



ATARI ST USER INSTRUCTIONS



Intergalactic
Development
Incorporated

THE UNIVERSAL MILITARY SIMULATOR

BY D. EZRA SIDRAN

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ATARI ST USER INSTRUCTIONS

PUBLISHED IN THE U.K. AND EUROPE
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The Universal Military Simulator
Atari ST User Instructions
written & designed by D. Ezra Sidran
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All screen images in this manual are from
the monochrome version.
Color screens may differ slightly.

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.

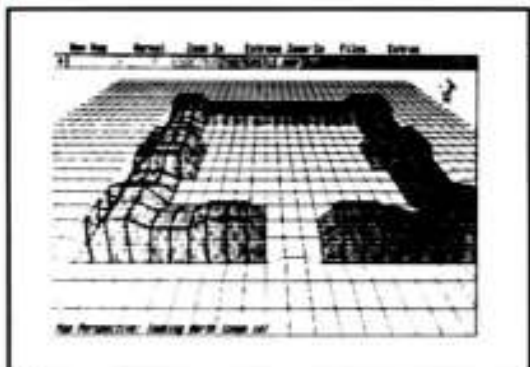
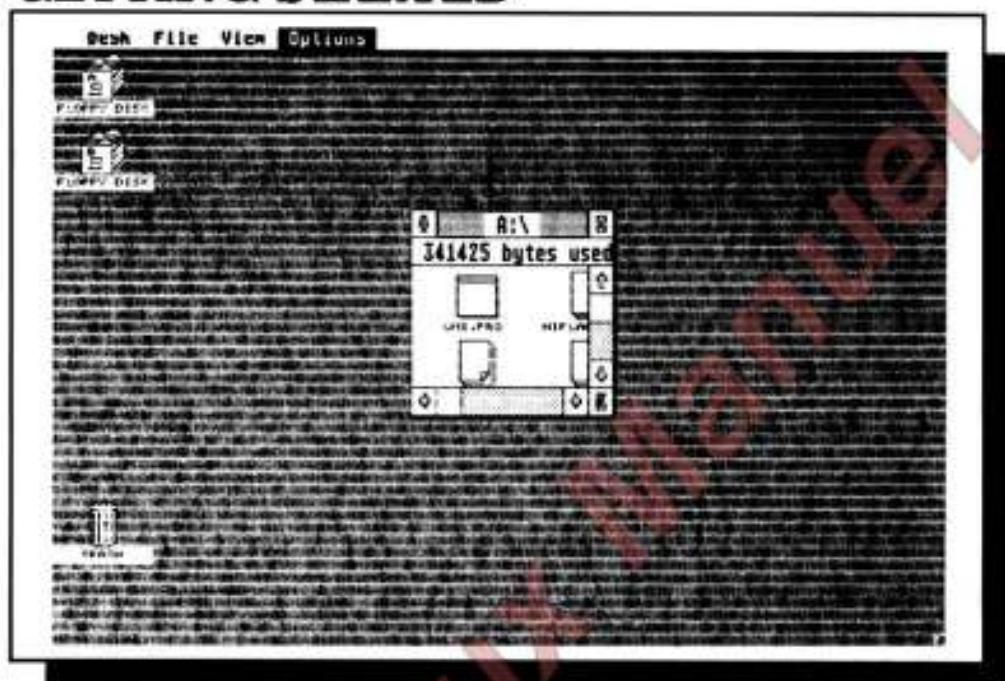


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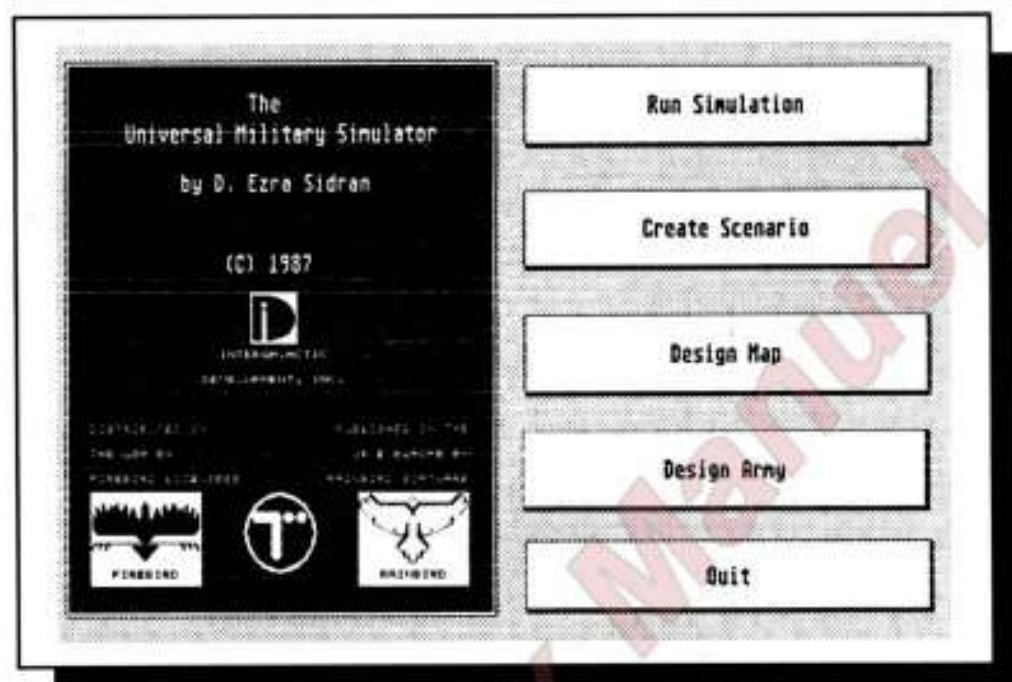
CHAPTER I GETTING STARTED



LOADING & RUNNING THE UNIVERSAL MILITARY SIMULATOR.

The Universal Military Simulator Atari ST version requires: an Atari 520 or 1040 ST or Mega ST, one floppy disk drive and a monochrome or color monitor or a television set with RF converter. Options include: a dot-matrix printer, hard disk drive, and extra floppy disk drive. The program will not run properly if desk accessories, such as the control panel, have been installed. To ensure that no accessories are loaded it is advisable to boot the system with the Universal Military Simulator program in DRIVE A. When the GEM desktop appears double click the mouse over the **UMS.PRG** icon.

The program will now load and run. Because the Universal Military Simulator is not copy protected (but it is copyrighted and no unauthorized copies may be made for distribution) the disk may be copied to a hard drive. Remember to copy all files found on the disk as well.



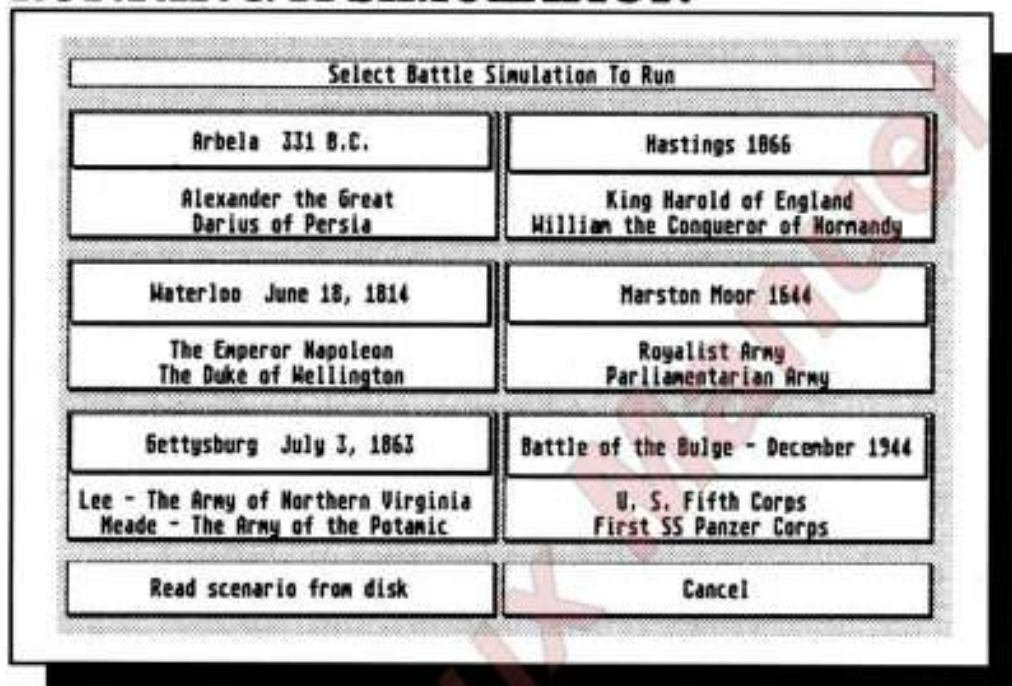
THE MAIN MENU

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, position the arrow cursor over the desired box and click the left mouse button once.

To terminate the program select **Quit**. You will be returned to the GEM desktop. 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 typographical 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 and the combinations are nearly infinite. 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 3-D.

CHAPTER II

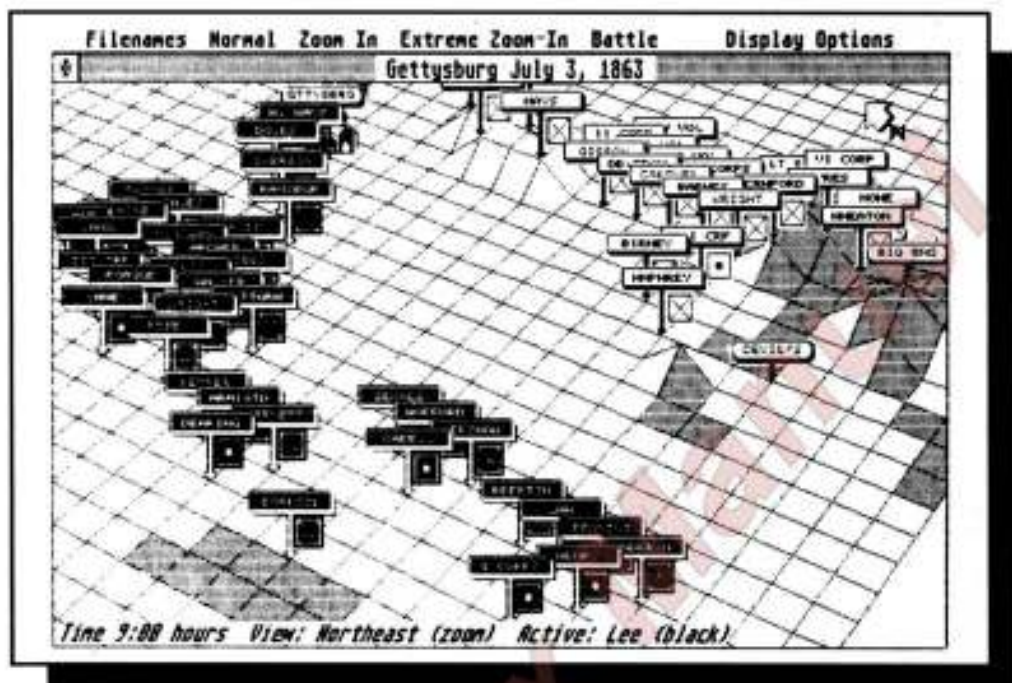
RUNNING A SIMULATION



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. To select a scenario click the left mouse button once over the desired simulation.

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 clicking the left mouse button once over this option a dialog box will appear requesting that the user specify a disk drive by clicking the left mouse button once over the appropriate drive box. Two floppy disks and two hard drives are supported. Double click the left mouse button over the desired file. Selecting **Cancel** returns to the last menu.



THE BATTLEFIELD WINDOW

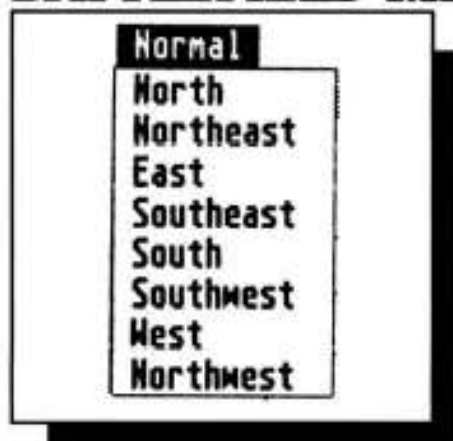
The Universal Military Simulator takes full advantage of the GEM capabilities of the Atari ST. The battlefield window contains drop-down menus [discussed in detail in the following pages], a close box located in the upper lefthand corner of the window, and dialog boxes that appear throughout the simulation to receive user input. At the bottom of the window two status lines are displayed that indicate the current three-dimensional perspective, the current simulation time (in military time) and the present 'active army' or side that is currently capable of receiving commands and firing weapons.

Clicking the left mouse button once inside the close box will end the simulation after the program has confirmed the user's intentions.

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 Command Phase** from the drop-down menu or by pressing the letter **Q** on the keyboard; and the **Movement/Battle Phase**. At the end of the **Command Phase** the user is requested, through a series of dialog boxes, 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 Segment** from the drop-down menus, or pressing the letter **N** on the keyboard will advance the scenario time and update the battlefield. After the **Movement/Battle** phase is completed the **Command Phase** is repeated.

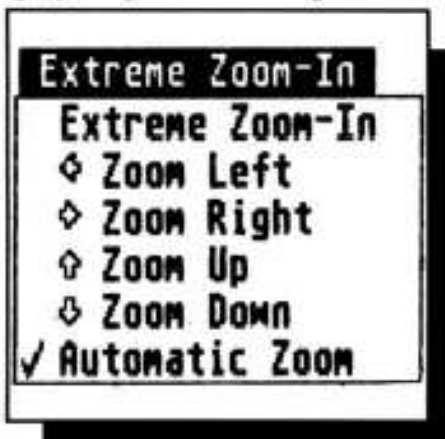
THE DROP-DOWN BATTLEFIELD MENU



Located at the top of the battlefield GEM window are six drop-down menus. All functions of the Universal Military Simulator may be accessed through these menus. Many functions may also be activated by a corresponding keystroke. The left most menu, **FileNames**, when selected, displays the actual filenames used for storing the maps, scenario and armies for the current simulation. This information is quite helpful when editing a scenario. Three-dimensional viewing perspective is controlled by the drop-down menus underneath **Normal** and **Zoom In**. Moving the mouse over any of

the titles above the window will cause the drop down menu to appear. Clicking the left mouse button over a highlighted item will cause the map to be redrawn within the battlefield window from the perspective selected. 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 **Zoom In** menu will draw a map with a corresponding close in aerial perspective.

