REBEL CHARGE AT CHICKAMAUGA

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C-64™ version: This program was compiled using *Insta-Speed*, a product of MICROSCI CORPORATION, Santa Ana, CA.

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QUICK START RULES

1.0 START-UP

These rules allow the player to quickly get into a simple and straightforward game with a minimum of rules reading. Those of you who wish more complexity and realism are invited to play the INTERMEDIATE and ADVANCED games.

1.1 Starting the Game (C-64)

To begin the game, insert the game disk and type LOAD "*",8 and press RETURN. When READY appears, type RUN and press RETURN.

1.2 Starting the Game (Atari)

Remove all cartridges from your computer. Boot-up the front side of the disk (800 XL and 130 XE owners will have to hold down the OPTION key when they turn on their computer to boot). After selecting the starting values for your game, you will be instructed to insert the Game Side of your disk.

1.3 Starting the Game (Apple)

To begin the game, boot your game disk with the front side up and the game will start automatically. If you are using the Apple IIc or IIe, keep the CAPS LOCK key down throughout the game. The first menu you see prompts you to indicate if you are using a "speed-up" board. If so, press the appropriate key. Press "4" if you are not using a "speed-up" board. Older versions of the "Speed Demon" that do not contain the DIP switches may not work properly with this game.

1.4 Starting the Game (IBM)

To begin the game, remove the BASIC cartridge (if using the IBM JR) and insert your 2.0 to 3.2 DOS disk in the drive. Saving a game in progress requires a formatted disk. It would be advisable to format one before you boot up the game.

Turn on the computer system. Press ENTER until you see the ready "A>". Insert your game diskette. Type START, press ENTER, and the game will boot. The IBM version has additional menus that allow you to choose the 10-key option (movement compass using "8" for moving North instead of standard "1"), adjust the screen to the right or left, and change the colors. On these menus, simply press the key that corresponds to the desired option. To use the tutorial, choose the standard compass option (#1: non-ten key option). For your convenience, this disk contains no copy protection. This allows you to make a back-up copy of the game disk and facilitates transferring the game disk to a hard drive system.

1.5 Main Menu

When the game is booted and past the title page and demo selection, you will see a menu with a list of options. At a later time you may wish to use these menu options. (See 2.1 of the INTERMEDIATE and ADVANCED Game rules.) IBM users are given additional menus concerning screen margins, number pad (choose option #1 for tutorial), and color. For Quick Start purposes, leave the default selections and press the RETURN keys.

A series of displays showing casualties for men and guns will be presented on the screen one by one. Press RETURN to continue. You will then be asked to set the delay loop for displayed messages for this turn. Set this at 6 if you have a speed board and 4 if you do not.

1.6 Getting Started: A Tutorial

After setting the time for the delay loop, the program will go through the beginning phases of the first game turn until it reaches the Confederate Operation Phase #1.

The map on the screen has a white square exactly in the middle. At the bottom of the screen, you see lines of text which indicate the phase, time, and day among other things. You are now in what is called the Cursor Menu (you may wish to read section 2.1).

Move the white square on the map, which we will now call the cursor, by pressing the keys "1"–"8". You will notice in the lower right-hand corner of the screen, the numbers 1–8 arranged in a box. This serves as a compass for cursor movement. Pressing "1" moves the cursor one square directly up (north). Pressing "2" moves it one northeast and so on.

Looking at the text on the bottom, you will notice "X, Y : 20, 25" on the last line. This indicates the column and row on the map where the cursor is currently situated. Move the cursor and these numbers will change.

Move the cursor to location 31, 57 and press the "V" key. Every square that can be seen from this location is highlighted. Press any key to return.

Press the "T" key. You will notice that the figures or units on the map will disappear, revealing the nature of the terrain beneath them. Press any key to continue.

Move the cursor to 31, 53 and press the "O" key. You will notice that the map centers itself on the cursor location.

Press the "O" key and the map will "zoom-out" to the strategic map. You will notice that all keyboard functions are active. You can play the game on either map. Scroll around the map with the cursor and then press "O" to "zoom-in" to the tactical map.

Move the cursor to 25, 63 and press the

SPACE BAR. The Confederate unit there will be accessed. You are now in the Command Menu (section 2.2) with the unit information for MANIGALT on the screen (you may wish to read section 2.3).

Press "7" twice (with a pause in between the two 7's) and you will see the unit move two squares to the left. When you move into the second square, two Union infantry units that were hidden will pop up in front of the Confederate. Moving next to hidden units will cause them to appear (You may wish to read section 8.3 of the Intermediate/Advanced rules to learn more about hidden units and line of sight.). Press "F" and the target menu will appear. This menu allows you to target an enemy unit. Press "V" and you will see all the squares you may fire at highlighted. Press any key to return to the target menu. Move the cursor by pressing "7". You are now over a Union unit. Press "T" to target it. You will now return to the Command Menu for the unit MANIGALT. Notice that the FIRE display shows 22, 63, the square of the target unit. Press the "N" key and you will access that the next unit in order of battle sequence (the order that units are listed in the back of this rule booklet). Press "Q" to exit that unit and to return to the Cursor Menu.

Press "G" and you will be prompted to enter a unit number. Press "0" and then RETURN. The cursor will move to unit number 0, Jackson, and access it into the Command Menu. Press "Q" to quit the unit and return to the Cursor Menu.

Move the cursor to 41, 31 and press the SPACE BAR. Move DIBRELL north along the road by pressing "1,1,1,1, and 1". Press the "N" key and move DAVIDSON likewise up the road. Instead of pressing "N" at the end of DAVIDSON'S move, press "Q" to return to the Cursor Menu.

Press "Z" and the cursor returns to the last square from which you accessed a unit with the SPACE BAR. Move the cursor to 43, 32 and press the SPACE BAR to access C. CORPS ART. Move the unit up the road by pressing "7,7,1,1, and 1". At the end of the move press, "Z". You will see the unit move itself back to its original square. (If in the process of moving you uncover hidden units, you will lose 4 operation points when you press the "Z" key.) This is handy when you make a mistake and wish to move a unit somewhere else. Press "Q" to return to the cursor menu.

Move the cursor to 46, 39 and press the SPACE BAR to get the unit, WALTHALL, that has 1837 men. Press "R". The unit will divide itself into an A and B WALTHALL. Press "R" again to reunite the A & B units into one unit. Press "Q" to return to the Cursor Menu.

— THE BASIC GAME

You are now ready to enter the Combat Phase. During the combat phase you should see the artillery fire first and then the infantry. Please note that even those units you didn't target for will fire on their own if they can.

You may fight hand to hand (melee):

- if you are next to the enemy
- have targeted that enemy for fire
- have pressed "M" in the Command Menu for that unit
- and have enough operation points to do so (see section 2.4 and 2.8 and also look at the Operation Costs table).

Press "C" and then "Y" and you will enter the Combat Phase.

After the Combat Phase, you are given the opportunity to save the game. Press "N" and the game will enter the 1st Operations Phase for the Union Player. When the 2nd Combat Phase is completed, the game will display up-to-date losses and a new turn begins with the Command Control Phase (see Section 3.0 of the Intermediate/Advanced Game Rules for detailed information on Sequence of Play).

2.0 OPERATION PHASE

During this phase you are allowed to move and plot melee combat for all your troops. Most actions require you to spend operation points (see Operation Costs Table).

2.1 Cursor Menu

When you first enter the Operation Phase, you will see the following menu below the map. The day, phase number, and time of day are also displayed.

(Ø) = Centers the map at the cursor. ("5" for IBM key pad.)

(1–8) = Moves the cursor in the desired direction according to the compass on the lower right hand side of the display. ("1–9" for IBM key pad.)

(C) = Takes you to the Combat Phase. Press this key when you are finished moving all your units.

(G) = Upon pressing this key, you will be prompted to input a number corresponding to one of your units (see Order of Battle). The cursor will go to that unit and access it, putting it into the Command Menu (see below).

(O) = Toggles between the tactical and strategic maps.

(SPACE = Picks up the unit under the
BAR) cursor to allow you to give it commands. If two or more units

are in the square, you will pick up the first unit. You are now in the Command Menu (see below) for that unit.

(T) = Removes unit shapes from the map so you can see the terrain underneath.

(V) = Highlights all the squares that a unit could see from that square.

(Z) = Takes you back to the last square where you accessed a unit.

2.2 Command Menu

As soon as you pick up a unit, you switch from the cursor to the Command Menu. The commands you may select are listed below:

(Ø) = Centers map on the unit. ("5" for IBM key pad.)

(1–8) = Moves the unit in desired direction as indicated by the compass. ("1–9" for IBM key pad.)

(F) = Takes you to the Target Menu which allows you to set a priority fire square.

(H) = Displays list of commands available in this menu.

(M) = Plots the unit to MELEE combat the unit it fires at.

(N) = Goes to the next unit on the map in promotion order (this is the order of units present in the Order of Battle).

(O) = Toggles between the tactical and strategic maps.

(Q) = Puts down the unit and takes you back to the Cursor Menu.

(R) = Will divide the unit into an "A" and a "B" unit or will recombine an A and B unit if located in the same square.

(T) = Removes units on the map to view the terrain underneath.

(U) = Picks up the next unit in the square.

(V) = Allows you to view all squares that you can fire into. You see in a 360 degree arc.

(Z) = Aborts or cancels the actions of the unit you have currently picked up. The unit is returned to its original square.

2.3 Unit Information

When you pick up a unit, the unit statistics are displayed below the map as shown below:

```
CONFED DEAS INF 1842 MEN
RFL EFF:90/90 FT:0 MORALE:90    8 1 2
NORMAL OP:7 MELEE:N                7   3
CLEAR(1) X,Y:16,34 FIRE:16,35    6 5 4
```

The above display shows that the Confederate unit, DEAS is INFANTRY with 1842 men. Its

men are armed with RIFLES, has an EFFICIENCY of 90 out of the 90 it began with, a FATIGUE of 0, and MORALE of 90. Its status is normal (not routed), has 7 OPERATION POINTS left, and does not wish to melee. The unit is on a CLEAR square with an elevation of (1), is located on square 16,34, and has plotted fire on square 16,35. The direction compass is located on the right hand side.

Units have different shapes on the map according to the type of unit (infantry, cavalry, or artillery) and the stacking. See Figure 2.3 below.

UNION		CONFEDERATE
	"One" Infantry	
	"Two" Infantry	
	Artillery	
	Artillery plus "One" Infantry	
	Artillery plus "Two" Infantry	
	Routed	
	Cavalry	

Figure 2.3 Unit Icons

2.4 Moving A Unit

When you have picked up a unit, you may move it in the desired direction according to the compass displayed:

```
8 1 2      7 8 9 (number pad for IBM)
7   3      4 5 6   5 = Centers cursor
6 5 4      1 2 3        on map.
```

Moving costs you operation points and fatigue, according to the Operation and Fatigue Costs Chart. Your units receive 8–10 operation points each OPERATION PHASE. If you don't use up all your operation points, left over operation points will improve fatigue and efficiency on a 1 to 1 basis, 3 to 1 if next to an enemy unit (less recovery next to the enemy). If you don't have enough operation points, you won't be allowed to move into a square unless that unit hasn't moved even one square for the whole phase. You can't stop in a square if that would cause it to have too many units (see Stacking 2.5).

If you move an artillery unit, it may not fire until the next phase. Movement costs during the Night Turn are doubled.

2.5 Stacking

A square may have one or two infantry and/or cavalry units. In addition, it may have one artillery unit. You may overstack while moving a unit, but you may not stop moving and be overstacked.

2.6 Zones of Control

The 8 squares surrounding a unit are defined as its Zone of Control (ZOC). This Zone of Control costs enemy units 2 extra operation points to enter or exit. Units retreating during combat lose more men if forced to retreat into an enemy Zone of Control or rout out of an enemy ZOC. Units may only move from enemy ZOC to ZOC if the square moved into is occupied by a friendly unit.

2.7 Fire Plots

A unit will fire at the closest enemy unit it can see unless you have set a priority fire square. If you target a square two or more squares away, your priority fire will be reset to an adjacent enemy unit (which may have since moved next to the firing unit). To set priority fire, press "F" in the Command Menu. This will take you to the Target Menu and allows you to move the cursor over a square and press "T" to set it as the priority target. In the Target Menu, you may also press "V" to view your line of fire or "E" to exit the menu (in which case the computer will find a target for you just before combat). Pressing "N" will exit and plot "No Fire" in which case the unit will only fire at an enemy unit next to it.

2.8 Melee Plot

If you wish to plot a unit to engage in melee (hand-to-hand) combat, press "M" in the Command Menu. The unit will melee the enemy unit it fired at if it is adjacent to the enemy unit and has enough operation points. If not, it will not melee.

3.0 COMBAT PHASES

During this phase, all fire phases and melees are resolved. Casualties are taken.

3.1 Fire and Melee Phases

There are a total of five fire phases, two retreat/advance phases, and one melee phase during a combat phase as outlined below:

- Defensive Artillery Fire Phase
- Offensive Artillery Fire Phase
- Defensive Fire Phase
- Offensive Fire Phase
- Retreat Phase/Advance Phase
- Defensive Melee Fire Phase
- Melee Phase
- Retreat Phase/Advance Phase

Units will fire if they have a line of sight and are within range of the target unit. Ranges of weapons are found in the Weapon Range/Casualty Table. All fire phases are automatically resolved by the computer.

You will see the names of the firing units and their targets on the screen along with their casualties. Units that will retreat or rout during the Retreat Phase will be so indicated by a message.

3.2 Rout and Rally

Units will change to the rout shape and retreat when their morale breaks (there is a good chance of breaking when morale is less that 15). After they have rested, they may rally and return to the normal shape. Every time a unit routs, any other units stacked in the square with it lose 15 points from their effectiveness.

4.0 FATIGUE/EFFICIENCY

A unit's fatigue rating is a measure of how tired it is. It gains fatigue when it moves and loses efficiency when it takes losses. See the Fatigue Gain/Efficiency Loss Table for details. Fatigue and efficiency have a semi-proportional effect on fire strength (see Modifier Tables at back). Effectiveness minus fatigue equals morale. Since gaining fatigue lowers morale, you may raise morale by losing fatigue. You lose fatigue/recover efficiency by having left over operation points in the middle and at the end of a turn. One operation point wipes out one fatigue point (three operation points wipe out one fatigue point if next to an enemy unit). A unit will recover half of its lost effectiveness during the End of the Day Phase. Also during this phase, units lose their fatigue completely.

5.0 REINFORCEMENTS

Each side receives reinforcements according to the Order of Battle.

6.0 END-OF-THE-DAY PHASE

This phase occurs after the night turn. During this phase, units lose all fatigue. In addition, units recover efficiency by half of the difference between their starting efficiency and current efficiency.

7.0 HOW TO WIN

Players receive victory points. A score is calculated by subtracting the Confederate points from the Union. You may examine the map and look at the units of both sides when the game has ended.

7.1 Victory Points

Players receive points based on enemy casualties according to the schedule below:

- 1 pt per Infantryman/Artilleryman lost
- 1.5 per captured Infantryman/Artilleryman
- 1.5 pts per Cavalryman lost
- 2 pts per captured Cavalryman
- 100 pts per Artillery Gun lost
- 150 pts per captured Artillery Gun

CONFEDERATE OBJECTIVE SQUARES	UNION OBJECTIVE SQUARES
8, 1 = 5000 pts	47,32 = 1000 pts
14, 1 = 5000 pts	47,36 = 1000 pts
23, 1 = 5000 pts	49,41 = 1000 pts
7,22 = 1000 pts	35,58 = 1000 pts
25,12 = 1000 pts	27,63 = 1000 pts
25,21 = 1000 pts	
25,27 = 1000 pts	
25,36 = 1000 pts	
25,43 = 1000 pts	

To receive points for an objective square, you must control it. Control is determined during Reinforcement Phases. To control an objective square, you must have 3000 men in or adjacent to it without any enemy units being in or adjacent to it. (Control of Confederate objectives 8,1; 14,1; and 23,1 requires 5000 men in or adjacent to the square.) It is not necessary to keep units in or next to a square to maintain control. However, control is lost if any enemy unit, regardless of size, is in or adjacent to the objective square during a Reinforcement Phase.

7.2 Victory Levels

At the beginning of each turn, a display will appear on the screen showing victory levels and the scores needed to attain those levels.

INTERMEDIATE AND ADVANCED GAME RULES

1.0 INTRODUCTION

REBEL CHARGE AT CHICKAMAUGA is a grand-tactical level game of the most evenly contested battle of the Civil War. This battle was the Confederacy's last hope for victory.

1.1 Overview of the Game
Each game turn represents two hours of real time. The execution of a game turn includes rally, movement, mode changes, facing changes, and resolution of artillery fire, offensive fire, defensive fire, melee, retreats, and advances.

1.2 Talking to the Computer
To select a routine from a menu or answer a YES/NO question, just press the desired key.

1.3 Starting the Game (Commodore 64)
To begin the game, insert the game disk and type LOAD "*",8 and press RETURN. When READY appears, type RUN and press RETURN.

1.4 Starting the Game (Atari)
Remove all cartridges from your computer. Boot-up the front side of the disk (800 XL and 130 XE owners will have to hold down the OPTION key when they turn on their computer to boot). After selecting the starting values for your game, you will be instructed to insert the Game Side of your disk.

1.5 Starting the Game (Apple)
To begin the game, boot your game disk with the front side up and the game will start automatically. If you are using the Apple IIc or IIe, keep the CAPS LOCK key down throughout the game. The first menu you see prompts you to indicate if you are using a "speed-up" board. If so, press the appropriate key. Press "3" if you are not using a "speed-up" board. Older versions of the "Speed Demon" that do not contain the DIP switches may not work properly with this game.

1.6 Starting the Game (IBM)
To begin the game, remove the BASIC cartridge (if using the IBM JR) and insert your 2.0 to 3.2 DOS disk in the drive. Since you need a formatted disk to save a game, you may wish to make one before you boot the game. Turn on the computer system. Press ENTER until you see the ready ">". Insert your game diskette. Type START, press ENTER, and the game will boot. The IBM version has additional menus that allow you to choose the 10-key option (movement compass using "8" for moving North instead of standard "1") adjust the screen to the right or left, and change the colors. On these menus, simply press the key that corresponds to the desired option. For your convenience, this disk contains no copy protection. This allows you to make a back-up copy of the game disk and facilitates transferring the game disk to a hard drive system. You should have a formatted disk handy to save games in progress.

1.7 Game Scale and Map
There are 13 turns in the game, each representing two hours from 8:00 a.m. to 8:00 p.m. of September 19–20, 1863. The map is situated on a 54 ×64 square grid. Each square represents 200 yards from side to side. The various terrain depicted includes clear, woods, hills, ridges, fields, primary roads, secondary roads, creeks, and bridges. Three elevations are represented by contour lines. See Figure 1.7 below for terrain symbols.

1.8 Saving a Game
At the end of each combat phase, the computer will allow the player(s) to save the game in progress. You will need a separate, save game disk to store the saved game data. Players must initialize their blank disk from within the program as offered by the Save Game Menu. (IBM owners must use a previously formatted disk.) Once a game is saved, you may restart it at the point where you left off. You may not change selected options when you restart a game in progress.

1.9 Units
There are three unit types in the game: infantry, cavalry, and artillery. Each unit is rated for manpower (and guns for artillery), effectiveness, fatigue, morale, weapon type, ammo, mode, facing, operation points, command control, rout status, and disruption status. Units are represented by specific graphic shapes depending on unit type and stacking. See Figure 1.9 below. On your screen, Union symbols are blue and Confederate symbols are white (Apple color version. Other versions may vary). Note that the symbols will change shape to reflect different facings and stacking combinations.

Each unit represents a brigade or a demi-brigade (if it has broken down to the "A" and "B" units). A unit is named after its brigade commander with an "A" or "B" designation attached, if broken down. Divisional and corps commanders may also be attached to units. The brigade commander is assumed to be present at both A and B units of his brigade.

1.10 Changes from "Gettysburg: The Turning Point" System
If you have played GETTYSBURG: THE TURNING POINT, you will find this game very similar. There are some important differences. Below are listed the most significant:

• Command Control may be altered by the players.

• Units in column may not move along a road onto a unit in column or limbered mode.

• A strategic map is provided upon which the game may be played.

• All units are brigade sized. You may break units down into "A" and "B" halves and then build them up at any time.

• Units may carry up to 4 ammo points.

• Attacking units that have moved next to the enemy have a chance of successful attack and receiving a 50% modifier on their strength.

• Defending units firing against targets in woods adjacent to them have a chance of being "outmanuevered", losing 50% of their volley (a definite disadvantage).
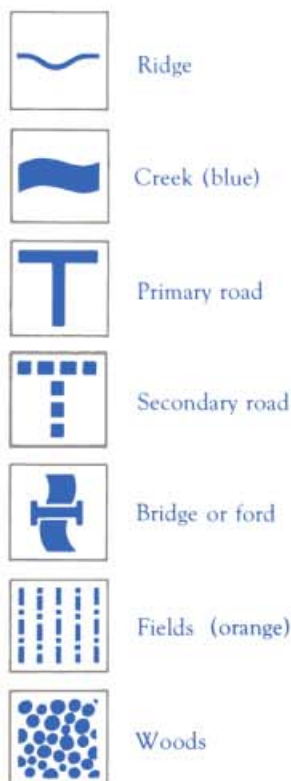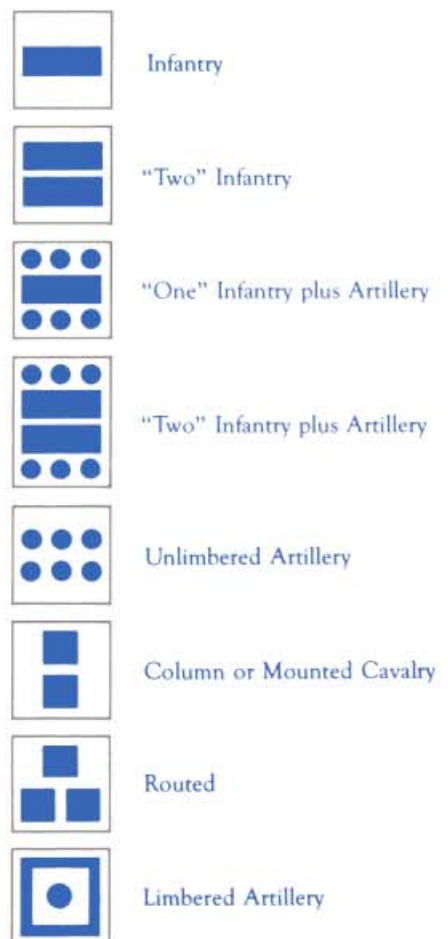

Figure 1.7 Terrain Symbols

Figure 1.9 Unit Symbols

- There are retreat and advance phases both after fire and melee phases.

- Units no longer incur fatigue for casualties. A unit's effectiveness is reduced by casualties and increased to a maximum by resting.

- Turns represent two hours rather that one hour.

1.11 Parts Inventory
Your game should contain the following parts:
a. Game box
b. Rule book
c. One 5¼" game disk
d. One map card

2.0 SET UP

REBEL CHARGE AT CHICKAMAUGA is a two-sided game — Union vs. Confederate. Both sides may be played by either a human player or the computer opponent.

2.1 Determining Conditions of Play
After the title screen display and demo option, the player(s) must determine the conditions under which the game will be played from the menu to the right. Press "A-O" to make your choices. Press RETURN when your choices are made and you are ready to continue. (Defaults are shown as bold type).

A) **NEW GAME** SAVED GAME
B) UNION HUMAN **COMPUTER**
C) CONFEDERATE
    HUMAN COMPUTER
D) **BASIC** INTERMEDIATE
    ADVANCED
E) **HIDDEN UNITS** NON-HIDDEN
F) TIME LIMIT **NO TIME LIMIT**
G) **COLOR TV** BLACK/WHITE
H) ICONS **SYMBOLS**
I) LEVEL OF PLAY 1 **2** 3 4 5
J) UNION ARRIVAL 1 2 **3** 4 5
K) CONFED ARRIVAL 1 2 **3** 4 5
L) UNION AMMO 1 2 **3** 4 5
M) CONFED AMMO 1 2 **3** 4 5
N) CORPS COMMAND 1 2 **3** 4 5
O) DIVISION COMMAND 1 **2** 3 4 5

- The "A" option allows you to select a new game or continue with a game in progress. When you select a saved game, the options on the menu are defaulted to the options selected in your saved game. When you select the "SAVED GAME" option and press RETURN, you will be prompted to insert your saved game diskette and type in the name of the file (you will be allowed to catalog the save game disk if you wish). You may not change game options when you boot up a saved game.

- Options B and C allow you to set the Confederate or Union player to be controlled by a human or the computer. Please note that you may have the computer play against itself for a demo game.

- Option D gives you a choice of three games of varying complexity. The differences are explained under the appropriate headings of this rulebook. The INTERMEDIATE Game is exactly the same as the ADVANCED Game except for the deletion of leaders command control and voluntary fortification.

- Option E allows you to play a game where only known enemy units of both sides will appear on the map during the combat phase. Hidden units will also become visible when moved adjacent to during the Operation Phases. It is strongly recommended that you play the game with this option to realistically portray the "fog" of war.

- Option F gives you the ability to set a limit to how much time a player has to complete his Operations Phase.

- Option G gives the black-and-white or monochrome user better-suited unit shapes. Atari owners are given the option of a one- or two-drive system here. C-64 owners are allowed to choose between light blue or dark blue for the Union color.

- Option H allows you to play with icons (figure profiles) or symbols (bars). Symbols are recommended for INTERMEDIATE and ADVANCED play since they show facing and mode changes. Icons are automatically used for the BASIC game.

- The I option selects the difficulty level. Level 3 is historical and makes no modification to either side. Levels 1 and 2 favor the Confederate player (level 1 more so than level 2). Levels 4 and 5 favor the Union (5 more so than 4). Levels affect the casualties inflicted in fire and melee combat. Please note that you should play an easy level of difficulty the first few times you play the game. Level 3 is a challenge.

- The "J" and "K" options allows for variable reinforcement arrivals. Units may appear up to two to eight hours earlier or later. Level 3 is historical with no changes. Levels 1 and 2 allow for earlier times and later times respectively by a random of 0 to 2 turns (level 1 earlier and 2 later). Level 4 allows for a random of 0 to 2 turns earlier to later arrival, and level 5 allows for 0 to 4 turns earlier to later arrival. The authors and playtesters recommend that once players are acquainted with the system, they should play with option level 5. This truly recreates the uncertainty of a meeting engagement where commanders did not know the size of the opposing force or how quickly they would be reinforced.

- The "L" and "M" options allow for variable amount of ammo received by the individual units. Level 3 is historical with levels 1 and 2 giving progressively less ammo and levels 4 and 5 giving progressively more ammo.

- The "N" and "O" allow players to tailor the effects of divisional and corps command control; the higher the number, the closer together these formations must be in order to enjoy good command control.

After you have chosen your options, a series of displays showing casualties for men, guns, leaders, and objectives will be presented on the screen. Press RETURN to continue. You will then be asked to set the delay loop for the displayed messages for this turn. (Use 4 or 5 with a speed-up card.)

2.2 Historical Set-Up
At the start of the game, the computer will assign all combat forces to their locations the morning of September 19, 1863. All units have been historically placed.

3.0 SEQUENCE OF PLAY

1. Command Control Phase
2. Recovery/Rally Phase
3. Reinforcement Phase
4. Confederate 1st Operation Phase
5. Confederate 1st Combat Phase
6. Union 1st Operation Phase
7. Union 1st Combat Phase
8. Mid-Turn Recovery Phase
9. Confederate 2nd Operation Phase
10. Confederate 2nd Combat Phase
11. Union 2nd Operation Phase
12. Union 2nd Combat Phase
13. End of Day Phase (Turn 7 only)
14. Victory Determination Phase

4.0 COMMAND CONTROL

During this phase, all units make a range check to their appropriate division and corps leaders and receive a command control rating of 0.5 to 1.5 based on this range, a random number, and the proficiency ratings of the leaders. The command control rating affects strength, operation points received, and ammo resupply. Please note that command control is checked only once per game turn. In the Intermediate game, units are randomly assigned a command control of 0.9 to 1.2. Reinforcing units receive an automatic 1.5 rating for the first turn on the map. In the Advanced Game, cavalry has a command control value of 1.2 and artillery has 1.0 regardless of leader range.

4.1 Range of Leaders
The chart below shows the cost in command points per square the leader is from the infantry unit making the range check. The chart below assumes that the corps and division values in the set-up menu have been left at the default level of two (each level on the menu increments the value by two for the division and by one for the corps). A range check is also made between two halves of a brigade if the brigade has broken down.

	OTHER HALF OF BRIGADE	DIV. CMDR.	CORPS CMDR.
Command Points Lost	5/sq	5/sq	2/sq

There is a maximum of 4 squares range for the "other half brigade", 7 squares for a divisional leader, and 10 squares for a corps leader. The range and values above are used to determine the base command control rating. If the range to a corps leader is less than two squares and the division leaders range is greater than the corp leader's range, then the divisional range is defaulted to the range of the corps leader.

The base command control rating is determined by dividing the loss of command points into the constant 28. (Base command = 28 / loss of command points). The number derived is rounded up or down to fit between the range of 0.5 to 1.5. See back of rules for examples of how to calculate command control.

4.2 Leader Proficiency and Command Control

The proficiency ratings of leaders are subtracted from the base command control of units. A leader's rating is modified by a random number and compared to the chart below for its effect:

RANDOM PLUS RATING	EFFECT	MESSAGE GIVEN ON SCREEN
0–30 =	−0.3	Leader confused!!!
31–50 =	−0.2	Leader indecisive!!
51–70 =	−0.1	Leader cautious!
70+	0	Leader confident.

Each leader affects every unit in its formation. (e.g., Polk affects every unit in his corps. Cheatham affects every unit in his division). Each unit will be affected by both its divisional and corps commander. A unit will lose 0 to 0.3 from its base command control for each leader. Thus a unit with a base command of 1.3 may end up with a command control number from 0.7 to 1.3 after receiving the effects of its divisional and corps leaders. A unit will receive no less than a 0.5 rating. The command control of artillery and cavalry units are not affected by leader proficiencies.

4.3 Command Control Effects

A unit's rating determines the number of operation points it receives according to the chart below:

CC	OP
1.5 =	15
1.4 =	14
1.2 =	12
1.1 =	11
1.0 =	10
0.9 =	9
0.8 =	8
0.7 =	7
0.6 =	6
0.5 =	5

Units may vary slightly from the above chart due to a random and the unit's morale.

A unit's strength is modified proportionately by its command control with a minimum modifier of 0.5 (i.e. a unit with a strength of 500 men would be treated as 450 men before any other modifiers if it had a command control of 0.9).

A unit's ability to rally and resupply with ammo is also affected by its command control rating.

5.0 RECOVERY/RALLY PHASE

Units in this phase recover from disruption and attempt to rally. They also receive ammo every turn. Units are automatically rallied during the night (Rally Phase of the 8 A.M. turn.)

5.1 Rally

Units that are routed will attempt to rally based on morale, command control rating, and a random number. Units with a morale of less than 25 will not rally. All routed units on the 8 A.M. turn will automatically rally (their fatigue is reduced to 0 during the night). See the Rally Table for more details at the end of this rulebook.

5.2 Ammo Replenishment

Each unit has a maximum carrying capacity of 4 ammo points. If a unit is at its maximum or is routed, it will not be resupplied. In addition, a unit has a 6% chance of receiving no ammo. The higher the command control, the greater the chance of receiving more than one ammo point.

6.0 REINFORCEMENT PHASE

Reinforcements are automatically put on the map at designated entry squares. If the entry square is enemy occupied, then the reinforcements will arrive at an adjacent square that is not occupied by an enemy unit. Stacking limits do not apply to reinforcements. Reinforcing units automatically receive a command control rating of 1.5 for the first turn (both phases) they are on the map. See Order of Battle for the order of appearance.

7.0 OPERATION PHASE

During this phase players may perform a variety of actions including movement, double-time marches, fire and melee plots, leader transfers, mode changes, and facing changes.

7.1 Cursor Menu

In this menu the player may do the actions listed below:

(∅) = Centers map at cursor. ("5" for IBM key pad option).

(1–8) = Moves cursor in desired directions ("1–9" for IBM key pad option).

(C) = Exits to Combat Phase (Press this key when you are finished moving all your units).

(G) = Upon pressing the key, you will be prompted to input a number corresponding to one of your units (See Order of Battle.) The cursor will go to that unit and access it, putting it into the Command Menu.

(O) = Toggles the map between tactical and strategic

(P)age = Second menu. On this menu will be displayed the number of recons you are allowed to conduct, along with other commands. If in this menu, "P" will switch you to first menu.

(R)econ = Pressing this key when the cursor is over enemy units will display an approximate strength of the unit(s) in the square.

(S)top = When playing with time limits, this command stops the time clock.

(T) = Removes units from the map to see terrain.

(V) = Prompts you to indicate a direction and then highlights the squares that can be seen.

(SPACE BAR) = Accesses first friendly unit in square. Command Menu for that unit is now active.

(Z) = Abort. The cursor will return to the last square where a unit was accessed.

Also displayed in the Cursor Menu is the terrain type, elevation, and X, Y coordinates of the square. The time, date, and phase number is also shown.

7.2 Unit Statistics

When you access the first unit in a square, you will see the following display (example):

```
CONFED DEAS INF   1842 MEN      8 1 2
DS:N AMMO:4 MEL:Y FT:1 EF:90/90   7  3
NORMAL OP:10 DIR:3 ADV:N        6 5 4
WOODS (1)  X,Y:30,63   FIRE 31,63
```

The display above shows that the Confederate unit, Deas, is INFANTRY with 1842 men. It is not DISRUPTED, has 4 ammo points, is plotted for MELEE, has a fatigue of 1, and an efficiency of 90 out of a maximum of 90. The unit is in NORMAL mode, has 10 remaining operation points, is facing DIRECTION 3 and is not plotted for ADVANCE. It is on a wood square with an elevation of 1. The unit occupies the square with X, Y coordinates 30, 63 and is plotted to fire at square 31, 63. There is a compass showing directions of movement and facing.

A second page of unit statistics may be accessed by typing "P".

```
CONFED DEAS INF 1842 MEN
FORT:0   NORMAL   CC:1.2
RFL  MRL 89  LEADER: POLK
WOODS (1)   X,Y: 30,63   FIRE 31,63
```

The second display above shows that the Confederate unit, Deas, is INFANTRY with 1842 men. The unit has a FORT value of 0, is in NORMAL mode, not routed, and has COMMAND CONTROL of 1.2. