Research Product 87-03

A Detailed Description of the National Training Center Instrumentation System Initialization Procedure

ARI Field Unit at Presidio of Monterey, California
Training Research Laboratory

January 1987

U. S. Army Research Institute for the Behavioral and Social Sciences

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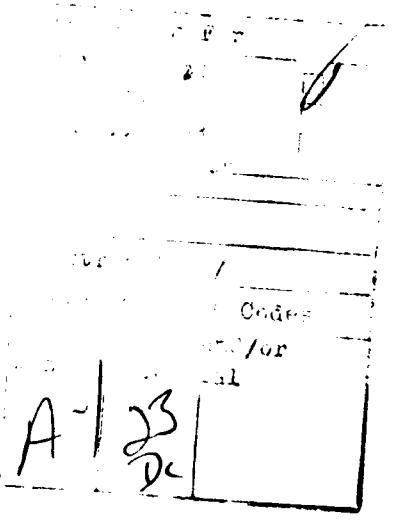

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This report presents a detailed description of the Instrumentation System Initialization Procedure that occurs at the start of each National Training Center (NTC) training unit rotation. The NTC Initialization Procedure is the process that links the identifying data elements for each instrumented player. This linkage is necessary both for the operation of the NTC instrumentation system pooling, as well as subsequent analysis of NTC data for research purposes.

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ARI Research Product 87-03

20. (Continued)

The description provided in this document of the Initialization Procedure has been written at a management level. Thus, it will be most useful to NTC personnel with management responsibilities or to members of the research community who require a broad understanding of how NTC data is collected. Readers must, therefore, have a general understanding of the NTC to fully benefit from this report.

Research Product 87-03

A Detailed Description of the National Training Center Instrumentation System Initialization Procedure

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Education and Training

FOREWORD

This report was prepared in response to the request of the Operations Group at the National Training Center (NTC). It is the first in a series of reports and products to be prepared by the Army Research Institute for NTC. These reports reflect ARI's continuing support to the Combined Arms Training Activity in its mission to produce Lessons Learned from the NTC.

EDGAR M. JOHNSON
Technical Director

A DETAILED DESCRIPTION OF THE NATIONAL TRAINING CENTER (NTC) INSTRUMENTATION SYSTEM INITIALIZATION PROCEDURE

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INTRODUCTION

This report presents a detailed description of the Instrumentation System Initialization Procedure that occurs at the start of each National Training Center (NTC) training unit rotation. The NTC Initialization procedure is the process which links the identifying data elements for each instrumented player. This is necessary so that the NTC instrumentation system can query players and display both characteristics and symbols accurately. The report addresses the sequence of events, the agencies and staff elements involved, and highlights the technical requirements necessary for the NTC instrumentation system to capture and save unit tactical performance data.

The report has been written as a management level overview, with sufficient detail included so that the report will be useful to NTC personnel with management responsibilities and to members of the research community who need to understand NTC procedures. The report provides the background and context for the detailed operating procedures which are needed by personnel responsible for executing specific jobs during the initialization process.

The reader must have a general understanding of the NTC to fully comprehend the importance of the initialization procedure and gain additional insight from this report.

BACKGROUND

Tactical units undertake an extensive period of preparation prior to arrival at the NTC. Normal components of this preparation include field tactical training, physical conditioning, extensive logistical planning, stockage and positioning of supplies, and a movement plan for specified types and numbers of unit vehicles to Fort Irwin by rail.

Fort Irwin has published a "Rotational Brigade Equipment Reference Data Guide" and other letter directives that provide the necessary details and instructions for a unit to arrive at the NTC, in-process, and be ready to train. From equipment stockpiled at Fort Irwin, the NTC provides the training unit those instrumented tracked combat vehicles and weapons normally found in Armor and Mechanized Infantry Battalions. The units bring with them the wheeled vehicles and other unique equipment to start training with a full set of combat equipment.

The NTC tracked combat vehicles are maintained, and prepared for re-issue between unit rotations by separate NTC contract support teams. One contract team is responsible for vehicle, weapon and communications systems maintenance. A second contract team repairs and maintains the MILES laser training devices. A third contract team installs and maintains a serial

numbered vehicle electronics package called a Micro-B unit [part of the Instrumentation Field Unit Component] that allows individual vehicles to communicate with the NTC instrumentation system during training exercises.

The NTC Instrumentation Initialization procedure identifies and links the following data elements for each instrumented player:

Task Force designation

Company designation

Platoon designation

Player [or vehicle] graphics identifier

Player type

Micro-B Unit identification number
[in both decimal & octal notation]

When a master list of all instrumented player data is completed and verified, the information is transferred to the NTC instrumentation system. When the instrumentation system can query players and display both characteristics and symbols accurately, the system is initialized.

SCOPE

This report describes the responsibilities and interaction of the various resident NTC staffs, agencies and commercial contract organizations that must work together to complete the NTC instrumentation system initialization. Table 1 presents the NTC resident agencies involved.

TABLE 1

NTC Resident Agencies Involved in the Initialization Process

TRADOC	FORSCOM
Operations Group	Headquarters, NTC
O/C Team Green o Infantry Observer Controllers o TAF 1	Deputy Cmdr - Support Deputy Chief of Staff-Contracts
	Commander, OPFOR - Armor Battalion
	Commander, OPFOR - Inf. Battalion
O/C Team Blue o Armor Observer Controllers o TAF 2	Commander, Rotational Brigade S-3 S-4
Instrumentation Office	Commander, Armor Task Force S-3 S-4
	Commander, Infantry Task Force S-3 S-4
Instrumentation Support Contract Team	Base Support Contract Team
	LORAL - MILES Tech Rep

Table 2 presents the sequence of events that lead to Instrumentation Initialization. A more detailed version is included at Appendix II.

TABLE 2

Abbreviated Sequence of Events in the NTC System Initialization Process

DAY	EVENT	REFERENCE TAB (App. II)
H-30	The Commander of Fort Irwin notifies the next rotational unit of the number of instrumented track vehicles that will be available for issue.	A
H-8	OPS GROUP Receives Task Organization from the player Task Force.	B
	Instrumentation Office develops initial player list based upon unit task organization.	C
H-6	Instrumentation Office develops allocation and distribution plan for both Micro-B Units and Manpacks.	D
H-3	Vehicle Issue to player units. MILES hardware and Micro-B Units are pre-installed and ready for operation	E
H-2	Instrumentation Check out: MILES - LORAL Micro-B Units - GDE Vehicle Systems - BSI CIS - SAI & TAF staff (NOTE: Check out sheet prepared at both the check out point & at the CIS)	F
H-1	Instrumentation Check continued and a	

tracking list is drafted .

When the Tracking list is complete, it is transferred via the graphics table into the instrumentation system. E

When SAI & GDE verify that the tracking list has been read into the system, and TAF displays appear in order, the initialization sequence is complete. G

H 0400 First TAF Briefing

0500 TAF inventory and image check

0600 First mission of rotation

NOTE: The initialization of OPFOR vehicles occurs as a result of direct coordination between the Instrumentation Office, the Instrumentation Contract Team and the TAF. This normally occurs between H-5 and H-3.

APPROACH AND METHOD

Approach

The material for this report was gathered during two separate trips to the NTC. During the first site visit various records and procdeures documents associated with the initialization process were located and collected. During the period between trips the material was reviewed and interview notes prepared. The second visit consisted of a series of interviews. The interviews were continued until all the key personnel involved with the initialization procedure were identified and an accurate description of the process was developed.

Method

Information from each interview was used as input in constructing a composite picture or diagram of the initialization process. Each interview led to another individual involved in the process or to a new or confirming bit of information. When conflicting information was discovered, a new series of interviews was conducted until the conflict was resolved and a clear picture was again established. When it appeared that a whole picture of the sequence of events had been completed, key personnel were asked to review and comment on its completeness and accuracy. Additional interviews were then conducted to resolve remaining questions or discrepancies.

DESCRIPTION

The start and end points in the process of NTC System Initialization are defined as starting when the rotational unit begins to develop a firm vehicle rail transportation list and ending at the start of the first tactical training exercise.

A listing of the sequence of events with supporting technical detail is included at Appendix II. The description of the process, here, is organized into three phases: Preparation, NTC in-processing, and Core instrumentation initialization.

Preparation

Four significant events occur during the preparation phase that have impact on instrumentation initialization;

(1) The Commander of Fort Irwin and the Fort Irwin Base Operations support contract team establish the number of instrumented tracked combat vehicles that will be available for issue to the next training rotation. The Commander Fort Irwin then notifies the Commander of the next rotational Brigade of the

number, by type, of vehicles that will be available for issue during in-processing.

(2) Under the guidance and direction of the NTC Operations Group, the Rotational Brigade Commander develops a formal Brigade task organization for the NTC training period. FORSCOM regulation 350-85-10 directs that NTC training task organizations be balanced and fixed for the training period.

(3) The Instrumentation Office at the NTC uses the brigade task organization to establish an initial unit and player list. This list is later expanded into the final tracking list for initialization. (Examples of a task organization, unit/player list and tracking list can be found in Appendix II.)

(4) The Instrumentation support contractor, working in conjunction with both the Base Operations support contractor and the Commander of the Operations Group, develops a list of available operational vehicle Micro-B Units and man-portable Micro-B Units or Manpacks. These figures dictate the number of available instrumented vehicles. They also set, for planning purposes, the number of manpacks that will be issued to supplement vehicular micro-B units. The Commander of the Operations Group then issues a formal memorandum allocating and assigning manpacks by serial number. The memorandum at Tab D of Appendix II illustrates the distribution of 74, usually-available manpacks.

NTC In-Processing

When the rotational unit arrives at the NTC, it consolidates in a designated marshaling area and starts to draw and inventory assigned combat vehicles. Part of the draw process includes a technical inspection of vehicles and weapons. Systems with serious mechanical or other technical deficiencies are not accepted by the unit. During the 48 hour equipment draw the final number of instrumented and operational vehicles to be placed into training remains uncertain.

BLUFOR vehicles that are accepted by the unit and cleared for departure by the issue yard have fifteen minutes to leave the yard and proceed to the Integrated Instrumentation Checkpoint.

