



IBM PC  
USER INSTRUCTIONS



**Intergalactic  
Development  
Incorporated**

# **THE UNIVERSAL MILITARY SIMULATOR**

BY D. EZRA SIDRAN

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## **IBM PC/XT/AT USER INSTRUCTIONS**

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The Universal Military Simulator  
IBM PC/XT/AT User Instructions  
written by D. Ezra Sidran & Ed Isenberg  
designed by D. Ezra Sidran  
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# FOREWORD

Originally, the "Universal Military Simulator" was just the working title for a very unusual piece of software. That was about 15,000 lines of computer code ago.

Simply put, the program you just purchased will simulate a conflict between any two opposing forces, from history or fantasy, displayed on a three dimensional battlefield that can be viewed from any perspective, while you zoom in on the action, command the smallest unit and change any variable.

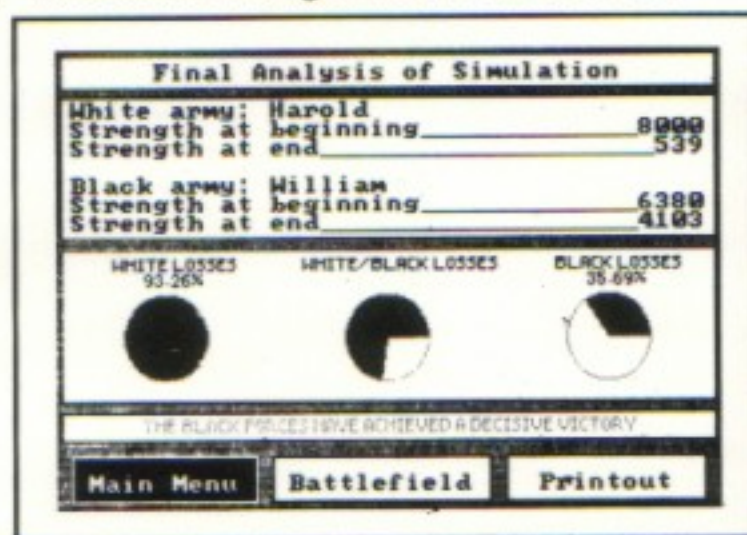
Of course there's more. The Design Map section will help you create three dimensional maps of anything you wish: battlefields, D & D worlds, castles or maps for reports. If you're out of ideas UMS will even randomly generate maps for you.

The Create Army section will allow you to design armies of any description. The Universal Military Simulator comes with eighteen pre-defined unit types, from charioteers to armored cavalry. If that isn't enough you can create "wildcard units" with the characteristics you wish.

The Create Scenario function will help you put any two armies together on any battlefield. Literally, any two armies. It is possible, for example, to simulate a conflict between Alexander and Napoleon with their respective troops on the fields of Gettysburg. Again, your imagination is the only limitation.

UMS also possesses a unique Artificial Intelligence that "perceives" opposing armies as geometric shapes and interconnecting lines of force while individual fighting units are maneuvered as a cohesive army striving towards a common goal. Furthermore the fourteen actual variables evaluated by UMS to resolve combat may be viewed by the user after all hostile contacts thereby eliminating "the fog of war" that other wargames hide behind.

Over seven years in the making, the Universal Military Simulator is as revolutionary as it is evolutionary. UMS will certainly be the standard that all wargames are measured by for many years to come.





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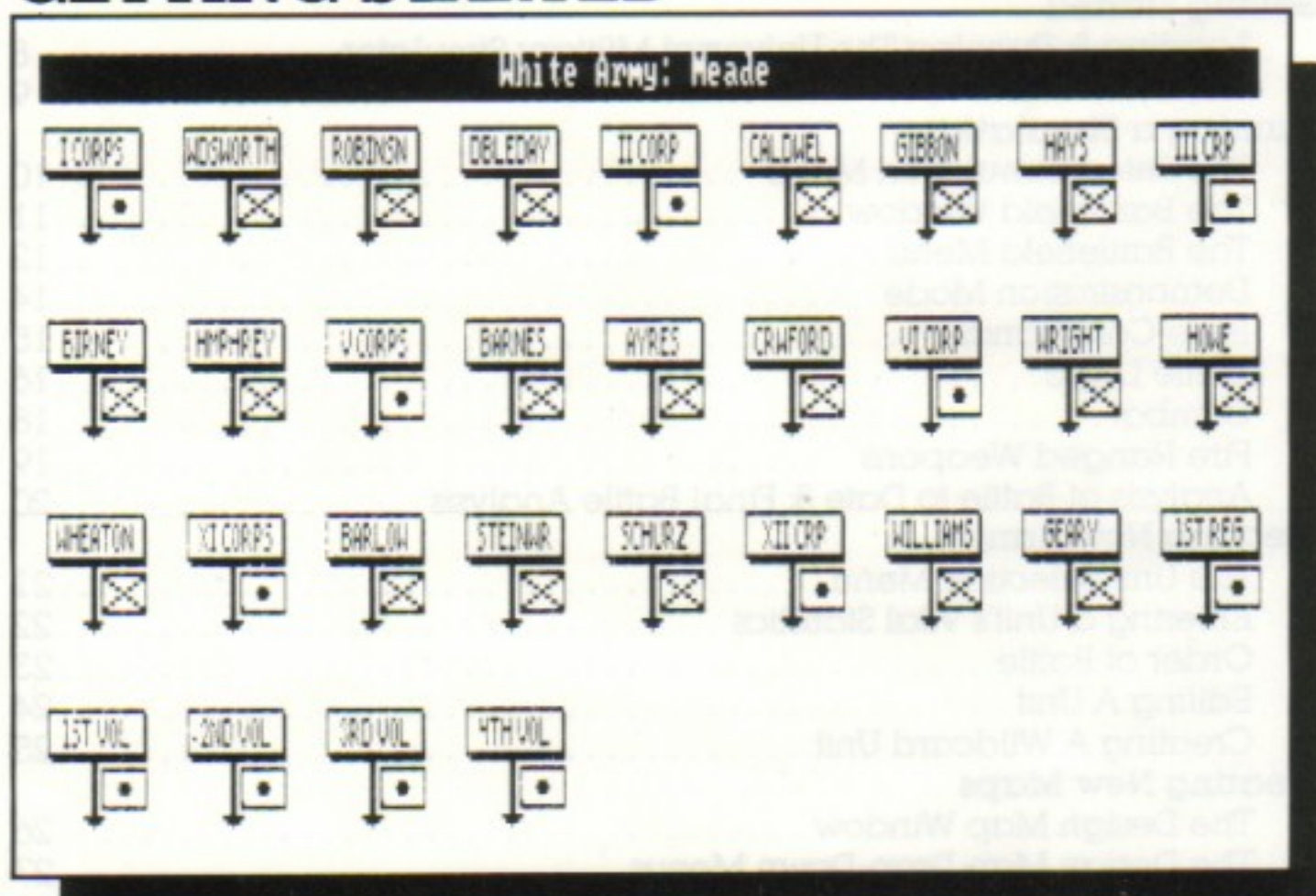
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# CHAPTER I

## GETTING STARTED



## LOADING & RUNNING THE UNIVERSAL MILITARY SIMULATOR.

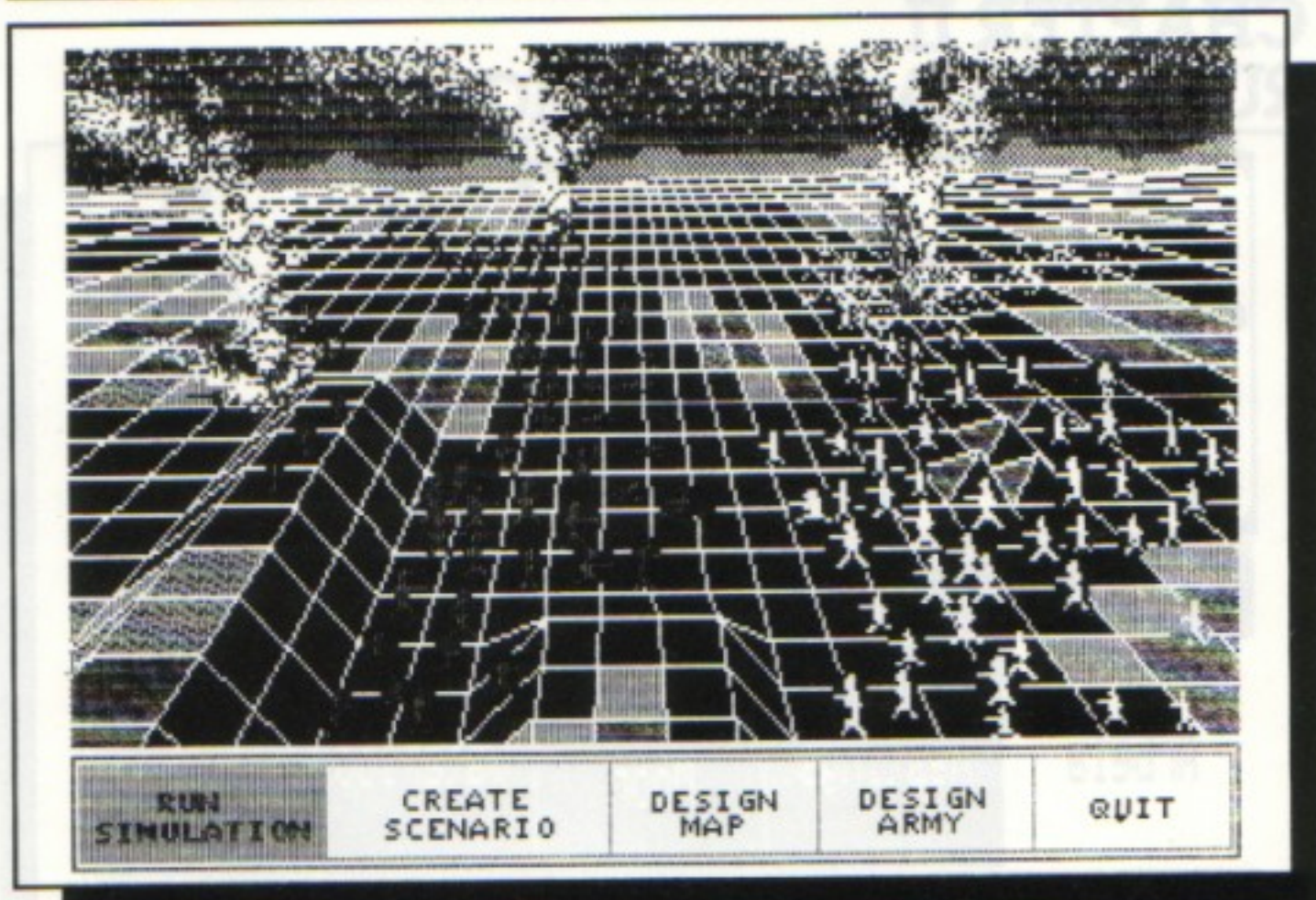
The Universal Military Simulator IBM PC/XT/AT version requires an IBM PC/XT/AT or compatible, a minimum of 512K of RAM and a CGA card. A dot-matrix printer is optional. UMS will also make printouts of battlefield maps from 8½ inch by 11 inch to poster size. UMS supports Epson, IBM, Okidata and HP LaserJet printers. A printer is not required to use UMS.

The Universal Military Simulator IBM PC/XT/AT version is not self-booting and DOS must be installed either with a System Disk or some other disk that contains DOS. After your computer has been turned on and a DOS System prompt [>] appears place the UMS disk in the appropriate drive and type: **UMS** and press RETURN. UMS will now load and run.

Because UMS is not copy-protected it may be installed on a Hard Disk or in a directory of a Hard Disk. Make certain that all files on the UMS disk are transferred as well.

Immediately after running UMS you will be asked to enter a word from the **Scenario Handbook**. This is the other book included in the package; not the one that you are currently reading. After typing in the correct word UMS will finish loading.





## THE MAIN MENU

The Universal Military Simulator consists of four sections that help the user create new maps, design armies, create new battle scenarios and run battle simulations. These sections are accessed from the main menu that first appears after running the program. To select a section use the LEFT and RIGHT arrow keys until the desired box is highlighted and press RETURN.

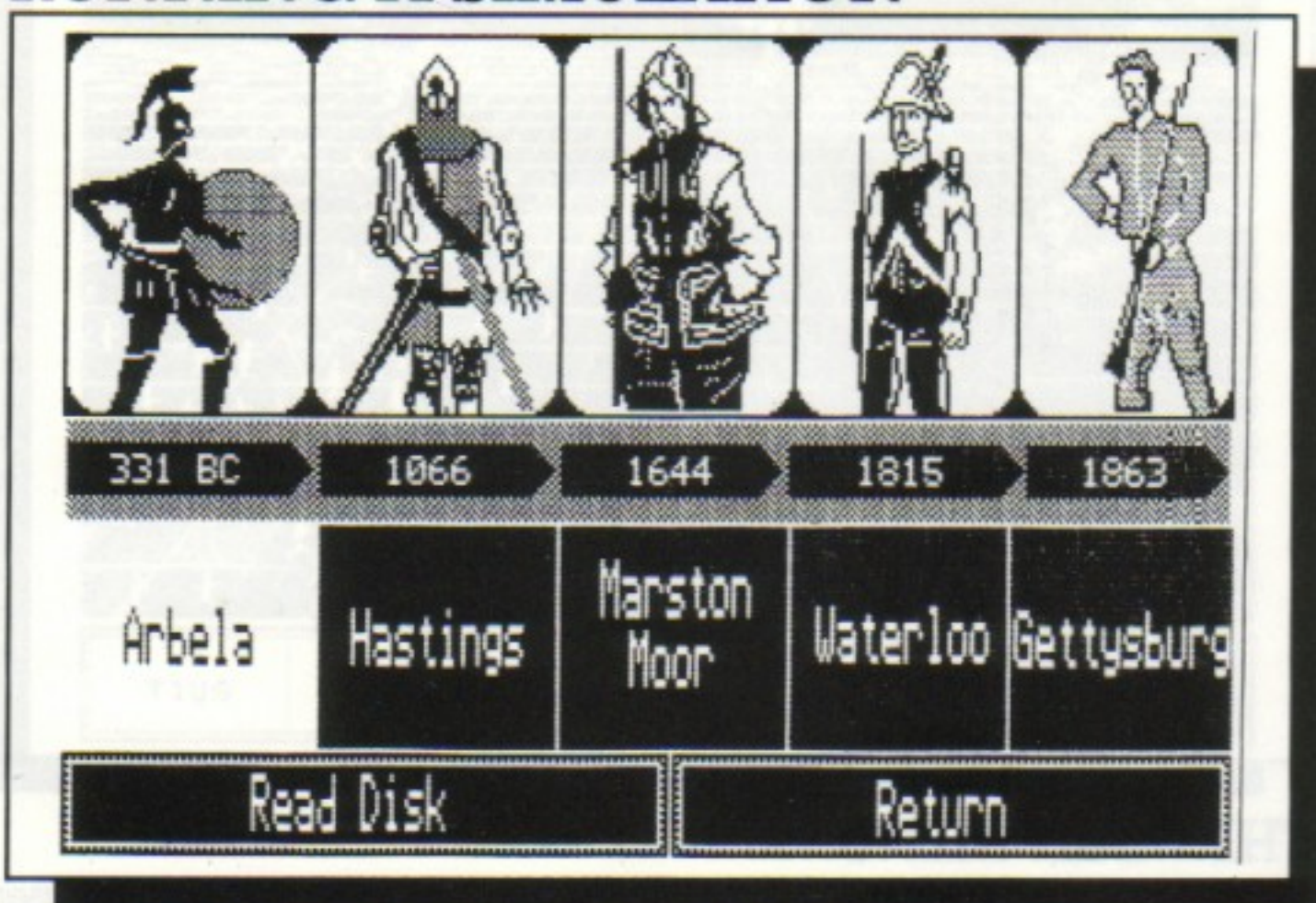
To terminate the program select **Quit**. You will be returned to the operating system and a prompt [>] will appear. Other programs may now be run.

To create new armies, or to edit an army that has been previously saved to disk, select **Design Army**. The Universal Military Simulator contains a powerful three-dimensional topographical design tool that is accessed by selecting **Design Map**. This function is not limited to creating battlefields, but may be used to design maps of all kinds including fantasy worlds from role-playing games and computer text adventures. **Create Scenario** allows the user to place two armies from any time period together on a field of battle. There are virtually no restrictions. Selecting **Run Simulation** allows the user to participate as the Universal Military Simulator's Artificial Intelligence routines supervise the conflict. The user may play against the program, against another human opponent, or even influence the computer's decisions while viewing the battlefield in complete three-d.



## CHAPTER II

# RUNNING A SIMULATION

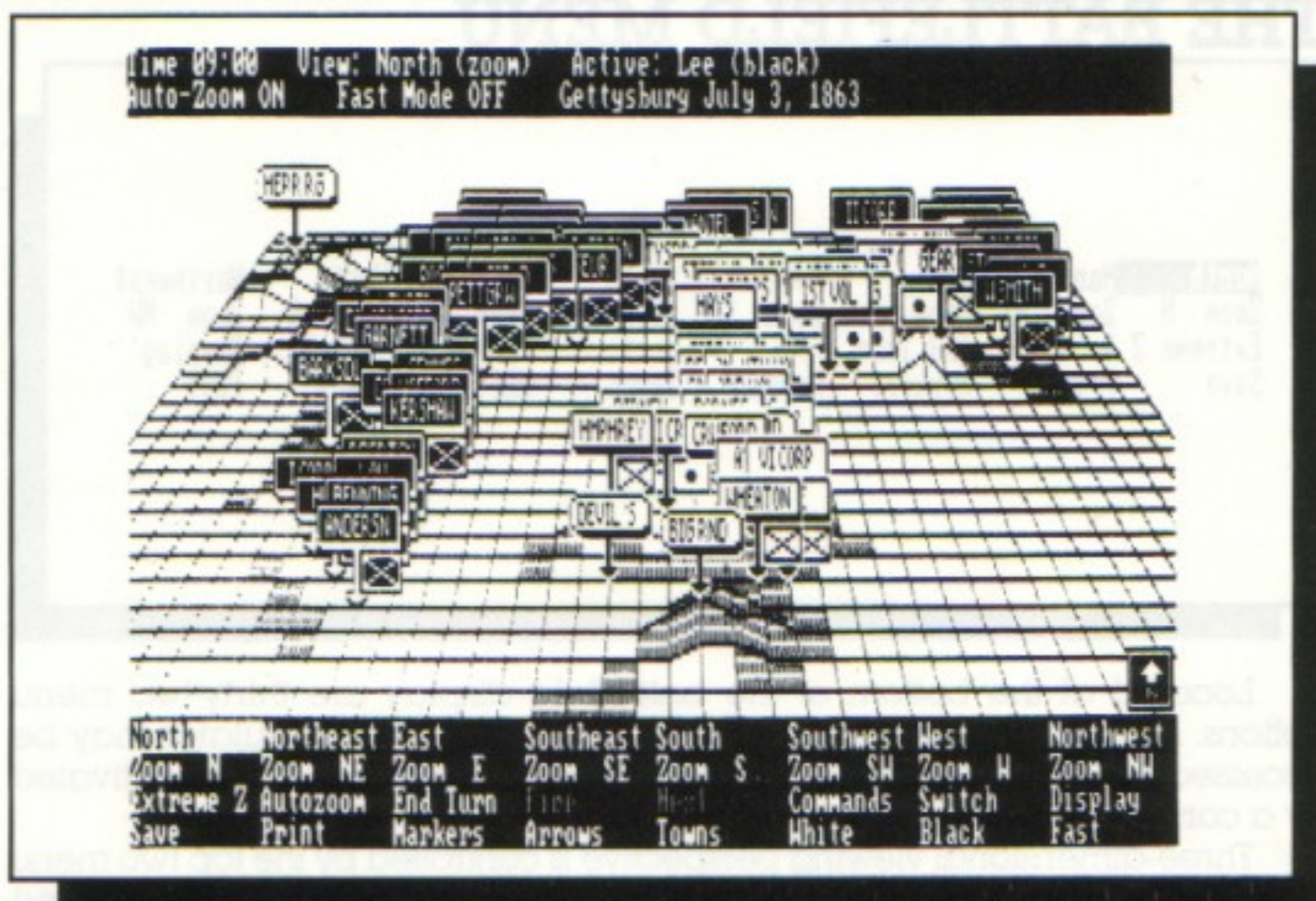


## THE SELECTION SIMULATION MENU

The Universal Military Simulator disk contains five battle simulations. They are: **Arbela**, the battle that decided the conquest of Asia Minor, fought in 331 B.C. between Alexander the Great and Darius of Persia; **Hastings**, the great clash of the Medieval Ages between two claimants to the English throne in 1066; **Marston Moor** where Oliver Cromwell saved the young Parliament's Army; **Waterloo**, the last card played from the Emperor Napoleon's hand and **Gettysburg**, where General Robert E. Lee's Confederate Army of Northern Virginia reached their highwater mark under the summer Pennsylvanian skies of 1863. Use the LEFT and RIGHT arrow keys to select a scenario and press RETURN when the desired box is highlighted.

Other scenarios from Universal Military Simulator **Scenario Disks**, or user created scenarios, may be read from disk by selecting the **Read Scenario From Disk** option. After selecting this option all appropriate files on the default drive will be displayed. Use the LEFT, RIGHT, UP and DOWN arrows to change the highlighted option [Change Drive, Directory, Page Up, Page Down, Name, Cancel] or file. Pressing RETURN will activate the desired option or load the appropriate file. Selecting **Cancel** will return you to the last menu.





## THE BATTLEFIELD WINDOW

The Universal Military Simulator displays battlefields in complete three-dimensional perspective that the user can rotate or zoom in on at any time. Two status lines are displayed above the view of the battlefield that indicate the current three-dimensional viewing perspective, the current simulation time (in military time), and the present 'active army' or side that is currently capable of receiving commands and firing ranged weapons.

The menu options (described in the following pages) are located under the battlefield and are activated by using the LEFT, RIGHT, UP or DOWN arrow keys until the desired box is highlighted and pressing RETURN.

To quit press CNTRL and the letter 'Q' simultaneously. You will be returned to the main menu.

## THE SCENARIO PHASES

The 'Run Simulation' section is divided into two phases—the **Issue Command** phase in which orders are given by the user to all desired units of both armies and which is terminated by selecting **End Turn** from the menu below the battlefield or by pressing the letter 'E' on the keyboard—and the **Movement/Battle** phase. At the end of the **Command Phase** the user is requested to select the desired computer battle logic. (For more information see the **Battle Logic** section in this chapter.) The **Movement/Battle** phase is divided into eight equal segments. Selecting **Next** from the menu, or pressing CNTRL and 'N' simultaneously on the keyboard will advance the scenario time and update the screen.



## THE BATTLEFIELD MENU

<b>North</b>	<b>Northeast</b>	<b>East</b>	<b>Southeast</b>	<b>South</b>	<b>Southwest</b>	<b>West</b>	<b>Northwest</b>
Zoom N	Zoom NE	Zoom E	Zoom SE	Zoom S	Zoom SW	Zoom W	Zoom NW
Extreme Z	Autozoom	End Turn	Fire	Next	Commands	Switch	Display
Save	Print	Markers	Arrows	Towns	White	Black	Fast

Located at the bottom of the battlefield display are thirty-two menu options. All battlefield functions of the Universal Military Simulator may be accessed through these menu options. Many functions may also be activated by a corresponding keystroke.

Three-dimensional viewing perspective is controlled by the top two menu rows. The first row contains wide-angle perspectives; the second row zoomed in views. Selecting **North**, for example, will create a map drawn from the point of view of someone south of the battlefield looking North. Selecting a perspective from the second menu row will draw a map with a corresponding close in aerial perspective.

Selecting the item **Extreme Z[oom]** from the menu options will create a reversed 10 grid point by 10 grid point box. This reversed box is controlled by the arrow keys on the right side of the keyboard. Pressing the ESC key will cancel this function and restore the map. Pressing RETURN will cause the area within the box to be greatly magnified. Pressing the letter "T" will toggle from Extreme Zoom to the last wide screen view and back again.

**AutoZoom** works like a toggle switch and may be turned on or off. When **AutoZoom** is on the computer will automatically zoom in on any important activity on the battlefield during the simulation. **AutoZoom** status is displayed at the top of the battlefield view.



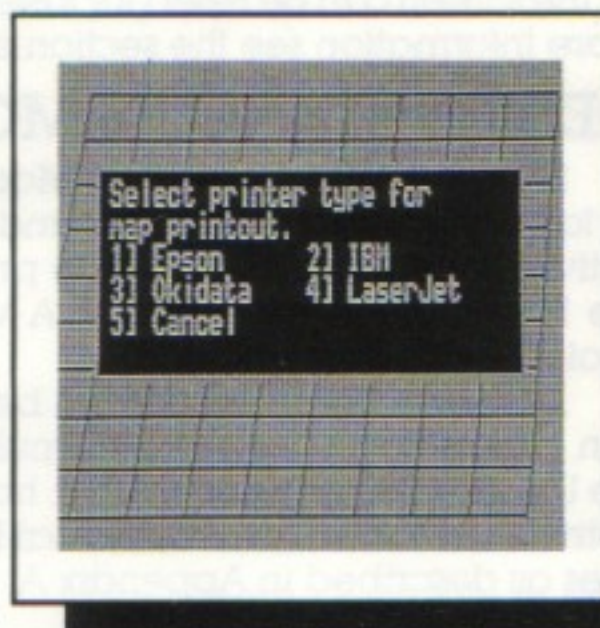
Selecting **Commands** either from the menu or by pressing the space bar on the keyboard will allow the user to give specific commands to each unit on the battlefield. This function is discussed in complete detail in the following pages. **Switch** is used in conjunction with **Commands** to select which army is currently active or capable of receiving commands. This function may be activated either from the menu or by pressing 'S' on the keyboard. This 'active' side is shown in the display above the battlefield window. **Switch** is also used in conjunction with **Fire** to select firing targets. Again, the 'active', or firing, army, is displayed above the battlefield. Selecting **End Turn**, either from the menu or by pressing **E** on the keyboard signals the program that the user has moved all desired units and wishes to quit the Command Phase. See the **Battle Logic** section in this chapter for complete information. The **Fire** function (which becomes operational after selecting **End Turn**) allows the user to fire units with long range capabilities. This is discussed later in this chapter under **Combat**.

Simulations may be stored to disk and continued, or edited, later by using the **Save** function. Use the UP, DOWN, LEFT and RIGHT arrow keys to select either a pre-existing filename or change the disk drive and directory. Press return to activate an option. Simulations are restored by selecting the **Read From Disk** option on the previous menu. All simulation files end with the .SIM extension.

A hard copy printout of the battlefield window may be obtained by selecting the **Print** option from the menu. The Universal Military Simulator supports IBM, Epson and Okidata dot-matrix printers as well as the HP LaserJet. Select the desired format by entering the appropriate number from the row of numbers **above** the keyboard.

The Universal Military Simulator will also make poster-sized printouts. The printouts require two or four sheets of paper. Make certain that the paper's perforation marks line up with print head.

The **Display** option will display the Order of Battle (units) currently within an army. If the display continues for more than one screen pressing the space bar will show the next page of units; pressing the ESC key will cancel the display and return the user to the simulation. For a graphic display of this function see page 23.





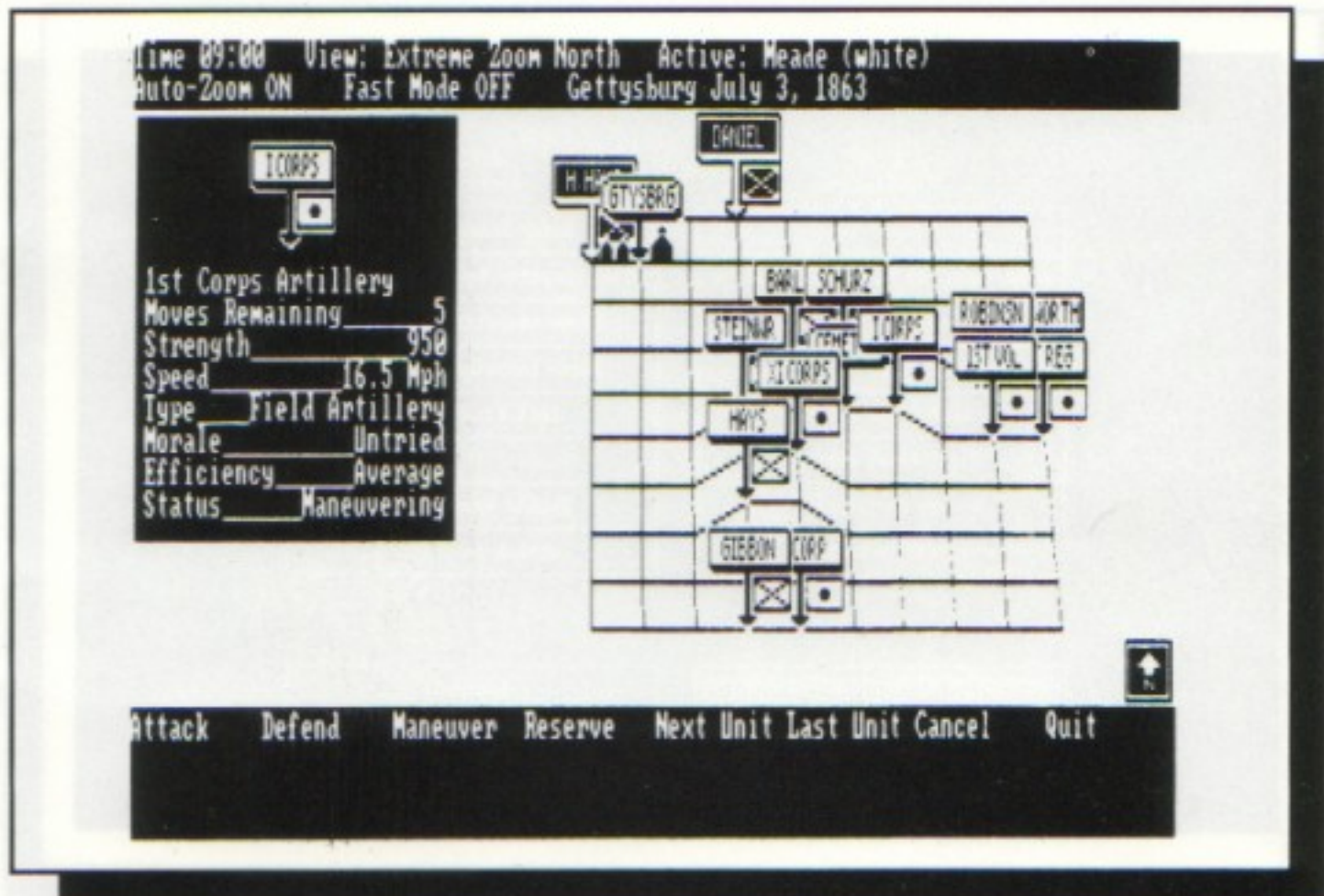
The last six menu options of the bottom row allow the user to control the features that are displayed on the battlefield map. The options are 'toggle switches' and may be turned either on or off. The options are: [Battle] **Markers**, which indicate points where hostile contact between units has occurred, [Movement] **Arrows**, which indicate the future movement of all units, **Towns** [& Landmarks] that mark points of interest on the battlefield, **White** [Flags] and **Black** [Flags] which will hide from view one or both armies and **Fast** [Display Mode]. When **Fast** [Display Mode] has been toggled on the Universal Military Simulator will only briefly display contact between hostile units and computer controlled long range fire. This considerably speeds up the viewing time of a simulation. The length of time that the message is displayed on the screen can be reset (for faster machines) by pressing CONTROL 'T'. For more information see the section on **Combat** later in this chapter.

## DEMONSTRATION MODE

Selecting **Demonstration Mode** instructs the Universal Military Simulator to take over *all* army command functions and viewing perspectives. To activate **Demonstration Mode** press the CONTROL key and the letter D on the keyboard simultaneously. A warning box will appear to confirm this choice.

**Demonstration Mode** can be activated at any time during any simulation, including user-designed simulations. The five simulations that come with the Universal Military Simulator, however, will automatically receive special instructions to recreate the actual battles. These battles will follow the guidelines as described in Appendix A.





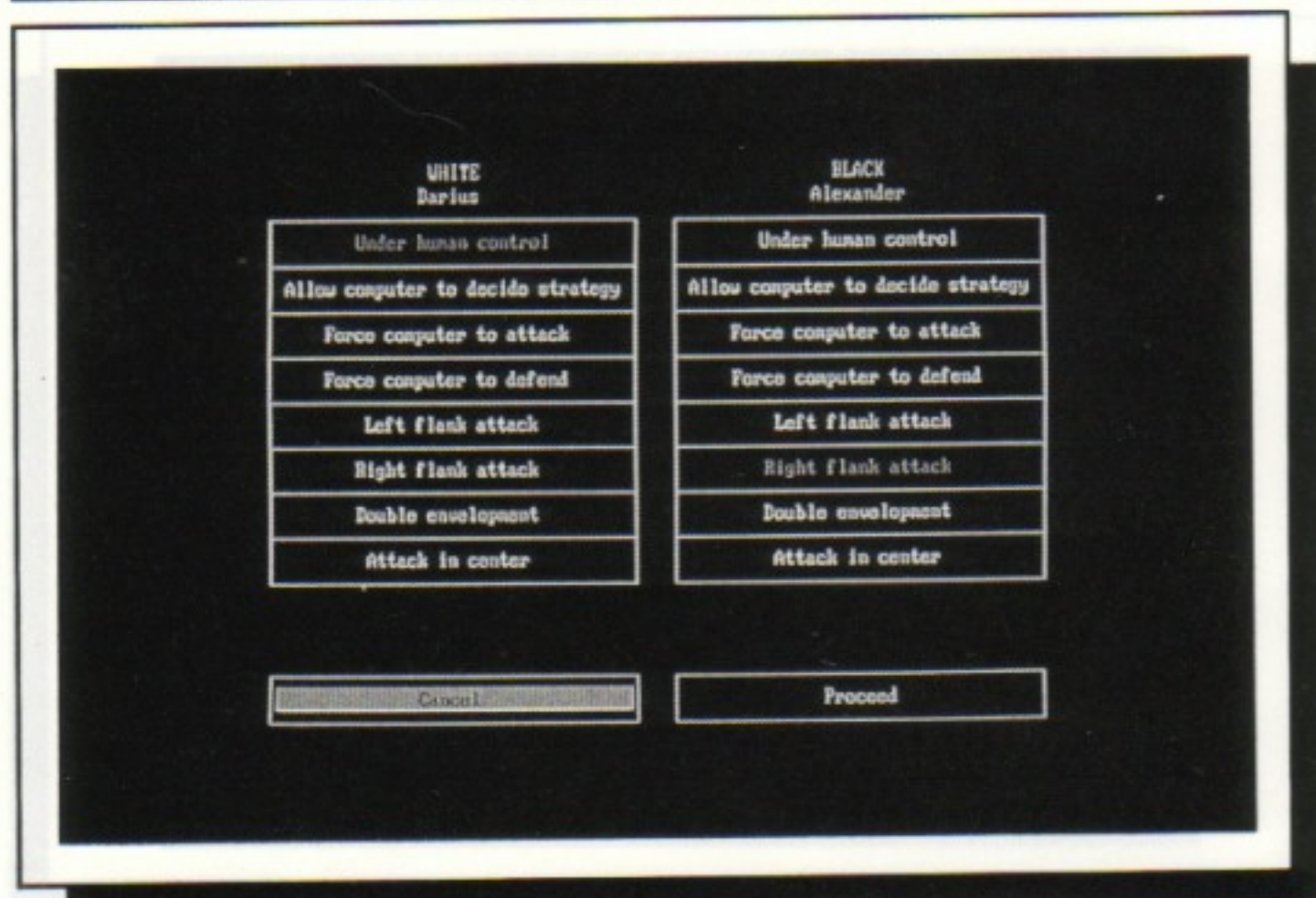
## ISSUE COMMANDS

All units participating in a scenario may be given specific commands that control the unit's movement and status. The **Commands** function is activated either from the menu below the battlefield map or by pressing the keyboard space bar. After selecting this option the **Command Box** appears and the active unit's vital information is displayed along the left hand side of the battlefield window. A copy of the unit's flag is also displayed. The active unit will also flash. If **AutoZoom** had previously been selected the area immediately around the active unit will be enlarged. To move a unit press the desired direction key. Units move from one adjacent point to another.

To access the Command Menu options press the ESC key again and use the LEFT or RIGHT arrow keys until the desired option is highlighted and press RETURN. **Next Unit** and **Last Unit** (or pressing 'N' or 'L' on the keyboard respectively) will de-activate the current unit and activate another unit for commands. **Quit** erases the **Command Box** and returns the user to the battlefield. If **AutoZoom** had previously been selected the map will be redrawn to the last full perspective selected.

A unit may also be ordered to assume one of the following statuses: **Maneuver** (which allows for maximum movement but leaves the unit vulnerable in attack and defense), **Attack** (which reduces a unit's mobility but greatly increases its value in battle), **Defend** (which halts all further movement by the unit but increases the unit's ability to withstand attack), and **Reserve** (the unit may not move, and is vulnerable to attack; however the unit's morale factor will be increased after one full eight segment movement phase).





## BATTLE LOGIC

To access the Universal Military Simulator's Battle Logic select **End Turn** after all desired units and commands have been made. The Universal Military Simulator may be instructed to assume command of either one or both armies or run in a 'supervisory' mode and simply referee the simulation and decide the outcome of contact between hostile units. The first dialog box that appears after selecting **End Turn** requests that the user assign commanders for both the black and white armies. Use the LEFT, RIGHT, UP and DOWN arrows to highlight the option and press RETURN to select. If both armies are placed **Under Human Control** choose **Proceed** to activate the **Movement Phase**. Selecting either **Next** from the battlefield menu or pressing the CONTROL N on the keyboard will 'step' the units on the battlefield to their ordered positions and increase the time appropriately.

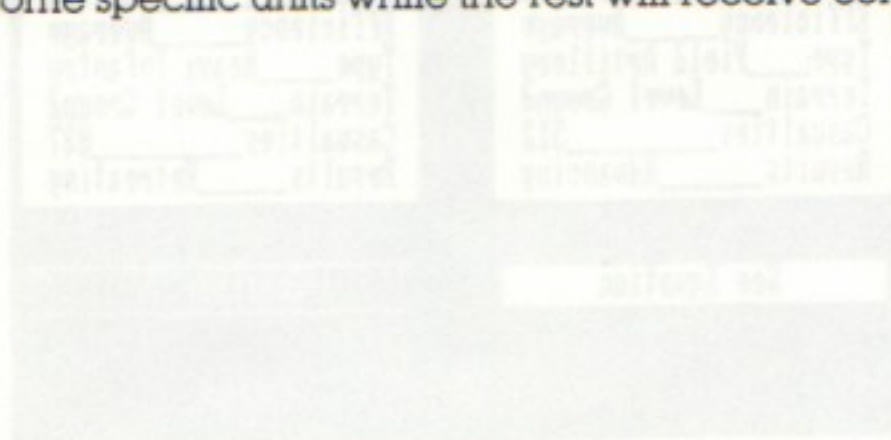
If, however, either army is placed under **Computer Control** any one of the following options may be selected: **Allow Computer to Decide Strategy** (the computer will make the decision to attack or defend after analyzing over 10 factors per unit in both armies), **Force Computer to Attack** (the computer will decide and execute the attack with the greatest probability of success), **Force Computer to Defend** (the computer will not attack but will assume the defensive,





and, if possible, move units to a more secure position), **Left Flank Attack**, **Right Flank Attack**, **Attack in Center** and **Double Envelopment** require the Universal Military Simulator to execute the desired attack plan. **Left Flank** and **Right Flank** attacks may also be supported by the opposite half of the army. Dialog boxes are displayed to receive user input.

Use the LEFT, RIGHT, UP or DOWN arrow keys until the **Continue** box is highlighted and press RETURN on the keyboard, to continue. **Cancel** de-activates the **Battle Logic** and allows the user to give orders to units. **IMPORTANT:** the Universal Military Simulator's Battle Logic will not move units that have already received commands from the user. This allows for the movement of some specific units while the rest will receive computer orders.



