a) Assorted enemy information has and is being reported from subordinate units and elements.

(b) Assorted enemy information has and is being reported from higher and adjacent headquarters.

(c) Past and recent activities of the enemy are known.

STANDARD: The Command Group will enumerate and analyze various enemy capabilities and determine the enemy's most probable course(s) of action, and list in order of probability of adoption.

Enabling Objective #3A

ACTION: Know the enemy's current activities.

CONDITIONS: (a) Assorted enemy information has and is being reported from subordinate units and elements.
(b) Assorted enemy information has and is being reported from higher and adjacent headquarters.
(c) Past and recent activities of the enemy are known.

STANDARD: The Command Group will know at all times the reported current activities of the enemy forces opposing the forward elements and the reinforcements available to that force

CATTS Performance Objective #4

ACTION: Categorize, evaluate, and take countermeasures against enemy fires.

CONDITIONS: (a) The enemy has and is firing various types of weapons at friendly forces.

(b) SOPs on enemy activities are being implemented at all levels of command.

(c) Available target acquisition assets are being utilized.

STANDARD: The Command Group will:

(a) accurately and timely determine the approximate type and size of enemy weapons using SHELREPs, target acquisition reports, and other information.

(b) take countermeasures against enemy fires such as counterfires, relocation of friendly forces, or suppressive fires.

CATTS Performance Objective #5

ACTION: Take counterintelligence and security measures.

CONDITIONS: (a) SOPs regarding security measures are being implemented.

(b) Current Operations Order accentuate selected provisions of the SOPs and include tailored instructions for the current operation.

(c) The enemy is active in the pursuit of information.

STANDARD: The Command Group will minimize the effects of unanticipated enemy actions by taking timely measures that counter the gathering of information by the enemy to include:

(a) Physical security

(b) Communications security

(c) Counterintelligence denial and detection measures

(d) Counterreconnaissance measures.

CATTS Enabling Objective #5A

ACTION: Employ communications security.

CONDITIONS: (a) Enemy is in active pursuit of information.

(b) Only the FM and AM radio sets in the Brigade Command net have secure speech sets.

(c) Security SOP's are being implemented.

(d) Current communication/electronic operating instructions are in effect.

STANDARD: The Command Group will:

(a) Operate radio sets in secure speech mode unless ordered otherwise by higher headquarters.

(b) Send grid coordinates in code.

(c) Change call signs and codes as per CESI/CEOI.

(d) Use authentications upon opening and closing of any set and any time doubt exists as to the authenticity of any station.

(e) Transmit classified data by means other than radio.

(f) Keep FM transmissions to a minimum.

CATTS Performance Objective #6

ACTION: Employ organic and supporting fires to maximize their fullest capabilities.

CONDITIONS:
(a) Plan of fire support is in consonance with the scheme of maneuver.
(b) Target lists concentrate on enemy's vulnerabilities.
(c) Organic and supporting elements are delivering fires as planned or on call.
(d) The enemy situation changes unexpectedly.

STANDARD: The Command Group will take actions to employ organic and supporting fires which place:
(a) the best available destructive ordnance in the proper amount on
(b) the intended target at
(c) the most advantageous time.

Enabling Objective #6A

ACTION: Shift fires, mass fires, change priorities to maximize the destructive capabilities of ground organic and supporting fires.

CONDITIONS: (a) The Fire Support Plan supports the scheme of maneuver.

(b) Target lists concentrate on enemy's vulnerabilities.

(c) Supporting indirect fire elements are delivering fires as planned or on call.

(d) The enemy situation changes unexpectedly.

STANDARDS: The Command Group will change fire priorities, mass fires, and shift fires to place the best and proper amount of available ground organic and supporting weapon ordnance on the intended target at the most advantageous time.

Enabling Objective #6B

ACTION: Modify pre-planned requests to maximize the destructive capabilities of air supporting fires.

CONDITIONS: (a) The Fire Support Plan supports the scheme of maneuver.

(b) Aviation assets (tactical air and aerial field artillery) are included in the plan of fire support.

(c) The enemy situation changes unexpectedly.

(d) Appropriate targets are identified and reported.

STANDARD: The Command Group will modify pre-planned air support to place the best available aviation fire supporting weapons in the proper number of sorties on the intended target at the most advantageous time.

CATTS Performance Objective #7

ACTION: Identify problem areas, battalion capabilities and vulnerabilities, formulate and select a course of action and take immediate action to continue the mission with available and requested resources.

CONDITIONS: (a) Unit reports loss in personnel and equipment at a crucial stage during a tactical operation that renders the unit ineffective.

(1) Battalion mission is unchanged

(2) Personnel and equipment replacements are unavailable

(3) Confirmed reports indicate that the situation will favor the enemy if immediate action is not taken

(b) Subordinate units report conditions due to enemy, terrain, and/or weather are interferring with their progress in varying degrees.

(1) Situations are such that task organization should be changed.

(2) Situations are such that control measures should be altered.

(3) Situations are such that missions for subordinate units may be changed even though the battalion mission remains unchanged.

STANDARD: The command group will identify problem areas, battalion capabilities and vulnerabilities for each given situation, formulate, select, and implement a scheme of maneuver which accomplishes the mission in the shortest amount of time, with the fewest number of casualties while inflicting the maximum amount of damage on the enemy in accordance with current tactical doctrine.

CATTS Performance Objective #8

ACTION: Effect timely resupply in command controlled items of equipment and supplies to minimize interruptions in executing tactical operations.

CONDITIONS: (a) A command controlled list of supplies and equipment exists.

(b) An unanticipated loss of a command controlled item occurs, or

(c) An excessive loss in command controlled items occur, or

(d) Any combination of (a), (b), or (c) is reported.

(e) Contingency plans exist but do not cover situation being reported.

STANDARD: The command group will request resupply of command controlled items in a timely manner that allows the organization:

(a) to accomplish its assigned mission without interruption, or

(b) to alter or modify its operations plans and still execute its assigned mission.

CATTS Performance Objective #9

ACTION: Maintain communications.

CONDITIONS: (a) Multiple means of communication (radio, wire, messenger) exist between command levels.

(b) Capabilities of equipment satisfy needs for communications between command levels during the conduct of the battle.

(c) Enemy has ECM capability and makes occasional jamming and imitative deception attempts on FM and AM radios.

(d) SOPs and operations orders provide appropriate guidance.

(e) Assorted electronic and mechanical failures occur intermittently, or

(f) Occasional interferences are encountered due to weather effects.

STANDARD: The Command Group will communicate with subordinate, higher, adjacent, and supporting headquarters inspite of interferences.

CATTS Performance Objective #10

ACTION: Interact with subordinates, superiors, and staff members in a manner that insures intended outcomes.

CONDITIONS: (a) On-going activities are being reported at the various levels of command.

(b) Orders and requests are being issued at the various levels of command.

(c) Intra-staff procedures are being implemented routinely.

(d) Inter-staff procedures are being implemented routinely.

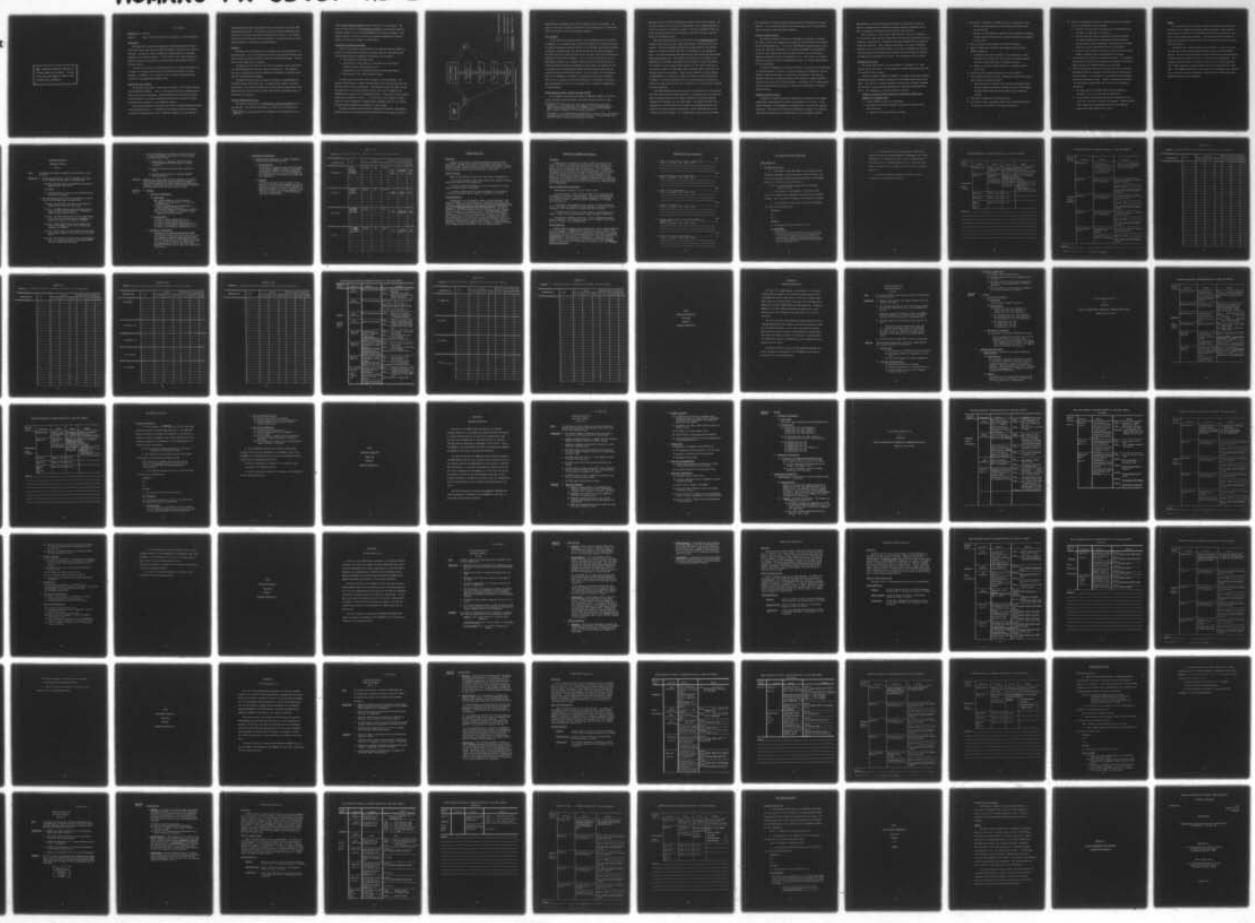
STANDARD: The Command Group will communicate and coordinate with all concerned in a manner that produces organizational effectiveness and facilitates the accomplishment of the mission.

APPENDIX B

CATTS PLAYER ASSESSMENT SYSTEM

AD-A055 057 HUMAN RESOURCES RESEARCH ORGANIZATION ALEXANDRIA VA F/G 15/7
RESEARCH ACCOMPLISHED IN SUPPORT OF THE COMBINED ARMS TACTICAL --ETC(U)
FEB 76 T R POWERS, A J DELUCA DAHC19-75-C-0010
UNCLASSIFIED HUMRRO-FR-CD(C)-76-2 NL

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NOTE: Behavioral checklists consisted of the same format for all umpires. For this reason, only one example is shown of each different type of checklist.

25 July 1975

MEMORANDUM TO: CATTS PD

SUBJECT: General Plan for Assessing Player Behavior on the CATTS Device

Introduction

This paper will outline the proposed plan for assessing player behavior on the CATTS device when using the FEBA GOLD (COMP-T) scenario as the reference situation. The paper is based on generally accepted behavioral psychology principles for evaluating behavior. A first draft of this paper has been previously reviewed and commented on by contract monitoring personnel from the local ARI office.

The paper will discuss the conceptual basis for the player evaluation, and the types of situations that should be used when player behavior is being assessed. In addition, it will present a set of behavioral checklists that can be used as standardized assessment tools.

General Tactical Situation

The discussion presented in this paper is specific to the tactical scenario labeled FEBA GOLD (COMPT-T). This is a training exercise with a defensive operation as the tactical background. The participants in the exercise, who will be called players, all perform assigned military duties and carry out responsibilities and procedures as in any defensive mission.

There are many objectives and goals that could be attained during the conduct of any simulated exercise. To demonstrate the concept of CATTS as applied to a structured training scenario such as FEBA GOLD (COMPT-T), six (6) specific

training objectives[1] were selected and will be used during the current CATTS System definition phase. The selection of these particular objectives were arbitrary in the sense that others could have been identified. The training objectives will be used both to focus training in a specific area and to make possible systematic observation of player behavior.

Personnel

The CATTS tactical exercise will be conducted under the direction of the Chief Controller. He will be primarily located in the Controller Station area which contains the three controller stations and associated hardware. He will move to other CATTS areas as required.

The players will be located in the Tactical Operations Center (TOC) which is a simulated mechanized infantry battalion command post. The simulated position is supplied with the same communication components as would be available in a non-simulated environment.

The Umpire Stations consist of eight (8) positions located between the Controller Station area and the TOC. At these stations umpires can monitor the behavior of the players although due to some electronic limitations of the Umpire Stations, this area does not offer them complete information about all activities of the players.

Types of Evaluation Situations

The players should be given a pre-exercise orientation briefing prior to the exercise. This would be followed by the conduct of the exercise with

[1] These objectives have previously been submitted to, and approved by, the CATTS PD.

several player analysis sessions being interspaced into the scenario. The final activity would be the post-exercise critique in which players would be provided feedback as to their accomplishments by the Chief Controller. This general sequence of events and sources of relevant information for various groups is illustrated in Figure 1 in this paper.

Pre-Exercise Orientation Briefing

Prior to the conduct of the exercise it is important that all players be given an orientation that discusses the salient aspects of the CATTS System. The following topics are suggested as appropriate for discussion.

a. Brief history of the CATTS System.

b. Presentation of the mechanics of the CATTS device (Controller functions, device characteristics, etc.).

c. Presentation of the training objectives for FEBA GOLD (COMP-T).

d. Presentation of the CATTS evaluation system.

Of these topics, the latter two are judged to be most important. The players should be given a complete understanding of the training objectives and how they will be used in the exercise. They should be given the frame of reference that this is a training situation and that they will be judged by the standards that are part of the training objectives. Presentation of the training objectives is considered critical. It is important for all players to understand that their performance is judged against standards which fit the training situation and not against the performance of other groups.

The group evaluation system should be adequately discussed so that players realize that there are detailed checklists being used by the umpires as well as

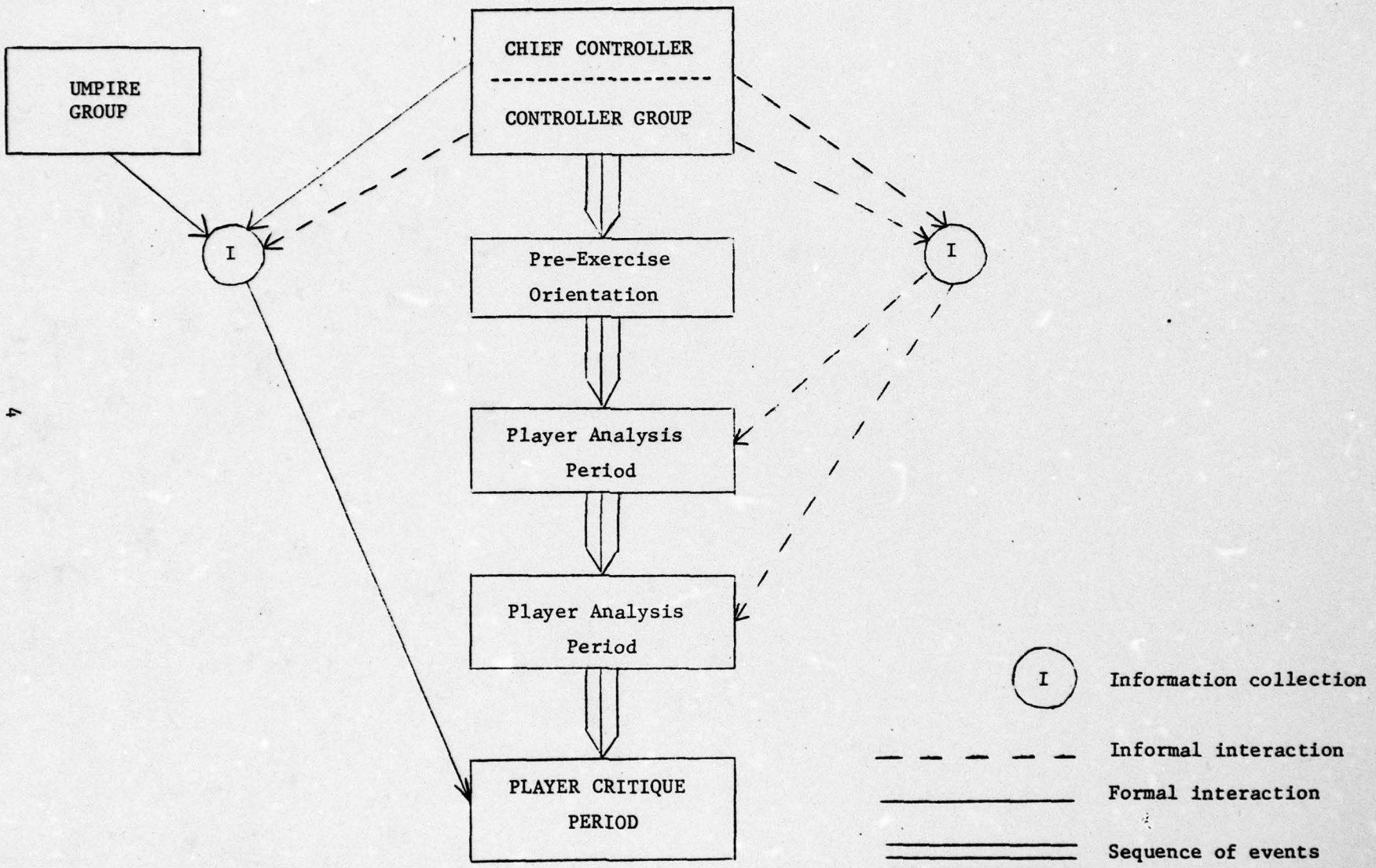


Figure 1. Conceptual Plan for CATTS Player Evaluation

other reference information that will be available from the Controllers. The concept of the player analysis sessions and the critique sessions, as discussed later in this paper, should be thoroughly explained.