(NOTE: OPFOR vehicles use an instrumentation checkpoint adjacent to the OPFOR motorpool.)

The Integrated Instrumentation Checkpoint is located at a facility called "Desert Shade". This is a large "supported-roof" structure that creates shade for the check out and initialization crews. See Appendix II, tab F-2 for a diagram and other details.

A number of organizations participate at the Integrated Instrumentation Checkout (Table 3).

TABLE 3

Organizations which participate at the Integrated Instrumentation Checkout and the responsibilities of each

ORGANIZATION	RESPONSIBILITY
The Infantry Observer/Controller Team (The Green Team)	Supervise, coordinate and record the Infantry Task Force checkout.
The Armor Observer/Controller Team (The Blue Team) Force.	Supervise, coordinate and record the Armor Task checkout.
Instrumentation Support Contract Team	Assist with instrumentation checkout/repair or replace Micro-B Units, cables,etc.
MILES Support Contract Team	Assist with MILES checkout/repair or replace components as required.
The Infantry Training Analysis and Feedback Team (TAF - part of the Green Team)	Located at the Core Instrumentation facility, members assist in the checkout process.
The Armor Training Analysis and Feedback Team (TAF - part of the Blue Team)	Located at the Core Instrumentation facility, members assist in the checkout process.

When a controller starts the checkout process at Desert Shade he records information on an NTC log sheet, as shown in Table 4.

TABLE 4

Information recorded on NTC log sheet during checkout process at Desert Shade

REQUIREMENT	EXAMPLE
Vehicle Type	M-113
BSI Bumper Number (Contract vehicle number)	5332
B-Unit ID Number (Octal Notation)	1445
Unit Bumper Number	SC1 (Scout #1)
B-Unit ID Number (Decimal Notation)	0805

This information complete, the Micro-B unit is turned on and an event registration checkout is started.

Radio contact is established between the controller at Desert Shade and a TAF officer in the instrumentation center. The events listed in Table 5 are then conducted by these individuals.

TABLE 5

Events Conducted During Checkout Process at Desert Shade

TEST VEHICLE	TAF
Turn Micro-B Unit on	Confirms pick up of position/location signal
Key/un-key radio	Confirms signals
Fire Weapon at Target	Confirms signal pick up Confirms Firing Vector on the display
Controller fires "near miss" signal with control gun	Confirms signal pick up
Controller fires "Kill" signal with control gun	Confirms signal pick up
Controller re-sets or "resurrects" vehicle	Confirms signal pick up

TAF	CONTROLLER
Signals "Admin kill" from the instrumentation system	Confirms signal and kill
Signals "Admin resurrect" from the instrumentation system	Confirms signal and re-set

If all registration events are completed successfully, the log sheet is completed and the checkout starts on the next vehicle in line. A copy of a checkout sheet is at Appendix II, Tab F-3.

Instrumentation Initialization

At the end of the first day of check out procedures, copies of the log sheets are delivered to the instrumentation office. Using the log sheets, and the unit and player list developed from the Brigade task organization, the instrumentation office builds the first draft of the Tracking List.

A specially-developed piece of software is used to build tracking lists. The software program, called "BLDHIS", resides on the VAX computer system that supports NTC instrumentation.

Using "BLDHIS" the tracking list is developed linking the following data elements for each instrumented player:

Task Force designation

Company Designation

Platoon designation

Player [or vehicle] graphics identifier

Player type

Micro-B Unit [in both decimal & octal notation]

All players are normally logged in and finished with the instrumentation checkout by the end of the second day. The log sheets from the second day are taken to the Instrumentation Office and the data added to the draft tracking list. The completed tracking list is then verified by the senior officer in the TAF and the S-3 Observer Controller O/C in the field. Working vehicle by vehicle, the S-3 O/C in the field physically checks bumper number, BSI vehicle number, and Micro-B unit decimal number. The TAFO verifies these figures against the tracking list data. Corrections are made as necessary.

With these last minute corrections, the Instrumentation Office staff builds the final version of the tracking list. The TAFO for each team goes to his work station in the TAF and with a series of "pen down" steps installs the tracking list on the computer system and creates the "History File" for the new rotation. [See Appendix II, Tab G-2.]

A count of instrumented vehicles is established for the Core Instrumentation Subsystem (CIS). This count is compared to a second count made on the Range Data Measuring Subsystem (RDMS.) If the two counts are the same, the system initialization procedure is complete.

During the course of the training rotation vehicles break down, Micro-B Units fail and repair actions are required. After

each repair the Tracking List must be updated to accurately reflect the proper mix and type of vehicles. These actions are accomplished using the graphics tablet at the desk of the Training Analysis and Feedback Officer (TAFO).

CONCLUSION

This paper has cut across many different areas of NTC operations to describe the initialization process. While attempting to be detailed it has not been exhaustive in any specific area, e.g. logistics or graphics table operation, etc. where detailed operating procedures are required. To assist in future specification of details, a list of reference materials has been included at Appendix III.

APPENDIX I

LIST OF TERMS

AAR	After Action Review
AMEX	American Mexican Corps - Civilian contractor responsible for overall computer-enhanced instrumentation monitoring system.
"BLUE BOX"	Dual Channel Monitor
BSI	Boeing Services International
CIS 3	Core Instrumentation Subsystem
C	Command, Control, Communications
CRT	Cathode Ray Tube
CSS	Combat Service Support
CS	Combat Support
DTOC	Division TOC
DEANZA	TV-like monitor through which computer graphic representations of missions are viewed at each station in CIS II.
ES	Engagement Simulation
TB	Experimental Test Bed
GDE	General Dynamics Electronics - Civilian subcontractor to AMEX
LFX	Live-Fire Exercise
LORAL	Subsidiary of Xerox Corporation; producer of MILES
MILES	Multiple Integrated Laser Engagement System
Micro-B	Component of Vehicle Instrumentation System
NCS	Net Control Station
O/C	Observer Controller
OPORD	Operations Order
OJT	On-the-job Training
P/L	Position Location

PTCC	Position Tracking and Control Component
P & O	Plans and Operations Section
PABX	Phone Access Base Exchange - Push-button telephone/ transceiver at stations at CIS II
PE	Practical Exercise
"Rotation"	The training period that a task force undergoes at NTC.
SAI	Scientific Applications, INC. - Civilian subcontractor to AMEX
TAF	Training Analysis Feedback Division
TAFO	Training Analysis Feedback Officer
VVCEC	Voice Video Control Editing Center
VT 105	A CRT on which statistical data is displayed and interactive menus are accessed. Two per station in the CIS.

APPENDIX II

SEQUENCE OF EVENTS IN THE NTC SYSTEM INITIALIZATION PROCESS

DAY	EVENT	REFERENCE TAB
H-30	The Commander of Ft Irwin notifies the next rotational unit of the number of instrumented track vehicles that will be available for issue. Vehicle availability projections developed by BSI.	A
H-8	OPS GROUP Receives Task Organization from the player Task Force. Data passed to the Instrumentation Officer and TAFO for each Task Force.	B
	Instrumentation Office develops initial player list based upon unit task organization.	C
H-6	Instrumentation Office develops allocation and distribution plan for both Micro-B Units and Manpacks. Manpack data is prepared in memorandum format for signature by the Commander of the Operations Group.	D
H-3	Vehicle Issue to player units. Miles hardware and Micro-B Units are pre-installed and ready for operation	E
H-2	Instrumentation Check out: MILES - Loral Micro-B Units - GDE Vehicle Systems - BSI CIS - SAI & TAF staff (NOTE: Check out sheet prepared at both the check out point & at the CIS)	F
H-1	Instrumentation Check continued and a tracking list prepared is "off line" at a VAX terminal by the Instrumentation Office. When the vehicle Instrumentation check	

is complete a three way verification is conducted. O/C's in the field physically check each vehicle comparing bumper number, BSI vehicle number, and decimal Micro-B unit number. This check is compared by the TAFO and the O/C S-3 against the manual roster prepared at Desert Shade, and the final Tracking List prepared by the Instrumentation Office.

When this final comparison is complete, the final TRACKING LIST is built by the Instrumentation staff using the VAX program "BLDHIS". When this TRACKING LIST is complete it is transferred via the graphics tablet into the instrumentation system.

When SAI & GDE verify that the tracking list has been read into the system, and TAF displays appear in order, the initialization sequence is complete. G

H 0400 First TAF Briefing

- o Unit Mission
- o Concept of Operation
- o Administrative notes
- o Video and Commo update

0500 TAF inventory and image check

0600 First mission of rotation

NOTE: The initialization of OPFOR vehicles occurs as a result of direct coordination between the Operations Group, The Instrumentation Contract Team and the TAF. This normally occurs between H-5 and H-3.

TAB A presents an example of a message sent by the Commander, Fort Irwin to the Brigade Commander of the next Rotational Unit. This message provides planning data and guidelines.

JOINT MESSAGEFORM | UNCLASSIFIED

PAGE	DTG/RELEASER TIME			PRECEDENCE		CLASS	SPECAT	LMF	CIC	ORIG/MSG IDENT
	DATE-TIME	MONTH	YR	ACT	INFO					
01 OF 03	111800Z	APR	85	PP	PP	UUUU				AFZJ-DCS

BOOK | MESSAGE HANDLING INSTRUCTIONS

FROM: CDR NTC FT IRWIN CA //AFZJ-DS//

TO: CDR 197TH INF BDE (MECH) (SEP) FT BENNING GA //AFVE-X0//

INFO CDR FORSCOM FT MCPHERSON GA //AFOP-TA/AFLG-FM//

UNCLAS

SUBJECT: NTC 30-DAY EQUIPMENT ESTIMATE - 197TH INF BDE (MECH)

A. CDR NTC, AFZJ-DS, MSG 252000 FEB 85, "NTC 90-DAY EQUIPMENT ESTIMATE - 197TH INF BDE (MECH)"

B. VEHICLE INSTRUMENTATION PLAN FOR ROTATION 85-9, 22 FEB 1985

1. REF A WAS ESTUNATE IF VEGUCKES THAT WQULD BE AVAILABLE TO SUPPORT ROTATION 85-9. REF B IS THE ROTATION VEHICLE INSTRUMENTATION PLAN. THIS MSG UPDATES BOTH REF A AND B.