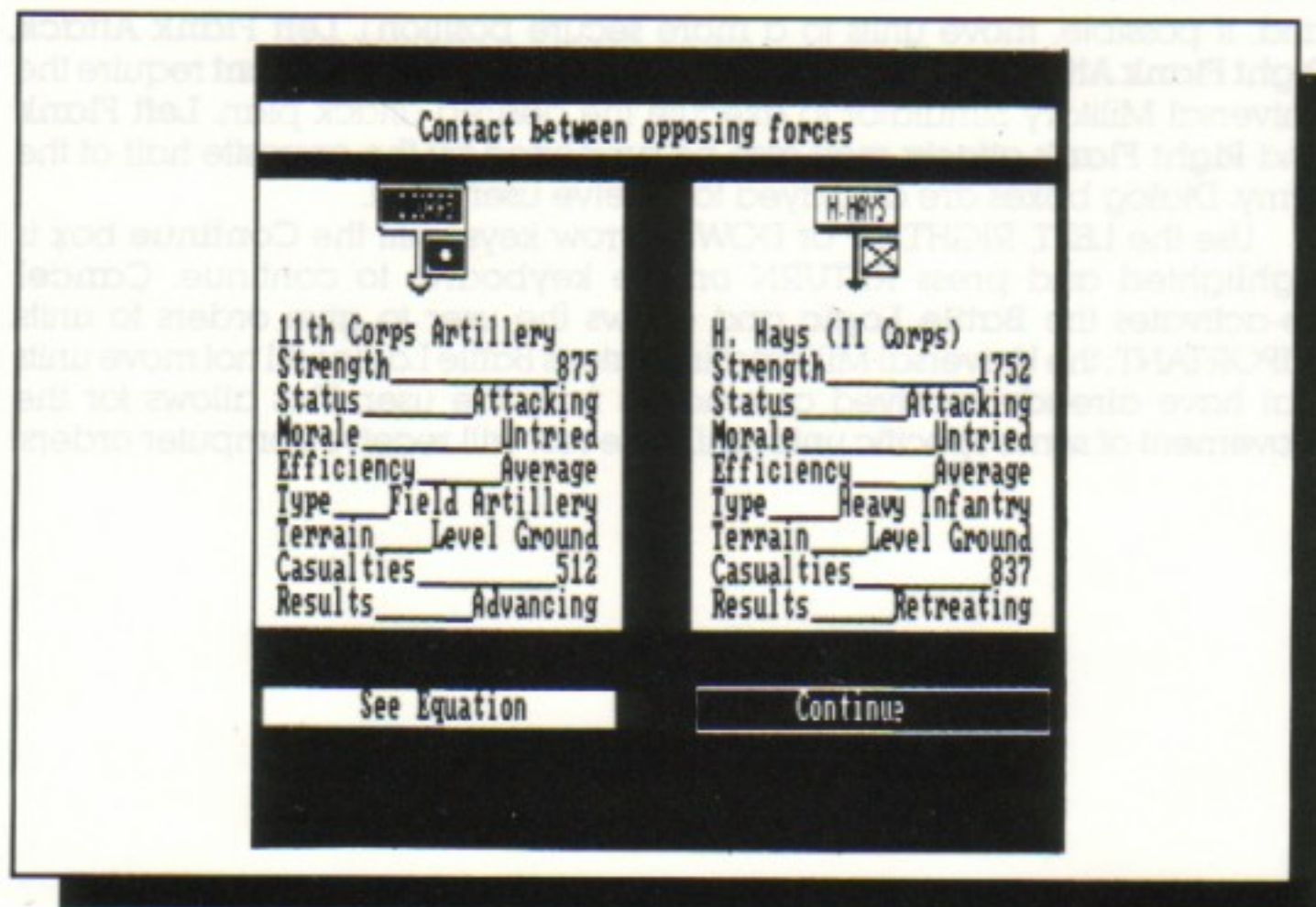
## COMBAT

Combat occurs during the Movement Phase when units with opposing armies move onto adjacent points. Some units have long range weapons (artillery units and others for example) and can enter into combat at greater distances. See the **Weapon** section in this chapter for details. When combat occurs the two opposing units both in AutoCommand previously been selected the area immediately surrounding the combat will be greatly enlarged. If both display Model and previously been selected the units will both temporarily and the results of combat calculated. No combat results will be displayed. However, unless a unit has been eliminated, and the Universal Military Simulator will continue moving units and updating the battle map as previous.

If both display Model and not been previously selected the two battle units will continue to both until only one is left. The vital statistics of each unit are displayed on the screen (picture at top of page). Use the LEFT and RIGHT arrow keys and RETURN to select the See Expansion box which will display the values used by the Universal Military Simulator to determine the particular combat result (see picture at right). Starting with the original unit strength, right different results are calculated. A 50% chance of a unit being eliminated for the losing unit, and displayed.



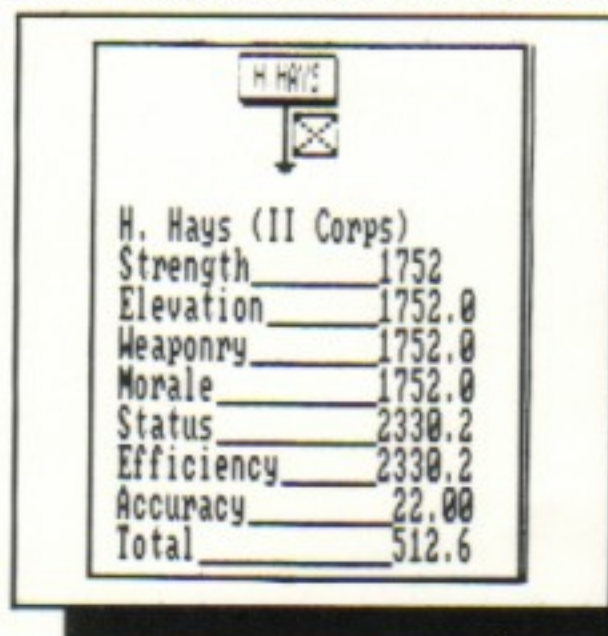




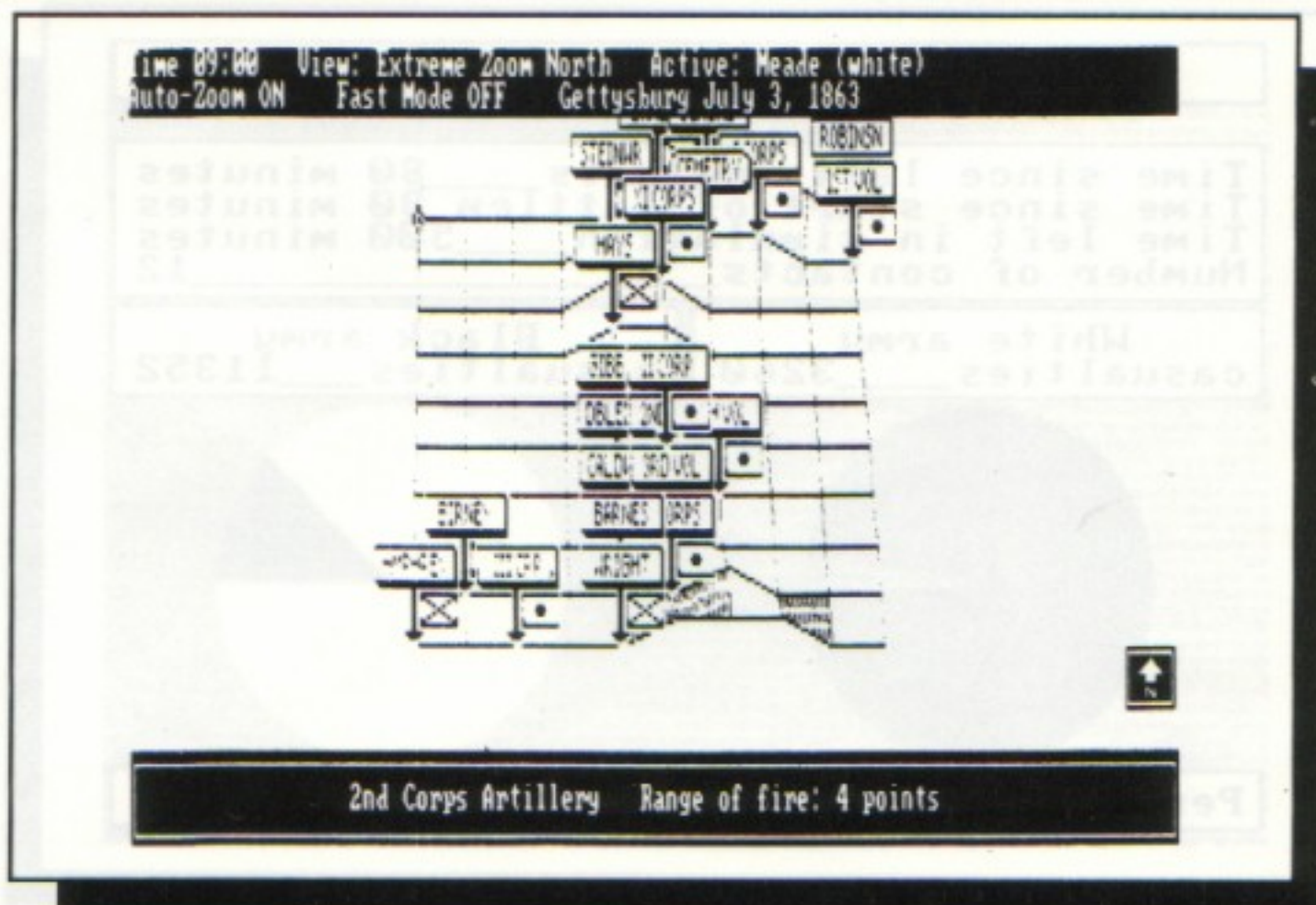
## COMBAT

Combat occurs during the **Movement Phase** when units from opposing armies move onto adjacent points. Some units have long range weapons (artillery, armor and archers, for example) and can enter into combat at greater distances. See the Fire Ranged Weapons section in this chapter for details. When combat occurs the two opposing units flash. If **AutoZoom** had previously been selected the area immediately surrounding the combat will be greatly enlarged. If **Fast [Display Mode]** had previously been selected the units will flash momentarily and the results of combat calculated. No combat results will be displayed, however, (unless a unit has been eliminated) and the Universal Military Simulator will continue moving units and updating the battlefield map as previous.

If **Fast [Display Mode]** had not been previously selected the two hostile units will continue to flash until any key is pressed. The vital statistics of each unit and the combat results are now displayed on the screen (picture at top of page). Use the LEFT and RIGHT arrow keys and RETURN to select the **See Equation** box which will display the values used by the Universal Military Simulator to determine this particular combat result (see picture at right). Starting with the original unit strength eight different modifiers are evaluated. NOTE: A retreat path is calculated for the losing unit, and displayed.







## FIRE RANGED WEAPONS

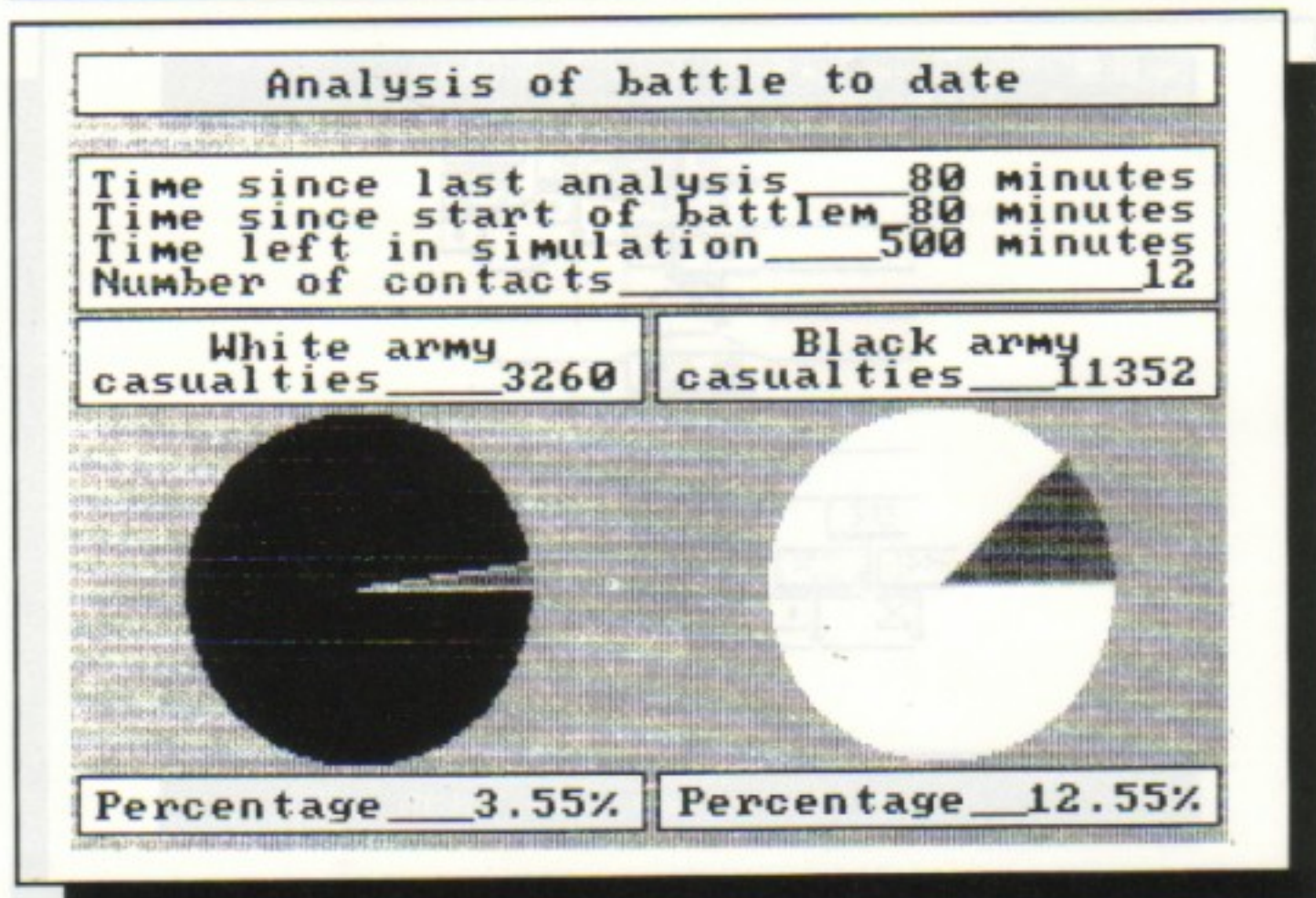
The **Fire Ranged Weapons** routine is activated from either the menu or by pressing **F** on the keyboard. It is only active during the **Movement/Battle Phase**. If both armies are under **Computer Control** the Universal Military Simulator will make all Ranged Weapon firing decisions. The army capable of receiving firing instructions is indicated in the display at the TOP of the battlefield. NOTE: An army is displayed as active even if it is under Computer Control.