Use of Umpires

In this system the primary evaluators of the Command Group will be called the Umpires. It is proposed that a one-for-one situation be used that will have one umpire evaluating one player[2] (Bn CO, S2, S3, FSCOORD, and S3 Air)[3] although it should be understood that the evaluation will focus on group performance. This will leave three umpire stations vacant and these can be used (by observers/ visitors) or they could be unmanned. Due to the inherent limitations of the CATTS Umpire Stations (e.g., physical characteristics of the station and its limited interaction with other components of the system) the "evaluation" that is conducted will be substantially reduced from an evaluation that would be available from a more interactive system. For this reason, only the behaviors that can be monitored at the Umpire or Controller Stations can be assessed. This is not a criticism of the current system but is only meant to give background information as to one of the reasons for the conceptual framework that is discussed here.

Player Analysis Periods vs Player Critique Periods

It is probable that during the conduct of FEBA GOLD (COMP-T), there will be six (6) player analysis periods, (one player analysis period for each

[2] Although this is proposed, the final type of evaluation may involve a modification of this situation. For example, it is conceivable that one Umpire could evaluate the behavior of both the S3 Air and the FSCOORD. Such a system is reflected in the attached checklists.

[3] The make-up of the Command Group is currently in a state of flux. The specific information listed here will be modified to reflect the actual Command Group when that aspect of the situation becomes finalized.

objective) and at the end of the scenario a single Player Critique Period. All of these periods will be critical for achievement of the learning expected to occur as the result of experience in CATTS. Both Player Analysis Periods and Player Critique Periods will be supervised by the Chief Controller and will be held at the Umpire Station.

The Player Analysis Periods are provided for brief player-directed discussion of activities that have taken place during a certain portion of the scenario. The Player Analysis Periods will be administered (in an informal sense) by the Chief Controller who will be nondirective in any comments he makes. He could conceivably raise questions and issues based upon observations made during problem play. These items for discussion can be brought to his attention by (1) informal notes made by either himself or other controllers, (2) reference to the 15 minute status reports, (3) the "alert" print-outs at the consoles, and/or (4) audio tapes (tape recordings) made by controllers at selected points in the exercise. Player Analysis Periods are not envisioned as opportunites for controllers or umpires to formally critique performance of players. The Player Critique will be the formal evaluation situation provided at the end of play and will not be held until all Player Analysis sessions have been completed.

The Player Critique Period will be held at the termination of the exercise and will be directed by the Chief Controller. The Umpires will serve under the Chief Controller and will be the primary assessors of individual behavior although the Controllers will also make inputs. The Umpires will have prior instruction in the CATTS concept of training, the training objectives, the structure for making necessary observations, and the preferred ways of contributing to player critiques. To accomplish this, Umpires will be provided

with checklists for assisting them in making systematic observations of player behavior. It is considered essential that Umpires not be left to follow their own inclinations in observing player behavior.

Purpose of Player Critique

The purpose of Player Critique is to determine as accurately as possible the extent to which the Command Group performs the tasks and meets the standards of the training objectives. This will be accomplished through appraisal (observation and systematic evaluation) of the group's performance and communicated to them in such a manner that they will know what they can do to improve or maintain performance and will be motivated to do so. Every action of an Umpire should be calculated to help the Command Group obtain an accurate understanding of their performance.

It should be emphasized that player evaluation is concerned with the appraisal of tactical behavior or actions of a player and not with a diagnosis of his personality, suspected attitudes, or other personal attributes. Discussion of personal traits with an individual usually does nothing but generate defensive hostility and rarely serves a useful purpose. Accordingly, for the CATTS project, player critique should be restricted to evaluation and discussion of observed tactical actions.

Elements in Player Critique

Evaluation as used here involves comparing the performance of the Command Group against requirements for satisfactory performance in the task. In the present situation, the requirements are presented as a set of six (6) training objectives. Each objective describes the performance required, the conditions under which performance will be demonstrated, and the standards required.

Where behavior could be specifically predicted for long periods of time, it would be a simple matter to describe the players expected performance and to make a comparison to determine how well they met the objective.

This is difficult in the current CATTS exercise. Due to the complexity of the military tasks involved, coupled with the relatively uncontrolled tactical situation, a mediating set of behaviors have been developed that are called the behavioral checklists. These checklists are based on the tactical behaviors expected to occur in FEBA GOLD (COMP-T) so that direct comparison can be made of player behavior and the specified standard, and thus an objective evaluation of Command Group performance can be made. (See checklists at end of paper.)

Implementation of Play

The current CATTS device is located in Room 35, Building 4, U.S. Army Infantry Center and School. All play during the systems development phase will be conducted at this location.

During the conduct of FEBA GOLD (COMPT-T), the Umpires will make successive comparisons between the behavior exhibited by the Command Group and the checklists. This will be a relatively mechanical process with the Umpire comparing the checklist to player behavior and marking the appropriate space when this occurs. The following is a projected sequence of events.

Sequence of Events for Chief Controller, Controllers, Umpires, and Members of the Command Group

1. Players assemble and jobs are identified.
2. Pre-exercise orientation briefing is delivered to players by the Chief Controller.
    a. Question and answer period will be held.

3. All players, Controllers, and Umpire Stations are manned and ready.
   a. Relevant training objectives are reviewed by each Umpire and all Controllers.
   b. Umpires sort the behavioral checklists and the general anticipated tactical sequence is identified. Specific checklists are compiled in that order.
4. Play is initiated on the command of the Chief Controller.
5. Umpires formally mark checklists when players exhibit specific checklist behaviors.
   a. On behaviors the Umpire considers to be illustrative, a short reference note is written so that a specific noteable instance can later be given the player to document the point.
   b. Umpires record very unusual behavior in the Remarks Section of the form.
6. Controllers make informal observations of player behavior.
7. Player Analysis Sessions are held intermittently during the sessions. These sessions are player directed.
   a. Chief Controller is supplied with significant background information by Umpires/Controllers immediately prior to the session. He makes nondirective observations about player behavior as required.
8. Play ends on command of the Chief Controller.
9. At the end of play, Controllers collect their information and pass it (verbally or in writing) to the Chief Controller.

10. Umpires systematically compile all recorded checklists and prepare notes for participation in the critique.

    a. Determine the areas where the group met the training objective standards as supported by recorded data.

    b. Identify where the group was unsatisfactory (did not exhibit the necessary behaviors) as supported by the recorded data.

    c. Develop specific written suggestions concerning how the Command Group can go about improving weak areas of performance.

    d. Bring the entire analysis into focus by means of several written summary statements about the performance of the group.

11. All information is reported to the Chief Controller. All completed checklists and other written information are supplied to him and any special matters are verbally brought to his attention.

12. The Chief Controller (with help as required from other Controllers and Umpires) will be responsible for delivering the formal performance evaluation. He will refer to the checklists when discussing particular behaviors or events. Specific information contained on the post-exercise computer print-out can be used as background information.

    a. The areas where the training objectives were completely, partially, or not at all met will be identified.

    b. In areas where the training objectives were partially, or not at all met, corrective action will be proposed. Complete details will be given on how performance could have been improved.

    c. Question and answer period will be held.

Summary

It is proposed that an evaluation system be developed that would have as one aspect of the program several Player Analysis Sessions. These sessions would largely be conducted by the players although the Chief Controller would listen in and comment where necessary. These sessions would be informal in nature and background information used by the Chief Controller could be gotten from many sources.

A terminal Player Critique Session would be held at the end of the exercise and this activity would comprise the major element of the evaluation program. The Chief Controller would be supplied with behavior checklists which had been completed by Umpires as well as other supporting information. These checklists would be based on activities required by the training objectives and a formal evaluation of player behavior would be developed from the checklists. The Command Group would be told whether it had completely met, partially met, or not met at all the performances required by the training objectives. Remedial behavior would be suggested.

CATTS

EVALUATION CHECKLISTS

FEBA GOLD

(COMP-T)

TRAINING OBJECTIVE #1

EVALUATION

TRAINING OBJECTIVE #1

The task of the command group according to the inclosed training objective papers is to determine the enemy's capabilities and probable course of action. During the RUNNING of the CATTS system, controllers and umpires will MONITOR and RECORD as prescribed in the inclosed checklists.

The Chief Controller will FREEZE the CATTS system and initiate a PLAYER ANALYSIS when RED units leave Highway 33 and begin deployment into assault formation. At the start and during the analysis period, he will elicit responses from the members of the TOC which will permit the umpires to record the command group determination of the enemy's capabilities and probable course of action and compare that determination with the facts.

The Chief Controller, during the POST EXERCISE CRITIQUE, will report the degree of attainment of the STANDARD for this task as prescribed in the training objective.

TRAINING OBJECTIVE #1

FEBA GOLD (COMP-T)

(PO #3)

TASK: To determine the enemy's capabilities and probable course of action.

CONDITIONS: a. The following essential items of information are given to the TOC prior to the start of tactical play:

(1) Known location, size, and composition of selected Aggressor units (SIT O'LAY).

(2) INTSUM.

(3) Selected entries in unit journal concerning recent activities of Aggressor.

b. The following essential items of information are inputed into the TOC at approximate indicated time:

(1) H-60. Bde S2 report from ASA that the Aggressor Homeland Advisor Net has closed down.

(2) H-57. Tm BRAVO reports hearing muffled voices and sounds of metal striking metal on a 330-degrees azimuth from the team's position.

(3) H-55. Tm ALPHA reports that 4.2" FO, using a starlight scope, has observed Aggressor personnel laying mats or planks on the canal vic VU590230.

(4) H-52. Ground Surveillance Section reports (confirmed by Tm ALPHA) a large vehicle moving short distances vic VU586248.

(5) H-50. Bde S2 report of large Aggressor convoy heading southeast toward the prot city of Suez on Highway 33.

(6) H-24. Bde S3 report re follow up of large Aggressor convoy now heading northeast in three major groups spaced at considerable distances.

c. The following Aggressor movements are detected in part or wholly by friendly radars and/or air recce during the period H-45 to H-20:

(1) Lead elements of Aggressor assault battalion leaving Highway 33 and deploying into assault formation.

(2) Assault formation moving northeast towards the canal.

(3) Artillery units moving to concealed prepared firing positions.

STANDARD: Aggressor can attack within one hour anywhere in our sector with estimated 9 motorized rifle platoons and attached 3 tank platoons supported by normal regimental artillery; and capable of reinforcing this attack with 2 reinforced motorized rifle battalions within one hour along our front.

ANALYSIS: (PO #1)

1. Sensing

a. Accuracy of Information

(1) Correctness

(See issued INTSUM and journal entries.)
(See Aggressor overlay given to TOC prior to exercise play.)
(See printouts of Aggressor dispositions at point of FREEZE for analysis.)
(See controller manuals for substance of INPUTS.)
(Listen to audio playback for specific inputs augmenting scheduled inputs.)

(2) Interpretation

(a) Time of attack--(Conditions a & b)
(b) Size of attack--(Conditions a,b, & c)
(c) Time of reinforcement--(Conditions b & c)
(d) Size of reinforcement--(Conditions a,b, & c)
(e) Place of reinforcement--(Conditions b & c)

b. Relevancy of Information

Pertinence to TF mission/task/problem at hand

The TF implied defense mission at hand is to stop the Aggressor as Aggressor approaches the FEBA. Since the undeclared war permits Aggressor to move, at will, towards the canal, the sensing effort can only support the TF need to know the current Aggressor activities and to update the capabilities as necessary.

2. Communication Information

a. Communications-transmission of sensed information within the TOC and outside the TOC.

(1) Appropriateness

The movement of Aggressor units toward the canal should receive immediate attention (timeliness) by appropriate member of the TOC (correctness and recipient) in view of the set of events that are occurring which are unusual when viewed over the recent past.

(2) Adequacy

The closing of Advisor Net, the report of the movement of the convoy along Highway 33, and the report of the convoy turning off the highway are considered adequate to draw the attention of the member of the TOC to the current Aggressor activities and the significance of such activities. (Accuracy) (Completeness)

UMPIRE/TF CO

APPENDIX 1, EVALUATION CHECKLIST, TRAINING OBJECTIVE # 1 FEBA GOLD (COMP-T)

TRANSMISSIONS	TIME	SENSING			COMMUNICATING INFORMATION		
		Accuracy	Relevancy	Commo Skills	Adequacy	Appropriateness	Commo Skills
TF CO/BDE CO	0417	0/0	0	4+			
	0420				0/0	0/0/0	4+
	0430				0/-	-	3-
TF CO/TM A	0405	0/0	0	3+			
	0410				0/0	-/0/-	5+
TF CO/TM B	0415	+/-	-	4-			
	0440				-/-	0/0/0	2+
TF CO/_____	0402	0/0	0	5+			
	0405				-/-	+/+/+	3-

SENSING (Checklist)

Definition

Sensing is the process of obtaining information about the work environment. Through this process, a group learns about the events related to either the group itself or its external environment. Sensing takes place when a member of the group either actively seeks out or receives information about events of relevance to the group.

Types of Sensing

Based on this definition, there are three types of sensing acts:

---receiving information about event without the recipient's having initiated or asked for the information.

---actively seeking information on one's own initiative or as the result of someone else's instigation.

---taking a formal action to obtain information for the group as a result of a decision made by someone of authority in the group.

Rating Dimensions

Sensing acts can be evaluated in terms of three dimensions. The first is ACCURACY. Accuracy concerns the correctness of collected information. Sensing is accurate when the information collected is correct and when gathered information is interpreted correctly. The second dimension is RELEVANCE which concerns the pertinence of collected information to the group's mission, task, or problems at hand. Finally, acts of sensing can be evaluated in terms of the COMMUNICATION SKILLS involved. A person senses a sensing act is skillful if he presents ideas or facts in a clear and concise manner, organizes the content of his communications in a logical order, uses the appropriate level of detail, articulates clearly, uses an appropriate vocabulary (both level and type), demonstrates an accurate understanding of communications addressed to him, obtains feedback from a listener to test understanding of his communications, and seeks to clarify misunderstanding.

COMMUNICATING INFORMATION (Checklist)

Definition

Communicating information occurs when a member of the group initiates and engages in communication about events already known to the group. That is, it involves the transmission of sensed information to parts of the organization that can act upon it. It also includes the discussion and interpretation of sensed information. Communicating information also occurs after a decision has been made, that is, someone having received the decision relays it to another member of the group. In transmitting decisions, communicating information is also manifested in discussions of the meanings and implications of a decision. In general, then, communicating information consists of transmitting and discussing information so that it can be acted upon or so that a decision can be implemented.

Types of Communicating Information

Communicating information can take several forms:

---communications in which sensed information is transmitted from one member of the group to another member. This form is manifested in such communication acts as relaying sensed information from one member of the group to another, asking for sensed information, or receiving sensed information.

---discussions among members of the team about sensed information. This is manifested in exchanges involving attempts to interpret an event, attempts to learn more about it, or just talk about the event.

---communications in which a decision made by a group member is relayed to either another group member or someone external to the group.

---discussions regarding a decision. As with communications about sensed information, such discussion could involve attempts to learn more about the decision or its implementation.

Rating Dimensions

Communicating information can be evaluated in terms of three dimensions. The first consists of COMMUNICATIONS SKILLS defined as for sensing. The second is ADEQUACY. Communication of information is adequate if the sensed information or decision is both communicated accurately and with sufficient completeness that the receiver will understand it. The third dimension is APPROPRIATENESS. Communication of information is appropriate if it is timely in terms of the requirements of the situation, if the recipients are the correct ones, and if the message is of such a nature that it should have been transmitted.

COMMUNICATION SKILLS (Checklist)

YES

1. Ideas/facts presented in a clear, concise manner ..... ___
   If NO ___, Explain: Who? What? When?

   _____

   _____

   _____

YES

2. Content organized in a logical order ..... ___
   If NO ___, Explain: Who? What? When?

   _____

   _____

   _____

YES

3. Level of detail appropriate ..... ___
   If NO ___, Explain: Who? What? When?

   _____

   _____

   _____

YES

4. Clearly articulated ..... ___
   If NO ___, Explain: Who? What? When?

   _____

   _____

   _____

YES

5. Feedback from listener to test understanding of a communication ..... ___
   If NO ___, Explain: Who? What? When?

   _____

   _____

   _____

YES

6. Seeks to clarify misunderstanding ..... ___
   If NO ___, Explain: Who? What? When?

   _____

   _____

   _____

Post-Exercise Critique (FEBA GOLD)

CHIEF CONTROLLER:

1. Training Objective #1

a. The defense of FEBA GOLD began with the detection and tracking of aggressor units as they moved toward the canal. The first training objective addressed the performance of the command group as it related to those activities ---

PO #3---to determine enemy capabilities and probable course of action.

b. The controller at the aggressor console will first present an overview of the aggressor activities during the early buildup. (Use of monitors to display various stages of buildup)

c. In the analysis session pertaining to this objective, the main points discussed were:

Commander---

S2---

S3---

FSCOORD---

d. The standard set for this objective is:

TO #1/STANDARD

AGGRESSOR can

/ Attack within one hour anywhere in our sector with estimated 9 motorized rifle platoons and attached 3 tank platoons supported by normal regimental artillery; and capable of reinforcing this attack with 2 reinforced motorized rifle battalions within one hour along our front.

e. The Standard was met (in part) (wholly) (NOT at all) primarily because of the performances of (Commander), (S2), (S3), (FSCOORD), (or a combination of any of the 4) particularly as they related to the following specific facts: (cite here statements in contrast to or in support of what was said in analysis session.)

f. Each of you may now respond, if you wish, to the evaluation of this training objective.

EVALUATION CHECKLIST, TRAINING OBJECTIVE #1 FEBA GOLD (COMP-T)

Exercise State	Evaluator	Review	Assess	Report
(Terminated) Player Critique	CH/Controller	TASKS of each Training Objective (TO)	Attainment of the STANDARD for each TO	Degree of attainment of each TO as: (Fully)(Partially)(NOT)
	Umpire/CO	CONDITIONS of each TO Recorded data for checklists	SENSING and COMMUNICATING INFORMATION as prescribed in the ANALYSIS section of each TO	Degree of attainment for: SENSING -- Accuracy: _____ Relevance: _____ Commo Skills: _____ COMMO INFO -- Communications: _____ Commo Skills: _____
	Umpire/S2	(Same as for Umpire CO)		
	Umpire/S3	(Same as for Umpire CO)		
	Umpire/FSO S-3 AIR ALO	(Same as for Umpire CO)		

Remarks: _____

EVALUATION CHECKLIST, TRAINING OBJECTIVE #1 FEBA GOLD (COMP-T)

Exercise State	Evaluator	Monitor	Record
	CH/Controller	Monitor overall substance of analysis. Should culminate in a determination of the enemy probable course of action.	The enemy probable course of action as announced by the command group.
	Umpire/CO	Contributions of TF CO to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS)
(FREEZE) Player Analysis	Umpire/S2	Contributions of TF S2 to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS)
	Umpire/S3	Contributions of TF S3 to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS)
	Umpire/FSCOORD; S3 AIR	Contributions of TF FSCOORD to discussion Contributions of TF S3-AIR to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS

REMARKS: _____

(use reverse side)

UMPIRE/TF CO

APPENDIX 1, EVALUATION CHECKLIST, TRAINING OBJECTIVE #1, FEBA GOLD (COMP-T)

TRANSMISSIONS	TIME	SENSING			COMMUNICATING INFORMATION		
		Accuracy	Relevancy	Commo Skills	Adequacy	Appropri-ateness	Commo Skills

UMPIRE/TF S2

APPENDIX 2, EVALUATION CHECKLIST, TRAINING OBJECTIVE #1, FEBA GOLD (COMP-T)

TRANSMISSIONS	TIME	SENSING			COMMUNICATING INFORMATION		
		Accuracy	Relevancy	Commo Skills	Adequacy	Appropri-ateness	Commo Skills
TF S2/BDE S2							
TF S2/TM A							
TF S2/TM B							
TF S2/SCT PLT							
TF S2/GD SURV							
TF S2/_____							

UMPIRE/TF S3

APPENDIX 3 EVALUATION CHECKLIST, TRAINING OBJECTIVE# 1, FEBA GOLD (COMP-T)

TRANSMISSIONS	TIME	SENSING			COMMUNICATING INFORMATION		
		Accuracy	Relevancy	Commo Skills	Adequacy	Appropri-ateness	Commo Skills
TF S3/BDE S3							
TF S3/TM A							
TF S3/TM B							
TF S3/_____							

UMPIRE/TF S3

APPENDIX 3, EVALUATION CHECKLIST, TRAINING OBJECTIVE #1, FEBA GOLD (COMP-T)

TRANSMISSIONS	TIME	SENSING			COMMUNICATING INFORMATION		
		Accuracy	Relevancy	Commo Skills	Adequacy	Appropri-ateness	Commo Skills

UMPIRE/TF FSCC

APPENDIX 4, EVALUATION CHECKLIST, TRAINING OBJECTIVE # 1 FEBA GOLD (COMP-T)

TRANSMISSIONS	TIME	SENSING			COMMUNICATING INFORMATION		
		Accuracy	Relevancy	Commo Skills	Adequacy	Appropri-ateness	Commo Skills
TF FSO/FDC							
TF FSO/TM A FO							
TF FSO/TM B FO							
TF S3 AIR/BDE							
TF ALO/TACP							

UMPIRE/TF FSCC

APPENDIX 4, EVALUATION CHECKLIST, TRAINING OBJECTIVE #1, FEBA GOLD (COMP-T)

TRANSMISSIONS	TIME	SENSING			COMMUNICATING INFORMATION		
		Accuracy	Relevancy	Commo Skills	Adequacy	Appropri-ateness	Commo Skills

CATTS EVALUATION CHECKLIST, TRAINING OBJECTIVE #1, FEBA GOLD (COMP-T)

Exercise State	Evaluator	Monitor	Record
RUNNING Player-Performance	Chief Controller	RED Convoy Movements	TIME:____RED lead unit starts movement TIME:____RED lead unit leaves highway and deploys into assault formation
	BLUE Controllers	RED Convoy Movements	TIME(S) TM A reports info to TOC: 1.____2.____3.____4.____ 5.____6.____7.____8.____ TIME(S) TM B reports info to TOC: 1.____2.____3.____4.____ 5.____6.____7.____8.____
	RED Controllers	RED Convoy Movements	TIME:____RED lead unit leaves highway and deploys into assault formation
	FSCC Controllers	RED Convoy Movements	TIME:____(FSO)(S3 AIR)(ALO) learn of RED initial movement TIME:____(FSO)(S3 AIR)(ALO) learn of RGD units leave highway
	Umpire/CO Seat #2	Transmissions between TF CO/Bde CO; TM A,B, and T re RED convoy Conferences w/staff members re RED convoy	TIME:____TF CO learns of RED initial moves TIME:____TF CO learns RED units leave highway Evaluations per attached App. 1
	Umpire/S2 Seat #1	Transmissions between TF S2/Bde S2 re RED convoy Transmission between TF S2/TM A & B Conferences w/staff members re RED convoy	TIME:____TF S2 learns of RED initial moves TIME:____TF S2 learns of RED units leave highway Evaluations per attached App. 2
	Umpire/S3 Seat #3	Transmission between TF S3/Bde S3 re RED convoy Conferences w/staff members re RED convoy	TIME:____TF S3 learns of RED initial moves TIME:____TF S2 learns of RED units leave highway Evaluations per attached App. 3
	Umpire/FSCC Seat #4 FSO S-3 AIR ALO	Transmissions between FSCC/Bde FSCC re RED convoy Transmissions between TM A & B re RED convoy Conferences w/staff members re RED convoy	TIME:____(FSO)(S3-AIR)(ALO) learns of RED initial moves TIME:____(FSO)(S3 AIR)(ALO) learns of RED units leave highway Evaluations per attached App. 4

UMPIRE/TF CO

APPENDIX 1, EVALUATION CHECKLIST, TRAINING OBJECTIVE #1, FEBA COLD (COMP-T)

TRANSMISSIONS	TIME	SENSING			COMMUNICATING INFORMATION		
		Accuracy	Relevancy	Commo Skills	Adequacy	Appropri-ateness	Commo Skills
TF CO/BDE CO							
TF CO/TM A							
TF CO/TM B							
TF CO/_____							

UMPIRE/TF S2

APPENDIX 2, EVALUATION CHECKLIST, TRAINING OBJECTIVE #1, FEBA GOLD (COMP-T)

TRANSMISSIONS	TIME	SENSING			COMMUNICATING INFORMATION		
		Accuracy	Relevancy	Commo Skills	Adequacy	Appropri-ateness	Commo Skills

CATTS

EVALUATION CHECKLISTS

FEBA GOLD

(COMP-T)

TRAINING OBJECTIVE #2

EVALUATION

TRAINING OBJECTIVE #2

The task of the command group, as prescribed in the inclosed training objective papers, is to identify friendly problem areas surrounding TM A and the task force as a whole due to RED's preparatory fires for an attack across the canal; and at the same time, assess the task force capabilities and vulnerabilities. During the RUNNING of the CATTS system controllers and umpires will record specific events and transmissions as prescribed in the inclosed checklists.

The Chief Controller will FREEZE the CATTS system and initiate a PLAYER ANALYSIS when TM A reports to the TOC his intention to move his two northern platoons. At the start and during the analysis period, he will elicit responses from the members of the TOC which will permit the umpires to record the perceived (1) problem areas, (2) capabilities, and (3) vulnerabilities, and to compare such perceptions with the facts.

The Chief Controller, during the POST EXERCISE CRITIQUE, will report the degree of attainment of the STANDARD for this task as prescribed in the training objective.

Training Objective #2

FEBA GOLD (COMP-T)

(PO #7)

TASK: To identify friendly problem areas, task force capabilities and vulnerabilities.

CONDITIONS:

a. Aggressor has deployed into combat formations and have closed on the canal.

b. The friendly positions have been under intense aggressor artillery preparatory fires for approximately 12 minutes.

c. Front line units have submitted a number of BOMBREP, SHELLREP, MORTREP, etc., indicating the areas under hostile fire and the severity of the preparation.

d. Tm ALPHA reports the following over the radio to the TOC:

"My northern platoons cannot stand this type of [illegible]ishment for another minute and be expected to fight as a unit! There must be a round impacting every foot or so. Unless you overrule me, I am going to start moving my two northern platoons back."

e. Counterbattery and suppressive fires are being fired.

STANDARD: The following problem areas, task force vulnerabilities and capabilities should be identified:

a. Problem areas

(1) The intention of Tm ALPHA to move its platoons

(2) The imminent movement of Aggressor into the canal.

(3) The intense Aggressor artillery preparation.

b. Task Force Vulnerabilities

(1) Reduced effectiveness of Tm ALPHA

(2) Potential penetration of TF defensive sector.

(3) Limited movement of units due to intense artillery prep fires.

c. Task Force Capabilities

(1) Increase counter battery fires.

(2) Increase suppressive fires on aggressor units at canal.

(3) TF can continue to defend sector by requiring Tm ALPHA to occupy supplemental, alternate positions.

(4) TF can continue to defend sector by maneuvering reserve elements as necessary.

ANALYSIS: (PO #1)

1. Sensing

a. Accuracy of Information

(1) Correctness

(See printouts of Agg/Fr locations)

(2) Interpretation

(a) Problem area (1)---See condition d
Problam area (2)---See condition a
Problem area (3)---See condition c

(b) TF vulnerabilities (1)---See condition b
TF vulnerabilities (2)---See condition b
TF vulnerabilities (3)---See condition b

(c) TF capabilities (1)---NA
TF capabilities (2)---NA
TF capabilities (3)---NA
TF capabilities (4)---NA

b. Relevancy of Information

(1) Pertinence to TF mission/task/problem at hand.

The TF implied mission at hand is to stop the aggressor attempt to cross the canal. (Undeclared war permits aggressor to move, at will, towards and to the canal.) The sensing effort must support the needs of the command group in fulfilling that mission.

2. Communicating Information

a. Communications---transmission of sensed information within the TOC.

(1) Appropriateness

The single most important information in the TOC at this time is TM ALPHA's announced intentions to move his platoons in light of the intense aggressor preparatory fires as described in the SHELLREPs. This information must receive immediate attention (timeliness) by all members of the TOC (correctness of recipients).

(2) Adequacy

The substance of the communication should be TM ALPHA's message as transmitted to the TOC by the controllers (accuracy) (completeness).

See Training Objective #1

for

Guidelines

SENSING, COMMUNICATING INFORMATION, COMMUNICATIONS SKILLS

(Pages 18, 19, and 20)

EVALUATION CHECKLIST, TRAINING OBJECTIVE #2, FEBA GOLD (COMP-T)

Exercise State	Evaluator	Monitor	Record
(RUNNING) Player Performance	Chief Controller	RED deployment/ closing on canal TM A transmission of intention to move platoon	TIME:____ TM A makes report of intention to move its platoons and location of RED at that time
	Blue Controller/A	RED deployment/ closing on canal	FIRST alert by computer of sighting and selected subsequent sightings of RED approaching canal (ATTACK)
	Red Controller/A	RED deployment/ closing on canal RED prep fires on TM A	TIME:____ FIRST fires hit TM A TIME:____ ____ ____ other fires hit TM A TIME:____ PLACE:____ FIRST RED unit closes on canal
	FDC Controller	BLUE fires on RED	FIRST status alert reflecting AMMO status LAST status alert reflecting AMMO status
	Umpire/CO Seat #2	Transmission of TM A to TOC to move platoons and reply by TOC RED deployment/ closing on canal	TIME of transmissions to TOC: _____ MEANS of commo: wire/Rad/RATT Transmitter: off/EM _____ Receiver: off/EM _____ Reply by TOC: _____ Evaluations per attached App. 1
	Umpire/S2 Seat #1	Transmission between TM A and S2; S2 and Bde; re sightings of RED closing on canal RED deployment/ closing on canal	TIMES of transmissions: _____ MEANS of commo: wire/Rad/RATT Transmitter: off/EM _____ Receiver: off/EM _____ Evaluations per attached App. 2

EVALUATION CHECKLIST, TRAINING OBJECTIVE #2, FEBA GOLD (COMP-T)

(Continued)

Exercise State	Evaluator	Monitor	Record
(RUNNING) Player Performance (cont'd)	Umpire/S3 Seat #3	Transmissions between TM A and S3; S3 and Bde; re TM A situation RED deployment/ closing on canal	TIMES of transmissions: _____ MEANS of commo: wire/Rad/RATT Transmitter: off/EM _____ Receiver: off/EM _____ Evaluations per attached App. 3
	Umpire/FSO S3 AIR ALO Seat #4	Transmissions between FSCOORD and FDC: TM A FO; re TM A situation Transmissions between S3 Air and Bde; S3 AIR and TACP (FAC) RED deployment/ closing on canal	TIMES of transmissions: _____ MEANS of commo: wire/Rad/RATT Transmitter: off/EM _____ Receiver: off/EM _____ Evaluations per attached App. 4

REMARKS: _____

EVALUATION CHECKLIST, TRAINING OBJECTIVE #2, FEBA GOLD (COMP-T)

Exercise State	Evaluator	Monitor	Record
	CH/Controller	Overall substance of analysis. Should culminate in identifying the 3 problem areas listed in the STANDARD, the 3 TF vulnerabilities, and the 4 TF capabilities	Problem areas identified: (1ST) (2d) (3d) TF vulnerabilities identified: (1ST) (2d) (3d) TF capabilities identified: (1ST) (2d) (3d)
	Umpire/CO	Contributions of TF CO to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS)
(FREEZE) Player Analysis	Umpire/S2	Contributions of TF S2 to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS)
	Umpire/S3	Contributions of TF S3 to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS)
	Umpire/FSCOORD; S3 AIR	Contributions of TF FSCOORD to discussion Contributions of TF S3-AIR to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS

Remarks _____

EVALUATION CHECKLIST, TRAINING OBJECTIVE #2, FEBA GOLD (COMP-T)

Exercise State	Evaluator	Review	Assess	Report
(Terminated) Player Critique	CH/Controller	TASKS of each Training Objective (TO)	Attainment of the STANDARD for each TO	Degree of attainment of each TO as: (Fully)(Partially)(NOT)
	Umpire/CO	CONDITIONS of each TO Recorded data for checklists	SENSING and COMMUNICATING INFORMATION as prescribed in the ANALYSIS section of each TO	Degree of attainment for: SENSING -- Accuracy: _____ Relevance: _____ Commo Skills: _____ COMMO INFO -- Communications: _____ Commo Skills: _____
	Umpire/S2	(Same as for Umpire CO)		
	Umpire/S3	(Same as for Umpire CO)		
	Umpire/FSO S-3 AIR ALO	(Same as for Umpire CO)		

Remarks: _____

Training Objective #2

a. As the aggressor closed on the canal, the TF units came under intensive aggressor artillery supporting fires. Tm ALPHA Commander described his situation and announced to the TOC his intentions to move his platoons. The training objective for this situation addressed the performance by the command group as it related to those activities---

PO #7---to identify friendly problem areas, task force capabilities, and vulnerabilities.

b. The controller at the Friendly Console will present an overview of the activities during the period.

(Use of monitors to display various stages and reports of the incoming artillery and use of recordings to cite intra-TOC and inter-headquarters communications)

c. In the analysis session pertaining to this objective, the main points discussed were:

Commander---

S2---

S3---

FSCOORD---

d. The Standard set for this objective is:

TO #2/STANDARD

The following problem areas, task force vulnerabilities and capabilities should be identified:

a. Problem areas---
(1) The intention of Tm ALPHA to move its platoons
(2) The imminent movement of Aggressor into the canal
(3) The intense Aggressor artillery preparation

b. Task Force Vulnerabilities

(1) Reduced effectiveness of Tm ALPHA
(2) Potential penetration of TF defensive sector
(3) Limited movement of units due to intense artillery prep fires.

c. Task Force Capabilities

(1) Increase counter battery fires
(2) Increase suppressive fires on aggressor units at canal
(3) TF can continue to defend sector by requiring Tm ALPHA to occupy supplemental, alternate positions
(4) TF can continue to defend sector by maneuvering reserve elements as necessary

e. The standard was met (in part) (wholly), (Not at all) primarily because of the performances of (Commander), (S2), (S3), (FSCOORD), or (a combination of any of the 4) particularly as they related to the following specific facts:

(Cite here statements in contrast to or in support of what was said in the analysis session)

f. Each of you may now respond, if you wish, to the evaluation of this training objective.

CATTS

EVALUATION CHECKLISTS

FEBA GOLD

(COMP-T)

TRAINING OBJECTIVE #3

EVALUATION

TRAINING OBJECTIVE #3

The task of the command group according to the inclosed training objective is to determine the enemy and friendly situations to include identification of the task force problem areas, capabilities, and vulnerabilities at the specific point in exercise time when RED has established a bridgehead in TM A sector. During the RUNNING of the CATTS system controllers and umpires will MONITOR and RECORD as prescribed in the inclosed checklists.

The Chief Controller will FREEZE the CATTS system and initiate a PLAYER ANALYSIS when TM A has reported virtual destruction of his two northern platoons and maneuvering his third platoon to reinforce the first platoon. At the start and during the analysis period, he will elicit responses from the members of the TOC which will permit the umpires to record the perceived Aggressor situation and the Friendly situation to include (1) TF problem areas, (2) capabilities, and (3) vulnerabilities, and to compare such perceptions with the facts.

The Chief Controller, during the POST EXERCISE CRITIQUE, will report the degree of attainment of the STANDARD for this task as prescribed in the training objective.

30 June 1975

Training Objective #3

FEBA GOLD (COMP-T)

(PO #3, 7)

TASK: To determine the current enemy and friendly situations to include identification of problem areas, task force capabilities and vulnerabilities.

CONDITIONS: a. The assault company of Aggressor enters the canal at a point near the boundary of TF 2-77 and 2d Bde.

b. Aggressor assault battalion (-) enters the canal approximately five minutes behind the assault company.

c. Aggressor regimental second echelon continues to move toward the crossing points.

d. Tm ALPHA reports receiving effective tank fire along the entire length of position from 10 to 15 tanks about 500 meters away.

e. Tm ALPHA reports the entry of a large aggressor mechanized unit into the canal.

f. Tm ALPHA calls for FPF and requests additional fire support.

g. Tm ALPHA reports virtual destruction of his 2 northern platoons which are being forced back, and maneuvering his 3d platoon to reinforce 1st platoon.

h. Tm BRAVO reports no sign of aggressor crossing in his sector and shelling has stopped.

i. Tm TIGER reports shelling has stopped.

STANDARD: a. Aggressor Situation

(1) Aggressor first echelon is concentrating its attack on Tm ALPHA sector and has established a bridgehead with strength of at least 3 platoons.

(2) Aggressor has shifted fires from Tm BRAVO and Tm TIGER to Tm ALPHA sector.

(3) Aggressor assault battalion (-) has arrived at canal and beginning rafting operations in Tm ALPHA sector.

(4) Aggressor 2d Echelon moving east toward the canal with lead elements VIC 5422.

b. Friendly Situation

(1) Tm ALPHA has fired FPF, was withdrawn the 2 northern platoons, has maneuvered the 3d platoon to reinforce the 1st platoon. Has requested additional fire support.

(2) Tm BRAVO is not under attack either by direct or indirect fire.

(3) Tm TIGER is not under indirect fire.

(4) Scout Platoon is performing security mission.

(5) Ground Surveillance Section and Anti-Tank Platoon are performing GS role.

c. Problem Areas

(1) Aggressor's bridgehead in Tm ALPHA Sector.

(2) The Aggressor assault battalion (-) at the canal.

(3) Aggressor 2d echelon moving towards canal.

(4) Tm ALPHA's heavy losses.

d. Task Force Vulnerabilities

(1) Reduced effectiveness of Tm ALPHA due to heavy losses from direct and indirect fires.

(2) Probable penetration of TF defensive sector.

e. Task Force Capabilities

(1) Increase counter battery fires.

(2) Increase suppressive fires on aggressor in beachhead and at canal.

(3) Shift fires in support of Tm ALPHA.

(4) Employ TAC AIR on aggressor follow and support battalion at canal.

(5) TF can continue to defend sector by requiring Tm ALPHA to occupy supplemental, alternate positions.

(6) TF can continue to defend sector by maneuvering reserve elements.

ANALYSIS (PO #1)

1. Sensing

a. Accuracy of information

(1) Correctness

See status report printouts on selected Agg/Fr units

(2) Interpretation

(a) Problem area (1)---See condition a
Problem area (2)---See condition b
Problem area (3)---See condition c
Problem area (4)---See condition g

(b) TF Vulnerabilities (1)---See condition g
TF Vulnerabilities (2)---See condition d,e,g

(c) TF Capabilities (1)---NA
TF Capabilities (2)---NA
TF Capabilities (3)---NA
TF Capabilities (4)---See Condition b
TF Capabilities (5)---NA
TF Capabilities (6)---NA

b. Relevancy of information

(1) Pertinence to TF mission/task/problem at hand.

The TF implied missions at hand are two-fold:

(a) to repel aggressor from penetrating the TF defense in Tm ALPHA's Sector.

(b) to stop the aggressor follow and support battalion now at the canal.

2. Communicating Information

a. Communications---transmission of sensed information within the TOC

(1) Appropriateness

There are 3 situations of great significance to members of the TOC---the aggressor force in Tm ALPHA's sector, the aggressor follow and support battalion at the canal, and the moving aggressor 2d echelon. These situations must receive immediate attention (timeliness) by all members of the TOC (correctness of recipients).

(2) Adequacy (accuracy/completeness). The substance of the communication should be---

(a) Tm ALPHA's messages as transmitted to the TOC by controllers regarding aggressor force in Tm ALPHA's Sector and the detection of aggressor raft operations.

(b) The TACP's message regarding detection of aggressor armor column.

See Training Objective #1

for

Guidelines

SENSING, COMMUNICATING INFORMATION, COMMUNICATIONS SKILLS

(Pages 18, 19, and 20)

EVALUATION CHECKLIST, TRAINING OBJECTIVE #3, FEBA GOLD (COMP-T)

Exercise State	Evaluator	Monitor	Record
(RUNNING) Player Performance	Chief Controller	RED activities at canal thru establishment of bridgehead BLUE activities in Tm A sector thru destruction of 2 northern platoons	TIME:____RED bridgehead firm TIME:____TM A has ordered 3d plat to reinforce the 1st plat TIME:____RED aslt Bn (-) arrives at canal
	BLUE Controllers	Tm A activities re effects of RED bridgehead on Sector defense	TIME:____TM A calls for FPF TIME:____TM A reports destruction of 2 northern platoons and movement of 3d platoon to reinforce the 1st platoon
		Tm B activities re effects of RED bridgehead on Sector defense	TIME:____TM B reports shelling stopped in sector
		Tm T activities re effects of RED bridgehead on own mission	TIME:____TM T reports shelling stopped in area
	RED Controllers	Red activities at canal thru establishment of bridgehead.	TIME:____RED assault company enters canal TIME:____RED assault battalion (-) enters canal
	Umpire/CO Seat #2	Transmissions between TFCO/Tm A; Tm B; Tm T re RED & BLUE activities at canal	TIME:____TF CO learns of assault RED units canal TIME:____TF CO learns RED assault on (-) enters canal
		Conferences w/staff re activities at canal	TIME:____TF CO learns Tm A call for FPFs & added fires TIME:____TF CO learns TmA report of destruction of 2 northern platoons and maneuvering of 3d plat to reinforce 1st plat Evaluations per attached App. 1

EVALUATION CHECKLIST, TRAINING OBJECTIVE #3, FEBA GOLD (COMP-T)

(Continued)

Exercise State	Evaluator	Monitor	Record
(Cont'd)	Umpire/S2 Seat #2	Transmissions between TF S2 and Bde S2; Tm A; Tm B; Sct Plt; GD Surv Sect; others re RED activities at canal Conferences w/staff re RED activities at canal	TIME:____RED assault company enters the canal TIME:____RED assault battalion (-) enters the canal LOCATION:__Red regimental 2d echelon when other RED elements are at canal
	Umpire/S3 Seat #3	Transmissions between TF S3 and Bde S3; Tm A; Tm B; Tm T Conferences w/staff re BLUE activities at canal	TIME:____Tm A reports firing FPFs TIME:____ Tm A reports maneuvering 3d Plat
	Umpire/FSO S3 AIR ALO Seat #4	Transmissions between FSO and FDC; TmA FO; re Tm A and TF situations Transmissions between S3 AIR and Bde re TF missions Transmissions between ALO and TACP re TF missions	TIME:____Tm A FO requests firing FPFs TIME(S): ____ ____ ____ ____ Tm A FO requests additional fires TIME(S): ____ ____ ____ ____ S3 AIR requests AIR missions TIME(S): ____ ____ ____ ____ S3 AIR missions completed TIME(S): ____ ____ ____ ____ ALO requests air mission TIME(S): ____ ____ ____ ____ ALO missions completed.

EVALUATION CHECKLIST, TRAINING OBJECTIVE #3 FEBA GOLD (COMP-T)

Exercise State	Evaluator	Monitor	Record
	CH/Controller	Overall substance of analysis should culminate in stating Aggressor and Friendly situations	(1) Aggressor & Friendly situations (2) TF problem areas (3) TF vulnerabilities (4) TF capabilities
	Umpire/CO	Contributions of TF CO to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS)
(FREEZE) Player Analysis	Umpire/S2	Contributions of TF S2 to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS)
	Umpire/S3	Contributions of TF S3 to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS)
	Umpire/FSCOORD; S3 AIR	Contributions of TF FSCOORD to discussion Contributions of TF S3-AIR to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS

REMARKS: _____

EVALUATION CHECKLIST, TRAINING OBJECTIVE #3 FEBA GOLD (COMP-T)

Exercise State	Evaluator	Review	Assess	Report
(Terminated) Player Critique	CH/Controller	TASKS of each Training Objective (TO)	Attainment of the STANDARD for each TO	Degree of attainment of each TO as: (Fully)(Partially)(NOT)
	Umpire/CO	CONDITIONS of each TO ——— Recorded data for checklists	SENSING and COMMUNICATING INFORMATION as prescribed in the ANALYSIS section of each TO	Degree of attainment for: SENSING -- Accuracy: _____ Relevance: _____ Commo Skills: _____ COMMO INFO -- Communications: _____ Commo Skills: _____
	Umpire/S2	(Same as for Umpire CO)		
	Umpire/S3	(Same as for Umpire CO)		
	Umpire/ FSO S-3 AIR ALO	(Same as for Umpire CO)		

Remarks: _____

Post-Exercise Critique

Training Objective #3

a. Aggressor forced a penetration of the TF defense sector in Tm ALPHA's positions while building up for a breakout. The training objective for these events examines the abilities of the command group to make a correct appraisal of the enemy and the friendly situations---

PO #3 & 7---to determine current enemy and friendly situations to include identification of problem areas, task force capabilities and vulnerabilities

b. The Controller at the Aggressor Console will present an overview of the aggressor activities during the period just concluded. (Use of monitors to display location of units)

c. The controller at the Friendly Console will present an overview of the friendly activities during the period just concluded. (Use of recordings to cite intra-TOC and inter-headquarters communications)

d. In the analysis session pertaining to this objective the main points discussed were:

Commander---

S2 ---

S3---

FSCOORD

e. The standard set for this objective is:

TO #3/STANDARD

a. Aggressor Situation
   (1) Aggressor first echelon is centering it attack on Tm ALPHA sector and has established a bridgehead with strength of at least 3 platoons.
   (2) Aggressor has shifted fires from Tm BRAVO and Tm TIGER to Tm ALPHA sector.

(3) Aggressor follow and support battalion has arrived at canal and beginning rafting operations in Tm ALPHA sector.

(4) Aggressor 2d Echelon moving last toward the canal with lead elements VIC 5422,

b. Friendly Situation

(1) Tm ALPHA has fired FPF, has withdrawn the 2 northern platoons, has maneuvered the 3d platoon to reinforce the 1st platoon. Has requested additional fire support.

(2) Tm BRAVO is not under attack either by direct or indirect fire.

(3) Tm TIGER is not under indirect fire.

(4) Scout Platoon performing security mission.

(5) Ground Surveillance Section Anti-Tank Platoon performing GS.

c. Problem Areas

(1) Aggressor's bridgehead in Tm ALPHA Sector.
(2) The support and follow aggressor battalion at the canal
(3) Aggressor 2d echelon moving towards canal
(4) Tm ALPHA's heavy losses

d. Task Force Vulnerabilities

(1) Reduced effectiveness of Tm ALPHA due to heavy losses from direct and indirect fires
(2) Probable penetration of TF defensive sector

e. Task Force Capabilities

(1) Increase counter battery fires
(2) Increase suppressive fires on aggressor in beachhead and at canal
(3) Shift fires in support of Tm ALPHA
(4) Employ TAC AIR on aggressor follow and support battalion at canal
(5) TF can continue to defend sector by requiring Tm ALPHA to occupy supplemental, alternate positions
(6) TF can continue to defend sector by maneuvering reserve elements.

f. The standard was met (in part) (wholly) (not at all) primarily because of the performances of (commander), (S2), (S3), (FSCOORD), or (a combination of any of the 4) particularly as they related to the following specific facts:
(cite here statements in contrast to or in support of what was said in the analysis session)

g. Each of you may now respond, if you wish, to the evaluation of this training objective.