2. THE FOLLOWING INSTRUMENTED TRACKED VEHICLES ARE PROJECTED TO BE AVAILABLE FROM THE NTC EQUIPMENT SUPPORT DIVISION FOR ROTATION 85-9, MAY 85. (READ IN FOUR COLUMNS)

MAJOR END ITEM	ROTATIONAL BRIGADE AUTHORIZED	NTC PROVIDES	INSTRUMENTED SHORTFALL
TANK, CBT M60A3	56	56	0
CARR, TOW M901/M220	26	26	0

DISTR:
DCS
C, MMC
ESD MGR, BSI
OPS GP, PLANS & OPS
[redacted] INSTRUMENTATION

DRAFTER TYPED NAME, TITLE, OFFICE SYMBOL, PHONE
RAYMOND J. STRILER, LTC
AFZJ-DS, 3335

SPECIAL INSTRUCTIONS

RELEASER: TYPED NAME, TITLE, OFFICE SYMBOL AND PHONE
WILLIAM B. MERRILL, COL, DCS, 3667

SIGNATURE
William B. Merrill

SECURITY CLASSIFICATION
UNCLASSIFIED

DATE TIME GROUP
111801Z APR 85

11 APR 85 19 05Z

DD FORM 1 MAR 73 173/2 (OCR) PREVIOUS EDITION IS OBSOLETE S/N 0102-LF-000-1735 ★ U.S. GPO 1980—319-731 E 2193 321

PAGE 02 OF 03

DATE-TIME	MONTH	YR	ACT	INFO					
					UUUU				AFZJ-DCS

PRIOR

MESSAGE HANDLING INSTRUCTIONS

CARR, PERS M113	82	82	0
CARR, AMB M113	14	14	0
CARR, CP M577	10	10	0
CARR, RATT M577/VSC-3	2	2	0
CEV, M728	2	2	0
REV VEH, M578	4	~~4~~	0
REC VEH, M88	10	~~5~~	5

3. THE ABOVE "ROTATIONAL BRIGADE AUTHORIZED" COLUMN SHOWS ONLY INSTRUMENTED QUANTITIES. NON-INSTRUMENTED QUANTITIES ARE NOT INCLUDED. SPECIFIC BY POSITION INFORMATION CONCERNING WHICH TRACKED VEHICLES ARE TO BE INSTRUMENTED OR NON-INSTRUMENTED HAS BEEN PROVIDED IN THE VEHICLE INSTRUMENTATION PLAN FOR YOUR ROTATION. UNITS SHOULD PLAN ON SHIPPING TO THE NTC BOTH THE INSTRUMENTED VEHICLE SHORTFALL AND ALL OTHER NON-INSTRUMENTED VEHICLES EXCEPT AS NOTED IN PARA 4 BELOW. TRACKED VEHICLES BROUGHT FROM HOME STATION WHICH REQUIRE MILES MUST COME WITH VELCRO AFFIXED IAW THE MILES MANUAL. INSTRUMENTED TRACKED VEHICLE QUANTITIES SHOWN IN THIS MSG ARE BASED ON REQUIREMENTS FOR A DIV 86 CONFIGURED ROTATIONAL BRIGADE.

4. ADDITIONAL ITEMS OF EQUIPMENT TO BE PROVIDED BY NTC. (READ IN TWO COLUMNS)

DISTR:

DRAFTER TYPED NAME, TITLE, OFFICE SYMBOL, PHONE

SPECIAL INSTRUCTIONS

RELEASER

TYPED NAME, TITLE, OFFICE SYMBOL AND PHONE
WBM

SIGNATURE
WBM

SECURITY CLASSIFICATION
UNCLASSIFIED

DATE TIME GROUP
1118012 APR 85

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02 OF 03						UUUU				AFZJ-DCS

BOOK

MESSAGE HANDLING INSTRUCTIONS

MAJOR END ITEM	QUANTITY
TRK, M885 W/TRQ-32	2
TRK, WATER, 1000 GAL, M50	5
FORKLIFT, R/T, 10K	5
REEFER, VAN, 9000BTU (UNIT PROVIDES PRIME MOVERS)	2
PADS (UNIT PROVIDES JEEP)	1
AVLB (UNIT PROVIDES LAUNCHERS	2
TRLR, ASL VAN (UNIT PROVIDES PRIME MOVERS)	5
WASTE OIL POD, 600 GAL (UNIT PROVIDES 1 1/2 TON TRAILER)	5
BATH UNIT 8 SHOWER HEADS, PORTABLE (NOTE 1)	1
LAUNDRY UNIT PORTABLE TRAILER MOUNTED 60 LB CAPACITY (NOTE 1)	1

NOTE 1. (UNIT PROVIDES OPERATORS, GENERATOR, TENTAGE, PRIME MOVERS, AND MISC LAUNDRY SUPPLIES).

5. POC THIS HQ IS LTC STRILER, SPT LNO, AV 470-3335.

DISTR:

DRAFTER'S TYPED NAME, TITLE, OFFICE SYMBOL, PHONE	SPECIAL INSTRUCTIONS
TYPED NAME, TITLE, OFFICE SYMBOL AND PHONE: WBM	
WBM	SECURITY CLASSIFICATION: UNCLASSIFIED
	DATE TIME GROUP: 111801Z APR 85

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TAB B presents two sets of materials:

B-1 is an example of a unit task organization plan extracted from an operations order. Written comments are TAFO planning notes for setting up the graphics tablet.

B-2 is extracted from the existing SOP from TAF-2. Duties described are considered correct.

Annex B (Task Organization for NTC) to OPLAN A (Preparation)

TF 1-58

1-58 Mech (-) < A Co Mech, C Co Mech
A/15 CAV (Tank Company)
B/2-69 AR
2nd Plt/72 Engr
1 FIST Squad
5 Redeye TMS
FSE
AT Co ?

TF 3-7

3-7 Mech (-) < A Co mech, C Co mech
A/2-69 AR
D/2-69 AR
1st Plt/72 Engr
1 FIST Squad
5 Redeye TMS
FSE
AT Co ?

*BDE CONTROL

2-10 FA Bn (-)
197th Spt Bn (-)
72d Engr Co (-)
D/229 ATK Hel Co
C/4-1st ADA (Chap/Vuk)
Redeye Plt (-)
298 Sig
179 MID (-) GSR
HHC Bde
169 & 171 Chem
Comp. Plt, 311 MI Bn
197th Avn Det
197th MP Plt
1-84th Chem Smoke Co
485 MI Det (-)
Det 4, 507 TAIRCW

*Attached unit designation under Bde control have not been finalized.

Button	Unit
A	A 1-58 Mech
B	B/2-69 Ar
C	C 1-58 mech
D	AT/1-58 Mech
CA	A/15 CAV

Button	
A	A 3-7 mech
B	AT/3-7 Mech
C	C 3-7 mech
D	D 2-69 Ar
CA	A/2-69 Ar

TAI

Instrumentation Responsibilities.

1. Introduction: The Personnel Management Plan for the NTC Operations Group, 15 Aug 80, envisioned the now defunct Exercise Management Section participating in instrumentation operations extensively. Since the advent of the Plans and Operations Division, instrumentation operations have been almost exclusively a TAF function. As the instrumentation system comes on line, reassessment of instrumentation responsibilities is necessary to ensure effective operations are conducted.

2. Instrumentation responsibilities have been assigned as follows:

   a. Plans and Operations Division:

      (1) Input OPFOR graphics into the computer. TAF will assign a block of twenty control measure numbers to accomplish graphics input.

      (2) Inventory OPFOR vehicles. Using the regimental deadline report provided by the OPFOR, Plans and Operations will inventory the OPFOR vehicles displayed by bumper number. Problems will be resolved with the OPFOR LNO. The deadline report will be forwarded to the TAF Instrumentation Officer and CIS I and II Combat Training Analysis Officers.

      (3) Receive, analyze, post and maintain OPFOR orders on file. Provide CIS I and II orders, as required. TAF Artillery will be provided the OPFOR fire support plan.

      (4) Receive, analyze, post and maintain BLUEFOR Brigade orders. Provide CIS I and II orders, as required. TAF Artillery will be provided the Brigade fire support plan.

      (5) Provide BLUEFOR task organization (Task Force) to the Instrumentation Officer two weeks prior to the rotation.

      (6) Determine and maintain OPFOR notional artillery locations on the situation maps. Provide to TAF Artillery and the OPFOR regimental headquarters the locations of the artillery units. (See 2b[7])

      (7) Kill and resurrect OPFOR vehicles in accordance with the rules of engagement.

      (8) Process BLUEFOR attack helicopter/CAS engagements against the OPFOR. Assess OPFOR casualties, as required. Conversely, process OPFOR of BLUEFOR helicopters and CAS.

      (9) Take action against OPFOR units/vehicles out of sector by either warning the OPFOR or assessing casualties from friendly or enemy adjacent unit fire.

      (10) Assist O/Cs in assessing OPFOR minefield casualties, if required.

(11) Resurrect OPFOR players.

b. Training Analysis Feedback Division:

(1) Conduct instrumentation checks on OPFOR vehicles.

(2) Task organize each instrumented task force in accordance with the unit task organization.

(3) Instrument/uninstrument players.

(4) Move uninstrumented players on the graphic display.

(5) Move players from one history to another.

(6) Input BLUEFOR graphics.

(7) Input and move OPFOR notional artillery locations.

(8) Input and process FASCAM minefield missions.

(9) Input and control all WHITEFOR into the computer.

(10) Receive, process and maintain BLUEFOR task force orders.

(11) BLUEFOR control:

(a) Take action, in conjunction with C/Cs and TAFO guidance, on out of sector BLUEFOR units/vehicles.

(b) Kill BLUEFOR only on order of TAFO.

(c) Resurrect BLUEFOR as required, based upon coordination with O/C.

(d) Inventory BLUEFOR.

(e) Assist C/Cs in assessing BLUEFOR casualties from OPFOR minefields as directed by TAFO.

(12) Input OPFOR NBC graphics.

(13) Process OPFOR attack helicopter and CAS engagements against the BLUEFOR in conjunction with O/Cs and TAFO.