The **Extreme Zoom In** menu controls highly magnified viewing of a selected areas. Selecting the item **Extreme Zoom In** under the menu heading will create a flashing 10 grid point by 10 grid point box. [Color monitors will also show woods and unit directions arrows in reverse.] This flashing square is under the control of the mouse. Any directional change of the mouse will be immediately copied by the flashing grid. Clicking the left mouse button will cause the map area beneath the grid to be greatly magnified. Clicking the right mouse button will cancel this function and restore the map. After **Extreme Zoom In** has been activated the enlarged area may be scrolled by either selecting the desired direction from the drop-down menu or by pressing the four cursor arrow keys on the right hand side of the keyboard. Pressing and holding an arrow key will cause the screen to scroll continuously in indicated direction until the border of the map is encountered. [IMPORTANT: to avoid confusion only movement arrows that begin and end within the zoomed in area are displayed.] **Automatic Zoom** works like a toggle switch and may be turned on or off. When **Automatic Zoom** is enabled the computer will automatically zoom in on any important activity on the battlefield during the simulation. A check mark (tick) indicates that the function is on.





The **Battle** menu contains many of the functions required to fully utilize the Universal Military Simulator. Selecting **Issue Commands to Units** either from the drop-down 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 Sides** is used in conjunction with **Issue Commands** to select which army is currently active or capable of receiving commands. This 'active' side is shown in the display at the bottom of the battlefield window. **Switch Sides** is also used in con-

junction with **Fire Ranged Weapons** to select firing targets. Again, the 'active,' or firing, army is displayed at the bottom of the window. Selecting **End Command Phase**, either from the menu or by pressing Q on the keyboard signals the program that the user has moved all desired units. See the **Battle Logic** section in this chapter for complete information. The **Fire Ranged Weapons** function (which becomes operational after selecting the **End Command Phase**) allows the user to fire units with long range capabilities. This is discussed later in this chapter under **Combat**. The **Save Simulation** function is activated from either the drop-down menu or by pressing the letter S from the keyboard. After entering the desired filename, select the drive for storage by clicking the left mouse button over the appropriate letter box. To restore a saved simulation use the **Read From Disk** option on the previous menu. All simulation files end with the .SIM extension.

A hard copy print out of the battlefield window may be obtained by selecting **Print Map** from the drop-down menu or by pressing P on the keyboard. The Universal Military Simulator supports both the Atari 1280 line format or Epson 960 dots per inch format. Select the desired format by clicking the left mouse button over the appropriate box. The user may also add one line of text at the top of the printout.

After hard copy printout has been 'formatted' using this function, additional screen prints may be made at any time throughout the program by pressing the **ALT** and **HELP** keys simultaneously. The **Order of Battle** command will display all units currently within an army. If the display continues for more than one screen, pressing the left mouse button will show the next page of units; pressing the right mouse button will cancel the display and return the user to the simulation.

For a graphic display of this function see page 17.



Display Options**Computer Logic**

- ✓ **Battle Markers**
- ✓ **Movement Arrows**

-
- ✓ **Towns & Landmarks**
 - ✓ **Show White Flags**
 - ✓ **Show Black Flags**
 - Fast Display Mode**

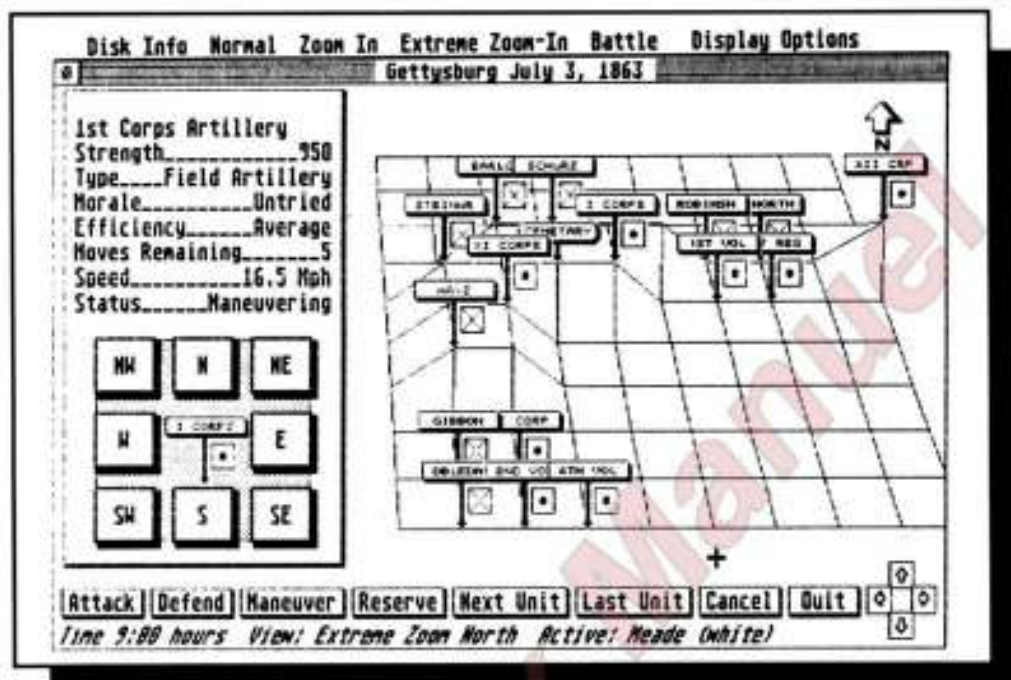
The **Display Options Menu** allows the user to control the features that are displayed on the battlefield map. The options are 'toggle switches' and may be turned either on or off. A check mark indicates that the option is active. The options are: **Battle Markers**, which indicate points where hostile 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. 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 **Issue Commands** function is activated either from the drop-down menu 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 surrounded by the eight compass directions. If **Automatic Zoom** has previously been selected the area immediately around the active unit will be enlarged. To move a unit either click the left mouse button over the desired compass direction box or position the mouse cross-hairs over the intersection point on the map. Units move from adjacent point to another. To scroll the map [when in **Extreme Zoom**] click the left mouse button over the appropriate arrow key in the lower right hand corner of the battlefield window. **Next Unit** and **Last Unit** will de-activate the current unit and activate another unit for commands. Pressing the right mouse button will also advance to the next unit. **Quit** erases the **Command Box**. If **Automatic Zoom** has previously been selected the map will be redrawn to that last full perspective selected.

