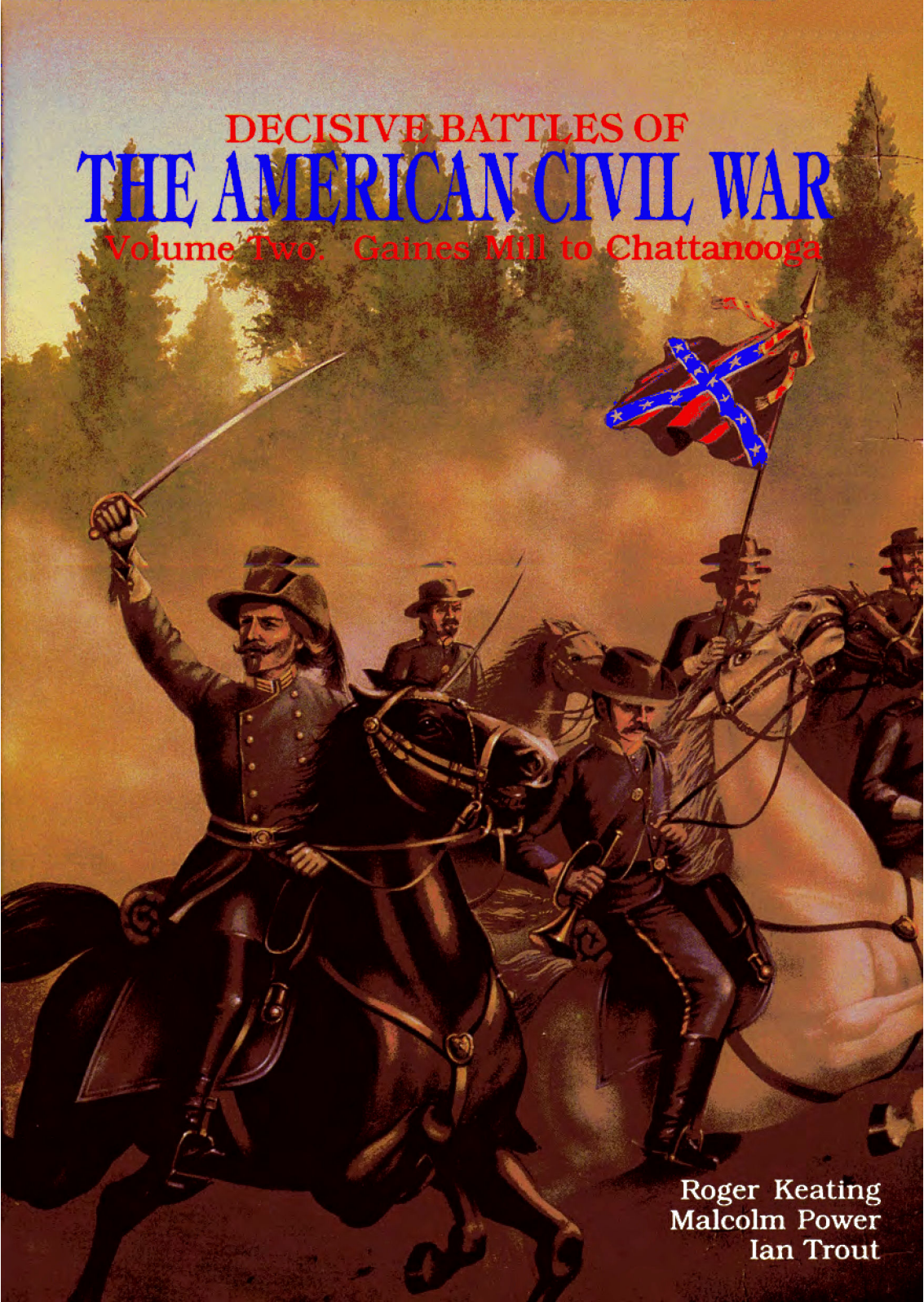

DECISIVE BATTLES OF
THE AMERICAN CIVIL WAR
Volume Two. Gaines Mill to Chattanooga
Roger Keating
Malcolm Power
Ian Trout

run 5

THE UNIQUE COMPUTER GAMING MAGAZINE



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Decisive Battles of the AMERICAN CIVIL WAR
Volume Two

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Typeset in 8 pt Bookman Condensed on an Apple Macintosh and Laserwriter.

Printed in Australia by Preston Print Pty Ltd, Sydney, for the publishers, Strategic Studies Group Pty Limited, P.O. Box 261 Drummoyne, 2047. AUSTRALIA.

PART ONE
THE GAME ROUTINES

1. INTRODUCTION

Decisive Battles of the American Civil War (Vol 2) recreates five important battles from the middle years of the War between the States, including the largest battle, and ultimately the turning point of the war, Gettysburg. The American Civil War lasted four years and its one million casualties reflect the determination and ferocity with which it was fought. Hopelessly outnumbered in terms of manpower and materiel, the thirteen confederated southern states kept their secession hopes alive by dint of commitment, superior leadership and a fair amount of luck.

The American armies which took the field in 1861 were little more than untrained militia, led for the most part by inexperienced officers and clumsily trying to copy the military systems of the major European powers.

Four years later these same armies were a match for any European contemporary. They had evolved new tactics to accommodate the vastly increased effect of musketry on the battlefield. The use of trench warfare so characteristic of the Great War some 50 years later was pioneered by American armies. Railways were used to expedite the flow of supplies and reinforcements to contested areas so that for the first time in the history of warfare, armies could stay in the field almost all year round.

In the end, of course, the Union triumphed. Robert E. Lee's surrender at Appomattox Courthouse in April of 1865 marked the effective end of the Confederacy. The ***Decisive Battles Game System*** has been specifically designed to recreate the battles of this era.

In addition to a powerful game system, we have supported the game with a comprehensive construction kit which we call Warplan™ and a unique graphics editor which we call Warpaint™.

Part One of this manual, The Game Routines, contains an introductory tutorial and explains all you need to know to play the game. Part Two, ***The Scenarios***, provides a short history, scenario notes and suggested variants for each engagement. Part Three, ***The Design Routines***, explains how to use the construction and graphics kits.

The complete package consists of an album, a map, 2 menu cards, a disk, this player's manual and a strip of disk labels. If this isn't the case, let us know about missing components, or return defective ones, and we'll replace them immediately. If you live in North America, send defective components to our US Office; if you live elsewhere, send them to our Australian Office.

Furthermore, if you have any questions relating to the play of the game, please address them to our Australian Office, regardless of where you live.

2. YOUR FIRST BATTLE

Following hard upon the Union disaster at Chancellorsville in May of 1863, Robert E. Lee took the Army of Northern Virginia north into Pennsylvania, into the heart of the Union. The purpose of this hastily organized offensive was no less than the salvation of the Confederacy. With her coastline tightly blockaded, most of her ports in northern hands and her economy verging on disintegration, President Davis was desperate for some relief. This unexpected opportunity to put political pressure on Lincoln, to encourage European powers to grant diplomatic recognition and to follow up on a supposedly demoralized army could not be let go to waste.

President Lincoln viewed the Confederate drive with concern, ever pre-occupied with the security of his capital at Washington. The Army of the Potomac, eager to reverse the seemingly endless string of defeats it had suffered and with George Gordon Meade now commanding, was sent in pursuit of their Southern foe.

On the morning of July 1st, just a little north-west of the small, rural township of Gettysburg, the brigades of Henry Heth's division ran into a detachment of Union cavalry under the command of John Buford. The battle was joined and throughout the day troops from both armies poured in to reinforce the escalating struggle. Commanding the Union forces on this day was Maj-Gen John F. Reynolds; Meade did not arrive on the battlefield until July 2nd.

You are invited, in this tutorial, to take on the role of John Reynolds. You will command those elements of the Army of the Potomac which became available throughout the first day and you will be expected to blunt the Confederate drive on or about the historic Cemetary Hill. Your computer will command the Rebels.

As well as this manual, you'll need to have the game map in front of you. Use the start menu card appropriate for your computer.

Starting Up

Start up your computer using the procedure given on the start menu card. Menu A (Start Up Menu) appears to the right of the title page. As is the case with every menu in the game, you use the arrow keys to locate your choice from the menu and then type (RET) to select it.

If you select the wrong menu, don't worry. Type (ESC/f1) to return to the previous menu. Hit the right arrow key a few times. Now hit the left arrow key and you'll see the cursor moves in the opposite direction. Every menu works the same way.

If you don't want to listen to the sound effects, type Cntl (S). If you have a black and white monitor, type Cntl (B). Repeat the keystroke to reverse the effect.

Selecting the First Day Gettysburg Scenario

Before we can start play, we have to select the scenario, tell the computer that we will control the North forces, decide which game options we wish to use and whether we will use a handicap. Use either arrow key to locate the <GAME> line and type (RET) to go to Menu B (Location Select).

Use an arrow key to locate the <SCENARIO> line and type (RET) to go to Menu C (Scenario Menu).

Use an arrow key to locate the <GETTY (1)> line and type (RET) to go to Menu E (Edit Utility). The scenario briefing screen is displayed to the left of the menu window.

Use an arrow key to locate the <EDIT> line and type (RET) to go to Menu N (Game Options). There are three options available when you play the game.

(i). Exposed. When the exposed flag is set, all units on the map will be visible at all times. If the exposed flag is not set, only currently sighted units will be visible on the battlefield.

(ii). Enhanced. When the enhanced flag is set, computer controlled forces will be given certain bonuses. For example, unit size, leadership and staff ratings may be increased.

(iii). Radio. When the radio flag is set, you will have automatic communications with every unit in your command. If the radio flag is not set, only those units directly attached to the army HQ and within communications range can be given orders.

For tutorial purposes, we will choose to set the exposed and radio flags but leave the enhanced flag alone. Position the cursor on the <EXPOSED> line and type (RET). An *Options in Effect* box will appear below the menu window showing that the exposed flag has been set. The cursor will return automatically to the <CONTINUE> line. Select the <RADIO> line to add this flag to the options box then select <CONTINUE> to go to Menu F (Handicap Utility).

Since this is only a tutorial, we will give ourselves a break. The handicaps below the <NO EFFECT> line benefit the South, those above benefit the North. The effect of a handicap is to modify the victory point awards, it does not affect the artificial intelligence nor the strength of the forces.

Use an arrow key to locate the <MAJOR> North line and type (RET) to go to Menu G (Player Select). Locate the <NORTH> line and type (RET). The cursor has been thrown into the briefing screen and you have the opportunity to change the commanders' names. Do this if you wish, otherwise type (RET) until you get back to Menu E (Edit Utility).

Have a last look at the briefing screen and you'll see the North has a major handicap advantage, the South forces will be run by the computer and the exposed and radio flags are set. Use an arrow key to locate the <START> line and type (RET) to go to Menu H (Game Master). That's the preliminaries over with. We're just about ready to play. Turn your menu card over to the game side.

The First Turn

This tutorial is a brief introduction as to how the game plays. It is not intended to be a description of everything that can happen. Chapter 4 will describe in detail the full use of each menu. Once you have some experience with the game menus, we recommend you read Chapter 5 for an explanation of the major game systems controlled by the computer.

Back to Menu H. A current turn briefing appears above the menu window. The date is July 1st, 1863, it is 9am and this is the first of the fourteen turns in the game. Below the menu window you can see it is daylight and the weather is clear.

In the centre of the map is the town of Gettysburg. Reynolds' (that's you) HQ is the only unit that can be seen. The <SOUTH> and <RUN 5> lines in the menu have been overprinted with a solid bar to show that you cannot access them. The solid bar will disappear from the <RUN 5> line after the <NORTH> line has been accessed. This is to guard against accidentally selecting <RUN 5> before issuing your orders. The <SOUTH> line will always be overprinted during the game. The computer does not want you to see what it is doing!

Locate the <NORTH> line and type (RET). This brings up Menu 2 (Operations Master). Your choices here are <PERSONAL>, <COMMANDS>, <ORDERS>, <RESIGN> and <MAP WALK>.

The map has not changed, just the information above and below the menu window. Above the menu window you can see the army I.D. Below the menu window you are given a casualty and victory point summary. The small number of casualties shown are stragglers from those brigades which have been force-marching since dawn. The VPs show what your score would be if the game was to end at this moment.

The <PERSONAL>, <COMMAND> and <ORDER> lines are the menus you use to give orders to your forces, the <RESIGN> line ends the game immediately and the <MAP WALK> line allows you to review your forces, enemy forces, the battlefield and objectives.

Reviewing Your forces. Before issuing orders we'll examine the battlefield, the objectives and the enemy forces.

Select the <MAP WALK> line to go to Menu 3. The screen has centred on a hollow, flashing cursor. Use the arrow keys, the I,J,K and M or the 1-6 keys to move the cursor over the map. The map will scroll once the cursor reaches the edge. Type (0) to centre the screen on the cursor.

At the very bottom of the information panel, you will see a three-part icon display. From left to right this shows you the type of terrain in the hex, which sections of the map are in use for this scenario together with the relative position of the cursor and which side currently controls the hex. The name of the terrain type appears immediately above the display.

Move the cursor to Pitzer School. Pitzer School is an objective. Its name appears above the terrain type name and its victory point details are described. Move the cursor to any one of the Confederate brigades in the upper right sector of the battlefield. The icons at the top of the information panel tell you it is an infantry brigade while below that you are told its formation and condition. Note that one of the three brigades is an artillery formation.

Type (RET) to bring up the map walk menu. Select <ROADS>; all roads are removed from the map. Type (RET) to bring up the menu again then select <ROADS> to replace the road network.

<CONTROL> allows you to see which side controls a particular hex. <CLEAR> removes all units on the map so you can see the terrain underneath.

Move the cursor to the Union brigade two hexes south-east of the northernmost Confederate brigade. This is Devin's cavalry brigade from Buford's cavalry division. The information provided is mostly self explanatory; more details are available in Chapter 5.

Operations. Go back to menu 2. The <PERSONAL> line is the place where you must decide where to put your army HQ and how personally involved you want to get in the battle. Select<PERSONAL>. Below you menu window you will see that your current condition is OK. In the battle you can get captured, wounded or even killed!

Select <PROFILE> and you will be presented with the four profiles you may choose from. You may change your profile each turn. Your profile will not change from turn to turn unless you enter this menu and change it. You always begin with the default value set to <SENSIBLE>. The words here mean pretty much what they say. Heroic will inspire all troops within four hexes of your position while increasing the likelihood of a nasty accident. Cautious will keep you safe and sound but the effect on your men may prove disastrous. For this tutorial, keep your profile on <SENSIBLE>. Historically, Reynolds assumed a heroic profile on this day. At the end of it, he was dead!

Select <MOVE HQ>. This is the mechanism by which you move your HQ around the map. <STAND> tells the army HQ to remain exactly where it is. <CURSOR> gives you access to the cursor so that you can use the I,J,K,M keys, the arrow keys or the 1-6 keys to move your HQ

to the location of your choice. Note that you will not be allowed to select an enemy controlled hex as your destination.

<CONTROL> directs the army HQ to move as quickly as possible to a friendly corps HQ for the purpose of placing it under direct command. <OBJECTIVE> allows you chose an objective as the destination for the army HQ, using either the arrow keys or the name routine.

For the moment, leave your HQ in Gettysburg.

Now that the personal matters have been taken care of, it's time to give orders to your subordinates. Type (ESC/f1) until you get back to Menu 2 and then select <COMMAND>. The <COMMAND> line gives you access to all your corps and division commanders presently on the battlefield. Because the radio flag is set, you will be able to give orders to all your commanders each turn. A list of your commanders appears in the menu window. The commander in the centre of the window is highlighted and information on his command appears above and below the window. Only the cavalry leader, Buford, has appeared on the battlefield at this point. When more than one leader is in the window, use the arrow keys to select from them.

Buford's defensive order is to hold Herr Tavern.

Don't change his command this turn. Go back to Menu 2 and select the <ORDER> line. You are now able to issue orders to all of your brigades. Again, if the radio flag were not set, the number of brigades you would have access to would be severely restricted. Each brigade is identified by a 3 character ID; the Order of Battle details in Part 2 of this manual will tell you the brigade commanders full name. For example, Gamble's brigade (Gam) is cavalry, it belongs to Buford's division, it is in skirmish formation, it has 1600 men and 6 guns, its cohesion rating is excellent and its leadership and experience ratings are fair. Use the arrow keys to cycle through the two brigades so far on the battlefield.

Locate Devin's cavalry brigade (Dev). Type (RET) to bring up the brigade order menu. Just to be on the safe side, we will order Devin to fall back. Use the arrow keys to select the <WITHDRAW> line and type (RET). Likewise, order Gamble's cavalry brigade (Gam) to withdraw.

We are now ready to end the turn. Go back to menu H and select <RUN 5>. Battle reports are presented one after another and you should tap the <SPACE> bar to move on to the next report. A full explanation of the combat mechanics is given in Chapter 5. Basically, firing units are shown as arrows pointing in the direction of the target unit. Once the battles are over, the computer will begin moving troops. If the exposed flag had not been set, only those units visible to each other would have been seen.

What To Do Next

Read the scenario notes for this battle in Part 2. You must try to delay the Rebs as long as possible before falling back to Cemetary Hill. Experiment with the command and order menus. If you're uncertain about what to do, accept the computer's advice and do not change the order. Refer to Chapters 4 and 5 when necessary.

3. THE TYPES OF GAME MENUS

The order menus which drive the game can be divided into four types.

(a) Branch Menus - These menus signpost the route to other menus [2,4,7,9]. Note that most of them also provide some information.

(b) Information Menus - These menus provide specific information on the various forces and functions in the game [3].

(c) Action Menus - These menus are the centre of the game system. All of the orders used in the game are given through them [5,6,8,10,11].

(d) Single Function Menus - [1].

4. THE GAME MENUS DESCRIBED

Menu H (Game Master)

This screen always appears at the beginning of each turn. It is common to both players. It is the first screen you will see after completing the scenario selection details and choosing <START>.

In the four lines of text above the menu window, you are told the date, the time of day, the current turn number and the total number of turns in the game.

Below the menu window you are told whether it is daylight, dawn, dusk or night and the weather condition.

Menu 1 (Save Game Utility)

This is a single function menu which allows you to load or save a game or to format a save game disk. Use the arrow keys to locate the <DISK> line on Menu H and type (RET). This brings up the save game utility screen which has three options, <LOAD>, <SAVE> and <FORMAT>.

To save a game, locate <SAVE> with the arrow keys and type (RET). If you have only one disk drive you will be asked to insert the appropriate disk and type (RET). You will then see a list of the games on the disk in the large catalog box at the top of the screen. Use the arrow keys to move the highlighted bar to the location in which you wish to save the game, and type (RET). The menu window now displays the <COMMENT> and <SAVE GAME> lines. Choosing <COMMENT> allows you to edit the boxes containing the name of the game and a three line synopsis, which are in the middle of the screen. When you are ready, locate the <SAVE GAME> line and type (RET).

The game will be saved to the highlighted location with whatever name you have chosen for it. Note that the catalog box displays the turn on which the game was saved. This is done automatically. Typing the (ESC/f1) key will now return you to the game. One drive users will be prompted for the appropriate disk.

To load a game, choose <LOAD>. One drive users will be asked for their scenario or save game disk. Use the arrow keys to move the highlighted bar to the desired game location and type (RET). The chosen game will be loaded. Typing (ESC/f1) will now return you to the game.

To format a new save game disk choose <FORMAT>. A warning message will appear and you will be asked to insert the disk to be formatted. Typing (RET) will completely erase any information that was on the disk and provide six unused save game locations. Please exercise some care in choosing this option.

Menu 2 (Operations Master)

This is a branch menu. The information appearing above the menu window identifies the commander of the Army, his second in command if present and the name of the Army. The

icon representing the Army HQ appears to the left of the commander's name. The information below the menu window tells you how many victory points your side has accumulated to date, a leader and troop casualty summary and whether you have more victory points than your opponent at this point in the game.

The menu window is divided into two sections. These are **Ops** and **Reports**.

We recommend that you examine the <MAP WALK> menu before issuing instructions, especially while you're learning the game.

Note that this same <MAP WALK> menu is available in several menus to make information easier to access.

The Ops Menus are the decision-making menus in the game.

Menu 3 (Map Walk)

This is an information menu. On selecting <MAP WALK> from Menu 2, 8, 10 or 11, the cursor is thrown into the map. Use the I,J,K,M keys, the arrow keys or the 1-6 keys to march the cursor across the map which will scroll once the cursor reaches the edge. Type (0) to centre the screen on the cursor.

At any time you may type (RET) to bring up the menu window. You may examine the ownership of hexes, examine the terrain by temporarily clearing units from the map or examine the terrain masked by the road network.

You may move the cursor from objective to objective either by naming the objective you wish to go to or using the arrow keys to cycle through them.

You may also move the cursor from unit to unit by naming the unit you wish to go to. The term *unit* describes any combat formation, either brigade or HQ.

Use the arrow keys to select the piece of information you wish to examine and then type (RET). To terminate a display, type (RET) to replace the cursor in the menu window, use the arrow keys to select the display you wish to turn off and type (RET) again to complete the process.

More than one display may be examined at the same time. Be warned, however, that in some cases the information from one display will overprint another. Once you have finished, type (ESC/f1) to return to Menu 2. All displays will be turned off.

You can (and should) use this menu to get information on enemy units. It is also useful for examining terrain, especially in active portions of the map, and as a source of information on the condition of friendly units. The information appearing to right of the map describes the contents of the hex identified by the cursor. What information you see depends upon what is in the hex.

The majority of hexes will be empty, nor will an objective be present. For these hexes, you will be told the movement point cost for entering the hex, how much natural cover or protection the hex will offer to an occupant and the expected visibility or sighting into or through the hex. Below this information, the terrain type is named and below this name is a three-part iconic display. In the left-hand compartment you are shown the terrain icon for the hex. In the centre compartment you are shown a schematic summary of the location of the cursor in relation to the whole battlefield. In the right-hand compartment the nationality icon of the side controlling the hex is displayed.

If an active objective is present in the hex, the middle part of the report will display its details. You are told for which turns the objective is active, how many turns you have held the objective to date and the number of VPs awarded for its control, both on a per turn basis and at end of game. The name of the objective appears above the terrain type name.

If an enemy unit is present in the hex, the top part of the report will display its details. You are shown an iconic representation of the enemy unit. Underneath this you are told whether the unit is in line or column and whether it appears steady or shaken. A unit is shaken when its current cohesion value is 3 or less unless it occupies a fortification.

As you can see by moving the cursor around the maps, all of these displays are separate from each other. However, when a friendly unit occupies a hex, all information on the display except for the terrain name and the three-part iconic display are replaced with data on the friendly unit.

A brigade report contains the following information. A boxed display identifies the brigade, its type and its current order. At the top of the screen you are shown the HQ icon of the formation to which the brigade is attached. The name of this HQ, its current order and the objective, if any, it has been directed to are also displayed. Where two objectives are shown, you should read this as the second objective being the real one. The first objective simply defines the line of march.

There are four separate icons directly above the brigade ID. They provide a simple summary of the status of the brigade. From left to right the icons display the brigade type icon, whether the brigade is shattered or occupies a battlefield entrenchment or fortification, whether the brigade is within the communication range of its superior HQ and finally whether an order has been issued to the brigade for this turn.

Below the brigade ID are details of the brigade's current effective strength (rounded off to the nearest 100 men), the number of guns attached to the brigade, the current cohesion level and the experience and leadership ratings of the brigade.

In Summary

A summary of the effects of the <MAP WALK> menu appear below.

Control. All terrain icons are replaced with the Union or Confederate control icon. Hexes containing units do not display a control icon; in every case a hex occupied by a unit will be controlled by that unit. It is difficult to overstate how important hex control is in the play of the game. Units in friendly territory are not usually visible to the opposing player.

Roads. The road network is temporarily removed to reveal the hex types underneath.

Clear. All units are temporarily removed from the map to reveal the hex types underneath.

Name Objective. A cursor appears above the menu window. Type in the name of the objective you wish to examine. Once the computer has enough letters to distinguish it from other objectives, the screen and cursor will centre on that objective.

Cycle Objective. The cursor appears on the nearest objective and from there the arrow keys are used to cycle the cursor from one objective to the next.

Name Unit. A cursor appears above the menu window. Type in the name of the unit you wish to examine. Once the computer has enough letters to distinguish it from other units, the screen and cursor will centre on that unit.

Menu 4 (Army Master)

This is a branch menu. The screen has centred on your present location; i.e. your Army HQ. If the Army HQ has not yet arrived on the battlefield, the screen will centre on its scheduled arrival hex. The Army ID is repeated above the menu window while the personal status of the Army commander and his second in command is given below the window. The army leaders can be OK, wounded, captured or killed.

You use this menu to choose the location you wish to send your Army HQ to and to select the personal profile you wish to adopt for the next hour of the battle.

Menu 5 (Move Army HQ)

This is an action menu. There are four mechanisms by which you can move your Army HQ.

Position the cursor over the <OBJECTIVE> line and type (RET). You will be allowed to name the objective you wish to move your Army HQ to or use the arrow keys to cycle through the available objectives until you locate the one of your choice. Only objectives currently under friendly control may be selected.

Position the cursor over the <CONTROL> line and type (RET).

The pinwheel appears in the menu window and you may select a Corps HQ from it. The Army HQ will move to the Corps HQ. This line will be overprinted with a solid bar if there are no corps under your command.

While an Army HQ occupies a hex adjacent to the Corps HQ and its last move order was to that Corps HQ, it assumes direct command of the formations subordinate to the Corps HQ as though they were its own.

If none of the above mechanisms will allow you move move your Army HQ to its desired location, position the cursor over the <CURSOR> line and type (RET). You will be given control over the cursor appearing on your current Army HQ location.

Use the arrow keys, the 1-6 keys or the I,J,K,M keys to move the cursor to the chosen location and then type (RET). Only hexes under friendly control may be selected. Your Army HQ has now been ordered to that location.

If you wish to cancel an Army HQ move or to halt HQ movement, select <STAND>.

Once ordered to move, an Army HQ will take the quickest route to its chosen destination and become stationary once it reaches that location. Remember that the staff effectiveness rating of your Army HQ will be slightly reduced while it is moving. A careful commander will do his best to to keep HQ movement to a minimum.

An Army HQ may directly supersede the orders of any friendly brigade within four hexes of its location as explained in subsequent menu descriptions. Similarly, your Army HQ staff rating is temporarily reduced when enemy brigades are within five hexes of the HQ's location. You should keep these two points in mind when positioning your Army HQ.

Menu 6 (Personal Profile)

This is an action menu. Basically, you must choose the level of personal danger you wish to expose yourself to for the next hour. There are pros and cons for each choice. Your choice will remain active until you change it in a subsequent hour or conditions make it ineligible. The default profile is sensible.

Heroic. You will only be allowed to choose this profile if there is a targeted friendly brigade within four hexes. You and a small escort are considered to have moved into the front line to personally direct the battle.

For the hour immediately following your decision to be heroic, there will be a temporary reduction in your Army HQ staff value. As compensation, all targeted brigades within three hexes of your Army HQ will receive a combat bonus. Leading by example may be the only way to prevent a disaster. However, the cost of courage is not cheap. You will be exposed to enemy fire and bayonet point. You run the risk of being wounded, incapacitated or even killed.

Furthermore, the rest of your Army will be virtually leaderless until you return to your Army HQ. You will not be allowed to select a heroic profile after the Army commander has suffered either a killed, wounded or captured combat result.

To put this profile in perspective, you should find that in most of your battles you never have to select it!

Bold. You will only be allowed to choose this profile if there is a targeted friendly brigade within four hexes. In this case, you remain at your HQ and have chosen to maintain a high profile for the purpose of stiffening your men.

A small combat bonus is conferred on targeted friendly brigades within four hexes at a cost of some danger to yourself and a slightly reduced staff efficiency

This profile should be selected when all is going well (i.e. you have no need to send off new orders to your subordinates) and you wish to get your men off to a good start.

Sensible. You have chosen to expose yourself to the normal level of danger present on the nineteenth century battlefield. This is roughly equivalent to a 2% chance of being killed or wounded in a normal day's fighting. All brigades within command radius of your Army HQ may be stiffened by your presence or they may ignore you. In any case, your staff effectiveness rating will *not* be affected.

Cautious. The difference between a cautious profile and a sensible profile is small. By selecting a cautious profile you are reducing the risk of personal danger to zero. You also give up all chance of inspiring your men. There is no change to your staff effectiveness rating. You should not confuse cautious with cowardly; I'm sure there are no Schimmelpfennigs (a luckless Union General found hiding in a pig-sty after the Battle of Gettysburg) playing this game.

Which of the two latter profiles you choose will depend on the local situation. It really boils down to how lucky you feel.

Menu 7 (HQ Select)

This is a single function menu. The pinwheel appears in the menu window and you may use the arrow keys to select any of the Corps or Division HQs directly subordinate to your Army HQ. Note that Division HQs subordinate to Corps HQs do not appear in the pinwheel unless your Army HQ is temporarily directing the Corps HQ as explained in Menu 5. Brigades never appear in the pinwheel. The pinwheel bar identifies the HQ which is centred on the screen. The information available for each subordinate HQ is as follows.

The top two lines of the screen show the ID of the HQ and its current command, either offensive, defensive or reserve. A HQ with an offensive command can have up to two objectives displayed beneath its ID. A HQ with a defensive command will have one objective displayed beneath its ID. A HQ with a reserve command will have no objectives displayed beneath its ID.

There are four separate icons directly above the menu window. They provide a simple summary of the command status of the HQ. From left to right the icons display the on-screen HQ icon (corps or division), the HQ type (infantry or cavalry), whether the HQ is within the communication range of the Army HQ and finally whether a command has been issued to the HQ for this turn. Obviously, a HQ cannot receive a command while it is out of communication.

Below the menu window you are told the leadership and staff ratings of the HQ. If the HQ commander has been incapacitated (i.e. killed, wounded or captured) then the leadership line

will tell you there is a new commander. You are not told how capable he is!To issue a command to the selected HQ, type (RET).

Menu 8 (HQ Order)

This is an action menu. It is used to give the HQ its orders for the next hour.

HQs which are out of communication with the Army HQ will only be able to access the <MAP WALK> line in the menu. A message in the menu box will inform you that the HQ is out of command. HQs which are *in communication* with the Army HQ will have access to the full range of options in the menu. There are three command types, the effects of which are explained below. Note that the chosen command type will have an effect on both communications and combat.