(14) Process artillery missions IAW Annex L to this SOP, to include:

(a) BLUEFOR artillery on BLUEFOR.

(b) OPFOR artillery on BLUEFOR.

(c) BLUEFOR artillery on OPFOR.

TAB C is a constructed facsimile of a unit and player list. This list forms the first part of the tracking list developed during system initialization.

This is the Blue Task Organization
for file 8509A0

Battalion	Company	Platoon	Player	Player Type	Instrumentation Decimal/Octal
1ST-05o (2o)					
		SCT/1ST-058 (56)			
			SC1		
			SC2		
			SC3		
			ST1		
			ST2		
			ST3		
		4.2/1ST-058 (57)			
			FD1		
			FD2		
		MANP/1ST-058 (60)			
			VL1		
			VL2		
			VL3		
			VL4		
		ENG/1ST-058 (61)			
			E01		
			E02		
			E03		
			CEV		
	TOC/1ST-058 (55)				
			AF1		
			AF2		
			AF3		
			AF4		
			AF5		
			AF6		
			AF7		
			CDR		
			H06		
			H05		
			H03		
			S02		
			TOC		
	ARTY/1ST-056 (o6)				
			DSA		
		.ART/1ST-055 (47)			

TAB D presents an example of an Operations Group Memorandum that outlines the actions and responsibilities of various units concerning Manpack and Micro-B Units. The Manpack assignment tables contained in this memo become a critical part of system initialization and subsequent player tracking.

x use of this form, see AR 340-15, the proponent agency is TAGO.

ERENCE OR OFFICE SYMBOL	SUBJECT
ATXY-TAF	Manpack Distribution TAF2

TO	FROM	DATE	CMT 1
SEE DISTRIBUTION	Chief, Operations Group	30 April 85 CPT Bielefeldt/lk/5092	

1. The following is the NTC-IS Manpack distribution for the May training period. Manpacks will be issued to designated elements and assigned to specific positions in accordance with this plan.

2. BLUFOR elements will be issued Manpacks by GDSC (General Dyanmics Service Co) on 5 May 85 at 1300 hrs to 1400 hrs at unit box cars in the BSI issue area. The designated company will then receipt Manpacks to the designated user. HHC will hand-receipt Manpacks for all attached elements.

3. OPFOR Manpacks will be issued at GDSC trailer.

4. Manpacks with an asterisk (*) are equipped with a man-worn laser detector (MWLD).

5. Battery Distribution:

a. Operations Group support section will deliver the initial issue of lithium batteries for installation to unit box cars in BSI issue area on 5 May 85 at 1300 hrs to 1400 hrs. The designated company will then receipt batteries from Ops Group support section and for issue to designated user. BLUFOR units will be resupplied with batteries by assigned O/Cs in the field. Manpacks must be turned off prior to battery replacement or substitution.

b. Observer Controllers (OC) will draw Manpacks and batteries from the Operations Group Support Section (Bldg. 930, Phone 5023).

c. OPFOR elements will draw batteries from their respective supply sections and requisition as appropriate.

d. All batteries must be accounted for and returned to the initial source of issue at the end of the training period.

e. Average battery life is twenty-four (24) hours.

6. All Manpacks must be mounted in an upright position on the exterior of assigned vehicles when vehicles report for instrumentation checkout. Manpacks assigned for dismounted operations must be carried during all dismounted operations. If a Redeye or Dragon is dismounted or moved to another vehicle, the assigned Manpack must remain as part of Redeye or Dragon.

7. All Manpacks will undergo instrumentation checkout during the times designated for vehicle instrumentation checkout. O/Cs will verify that Manpacks are distributed and in possession of designated users.

8. Manpacks will be turned in to GDSC at the Desert Shade on the north side of the issue yard on day two of turn-in beginning at 0900 hours. Batteries will be turned in at building 930 supply room.

ATXY-TAF

30 April 1985

SUBJECT: Manpack Distribution

9. POC: CPT Bielefeldt, Phone 5092.

for Warren P. Haugen LTC XO
WESLEY K. CLARK
COL, AR
Commander, Operations Group

DISTRIBUTION:

1 COG
2 TAF 1
2 TAF 2
2 Fire Support Division
2 SMOKE PLT
15 O/C TEAMS
2 SUPPORT SECTION
2 // 6/31
2 // 1/73
10 GDSC
2 DCS
2 MILES WAREHOUSE
2 COR
6 MECH TASK FORCE (1-58)
6 MECH TASK FORCE (3-7)
2 P&O
2 Artillery Unit

UNIT QUANTITY	MANPACK NUMBER	SERIAL	VEHICLE POSITION	ISSUE TO
OPFOR	14			
		001	MP 1	6/31st
		002	MP 2	"
		003	MP 3	"
		004	MP 4	"
		006	MP 6	"
		009	MP 9	"
		010	M 10	"
		012	M 12	"
		098	M 98	"
		044	M 44	"
		096	M 96	"
		097	M 97	"
		005	MP 5	"
		015	M 15	"
OPS GROUP				
LIVE FIRE O/C	3	093	D 15	OPS GROUP
		088	D 17	"
		063	D 20	"
ARMOR O/C	3	030	C 15	"
		099	C 20	"
		100	C 20A	"

UNIT QUANTITY	MANPACK NUMBER	SERIAL	VEHICLE POSITION	ISSUE TO
INFANTRY O/C	4	031	S 15	"
		107	S 20	"
		055	S 20A	"
		071	S 02	"
FIRE MARKERS	12	095	21 N	TAF ARTY
		011	21 F	"
		105	21 G	"
		085	21 H	"
		078	21 I	"
		017	21 J	"
		064	21 K	"
		062	21 L	"
		033	21 O	"
		046	21 P	"
		094	21 Q	"
		019	21 A	"
SMOKE PLATOON	6	022	64 H	SMK PLT
		023	64 G	"
		024	64 I	"
		025	66 I	"
		026	66 G	"
		027	66 H	"

UNIT QUANTITY	MANPACK NUMBER	SERIAL	VEHICLE POSITION	ISSUE TO
ARTY BN	3	113	DSA	A BATTERY
		047	DSB	B BATTERY
		112	DSC	C BATTERY
1-58th MECH TASK FORCE				
CDR	1	073	CDR	HHC
VULCAN	4	119	VL1	HHC
		013	VL2	"
		056	VL3	"
		058	VL4	"
INFANTRY PLATOONS DISMOUNTED (OPS)				
	6*	111	GA1	A CO
	*	117	GA2	"
	*	007	GA3	"
	*	103	GC1	C CO
	*	118	GC2	"
	*	110	GC3	"

UNIT QUANTITY	MANPACK NUMBER	SERIAL	VEHICLE POSITION	ISSUE TO
3-7th MECH TASK FORCE				
VULCAN	4	035	VL1	HHC
		051	VL2	"
		042	VL3	"
		048	VL4	"
INFANTRY PLATOON (DISMOUNTED OPS)				
	6*	037	GA1	A CO
	*	068	GA2	"
	*	045	GA3	"
	*	075	GC1	C CO
	*	089	GC2	"
	*	091	GC3	"
GSR	3	074	GR1	HHC
		061	GR2	"
		059	GR3	"
AT PLATOON LEADER	3	060	E16	E CO
		077	E26	"
		032	E36	"
AT TOWS	2	083	E13	E CO
		016	E23	"

TAB E presents two logistics planning sheets that illustrate vehicle issue schedules and instrumentation check out. Additional logistics information is available in the document entitled the "Rotational Brigade Equipment Reference Data Guide". This document is issued to all scheduled rotational units.

E-1 is extracted from the NTC Support Letter of Instruction. It schedules both unit advance party activities and unit vehicle issue activities.

E-2 is an example of the NTC 20 day rotation sequence. In May 1985 a 24 day rotation schedule was started. This schedule will be available in the near future.

ANNEX C (ARRIVAL & EQUIPMENT ISSUE SEQUENCE) to NTC SPT LOI

ADVANCE PARTY DAY 1

ADVANCE PARTY ARRIVES

OPEN SUPPLY ACCOUNTS

DCS ORIENTATION BRIEFING

BEGIN TRAIN OFF-LOAD

ADVANCE PARTY DAY 2

MAINTENANCE/SUPPLY ORIENTATION CLASSES

OPEN SUPPLY ACCOUNTS

EQUIPMENT POOL ISSUE

TRAIN OFF-LOAD

ADVANCE PARTY DAY 3

EQUIPMENT POOL ISSUE

BOX CAR ISSUE

ASL ISSUE

MILES ISSUE

TRAIN OFF-LOAD COMPLETED

ADVANCE PARTY DAY 4

VEHICLE FLEET INVENTORY

PLL ISSUE

ASL ISSUE

TURN-IN/CLASS IX BRIEFBACK

MILES INSTALLATION ON BROUGHT-BY-UNIT VEHICLES

MANPACK ISSUE

MILES ISSUE

MAIN BODY CLOSES

ISSUE DAY 1

VEHICLE FLEET LINE TI & ISSUE

PLL ISSUE

CREW SERVED WEAPONS ISSUE

MILES INSTALLATION ON BROUGHT-BY-UNIT VEHICLES

INTEGRATED INSTRUMENTATION CHECK

ISSUE DAY 2

VEHICLE FLEET LINE TI & ISSUE

CREW SERVED WEAPONS ISSUED

MILES INSTALLATION ON BROUGHT-BY-UNIT VEHICLES

INTEGRATED INSTRUMENTATION CHECK

TRAINING DAY 1

INTEGRATED INSTRUMENTATION CHECK (WRAP UP)

MOVE TO FIELD

BEGIN TRAINING

ANNEX A (20-DAY ROTATION MODEL) to NTC SPT LOI

FFT = Force-on-Force Training LFT = Live Fire Training

DAY	TF1	TF2
	Advance Party	Advance Party
Day 1	Draw Vehicles	Draw Vehicles
Day 2	Draw Vehicles	Draw Vehicles
Day 3	Move/FFT	Move/FFT
Day 4	FFT	FFT
Day 5	FFT	FFT
Day 6	FFT	FFT
Day 7	LFT*	FFT
Day 8	LFT*	FFT
Day 9	LFT	FFT
Day 10	LFT	FFT
Day 11	LFT	FFT
Day 12	FFT	LFT*
Day 13	FFT	LFT*
Day 14	FFT	LFT
Day 15	FFT	LFT
Day 16	FFT	LFT
Day 17	Maint/Turn-in	Maint/Turn-in
Day 18	Maint/Turn-in Redeploy	Maint/Turn-in Redeploy
Day 19	Maint/Turn-in Redeploy	Maint/Turn-in Redeploy
Day 20	Maint/Turn-in Redeploy	Maint/Turn-in Redeploy
	Rear det/Redeploy	Rear det/Redeploy

*Rear Assembly Area/Range 17

TAB F presents material relevent to the vehicle and instrumentation checkout procedure.