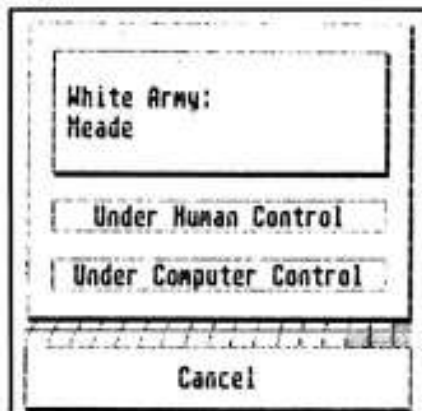
A unit may also be ordered to assume one of the following statuses: **Maneuver** [which allows for maximum movement but leaves the unit vulnerable in attack and defense], **Attack** [which reduces a unit's mobility but greatly increases its value in battle], **Defend** [which halts all further movement 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

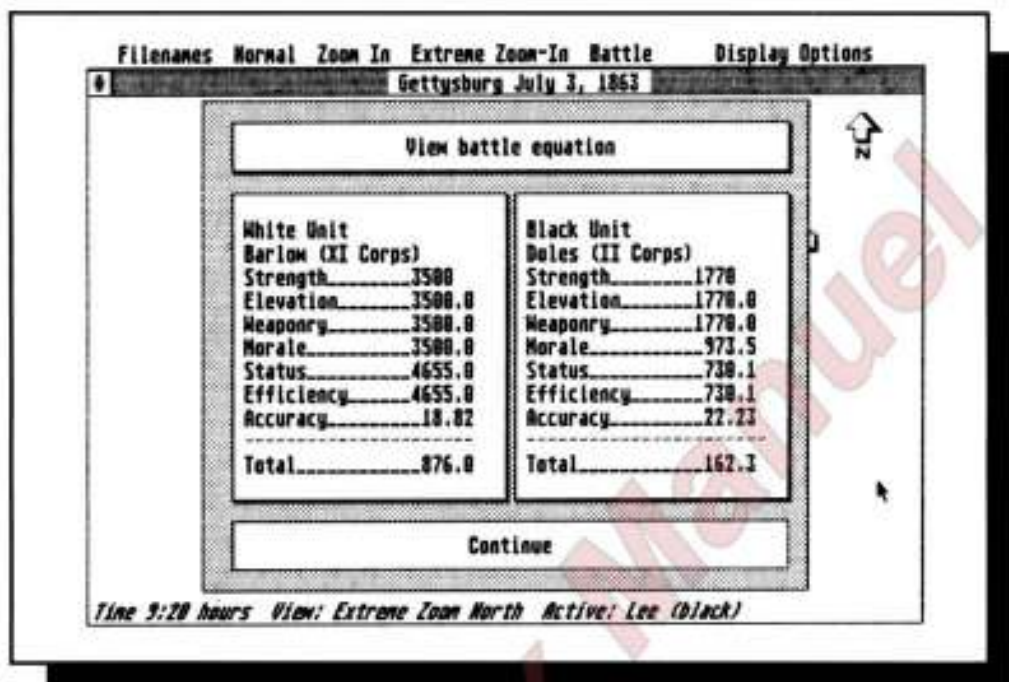
To access the Universal Military Simulator's Battle Logic, select **End Command Phase** after all desired units and commands have been made. The Universal Military Simulator may be instructed to assume command of either one or both armies or run in a 'supervisory' mode and simply referee the simulation and decide the outcome of contact between hostile units. The first dialog box that appears after selecting **End Command Phase** requests that the user assign commanders for both the black and white armies. If both armies are placed under **Human Command** the Universal Military Simulator will not request any further information and will activate the **Movement Phase**. Selecting either **Next Segment** from the drop-down menu or pressing the letter **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** the Universal Military Simulator will display a series of dialog boxes requesting specific instructions, or limitations, for the command of those forces. The **Battle Logic** dialog box is now displayed. 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**, **Right Flank**, **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.

Click the left mouse button over **Continue**, or 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.

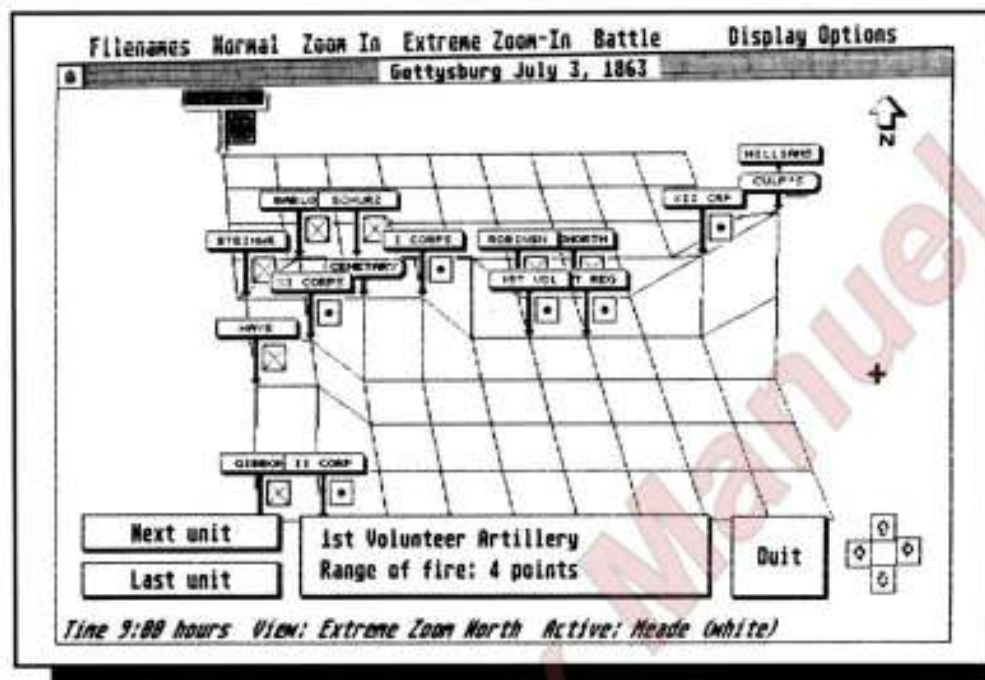


COMBAT

Combat occurs during the **Movement Phase** when units 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 **Automatic Zoom** has 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 twenty times and the results of combat calculated. No combat results will be displayed, however, 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 the right mouse button is pressed. The vital statistics of each unit and the combat results are now displayed on the screen [picture at top of page]. Clicking the left mouse button in **See Equation** box will display the values and equation 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.

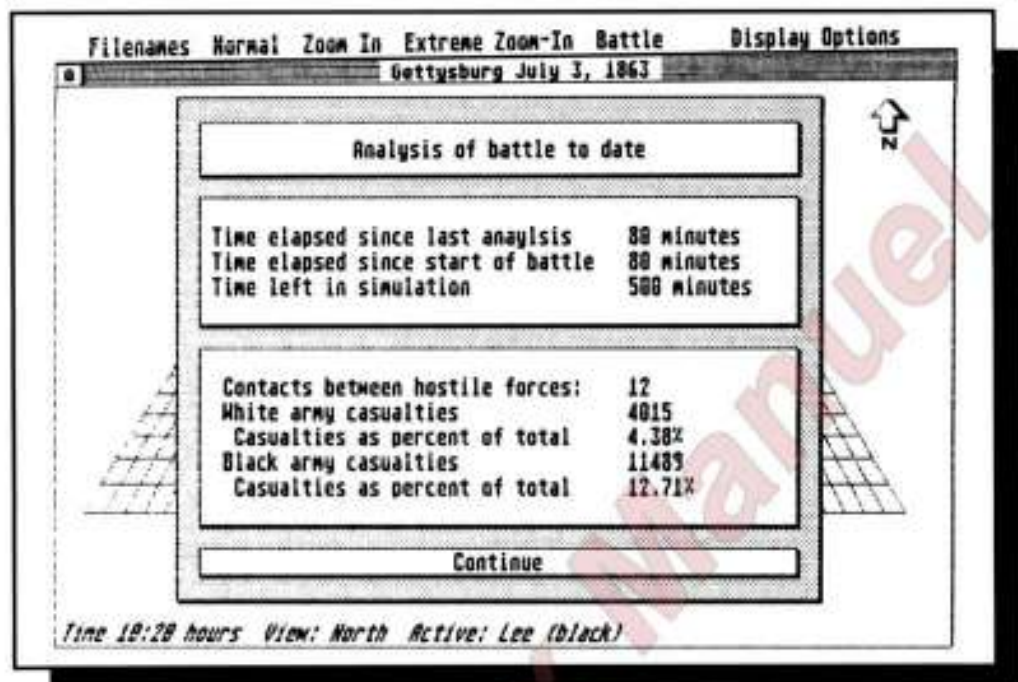
Black Unit
Boles (II Corps)
Strength.....1770
Elevation.....1770.0
Weaponry.....1770.0
Morale.....973.5
Status.....730.1
Efficiency.....730.1
Accuracy.....22.23
Total.....162.3