The Offensive Command. An offensive command allows the Army commander to select either a friendly or enemy controlled objective as the destination for the HQ. Furthermore, an additional objective may be specified to define the route of march.

Position the cursor on the <OFFENSIVE> line and type (RET). You can use the arrow keys or the name routine to locate the chosen objective. Type (RET) to accept the objective. When issuing this command, you must specify the manoeuvre point as the first objective and the intended destination as the second objective. If you don't need to include a manoeuvre point, you must type (RET) twice. Once you have completed this routine, you are returned to Menu 7.

A corps HQ which has been given this command will check its subordinate formations and, where necessary, amend their orders to comply with the new command. How quickly this happens; indeed, whether it happens at all will depend on the leadership rating of the corps HQ. The corps HQ itself will accompany one of its subordinates. Note that the HQ icon is not allowed to enter enemy controlled territory. Remember that to supersede the authority of a corps HQ over its subordinates, you will have to select that corps HQ from Menu 5 and wait until you are adjacent to it.

A division HQ which has been given this command will execute it as soon as conditions allow. A poor division commander may take longer to obey his command than a capable officer. A division in contact with the enemy may take some time to disengage.

Once a formation reaches its destination it will 'listen' and look for enemy units. Should any be detected within 5 hexes, then the formation will march to engage them; i.e. they will march to the *sound of the guns*. Note that formations subordinate to a corps HQ may not all take exactly the same route as specified for the corps HQ nor will they all select the same objective; they will not, however, stray very far away. If there are no visible or audible enemy, then the formation will deploy to defend its objective(s).

Do not attempt a major redeployment of engaged troops. You will almost certainly end up with a disaster.

The Defensive Command. A defensive command allows the Army commander to select a friendly controlled objective as the destination for the HQ. You will not have access to enemy controlled objectives.

Position the cursor on the <DEFENSIVE> line and type (RET). You can use the arrow keys or the name routine to locate the chosen objective. Type (RET) to accept the objective. Once you have completed this routine, you are returned to Menu 7.

The command is implemented much the same as the offensive command except that formations which have reached their destination will not march to the *sound of the guns* but

will deploy and defend their objective. There is always a small chance that a commander who is out of communication with his superior will spontaneously decide to *march to the sound of the guns.*

The Reserve Command. A reserve command instructs the subordinate HQ to withdraw from action and rest or simply to wait in place until the appropriate time for its employment.

A corps HQ with a reserve command will usually call off any attacks made by its subordinates. Offensive commands will be changed to defensive or reserve commands depending on circumstances.

A division HQ will instruct its component brigades to withdraw from action where applicable and to recover lost cohesion. Brigade responses are covered in the notes accompanying the description of Menus 10 and 11.

Note that cavalry formations will generally continue in a screening role until a deterioration in their own condition compels a withdrawal.

Do not confuse the HQ reserve command with the brigade reserve order. They are quite different.

Special Note. On the first am turn of any day after the first day of a battle, you may be allowed access to all the corps and division HQs subordinate to the army HQ. See the note in Chapter 6 for more details.

Menu 9 (Brigade Select)

This is an information menu. Brigades are the combat units in the game. All of the actual fighting is done by them. The orders which they can be given are generally dependent upon their current circumstances. The information given here on each brigade is exactly the same as you see when you access the brigade through the <MAP WALK> routine. Use the arrow keys to cycle through the brigades.

When the <RADIO> flag is set for a scenario, all brigades can be accessed by the army HQ from this menu. When the flag is not used (thus recreating a more authentic nineteenth century battlefield), only certain brigades can be accessed by the army HQ through this menu.

These brigades are: all brigades which are directly attached to the army HQ and which are in communication (including brigades directly attached to a corps which is being temporarily superseded by the army HQ); all brigades within 4 hexes of the army HQ which are in communication, no matter to whom they are subordinated.

Note that those brigades within four hexes which are subordinated to a corps or division HQ will display the order which their commander has chosen for them this turn. You may override the order if you wish.

Independent brigades attached directly to the army HQ which are out of communication cannot be accessed at all and you will have to rely on their commanders to do the right thing. Note that you may always access every brigade through the <MAP WALK> routine; you just won't be able to tell it to do anything.

Once you have selected the brigade you wish to assign an order to, type (RET) to bring up the brigade order menu. There are two distinct brigade order menus. Which one you get is determined by your proximity to enemy units.

A brigade adjacent to an enemy brigade will always use the engaged order menu. A brigade within two hexes of an enemy brigade will generally use the engaged order menu. The exceptions are when a river, bridge or ford intervenes, when the friendly brigade is unsighted

or when a prohibited hex intervenes. A brigade more than two hexes away from all enemy brigades will always use the manoeuvre order menu.

An engaged brigade is distinguished on the screen from a manoeuvre brigade by the fact that the intended target of the engaged brigade is identified by the battle cursor.

Menu 10 (Engaged Order)

This is an action menu. The engaged order menu appears at the bottom of the information panel. Some of the information concerning the brigade has changed.

The top four lines show the type of enemy unit targeted, whether it is in column or line formation (mounted/ dismounted for cavalry, limbered/unlimbered for artillery) and whether it is steady or shaken. A brigade will be shaken if its cohesion is less than 4 unless it is in a fortification.

The four status icons and the brigade ID do not change. There is some additional information concerning the equipment of the brigade. You are told both the type of small arms and the type of artillery used by the brigade.

The <MAP WALK> routine is identical to the routine available through Menu 2. Below the <MAP WALK> line are the four options available to an engaged brigade.

Note that a surprised brigade will have these options replaced with a message that informs him of his bad luck. Only brigades moving in column can be surprised. Brigades which are encamped are always considered to be in column for this purpose.

To select an option, position the cursor on the appropriate line and type (RET). You will be returned directly to Menu 9. The four options are.

Assault. This option is available to all brigades adjacent to their targeted enemy opponent unless a river hex-side intervenes. It is a full-scale brigade charge combined with a volley of musketry. The targeted enemy brigade will almost always fire before the charge goes in so that a well positioned, determined defender is very difficult to dislodge on a one-on-one basis. If you are not adjacent to your opponent, you will be denied access to the <ASSAULT> line.

Skirmish. This option is always available when the enemy brigade is two hexes away. It may or may not be available when the enemy brigade is adjacent. Your brigade is told to stand and fire at its opponent when he is adjacent or to send a couple of regiments forward to harass your opponent if he is two hexes distant.

This is the order which gives you the best chance to fire first, particularly if you did not move in the previous turn. The artillery component of a brigade cannot fire if the brigade moved in the previous turn unless the brigade is cavalry.

If you are adjacent to your opponent, not in a fortification, not separated by a bridge, ford or river hex-side and the combined cover values of your hex and your opponent's hex are less than 4, you will be denied access to the <SKIRMISH> line.

Advance. This option is always available when the enemy brigade is two hexes away. It is also available when your opponent is adjacent and separated from you by a river hex-side. Where possible, the order will move you adjacent to your opponent. The brigade will deliver a volley of musketry but generally not until all stationary brigades have fired first. Use this order to get into position to deliver an assault.

Withdraw. This is the only option which is always available to an engaged brigade, regardless of whether it is one or two hexes away. The brigade will attempt to move out of contact with both its opponent and any other enemy present. A cavalry brigade given a withdraw order will fight as though it had a skirmish order but move as though it had a withdraw order.

Menu 11 (Manoeuvre Order)

This is an action menu. The manoeuvre order menu appears at the bottom of the information panel. Some of the information concerning the brigade has changed.

The information above the brigade ID does not change. Below the brigade ID you are told whether the brigade is in line or column (mounted/dismounted for cavalry, limbered/unlimbered for artillery), its size and artillery strength, the number of movement points available for the coming turn and the maximum number of hexes it may move regardless of its MP allowance.

The <MAP WALK> routine is identical to the routine available through Menu 2. Below the <MAP WALK> line are the six options available to a manoeuvre brigade. Note that a manoeuvre brigade cannot be surprised.

Column/Objective. A brigade attached to a division will display the <COLUMN> line, a brigade attached to a corps or army HQ will display the <OBJECTIVE> line.

This means that a brigade attached to a division cannot be given a separate objective; placing it in column will direct it to the current objective of its division HQ. An independent brigade may be given a separate objective.

Position the cursor on the <COLUMN> line and type (RET). You will be returned directly to Menu 9. Position the cursor on the <OBJECTIVE> line and type (RET). The cursor will move to the map and centre on the brigade's last objective. If there is no last objective, the cursor will centre on the nearest objective. Use the arrow keys or the name routine to locate the chosen objective and type (RET). You will be returned directly to Menu 9.

Deploy. This order allows the commander a one hex radius in which to reposition the brigade. Position the cursor on the <DEPLOY> line and type (RET). The cursor will move to the map and centre on the brigade. The brigade icon will flash alternately with an indicator icon to show the direction the brigade will move in.

Use the arrow keys to redirect the indicator icon and type (RET) when it is facing in the chosen direction. Once a direction has been chosen, the indicator icon will disappear to be replaced with an action icon over the chosen hex. In the ensuing turn, the brigade will move into the hex identified by the action icon.

Regroup. A brigade with a regroup order will attempt to move as quickly as possible to its superior HQ. Position the cursor over the <REGROUP> line and type (RET). You will be returned directly to Menu 9.

Stand. A brigade with a stand order will stay exactly where it is. Position the cursor over the <STAND> line and type (RET). You will be returned directly to Menu 9.

Reserve. A brigade must be in reserve to recover lost cohesion. Never miss an opportunity to put a brigade into reserve if its cohesion is fair or worse. Position the cursor over the <RESERVE> line and type (RET). You will be returned directly to Menu 9. Brigades in reserve will not move and are automatically surprised if they enter the engaged order routines.

Brigades with objective/column or regroup orders will move in column (mounted for cavalry, unlimbered for artillery). If they are forced into the engaged order routines while they have these orders, there is a chance they may be surprised. The higher the leadership and experience, the lower the chance of being surprised. A surprised brigade is considered to have had insufficient time to deploy for combat and suffers accordingly.

Battlefield entrenchments can be dug by certain infantry brigades. A side must be specified in the briefing setup as capable of entrenchment. If this is the case, then infantry brigades which do not move or fire in a particular turn may dig a battlefield entrenchment. The

entrenchment will disappear as soon as the brigade leaves the hex or is given an assault order. Shattered brigades will not benefit from entrenchments. Battlefield entrenchments are treated as fortifications with a value ranging from 1 - 3.

5. THE GAME SYSTEMS

The major systems which operate within the game are sighting (visibility), communications, combat, cohesion and manoeuvre. There is quite a bit of inter-relation between these systems but for ease of clarification they have been discussed separately.

To play the game, all you need to know is what the menus do and how to use them. To understand what is going on behind the scenes and to play the game well, you should read this chapter carefully.

Sighting

After a couple of introductory games, most people will want to play the game with the <EXPOSED> flag switched off. Not knowing where all your opponent's troops are, not knowing how many he has, add a completely new dimension to the play of the game.

The sighting rules work like this. There are two mechanisms by which a unit may be sighted. The first is by the eyeball contact of a friendly unit; the second is by a patrol picket represented in the game by the hex control icons you can observe in the <MAP WALK> routine.

Unit Sighting. Each terrain type on the map has a cover value assigned to it. These values can be found from the <MAP WALK> routine. The computer sums the cover values between each friendly unit and every enemy unit within five hexes, including both the hex occupied by the friendly unit and the hex occupied by the enemy unit.

The sighting value is increased by 4-15 points for each of the following conditions which apply; overcast, rain, snow, dawn, dusk, night, heavy fog and light fog.

The sighting value is increased by 8 for each intervening hex. A random number of 0-7 is added. If the final sighting value is less than 56, the enemy unit is sighted. Furthermore, the maximum sighting range at night or in heavy fog is one hex. As you can see, it is possible for a unit which sights an enemy unit to remain undetected by that enemy unit!

A sighting check is made at the end of each turn and all units which have been sighted by this mechanism are so flagged and become visible on the map.

Picket Sighting. The second mechanism for sighting has nothing to do with enemy units or terrain type. Whenever a friendly unit moves adjacent to an enemy control icon, it is flagged as picketed and immediately becomes visible on the screen.

Simultaneously with this, as the friendly unit moves across the map, it switches the control icon of every hex adjacent to its path except hexes across a river, bridge or ford hex-side and hexes adjacent to an enemy unit. For example, you would only see the first unit of a column of troops moving along a road which was enemy controlled at the start of the turn. It would be up to you to decide if the force was a single brigade or a whole corps!

A picket check is made every time a unit moves and the picket flag is set as soon as a positive result is triggered.

Updates. At the beginning of each turn, the sighting status of all units is updated. All units with the picketed flag set become unsighted. All units with the sighting flag set become picketted.

Communications

When you play the game with the <RADIO> flag set, there is no need to worry about communications at all. You are always in control of every HQ and brigade in your force. Again, however, after you have played a couple of games, you will want to experience a more authentic battle environment.

Switching the <RADIO> flag off will introduce you to the frustrations and challenges of the pre-twentieth century battlefield. With both the <RADIO> and <EXPOSED> flags switched off, you can be sure of a very exciting experience.

At the beginning of each turn, every brigade and HQ on the board except for the army HQ makes a check with its superior formation. As a result of this check, every brigade and HQ will be either in communication or out of communication. Army HQs are always considered in communication. Troops yet to arrive on the battlefield are always out of communication.

Whether a brigade or HQ is in communication or out of communication is displayed in its status report as described in Menus 7 and 9.

The mechanism by which this judgement is made is as follows. Examine **Table 1**. The distance between the unit and its superior unit is measured in hexes and cross-referenced to the communications table. The number obtained is the base chance measured against a random 15 (i.e. a number between 0 and 15) that the unit will be in communication.

TESTING UNIT	RANGE (In Hexes)					
	0-1	2-3	4-7	8-11	12-15	16+
CORPS	15	12	9	6	3	0
DIVISION	15	11	7	3	0	0
BRIGADE	15	10	2	0	0	0

Table 1. Communications Range

There are several variables which modify the base chance before it is checked against the random number. Note that the base chance can never fall below 0; i.e. there is always at least 1 chance in 16 that a unit will be in communication.

Time of Day. Night (-4), dawn, dusk (-2).

Weather. Rain, snow, heavy fog (-3), drizzle, light fog (-1).

Staff Rating. Add the staff value of the testing unit's HQ.

Corps Modifiers. Infantry corps (0), cavalry corps (+4)

Division Modifiers. Infantry division (0), cavalry division (+6), army HQ (+2), corps HQ (0).

Brigade Modifiers. Infantry brigade (0), mounted infantry, artillery brigade (+6), cavalry brigade (+8), army HQ (+2), corps HQ (1), division HQ (0).

Miscellaneous Modifiers. For army HQs: -2 if enemy brigade within 4 hexes, -1 if moved last turn, -3 if heroic, -1 if bold; for corps HQs: -1 if enemy brigade within three hexes, -1 if offensive command.

First am Turn Provisions. On the first move turn of each day after the first day of the battle, there may be a special opportunity to issue commands to corps and division HQs. If there have been 6 consecutive no move turns (i.e. the move value in the briefing routine is set to 0, then an army HQ will be allowed access to all on-map HQs for command purposes. This is to simulate the nightly briefing which would (should) have occurred.

An army commander will have the most control over his forces when his army HQ is not engaged, is stationary and the weather is good. The more you move around, the more closely you get involved in the action, then the more tenuous will be your control over your troops.

You must strike the right balance between committing yourself personally and directing your army efficiently. The player who does this consistently better than his opponent will win.

Combat

After you have issued commands and orders to your troops, the first on-screen events you will witness after selecting the <RUN 5> line are the combat reports. The target unit of each battle is identified by the action icon and all brigades attacking it are identified by indicator icons.

The information panel describes the battle represented on-screen by the combat icons. The attacker's information always appears above the defender's information.

The combined strength of all attacking brigades is shown together with the defending brigade's strength. The combat result is shown as a number of hits and a cohesion loss.

The relationship between hits and cohesion is detailed later in this section and an explanation of cohesion provided in a later section. Leaders may be killed, wounded or captured.

Firstly, you need to know who fights who, in what order these fights are carried out and what factors are used to calculate fire and melee values.

Target Selection. Only brigades select targets. Brigades and HQs may be selected as targets. Each brigade must select one eligible enemy unit within its range as its target. Target selecting priorities are as follows. Note that occasionally they will be violated to reflect the uncertainty of war.

Each brigade will select the closest enemy brigade.

Each brigade will select an *untargeted* enemy brigade in preference to an already targeted enemy brigade.

Each brigade will select a deployed enemy brigade in preference to an enemy brigade in column.

Obviously, this routine is used only when there is more than one potential target.

In summary, this means that adjacent enemy units will almost always be chosen in preference to more distant enemy units and that multiple brigades cannot gang up on a single brigade unless it is alone.

Sequence of Attack. Each brigade fires and/or melees separately. For convenience of combat reporting, however, all attacks against a single unit are displayed as a combined attack. The screen would look too messy if we did it any other way. We tried several display systems. What we ended up with is by far the best. There is no distinction between sides in these combat routines.

Not every brigade which selected an opponent in the target selection routine is actually eligible to attack. Artillery brigades which moved in the preceding turn cannot fire. Similarly,

the artillery component of non-artillery brigades which moved last turn will not contribute to their brigade's fire value unless the brigade type is cavalry.

All other attacking brigades fall into one of four categories. All brigades within one category will attack before any brigades in subsequent categories will attack. Within a category, every brigade consults a formula to determine the order of attack.

The four categories are.

(i). Infantry and mounted infantry in line, dismounted cavalry (unless with assault orders) and unlimbered artillery which ***did not*** move in the preceding turn.

(ii). Infantry and mounted infantry in line, dismounted cavalry (unless with assault orders) and unlimbered artillery which ***did*** move in the preceding turn.

(iii). Infantry, mounted infantry and cavalry which has been surprised (i.e. in column).

(iv). Cavalry with assault orders. For game purposes, this is considered to be a cavalry charge. Note that any brigade with a small arms type which has a range of 0 also fits into this category. There are no such unit types in Civil War battles. A Zulu impi, for example, would have a small arms type with 0 range.

Within each category, the mechanism used to determine the sequence of attack is calculated from the following formula.

Cohesion + 0.5 (lead. + exp.) + brigade type + brigade order + rnd (3)

Where brigade type is artillery (+4), all others (0) and brigade order is skirmish (+6), assault or advance (+2), withdraw (0). Note that a cavalry brigade with a withdraw order is treated as though it had a skirmish order for the purpose of determining the sequence of attack.

In summary, every attacking brigade has been assigned a position in the firing order. Properly deployed, prepared troops will generally fire first. And, as you will see from the firing mechanics, firing first is a tremendous advantage.

The Fire Value. Each brigade determines its fire/melee value according to the following data.

(i). Artillery Brigades

(a). Add all battery strength points

(b). Add 1 for each point of experience above 4

(c). Add 1 for each point of leadership above 4

(d). Add rate of fire value

(e). Add effectiveness value (if opponent is adjacent)

(f). Add penetration value (if opponent is not adjacent)

(g). Subtract 2 for every intervening hex

(h). Subtract half of the cover value of the firer's hex (unless in a fortification)

(i). Subtract the cover value of the target's hex (unless in a fortification or the target has an assault order)

(j). Subtract twice the fortification value of the target's hex (unless the target has an assault order)

All artillery brigades have a maximum fire value of 6 in rain, snow, heavy fog or at night. Artillery brigades with a withdraw order may not have a fire value greater than 8.

The fire value of the artillery component of other brigade types is calculated in the same way.

(ii). Infantry, Mounted Infantry and Cavalry Brigades

Note that cavalry brigades with assault orders and all brigades with a small arms range of 0 are treated differently.

(a). Add all of the first 8 strength points, half of the next 8 strength points and one quarter of the remaining strength points

(b). Add 1 for each point of experience above 4

(c). Add 1 for each point of leadership above 4

(d). Add 1 for every regiment in the brigade above 4

(e). Add fire value of the small arms type

(f). Add twice the melee value of small arms type (if order is assault)

(g). Subtract half of the cover value of the firer's hex (unless in a fortification)

(h). Subtract the cover value of the target's hex (unless in a fortification or the target has an assault order)

(i). Subtract twice the fortification value of the target's hex (unless the target has an assault order)

Surprised brigades cannot have a fire value greater than 2. Brigades with a withdraw order cannot have a fire value greater than 8. Note that cavalry brigades with a withdraw order are treated as though they had a skirmish order. Brigades with a small arms range of 0 cannot have a fire value greater than 2. Brigades have a maximum fire value of 6 in rain, snow, heavy fog or at night. Brigades firing at a non adjacent opponent have their fire value reduced to 25%.

(iii). Cavalry Brigades with Assault Orders

This group includes all brigades with a small arms range of 0 who are assaulting.

(a). Add all strength points

(b). Add 1 for each point of experience above 4

(c). Add 1 for each point of leadership above 4

(d). Add 1 for every regiment in the brigade above 4

(e). Add twice the melee value of small arms type (if current order is assault)

(h). Subtract twice the cover value of the target's hex (unless in a fortification or the target has an assault order)

(i). Subtract three times the fortification value of the target's hex (unless the target has an assault order)

Brigades have their fire/melee value reduced by 50% in rain, snow, heavy fog or at night.

As a final modifier, the current cohesion rating of a brigade affects its fire value. Cohesion value 6 or 7 = no effect, 4 or 5 = 75%, 2 or 3 = 50%, 1 = no fire value.

All brigades with an assault order are eligible to receive a combat bonus if a heroic army commander is within four hexes. This bonus can be as much as 50% again of the brigade's fire value.

The fire value is the principal factor used in calculating how much cohesion a brigade loses as a result of being fired upon. Cohesion is explained in the following section.

Cohesion

The gradual reduction in a brigade's fighting ability throughout the game is measured through a fluctuating *Cohesion Value*. The cohesion value is decreased as a consequence of taking losses from combat. The cohesion value can only be increased while a brigade is in reserve.

As soon as a brigade's cohesion value drops to 0, then the brigade is removed from play.

As soon as a brigade's cohesion value drops to 2, it shatters. There is no additional effect when a shattered brigade's cohesion value drops to 2.

If the shatter flag in the brigade creation screen is set to 1, then the brigade begins the game in a shattered condition. If the flag is set to 0, then the brigade begins the game in a normal condition.

A normal brigade may recover to a cohesion value of 6. A shattered brigade may recover to a cohesion value of 4. During night turns, normal brigades may sometimes recover to a cohesion rating of 7, shattered brigades may reach a cohesion rating of 5.

A brigade's cohesion value can only drop as a consequence of sustaining casualties in combat. Each time a brigade is a target for enemy fire, it immediately checks to see if a cohesion value loss has occurred. This loss is implemented immediately.

The procedure for calculating a brigade's cohesion value loss is given below. Note that HQs do not have a vulnerability value. If they are subject to enemy fire, they make an automatic retreat of 2-4 hexes.

Step One. Calculate the target's vulnerability value using the following formula.

Current Cohesion + 0.5 (lead. + exp.) + brigade type + brigade size + rnd 3

where brigade type is artillery (8), infantry (6), mounted infantry, cavalry (4), all surprised brigades, all reserve brigades (0) and brigade size is 1-4 SPs (0), 5-8 SPs (1), 9-16 SPs (3), 17+ SPs (6).

Step Two. Compare the fire value with the vulnerability value to obtain the number of hits scored. **Table 2** gives the details.

Each hit scored is one random (1) chance of causing a cohesion loss except against a brigade with a withdraw order or a brigade with the encamped flag set. In the former case it is one random (3) chance of causing a cohesion loss and in the latter case it is an automatic loss of one cohesion point.

Step Three. At the completion of all combat, each brigade fired on makes a cohesion check to see if its current orders are over-ridden. The test is:

Current Cohesion + 0.5 (lead. + exp.) + fortification value + tactical factor + confidence factor + command factor + current order + previous turn + rnd 7

where tactical factor is fired at through frontal hex-sides (4), enfiladed (0), the confidence factor is the number of friendly brigades within three hexes minus the number of enemy brigades within 2 hexes, the command factor is heroic army\leader in range (3), bold army leader in range (2) sensible army leader in range (1), cautious army leader in range (0), current order is assault (2), withdraw (-2).

Note that an account is also made for events which occurred in the previous turn. Friendly brigades within four hexes and enemy brigades within 3 hexes may have an affect. Subtract 1 for each friendly brigade which retreated, 3 for each friendly brigade which shattered and

FIRE VALUE	VULNERABILITY VAL.			
	0-12	13-18	19-24	25+
0-3	2	2	0	0
4-7	4	3	1	0
8-11	6	4	2	1
12-15	12	6	3	2
16-25	18	8	4	3
26+	24	12	6	4

Table 2. Hit Table

7 for each friendly brigade which was KIA'd. Add 2 for each enemy brigade either retreated, shattered or KIA'd.

The maximum negative value of this variable is -7. There is no limit as to how large it may be. Finally, the effect of a KIA'd brigade may persist for up to two turns.

(a). If this value is 0 - 6, then brigade is eliminated.

(b). If this value is 7 - 10, then brigade shatters and flees 3-4 hexes to the rear.

(c). If this value is 11 - 15, then brigade retreats 1-2 hexes to the rear.

(d). If this value is 16+, then there is no effect.

Remember that independent of these results, as soon as a brigade's cohesion value drops to 2 it will shatter and as soon as it drops to 0 it will disappear (KIA) for the rest of the game.

Manoeuvre

Once the last combat report has been displayed, the movement routines are activated. The computer determines in which order the units will move. This is based on staff, experience, leadership, cohesion, current order and a small random component.

If necessary, the movement routine will be divided into a series of *pulses*. This is to ensure that every unit has the maximum opportunity to complete its movement without being blocked by friendly units.

The menu window will display the word <running> throughout the duration of the movement routines. The screen will centre on each unit as it moves. Note that there will be no indication of the movement of unsighted units.

The number of movement points available to a unit can be reduced by any of the following; bad weather, time of day, low cohesion, poor leadership or just plain bad luck. Units out of communication are more suspect to losing MPs than units in communication.

6. WINNING THE GAME

The game will end with the completion of the movement routine on the last turn. The victory screen will appear and summarize the players' performance.

Additionally, players may elect to end the game at any time by selecting the <RESIGN> line from Menu 2. If this is done, victory points will be displayed as though the game was scheduled to end on that turn.

PART TWO
THE SCENARIOS

GAINES MILL
27th June, 1862

During McClellan's retreat from Richmond, known as the *Seven Days*, many battles and skirmishes were fought. One of the deadliest was fought on 27th June on Turkey Hill, near Gaines Mill.

Lee had expected McClellan to make a stand along the line of Powhite Creek. A.P. Hill sent in his lead brigade against the riflemen clustered around a building known as Gaines Mill and, after a short fire-fight, the enemy retreated. Lee was just thinking that the whole exercise had been far too easy when there was the sound of heavy firing and Hill's lead brigade came back at the double. Hill brought up three more brigades and, as Longstreet was arriving on the right, sent them in again. Again, the heavy firing and again the troops came back, wild-eyed and diminished in number.

Two miles east of Gaines Mill was a creek known as Boatswain Swamp. It flowed through a clear, boggy area around the front of the flat-topped Turkey Hill. Three separate lines of infantry, one above the other, were dug in and the crest was bristling with guns. Fitz-John Porter had three divisions and orders to hold the hill while the rest of the army retreated, and he and his men were determined to do just that.

Lee ordered Longstreet to make a demonstration on the right while he found out what had happened on the opposite wing where D.H. Hill and Jackson were supposed to be attacking and drawing defenders towards them. He found that Jackson had been delayed by taking a wrong road and had ordered Hill to delay his attack also. Lee ordered Ewell to go in on A.P. Hill's left in support while he sorted things out.

A.P. Hill's men, by this time, had had enough. "You need not go in" they said to Ewell's veterans. "We are whipped; you can't do anything". The veterans, unimpressed, went in at the charge. Again, the triple line of fire and the guns roared out, and such men as were still standing promptly ran back.

The only solution seemed to be a general assault, all along the line. By 5 o'clock, Lee had all his men in position in a near semi-circular arc; in order from north to south were D.H. Hill, Ewell, Jackson, A.P. Hill and Longstreet. As the attack went in Hood's Texas brigade and Law's brigade punched through into the centre.

Porter had, by this time, been re-inforced with another division and was feeling confident. McClellan had sent orders to hold on until dark and had indicated that he would be sending

reinforcements. As the massed attack came in his men fired, reloaded and fired at incredible speed. Hood's and Law's brigades lost nearly a thousand men before they even reached Boatswain Swamp but they took their losses and kept coming and as they closed to bayonet range the Union centre panicked and broke. Fourteen guns and two complete regiments were captured at the point of breakthrough.

Still, this was not the same army that had scattered at First Bull Run. In the falling dusk the retreat was made successfully, covered by 6,000 unperturbed regulars under Sykes and two fresh brigades sent in as re-inforcements. Lee had captured 22 guns, over 2,000 prisoners and had control of the field and could thus claim a victory but he had lost 8,500 men in the process. Porter, including the 2,000 prisoners, had lost 6,837 but had held his position throughout the day. It is unlikely that he was unhappy with the result.

PLAYER'S NOTES

UNION. As the Union Commander at Gaines Mill Your main decisions will be in the employment of your reserves. Superb employment of reserve brigades was the keynote in Porter's defence at Gaines Mill, to emulate his success observe Lee's attacks as they develop and have reserves in position.

CONFEDERATE. The price of victory for the South is the blood of its best men. The only way to minimize your losses is to attack quickly and efficiently. Time is the most valued asset, establish A.P.Hill and Longstreet's attack orders and, if necessary, ride North to direct Jackson's men in an attempt to flank the Federal lines.

SCENARIO VARIANTS

(1). Jackson's sluggish arrival was the primary cause of Southern problems in this battle. Assume he had arrived earlier. Subtract 2 from the arrival time of Jackson's HQ and brigades 1-14 and 27; also change their likelihoods to 6.

(2). While Porter held off the majority of the Confederate Army, McClellan's Force of nearly 60,000 men was bluffed by a diversion orchestrated by Magruder and Huger with only 25,000 troops.

Repeated requests for reinforcements by Porter were denied, with only Slocum's Division (Taylor, Barton and Newton) and the Brigades of French and Meagher being released. Had these units arrived earlier, Porter's position would have been much less desperate. To simulate an earlier arrival, change the arrival turns of brigades 64-66 to 0 and 67-68 to 1. Change the likelihood value for brigades 67-68 to 6.