F-1 The material presented is extracted from the TAF 2 SOP and addresses the duties and responsibilities of specific members of the staff during the instrumentation checkout.

F-2 Two sheets have been presented from the NTC Support Letter of Instruction. This material contains diagrams of "Desert Shade" area and addresses the transition from the equipment issue to the instrumentation checkout.

F-3 This material is a copy of an actual checkout log filled in during a 1985 rotation.

Instrumentation Checkout Operations

1. TAFC/C^3: Receives dates for CPFCR and BLUEFCR instrumented vehicles checkout from the TAF Instrumentation Officer. Provides dates to CIS II Assistant S^3, Training.

   a. Instrumentation Officer is responsible for insuring contractor support is available at the checkout point and in the PTCC.

   b. Instrumentation Officer is single point of contact for coordination with the CPFCR during checkout.

2. Initial Planning:

   a. C^3 Analyst:

      (1) Obtains unit task organization from Combat Training Analysis Officer or Instrumentation Officer and estimates requirements for manpacks to insure all operating systems are instrumented.

      (2) Coordinates with Instrumentation Officer in development of the Manpack Distribution List.

      (3) Obtains from Instrumentation Officer:

         (a) Instrumented Track Vehicle Listing.

         (b) Tracking List.

         (c) Manpack Distribution List.

      (4) Coordinates and implements all changes to checkout for CIS II.

      (5) Provide detailed briefing to designated team chiefs.

   b. S1:

      (1) Insures adequate supply of checkout sheets (Annex D) are on hand for distribution.

      (2) Insures reproduction capability is available during checkout period.

   c. S3 Training:

      (1) Develops and publishes team schedule for checkout.

      (2) Insures personnel requiring system training are identified and scheduled for that training.

   d. S4/Transportation Officer:

      (1) Insures transportation is available and operational.

(2) Insures radio is available and operational.

(3) Provides supplies as required.

e. Team Chiefs:

(1) Schedule team personnel for checkout.

(a) OPFOR checkout: Minimum of one trained individual to man the PTCC.

(b) BLUEFOR checkout: Minimum of one trained individual for PTCC and one trained individual for the checkout point.

(2) Insure a detailed briefing regarding all aspects of checkout procedures is given to team members.

f. Commo Coordinator: Obtains and verifies frequencies for checkout, and insures those frequencies are distributed to all Team Chiefs.

3. Procedures:

a. C^3 Analyst:

(1) Single point of contact for resolution of all problems.

(2) Obtains copy of daily Tracking List from Instrumentation Officer.

(3) Consolidates and maintains all checkout sheets for CIS II.

(4) Conducts final coordination with Deputy C/C, Maneuver, to verify/purify checkout sheets; insures all names of vehicles/manpacks are verified.

(5) Provides verified, complete checkout list to Instrumentation Officer and Combat Training Analysis Officer.

(6) Prior to 1st mission, provides copy of Tracking List/checkout sheets to each station.

(7) The TAFC and C^3 Analyst, CIS II is the only authority for changes to manpack distribution for the Armor Task Force.

b. Teams:

(1) PTCC:

(a) Insures one trained individual is on duty in PTCC throughout scheduled checkout periods.

(b) Assist GDE:

- interacts with C/Cs/analysts at checkout point via radio.

- obtains data and complete forms provided by GDE, leaving forms with GDE at close of business daily.

(c) Keeps C^3 Analyst informed of checkout status (number of vehicles complete, any deviations from orginal plan [i.e., manpack distribution, unit vehicle substitutions, unit not drawing assigned vehicles, loss of communications, lack of contractor support at checkout site or PTCC, unit no shows, etc.]).

(2) Checkout Point:

(a) Insures minimum of one trained individual is at the checkout point NLT 30 minutes prior to start of checkout to conduct: Commo check with PTCC, insure adequate line set-up, coordinate with GDE for availability of assigned manpacks. (Manpacks are to be issued with batteries.)

(b) Picks up Daily Tracking List from C^3 Analyst before start of checkout each day.

(c) Keeps PTCC informed of all problems at checkout point.

(d) Coordinates and works with O/Cs to obtain and verify all data required for checkout sheets (Annex D). Insures data is entered legibly and accurately in the appropriate columns of the form. Utilize Ø for zero, 1 for one, 7 for seven when recording numbers.

(e) At CCE daily, the last CIS II member with the checkout sheets will make 2 Xerox copies of those sheets. Disposition of the originals and copies:

- Original checkout sheets passed on to relieving team for continuation of checkout the next day.

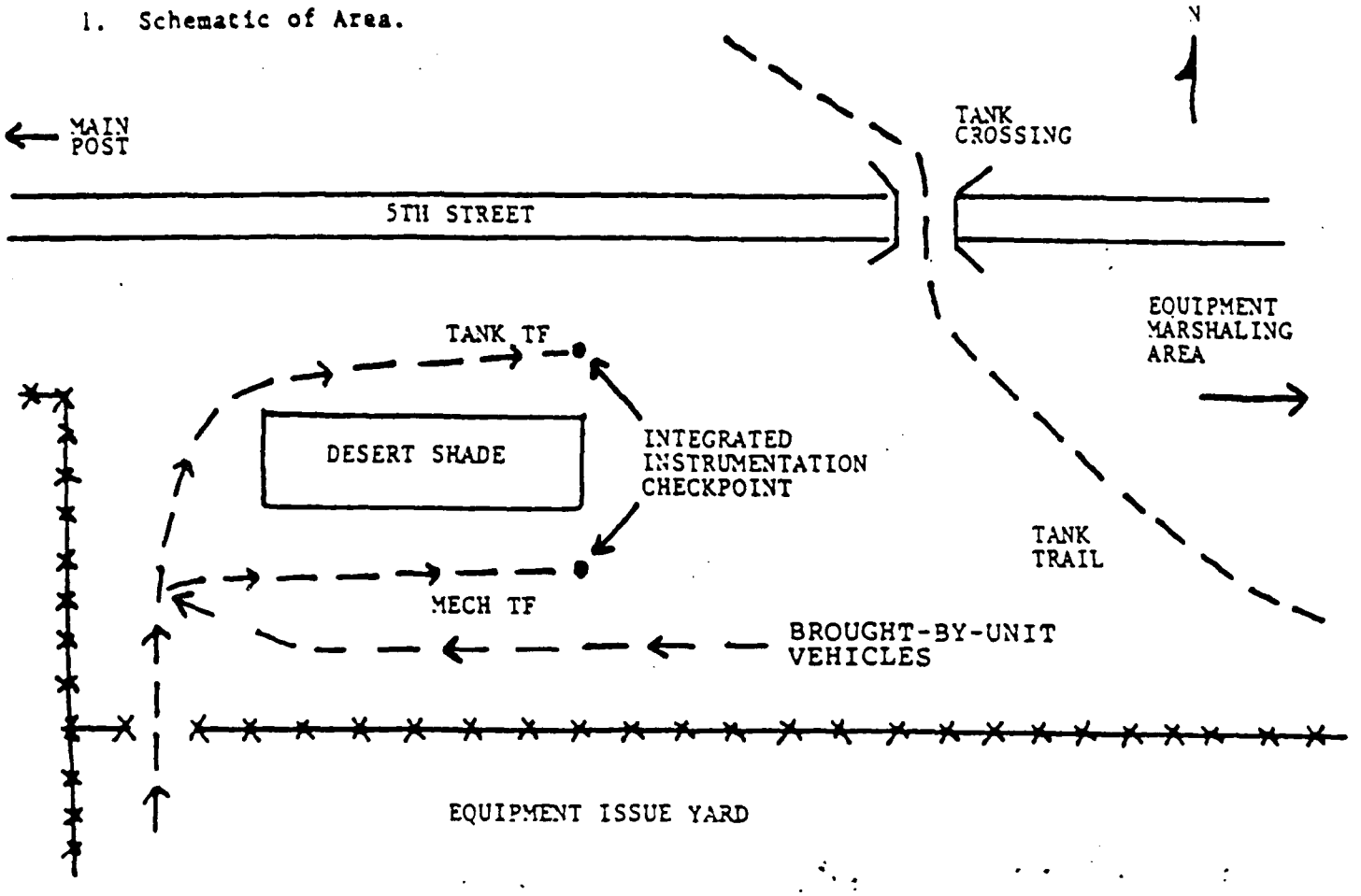
- One copy left with C^3 Analyst.

- One copy left with Instrumentation Officer.

(3) Team Chiefs will insure relieving teams are provided a detailed briefing regarding all aspects of checkout occurring during their shift.

ANNEX F (INTEGRATED INSTRUMENTATION CHECKOUT) to NTC SPT LOI

1. Schematic of Area.



2. Procedures.

a. All MILES-equipped vehicles, instrumented vehicles and instrumentation manpacks must report to the designated battalion task force checkpoint for a complete system check. Manpacks assigned to a vehicle or DRAGON must go through the checkpoint with that vehicle or DRAGON.

b. The NTC will establish and man the checkpoints. NTC Ops Gp will conduct the checkouts and verify/record vehicle assignments for both NTC and brought-by-unit vehicles. A MILES contact team and instrumentation contact team will be available to make on-the-spot corrections.