FIRE RANGED WEAPONS

The **Fire Ranged Weapons** routine is activated from either the drop-down 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 bottom of the battlefield window. The active army may be changed by selecting **Switch Sides** from the drop-down menu. If **Automatic Zoom** has previously been selected, the area directly surrounding the active unit will be greatly magnified. **IMPORTANT:** do not use the **Automatic Zoom** function when issuing firing orders to units with a firing range of greater than five; it may be impossible to select the desired targets.

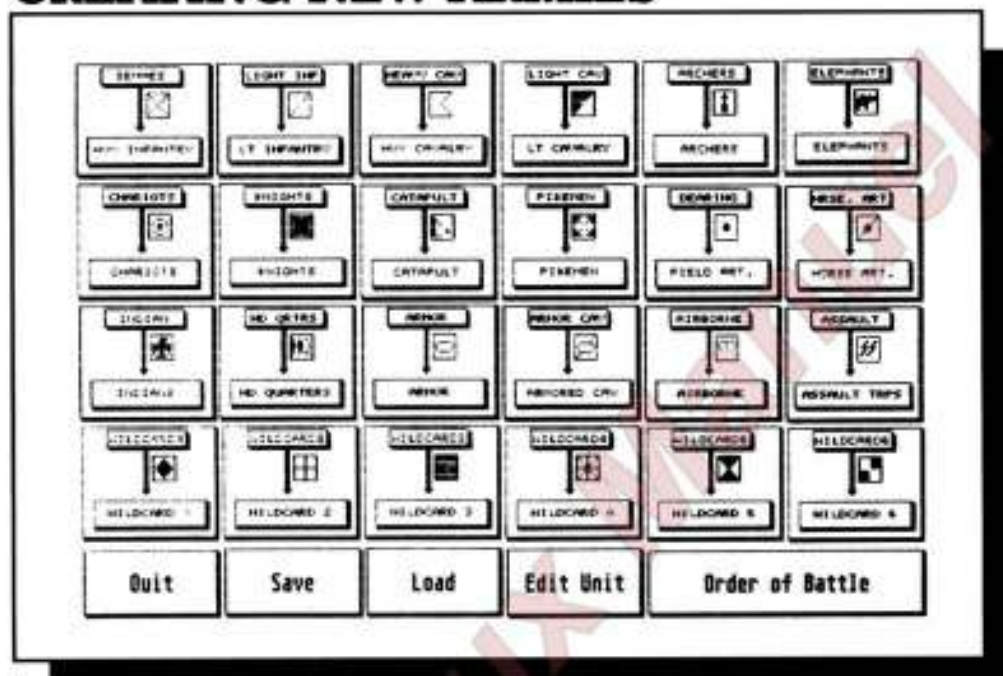
The **Fire Ranged Weapons** box is now displayed. Clicking the left mouse button over the **Next Unit** or **Last Unit** will de-activate the current unit and activate the next appropriate unit in the army. Only units capable of ranged weapon fire will be activated. To select a target, locate the mouse cross-hairs over the grid-point where the enemy unit is located and press the left mouse button. An arrow is drawn and the results are displayed at the bottom 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**.



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. After clicking the left mouse button in the **Continue** box a message is 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 Window** or to the **Main Menu** by clicking the left mouse button over the desired box.

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**. Clicking the left mouse button over **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. 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 clicking the left mouse button over the **Load** box. The user is requested to select a drive. The Universal Military Simulator supports two floppy disk drives and two hard drives. Double click the left mouse button over the desired filename. Selecting **Cancel** will return the user to the **Unit Selection Menu**. To save an army to disk click the left mouse button over the **Save** box. Enter the filename and click the left mouse button over the desired drive. All Universal Military Simulator 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 click the left mouse button over the desired flag.

Unit Name:_____	
Unit Strength:_____	
Flag Name:_____	
Moves Per Turn:_____	Unit Speed:_____
Unit Efficiency:	Poor <input checked="" type="button" value="Average"/> Crack Elite
Cancel	Continue

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 click the left mouse button over the box containing the desired rating. Click the left mouse button over **Cancel** to return to the **Unit Selection Menu** without saving the unit. To advance to the next line press either **TAB** or position the mouse cursor over the desired line and click the left mouse button once. After all data has been entered, click the left mouse button over **Continue**. 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 than can be displayed on one screen, pressing the left mouse button will continue to the next screen. Pressing the right mouse button will cancel the display and return to the **Unit Selection Menu**.

Army: Lee Units: 49 Total strength: 90425

1st Corps 1st Corps Artillery Strength.....558 Type.....Field Artillery Efficiency.....Average Moves Per Turn.....5 Speed.....16.5 Mph	1st Division 1st Division Artillery Strength.....388 Type.....Field Artillery Efficiency.....Average Moves Per Turn.....5 Speed.....16.5 Mph	Anderson (I Corps) Strength.....2788 Type.....Heavy Infantry Efficiency.....Average Moves Per Turn.....4 Speed.....12.5 Mph
Bennings (I Corps) Strength.....2588 Type.....Heavy Infantry Efficiency.....Average Moves Per Turn.....4 Speed.....12.5 Mph	Law (I Corps) Strength.....2288 Type.....Heavy Infantry Efficiency.....Average Moves Per Turn.....4 Speed.....12.5 Mph	Robertson (I Corps) Strength.....2188 Type.....Heavy Infantry Efficiency.....Average Moves Per Turn.....4 Speed.....12.5 Mph

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 drop-down menu in the **Battlefield Window**, from the **Unit Selection Menu** or automatically after a unit has been created. Pressing the left mouse button will continue the display; pressing the right mouse button 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.

DAVIS

⊗

Davis (III Corps)
Strength.....2250
Type.....Heavy Infantry
Efficiency.....Average
Moves Per Turn.....4
Speed.....12.5 Mph

Last Unit Edit This Unit Next Unit

Delete This Unit Cancel

EDITING A UNIT

Selecting **Edit Unit** from the **Unit Selection Menu** allows the user to change the vital statistics of a previously created unit. Clicking the left mouse button over the **Next Unit** or **Last Unit** boxes will de-activate the current unit and replace it with the requested unit. Selecting **Cancel** will return to the **Select Unit Menu**. A unit may be removed from the army's **Order of Battle** by clicking the left mouse button in the **Delete Unit** box. 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. Click the left mouse button over **Edit Unit** to change any of the vital statistics. The window will now display all current statistics of the 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 _____

WILDCARD 1
▼

Cancel
Continue

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.