STONES RIVER (MURFREESBORO)
31 Dec, 1862

On the evening of 30th December 1862, Rosecrans, advancing south-east from Nashville, met with Bragg at Stones River, in front of the town of Murfreesboro. Rosecrans had about 44,000 troops under the commands of Crittenden, Thomas and McCook. Bragg was defending with about 34,000 under the commands of Breckenridge, Polk and Hardee. Both commanders planned to attack the following morning and each had the same basic battle-plan - to attack the enemy right - but only Bragg achieved anything like his intent. Rosecrans had ordered a long line of campfires to be kindled beyond his right flank in order to trick Bragg into stripping his own right where the attack would land.

The trick worked in a sense - Bragg certainly moved troops there - but the effect was not what Rosecrans had intended. Ever methodical, he ordered his troops to attack immediately after breakfast. Bragg, however, had ordered his troops to attack before breakfast. Hardee ploughed through McCook's three divisions, caught by surprise while the coffee was still brewing. The divisions of Johnson and Davis immediately routed but Sheridan, commander of the third division, was made of sterner stuff. Polk's Corps was in the fight by now and Withers' division ran into a determined defence in a difficult tangle of rocks, scrub and trees. Three separate charges were repulsed.

Then Polk's second division, under Cheatham, arrived. Cheatham had the reputation of being the most profane man in the army. "Give 'em hell, boys!" he shouted. His corps commander was handicapped in this regard by being the Bishop of Louisiana but he was equal to the occasion. "Give them what General Cheatham says, boys!" he called. "Give 'em what General Cheatham says!" The boys did, and despite the significant amount of hell that came their way also, they forced Sheridan back.

Although the line was now bent at an angle of nearly ninety degrees, Sheridan's stand had given Rosecrans the time he needed to organize a defence. The left flank he anchored at the ford across Stones River. He then rode back and forth, directing the defence in person.

The critical point in the line was at the bend of the right angle - a four acre stand of cedars, known locally as the Round Forest and soon to be christened "Hell's Half-Acre" by the soldiers. On the high ground behind the trees, Rosecrans concentrated his artillery. Bragg attacked repeatedly but in a piecemeal fashion, first with a Mississippi brigade, then with a Tennessee brigade, then with two brigades sent across by Breckinridge and finally with another two brigades from the source. The cotton field in front of Round Forest became a shambles of dead and dying men but the attacks could not withstand the concentrated firepower and none achieved the objective.

When the sun went down at 4.30 pm, Bragg had lost about 9,000 men but he was aware that his opponent had lost more, including over 3,000 captured in the first rush. He had achieved a decisive victory and he knew it. The only problem was, no-one had told Rosecrans.

Rosecrans certainly thought long and hard about retreat but in the end he decided to hold his position. Throughout New Year's day the two armies stared at each other while their commanders wondered what to do next.

On Jan. 2nd Bragg sent Breckinridge on an ill-advised assault against the Union right but Rosecrans had had a full day to re-organize his defences and the assault was beaten back in just over an hour, with more than 1700 casualties. The next day, Bragg received reports that his opponent was receiving new supplies and re-inforcements and he realized that he must withdraw.

Casualties for the battle had been heavy. The North had lost 13,249 (including 3717 captured) and the South 11,739 (including 2,500 captured). Tactically a bloody draw, the battle was a strategic victory for the Union. Rosecrans had taken Murfreesboro and Northern Tennessee.

PLAYER'S NOTES

UNION. The Right flank will crumble almost immediately, stabilizing it is your first priority. However, try to keep your options open with some of Crittenden's' Corps in case a quick thrust for Murfreesboro is possible later in the game; if not, a central reserve is always useful.

CONFEDERATE. As Bragg you must drive Hardee viciously into the Union right flank gaining ground before the enemy can react. Breckinridge can be moved to support Polk, or if not

required, moved north to skirmish across the river at the Union left as Polk's forces make their attack.

SCENARIO VARIANTS

(1). Breckinridge was notified of Van Cleve's initial moves across Stones River and prepared for a Union attack. He was not told, however, of the Union Division's quick withdrawal to support Rosecrans' crumbling right flank. Consequently, Breckinridge failed to immediately comply with Bragg's orders to re-deploy across the river and support Polk. This failure is simulated in the scenario by the uncertain and late arrival of Breckinridge's corps HQ. Change the HQ arrival to 0, its likelihood to 7, and its location to 14,8 thus giving Bragg early access to this corps.

(2). Both Generals planned to attack their opponents right flank; Bragg got the jump on Rosecrans with McCown's dawn attack. The reverse could have been the case. To assume it was, re-position McCown's Division and the two Western Brigades of Cleburne's Division so they are just West and North of Hardee's HQ. Also move Wharton's cavalry south 2 hexes, Pegram's cavalry south 3 hexes. Change Breckinridge's arrival details as in Variant (1) above. For the North, Van Cleve and Wood's Divisions, with Morton's Pioneer Brigade should be deployed 1 hex distant from Breckinridge's positions, Wood on Van Cleve's right. Crittenden and his division commanders' orders must be changed to offensive, with Murfree Hill and Murfreesboro as objectives. Also move Crittenden's HQ to the East Bank.

GETTYSBURG
1st-3rd July, 1863

The three-day battle fought at Gettysburg was not initially intended by either commander. It started when Heth (of Hill's corps) marched towards the town, intending to get shoes for his ill-shod Confederate soldiers from the Gettysburg factory. He ran into Buford with two brigades of cavalry and matters escalated from there. Two Union corps under Howard and Sickles arrived mid-morning and Heth's troops were badly cut up. More Confederate troops marched in and fighting increased. Early, marching down the Harrisburg road caught and routed Howard mid-afternoon and soon the whole Union force was in retreat. Several thousand were captured as they tried to funnel through the Gettysburg streets. Those who escaped capture rallied on Cemetery Hill, named for the cemetery on its summit.

Lee sent a message to Ewell on the left to attack the position if he thought there was a chance of success. This was the sort of message he was accustomed to send to Stonewall Jackson and it would undoubtedly have sent Jackson charging in to dislodge the badly shaken Union troops. But Jackson was two months in his grave and Ewell was uncertain and so did not attack. About 25,000 Confederate and 20,000 Union troops were involved on this first day, with casualties 8,000 and 9,000 respectively (half of the latter being prisoners).

During the night the rest of Meade's army, with the exception of Sedgwick's corps arrived and took up position. Meade was disposed on a curved ridge in the approximate shape of an inverted fish-hook with two hills, Little and Big Round Top, at the "eye". Lee's plan of attack was to feint with Ewell at the barb and attack with Longstreet at the Little Round Top end.

Little Round Top commanded the entire Union position and it was temporarily left uncovered but Brigadier General Warren, the Union army's chief engineer, acted on his own initiative to cover the hill. He was just in time, and a nasty little regimental level fight ensued, but he held on.

Longstreet had no great belief in the attack but he sent it in, from south to north: Hood at 4 pm, McLaws at 5 pm and Anderson at 6 pm. Apart from gobbling up a good proportion of two divisions unwisely posted in a forward salient the attack achieved little, which was unsurprising as by now it was 8 brigades attacking 22 in a solid defensive position. Sedgwick had arrived while the attack was in progress and was added to the defense.

At the other end of the line, Johnston and Early attacked at 7 pm and 8 pm respectively. They were not particularly successful either, although Early did manage to effect a lodgement on the point of the hook. By now Meade had his army together and had 80,000 men and 354 guns against Lee's 50,000 and 272.

The morning of the third day saw heavy fighting in the north were Ewell was lodged. The fight swayed to and fro but the Confederate troops were driven off by mid-morning.

The main assault was planned for the Union centre. Lee planned to use Pickett's division (about 4,600 men) and Heth's (about the same number but badly cut up on the first day) with a few others to bring the total up to about 11,000. A heavy bombardment started about 1.00 pm which pounded the Union centre for over an hour and a half, but it caused only few casualties. At 2.30, the Union batteries ceased fire to make the Confederates think they were knocked out or out of ammunition and the ruse worked. The main attack came in.

The Confederate army advanced in beautifully dressed lines across the three quarters of a mile of open ground. The Union artillery opened fire again and against the massed ranks it was impossible to miss. Some troops did succeed in reaching the Union position and even made a brief breakthrough but they were soon repulsed by the reserve. Barely half of those who set out returned, the attack having cost 5,000 casualties.

Remarkably, Confederate morale was not completely shattered and the army dug in grimly, awaiting Meade's counter-attack. But Meade had just seen the results of attacking an entrenched enemy and he didn't feel like trying it from the opposite point of view. Lee was ultimately able to retreat unmolested.

The battle was one of the bloodiest of the war with a total of over 50,000 casualties, 23,000 Union and 28,000 Confederate. Inside the Gettysburg cemetery was a sign, which had apparently escaped notice: "All persons found using firearms in these grounds will be prosecuted with the utmost rigor of the law."

PLAYER'S NOTES (DAY 1 SCENARIO)

UNION. Placement of Reynold's HQ is critical, as directing the arriving Union units well is central to your success. A position near Gettysburg will give a good mix of communication and brigade control. Of course, the historical option is to lead from the front - and get yourself killed! Remember your men can build entrenchments if stationary.

CONFEDERATE. To win, Lee (you!) will need to quickly deploy forward, using the Souths numerical advantage before Union help arrives. You must take Gettysburg to have any chance of winning.

SCENARIO VARIANTS (DAY 1 SCENARIO)

(1). The Campaign Variant. A complete arrival schedule for all three days of the Gettysburg battle is already entered in the Day 1 scenario. The few changes necessary to create a three day game are listed below.

Enter the Day One page of the briefing screen and change the move column for turn 10 from 'END' to 'MOVE' by typing 1. Change the Union Army Commander to 'Meade'. The only changes to Meade's Day 2 scenario values are arrival = 4 and location = 14, 26. Change Lee's

Army HQ as follows. Arrival = 4; offensive objectives = 12 and 22.

(2). Delayed Reinforcements. To simulate the uncertainty of arrival times for both sides reinforcements, subtract 2 from the arrival turn values for all units arriving between turns 6 and 13. Also change the likelihood value for these modified units to 5.

PLAYER'S NOTES (DAY 2 SCENARIO)

UNION. Correct management of reserves is central to winning Union tactics. Anticipate problems by keeping a constant watch on enemy movements and the condition of your men. Maintaining communications with your Corps Commanders is more important than getting involved in the trenches.

CONFEDERATE. Control for the confederate commander is difficult due to his exterior lines of communication. Paying personal visits to your corps commanders' HQs is the best way of ensuring your plans run smoothly. Experience will show who needs a guiding hand (or you can check up on their ratings before the battle by using WARPLAN™). To assure victory the South must break the Union lines and take at least one of the major "Big Point" objectives.

SCENARIO VARIANTS (DAY 2 SCENARIO)

(1). Longstreet may have placed Hood's division north of McLaws rather than the historical, more southern position. To simulate this, move Hood's brigades north, and change Hood's and McLaws' division HQ objectives to 18,16 and 19,22 respectively.

(2). The following brigades are included in the data base with a minimal chance of arrival due to their failure to be committed at Gettysburg. To improve their chances, change the likelihood values for the following brigades to 2. Bde Nos. 8,13,14,15,46,47,118,119,120.

CHICKAMAUGA

19th-20th September, 1863

The Chickamauga Creek (chickamauga meaning "stagnant water" or, more sensationally, "river of death") flows approximately north-south into the Tennessee River, a few miles east of Chattanooga, through heavily wooded country. On 18th September the armies of Rosecrans - approximately 65,000 men in three corps under McCook, Thomas and Crittenden - and Bragg - a similar number in five corps divided into two wings under Polk and Longstreet who had just made a long rail journey from Virginia with about 12,000 men.

Bragg had planned to attack on 18th but delays meant that nothing happened, except that Rosecrans shifted his position northward to be nearer the Rossville Gap - his retreat route to Chattanooga in an emergency. On 19th the battle started at the north end of the line when Thomas moved to drive off what he thought was a single brigade. This quickly escalated into a slugging match with both sides pouring in more troops.

Fighting spread south in the afternoon when Stewart's division, sent to help against Thomas, accidentally attacked a mile to the south. It hit Van Cleve's division and drove it back almost to Rosecrans' HQ at the Widow Glenn's house. Here, however, they met Reynolds' and Negley's divisions heading north and it was suddenly three divisions to one. Stewart was obliged to retreat back across the north-south, Lafayette Road.

As this attack was failing Hood, without orders, sent in the divisions of Johnson and Law, immediately to the south. These met Davis' division which fell back. Again Widow Glenn's

house was in view but again two divisions came to the rescue - this time those of Wood and Sheridan, and Johnson and Law too had to fall back beyond the road.

As the sun was setting Cleburne, at the far north end of the line, attacked and drove Thomas back almost a mile but he was still in good order as darkness fell. Throughout the night, the Confederate soldiers could hear their northern counterparts felling trees and hurriedly putting together barricades.

Rosecrans was not displeased with the situation. Although it had been close at times, his line had held together and there seemed to no reason why it should not continue to do so. Bragg also was quite pleased with the way things had gone, despite the unco-ordinated nature of the day's attacks, and he ordered Polk and Hill to attack at dawn.

Or rather, he thought he had so ordered, but the messenger could not find Hill in the darkness and by the time everything had been sorted out and the attack finally sent in, it was approaching ten o'clock. Rosecrans' soldiers had not been idle during this period of grace and the breastworks now had a grim and solid look about them. The series of divisional attacks which Bragg had ordered in the north were prosecuted with great enthusiasm but could not break the well-defended line.

The battle might well have continued in this manner until Bragg had worn his army down to nothing had not Rosecrans here made a catastrophic mistake. His aides reported to him a "gaping hole" between Reynolds' and Wood's divisions and, apparently forgetting his own dispositions, Rosecrans sent an order to Wood to "close up and support" Reynolds. Brannan was posted between the two and the only way Wood could support was to go around Brannan, which he did. There he met Thomas who said that Reynolds did not need support - he had just repulsed an attack by Stewart, but sent Wood, on his own (Thomas') responsibility, to reinforce the left. This created the "gaping hole" which had previously had no reality.

Longstreet, meanwhile, had been carefully massing four divisions for an attack and, as Wood's last units were leaving, they went in, leaping over the deserted barricades and charging into the vulnerable Union flanks. The army fell apart, a good third of it routing back to Chattanooga. Rosecrans himself went with them to organize a defence which might well have been necessary had it not been for Thomas.

Thomas, in an action that was to earn him the nickname of "The Rock of Chickamauga", refused to succumb to prevailing panic. Thus Kershaw, rushing in with two Confederate brigades, met with a bloody repulse. The Confederate army gave Thomas everything it had but, re-inforced by two brigades from Granger, who had been in reserve guarding the Rossville Gap, managed to more or less hold on until dark. They were obliged to leave many of the wounded behind and Bragg was to report a total of more than 8,000 prisoners.

The Confederate victory had been at a terrible cost, however. Final casualties were 16,170 for the Union and 18,454 for the Confederacy, including in the latter case, 14,674 wounded. For the number of men involved, this was the bloodiest battle of the war.