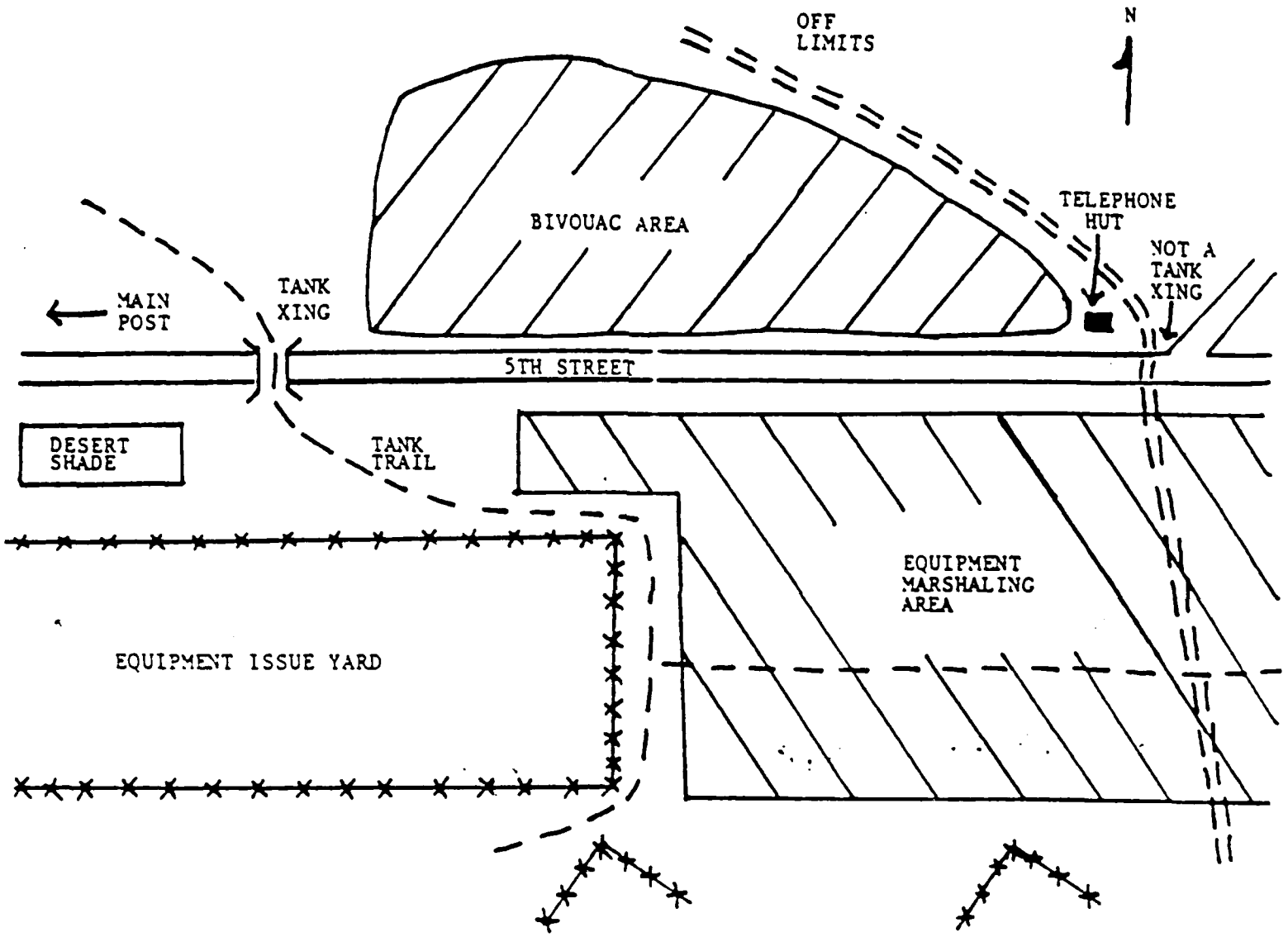
c. The battalion task force must be prepared to correct any automotive, communications and fire control problems discovered during the checkout.

d. To avoid a bottleneck at the checkpoint, the following rules apply.

(1) Vehicles have 15 minutes to depart the equipment issue yard once accepted and cleared for departure. Units must not attempt to have all their vehicles leave the issue yard at one time. They will only wait in line longer.

ANNEX G (MARSHALING AND BIVOUAC AREA) to NTC SPT LOI

1. Marshaling and Bivouac Area Schematic.



2. Procedures.

a. IMPORTANT - Rotational units must employ a quartering party as they would before moving into any new location. The quartering party should layout and mark both the bivouac and marshaling areas before occupation. Particular attention must be paid to the equipment marshaling area to ensure that vehicles have ample space to park and move in and out of the area in a safe manner.

b. Personnel must sleep in the designated bivouac area.

c. Both NTC and brought-by-unit vehicles will be marshaled in the designated equipment marshaling area. Tracked vehicles are not permitted in the bivouac area.

FRAGO K

UNIT HHC / 1-52 IX (TF 1-52)

CIS-II-1

BCI BUMPER #	B-UNIT ID NUMBER OCTAL	UNIT BUMPER NUMBER	MILES CHECK: MANUAL MILES CHECKS DECIMAL	MILES CHECK: B-UNIT "ON"	EVENT REGISTRATION: COMMO	POS LOC	WPNS FIRE	ADMN KILL	ADMN RESUR	CONT N/M	CONT KILL	CONT RESUR	NOTE
		HHC	871	✓	✓	✓	—	✓	✓	✓	✓	✓	
		HHC											
		HHC	875	✓	✓	✓	—	✓	✓	✓	✓	✓	
		CDR	946	✓	—	✓	—	—	—	—	—	—	
		S02	720	✓	✓	✓	—	✓	✓	✓	—	✓	
		TOC	661	✓	✓	✓	—	✓	✓	✓	✓	✓	
		S1H	929	✓	NO B-UNIT				GDE		Check-out		
		RTT	977	✓	✓	✓	—	✓	✓	✓	✓	✓	
		DV1	✓	—	—	—	—	—	—	✓	✓	✓	
		DV7	✓	—	—	—	—	—	—	✓	✓	✓	
		DV3	✓	—	—	—	—	—	—	✓	✓	✓	
		DV4	✓	—	—	—	—	—	—	✓	✓	✓	
		DV5	✓	—	—	—	—	—	—	✓	✓	✓	
		DV6	✓	—	—	—	—	—	—	✓	✓	✓	
		DV7		—	—	—	—	—	—				
		S61	885	✓	✓	✓	—	✓	✓	✓	✓	✓	
		S71	577	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		S72	929	✓	✓	✓	—	✓	✓	✓	✓	✓	
		S73	890	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		S74	878	✓	✓	✓	—	✓	✓	✓	✓	✓	
		S75	951	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		FA1	861	✓	✓	✓	—	✓	✓	✓	✓	✓	
		FA2											

UNIT HHC / 1-58X (TF 1-58)

CIS-II-

	3SI BUMPER #	B-UNIT ID NUMBER	UNIT BUMPER NUMBER	MILES CHECK: MANUAL MILES CHECKS	MILES CHECK: B-UNIT "ON"	EVENT REGISTRATION: COMMO	POS LOC	WPNS FIRE	ADMN KILL	ADMIN RESUR	CONT N/M	CONT KILL	CONT RESUR	NOT
1	MT PLT													
2		UNINST	H87											
3		UNINST	H88											
4		UNINST	H89											
5	HHC CO	PLT												
6	5422	1532	ED1	858	✓	✓	✓	—	✓	✓	✓	—	✓	
7			ED2											
8			ED3											
9			CEV											
10	CAV PLT.													
11			VL1											
12			VL2											
13			VL3											
14			VL4											

UNIT E/ 1-5P.X (AT-TOW) (TF 1-5P)

CIS-II

E	BSI BUMPER #	B-UNIT ID NUMBER	UNIT BUMPER NUMBER	MILES CHECK: MANUAL MILES CHECKS	MILES CHECK: B-UNIT "ON"	EVENT REGISTRATION: COMMO	POS LOC	WPNS FIRE	ADMN KILL	ADMN RESUR	CONT M/M	CONT KILL	CONT RESUR	N
3			E66											
13		UNINST	E65											
13		UNINST	E89											
		UNINST	E88											
01			E11											
01			E12											
01			E13											
01			E14											
3		UNINST	E16											
			E21											
			E22	✓										
	816	1640	E23	928	✓	✓	✓	✓	✓	✓	✓	✓	✓	
01			E24											
3		UNINST	E26											
01			E31											
01			E32											
01			E33											
			E34											
13		UNINST	E36											

UNIT A / 1-58 MECH (TF 1-58)

CIS-II-

	BSI BUMPER #	B-UNIT ID NUMBER	UNIT BUMPER NUMBER	MILES CHECK: MANUAL MILES CHECKS	MILES CHECK: B-UNIT "ON"	EVENT REGISTPATION: COMMO	POS LOC	WPNS FIRE	ADMN KILL	ADMN RESUR	CONT M/M	CONT KILL	CONT RESUR	NOT
2	4231	1465	16A	773	✓	✓	✓	—	✓	✓	✓	✓	✓	
3	4231	1230	15A	664	✓	✓	✓	—	✓	✓	✓	✓	✓	
3		UNINST	09A											
3		UNINST	44A											
3			16A		-									
13	5911	1574	11A	892	✓	✓	✓	—	✓	✓	✓	✓	✓	
13	5323	UNINST	12A	✓	—	—	—	—	—	—	✓	✓	✓	
13	5901	UNINST	13A	✓	—	—	—	—	—	—	✓	✓	✓	
P	111	1655	GA1	941	✓	—	✓	—	—	—	✓	✓	✓	
13			26A											
13	6041	1335	21A	733	✓	✓	✓	—	✓	✓	✓	✓	✓	
2	5520	UNINST	22A	✓	—	—	✓	—	—	—	✓	✓	✓	
13	5510	UNINST	23A	✓	—	—	—	—	—	—	✓	✓	✓	
P			GA2											
13	5522	1437	36A	543	✓	✓	✓	—	✓	✓	✓	✓	✓	
13	5530	1762	31A	1010	✓	✓	✓	—	✓	✓	✓	✓	✓	
13	5524	UNINST	32A	✓	—	—	—	—	—	—	✓	✓	✓	
13	5520	UNINST	33A	✓	—	—	—	—	—	—	✓	✓	✓	
P	0054	1765	GA3	643	✓	—	✓	—	—	—	✓	✓	✓	
2			AT1											
91			AT2											

UNIT C/1-58 MECH (TF 1-55)