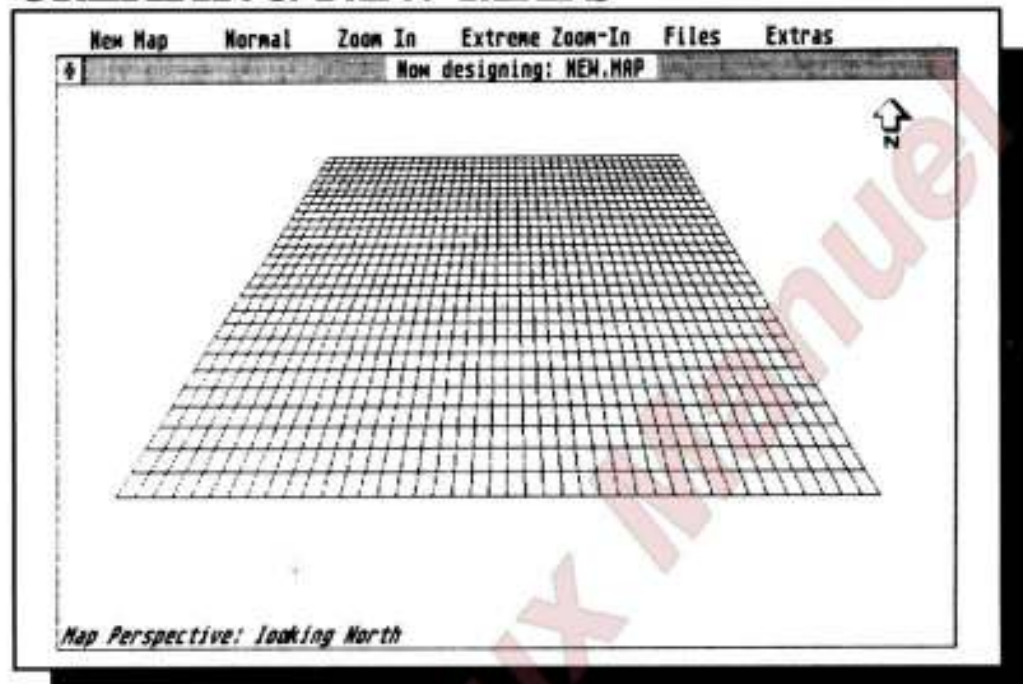
A wildcard is selected from the **Unit Selection Menu** in the normal manner by clicking the left mouse button over the desired unit. Enter the **Unit Type** data from the keyboard. To enter the **Unit Value** data either press **TAB** or click the left mouse button over the field. The **Unit Value** is a rating of the firepower of this unit type. Some of the default unit values are:

Unit Type	Unit Value
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



THE DESIGN MAP WINDOW

The Universal Military Simulator contains a powerful three-dimensional mapping utility that is accessed from the **Main Menu** by clicking the left mouse button over the **Design Map** box. 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 Map** function and kept as guides for fantasy and role-playing adventures.

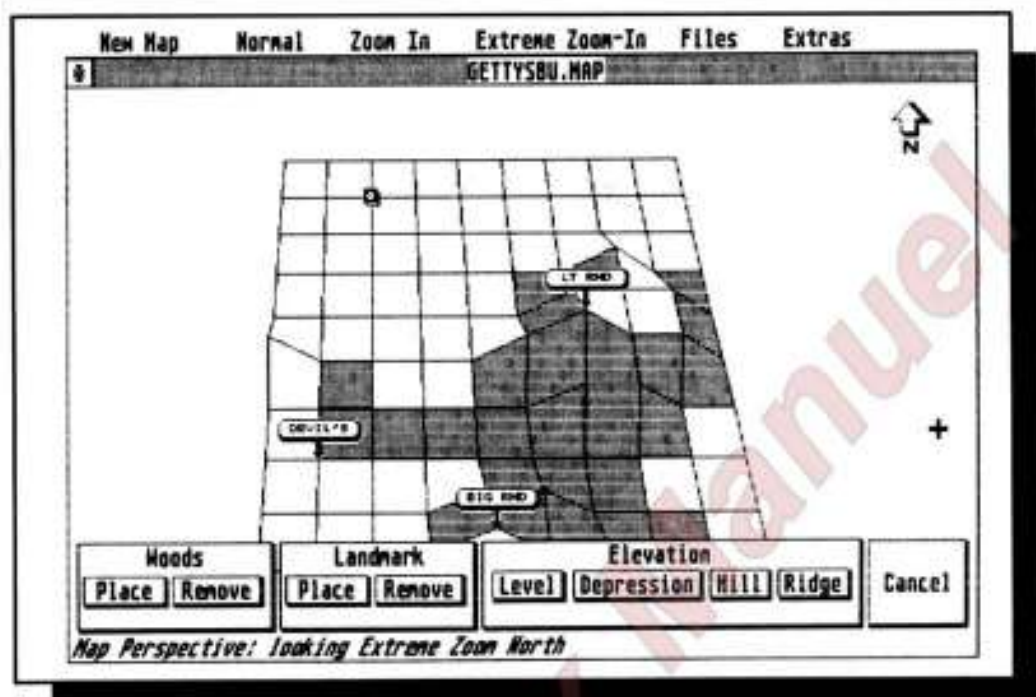
The filename of the map currently being designed is displayed near the top of the window. Clicking the left mouse button in the upper left hand corner **Close Box** will end the map designing function. The current three-dimensional perspective is displayed at the bottom of the window. A series of drop-down menus are at the top of the window and are activated by moving the mouse cursor over the titles and clicking the left mouse button over the desired item. Many of the drop-down menu functions may also be activated by an appropriate keypress.

THE DESIGN MAP DROP-DOWN MENUS



Clicking the left mouse button over the **New Map** item will erase the current map. The filename displayed at the top of the window will be the default **NEW.MAP**. All Universal Military Simulator map files end with extension **MAP**. Sixteen different perspectives may be selected with the options underneath the **Normal** and **Zoom In** titles. Selecting **Northeast**, for example, will cause the map to be redrawn from the viewer perspective of someone southwest of the map looking northeast. Selecting **Extreme Zoom** will cause a flashing 10 grid point by 10 grid point box that is controlled by the movement of the mouse. Pressing the left mouse button will cause the highlighted area to be greatly magnified. Pressing the right mouse button will cancel the **Extreme Zoom** function. Selecting **Print** or pressing the letter **P** on the keyboard allows the user to obtain a hard copy printout of the current map and perspective. The Universal Simulator supports both the Atari 1280 D.P.I. printer and the Epson standard of 960 D.P.I. Select the desired format by clicking the left mouse button over the appropriate box. The user may also add one line of text at the top of the printout. After hard copy printout has been 'formatted' using this function, additional screen prints may be made at any time throughout the program by pressing the **ALT** and **HELP** keys simultaneously. A previously created map that has been stored to disk may be edited by using the **Load Map** function selected from either the drop-down menu or by pressing the letter **L** on the keyboard. A map may be stored on disk by selecting **Save Map** from the menu or pressing **S** on the keyboard. Both functions support two floppy disk drives and two hard drives. Selecting **Cancel** during either function will return the user to the **Map Design Window**.