CATTS

EVALUATION CHECKLIST

FEBA GOLD

(COMP-T)

TRAINING OBJECTIVE #4

EVALUATION

Training Objective #4

The task of the command group according to the inclosed training objective is to employ the organic and other supporting fires in such a way that maximizes their fullest capabilities at a time when RED is expanding its bridgehead and is penetrating TM A defensive sector. During the RUNNING of the CATTS system controllers and umpires will MONITOR and RECORD as prescribed in the inclosed checklists.

The Chief Controller will FREEZE the CATTS system and initiate a PLAYER ANALYSIS after TM A has reported RED units are penetrating the sector and the command group has uncovered its decisions for employing the mortars, artillery, and Tac air under the circumstances. At the start and during the analysis period, he will elicit responses from the members of the TOC which will permit the umpires to record the command group analysis for the decisions and compare them with the known facts.

The Chief Controller, during the POST-EXERCISE CRITIQUE, will report the degree of attainment of the STANDARD for this task as prescribed in the training objective.

30 June 1975

Training Objective #4

FEBA GOLD (COMP-T)

(PO #6)

TASK: To employ organic and supporting fires to maximize their fullest capabilities.

CONDITIONS:

a. Aggressor units have expanded their bridgehead on the east bank of the canal and have penetrated Team ALPHA's sector.

b. Aggressor has moved his supporting weapons well forward.

c. Aggressor's 2d echelon has reached the west bank of the canal.

d. The TOC is implementing a fire support plan for the defense of FEBA GOLD.

e. The Fire Support Plan contains provisions for supporting the TF plans for commitment of the TF reserve. Appropriate counterattack plans must be modified to deal with the aggressor penetration on the TF northern boundary.

f. Team BRAVO reports negative aggressor activity in the sector.

g. The Brigade Commander informs the TOC additional ground and air supporting fires are immediately available and requests general plan for their employment.

STANDARD: The organic and supporting fires are employed to maximize their fullest capabilities in this situation as follows:

Organic fires - direct support of TF reserve when committed.

Ground Supporting fires - direct support of Team ALPHA.

Air Supporting fires - air strike on aggressor 2d echelon.

ANALYSIS: (PO #10)

1. Coping Action

a. Adequacy -- This situation contains three TF requirements for the use of supporting fires, (1) Team ALPHA and its fight to hold the assigned sector; (2) Team TIGER and its assigned mission; and (3) the threatening aggressor 2d echelon.

b. Appropriateness -- (1) The assignment of the organic fires in direct support of the TF reserve allows for maximum control of essential fires under critical and uncertain conditions. The close coordination and high efficiency derived from parent organization training and experience enhances the changes of success of the reserve force in its assigned mission and, thus the eventual success of the TF in accomplishing its defense mission.

(2) Team ALPHA and the supporting artillery have been conducting fire missions during aggressor's attack on the FEBA, and the chances of success in that effort will be greater by continuing that relationship.

(3) The aggressor 2d echelon presents the type target most appropriate for air artillery because of the current location of the aggressor column at the canal; and the characteristics of the target are most suitable for the air ordnance.

c. Completeness -- The TF implied task at hand is to block the aggressor penetration in Team ALPHA sector or to counterattack and eject aggressor from the defense sector. At the same time, the TF msut weigh the effects of the aggressor 2d echelon on the accomplishment of the continuing TF mission--the defense of the assigned sector. Solving the problems within the sector in this situation will not eliminate those which are currently outside the sector. The plan described in the STANDARD contains decisions which meet each of these specific problems of the situation.

2. Stabilizing Action

a. Adequacy -- The plan for employing the organic and supporting fires provide for achieving or accomplishing the implied defense tasks of defending the TF sector, as well as stabilizing the situation for Team ALPHA.

b. Appropriateness -- Team ALPHA has been subjected to intense aggressor artillery preparatory fires and are now under direct fire attack supported by artillery as well. Immediate action is necessary to relieve the pressures on the troops and to assure retention of the integrity and integration of the team.

c. Completeness -- Employing the organic and supporting fires in coordination with the actions of the TF reserve provide as complete a plan as possible to stabilize Team ALPHA's situation.

COPING ACTION (Checklist)

Definition

Coping actions are direct actions taken by the group in response to, or in order to cope with, changes or problems arising within the group or external to it. Coping actions are implementing activities; that is, they are intended to get something done or to directly deal with the change or problem at hand. With the exception of feedback and sensing actions, most implementing actions can be viewed as coping actions. In the present scheme, it should be noted that coping actions are to be distinguished from decisions made about an event. However, according to this scheme, coping actions are viewed to be based on and follow a decision event though the decision may not have been overtly stated.

Types of Coping Actions

Types of coping actions are not distinguished. For CATTS, consideration needs to be given to the manner in which coping actions are manifested. If a controller receives from a player an order or command that requires an implementing activity, the order or command generally represents a coping action. In terms of interplayer action, however, a player who receives an order or command implying a coping action would be expected to execute the coping action. As a general rule, the player who most directly acts upon the object of a coping action executes the coping action.

Rating Dimensions

adequacy	action is correct in view of both the situation and the order or decision upon which it is based.
appropriateness	action is timely; recipient or person/group taking the action is correct.
completeness	action fully implements the decision on which it was based and meets the requirements of the situation.

STABILIZING ACTION (Checklist)

Definition

Taking an action to cope with a change, to seek information, or to solve a problem can have unintended, disruptive side effects on the operations and climate of a group. Among such effects are lowered morale or exprit de corps, reduced resources (men or materiels), and disruption of the integrity or integration of a part of the organization. A stablizing action is an action that is intended to offset the disruptive effects caused by a coping action. Thus, a stablizing action can be recognized when (1) the group takes a coping action (or makes a decision to take a coping action), (2) the coping action could have a disruptive effect on the group, (3) this effect is recognized by (one or more members of) the group, and (4) an action is taken to prevent or reduce these negative effects.

Types of Stabilizing Actions

Different forms of stabilizing actions will not be distinguished.

Rating Dimensions

adequacy	action is correct in view of both the situation and the order or decision upon which it is based.
appropriateness	action is timely; recipient or person/group taking the action is correct.
completeness	action fully implements the decision on which it was based and meets the requirements of the situation.

CATTS EVALUATION CHECKLIST, TRAINING OBJECTIVE #4, FEBA GOLD (COMP-T)

Exercise State	Evaluator	Monitor	Record
	Chief Controller	RED activities in Tm A Sector RED arrival of 2d echelon at west bank of canal BLUE activities re fire support needs	TIME:____ RED 2d echelon arrives west bank of canal TIME:____ BLUE first considers fire support needs re possible counterattack
(RUNNING)	BLUE Controller	Tm A requests for supporting fires	TIME(S):____ ____ ____ ____ Tm A requests supporting fires
Player Performance	RED Controller	RED locations in Tm A Sector RED employment of supporting fires in Tm A Sector RED movement of 2d echelon	TIME(S):____ ____ ____ ____ RED units enter Tm A Sector TIME(S):____ ____ ____ ____ RED fires delivered on Tm A TIME:____ 2d echelon arrives west bank of canal.
	FSCC Controllers	RED units in Tm A Sector RED 2d echelon movement to canal	TIME(S): ____ ____ ____ ____ (FSO)(S3 AIR) (ALO) request support RED Unit(s):____ ____ ____ selected as targets Status reports:____ ____ ____ of RED units under fire.
	Umpire/CO Seat #2	Transmissions between TF CO/Bde CO; Tm A, B, T re RED in Tm A sector Conferences w/staff re RED penetration and arrival of 2d echelon at canal	TIME(S): ____ ____ ____ ____ TF CO requests added fires from Bde TIME(S):____ ____ ____ ____ TF CO Confers w/Tm A re fires TIME(S):____ ____ ____ ____ TF CO Confers w/Tm B re fires TIME(S):____ ____ ____ ____ TF CO Confers w/Tm T re fires
	Umpire/S2 Seat #1	Transmissions between TF S2/Bde Se re RED in Tm A Sector Transmissions between TF S2/Tms A&B re RED in Tm A Sector Conferences w/staff re RED in Tm A Sector and at canal.	TIME(S):____ ____ ____ ____ TF S2 requests Bde S2 for info re RED 2d echelon TIME(S):____ ____ ____ ____ Bde S2 requests TF S2 for info re RED in Tm A Sector TIME(S):____ ____ ____ ____ TF S2 informs Tm A,B,T of RED 2d echelon.

CATTS EVALUATION CHECKLIST, TRAINING OBJECTIVE #4, FEBA GOLD (COMP-T)

Continued

Exercise State	Evaluator	Monitor	Record
(RUNNING) Player Performance (Continued)	Umpire/S3 Seat #3	Transmissions between TF/S3 and Bde S3 re BLUE activities in Tm A Sector	TIME(S):____ ____ ____ ____ TF S3 requests info from Bde S3
			TIME(S):____ ____ ____ ____ Bde S3 requests info from TF S3
		Transmissions between TF S3 and Tm A,B,T re RED in Tm A Sector	TIME(S):____ ____ ____ ____ TF S3 Confers w/Tm A
			TIME(S):____ ____ ____ ____ TF S3 Confers w/Tm B
		Conferences w/staff members re RED 2d echelon activities	TIME(S):____ ____ ____ ____ TF S3 Confers w/Tm T
	Umpire/FSCC FSO S3 AIR ALO Seat #4	Transmissions between TF FSCC/Bde FSCC re RED targets in Tm A Sector and at canal.	TIME(S):____ ____ ____ ____ TF FSO Confers w/FDC
			TIME(S):____ ____ ____ ____ TF S3 AIR Confers w/Bde S3 AIR
		Conferences w/staff members re RED targets	TIME(S):____ ____ ____ ____ TF ALO Confers w/TACP

REMARKS:_____

EVALUATION CHECKLIST, TRAINING OBJECTIVE #4, FEBA GOLD (COMP-T)

Exercise State	Evaluator	Monitor	Record
	CH/Controller	Overall substance of analysis re orgastic, ground supporting, and supporting fires.	TF tasks for mortar fires TF tasks for artillery fires TF tasks for Tac AIR fires
	Umpire/CO	Contributions of TF CO to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS)
(FREEZE) Player Analysis	Umpire/S2	Contributions of TF S2 to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS)
	Umpire/S3	Contributions of TF S3 to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS)
	Umpire/FSCOORD; S3 AIR	Contributions of TF FSCOORD to discussion Contributions of TF S3-AIR to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS

REMARKS: _____

(use reverse side)

EVALUATION CHECKLIST, TRAINING OBJECTIVE #4 FEBA GOLD (COMP-T)

Exercise State	Evaluator	Review	Assess	Report
	CH/Controller	TASKS of each Training Objective (TO)	Attainment of the STANDARD for each TO	Degree of attainment of each TO as: (Fully)(Partially)(NOT)
(Terminated) Player Critique	Umpire/CO	CONDITIONS of each TO Recorded data for checklists	COPING ACTION and STABILIZING ACTION as prescribed in the ANALYSIS section	Degree of attainment for: COPING ACTION-- Adequacy: _____ Appropriateness: _____ Completeness: _____ STABILIZING ACTION-- Adequacy: _____ Appropriateness: _____ Completeness: _____
	Umpire/S2	(Same as for Umpire CO)		
	Umpire/S3	(Same as for Umpire CO)		
	Umpire/FSO S-3 AIR ALO	(Same as for Umpire CO)		

Remarks: _____

Post-Exercise Critique

Training Objective #4

a. Aggressor increased its actions in the penetration of FEBA GOLD and moved its 2d echelon to the FEBA. The training objective for this situation concerned the performance of the command group as it related to those activities---

PO #6---to employ organic and supporting fires to maximize their fullest capabilities.

b. The controller at the friendly console will present an overview of the situation.

(Use of monitors and recordings to describe events)

c. In the analysis session pertaining to this objective, the main points discussed were:

Commander---

S2---

S3---

FSCOORD---

d. The standard set for this objective is:

TO #4/STANDARD

The organic and supporting fires are employed to maximize their fullest capabilities in this situation as follows:

Organic fires - direct support of TF reserve when committed.
Ground Supporting fires - direct support of Team ALPHA
Air Supporting fires - air strike on aggressor 2d echelon.

e. The standard was met (in part) (wholly) (not at all) primarily because of the performances of (commander), (S2), (S3), (FSCOORD), or (a combination of any of the 4) particularly as they related to the following facts:

(Cite here statements in contrast to or in support of what was said in analysis session)

f. Each of you may now respond, if you wish, to the evaluation of this training objective.

CATTS

EVALUATION CHECKLIST

FEBA GOLD

(COMP-T)

TRAINING OBJECTIVE #5

EVALUATION

Training Objective #5

The task of the command group according to the inclosed training objective is to identify the TF problem areas, capabilities, and vulnerabilities and select course(s) of action at a time when RED is breaking out of the bridgehead while building up its forces in the penetration; and, the TOC receives a warning order from brigade for a withdrawal. During the RUNNING of the CATTS system, controllers and umpires will MONITOR and RECORD as prescribed in the inclosed checklists.

The Chief Controller will FREEZE the CATTS system and initiate a PLAYER ANALYSIS when the TOC has disclosed its actions regarding the situation at hand, and has issued its warning order for a withdrawal. At the start and during the analysis period, he will elicit responses from the members of the TOC which will permit the umpires to record the command group analysis of its performances and compare it with the facts.

The Chief Controller, during the POST EXERCISE CRITIQUE, will report the degree of attainment of the STANDARD for this task as prescribed in the training objective.

30 June 1975

Training Objective #5

FEBA GOLD (COMP-T)

(PO #6, 7)

TASK: To identify problem areas, battalion capabilities and vulnerabilities, formulate and select a course of action to continue the mission with available and requested resources.

CONDITIONS:

a. Aggressor continues attack to break out of the bridgehead. Battalion-sized column reported by Scout Platoon moving northeast out of bridgehead.

b. Aggressor has heavy concentration of armored vehicles in center of bridgehead.

c. Aggressor mobile assault bridge nearly completed in TF Sector and so reported to TOC by Air Recce.

d. Tm ALPHA reports situation regarding armored force and requests immediate fire support in the form of a TOT.

e. Brigade issues Warning Order for TF 2-77 to prepare for withdrawal under enemy pressure.

STANDARD:

a. Order all organic supporting fires on battalion-sized aggressor column.

b. Order all direct support artillery fires on heavy concentration of aggressor armored vehicles in TF Sector.

c. Request all available additional supporting fires from brigade on aggressor activities at canal.

d. Issue without delay TF Warning Order to prepare for withdrawal under enemy pressure.

ANALYSIS: (PO #10)

Coping Action

a. Adequacy -- This situation requires action now against aggressor and preparation for a withdrawal. Three TF requirements exist for use of supporting fires: (1) the aggressor bridgehead, (2) the concentrated target of armored vehicles in the TF Sector, and (3) the activities at the canal which are going to yield more serious problems for the TF and Brigade if something is not done about them. A Warning Order alerting the TF units to prepare for a withdrawal should be adequate at this time.

b. Appropriateness -- (1) The decision to assign the organic mortar fires to the moving aggressor column should produce immediate results in disrupting and disorganizing that effort thus gaining time for the TF.

(2) The assignment of DS artillery fires on the concentration of aggressor armored vehicles provides for maximum destruction at the least cost in the time available. A TOT should be very effective under the circumstances.

(3) The request for additional fires from brigade on the aggressor actions at the canal, if approved, will disrupt and disorganize that aggressor effort, as well as resulting in destruction of personnel and equipment needed by aggressor to build up its capabilities for continuing the attack to the East.

(4) The TF Warning Order to prepare for withdrawal under enemy pressure should contain, as a minimum the "what" (withdraw under enemy pressure) and should be transmitted to all elements of the TF as soon as possible using the fastest means of communications. This produces the maximum time at the lowest level of the TF to prepare for the withdrawal.

c. Completeness -- The TF implied mission at hand is to effect maximum punishment on aggressor in the Sector and to disorganize and disrupt all activities in order to produce time and space for the forthcoming withdrawal. Directing fires on the moving battalion-sized column, the concentration of armored vehicles in the sector, and the near completion effort of bridge crossing(s) at the canal should generate the needed time to plan for the withdrawal and to allow for the execution of the initial stages of the withdrawal.

COPING ACTION (Checklist)

Definition

Coping actions are direct actions taken by the group in response to, or in order to cope with, changes or problems arising within the group or external to it. Coping actions are implementing activities; that is, they are intended to get something done or to directly deal with the change or problem at hand. With the exception of feedback and sensing actions, most implementing actions can be viewed as coping actions. In the present scheme, it should be noted that coping actions are to be distinguished from decisions made about an event. However, according to this scheme, coping actions are viewed to be based on and follow a decision event though the decision may not have been overtly stated.

Types of Coping Actions

Types of coping actions are not distinguished. For CATTS, consideration needs to be given to the manner in which coping actions are manifested. If a controller receives from a player an order or command that requires an implementing activity, the order or command generally represents a coping action. In terms of interplayer action, however, a player who receives an order or command implying a coping action would be expected to execute the coping action. As a general rule, the player who most directly acts upon the object of a coping action executes the coping action.

Rating Dimensions

adequacy	action is correct in view of both the situation and the order or decision upon which it is based.
appropriateness	action is timely; recipient or person/group taking the action is correct.
completeness	action fully implements the decision on which it was based and meets the requirements of the situation.

CATTS EVALUATION CHECKLIST, TRAINING OBJECTIVE #5, FEBA GOLD (COMP-T)

Exercise State	Evaluator	Monitor	Record
(RUNNING)	Chief Controller	BLUE actions and orders re Bde Training Order for withdrawal	TIME:_____TF issues TF warning order to prepare for withdrawal
		BLUE actions and orders re employment of supporting fires	
		RED breakout of penetration in Tm A Sector	
Player Performance	BLUE Controller	TF actions re withdrawal	TIME:_____Tm A receives TF warning order
	RED Controller	RED movement of units out of bridgehead	TIME:_____lead unit breaks out of bridgehead
	FSCC Controllers	FSO: Fire requests *from Tm A*	TIME(S):_____ _____ _____ _____ *Tm A FO calls for fires*
		S3 AIR: Fire requests from TF CO or TF S3	TIME(S):_____ _____ _____ _____ TF S3 requests fires
		ALO: Fire requests from TF CO or TF S3	TIME(S):_____ _____ _____ _____ TF ALO requests fires
	Umpire/CO Seat #2	Transmissions between TF CO and Bde CO re Bde Warning Order for withdrawal	TIME(S):_____ _____ _____ _____ TF CO Confers w/Bde CO re Warning Order
		Conferences w/staff re Bde Warning Order	
	Umpire/S2 Seat #1	Transmissions between TF S2 and Bde S2 re RED breakout of penetration	TIME(S):_____ _____ _____ _____ TF S2 reports RED info to Bde S2 TIME(S):_____ _____ _____ _____ Bde S2 requests RED info from TF S2
		Transmissions between TF Se and Tm A re RED activities in Tm A Sector	TIME(S):_____ _____ _____ _____ TF S2 requests Tm A for RED info TIME(S):_____ _____ _____ _____ Tm A reports RED info to TF S2
		Conferences w/staff re Bde Warning Order	

CATTS EVALUATION CHECKLIST, TRAINING OBJECTIVE #5, FEBA GOLD (COMP-T)

(Continued)

Exercise State	Evaluator	Monitor	Record
(Cont'd)	Umpire/S3 Seat #3	Transmissions between TF S3 and Bde S3 re BLUE Situation	TIME(S):_____ _____ _____ _____ TF S3 reports BLUE info to Bde S3 TIME(S):_____ _____ _____ _____ Bde S3 requests TF S3 for BLUE info
		Transmissions between TF S# and Tm A,B,T re Bde Warning Order for withdrawal	TIME:_____ TM A informed TIME:_____ TM B informed TIME:_____ TM T informed
		Conferences w/staff members re Bde Warning Order for withdrawas	TIME(S) _____ _____ _____ _____ TF S3 confers w/TF CO re Warning Order
	Umpire/FSCC FSO S3 AIR ALO	Transmissions between FSO and FDC re fires for TF	TIME(S):_____ _____ _____ _____ FSO Contacts FDC
		Transmission between S3 AIR and Bde S3 AIR	TIME(S):_____ _____ _____ _____ S3 AIR Contacts Bde S3 AIR
		Transmissions between ALO and TACP	TIME(S):_____ _____ _____ _____ ALO Contacts TACP
		Conferences w/staff members re Bde Warning Order	TIME(S):_____ _____ _____ _____ (FSO)(S3 AIR)(ALO) Confers w/TF CO; TF S3 re Bde Warning Order

REMARKS: _____

EVALUATION CHECKLIST, TRAINING OBJECTIVE #5, FEBA GOLD (COMP-T)

Exercise State	Evaluator	Monitor	Record
	CH/Controller	Overall substance of analysis leading to the issuance of the TF warning orders.	Who in TOC issued the TF warning order?
	Umpire/CO	Contributions of TF CO to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS)
(FREEZE) Player Analysis	Umpire/S2	Contributions of TF S2 to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS)
	Umpire/S3	Contributions of TF S3 to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS)
	Umpire/FSCOORD; S3 AIR	Contributions of TF FSCOORD to discussion Contributions of TF S3-AIR to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS

REMARKS: _____

(use reverse side)

EVALUATION CHECKLIST, TRAINING OBJECTIVE #5 FEBA GOLD (COMP-T)

Exercise State	Evaluator	Review	Assess	Report
(Terminated) Player Critique	CH/Controller	TASKS of each Training Objective (TO)	Attainment of the STANDARD for each TO	Degree of attainment of each TO as: (Fully)(Partially)(NOT)
	Umpire/CO	CONDITIONS of each TO Recorded data for checklists	COPING ACTION as prescribed in the ANALYSIS	Degree of attainment for: COPING ACTION-- Adequacy: ____ Appropriateness: ____ Completeness: ____
	Umpire/S2	(Same as for Umpire CO)		
	Umpire/S3	(Same as for Umpire CO)		
	Umpire/FSO S-3 AIR ALO	(Same as for Umpire CO)		

Remarks: _____

Post-Exercise Critique

Training Objective #5

a. Aggressor made gains throughout the brigade and task force defensive sector and a warning was issued by brigade to prepare for a withdrawal. The training objective for this situation concerned the performance of the command group as it related to the on-going aggressor actions and the warning order---

PO #6/7---to identify problem areas, battalion capabilities and vulnerabilities, formulate and select a course of action and take immediate action to continue the mission with available and requested resources.

b. The controller at the Aggressor Console will present an overview of the aggressor situation.

(Use of monitor to describe events).

c. The controller at the Friendly console will next present an overview of the Friendly situation.

(Use of monitor and recordings to describe events)

d. In the analysis session pertaining to this objective, the main points discussed were:

Commander---

S2---

S3---

FSCOORD---

e. The stand set for this objective is:

TO #5 STANDARD

(1) Order all organic supporting fires on battalion-sized aggressor column.
(2) Order all direct support artillery fires on heavy concentration of aggressor armored vehicles in TF Sector
(3) Request all available additional supporting fires from brigade on aggressor activities at canal.
(4) Issue without delay TF warning order to prepare for withdrawal under enemy pressure.

f. The standard was met (in part) (wholly) (not at all) primarily because of the performances of (Commander), (S2), (S3), (FSCOORD) or (a combination of any of the 4) particularly as they related to the following facts:

(Cite here statements in contrast to or in support of what was said in analysis session)

g. Each of you may now respond, if you wish, to the evaluation of this training objective.

CATTS

EVALUATION CHECKLIST

FEBA GOLD

(COMP-T)

TRAINING OBJECTIVE #6

EVALUATION

Training Objective #6

The task of the command group according to the inclosed training objective is to identify the TF problem areas, capabilities, and vulnerabilities and select course(s) of action which will implement a withdrawal mission ordered by brigade. During the RUNNING of the CATTS system, controllers and umpires will MONITOR and RECORD as prescribed in the inclosed checklists.

The Chief Controller will FREEZE the CATTS system and initiate a PLAYER ANALYSIS when the TOC has issued the TF order for the withdrawal. At the start and during the analysis period, he will elicit responses from the members of the TOC which will permit the umpires to record the command group analysis of its performances and compare it with the facts.

The Chief Controller, during the POST EXERCISE CRITIQUE, will report the degree of attainment of the STANDARD for this task as prescribed in the training objective.

30 June 1975

Training Objective #6

FEBA GOLD (COMP-T)

(PO #6, 7)

TASK: To identify problem areas, battalion capabilities and vulnerabilities, formulate and select a course of action and take immediate action to continue the mission with available and requested resources.

CONDITIONS:

a. Brigade has issued warning order for brigade withdrawal under enemy pressure.

b. TF 2-77 has issued a warning order for task force withdrawal under enemy pressure.

c. Brigade has assigned TF 2-77 a rear assembly area and a zone of withdrawal.

d. Brigade has designated the location and composition of the brigade covering force.

e. Brigade has requested TF 2-77 for plan of withdrawal.

STANDARD: The TF 2-77 plan of withdrawal to be implemented ON ORDER must include as a minimum the information and tasks shown below; the plan must be completed and disseminated within 10 minutes after issuance of the TF warning order for the withdrawal.

Type here the Withdrawal Plan written in FRAG ORDER format

ANALYSIS:
(PO #10)

Coping Action

a. Adequacy -- The plan of withdrawal takes into account the aggressor situation in TF 2-77 sector (TM ALPHA Situation) and the announced actions of brigade concerning the covering force. The TF plan provides minimum essential information for each major TF unit to permit each to prepare in turn, appropriate plans regarding:

(1) When to start the withdrawal.
(2) What are the assigned zones of withdrawal.
(3) Where will elements of the brigade covering force be located.
(4) What will be the new mission following the withdrawal from present positions.

b. Appropriateness -- The situation TF 2-77 Sector at the time of receipt of the brigade warning order for withdrawal demands minimum time for planning and maximum time to the TF units for preparing for the withdrawal. Ten (10) minutes is considered sufficient for the TOC personnel to participate in the command and staff actions which will yield a fragmentary order appropriate for the conditions in this situation.

c. Completeness -- The TF withdrawal plan is in accord with the tactical doctrine for conducting a withdrawal under enemy pressure as described in FM 7-20 (The Infantry Battalions, 1969) and USAIS ST 7-153 (Tactical Operations Handbook, FY 73).

COPING ACTION (Checklist)

Definition

Coping actions are direct actions taken by the group in response to, or in order to cope with, changes or problems arising within the group or external to it. Coping actions are implementing activities; that is, they are intended to get something done or to directly deal with the change or problem at hand. With the exception of feedback and sensing actions, most implementing actions can be viewed as coping actions. In the present scheme, it should be noted that coping actions are to be distinguished from decisions made about an event. However, according to this scheme, coping actions are viewed to be based on and follow a decision event though the decision may not have been overtly stated.

Types of Coping Actions

Types of coping actions are not distinguished. For CATTS, consideration needs to be given to the manner in which coping actions are manifested. If a controller receives from a player an order or command that requires an implementing activity, the order or command generally represents a coping action. In terms of interplayer action, however, a player who receives an order or command implying a coping action would be expected to execute the coping action. As a general rule, the player who most directly acts upon the object of a coping action executes the coping action.

Rating Dimensions

adequacy	action is correct in view of both the situation and the order or decision upon which it is based.
appropriateness	action is timely; recipient or person/group taking the action is correct.
completeness	action fully implements the decision on which it was based and meets the requirements of the situation.

CATTS EVALUATION CHECKLIST, TRAINING OBJECTIVE #6, FEBA GOLD (COMP-T)

Exercise State	Evaluator	Monitor	Record
(RUNNING) Player Performance	Chief Evaluator	TOC activities re preparation of TF withdrawal order	TIME: _____ TF withdrawal plan is declared ready for dissemination
	BLUE Controller	TOC activities re preparation of TF withdrawal order	TIME: _____ TM A receives order TIME: _____ TM B receives order TIME: _____ TM T receives order TIME: _____ Sct Plat receives order TIME: _____ Gd Surv Sec receives order
	RED Controller	None	None
	FSCC Controllers	TOC activities re preparation of TF withdrawal order	TIME: _____ FSO is requested for info TIME: _____ S3 AIR is requested for information TIME: _____ ALO is requested for info
	Umpire/CO Seat #2	Transmissions between TF CO and Bde CO re TF Withdrawal plan	TIME(S): _____ _____ _____ _____ TF CO Confer w/Bde CO re Plan
		Conference w/staff members re Withdrawal plan	As occurs
	Umpire/S2 Seat #1	Transmissions between TF S2 and Bde S2 re TF Withdrawal Plan	TIME(S): _____ _____ _____ _____ TF S2 Confers w/Bde S2 re Plan
		Conferences w/staff members re withdrawal plan	As occurs
	Umpire S3 Seat #3	Transmissions between TF S3 and Bde S3 re TF Withdrawal plan	TIME(S): _____ _____ _____ _____ TF S3 Confers w/Bde S3 re Plan
		Conferences w/staff members re TF Withdrawal Plan	As occurs
	Umpire FSCC FSO S3 AIR ALO Seat #4	Transmissions between FSO and FDC S3 AIR and Bde S3 AIR ALO and TACP re TF Withdrawal Plan	TIME: _____ FSO/FDC Confer TIME: _____ S3 AIR/Bde Confer TIEM: _____ ALO/TACP Confer

CATTS EVALUATION CHECKLIST, TRAINING OBJECTIVE #6, FEBA GOLD (COMP-T)

(Continued)

Exercise State	Evaluator	Monitor	Record
(Cont'd) (RUNNING)		Conferences w/staff members re withdrawal plan	TIME: _____ FSO Confers w/TF S3 TIME: _____ S3 AIR Confers w/TF S3 TIME: _____ ALO Confers w/TF S3
Player Performance		Conferences with each other re withdrawal plan	As occurs

REMARKS: _____

EVALUATION CHECKLIST, TRAINING OBJECTIVE #6 FEBA GOLD (COMP-T)

Exercise State	Evaluator	Monitor	Record
	CH/Controller	Overall substance of analysis leading to the composition of the TF withdrawal plan	Who in TOC contributed to the composition of the TF withdrawal plan?
	Umpire/CO	Contributions of TF CO to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS)
(FREEZE) Player Analysis	Umpire/S2	Contributions of TF S2 to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS)
	Umpire/S3	Contributions of TF S3 to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS)
	Umpire/FSCOORD; S3 AIR	Contributions of TF FSCOORD to discussion Contributions of TF S3-AIR to discussion	Questions he asked and answers to each question Q #1: _____ ANS #1: Who? _____: (Use reverse side for added Q/ANS

REMARKS: _____

(use reverse side)

EVALUATION CHECKLIST, TRAINING OBJECTIVE #6 FEBA GOLD (COMP-T)

Exercise State	Evaluator	Review	Assess	Report
(Terminated) Player Critique	CH/Controller	TASKS of each Training Objective (TO)	Attainment of the STANDARD for each TO	Degree of attainment of each TO as: (Fully)(Partially)(NOT)
	Umpire/CO	CONDITIONS of each TO Recorded data for checklists	COPING ACTION as prescribed in the ANALYSIS	Degree of attainment for: COPING ACTION-- Adequacy: ____ Appropriateness: ____ Completeness: ____
	Umpire/S2	(Same as for Umpire CO)		
	Umpire/S3	(Same as for Umpire CO)		
	Umpire/ FSO S-3 AIR ALO	(Same as for Umpire CO)		

Remarks: _____

Training Objective #6

a. The brigade warning order for a withdrawal introduced the requirement for the TF to prepare and issue necessary implementing orders while engaged in on-going defensive actions. The training objective for this situation concerned the performance of the command group as it related to the TF fragmentary orders for the withdrawal---

PO #6, 7---(Same as for Training Objective 5)

b. The controller at the friendly console will present an overview of the issued fragmentary orders

(Use of recordings to describe events)

c. In the analysis session pertaining to this objective, *the main points discussed were:*

Commander---

S2---

S3---

FSCOORD---

d. The standard set for this objective is:

TO #6/STANDARD

The TF 2-77 plan of withdrawal to be implemented ON ORDER must include as a minimum the information and tasks shown below; the plan must be completed and disseminated within 10 minutes after issuance of the TF warning order for the withdrawal.

Type here the Withdrawal Plan written in FRAG ORDER format

CATTS

NON-EVALUATED PERFORMANCES

FEBA GOLD

(COMP-T)

and

SUMMARY

Termination of the exercise

Following the issuance of the withdrawal orders, the activities of friendly forces centered on timely movement of units in the face of increasing aggressor attack. The performances of the Command Group during this period were not evaluated.

SUMMARY

The CATTS system is designed for a commander and selected members of his staff to evaluate their abilities in performing tasks which are characteristic of tactical operations. During the period of the FEBA GOLD exercise, the various subsystems of the CATTS contributed to the creation of general battlefield characteristics such as the desert terrain, aggressor movement and supporting fires, and communication routines. The subsystems also generated tactical situations containing problems to be solved by the commander and his staff. The solution to the problems involved performances to set standards. The sam subsystems were used to assist in the evaluation of those performances.

The entire system is ready to repeat the entire exercise in a non-interrupted fashion as often as necessary to provide the commander as much time as necessary to achieve the training objectives he selects at the level of performance he sets as his standards for each task of each training objective.

APPENDIX C

ATTITUDE MEASUREMENT QUESTIONNAIRES

INCLUDING DATA ANALYSIS

HUMAN RESOURCES RESEARCH ORGANIZATION

CENTRAL DIVISION

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INTERIM REPORT

Summary Report of Questionnaire Data From CATTS Play 15 September - 17 October 1975

Submitted to:

U.S. Army Combined Arms Tactical Training
Simulator Program Directorate
Fort Benning, Georgia 31905

Under Contract With:

U.S. Army Research Institute for the
Behavioral and Social Sciences
Arlington, Virginia 22209

November 1975

AD-A055 057 HUMAN RESOURCES RESEARCH ORGANIZATION ALEXANDRIA VA F/G 15/7
RESEARCH ACCOMPLISHED IN SUPPORT OF THE COMBINED ARMS TACTICAL --ETC(U)
FEB 76 T R POWERS, A J DELUCA DAHC19-75-C-0010
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This document has been prepared to report research findings on an interim basis. It does not necessarily represent the official opinion or policy of the Human Resources Research Organization.

INTRODUCTION

The Human Resources Research Organization (HumRRO) prepared the following material as part of the research being conducted for the U.S. Army Research Institute for the Behavioral and Social Sciences (Contract DAHC 19-75-C-0010). This research directly supports the Combined Arms Tactical Training Simulator Program Directorate (CATTS PD). The purposes of the questionnaires discussed in this report were to (1) assess the general player attitudes about the CATTS system, and (2) identify significant capabilities and limitations of the present CATTS device as it was used during the System Definition Phase of the program.

This report presents the combined data from all CATTS player groups. The agencies, time periods, and number of personnel that supplied data are as follows:

Agency	Dates	No. of Personnel
Fort Sill	15-19 September 1975	7
Fort Knox	22-26 September 1975	8
FORSCOM	29 September-3 October	10
National Guard	6-10 October	9
Fort Leavenworth	13-17 October	8

During a training week, four different questionnaires were given to players. The first questionnaire (see Enclosure 1) was given out the first day before players were involved in any CATTS exercise. The second questionnaire (see Enclosure 2) was given out at the end of each day when a tactical exercise was conducted using the CATTS device. The third questionnaire (see Enclosure 3) was given out on the last day a tactical exercise was conducted. The final questionnaire (see Enclosure 4) was given out during the exit interview.

It should be noted that some administrative problems occurred during certain playing periods that prevented all questionnaires from being completed by players according to the prescribed schedule. The usual reasons for this were mechanical or electronic problems with the CATTS device, or the visiting of the CATTS project by a group of VIP's, requiring a major revision of the daily schedule. These two problems caused minor variations in test administration across groups but the differences are not considered to be of practical significance.

The results of each player group have been separately reported (see Interim Reports from HumRRO to CATTS PD dated 22 September 1975, 29 September 1975, 3 October 1975, 24 October 1975, and 3 November 1975).

Additionally, a special Interim Report was prepared (see Enclosure 5) that discusses the results of 13 observers who had observed various player groups during the five (5) training weeks. In this context, observer data was gathered at the specific request of the CATTS PD. This data is thought to represent a somewhat neutral assessment of the CATTS device.

The results of all previous Interim Reports showed a consistently positive player/observer attitude towards the CATTS device, as do the results of the present report. All players have been grouped for this combined analysis. Individual group variation from the means reported here were very small and probably reflect slight differences in weekly tactical scenario presentation rather than real differences in simulation ability of the CATTS device itself.

GENERAL RESULTS

In general, all players view the CATTS device in a positive manner. They feel that CATTS does an outstanding job of simulation in most areas although, as will be discussed in the Specific Results, there are areas where improvement is needed.

One question (see Enclosure 1) was administered to players both before and after the exercise. This question was designed to be a gross measure of any attitude change that occurred as a result of exposure to the simulator. This question asked whether the player viewed CATTS in a positive manner, in a negative manner, or did not know enough about computer-assisted simulation to make a judgment. The before and after results are shown below.

	BEFORE	AFTER
Like It	26%	68%
Don't Like It	2%	2%
Cannot Make a Judgment	72%	28%

These results clearly imply that exposure to the CATTS device as a player has a positive benefit on attitudes about the CATTS device in particular, and computer-assisted simulation in general. Using the Chi-Square Test, the shift in attitude is statistically significant at the .01 level of confidence. It can be seen that the shift occurred within the undecided group. The negative group, in fact, consisted of a single individual whose attitude apparently did not change.

SPECIFIC RESULTS

Basic Questionnaire (Enclosure 3)

On the questions (1a, b, c)[1] of whether the CATTS device realistically simulates the basic tactical operations of SHOOT, MOVE, and COMMUNICATE, the average scale scores of 3.6, 3.9, and 4.1, respectively, indicate that all three factors were more than adequately simulated.

On the question (2) of whether the CATTS device offers effective training for varying types of environments, it was found that:

Reduced Visibility (fog, dust, etc.)	Yes	78%	No	22%
Terrain Obstacles (cliffs, etc.)	Yes	79%	No	21%
Water Barriers	Yes	81%	No	19%
A Specific Geographical Location	Yes	97%	No	3%

On the question (3) of whether the CATTS device offers effective training in different force/force mixes:

Infantry	Yes	98%	No	2%
Armor	Yes	93%	No	7%
Artillery	Yes	95%	No	5%
Infantry and Armor	Yes	95%	No	5%
Combined Arms	Yes	95%	No	5%

On the question (4) of whether the CATTS device offers feedback as to the consequences of weapons employment techniques:

Small Arms	Yes	59%	No	41%
Antitank Weapons	Yes	72%	No	28%
Armor Weapons	Yes	81%	No	19%
Mortar	Yes	69%	No	31%
Artillery	Yes	79%	No	21%

[1]Numbers in parentheses refer to specific questions in the Enclosures.

On the questions (5) (6) of whether the device allows the player to employ various tactical techniques and offers feedback as to the consequences of the tactical decisions, the scale scores of 4.0 and 3.9, respectively, indicate that more than adequate simulation is offered. However, the scale score of 2.5 indicates that less than adequate feedback is offered concerning the consequences of logistical decisions (7).

On the question (8) of offering effectively simulated artillery support:

Yes 85% No 15%

On the question (9) of adequately simulated tactical air support:

Yes 78% No 22%

On the question (10) of adequately simulated Army air support:

Yes 78% No 22%

On the question (11) of general engineer support:

Yes 90% No 10%

On the question (12) of simulating detection from target acquisition devices:

Sensors	Yes 51%	No 49%
Ground Radar	Yes 77%	No 23%

Ninety-eight percent of all players reported that they thought the simulate offered realistic staff interaction (13). Eighty-eight percent of the players felt that the device hardware did not interfere with the play of the game, and 95 percent of all players indicated that in their opinion the Controllers did not interfere with the play of the tactical exercise. Seventy-five percent of all players felt that the entire battalion staff should be used in an exercise of this type.

Summary

The results of the Basic Questionnaire present a consistent picture. Players feel quite positive about the CATTS device and most significant factors that it attempts to simulate. The basic tactical concepts of SHOOT, MOVE, and COMMUNICATE, as general factors, are felt to be more than adequately simulated.

For specific factors, the device is felt to offer effective training in all types of forces and force mixes, as well as tactical air support, general engineer support, Army air support, general Artillery support, and the use of ground radar. Information gained from sensors was not adequately simulated.

In the general geographical area, players felt that it offers effective training in simulating reduced visibility, terrain obstacles, water barriers, and does an outstanding job of simulating a specific geographical location.

The players feel that the device offers more than adequate feedback in the employment of various tactical techniques, and the consequences of tactical decisions, but is clearly not adequate in offering feedback as to the consequences of logistical decisions. This problem may be caused, in part, by the fact that logistical concepts are not heavily used since there is no S4 in the player Command Group.

The players felt that the device offered realistic feedback as to the consequences of various weapons employment techniques, although small arms effects were not as acceptable as were the other categories of weapons.

Almost all players felt that the device offered realistic staff interactions, and they judged that neither the Controller nor specific device hardware interfered with the play of the tactical scenarios. Many players felt that the entire battalion staff (S1, S2, S3, S4, and S5, as required) should be used in an exercise such as this.

Player Questionnaire (Enclosure 2)

Do you feel that the inputs[1] into the Tactical Operation Center were realistic?

	Yes	No	Doubtful
Personnel Casualties	72%	8%	20%
Equipment Losses	75%	12%	13%
RED Movement Rates	67%	16%	17%
BLUE Movement Rates	79%	10%	11%
RED Artillery	69%	11%	20%
BLUE Artillery	54%	18%	28%
RED Air Strikes	54%	12%	34%
BLUE Air Strikes	52%	19%	29%
Ammunition Expenditures	67%	13%	20%
Gasoline Expenditures	40%	15%	45%
Detections from target acquisition devices	72%	14%	14%
Organic Air Defense Weapons	41%	24%	35%

Summary

The results from the combined data present a varied picture. No input was considered to be realistic by the great majority or players (i.e., 80 percent or more). However, many inputs were considered to be acceptable by a large number of personnel.

[1]This specific questionnaire was meant to measure the realism of the inputs into the TOC. Although some of the inputs (i.e., BLUE Air Strikes) appear to be duplicated in the Basic Questionnaire, they are not. This questionnaire was designed to be a separate assessment of a quantitative input and not an evaluation of a general factor (i.e., Army Air Support).

Using an arbitrary criterion of more than 66 percent as realistic, and 50 percent to 65 percent as doubtful, and less than 50 percent as not realistic, we find the following picture:

The players view the inputs concerned with personnel casualties, equipment losses, RED movement rates, BLUE movement rates, RED artillery, ammunition expenditures, and detections from target acquisition devices as realistic. The inputs concerned with BLUE artillery, RED air strikes, and BLUE air strikes are of doubtful realism. The inputs concerned with gasoline expenditures and organic air defense weapons are clearly not realistic and need to be improved.

Exit Questionnaire (Enclosure 4)

One hundred percent of all player personnel felt that the Army has a need for a training device which encompasses the CATTS concept (1). Ninety-one percent of them indicated that, in its present configuration, it is most appropriate for battalion-level training.

However, there was a wide diversity of opinion as to the particular audience that it is most appropriate for (1b). Fifty-four percent of the players felt that incumbent battalion staffs in FORSCOM units would be the most appropriate audience. Thirteen percent felt that only students at The Infantry School should be trained on the device, while another 13 percent felt that students at all the combat arms service schools should be exposed to the simulator. Ten percent of the players indicated that students at the Command and General Staff College should be trained, while the remaining 10 percent indicated that incumbent battalion staffs in Reserve/National Guard units would be the most appropriate audience for training.

There was general agreement (69 percent) by the players that CATTS offers unique training capabilities in the area of realistic staff interaction (2), but 22 percent thought uniqueness would be in the simulation of a specific environment, while the remaining nine percent felt that the practicing of unique tactical concepts would be its strong point.

In the area of offering superior training (3) there was again a wide diversity of player opinion. Thirty-eight percent felt that superior training would focus on the interactions among the command group, 22 percent disagreed and felt that it would lie in the command groups' overall performance, 19 percent felt that it would be in the practicing of the critical tactical decisions, nine percent felt that it would be in the tactical problem areas, six percent indicated that it would involve the practicing of individual knowledges and skills, three percent indicated mission accomplishment, and the remaining three percent wrote in a topic.

In contrast to the above finding, 97 percent of all players agreed that the CATTS offers effective training when there are adverse battlefield conditions (e.g., outnumbered friendly forces) (4).

When questioned about which CATTS subsystem needed the most improvement (5), 25 percent of the players reported that no improvement was required. Of the remainder of the group, 25 percent identified the tactical scenarios, 19 percent the critique sessions held after each exercise, nine percent the TOC, three percent the Controllers, and 19 percent wrote in a miscellaneous variety of topics.

Fifty-eight percent of the players indicated that the relatively high cost of the computer should not be an overriding consideration when the future

of CATTS was decided (6). Of the remainder of the players, 27 percent indicated that it should be while the remaining 15 percent were of no opinion.

Eighty-two percent of all the players felt that the current system should be improved only where needed and finalized in approximately its present form (7). The remaining 18 percent opted for a completely revised next generation's system CATTS model.

Eighty-five percent of all players viewed large-scale tactical simulation as a desirable alternative to supplement actual field training (8). Twelve percent felt that it was an acceptable alternative to be used only when absolutely required, but three percent indicated that it was our only major alternative for maintaining and improving combat effectiveness.

When questioned about whether any particular player position needed more emphasis during the tactical exercises (10), 62 percent indicated that there were none. The remainder of the group was widely split, with 21 percent indicating the S2, six percent the ALO, six percent the FSO, three percent the S3, and two percent the CO.

When the reverse question (11) was asked about whether any player position needed less emphasis, 97 percent of the respondents indicated none.

The CATTS system consists of a number of major components (Computer, Control Room, TOC, Mathematical Model, etc.). When asked (12) if CATTS could have any of these major components eliminated and still remain an effective system, 91 percent of all players indicated No.

The next question again identified a wide diversity of opinion (13). When asked about their most significant learning experience, 45 percent

reported that it was learning taking place as a result of group interaction, 39 percent indicated that it was learning as a result of tactical actions taking place during the exercise, ten percent felt that it was learning from the critique and feedback, three percent said learning of individual skills, and the remaining three percent identified learning from the pre-exercise command and staff planning.

Summary

A significant finding is that, without exception, all player personnel felt that the Army had a need for a training device which encompasses the CATTS concept. Although most personnel also agreed that, in its current configuration, battalion level was the appropriate training level, there was wide disagreement as to the appropriate training audience. If we group the responses into just two categories of "students" and "incumbent staffs," we find that 64 percent of the players suggested some kind of incumbent staff, while 36 percent identified some kind of student at a service school. This is, of course, a basic question for CATTS and one that eventually will have to be resolved.

Most personnel felt that the unique capacity of the device for training was in its simulation of realistic staff interaction. However, people were widely divided about the possible areas for superior training. If we group the responses into things involving the command group and other things, we find that 61 percent felt that superior training would lie within the group's work and not with individual factors.

Almost all personnel felt that CATTS offered effective training under adverse battlefield conditions, but there was no general agreement as to what

particular subsystem needed to be improved. A slight majority of personnel felt that the high cost of the computer should not be an overriding consideration in the future of CATTS, but 82 percent felt that CATTS should be improved where needed and finalized.

Almost all players feel that large-scale tactical simulation is a desirable alternative to actual field training. In general, they feel that no particular player position requires more or less emphasis, and the vast majority indicated that no major subsystems should be deleted from the current device.

Finally, there was no general agreement as to the most significant learning experience gained during the training week, but about 84 percent of all players thought it was either learning as a result of group interaction or learning as a result of tactical actions taking place during the exercise.

As an additional note, on the five previously referenced Interim Reports a number of selected "write-ins" were reported. Due to bulk, they are not repeated here. However, all write-ins were screened for content. It was found that 71 percent of them were obviously positive statements (e.g., "The CATTS device does a great job on simulating staff interactions"), 15 percent recommended adding some additional factor (e.g., "The S4 is needed for realistic logistical play"), 11 percent of the write-ins were neutral observations that could not be classified, and three percent were obviously negative statements (e.g., "This device is too expensive"). This write-in evaluation reconfirms the positive acceptance of the device by the players.

OVERALL SUMMARY

The results of all questionnaires present a generally consistent picture. Players view the CATTS device in a positive manner and believe that it does an excellent job of simulating most tactical factors. The device is thought by players to have training value although its training effectiveness has yet to be determined.