CIS-II

E	2SI BUMPER #	2-UNIT ID NUMBER	UNIT BUMPER NUMBER	MILES CHECK: MANUAL MILES CHECKS	MILES CHECK: B-UNIT "ON"	EVENT REGISTRATION: COMMO	POS LOC	WPNS FIRE	ADMN KILL	ADMIN RESUR	CONT N/M	CONT KILL	CONT RESUR	N
3	4632	1545	16C	869	✓	✓	✓	—	✓	✓	✓	✓	✓	
3	3504	1255	65C	685	✓	✓	✓	—	✓	✓	✓	✓	✓	
3	5513	UNINST	89C	✓	—	—	—	—	—	—	✓	✓	✓	
M	7614	UNINST	88C	—	—	—	—	—	—	—	—	—	—	
13	4642	1415	16C	781	✓	✓	✓	—	✓	✓	✓	✓	✓	
13	5321	1656	11C	942	✓	✓	✓	—	✓	✓	✓	✓	✓	
13	5500	UNINST	12C	✓	—	—	—	—	—	—	✓	✓	✓	
13	5523	UNINST	13C	✓	—	—	—	—	—	—	✓	✓	✓	
1P	103	1562	6C1	882	✓	—	✓	—	—	—	—	—	—	
113	4421	UNINST	26C	✓	—	—	—	—	—	—	✓	✓	✓	
113	5090	1621	21C	913	✓	✓	✓	—	✓	✓	✓	✓	✓	
113	5700	1740	22C	992	✓	✓	✓	—	✓	✓	✓	✓	✓	
113	5330	UNINST	23C	✓	—	—	—	—	—	—	✓	✓	✓	
1P			6C2											
113	5110	1145	36C	613	✓	✓	✓	—	✓	✓	✓	✓	✓	
13	5521	1050	31C	582	✓	✓	✓	—	✓	✓	✓	✓	✓	
3	5331	UNINST	32C	✓	—	—	—	—	—	—	✓	✓	✓	
3	5175	UNINST	33C	✓	—	—	—	—	—	—	✓	✓	✓	
1P			6C3											
1P			CT1											
1P			CT2											

UNIT ?/2-4?? (TF-82)

PIS-II-

	PSI BUMPER #	B-UNIT ID NUMBER	UNIT BUMPER NUMBER	MILES CHECK: MANUAL MILES CHECKS	MILES CHECK: B-UNIT "ON"	EVENT REGISTPATION: COMMO	POS LOC	WPNS FIRE	ADMN KILL	ADMIN RESUR	CONT N/M	CONT KILL	CONT RESUR	NOT
			306											
	2409	0370	[illegible]	504	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	2505	[illegible]	[illegible]	✓	—	—	—	—	—	—	✓	✓	✓	
	3125	[illegible]	[illegible]	-	—	—	—	—	—	—	—	—	—	
			311											
	2413	1017	312	527	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	3405	021	313	529	✓	✓	✓	✓	✓	✓	✓	✓	✓	
			314											
	2414	1-01	321	769	✓	✓	✓	✓	✓	✓	✓	✓	✓	
			322											
	2402	1227	323	643	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	2402	1227	324	533	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	[illegible]	[illegible]	331	631	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	[illegible]	[illegible]	332	776	✓	✓	✓	✓	✓	✓	✓	✓	✓	
			333											
	[illegible]	[illegible]	334	959	✓	✓	✓	✓	✓	✓	✓	✓	✓	

UNIT 2/15 CAV A (TF 1-28)

CIS-I

ME	BCI BUMPER #	B-UNIT ID NUMBER	UNIT BUMPER NUMBER	MILES CHECK: MANUAL MILES CHECKS	MILES CHECK: B-UNIT "ON"	EVENT REGISTRATION: COMMO	POS LOC	WPNS FIRE	ADMN KILL	ADMIN RESUR	CONT M/M	CONT KILL	CONT RESUR
[illegible]	[illegible]	[illegible]	A66	503	✓	✓	✓	✓	✓	✓	✓	✓	✓
[illegible]	[illegible]	1622	A65	914	✓	✓	✓	✓	✓	✓	✓	✓	✓
[illegible]	[illegible]	[illegible]	A60	✓	—	—	—	—	—	—	✓	✓	✓
[illegible]	[illegible]	[illegible]	A68	—	—	—	—	—	—	—	—	—	—
[illegible]													
[illegible]	[illegible]	1271	A11	697	✓	✓	✓	✓	✓	✓	✓	✓	✓
[illegible]	[illegible]	1476	A12	574	✓	✓	✓	✓	✓	✓	✓	✓	✓
[illegible]	[illegible]	1371	A13	633	✓	✓	✓	✓	✓	✓	✓	✓	✓
[illegible]	[illegible]	1376	A14	726	✓	✓	✓	✓	✓	✓	✓	✓	✓
[illegible]													
[illegible]	[illegible]	[illegible]	A21	982	✓	✓	✓	✓	✓	✓	✓	✓	✓
[illegible]	[illegible]	[illegible]	A22	857	✓	✓	✓	✓	✓	✓	✓	✓	—
[illegible]	[illegible]	1612	A23	926	✓	✓	✓	✓	✓	✓	✓	✓	✓
[illegible]	[illegible]	[illegible]	A24	536	✓	✓	✓	✓	✓	✓	✓	✓	✓
[illegible]													
[illegible]	[illegible]	[illegible]	A31	895	✓	✓	✓	✓	✓	✓	✓	✓	✓
[illegible]	[illegible]	[illegible]	[illegible]	732	✓	✓	✓	✓		✓	✓	✓	✓
[illegible]			[illegible]										
[illegible]	[illegible]	[illegible]	[illegible]	521	✓	✓	✓	✓	✓	✓	✓	✓	✓

UNIT OTHERS (TF 1-52)

CIS-II-

BLI BUMPER #	B-UNIT ID NUMBER	UNIT BUMPER NUMBER	MILES CHECK: MANUAL MILES CHECKS	MILES CHECK: B-UNIT "ON"	EVENT REGISTRATION: COMMO	POS LOC	WPNS FIRE	ADMN KILL	ADMIN RESUR	CONT M/M	CONT KILL	CONT RESUR	NO
1	[illegible]	DSB	855	✓	—	✓	—	—	—	—	—		
2	[illegible]	DSC	816	✓	—	✓	—	—	—	—	—		

TAB G presents material relevent to the process of final instrumentation initialization.

G-1 Material has been extracted from the TAF 2 SOP that outlines the duties, responsibilities and procedures required to creat and transfer to the computer the completed tracking list.

G-2 A copy of the first two pages of the program printout generated by the software "BLDHIS".

Tracking List Preparation

1. Purpose: This annex defines duties, responsibilities, and procedures required to assemble input data and create a data base which supports the fourteen (14)-day rotational training period and each tactical mission.

2. Definitions:

   a. System Initialization: Those activities associated with collection and assembly of information required to create an Initialization File and open a fourteen (14)-day history.

   b. Initialization File (also called Tracking List): A computer data file consisting of two parts, a unit list and a player list. The unit list defines for the computer units involved in the fourteen (14)-day training exercise. The player list defines for the computer players associated with each unit in the Tracking List.

   c. Unit List: That part of the Initialization File consisting of units assigned, attached, or in support of the battalion under training or OPFOR units supporting the training exercise.

   d. Player List: That part of the Initialization File consisting of players participating in training or supporting the training exercise.

   e. Unit: An element of the unit list portion of the Initialization File which defines to the computer an organization found on the battlefield. Examples of units are platoons, companies, combat trains, or field trains. A unit may or may not have players associated with it. If a unit does have players associated with it, those players may be either instrumented or uninstrumented. Each unit may or may not be designated to have statistics gathered for it.

   f. Player: An element of the player list portion of the Initilization File which defines to the computer an individual entity on the battlefield. Examples of a player are tanks, armored personnel carriers, trucks, or individual soldiers. All players must be assigned to a unit as defined in the unit portion of the Initialization File. A player may or may not contribute to the center of mass for the unit and may or may not be instrumented, i.e., equipped with position location instrumentation. Players on the player list are designated as Blue - US, Red - OPFOR, or White - neutral.

   g. History Initialization: A process of using the History Initialization/Termination Interactive Menu. The result of this process is an open history.

   h. History Termination: A process of using the History Initialization/Termination Interactive Menu. Upon completion of this menu the selected history is closed and no further data can be input into the history file. Prior to termination of a history, all stations must select "no history" in the History Segment Selection Menu.

i. History Deletion: A process of using the History Initializaiton/Termination Interactive Menu. The result of this menu is elimination of the selected closed history from the computer files. Prior to deletion of a history, it must be closed and all stations must be out of it. Coordination with the Instrumentation Operations Section must be made to insure the history is saved prior to deleting the history.

j. History Segment Selection: A process using the History Segment Selection Interactive Menu by which the analyst chooses the history and exercise segment he wants to observe. The analyst may select either an exercise segment that is completed and is stored in history, or he may select the segment showing the current or realtime data.

k. Exercise Segment: An Exercise Segment may be closed (completed) or open in a real or null. A closed segment is a period of the 14-day training exercise which is recorded in the history. A real segment displays current activity and is recorded as part of the history. A null segment displays current activity but is not recorded as part of the history.

l. Exercise Segment Definition: The process of using the Exercise Segment Definition Interactive Menu to define a real or null exercise segment. The definition of a real segment requires prior gathering of data for input into the computer system. This data includes the following:

(1) Data/time group

(2) Scenario number

(3) Type of mission

(4) Visibility data

(5) Time of mission (day/night)

(6) Levels of intensity for Red and Blue forces in 11 different categories

(7) Unit identification

(8) Training objectives

(9) Elements of information correlated to observer controller who will report on them

(10) Vehicle status for all units

(11) Personnel status for all units

3. Responsibilities:

a. Instrumentation Operations Section:

(1) Assembles information and prepares Initialization File.

(2) Maintains the Tracking List in the current open histories and in the Initialization File.

(3) Coordinates the recording (backup) of the history to magnetic tape and deletes the history.

b. Tactical Command-Control-Communications Analyst (C^3):

(1) Conducts the MILES and instrumentation system checkout prior to the start of the fourteen-day exercise.