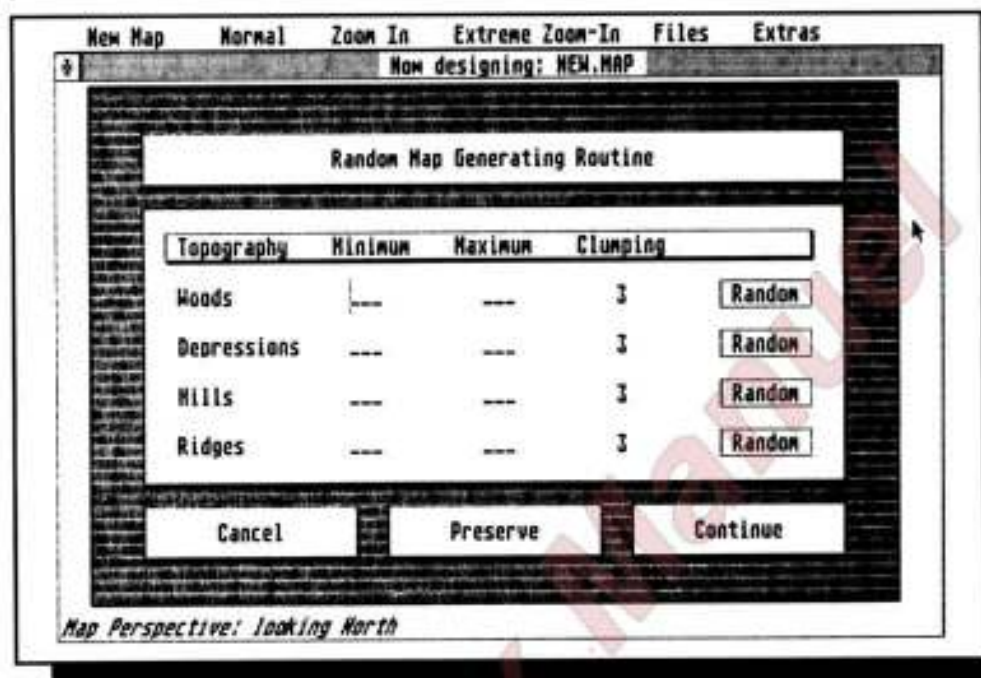


THE TOPOGRAPHICAL MENU

The topographical menu is displayed after a map grid point has been selected. The active map grid point is highlighted by a three-dimensional cube. A large section of the map can be activated by clicking and dragging the mouse from one grid point to another.

All topographical features can be **Placed** or **Cleared**. Click the left mouse button over the desired window. All highlighted grid points will receive the selected landscape feature.

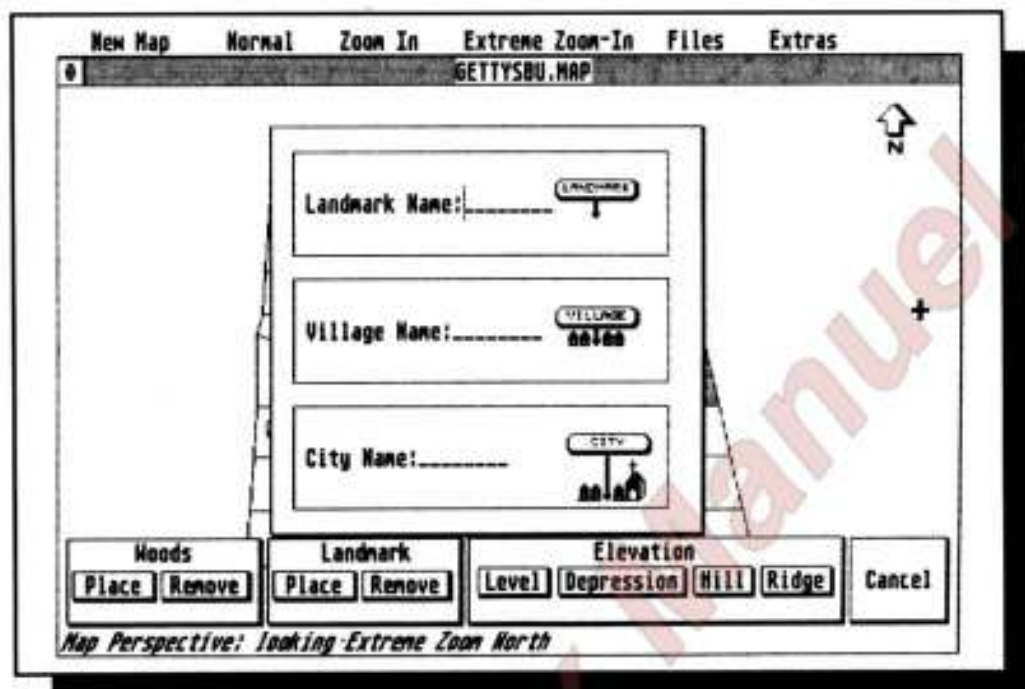
When entering a **landmark**, click the left mouse button over the text line of the desired landmark type, enter text and press **Return** when done.



THE RANDOM MAP FUNCTION

Random Maps can be generated by selecting this function from the drop-down 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 overlayed with a new random map.

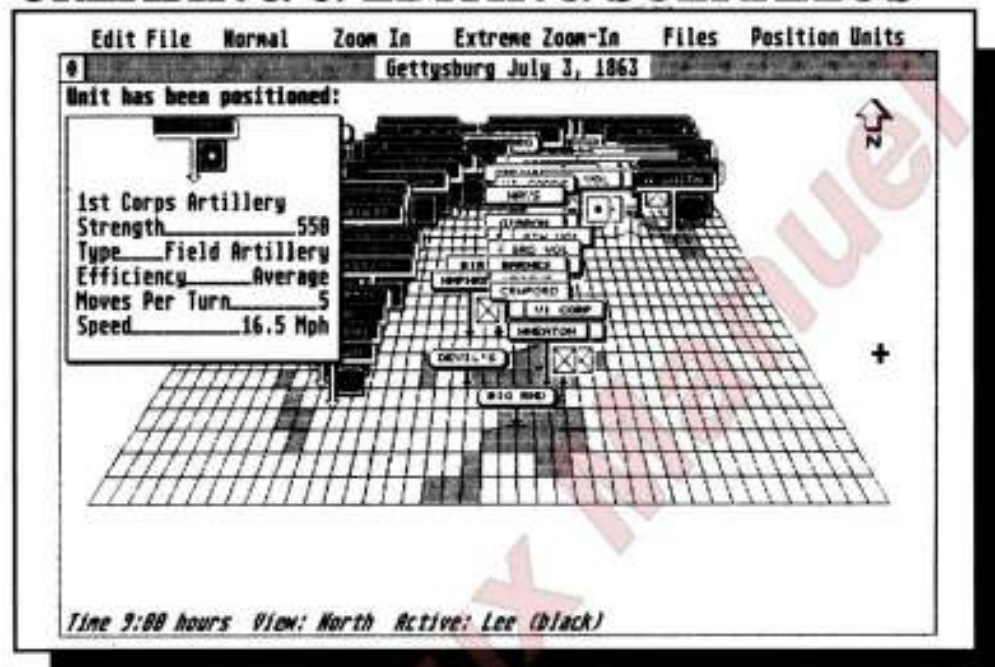


SELECTING TOWNS & LANDMARKS

The Landmarks, Cities and Towns menu is reached from the Topographical Menu. To select the desired landmark type, click the left mouse button to the left of the desired landmark inside the editable text field. Use the keyboard to enter any seven letter name and press **Return** when done. 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 clicking the left mouse button over a map grid point. 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 either pressing the right mouse button, selecting **Next Unit** or **Last Unit** from the drop-down menu or by pressing the keyboard letters **N** or **L**.