The players indicate in both the Basic Questionnaire and Exit Questionnaire that one of the great strengths of the device, and perhaps its most significant feature, is in its ability to simulate realistic staff interaction. This factor alone would make it a valuable asset in the Army inventory of training devices.

Another significant capability lies in the realistic simulation of all types of force and force mixes. This, together with the ability of the device to allow the players to employ various types of tactical techniques, indicates a flexibility of utilization in the practicing of tactical scenarios that is bound only by the imagination of the scenario writers.

Current limitations of the device are few but players feel that some do exist in certain areas. For example, it is obvious that poor simulation occurs in the utilization of sensor detections. Of perhaps greater significance is the lack of realism in the use of organic air defense weapons. The latter factor should be better modeled as it is a significant tactical consideration on the modern battlefield.

In summary, it can be said that the current CATTS device favorably impressed over 40 player personnel from five different Army agencies with its ability as a tactical training simulator. Specific capabilities and limitations of the present system have been identified and a firm basis has been laid for future improvements.

INITIAL QUESTIONNAIRE

How do you currently feel about computer-assisted simulation (such as CATTS) and its place in tactical training? (Check one)

I don't know enough about computer-assisted simulation to make a judgment _____

I like it _____ because _____

_____

_____

_____

I don't like it _____ because _____

_____

_____

_____

Name _____

Date _____

Enclosure 1

Player Questionnaire

(To Be Administered After Each Exercise)

Player Name _____

Date _____

Exercise Just Completed: FEBA GOLD ____

ATTACK ____

FEBA SILVER ____

OTHER (write-in) _____

We are interested in obtaining your reactions to the CATTS System, particularly in terms of the realism of the system, the situation and the exercise.

Enclosure 2

Answer the following with an X in the appropriate columns.

Was the information you received in the TOC realistic (believable) for the following factors?

	YES	NO	DOUBTFUL
1. Personnel Casualties			
2. Equipment Losses			
3. Rates of Movement of RED Units			
4. Rates of Movement of BLUE Units			
5. Effects of RED Artillery			
6. Effects of BLUE Artillery			
7. Effects of RED Air Strikes			
8. Effects of BLUE Air Strikes			
9. Ammunition Expenditures			
10. Gasoline Expenditures			
11. Detections From Target Acquisition Devices			
12. Organic Air Defense Weapons			

Basic Questionnaire

Player Name _____

Date _____

Exercise: FEBA GOLD ____

ATTACK ____

FEBA SILVER ____

OTHER (write-in) _____

We are interested in obtaining your reactions to the CATTS System, particularly in terms of the realism of the system, the situation and the exercise. In responding to the following questions, please feel free to make any additional comments which may help us to improve the CATTS System so that we may obtain the best possible training environment.

Enclosure 3

BASIC QUESTIONNAIRE

(after exercise)

The following questions were designed to assess your specific attitudes about selected features of the CATTS System.

1. It has been stated that the basic variables in tactical operations are to SHOOT, MOVE, and COMMUNICATE. In your opinion, how does CATTS simulate these three general variables. (Circle one point on the scale)

SHOOT

a.

1	2	3	4	5
Is Completely Unrealistic		Is Acceptable		Approaches Combat Realism

(If your rating was 1 or 2, please describe what caused the lack of realism) _____

_____

_____

MOVE

b.

1	2	3	4	5
Is Completely Unrealistic		Is Acceptable		Approaches Combat Realism

(If your rating was 1 or 2, please describe what caused the lack of realism) _____

_____

_____

COMMUNICATE

c.

1	2	3	4	5
Is Completely Unrealistic		Is Acceptable		Approaches Combat Realism

(If your rating was 1 or 2, please describe what caused the lack of realism) _____

_____

_____

(continued on next page)

BASIC QUESTIONNAIRE (cont'd)

2. During the training exercise, were the following environmental conditions realistically simulated?

Reduced Visibility (fog, dust, etc.)	Yes ___	No ___
Terrain Obstacles (cliffs, etc.)	Yes ___	No ___
Water Barriers	Yes ___	No ___
A Specific Geographical Location	Yes ___	No ___

3. During the training exercise, were the following force and force mixes realistically simulated?

Infantry	Yes ___	No ___
Armor	Yes ___	No ___
Artillery	Yes ___	No ___
Infantry and Armor	Yes ___	No ___
Combined Arms	Yes ___	No ___

4. Does the training exercise offer feedback as to the consequences (e.g., engaging armor targets with anti-armor weapons at less than maximum anti-armor range) of various weapons employment techniques?

Small Arms	Yes ___	No ___
Anti-tank Weapons	Yes ___	No ___
Armor Weapons	Yes ___	No ___
Mortar	Yes ___	No ___
Artillery	Yes ___	No ___

5. During the training exercise, were you able to employ various tactical techniques? (circle one point on the scale)

1	2	3	4	5
Very Restricted and Inadequate Range of Tactical Techniques		Limited But Adequate Range of Tactical Techniques		Unlimited Range of Tactical Techniques

6. Does the training exercise offer feedback as to the consequences of tactical decisions? (circle one point on the scale)

1	2	3	4	5
No Feedback is Supplied		Adequate Feedback is Supplied		Complete Feedback is Supplied

(continued on next page)

BASIC QUESTIONNAIRE (cont'd)

7. Does the training exercise offer feedback concerning the consequences of logistical decisions? (circle one point on the scale)

1	2	3	4	5
No Feedback is Supplied		Adequate Feedback is Supplied		Complete Feedback is Supplied

8. Does the training exercise offer effectively simulated Artillery support?

Yes ___ No ___

9. During the training exercise, was tactical air support realistically simulated?

Yes ___ No ___

10. During the training exercise, was Army air support realistically simulated?

Yes ___ No ___

11. During the training exercise, was general Engineer support realistically simulated?

Yes ___ No ___

12. During the training exercise, were target acquisition detections realistically simulated?

Use of Sensors	Yes ___ No ___
Ground Radar	Yes ___ No ___

13. Write-in your job during the recent CATTS exercise _____ (S2, S3, etc.)

a. Did you feel that the CATTS simulation offered realistic staff interaction? Yes ___ No ___

b. Did any aspect of the CATTS device (i.e., hardware) limit the effective carrying out of your duties and responsibilities? Yes ___ No ___

(If Yes, please write a short explanation on the back of this paper)

(continued on next page)

c. Do you feel the controllers, by their actions, limited the carrying out of your duties and responsibilities? Yes ___ No ___

(If Yes, please explain your answer on the back of this paper)

d. Should the entire staff (S1, S4, S5 as required) be used in an exercise of this type? Yes ___ No ___

14. How do you currently feel about computer assisted simulation (such as CATTS) and its place in tactical training?

I don't know enough about computer assisted simulation to make a judgement ____

I like it ____ because _____

_____

_____

I don't like it ____ because _____

_____

_____

15. What changes would you recommend to the CATTS Program in the following areas?

a. Tactical Scenario - _____

_____

_____

_____

b. TOC - _____

_____

_____

_____

(continued on next page)

BASIC QUESTIONNAIRE (cont'd)

c. Critique Session - _____

_____

_____

_____

d. Other (write-in) _____

_____

_____

_____

EXIT QUESTIONNAIRE

Name _____

Date _____

My role in CATTS has been as a:

Player ___

Observer ___

Your personal opinions are desired in answering this questionnaire. Please feel free to use the back of this paper to elaborate on any of your answers.

Enclosure 4

EXIT QUESTIONNAIRE

1. Does the Army have a need for a training device which encompasses the concept presented in CATTS?

___ Yes

___ No

___ No Opinion

(If Yes, please answer the following questions)

a. CATTS in its current configuration and state of development is most appropriate for training. (Choose only one category)

___ Squads

___ Platoons

___ Companies

___ Battalions

___ Brigades

___ Divisions

What branch (write-in) _____

b. CATTS in its current configuration and state of development is most appropriate for training. (Choose only one category)

___ Students at the Infantry School

___ Students at the Armor School

___ Students at the Field Artillery School

___ All of the above

___ Students at the Command and General Staff College

___ Battalion Staffs in FORSCOM Units

___ Battalion Staffs in Reserve/National Guard Units

___ Other (write-in) _____

2. In what areas could a CATTS like system offer unique training capabilities? (Check the most appropriate area)

___ a. Simulation of a Specific Environment

___ b. Realistic Staff Interaction

___ c. Unique Tactical Concepts

___ d. Other (write-in) _____

(continued on next page)

EXIT QUESTIONNAIRE (cont'd)

3. In what areas could a CATTS like system offer superior training capabilities over other types of tactical simulations? (Check the most appropriate area)

___ a. The critical tactical decisions

___ b. Practicing of individual knowledges and skills

___ c. The tactical problem areas

___ d. The command group overall performance

___ e. Interactions among the command group

___ f. Mission accomplishment

___ g. Other (write-in) _____

4. Does the CATTS System offer effective training when there is adverse battlefield conditions (e.g., outnumbered friendly forces)?

___ Yes

___ No

___ No Opinion

5. Which one of the CATTS sub-systems do you think needs the most improvement? (Check one)

___ a. TOC

___ b. Controllers

___ c. Critique Sessions

___ d. Tactical Scenarios

___ e. Other (write-in) _____

6. The CATTS concept is computer based. In your opinion, should the relatively high cost of the computer override all other considerations involved in the future of CATTS?

___ Yes

___ No

___ No Opinion

7. For the Army to obtain the maximum value from the CATTS System, should the current system -- (Check one)

___ a. Be completely revised and work initiated on a next generation system

___ b. Be improved only where needed and finalized in approximately its present form

___ c. Be left exactly as it is

(continued on next page)

EXIT QUESTIONNAIRE (cont'd)

8. Due to increasing costs of actual field training, problems with environmental contamination, and political problems in using foreign training areas, do you feel that large scale tactical simulation (in whatever form) is: (Check one)

___ a. Our only major alternative for maintaining and improving combat effectiveness

___ b. A desirable alternative to supplement actual field training

___ c. An acceptable alternative to use only when absolutely required

___ d. An unacceptable alternative that, in general, should not be used

9. Do you believe that your exposure to the CATTS System has made a significant change in your attitude about tactical simulation?

___ Yes

___ No

___ Unsure

(If Yes, please explain exactly how your attitude was changed)

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

THE FOLLOWING QUESTIONS SHOULD BE ANSWERED BY PLAYER PERSONNEL ONLY

10. Which of the player positions needs more emphasis during the tactical exercises? (Check one)

___ CO

___ S2

___ S3

___ FSO

___ ALO

___ None

(continued on next page)

EXIT QUESTIONNAIRE (cont'd)

11. Which player position needs less emphasis during the tactical exercise? (Check one)

___ CO

___ S2

___ S3

___ FSO

___ ALO

___ None

12. Could the CATTS System have any of its major components (e.g., communications) eliminated and still remain an effective simulator?

___ Yes

___ No

(If Yes, please explain)

_____

_____

_____

_____

13. What do you feel, as a player, was the most significant learning experience during the week? (Check one)

___ Learning of Individual Skills

___ Learning as a Result of Group Interaction

___ Learning from the Critique and Playback

___ Learning from the Pre-exercise Command and Staff Planning

___ Learning as a Result of Tactical Actions Taking Place During the Exercise

14. Do any of the following require significant improvements? (Check as many as appropriate)

___ Billeting

___ Transportation

___ Briefings

___ Read-In Time

___ Messing Facilities

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INTRODUCTION

The data reported here was obtained during the period 15 September-17 October 1975. The data was generated from 13 personnel who acted only as observers. Most observers viewed the television screens and monitored the communications channels that comprised the Umpire Stations. A few observers spent some of their time in the control room watching the activities of the Controllers. The specific groups observed are as follows:

Time Period	Player Group	Number of Observers
15-19 September	Fort Sill	1
22-26 September	Fort Knox	3
29 September-3 October	FORSCOM	5
6-10 October	National Guard	4
13-17 October	Fort Leavenworth	0
	Total	13

The rank of the observer personnel was as follows:

COL - 1

LTC - 3

MAJ - 3

CPT - 2

1LT - 1

No rank given - 3

Enclosure 5

Observer personnel were given the EXIT QUESTIONNAIRE only since they did not have direct experience with using the device. This questionnaire was administered on the final day of their visit and they were asked to respond to questions 1 through 9.

In general, the device is viewed in a positive manner by observer personnel. There are areas where the observers felt that the device did an outstanding job of simulation (e.g., simulation of realistic staff interaction), and other areas where the results indicate that some improvement is needed (e.g., use of Controllers).

Exit Questionnaire

One hundred percent of all observers felt that the Army has a need for a training device which encompasses the concepts presented in the present CATTS system. They indicated that it is most appropriate for battalion level training, in its present configuration, but there was wide diversity of opinion as to the particular audience that it is most appropriate for. Thirty-eight percent of the observers felt that battalion staff in Reserve/ National Guard units would be the most appropriate audience, while 23 percent indicated it would be battalion staffs in FORSCOM units. Sixteen percent of the observers felt that students at the Infantry School would be the best audience, but 23 percent reported that students at all of the combat arms schools would benefit from the CATTS training.

When questioned about the unique training capabilities of CATTS, the observers again demonstrated a range of opinion. One-half the group felt that the unique aspects lay within the realistic staff interaction, 25 percent felt that it was in the simulation of a specific environment, and the remaining 25 percent felt that it was due to unique tactical concepts.

The observers felt that the superior training capabilities of CATTS over other types of simulation would lie in several areas. Thirty-eight percent felt that it would center around the critical tactical decisions while another 38 percent felt that it would be in the area of the command groups' overall performance. Sixteen percent felt that it would be in the interactions among the command group, while eight percent felt that training capabilities would accrue from the practicing of individual knowledges and skills.

There was complete agreement (100 percent) among the observers that the CATTS system offers effective training when there are adverse battlefield conditions simulated as part of the play (e.g., outnumbered friendly forces).

When questioned about which specific CATTS sub-system needed the most improvement, 54 percent of the observers indicated that no improvement was needed, 38 percent said that the Controllers needed improvement, while the remaining eight percent indicated that the TOC was the weakest area.

The vast majority of the observers (92 percent) felt that the relatively high cost of the computer should not override all other considerations involved in the future of CATTS.

Ninety-two percent of the group felt that, to obtain the maximum value from the CATTS system, the current system should be improved only where needed and finalized in approximately its present form.

Eighty-five percent of the observers felt that large-scale tactical simulation is a desirable alternative to supplement actual field training, while the remaining 15 percent was of the opinion that it is our only major alternative for maintaining and improving combat effectiveness.

Summary

All observer personnel agreed that the Army has a need for a training simulator such as CATTS. There was no consistent picture as to the specific type of personnel that should be exposed to the device, although about 60 percent indicated that it should be some kind of battalion staff, while about 40 percent indicated it should be a student at one of the service schools.

All players felt that the battalion level was the most appropriate training level in its present configuration. The unique capacity of the device was recognized by the observers but there was a range of opinion as to the specific unique areas. One-half the group felt that it would be in the realistic staff interaction, 25 percent thought it would lie in the simulation of a specific environment, while the remaining 25 percent thought it would be in unique tactical concepts. This diversity of opinion also existed in the area of superior training. The group was equally split on believing that it might lie in the critical tactical decisions or the command groups' overall performance. A minority of the group felt that interactions among the command group or the practicing of individual knowledges and skills would be the significant training areas. All of the CATTS observers felt that the CATTS system offered effective training when adverse battlefield conditions were present. A majority of the observers felt that no improvement was required for any CATTS sub-system. Over 85 percent of all observers felt that the relatively high cost of the computer should not be an overriding consideration in the future of CATTS, that CATTS should be improved only where needed and finalized in approximately its present form, and that large-scale tactical simulation is a desirable alternative to supplement actual field training.

One of the striking aspects of the observer data, as compared with player data, is that the observers exhibited a much greater diversity of opinion about certain topics. This might be due to the following reasons. First, it is possible that since the players acted as a team and experienced all stimuli as a group, they developed an unconscious consensus of opinion

about certain aspects of the device. The observers, on the other hand, made independent observations and probably made individual assessments of various device parameters. Second, it is possible that observers, in using the Umpire Stations to monitor activities, were reacting to somewhat different stimuli than were the players. This is certainly true in the visual presentations since the observers had television screens that accurately portrayed the location of all units, together with much other tactical information, while the players had a standard topographic map on which enemy and friendly units were more or less approximately located. Either or both of these reasons in combination could account for the wider diversity of opinion shown by the observers.