The active army may be changed by selecting **Switch [Sides]** from the menu. If **AutoZoom** had previously been selected the area directly surrounding the active unit will be greatly magnified. The extreme zoom view can be scrolled by pressing the left bracket, semi-colon, apostrophe and slash keys. IMPORTANT: do not use the **AutoZoom** function when issuing firing orders to units with a firing range of greater than five; it may be impossible to select the desired targets.

To select a target use the arrow keys until the cursor is over the grid-point where the enemy unit is located and press RETURN. An arrow is drawn and the results are displayed at the center of the screen. This function may be repeated until all units **Under Human Control** have fired. A unit may fire only once per movement segment, or a total of eight times per **Movement/Battle Phase**.

Press the ESC key to display the **Fire Ranged Weapons Menu**. Use the LEFT and RIGHT arrow keys to highlight the different options and RETURN to activate them. Selecting **Next Unit** or **Last Unit** (or 'N' and 'L') will de-activate the current unit and activate the next appropriate unit in the army. An Extreme Zoom map can be scrolled by using the left bracket, semi-colon, apostrophe and slash keys. Only units capable of ranged weapon fire will be activated.





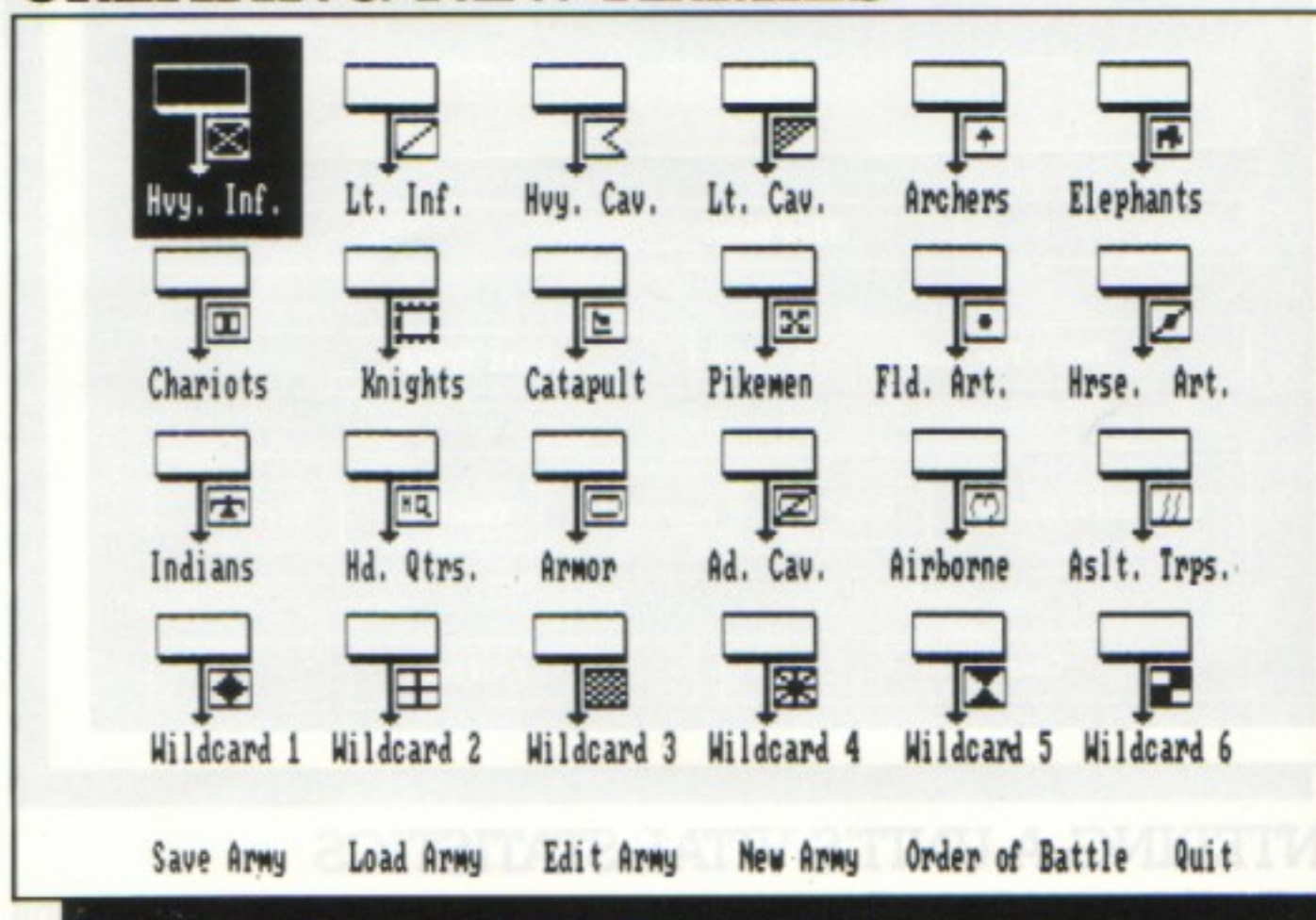
## ANALYSIS OF BATTLE TO DATE & FINAL BATTLE ANALYSIS

At the end of the **Movement/Battle Phase** the **Analysis of Battle to Date** screen is displayed showing an updated casualty and battle report. Press **RETURN** to continue. A message will be displayed indicating that the **Command Phase** is again active. When the simulation has reached the previously designated end time, or when all units from either army have been eliminated the **Final Battle Analysis** screen is displayed. A hard copy of all units, from both armies, and the last unit strengths may be printed if desired. The user may return to the Battlefield or to the Main Menu by using the **LEFT** and **RIGHT** arrow keys and pressing **RETURN** when the desired option is highlighted.



## CHAPTER III

# CREATING NEW ARMIES



## THE UNIT SELECTION MENU

The **Unit Selection Menu** is displayed after selecting the **Design Army** option from the **Main Menu** and either selecting an old army to edit or entering a new army name and pressing RETURN. Selecting **Cancel** will return the user to the **Main Menu**.

This section of the Universal Military Simulator allows the user to create new armies for use in simulations, or to modify existing armies. Use the LEFT, RIGHT, UP and DOWN arrows and RETURN to select either units or options. Selecting **Quit** from the **Unit Selection Menu** will return the user to the **Main Menu**. A previously created army may be loaded and edited by selecting the **Load** option.

To save an army to disk select **Save**. All Universal Military Simulator army filenames end with the .ARM file extension. Selecting **Cancel** will return the user to the **Unit Selection Menu** without saving the army file to disk. To enter a new unit to an army use the LEFT, RIGHT, UP and DOWN arrow keys until the desired unit type is highlighted and press RETURN.

Units from an existing army may be changed or deleted by selecting **Edit Army**.



Unit Name: \_\_\_\_\_

\_\_\_\_\_

Flag Name: \_\_\_\_\_

Moves Per Turn: \_ Unit Speed: \_\_\_\_\_

Unit Efficiency:

## ENTERING A UNIT'S VITAL STATISTICS

The Universal Military Simulator stores a great deal of data on each unit used in a simulation. Some items [morale, status, location, marching orders] are acquired during a simulation, or at the time the scenario is created [see the chapter on **Creating a Scenario** for details]. The rest is entered at the time that the unit is created.

Enter all items requested at this time. To change a unit's efficiency use the LEFT and RIGHT arrow keys and press RETURN when the box containing the desired rating is highlighted. Use the UP and DOWN arrows to travel from one data line to another. The highlighted item will automatically advance to the next data line after RETURN is pressed. Select **Cancel** to return to the **Unit Selection Menu** without saving the unit.

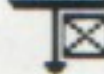
After all data has been entered use the LEFT, RIGHT, UP and DOWN arrow until the **Continue** box is highlighted and press RETURN. If the user has neglected to enter all necessary data the Universal Military Simulator will display a gentle error message and return to this screen.

The entire army's **Order of Battle** is now displayed. If there are more units within the army then can be displayed on one screen pressing any key will continue to the next screen. Pressing the ESC key will cancel the display and return to the **Unit Selection Menu**.



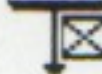
Army: Alexander Units:34 Total strength:39745

TAXIS 1



Coenus - Phalanx  
 Moves Per Turn 4  
 Strength 2500  
 Speed 12.5 Mph  
 Efficiency Crack  
 Type Heavy Infantry

TAXIS 2



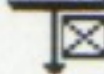
Perdiccas - Phalanx  
 Moves Per Turn 4  
 Strength 2500  
 Speed 12.5 Mph  
 Efficiency Crack  
 Type Heavy Infantry

TAXIS 3



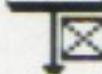
Meleager - Phalanx  
 Moves Per Turn 4  
 Strength 2500  
 Speed 12.5 Mph  
 Efficiency Crack  
 Type Heavy Infantry

TAXIS 4



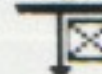
Polysperchon - Phalanx  
 Moves Per Turn 4  
 Strength 2500  
 Speed 12.5 Mph  
 Efficiency Crack  
 Type Heavy Infantry

TAXIS 5



Simmas - Phalanx  
 Moves Per Turn 4  
 Strength 2500  
 Speed 12.5 Mph  
 Efficiency Crack  
 Type Heavy Infantry

TAXIS 6



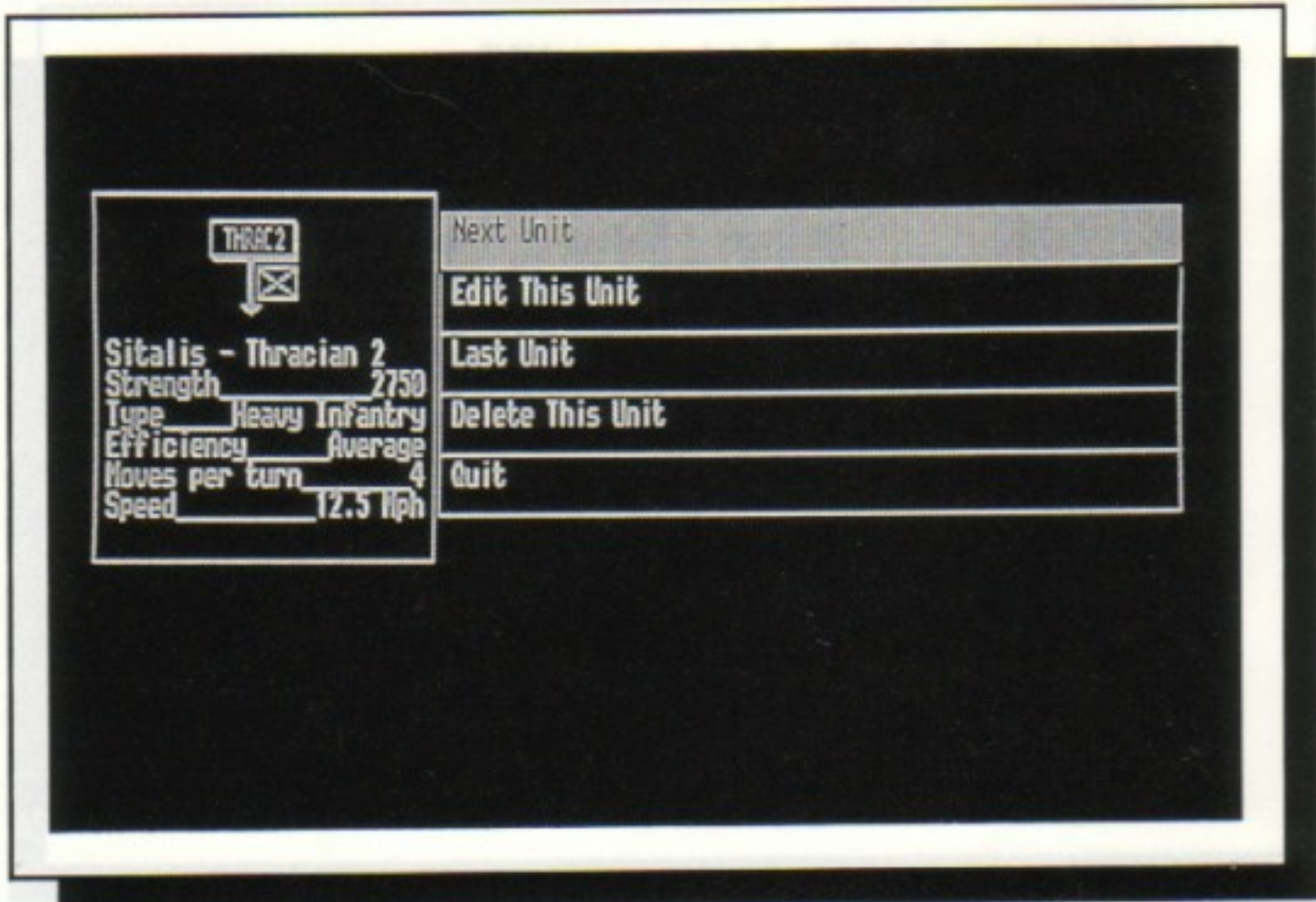
Craterus - Phalanx  
 Moves Per Turn 4  
 Strength 2500  
 Speed 12.5 Mph  
 Efficiency Crack  
 Type Heavy Infantry

## ORDER OF BATTLE

An army's **Order of Battle** is a graphic depiction of each unit within that army and the accompanying vital statistics. The **Order of Battle** function may be activated from the option menu beneath the **Battlefield**, from the **Unit Selection Menu** or automatically after a unit has been created.