(2) Provides the Instrumentation Operations Section the relationship of the vehicle administrative number to line organization for Blue Force.

4. Procedures:

a. Prior to the start of the rotation, the Instrumentation Operations Section will coordinate with Plans & Operations to determine the task organization of the units under training. This will be used to develop the unit portion of the Initialization File.

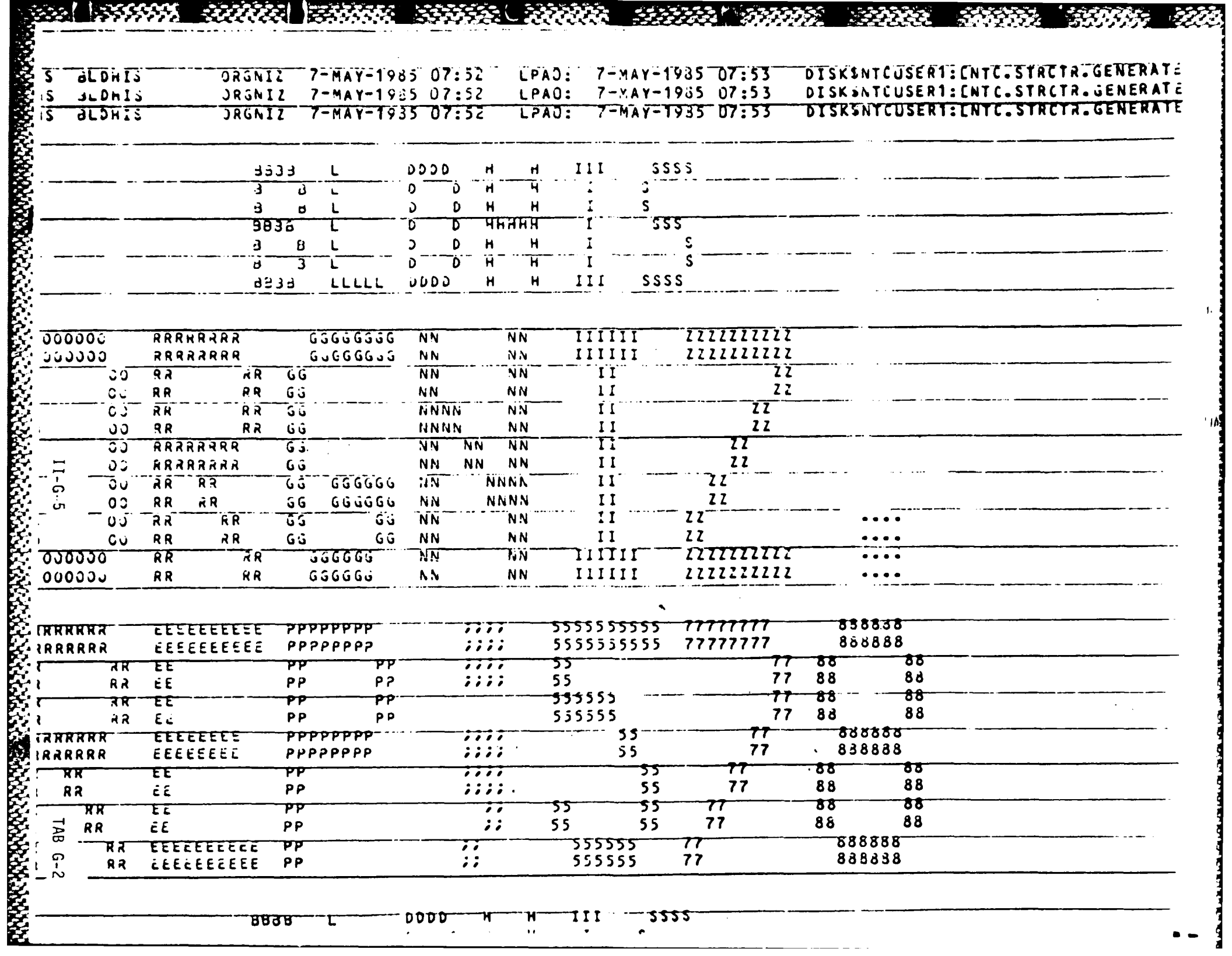
b. The data received from the C^3 Analyst will be used to verify the Blue Force player list.

c. Not later than 1200 hours the day the battalion task force moves to its initial assembly area, the Instrumentation Operations Section will advise the Combat Training Analyst that the Initialization File is complete and the history may be opened.

d. After coordination with the Instrumentation Operations Officer, the Combat Training Analyst will open the history. The Combat Training Analyst will create real and/or null segments as required to support the fourteen-day training period.

e. At the end of the fourteen-day training period, the Combat Training Analyst will terminate the history and advise the Instrumentation Operations Section.

f. The Instrumentation Operations Section will coordinate the preparation of backup tapes for the history and delete the history as required.


S BLDHIS ORGNIZ 7-MAY-1985 07:52 LPAO: 7-MAY-1985 07:53 DISK$NTCUSER1:[NTC.STRCTR.GENERATE
IS BLDHIS ORGNIZ 7-MAY-1985 07:52 LPAO: 7-MAY-1985 07:53 DISK$NTCUSER1:[NTC.STRCTR.GENERATE
IS BLDHIS ORGNIZ 7-MAY-1985 07:52 LPAO: 7-MAY-1985 07:53 DISK$NTCUSER1:[NTC.STRCTR.GENERATE
BBBB L DDDD H H III SSSS
B B L D D H H I S
B B L D D H H I S
BBBB L D D HHHHH I SSS
B B L D D H H I S
B B L D D H H I S
BBBB LLLLL DDDD H H III SSSS
OOOOOO RRRRRRRR GGGGGGGG NN NN IIIIII ZZZZZZZZZZ
OOOOOO RRRRRRRR GGGGGGGG NN NN IIIIII ZZZZZZZZZZ
OO RR RR GG NN NN II ZZ
OO RR RR GG NN NN II ZZ
OO RR RR GG NNNN NN II ZZ
OO RR RR GG NNNN NN II ZZ
OO RRRRRRRR GG NN NN NN II ZZ
OO RRRRRRRR GG NN NN NN II ZZ
OO RR RR GG GGGGGG NN NNNN II ZZ
OO RR RR GG GGGGGG NN NNNN II ZZ
OO RR RR GG GG NN NN II ZZ ....
OO RR RR GG GG NN NN II ZZ ....
OOOOOO RR RR GGGGGG NN NN IIIIII ZZZZZZZZZZ ....
OOOOOO RR RR GGGGGG NN NN IIIIII ZZZZZZZZZZ ....
RRRRRR EEEEEEEEEE PPPPPPPP ;;;; 5555555555 77777777 888888
RRRRRR EEEEEEEEEE PPPPPPPP ;;;; 5555555555 77777777 888888
RR EE PP PP ;;;; 55 77 88 88
RR EE PP PP ;;;; 55 77 88 88
RR EE PP PP 555555 77 88 88
RR EE PP PP 555555 77 88 88
RRRRRR EEEEEEEE PPPPPPPP ;;;; 55 77 888888
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RR EE PP ;;;; 55 77 88 88
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RR EE PP ;; 55 55 77 88 88
RR EEEEEEEEEE PP ;; 555555 77 888888
RR EEEEEEEEEE PP ;; 555555 77 888888
BBBB L DDDD H H III SSSS
II-G-5
TAB G-2

s is the blue Task Organization
for file 3509A0

talion	Company	Platoon	Player	Player Type	Instrumentation Decimal/Octal
-05a (2o)					
		SCT/1ST-058 (56)			
			SC1 (273)	APC/M2	0805/ 1445
			SC2 (274)	APC/M2	0912/ 1620
			SC3 (275)	APC/M2	0662/ 1226
			ST1 (276)	APC/TOW	0597/ 1125
			ST2 (277)	APC/TOW	0812/ 1454
			ST3 (278)	APC/TOW	0991/ 1737
		4.2/1ST-053 (57)			
			FD1 (279)	107 MM	0861/ 1535
			FD2 (280)	107 MM	
		MANP/1ST-058 (60)			
			VL1 (374)	VULCAN	
			VL2 (375)	VULCAN	
			VL3 (376)	VULCAN	
			VL4 (377)	VULCAN	
		ENG/1ST-058 (61)			
			E01 (381)	APC/M2	0858/ 1532
			E02 (382)	APC/M2	
			E03 (383)	APC/M2	
			CEV (384)	TANK	
	TOC/1ST-053 (55)				
			AF1 (245)	F/B	0218/ 332
			AF2 (246)	F/B	0446/ 676
			AF3 (247)	F/B	0238/ 356
			AF4 (248)	F/B	0204/ 314
			AF5 (249)	F/B	0318/ 476
			AF6 (250)	F/B	0227/ 343
			AF7 (251)	F/B	0231/ 347
			CDR (258)	APC/M2	0946/ 1662
			H66 (259)	APC/M2	0894/ 1576
			H65 (260)	APC/M2	
			H63 (261)	APC/M2	0875/ 1553
			SU2 (262)	APC/M2	0722/ 1322
			TOC (263)	APC/M2	0661/ 1225
	ARTY/1ST-05a (66)				
			DSA (252)	155 MM	
	ARTY/1ST-05a (67)				

APPENDIX III

REFERENCE MATERIALS

Department of the Army. Army Regulation 350-50. National Training Center.

Department of the Army. FORSCOM Regulation 350-85-10. National Training Center.

Headquarters, NTC (1982,1983). Desert Tactics, Operation and Maintenance (TOM) Reports.

Headquarters, NTC (28 March 1985). Information For Rotational Artillery Battalions.

Headquarters, NTC. NTC 30 Day Equipment Estimate.

Headquarters, NTC (2 July 1985). Rotational Brigade Equipment Reference Data Guide.

Headquarters, NTC (12 April 1985). Rules of Engagement.

Headquarters, NTC (1984). OPFOR Training Notes.

Headquarters, NTC (20 January 1984). Twenty Day Rotational Model-Support Planning. (Letter of Instruction).

NTC Operations Group. Armor Tactical Analysis and Feedback (TAF) Team Standard Operating Procedure.

NTC Operations Group. Manpack Distribution.

NTC Operations Group. Performance Trends.