PLAYER'S NOTES

UNION. The Union Player should aim to deploy his units to cover the roads leading to Rossville and McPhersons Gap. Thomas' corps will move towards Kelly's Farm and Brotherton. You should position the army HQ subordinate divisions south of Brotherton. Once this sector is organized, you may ride north and adjust Thomas' divisions. This is a confused battle, care must be taken to ensure that gaps large enough to allow an enemy penetration do not exist in your lines. The Rebels need to break your line to win. A stubborn defence will make the price too high.

CONFEDERATE. During the first day many confused clashes will result. As the South's Commander, you should try to keep the North off balance while planning for tomorrow's attack. During the night briefing (first AM turn, Day 2) you should issue orders to implement your plan. This is the only time when communications are possible to all commanders. Longstreet is your best commander, using him wisely is the key to success. Remember, piecemeal attacks by single divisions are a good way to lose lives, and the game.

SCENARIO VARIANTS

(1). Bragg appointed Leonidas Polk to command the South's Right Wing (represented by Polk's large corps). His performance in this role was sluggish at best! An alternative choice would have been D. H. Hill; a resourceful and experienced leader. To give Daniel Hill his chance, change Polk's HQ as follows; ID = D.H.Hill, Movement = 5, Leadership = 5, Staff = 5.

(2). Thomas had effective control of more units during this battle than Rosecrans. For a change in perspective we can put the Union Player in Thomas' shoes by swapping Thomas' Corps H.Q. name, position, arrival, movement, leadership, staff and troop strength values with those in the Army HQ, and giving the First Corps defensive orders, with an objective of Vinlard (10). Also all divisions with a corps assignment of 0 will need a value of 6, those with 6 must be switched to 0. These changes essentially put you in command of Thomas' Corps with Rosecrans as a subordinate corps commander.

CHATTANOOGA (MISSIONARY RIDGE)

23rd-25th November, 1863

Holding Missionary Ridge during the siege of Chattanooga, Bragg had extremely strong position. Grant planned to use Thomas' four divisions in a holding action on the plain in front while Sherman, who had just made a devious detour through the mountains with four divisions, attacked Bragg's right flank along the ridge. Hooker was to attack Lookout Mountain on the left with three divisions and Howard held two divisions in reserve. Bragg was defending with seven divisions, with Cleburne holding the right flank and Stevenson on **Lookout Mountain.**

On 23rd November, Thomas was ordered to move out of the city and take up a position half-way across the plain. Thomas' men had heard through the grapevine that Grant had doubts about their morale after Chickamauga and were on their best behaviour. They marched out with the precision of a review and the Confederate outposts on Orchard Knob and Bushy Knob were enjoying the show when suddenly, the trumpets blew and they were swamped in a rush of soldiers.

On 24th, Sherman attacked smoothly on Bragg's right, brushing aside all opposition, until he held the high ground. In late afternoon, contemplating the next day's attack along the ridge, he suddenly realised that he wasn't on the ridge at all. He had been tricked by the unfamiliar terrain and he was on an isolated hill, separated from the main ridge. He dug in, realising that he had everything to do again on the morrow.

Meanwhile, Hooker had been attacking Lookout Mountain. On the steep and rocky terrain the two Confederate brigades put up a good showing but against the pressure of three divisions they could only fight a delaying action. During the night they were pulled back to Missionary Ridge by Bragg who felt that they would be more use in the defence there. Thomas

did nothing this day.

On 25th, virtually nothing went as Grant planned. In the early morning the American flag could be seen flying on the summit of Lookout Mountain and Grant waited confidently for Hooker to advance on Rossville and Bragg's left wing. He waited some time however, for the terrain was extremely difficult and there was a delay of over four hours while Hooker got into position.

Sherman, at the other end of the line, had run into a wall. Cleburne's single division held off attacks by Sherman's four. Grant sent Howard's two divisions over to help and Cleburne drove them off too. Sherman attacked repeatedly and with vigour but he simply could not budge Cleburne, entrenched on the high ground.

At 3.30 pm with Hooker in position at one end and Sherman stalled at the other Grant looked doubtfully at Bragg's triple line of entrenchments, at the base of the ridge, midway up, and on the crest, and ordered Thomas to take those at the base. Thomas' men were still annoyed that their morale might be called into question and they took the trenches at a rush.

Once there they found themselves subject to plunging fire from the the trenches above. They could not stay there, only go back or forward. They elected to go forward. A wild spirit caught hold of them and the entire four divisions charged up the steep slope. It couldn't really be done but, aided by Bragg's poor siting of his entrenchments which left large sections of the hill in defilade, they swept over the summit and the Confederate line broke and scattered.

Thomas' men had proved to everyone's satisfaction that their morale was as good as ever. Total casualties were 5824 for the North and 6667 for the South, including 4146 captured or missing. Years later, someone remarked to Grant that Bragg must have thought his position impregnable. Grant smiled wryly. "Well" he said, "it was impregnable."

PLAYER'S NOTES

UNION. You are in an excellent position to carry out a double envelopment of Missionary Ridge and thereby minimize the casualties incurred during the final assault on the Rebel breastworks. Wait until one or preferably both flanks are turned before loosing Thomas' Corps for the knockout blow in the centre.

CONFEDERATE. The South is outnumbered and must conserve forces whenever possible. Give ground wherever necessary on Lookout Mountain, and try to re-deploy back to Missionary Ridge by the morning of Day 2. A balance must be struck between holding the northern flank and weakening the centre.

SCENARIO VARIANTS

(1). The pontoon bridge at Brown's Ferry was destroyed by floods before P. J. Osterhaus' division could cross, consequently this division fought with Hooker rather than with Sherman as originally intended. Assume the bridge held. Change the corps assignment of Osterhaus' division to 8 (Sherman) and re-position his brigades (81 and 82) along the road to Shermans Bridge. Change the division objectives to 22 and 18 and the brigade objectives to 22.

(2). Prior to the battle Sherman issued orders for Hooker to move north across Browns Ferry and through Chattanooga, rather than fight his way over Lookout Mountain and across Chattanooga Creek in order to reach Missionary Ridge. This plan was also thwarted by the destruction of Browns Ferry. Assume it could be accomplished. Position Hooker's corps and brigades in Chattanooga, change corps and divisional objectives to 5 and 6 and brigade objectives to 5.

PART THREE
WARPLAN™

1. INTRODUCTION

The following notes are meant as a guide to **Warplan™**. The information they contain will also provide some insights into how the game works, and should be read at some stage even if you never construct your own scenarios.

Varying an existing scenario is fairly straight-forward and we provide an example of how to do this in Chapter 4. Variations are the easiest way to get the most out of your game. However, designing an original scenario will require a reasonable degree of familiarity with the game itself.

We publish complete scenarios for the ***Decisive Battles Game System*** in our magazine ***Run 5***. The magazine contains all the information required to create entirely new games using **Warplan™** and **Warpaint™**. For details on our ***Run 5*** magazine, please see the inside front cover of this manual.

2. USING THE DESIGN MENUS

The data card contains a schematic display of the design menus. They operate in the same way as the Game Menus that you have already used.

You cannot make changes to the historical scenarios themselves; rather you must save the scenario onto a save game disk and then edit the data. This is to prevent you from accidentally corrupting the historical scenarios. Nor can you edit a game in progress. Only scenarios with a game turn number of zero may be edited.

3. PREPARING A DISK

Whether making a variation to an historical scenario or creating an original scenario, the procedure for preparing a save game disk is essentially the same. Examine the Start and Design menus.

If you have not formatted a ***Decisive Battles*** save game disk, prepare one using the procedure given in Chapter 3 of the Game Routines.

When making a change to an historical scenario, select the <CREATE> line from Menu A and type (RET) to obtain Menu B.

If the template which is providing the source for the variation is on a scenario disk, select the <SCENARIO> line and type (RET). Select the chosen scenario from Menu C. The computer will automatically process you through to Menu J (Create Master).

If the template which is providing the source for the variation is on a save game disk, select the <DISK> line and type (RET). Load the chosen file from Menu D. The computer will automatically process you through to Menu J (Create Master).

Use **Warplan™** and **Warpaint™** to make whatever changes you wish to the data and then come back to Menu J.

Select the <DISK> line to go to Menu D. Select the <SAVE> line. Locate the desired save location in the catalog with the arrow keys and then type (RET). You will be offered an opportunity to enter a comment. Use it if you wish, otherwise select the <SAVE GAME> line and type (RET).

When you wish to create an original scenario, repeat the above procedure but before entering data use the <CLEAR> line in Menu J to erase the data bases.

4. VARYING A SCENARIO

Varying a scenario is a way of exploring historical options. It is much easier than creating a new scenario from scratch and is a good way to become familiar with the design mechanics. Preparing this scenario variation will give you a good background to the processes of scenario design.

As Ullyses S. Grant manoeuvred his forces to relieve the besieged garrison in Chattanooga, Braxton Bragg was putting into effect an ill-conceived operation to attack Ambrose Burnside's Army of the Ohio at Knoxville. Three Confederate divisions, those of McClaws, Hood and Bushrod Johnson, under the command of James Longstreet were to be used. Wheeler's cavalry would support the operation. Cleburne's division had also been detailed to support the advance but fortunately had not departed the siege before Hooker's corps struck the northern end of Missionary Ridge.

The variant to the Chattanooga scenario that we will create supposes that Bushrod's Johnson's division (the closest to Chattanooga at the time) was recalled in time to arrive on the battlefield early on the 24th.

To add Bushrod Johnson's division to the Confederate OB, we must add 1 division HQ and 2 infantry brigades.

Step 1. Preparing a Save Game File. Boot the Master Disk and select <CREATE> from Menu A. Select <SCENARIO> from menu B. Select <CHATTA> from Menu C and you will be processed through to Menu J without further ado. Replace the scenario disk with a formatted save-game disk then select <DISK> from Menu J.

If you don't have a formatted save game disk, use the procedure explained in the previous chapter to prepare one. Select <SAVE> from Menu D.

Use the arrow keys to locate an empty save-game location and type (RET). Select <COMMENT> and enter the title ***Chat. Variant***. Type (RET) to get back to the menu window. Select <SAVE GAME> and you will be returned to Menu J. You have prepared a save game file for the scenario variant.
the scenario variant.

Step 2. Creating a Division HQ. Keep the Design Menu card in front of you. Select <WARPLAN> from Menu J. Select <UNIT DATA> from Menu 4. Select <FORCES> from Menu 9. Select <SOUTH> from Menu 12. You are now into the unit creation routines. Select

<DIVISION> from the menu window. Use the <FORWARD> line to advance through the existing divisions until the first blank roster is located. This should be number 8 Select <EDIT> from the menu window then type (Johnson) (RET), (0) (RET), (0) (RET), (1) (RET) (18) (RET) (0) (RET), (7) (RET) (5) (RET). Type (ESC/f1) twice to return to the unit type menu window.

Step 3. Creating a Brigade. There are two brigades to create. Select <BRIGADE> from the menu window. Use the <FORWARD> line to advance through the existing brigades until the first blank roster is located. This should be number 29. Select <EDIT> from the menu window then enter the following data for each brigade.

Gracie's Brigade. (Gra) (RET), (26) (RET) (10) (RET), (0) (RET), (10) (RET), (1) (RET), (0) (RET), (20) (RET), (1) (RET), (0) (RET), (12) (RET), (6) (RET), (0) (RET), (0) (RET), (4) (RET), (7) (RET), (5) (RET), (4) (RET), (5) (RET).

Fulton's Brigade. (Ful) (RET), (26) (RET) (10) (RET), (0) (RET), (10) (RET), (1) (RET), (0) (RET), (20) (RET), (1) (RET), (0) (RET), (11) (RET), (6) (RET), (0) (RET), (0) (RET), (3) (RET), (7) (RET), (6) (RET), (4) (RET), (5) (RET).

Step 5. Saving the Data. That's all the editing you have to do. Type (ESC/f1) until you get back to Menu J. Select the <DISK> line. Select the <SAVE> line from Menu D. Select the <Chat. Variant> from the <SAVE GAME> catalog.There is no need to add a comment so select the <SAVE GAME> line. The variant is created.

The most important thing to remember is to save the data before exiting Warpaint™ or turning the machine off.

5. THE WARPLAN DESIGN MENUS

This section describes the various menus in **Warplan™** together with explanations of their functions. The order in which they are presented represents a convenient sequence for the creation of a new scenario. Once you completed your new scenario, we suggest you run it through in <OBSERVE> mode several times to fine tune the game balance. To assist with this process, type Cntl (F) at any time to enter the fast resolution mode.

(a). MAP DATA (Menu 5)

(i). Map Size (Menu 6)

The map size in ***Decisive Battles*** is variable. Each map element is 9 hexes wide by 9 hexes deep. There may be up to three elements across and three down. Thus, the maximum size of a battlefield is 27 by 27 hexes. At a suggested ground scale of 300-500 yards per hex, this represents an area somewhere between 20 and 60 square miles.

In creating a scenario, map size ***must*** be set before anything else. Select the smallest map size that can comfortably support the action you wish to represent. Apart from being less work, smaller maps will mean faster games.

The top left sector should always be set to 0. Set the bottom right sector variable to the appropriate value. To make a 9 x 9 grid (i.e. a 1 sector map), set the bottom right sector variable to 0!

(ii). Define Terrain (Menu 7)

There are thirty-two (32) terrain shapes in ***Decisive Battles***. Each shape can be completely redrawn using our powerful **Warpaint™** graphics editor. The names and sighting, move-

ment, cover and fortification effects of each terrain type are defined here. It is possible to represent the ground conditions of any battlefield by judicious use of names and effects. Use the (RET) key to advance the cursor through the screen.

Examine any (or all) of the game scenarios and the blank design form in Appendix A.

For each terrain shape you wish to use, enter a 1-11 character name.

The sighting value represents the ease of visibility into and through the hex. A value of 0 specifies that there is no impediment to visibility; i.e. the hex is easy to see through. A value of 7 specifies that the line of sight is completely blocked.

The movement value of a hex specifies how many movement points each unit must expend when traversing it. Units in column formation will pay only 1 MP when using visible roads no matter what terrain type is underneath. Hidden roads do not affect the movement value of a hex. Note that terrain types with an MP value of 0 prohibit entry for any unit.

The terrain symbol along the top of the screen corresponds to the line currently being edited by the cursor.

The cover value of a hex measures the extent of natural protection from enemy attack provided by the terrain type. This does not include any man-made structures. A value of 0 specifies that there is little or no protection afforded to units occupying the hex. A value of 7 indicates tremendous protection. Note that brigades defending hexes with high natural cover values may have more difficulty in bringing fire to bear on the enemy than a brigade in more open terrain. Assaults launched from heavily covered hexes may also be less effective than assaults from open ground. There is a balance to be struck here. Brigades assaulting from open terrain will generally suffer more severely than brigades assaulting from heavily covered terrain.

The fortification value measures the extent of man-made rifle pits, breastworks and basic field defenses in a given hex type. We have allowed the use of 31 hex types to ensure there are enough to construct detailed field defenses. A value of 7 specifies the extensive development of field defenses. A value of 0 specifies none. A separate entry should be used for North and South fortifications.

By examining the terrain data bases in each of the historical scenarios, you can quickly see how to implement these values in your own designs. Field defense construction became an ever more important battlefield tactic to both sides as the war progressed. The Confederacy, particularly, excelled in the preparation of complex and deadly entrenchments.

In many instances, you will note several hex shapes with the same name and effect values. The large number of hex types available has allowed us to customize terrain features to produce a more aesthetically pleasing battlefield.

(iii). Map Create Utility (Menu 8)

It's probably a good idea to make a draft version of your battlefield before completing the rest of the map data. However, we strongly advise you not to edit the map screen until all the information in Menus 6 and 7 has been compiled and entered into the program.

A 9 x 9 hex section of the map will appear with a white, hollow, flashing cursor. In the top right of the screen you will find the hex co-ordinate of the cursor's current location. In the bottom right of the screen you will see the terrain name, the icon corresponding to the name, the relative position of the cursor in relation to the whole map and the icon identifying the side which controls the hex. If the hex has been defined as an objective, the name appears immediately above the terrain name.

There are 32 terrain types which can be entered. River, bridge and ford hex-sides can be

entered. Roads can be added to a hex . Every hex must be identified as North or South controlled.

The I,J,K,M and 1-6 keys will move the cursor around the battlefield. Type (0) centre the screen on the cursor.

To create a terrain type in a hex, type (T)(n) where n = a number between 0 and 31. Please see the blank terrain effects chart in Appendix A. Note that terrain types T1-T3 require you to type (T) (n) (SPACE). This is to distinguish them from double digit terrain types which use 1-3 as the first number. Terrain types T0 and T1(SPACE) are water hexes. T0 cannot be entered by any units. T1(SPACE) can be entered by all units and is therefore suitable as a bridge, ferry, ford or pontoon link across a wide body of water. Terrain types T2(SPACE)-T31 can be entered by all unit types and it is these types which make up the land component of the battlefield.

The road structure needs some explanation. There are two types of roads; functional roads and cosmetic roads. Functional roads are those used by the movement routines to march columns of men long distances. Cosmetic roads are those which end in dead ends, the map edge or anywhere which could confuse the computer. Use a cosmetic road if you don't want the computer to treat the hex as a road when moving troops in column or determining march routes.

Units using either type of road pay 1 MP per road hex entered. To add a functional road to a hex, type (R) while the cursor is over the hex. Type (R) again to remove the road. To add a cosmetic road to a hex, type (C) while the cursor is over the hex. Type (C) again to remove the cosmetic road.

Functional roads are one of two types; normal or hidden. Type (R) (X) to specify a hidden road. The road icon is masked by the terrain icon and any units using the road will pay the movement value of the terrain in the hex.

The movement routines will nonetheless use hidden roads as though they were normal roads when determining march routes and column movement. This technique is suited for picking out a track through dense terrain where placing a normal road would confer too great an advantage on the user. Type (X) again to convert the hidden road back to a normal road.

To create a river hex-side, you must type three keys. The first is (S). This identifies a hex-side. The second is a number between 1 and 3. This identifies north, north-eastern and south-eastern hex-sides respectively. Note that the south hex-side of one hex is the north hex-side of the hex directly below it. In this way, all 6 hex-sides can be edited. The third is a number between 1 and 3. (1) identifies a river. (2) identifies a bridge. (3) identifies a ford.

Type (S0) to clear all hex-sides from a particular hex. Rivers cannot be crossed except at fords or bridges. The presence of small streams can be accounted for in the terrain types.

Unlike our previous design kits, cities are created by using the terrain types; they are not a separate flag.

To set control of a hex to North or South, type (RET) to bring up the map menu and select <SET NORTH> or <SET SOUTH> as appropriate. All hexes, except T0s, will have their terrain icon replaced by the North or South control icon. As the cursor moves, it will leave a trail of the appropriate control icons behind it. To change control, type (RET) to bring up the map menu and select <RESET ALL>. You are back at square one and can repeat the procedure using the other control icon. When editing hex control from scratch, the default value is South.

For convenience, you can set the cursor to automatically produce a terrain shape. With the

cursor flashing on the chosen terrain, type (RET). This brings up the map menu on the right of the screen. Selecting <SET SHAPE> from this menu will lock the current terrain shape to the cursor. You may now move the cursor and the selected shape will be created wherever the cursor is moved. Type (RET) again to go back to the menu and select <RESET ALL> to turn off the shape.

We suggest you keep the map size as small as possible for your first original scenario.

All maps are compromises between the actuality of the terrain and its representation. Do not feel afraid to be creative with terrain to make the map work properly within the game system.

(b). UNIT DATA (Menu 9)

(i). Limits (Menu 10)

The limits menu is used to divide the available unit blanks between the North and South. Select <FORCES> and by typing the (RET) key repeatedly you will see there are three values to be entered.

There are a maximum of 15 Corps which may be created. When you type a number into the <CORPS> line you are allocating the available Corps between the North and South. The South is allocated a number of Corps equal to 1 less than the number entered. For example, if you type (8) the South will be allowed a maximum of 7 Corps. This number appears in the <max> column of the Southern Corps line.

The procedure for allocating divisions and brigades is identical. For example, a value of 19 in the division line would mean that the Rebs could use a maximum of 18 divisions, the Union 21.

We have chosen this way of unit allocation so that we can produce the largest possible force pool in the smallest amount of memory.

Note that the value range displayed to the left of the North forces shows the current, legitimate range for each entry.

Weapons are treated similarly. There are a maximum of 31 weapon types which may be created. When you type a number into the <artillery> line you are allocating the available weapon types between artillery and small arms. Small arms types are allocated a number of weapons equal to 1 less than the number entered. For example, if you type (13) you will be allowed to create a maximum of 12 small arms types. This number appears in the <max> column of the Small Arms line.

(ii). Weapons (Menu 11)

Examine the blank weapons roster in Appendix A. If the scenario you are preparing is set in the American Civil War, then the weapons roster used in all of the historical scenarios should be more than adequate. Otherwise, you will have to make your own.

There are 31 possible weapon types you may use. These must be divided between artillery types and small arms types. You will have already used Menu 10 (Define Limits) to select the number of each type you require.

Artillery

To create an artillery type, complete the following steps.

I.D. Enter a 1-11 character name to identify the artillery type.

RANGE. Enter a value between 0 and 5. This is the effective range, measured in hexes, of the

artillery type. For example, in a scenario where the ground scale is 500 yards/hex, a 6pd smoothbore would have an effective range of 2 hexes.

RATE OF FIRE. Enter a value between 0 and 7. This value measures the reliability, ease of use and rate of fire of a gun.

EFFECTIVENESS. Enter a value between 0 and 7. This value measures the performance of the gun at close range; i.e. the effectiveness of its fire into an adjacent hex.

PENETRATION. Enter a value between 0 and 7. This value measures the fall-off in performance as the range of the gun increases. A value of 0 means that the gun has little effect beyond the first hex. A value of 7 means that the gun retains much of its effectiveness at its maximum range.

Small Arms

To create a small arms type, complete the following steps.

I.D. Enter a 1-11 character name to identify the small arms type.

RANGE. Enter a value of 0 or 1. A value of 0 indicates that the small arms type is primarily for melee use. A value of 1 indicates that the small arms type is primarily a projectile weapon. Troops armed with both melee and projectile weapons should be assigned a value corresponding to their primary type.

FIRE EFFECT. Enter a value between 0 and 7. This value is a quantitative measure of the firepower delivered by the small arms type.

MELEE EFFECT. Enter a value between 0 and 7. This value is a quantitative measure of the melee performance of the small arms type.

For example, Civil War cavalrymen used firearms for skirmishing but switched to sabres on the occasion of a charge. The fire effect of the pistol should be 1 or 2 while the melee effect of a sabre in the hands of a mounted cavalryman should be 5 or 6. However, Civil War cavalrymen were not primarily employed in a charging role so the range should be set at 1.

(iii). Forces (Menus 12-13)

Examine the blank force rosters in Appendix A. One of these should be prepared for each formation in the game. Do not attempt to edit the screen until these rosters have been completed.

The most important thing to note about troop creation in the ***Decisive Battles System*** is that there is no fixed organizational structure. For example, brigades may be attached to divisions, or corps, or even directly to the Army HQ. Such a flexible structure is the best way to reflect the operational employment of troops in the nineteenth century.

Army HQs

COMMANDER. Enter a 1-11 character name to identify the commander of the Army.

SECOND IC. Enter a 1-11 character name to identify the second in command of the Army. This variable should only be used where a second in command was officially appointed such as Beauregard at Shiloh. A 2IC will reduce the adverse effects of a CiC casualty.

HQ I.D. Enter one or two 1-11 character names to identify the Army.

LOCATION. Enter the x,y map co-ordinates of the Army HQ's start or arrival hex.

ARRIVAL. Enter a number between 0 and 95. This is the turn that the Army HQ will arrive on the map. An arrival number of 0 means the HQ begins the game deployed on the map. A

human player will have no control over his subordinates until the Army HQ appears on the map.

OFFENSE #1. Enter a value between 0 and 23. A value of 0 specifies that there is no offensive objective; any other value identifies the chosen objective. Only enemy controlled objectives should be chosen.

OFFENSE #2. Enter a value between 0 and 23. As above. A computer Army commander will attempt to capture the first objective before moving on to the second objective.

DEFENSE#1. Enter a value between 0 and 23. A value of 0 specifies that there is no defensive objective; any other value identifies the chosen objective. Friendly controlled objectives must be chosen.

DEFENSE#2. Enter a value between 0 and 23. As above. A computer Army commander will defend both objectives, giving preference, if necessary, to the first defensive objective.

HQ MOVEMENT. Enter a value between 0 and 15. It is the number of movement points the Army HQ has available each turn to move over the map. The value should reflect the vigour shown by the Army's commander throughout the battle. The value should also be related to the movement allowances of other troops and to the terrain effects. In general, an Army HQ should have a higher movement allowance than a Corps HQ.

STAFF. Enter a value between 0 and 7. This value is a subjective evaluation of the amount of preparation the Army HQ has done for the battle. Factors which are included in this rating are battlefield familiarity (recon), extent and detail of the briefings given to subordinates, staff experience and the overall confidence of the army in its commander.

STRENGTH. Enter a value between 0 and 7. This value simply describes the size of the provost guard accompanying the Army HQ. The units are 100s of men. It is not suitable for offensive use.

LEADERSHIP. Enter a value between 0 and 7. This value is only used when the computer is placed in command of an Army. Human commanders must rely upon their own judgement and intuition when issuing orders to subordinates. You can expect a much tougher battle from a commander with a high leadership value than from a lowly rated duffer.

Corps HQs

ARMY HQ I.D. Enter 1-9 character name to identify the Corps or its commander.

LOCATION. Enter the x,y map co-ordinates of the Corps HQ's start or arrival hex.

CORPS TYPE. Enter a value of 0 or 1. A value of 0 specifies an infantry corps; a value of 1 specifies a cavalry corps.

ARRIVAL. Enter a number between 0 and 95. This is the turn that the Corps HQ will arrive on the map. An arrival number of 0 means the HQ begins the game deployed on the map. You will not be able to issue commands to the subordinates of a particular corps until that corps' HQ has entered the map. Brigades belonging to a Corps not yet on the map may be directed by the Army commander provided they are within the four hex immediate command range.

ORDERS. Enter a number between 0 and 2. 0 = offensive, 1 = defensive, 2 = reserve. A Corps formation must have an offensive order to move on an enemy controlled objective or to issue such an objective to a division HQ under its control. A Corps with an offensive order may select two objectives, the first defines the route of march to the final destination.

A Corps with a defensive order may move, or issue such an order to a subordinate division HQ, only to a friendly controlled objective. Only one objective can be given to a corps with a defensive order. A Corps with a reserve order will hold in place, awaiting further orders. A

Corps with a reserve order will not pay any attention to an objective. Note that the Army commander can change these orders as soon as the Corps HQ comes within communication range. The primary function of these orders is to make sure that newly arriving troops do not mill about aimlessly but move sensibly into battle.

OBJECTIVE #1. Enter a value between 0 and 23. A value of 0 specifies no objective; any other value identifies a particular objective. The previous paragraph describes their purpose.

OBJECTIVE #2. Enter a value between 0 and 23. As above.

HQ MOVEMENT. Enter a value between 0 and 15. It is the number of movement points the Corps HQ has available each turn to move over the map. The value should reflect the vigour shown by the Corps' commander throughout the battle. The value should also be related to the movement allowances of other troops and to the terrain effects. In general, Corps HQs should have more MPs than subordinate brigades of the same type.

DAILY COMMITTMENT. This value is used only by computer army commanders. For any particular day of a battle, a corps commander can be specified as being completely out of communication. The army commander will not be able to issue orders to the corps commander. An example of where this feature is used is the Chattanooga scenario. Thomas, one of Grant's corps commanders, is a very capable officer. However, on the first day of the battle, Grant wanted Thomas to remain on the defensive while Sherman's and Hooker's troops moved into position. For a human commander, implementing this plan is no problem. For the computer, it's not so easy. The Union is on the offensive on the first day and thus the first time a computer controlled Grant gets in contact with Thomas, he will be given an offensive command. By using this value to put Thomas out of communication with Grant on the first day of the battle, the computer can properly implement Grant's historical plan. Enter 0 if this feature is not to be used by the corps. Enter 1 if the corps is to be isolated on the first day only, enter 2 if the corps is to be isolated on the second day only, enter 3 if the corps is to be isolated on the first and second days only, enter 4 if the corps is to be isolated on the third day only, enter 5 if the corps is to be isolated on the first and third days only... etc; i.e day 1 =1, day 2 = 2, day 3 = 4 and day 4 = 8. If the corps is to be isolated for more than one day, add the value for those days together.

LEADERSHIP. Enter a value between 0 and 7. This value measures the experience, confidence and determination of the Corps commander. It is especially important when the Corps HQ is not in communication with its Army HQ and must rely on its own initiative to get things moving.

STAFF. Enter a value between 0 and 7. This value is a subjective evaluation of the amount of preparation the Corps HQ and its commander have done for the battle. Factors which are included in this rating are battlefield familiarity (recon), extent and detail of the briefings given to subordinates, staff experience and the overall confidence of the corps in its commander. These are the same criteria used to rate the Army staff values.

STRENGTH. Enter a value between 0 and 7. This value simply describes the size of the provost guard accompanying the Corps HQ. The units are 100s of men. It is not suitable for offensive use.

LIKELIHOOD. Enter a value between 0 and 7. This value measures the likelihood of a Corps HQ appearing on its start or arrival hex at the scheduled time. A value of 7 means that the Corps HQ is certain to arrive. HQs or brigades on the same side with the same likelihood value will be delayed by the same number of turns. Units with values of 4 or less may not arrive at all.

DIVISION HQ I.D. Enter 1-9 character name to identify the Division or its commander.

CORPS. Enter a number between 0 and 15. This number defines the place the division will occupy in the order of battle. An entry of 0 places the division directly under the command of the Army HQ. An entry of 1-15 places the division under the command of the Corps HQ identified by that number.

DIVISION TYPE. Enter a value of 0 or 1. A value of 0 specifies an infantry division; a value of 1 specifies a cavalry division. Mounted infantry divisions should be classified as infantry divisions for this purpose. You should not place artillery brigades in divisions but rather attach them to Corps or Army HQs. Division artillery should be distributed among the component brigades.

ORDERS. Enter a number between 0 and 2. 0 = offensive, 1 = defensive, 2 = reserve. A division must have an offensive order to move on an enemy controlled objective. A division with an offensive order may select two objectives, the first defines the route of march to the final destination. A division with a defensive order may move only to a friendly controlled objective. Only one objective can be given to a division with a defensive order. A division with a reserve order will hold in place, awaiting further orders. A division with a reserve order will not pay any attention to an objective. Note that the Army commander, or the Corps commander, can change these orders as soon as the division comes within communication range. The primary function of these orders is to make sure that newly arriving troops do not mill about aimlessly but move sensibly into battle.

OBJECTIVE #1. Enter a value between 0 and 23. A value of 0 specifies no objective; any other value identifies a particular objective. The previous paragraph describes their purpose.

OBJECTIVE #2. Enter a value between 0 and 23. As above.

LEADERSHIP. Enter a value between 0 and 7. This value measures the experience, confidence and determination of the division commander. It is especially important when the Division HQ is not in communication with its superior HQ and must rely on its own initiative to get things moving.

STAFF. Enter a value between 0 and 7. This value is a subjective evaluation of the amount of preparation the Division HQ and its commander have done for the battle. Factors which are included in this rating are battlefield familiarity (recon), extent and detail of the briefings given to subordinates, staff experience and the overall confidence of the division in its commander. These are the same criteria used to rate the Army and Corps staff values.

Brigades

BRIGADE I.D. Enter a 1-3 character name to identify the brigade or its commander.

LOCATION. Enter the x,y map co-ordinates of the brigade's start or arrival hex.

CORPS. Enter a number between 0 and 15. This number helps define the place the brigade will occupy in the order of battle. An entry of 1-15 places the brigade directly under the command of the Corps HQ identified by that number. An entry of 0 means that the brigade is not under the command of any of the corps in the game.

DIVISION. Enter a number between 0 and 39. This number helps define the place the brigade will occupy in the order of battle. An entry of 1-39 places the brigade directly under the command of the Division HQ identified by that number. An entry of 0 means that the brigade is not under the command of any of the divisions in the game. Note that if both Corps and Division values are 0, then the brigade will be under the direct command of the Army HQ.

ARRIVAL. Enter a number between 0 and 95. This is the turn that the brigade will arrive on

the map. An arrival number of 0 means the brigade begins the game deployed on the map.

BRIGADE TYPE. Enter a value of 0-3. A value of 0 specifies an infantry brigade, a value of 1 specifies a mounted infantry brigade, a value of 2 specifies a cavalry brigade and a value of 3 specifies an artillery brigade.

OBJECTIVE. Enter a value between 0 and 23. A value of 0 specifies no objective; any other value identifies a particular objective. In general, the only brigades which need objectives are independent brigades attached to Corps or Army HQs or brigades scheduled as reinforcements. If a reinforcing brigade does not have an objective, it will mill about for one turn before receiving instructions from its superior HQ.

SMALL ARMS TYPE. Enter a value between 0 and 31. A value of 0 specifies that the brigade is not equipped with small arms. A value of 1-31 specifies which small arms type from the weapons list has been issued to the brigade.

ARTILLERY TYPE. Enter a value between 0 and 31. A value of 0 specifies that the brigade is not equipped with artillery. A value of 1-31 specifies which artillery type from the weapons list has been issued to the brigade.

TROOP STRENGTH. Enter a value between 0 and 31. This value describes the size of the brigade in increments of 100 men.

MOVEMENT. Enter a value between 0 and 15. It is the number of movement points the brigade has available each turn to move over the map. We recommend that infantry and artillery brigades be given 4-8 MPs, mounted infantry and cavalry brigades 6-12 MPs. Brigades which were capable of particular initiative or enthusiasm can be given a 1-3 MP bonus. The final value chosen should also take into account the movement point costs of the terrain on the battlefield.

ARTILLERY STRENGTH. Enter a value between 0 and 15. This value specifies the number of artillery pieces in the brigade. For all Civil War battles, we recommend that 1 point of this value be equal to 2 pieces of artillery. Thus, a typical 6 gun battery attached to a brigade would have an artillery strength of 3.

SHATTERED. Enter a number between 0 and 1. A value of 0 indicates that the brigade begins the game in a normal condition. A value of 1 indicates that the brigade begins the game suffering from a recent mauling. The effect is the same as for a brigade shattered in the course of the game.

LEADERSHIP. Enter a value between 0 and 7. This value measures the experience, confidence and determination of the brigade commander. It is especially important when the brigade is not in communication with its superior HQ and must rely on its own initiative to get things moving.

COHESION. Enter a value between 0 and 7. This value should be set at 7 unless the scenario begins in the middle of a battle. Cohesion measures the current fighting condition of the brigade as described in the game routines section.

EXPERIENCE. Enter a number between 0 and 7. 0 = green and unreliable (but not necessarily useless), 7 = elite troops of the highest quality (for example the Iron Brigade or the Stonewall Brigade). The average brigade should have an experience between 3 and 5, although this value should increase toward the end of the war; especially for Confederate brigades.

REGIMENTS. Enter a number between 0 and 7. This number specifies the number of regiments (or major sub-units) which make up the brigade. It is a very good indicator of the brigade's flexibility.

LIKELIHOOD. Enter a value between 0 and 7. This value measures the likelihood of a brigade

appearing on its start or arrival hex at the scheduled time. A value of 7 means that the brigade is certain to arrive. HQs or brigades on the same side with the same likelihood value will be delayed by the same number of turns.

(iv). Objectives (Menu 14)

Examine the blank objective chart in Appendix A.

A maximum of 23 objectives per scenario can be created. The <FORWARD> and <BACK> lines in the menu window are used to bring up the next objective. The <EDIT> line is used to enter the objective and set its parameters. The <MAP> line is an alternative method of positioning the objective on the map.

Each objective must be given a 1-11 character name and an x,y map location.

Victory points for each side can be awarded for the possession of an objective on a turn by turn basis throughout the game and/or at the end of the game.

When awarding points throughout the game, you must select the turn that point scoring will begin and the turn on which it will end.

If you wish to create an objective simply as a signpost for the direction of your troops, then don't assign any VPs for its possession.

A manoeuvre value of 0-15 is available to make a particular objective more attractive to the computer's movement routines. The higher the value, the more likely is the computer to route troops through that point. The best way to get the feel for this tool is to have a careful look at the historical scenarios. Then, if the troops in your scenario are reluctant to go the way you want them to, experiment with the manoeuvre value.

(c). TITLE (Menu 15)

Enter a 1-16 character name for the scenario. There are up to three 26 character lines you can use for a sub-title to the scenario.

Enter a 1-9 character name to identify the *North* nationality. Enter a 1-9 character name to identify the *South* nationality. These character names will be the ones appearing in the first game menu; i.e. Menu H (Game Master).

(d). BRIEFING (Menu 16)

(i). Scenario Setup (Menu 17)

Enter the turn, day, month, year and century that the scenario begins.

A maximum movement distance (in hexes) must be specified for each type of unit. A separate specification is made for each nationality. Enter a value between 0 and 15. We recommend, for Civil War battles, these values; infantry brigades (4-6), mounted infantry brigades (6-9), artillery brigades (4-9), cavalry brigades (6-12) and HQs (9-15).

To recreate the conditions of a surprise attack, enter a value of 1 in the <Encamped> line for a side which is caught unprepared by the enemy assault. If there is no surprise, enter a value of 0.

To allow a side to construct battlefield entrenchments in the course of the scenario, enter a value of 1 in the <Entrench> line.

In addition to the victory points awarded for the occupation of objectives, points are also awarded for causing casualties to enemy leaders and troops. A value of 0-31 can be entered for each category.

(ii). Scenario Details (Menu 18)

Examine the blank briefing form in Appendix A as well as any of the scenarios.

A scenario may last as long as 4 days. These routines fill out much of the background information necessary to get the game moving.

For each day the expected atmospheric weather must be defined, whether each side is expected to take the offensive must be decided and three values must be entered for each of the 24 hours in a day.

WEATHER. Enter a value between 0 and 4. 0 = clear, 1 = overcast, 2 = drizzle, 3 = rain, 4 = snow.

NORTH OFFENSIVE. Enter a value of 0 or 1. A value of 0 puts the North on the defensive for the day. A value of 1 puts the North on the offensive for the day.

SOUTH OFFENSIVE. Enter a value of 0 or 1. A value of 0 puts the South on the defensive for the day. A value of 1 puts the South on the offensive for the day.

MODE. Enter a value between 0 and 3. 0 = night, 1 = dawn, 2 = dusk, 3 = day.

MOVE. Enter a value between 0 and 3. 0 = no move, normal cohesion recovery will occur; 1 = normal move, both sides will move and fight; 2 = end game, a normal move is completed and then the game ends; 3 = skip, no move and no cohesion recovery is allowed.

FOG. Enter a value between 0 and 2. 0 = no fog, 1 = light fog, 2 = heavy fog.

6. WARPAINT™

Warpaint™ is entirely new to wargame construction. Even we are amazed at just how useful it is. Every icon in the game can be edited.

(a). WARPAINT™ (Menu 19)

The <GRAPHICS> line gives access to the icon editor. The <STORE> and <RECALL> lines are used to install or extract a graphics set from any ***Decisive Battles Game System*** save game or scenario disk.

(b). GRAPHIC DESIGN (Menu 20)

The screen shows a large boxed section on the left. This is a pixel by pixel, (dot by dot), representation of an icon. Below it the icon is shown in white and the allowable colors as it would look upon the screen. The icon number is shown above the menu box. The current selected color is shown below the menu box. Selecting the <EDIT> line shows a flashing cursor in the top left of the icon box. The box is 14 elements across by 16 elements down.

A pixel is shown by a white square and its absence by a white dash.

The I, J, K, and M keys or the arrow keys are used to move the cursor around the icon box. At any location the (RET) key creates a pixel if none is present and removes it if there is one. As you make changes in the large icon box these are reflected in the small icons at the bottom of the screen.

There are a few points that you need to be aware of to get the best results. These may vary from computer to computer and are explained in detail below. It is best to make frequent saves to disk when editing icons as mistakes can produce unintended consequences.

After using the edit function type (ESC) to leave. You will be asked to <SAVE> or <IGNORE> your changes and must make this choice before returning to Menu 21. Choosing <SAVE>

incorporates any changes you have made while <IGNORE> returns the icon to its previous shape.

The <COLOR> option allows you to change the selected color of the icon. The <STORE> and <RECALL> options allow you transfer up to 6 icons at a time between different icon numbers, allowing easy variations. The <CLEAR> option blanks the screen.

Technical Notes for Apple and Commodore

Apple Users

Welcome to the wonderful world of color mixing. There are a number of restrictions in the Apple graphics as some random experimentation will make obvious. Vertical white lines must be at least two pixels wide, otherwise they turn out either orange or blue. Depending on which column they are in, vertical lines one pixel wide can appear in two colors and are invisible in the other two. Essentially, any shape that looks good in both white and a color must be multiples of two pixels across, unless you like the weird color mixing you get by defying this rule. Some icons are designed to be used only in white and so can ignore the weird color effects.

Since the color of a dot can change depending on exactly where on the screen it happens to be located, designing non white icons also demands care. Building icons to the edges can cause color mixing problems, especially at the corners.

Commodore Users

The Commodore does not have the restrictions of the Apple with regard to pixel combinations. Its icon resolution is 16 x 16. However the Commodore does have some color mixing problems of its own, especially at the top and bottom of hexes.

Icon Functions

All icons have a particular function. In the case of the terrain icons (numbers 0 to 31), the functions and the name are defined in the terrain menu. All other icons serve a particular purpose which does not change. If you edit the Confederate Army HQ icon to look like a woods symbol, it will still function as an Army HQ.

APPENDIX A (Blank Design Forms)

TERRAIN EFFECTS CHART

TER. TYPE	T0-31						
TER. NAME	[11]						
SIGHT. VALUE	0-7						
MOVE. COST	0-7						
COVER VALUE	0-7						
FORT. (NTH)	0-7						
FORT. (STH)	0-7						

SMALL ARMS ROSTER

SMALL ARMS #	1-39						
SM. ARMS I.D.	[11]						
RANGE	0-1						
FIRE VALUE	0-7						
MELEE VALUE	0-7						

DIVISION ROSTER

DIV. NUMBER	1-39										
DIVISION I.D.	[9]										
CORPS	0-15										
TYPE	0-1										
ORDER	0-2										
OBJECTIVE #1	0-23										
OBJECTIVE #2	0-23										
LEADERSHIP	0-7										
STAFF	0-7										

BRIGADE ROSTER

UNIT NUM.	1-127										
UNIT ID	[3]										
MAP LOC	(x,y)										
CORPS	0-15										
DIVISION	0-39										
ARRIVAL	0-95										
TYPE	0-3										
OBJECTIVE	0-23										
SMALL ARMS	0-31										
ARTILLERY	0-31										
TROOP STR.	0-31										
MOVEMENT	0-15										
BATTERY STR.	0-15										
SHATTERED	0-1										
LEADERSHIP	0-7										
COHESION	0-7										
EXPERIENCE	0-7										
REGIMENTS	0-7										
LIKELIHOOD	0-7										

CORPS ROSTER

CORPS NUM.	1-15										
CORPS I.D.	[9]										
MAP LOC	(x,y)										
TYPE	0-1										
ARRIVAL	0-95										
ORDERS	0-2										
OBJECTIVE #1	0-23										
OBJECTIVE #2	0-23										
MOVEMENT	0-15										
LEADERSHIP	0-7										
STAFF	0-7										
STRENGTH	0-7										
LIKELIHOOD	0-7										

ARTILLERY ROSTER

ARTILLERY #	1-39						
ARTILLERY ID	[11]						
RANGE	0-7						
RATE OF FIRE	0-7						
EFFECT'NESS	0-7						
PENETRATION	0-7						

OBJECTIVE ROSTER

OBJECT. NUM.	1-23						
OBJECT. NAME	[11]						
MAP LOC.	(x,y)						
START (N)	1-95						
STOP (N)	1-95						
VPs/TURN (N)	0-255						
VPs/END (N)	0-255						
MAN. VAL. (N)	0-15						
START (S)	1-95						
STOP (S)	1-95						
VPs/TURN (S)	0-255						
VPs/END (S)	0-255						
MAN. VAL. (S)	0-15						

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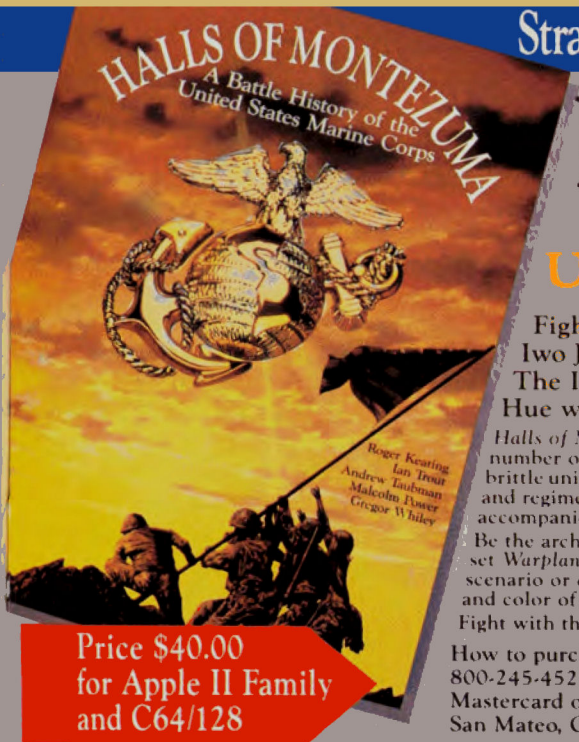
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