If there are more units than can be displayed on one screen pressing any key will continue the display; pressing the ESC key will cancel the display and return to the previous activity. The **Order of Battle** is continuously updated during a simulation and reflects the current unit strengths.





## EDITING A UNIT

Selecting **Edit Unit** from the **Unit Selection Menu** allows the user to change the vital statistics of a previously created unit. Use the DOWN and UP arrow keys and RETURN to select options. Pressing RETURN when the **Next Unit** or **Last Unit** boxes are highlighted will de-activate the current unit and replace it with the requested unit. Selecting **Cancel** will return to the **Unit Selection Menu**.

A unit may be removed from the army's **Order of Battle** by selecting the **Delete Unit** option. The Universal Military Simulator will request confirmation before removing the unit. Unless the deleted unit had been previously stored to disk it will now be irretrievably lost. Select **Edit Unit** to change any of the vital statistics of the currently displayed unit. The screen will now display all current statistics of this unit and they may be edited using the method described on page 22. Selecting **Cancel** will return the user to the previous menu without storing any edited statistics. Select **Continue** to keep the data for the edited unit.



**Enter wildcard specifications**

Unit type

Unit value

Continue

Cancel

## CREATING A WILDCARD UNIT

An army may contain up to six 'wildcard' or user-defined units in addition to the eighteen pre-defined units. A wildcard unit may be any type that the user needs or can invent. A wildcard unit may be defined, for example, as a squadron of B-52 bombers, a wizard, or an air cavalry company. The only limitations to a wildcard unit is the user's imagination.

A wildcard is selected from the Unit Selection Menu in the normal manner by using the LEFT, RIGHT, UP and DOWN arrow keys until the desired unit is highlighted and press RETURN. Enter the **Unit Type** data from the keyboard.

The **Unit Value** is a rating of the firepower of this unit type, or the value of a unit during hostile contact. Some of the default unit values are:

<u>Unit Type</u>	<u>Unit Value</u>
Light Infantry	.75
Heavy Infantry	1.0
Archers	2.75
Knights	4.5
Armor	15.5

Once a wildcard's values have been defined all subsequent units of this type will automatically acquire them. It is only necessary to define a wildcard's values once.

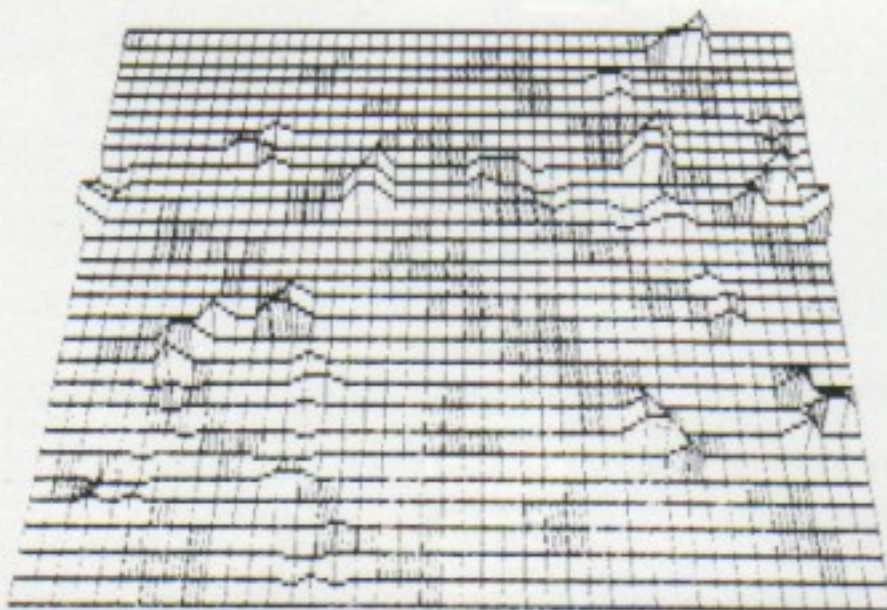
Each army may have six different wildcards: consequently a scenario may contain 12 wildcards (six wildcards each from two armies). An army may be created entirely from wildcards.



## CHAPTER IV

# CREATING NEW MAPS

Map Perspective: looking North



North	Northeast	East	Southeast	South	Southwest	West	Northwest
Zoom N	Zoom NE	Zoom E	Zoom SE	Zoom S	Zoom SW	Zoom W	Zoom NW
Extreme Z	Save	Load	New	Print	Random		

## THE DESIGN MAP WINDOW

The Universal Military Simulator contains a powerful three-dimensional mapping utility that is accessed from the **Main Menu** selecting the **Design Map** option. The user may create virtually any map from history, fiction, adventure or fantasy. These maps may be used as a battlefield within the Universal Military Simulator or printed out using the **Print** function and kept as guides for fantasy and role-playing adventures.

The filename of the map currently being designed is displayed above the work area. Press CNTRL and the letter 'Q' simultaneously to leave this function and return to the **Main Menu**.

The current three-dimensional perspective is displayed above the map. A series of menu options are below the map and are activated by using the LEFT, RIGHT, UP and DOWN arrow keys until the desired option is highlighted and pressing RETURN.



## THE DESIGN MAP MENU OPTIONS

<b>Zoom N</b>	<b>Zoom NE</b>	<b>Zoom E</b>	<b>Zoom SE</b>	<b>Zoom S</b>	<b>Zoom SW</b>	<b>Zoom W</b>	<b>Zoom NW</b>
<b>Extreme Z</b>	<b>Save</b>	<b>Load</b>	<b>New</b>	<b>Print</b>	<b>Random</b>		

Menu options are activated by using the LEFT, RIGHT, UP and DOWN arrow keys until the desired option is highlighted and pressing RETURN. The first two rows of options control the three dimensional viewing perspective. Sixteen different perspectives may be selected. Selecting Northeast, for example, will cause the map to be redrawn from the viewer perspective of someone southwest of the map looking northeast.

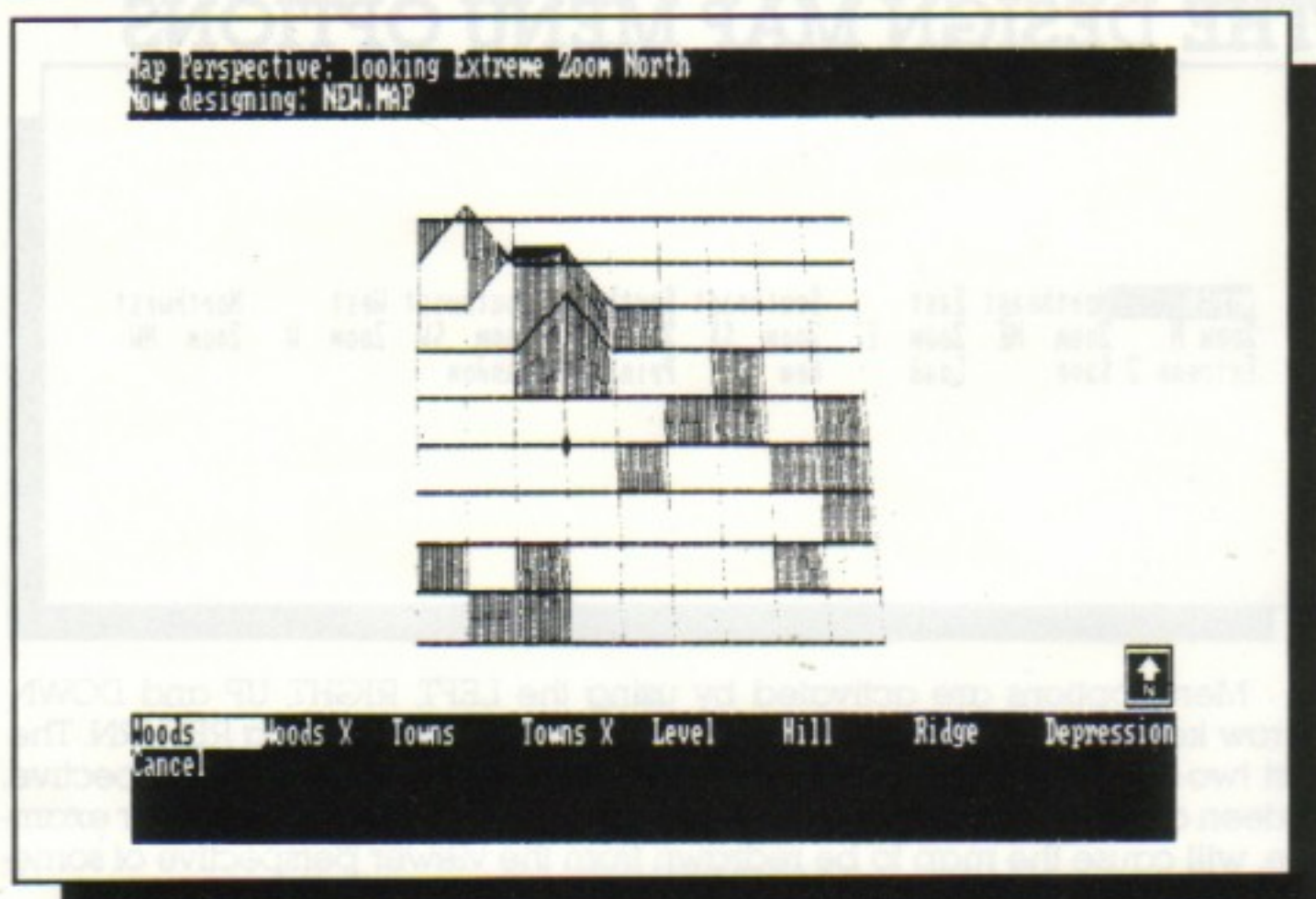
Selecting **New** will erase the current map. The filename displayed at the top of the map will be the default NEW.MAP. All Universal Military Simulator map files end with the extension MAP.

Selecting **Extreme [Zoom]** will create a reversed 10 grid point by 10 grid point box that is controlled by the arrow keys. Pressing RETURN will cause the highlighted area to be greatly magnified. Pressing ESC will cancel the **Extreme Zoom** function.

The **Print** function allows the user to obtain a hard copy printout of the current map and perspective. The Universal Military Simulator supports four of the most popular printers: IBM, Epson, Okidata and the HP LaserJet. Maps may be printed from 8 1/2 x 11 inch up to giant poster-size.

A previously created map that has been stored to disk may be edited by using the **Load** function. A map may be stored on disk by selecting **Save Map**. Both functions support multiple drives and directories. Selecting **Cancel** during either function will return the user to the **Map Design** function.






## THE TOPOGRAPHICAL MENU

The topographical menu is displayed after a map grid point has been selected. A map grid point is selected by pressing the ESC key, using the arrow keys to maneuver the cursor to the desired location and pressing RETURN. The active map grid point is highlighted by a diamond shape. A large section of the map can be activated (called "rubberbanding") by pressing '+' to set one point and then using the arrows and the RETURN key to set the opposite corner point. All points within the box are now active.

Use the LEFT and RIGHT keys and RETURN to select the desired option. All highlighted points will receive the selected landscape feature.



Random Map Generating Routine				
Topography	Minimum	Maximum	Clumping	
Woods			3	Random
Depressions			3	Random
Hills			3	Random
Ridges			3	Random

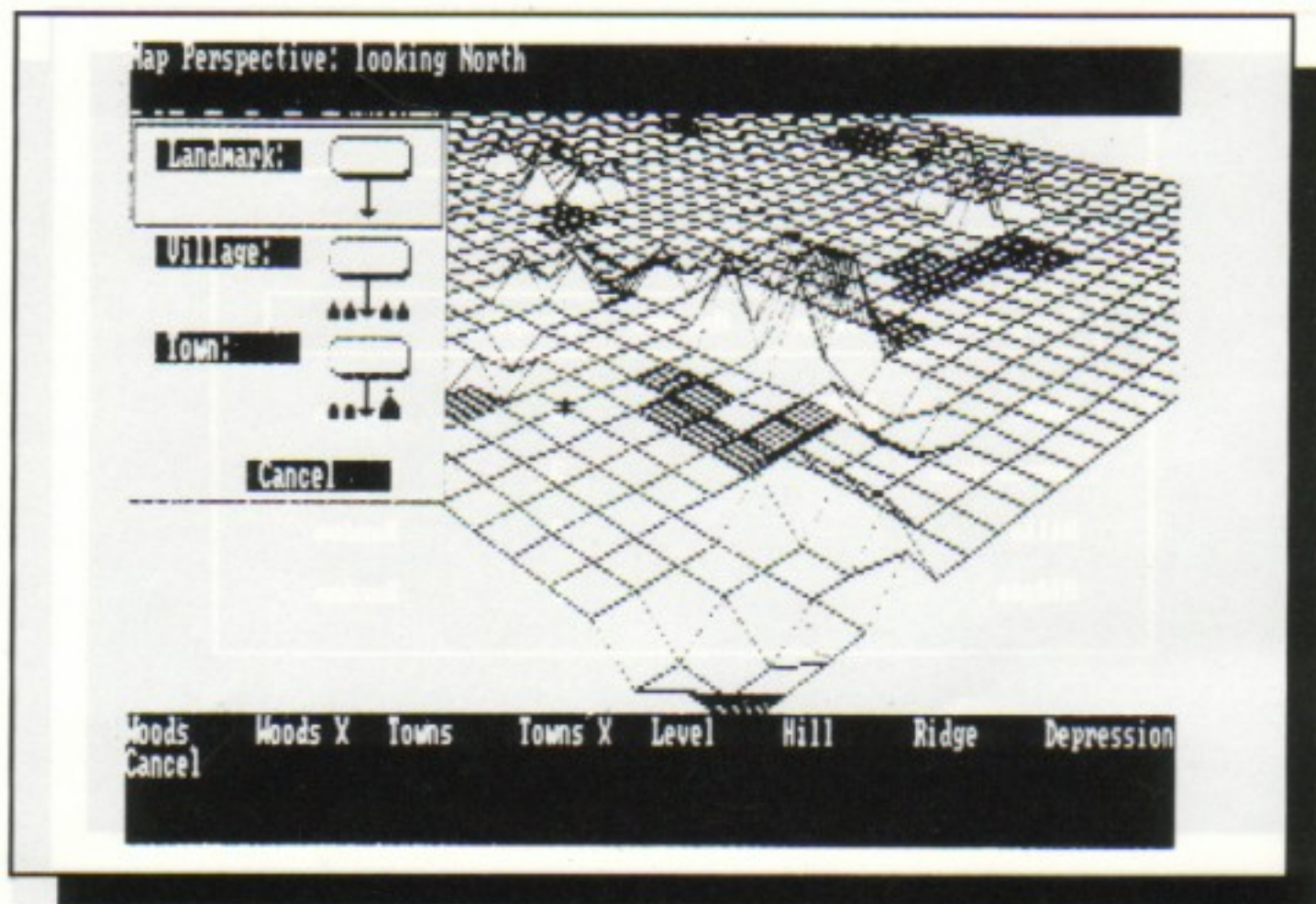
Cancel
Overlay
Continue

## THE RANDOM MAP FUNCTION

**Random Maps** can be generated by selecting this function from the menu. Hills, Ridges, Depressions and Forests can all be computer generated. For each item either enter a minimum and maximum number or select **Random** for a completely random number of features. **Clumping** controls the way that the features appear on the map. A very low number will create a scattered pattern, higher numbers create a more ordered landscape. The default value is three. Calculating time is proportional to the complexity of the map.