Perspective may be changed selecting the desired view from either the **Normal** or **Zoom In** menus. Selecting **Extreme Zoom In** will cause a flashing 10 x 10 grid on the map that is controlled by the mouse. Pressing the left mouse button will greatly enlarge the area underneath the flashing box; pressing the right mouse button will cancel this function.

Select **Save Simulation** or press the letter **S** on the keyboard to save a simulation to disk. Enter the filename (the **.SIM** extension will be added for you) and click the left mouse button over the desired disk drive. Selecting **Cancel** will end this function without saving to disk. The Simulation Time and the Long Ranged Weapon data may be edited by selecting **Edit Time/Ranges** from the drop-down menu.

Click the left mouse button in the **Close Box** in the upper left hand corner to end this function.

Edit File Normal Zoom In Extreme Zoom-In Files Position Units

Gettysburg July 3, 1863

Scenario Information Box

Title to appear at top of window: Gettysburg July 3, 1863

The scenario begins at 900 hours.

The scenario ends at 1800 hours.

Each movement phase is divided into eight segments of 18 minutes each.

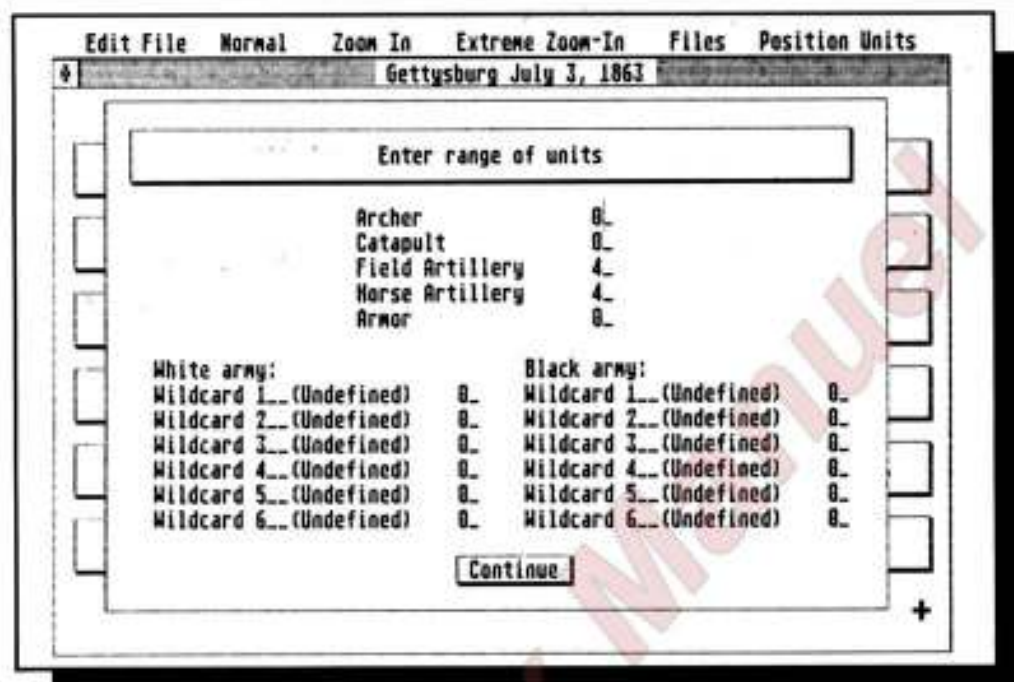
Cancel Continue

+

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 Window are entered by clicking the left mouse button over the appropriate text field and entering the data from the keyboard. Pressing **ESC** clears the line; **TAB** advances to the next line. 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.



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 click the left mouse button over the desired text field, press **backspace** if necessary, 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 Sqdm", 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 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.

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.

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

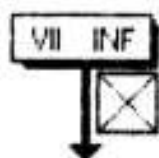
Modified Order of Battles

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 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 **Edit Old Scenario** to load **WATERLO.SIM**. Place the III corps 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— *Lt.-General Count Vandamme*



8th Division

Lt.-General Baron Lefol

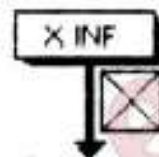
Strength: 4,700

Efficiency: Average

Speed: 12.5 Mph

Moves: 4

Type: Heavy Infantry Flagname: VIII INF



10th Division

Lt.-General Baron Hubert

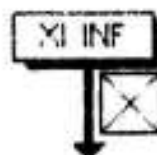
Strength: 4,350

Efficiency: Average

Speed: 12.5 Mph

Moves: 4

Type: Heavy Infantry Flagname: X INF

**11th Division**

Lt.-General Berhezene

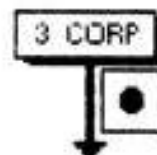
Strength: 4,3000

Efficiency: Average

Speed: 12.5 Mph

Moves: 4

Type: Heavy Infantry Flagname: XI INF

**Third Corps Artillery**

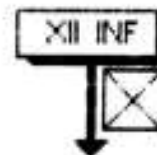
Strength: 936

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

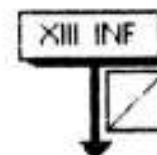
Strength: 3,750

Efficiency: Average

Speed: 12.5 Mph

Moves: 4

Type: Heavy Infantry Flagname: XII INF

**13th Division**

Lt.-General Vichery

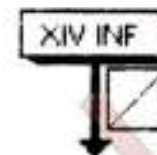
Strength: 3,750

Efficiency: Average

Speed: 12.5 Mph

Moves: 4

Type: Heavy Infantry Flagname: XIII INF

**14th Division**

Lt.-General Hulot

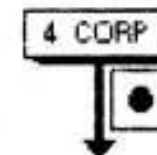
Strength: 3,250

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 Mph

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

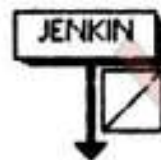
Strength: 1,100

Efficiency: Crack

Speed: 24.5 Mph

Moves: 6

Type: Heavy Cavalry Flagname: WHF LEE



Fourth Brigade

General Fitz Jenkins

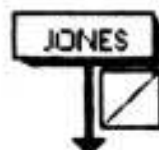
Strength: 1,125

Efficiency: Crack

Speed: 24.5 Mph

Moves: 6

Type: Heavy Cavalry Flagname: JENKIN

APPENDIX B CONTINUED**Fifth Brigade**

General Jones

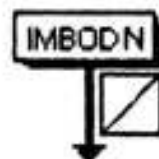
Strength: 1,150

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 spend 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**. [You can find the **.MAP** filename for any simulation by selecting the **Filenames** options from the drop-down menu in the Battlefield Window]. From the GEM desktop you can make a copy of this file on another disk; or if you prefer, you can make a copy using the Create Map section of the UMS; 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 onto a hard disk drive?

A: No problem. UMS is not copy protected on purpose. By all means transfer it to hard disk 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.

Q: 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: Do I need a color monitor?

A: Not at all. The Atari ST version of UMS completely supports 640 X 400 monochrome and 640 X 200 color.

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

A: Send the defective disk back to Firebird Licensees, 71 N. Franklin Tpk., Waldwick, New Jersey. In the U.K. and Europe return the disk to Rainbird Software, First Floor, 74 New Oxford St, London, England WC1A 1PS with proof of purchase and they'll send you a new copy as soon as they get the old one.

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.

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