If **Overlay** is off [default] the old map is erased before a new one is generated. When **Overlay** is on (highlighted) the old map is not destroyed, but overlaid with a new random map.





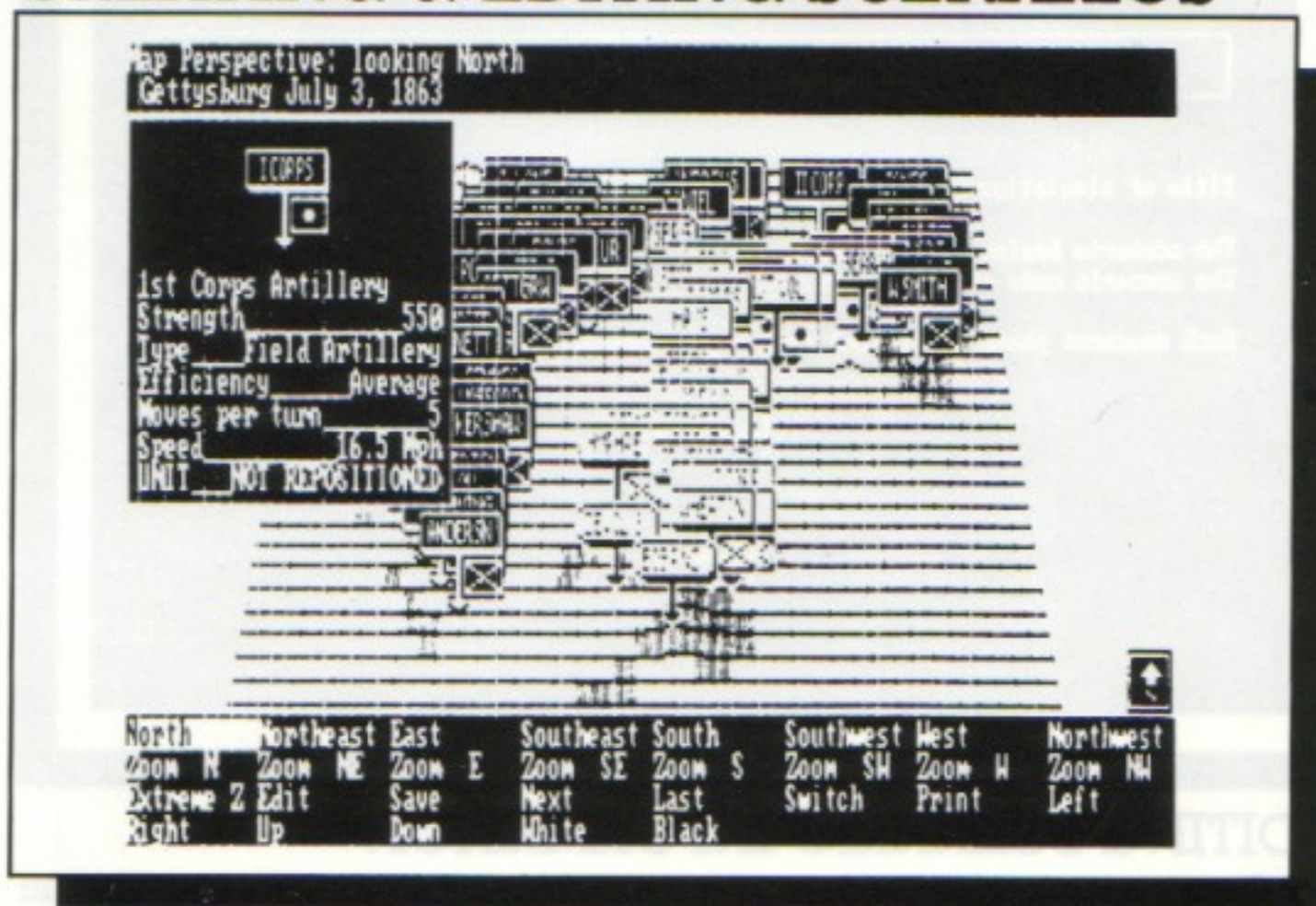
## SELECTING TOWNS & LANDMARKS

The Landmarks, Cities and Towns menu is reached from the Topographical Menu. To select the desired landmark type use the UP and DOWN arrow keys and RETURN. Use the keyboard to enter any seven letter name and press RETURN when done [all lowercase letters will automatically be converted to uppercase]. Landmarks have no importance other than a historical one during a battle simulation. A map may contain thirty different landmarks.



## CHAPTER V

# CREATING & EDITING SCENARIOS



## THE EDIT SCENARIO WINDOW

Scenarios are created, or edited, by assigning the unit displayed in the upper left hand box to a map grid point location. This location is selected by pressing ESC [to toggle the arrow keys from menu option selection to grid point selection] moving the cursor to the desired location with the arrow keys, and pressing RETURN. A message above the box indicates whether this unit currently has a location on the map. The unit in the box may be changed by using the arrow keys [press ESC if necessary] and selecting **Next Unit** or **Last Unit** from the menu or by pressing the keyboard letters **N** or **L**.

Perspective may be changed by selecting the desired view from either the normal or zoom in menu option rows. Selecting **Extreme [Zoom]** will draw a reversed 10 x 10 grid on the map that may be maneuvered with arrow keys. Pressing RETURN will greatly enlarge the area underneath the reversed box; pressing the ESC key will cancel this function. An extreme zoom view may be scrolled by using **Left, Right, Up** and **Down** or respectively pressing the right bracket (]), semi-colon (;), single quote (') and slash (/).

Select **Save** to store a simulation to disk. Use the UP, DOWN, LEFT and RIGHT arrow keys to change the drive or directory and press RETURN. Enter the filename (the .SIM extension will be added for you) and press **Continue**. Selecting **Cancel** will end this function without saving to disk. The Simulation Time and the Long Ranged Weapon data may be changed by selecting **Edit** from the menu. Press CNTRL and the letter 'Q' simultaneously to end this function and return to the Main Menu.



**Scenario Information Box**

**Title of simulation:** \_\_\_\_\_.

**The scenario begins at** \_\_\_\_ **hours.**  
**The scenario ends at** \_\_\_\_ **hours.**

**Each movement phase is divided into eight segments of** \_\_\_\_ **minutes each.**

Continue

Cancel

## EDITING SCENARIO INFORMATION

The starting time of the simulation, end time, the length of segments, and the message that appears at the top of the battlefield are entered by using the LEFT, RIGHT, UP and DOWN arrows to highlight the desired line and entering the data from the keyboard. If an old simulation is being edited the current information is displayed in the text field. Click the left mouse button over **Continue** when done.

A gentle reminder will be displayed if the fields are incorrectly entered or left blank and the user will be returned to this menu to correct the data.

Remember the Universal Military Simulator uses military time (1:30 P.M. = 13:30 hours). NOTE: When saving a simulation the current time is set to the start time.



ENTER RANGE OF UNITS	
ARCHER	0
CATAPULT	0
FIELD ARTILLERY	0
HORSE ARTILLERY	20
ARMOR	0
WHITE ARMY:	
Wildcard 1_(Undefined)	0
Wildcard 2_(Undefined)	0
Wildcard 3_(Undefined)	0
Wildcard 4_(Undefined)	0
Wildcard 5_(Undefined)	0
Wildcard 6_(Undefined)	0
BLACK ARMY:	
Wildcard 1_(Undefined)	0
Wildcard 2_(Undefined)	0
Wildcard 3_(Undefined)	0
Wildcard 4_(Undefined)	0
Wildcard 5_(Undefined)	0
Wildcard 6_(Undefined)	0
<div>CONTINUE</div>	

## EDITING RANGED WEAPON DATA

Some units may possess long range weapons capability (they are able to fire at units that are not on adjacent grid points. These units are Archers, Catapults, Field Artillery, Horse Artillery, Armor, or Wildcard Units. To enter a range use the UP and DOWN arrows until the desired line is highlighted and enter the data. If a wildcard unit had been previously defined its type will also be displayed. The maximum effective range is 50 grid points.

When defining the range of various weapons be certain to calculate the scale of the map used. Because the map scale is also user defined no default values are given.

Air power may be simulated by defining a wildcard as "B-52 Sqdrn", for example, locating it at the edge of the map and defining the unit's range as 51. Now air strikes may be called during the simulation.

This function may also be used to create 'zones of control' for wizards or mages in fantasy and role-playing simulations.



## APPENDIX A

# Recreating History With The Universal Military Simulator

### Arbela

To accurately recreate the battle of Arbela place the White Army [Darius] under Computer Control and select **Force Computer To Defend**. Place the Black Army [Alexander] under Computer Control and select **Right Flank Attack** with the **Support with Left Flank** option. This is necessary because Alexander's forces are outnumbered by almost a two to one margin and the Universal Military Simulator's Battle Logic will not attack at such odds. After about two hours of simulation time have elapsed switch the White Army to **Allow Computer to Decide Strategy**. A general melee will ensue now (both sides completely controlled by the Universal Military Simulator) that quite accurately reflects that fateful day in 331 B.C. Best viewing perspectives: For the first hour or two of simulation time select **Northwest Zoom In** or **Northeast Zoom In** and turn off the **Automatic Zoom** function. It is also advisable to put the Universal Military Simulator in **Fast Mode**. Within the first three hours of combat over 125 individual battles will erupt and watching them all in detail can become a bit tiring.

### Hastings

Place both armies under complete computer control by selecting **Allow Computer to Decide Strategy** and step back to 1066. The best viewing perspective for the first two or three simulation hours is **Northeast Zoom In**. Remember it is quite possible for the Normans (Black Army) to utterly destroy the defending Saxons on the hill and only achieve a marginal victory [the type of victory is decided on a comparison of the percentage of casualties for both armies—if the Normans suffer many casualties they could win the battle and still lose the war]. The armies have been accurately recreated. To even up the play-balance at the expense of historical accuracy use the **Edit Army** function to give the Saxons another two thousand peasants. Then place them in position using the **Edit Scenario** function. Use Create New Scenario.

### Marston Moor

Put the White Army (Royalist) under Computer Control and select **Force Computer to Defend** while the Black Army (Parliament) is ordered to execute a **Double Envelopment**. All of the Zoom In perspectives offer an excellent aerial view of the battlefield. To see the Universal Military Simulator's Battle Logic in action place both armies in **Allow Computer to Decide Strategy** mode and watch how the Black Army threads its way through the intervening ditch to attack the Royalist forces.



## Waterloo

The Universal Military Simulator is not aware of the Emperor Napoleon's precarious political position and consequently must be instructed to attack the seemingly impregnable positions of the Anglo-Allies by placing the Black Army (French) under Computer Control and selecting **Force Computer to Attack**. Leave the **Automatic Zoom** on and let the Universal Military Simulator highlight the action as it develops. To create a more equal play balance—and to increase Napoleon's chances of winning at Waterloo—use the **Edit Army** function to add the French Corps described in Appendix B to the Imperial Army.

## Gettysburg

As at Waterloo, the political consequences of victory for the smaller army, greatly outweighed sound strategic thinking. Robert E. Lee and the Confederate Army must win at Gettysburg even though they are outnumbered by the Union Army. To recreate Gettysburg place the Union (White Army) under Computer Control and select **Force Computer to Defend**. The Confederates should be assigned to **Force Computer to Attack**. There are a number of exciting perspectives of the Gettysburg battlefield including **Zoom In North**, **Zoom In South** and **Zoom In Northeast**. To increase the Confederate odds of victory add J.E.B. Stuart's cavalry corps as shown in Appendix B.



## APPENDIX B

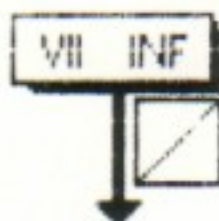
# Modified Order of Battles

## Waterloo

The French Imperial Armee du Nord was at a grave disadvantage in numbers at Waterloo. Certainly the presence of the Marshal Grouchy and the 33,000 men of the III and IV Corps on the field would have evened the odds. If you wish to add these troops to the Waterloo Scenario select **Edit Army** from the Main Menu and select **Edit Old Army**. When prompted select the file **NAPOLEO.ARM** and enter the following units in the normal manner.

Save this file to another disk (there just isn't any more room on the UMS disk). Exit this function and select **Create Scenario** from the Main Menu and use **Create New Scenario** to load **WATERLO.MAP**, **NAPOLEO.ARM**, AND **WELLING.ARM**. Place the new units in the southeastern section of the map and save the simulation to disk with a new filename, like **WATER2.SIM**. Again, you'll need to save on a disk other than the UMS disk. Now you have two versions of the Waterloo simulation. The new one can be played by selecting **Read Simulation From Disk** from the Scenario Selection Menu.

### III Corps D' Armee—



#### 8th Division

Lt.-General Baron Lefol

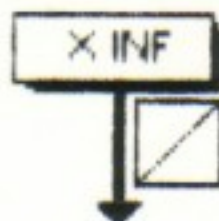
Strength: 4,700

Efficiency: Average

Speed: 12.5 Mph

Moves: 4

Type: Heavy Infantry    Flagname: VIII INF



#### 10th Division

Lt.-General Baron Hubert

Strength: 4,700

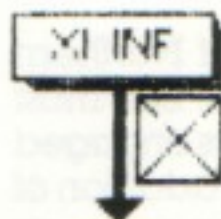
Efficiency: Average

Speed: 12.5 Mph

Moves: 4

Type: Heavy Infantry    Flagname: X INF



**11th Division**

Lt.-General Berhezene

Strength: 4,300

Efficiency: Average

Speed: 12.5 Mph

Moves: 4

Type: Heavy Infantry    Flagname: XI INF

**Third Corps Artillery**

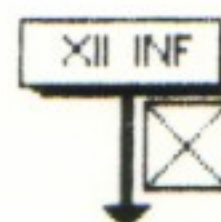
Strength: 936

Efficiency: Crack

Speed: 18.5 Mph

Moves: 5

Type: Field Artillery    Flagname: 3 CORP

**IV Corps d'Armee—Lt.-General Count Gerard****Twelfth Division**

Lt.-General Baron Pecheux

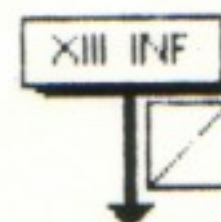
Strength: 3,750

Efficiency: Average

Speed: 12.5 Mph

Moves: 4

Type: Heavy Infantry    Flagname: XII INF

**13th Division**

Lt.-General Vichery

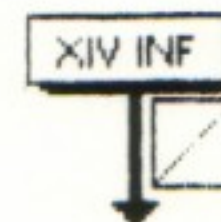
Strength: 3,750

Efficiency: Average

Speed: 12.5 Mph

Moves: 4

Type: Heavy Infantry    Flagname: XIII INF

**14th Division**

Lt.-General Hulot

Strength: 3,250

Efficiency: Average

Speed: 12.5 Mph

Moves: 4

Type: Heavy Infantry    Flagname: XIV INF

**4 Corps Artillery**

Strength: 1,538

Efficiency: Average

Speed: 18.5 Mph

Moves: 5

Type: Field Artillery    Flagname: 4 CORP



## Gettysburg

J.E.B. Stuart's cavalry, "the eyes" of the Confederate Army of Northern Virginia were not on the battlefield at Gettysburg when Robert E. Lee most needed them. Instead virtually every Confederate cavalryman was engaged in a pointless skirmish some five miles east of town. To simulate the addition of Stuart's cavalry to the Confederate army at Gettysburg add the following units using the same method as described earlier under Waterloo. The confederate army filename is LEE.ARM and the Gettysburg simulation filename is GETTYSBU.SIM.



### First Brigade

General Fitz Lee

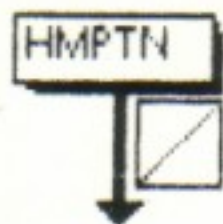
Strength: 1,050

Efficiency: Crack

Speed: 24.5

Moves: 6

Type: Heavy Cavalry    Flagname: LEE



### Second Brigade

General Wade Hampton

Strength: 975

Efficiency: Crack

Speed: 24.5 Mph

Moves: 6

Type: Heavy Cavalry    Flagname: HMPTN



### Third Brigade

General W.H.F. Lee

Strength: 1,100

Efficiency: Crack

Speed: 24.5 Mph

Moves: 6

Type: Heavy Cavalry    Flagname: WHF LEE



### Fourth Brigade

General Fitz Jenkins

Strength: 1,125

Efficiency: Crack

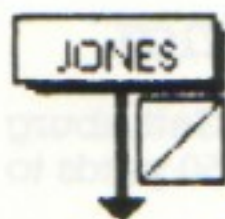
Speed: 24.5 Mph

Moves: 6

Type: Heavy Cavalry    Flagname: JENKIN



## APPENDIX B CONTINUED

**Fifth Brigade**

General Jones

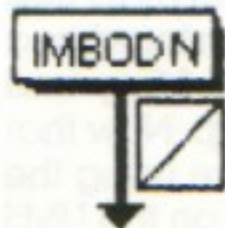
Strength: 1,150

Efficiency: Crack

Speed: 24.5 Mph

Moves: 6

Type: Heavy Cavalry      Flagname: JONES

**Sixth Brigade**

Col. Imboden

Strength: 750

Efficiency: Crack

Speed: 24.5 Mph

Moves: 6

Type: Heavy Cavalry      Flagname: IMBODN



## QUESTIONS & ANSWERS

### Or, "I didn't know the Universal Military Simulator could do *that*"

**Q:** I've spent the last fifteen years researching the battle of Gettysburg and I'm convinced that Little Round Top should be moved 150 yards to the east. Can I change this on the UMS map?

**A:** Sure. You can change the topography of any of the maps provided with UMS. Here's how to do it: First, make a copy of the file you want to change in case your experiment doesn't work out like you planned. All UMS map files end with the extension .MAP. The Gettysburg map, for example, is stored as a file named: GETTYSBU.MAP. Simply call the map up using **Load Map** and then save it with a different name on another disk using **Save Map**. Now that you've got a copy you can make whatever changes that you like using the normal editing routines. Make sure that your new map is stored on the UMS disk with the same name as the old one.

**Q:** Can I copy UMS on to a hard disk drive?

**A:** No problem. UMS is not copy protected on purpose. By all means transfer it to hard disk drive but remember to copy all of the files on the disk. Provisions have been made throughout the program for saving and loading files on up to two floppy drives and two hard drives.

**A:** Can I make copies of The Universal Military Simulator and give them to my friends?

**A:** No. The Universal Military Simulator is protected by copyright. You are, however, allowed to make a back up copy for yourself. And, you are encouraged to design your own scenarios, maps and armies and give them to your friends, put them on bulletin boards or sell them.

**Q:** How many drives are recommended for use with this program?

**A:** It's nice to have two drives, that way any simulations you design, or battles that you save can be stored on the second disk without having to swap disks.

**Q:** What should I do if The Universal Military Simulator won't load and run one of the six scenarios that came with the disk?

**A:** If you live in North America, send the defective disk back to Firebird Licensees, 71 N. Franklin Tpk., Waldwick, New Jersey with proof of purchase and they'll shoot you a new copy as soon as they get the old one. In the United Kingdom and Europe return the disk to: Rainbird Software, 74 New Oxford Street, London.



## QUESTIONS & ANSWERS CONTINUED

**Q: Would Telecomsoft be interested in buying any battle simulations that I design?**

**A:** Absolutely. We plan to release subsequent battle disks. All submissions welcome; either historical or fantasy.

**Q: Why aren't there any nuclear weapons options?**

**A:** Because the scenarios would be very short.

**Q: Can I cheat?**

**A:** Sure: here's one way to do it: Save the simulation to disk and exit the Battlefield Window. From the Main Menu select **Edit Scenario** then remove as many enemy units as desired. Or, better yet, after saving the simulation to disk use **Edit Army** to add whole new divisions and corps to your army. Then put them in the battle using **Edit Scenario**. Actually, this isn't cheating. The Universal Military Simulator was designed to play 'what if' with an infinite number of battles. Now you can find out what would have happened if Custer had brought along those six Gatling guns to the Little Big Horn. See Appendix B for modified Order of Battle lists for Waterloo and Gettysburg.

**Q: Occasionally, during zoomed in views, some unit flags are not displayed. Why is this?**

**A:** Unit flags that would appear partially off screen are not displayed. Only unit flags that are entirely on screen are shown. You can either select another view or use Extreme Zoom and scroll around until the unit flag is displayed. This is an extremely rare occurrence.

**Q: The boss is beginning to complain about my running UMS all day at work. I don't want to lose my job and I can't stop in the middle of Waterloo. What can I do?**

**A:** Whenever your boss walks by press CONTROL and the letter 'W' simultaneously. The screen will blank and you'll have a working word processor. You can actually get a little business done while your boss is still in the room. After he leaves press CONTROL and 'W' again and you can resume the simulation where you left off.



## APPENDIX C SPECIAL COMMANDS

**CHANGING ACCURACY** Everytime two hostile units come into contact fourteen variables are consulted to determine the results of battle. The last of these variables is 'Accuracy' which is a random factor representing the percentage of troops that actually inflicted casualties upon the enemy. Accuracy is a random number between a low and high boundary. The default values for the boundaries are '2' and '15'. That means that between 2% and 15% of a unit's troops will score 'hits' upon the enemy. These boundaries, as well as the boundaries for long range weapons, can be altered by pressing CONTROL and the letter 'R' simultaneously. The current values for the boundaries are displayed and can be changed by pressing backspace, entering the values, and pressing RETURN.

**CHANGING FIREPOWER** All unit types have a firepower, or basic value, that is used, in conjunction with other factors, to determine the results of battle. These firepower values can be viewed, and changed, by pressing CONTROL and the letter 'F' anytime that the battle menu is displayed. Use the UP, DOWN, LEFT and RIGHT arrow keys until the desired unit type or option is highlighted. Press return to activate the option or press backspace to enter the new firepower values. Sets of values can be stored to disk by selecting the SAVE option or previously saved values can be restored by selecting LOAD. Firepower value files end with the .VAL extension. DEFAULT.VAL is the standard file and is automatically loaded at the beginning of all simulations.

**LINE OF SIGHT OPTION** When the line of sight option has been activated long range weapons may only fire upon enemy units that present an unobstructed target. Firing will not be permitted through hills or ridges. To activate this option press CONTROL and 'L' simultaneously. To de-activate the option press CONTROL and 'L' simultaneously again. This option is turned off at the beginning of all simulations.

**MESSAGE DISPLAY TIME** The length of time that a message is displayed on the screen during **Fast Mode** can be changed by pressing CONTROL and the letter 'T' simultaneously. Press backspace and enter any value up to two digits to increase the time that the message stays on the screen. The default value is zero.

**WORD PROCESSOR** Pressing CONTROL and the letter 'W' simultaneously will temporarily replace the battlefield on the screen with a working word processor. Pressing CONTROL and the letter 'W' simultaneously restores the simulation.

**SCREEN REVERSAL** The entire screen can be reversed at anytime that the menu is displayed by pressing CONTROL and the letter 'X' simultaneously. This function can be used to optimize screen clarity or to make screen dumps after GRAPHICS has been loaded from an MS-DOS system disk.



## KEY COMMANDS

KEY	FUNCTION
SPACE BAR	Issue Commands
CONTROL D	Demonstration Mode
E	End Turn
CONTROL E	End Turn
F	Fire Ranged Weapons
CONTROL F	Change/View Unit Firepower
CONTROL I	Input File From Disk
L	Last Unit
CONTROL L	Line of Sight Toggle
N	Next Unit
CONTROL N	Next Movement Phase
CONTROL O	Save to Disk
CONTROL Q	Quit
CONTROL R	Change Accuracy Variables
S	Switch Sides
T	Set Time of Message Display
CONTROL W	Word Processor
X	Removes Unit [Create Scenario]
CONTROL X	Reverses Screen
Z	Toggles Zoom in View
;	Scroll Left
[	Scroll Up
,	Scroll Right
/	Scroll Down
ESC	Toggles Mouse Cursor



## ACKNOWLEDGMENTS

In addition to the many friends and associates that helped make UMS a reality listed at the end of the Scenario Handbook the author would like to thank:

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# ERRATA

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Save the file to another disk under the file name Napoleo.arm. Exit this function and then exit the UMS program. Copy WELLING.ARM, WATERLOO.MAP and WATERLOO.SIM files to your saved position disk. Now reload your UMS disk and go to CREATE SCENARIO. At this point swap the UMS disk for the saved position disk, select option 3, and load WATERLOO.SIM. Place the new units in the southeastern section of the map and save the simulation to disk under a new filename on your saved position disk.

You now have two versions of the Waterloo simulation. The new one can be played by selecting READ SIMULATION FROM DISK from the Scenario Selection Menu.

This procedure can be followed when creating additional units to an army that is already involved in a simulation.

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Additional units have already been created and added to the LEE.ARMY and is on the UMS disk under the filename LEE2. To use it, copy LEE2.ARM to a newly formatted disk and rename it LEE.ARM. In addition to the LEE2.ARM, copy MEADE.ARM, GETTYSBU.MAP and GETTYSBU.SIM to the formatted disk. Follow the above instructions and place the new units in the northeastern corner of the map.

**UNIT ATTRIBUTE VALUES** All unit types have a firepower, or basic value, that is used, in conjunction with other factors, to determine the results of battle. These firepower values can be viewed, and changed, by pressing CONTROL and the letter 'F' anytime during a simulation. Edit this data using the standard techniques for dialog boxes described throughout the manual.

**LINE OF SIGHT OPTION** When the line of sight option has been activated, long range weapons may fire only upon enemy units that present an unobstructed target. Firing will not be permitted through hills or ridges. To activate this option, press CONTROL and 'L' simultaneously. To de-activate the option, press CONTROL and 'L' again. This option is turned off at the beginning of all simulations.





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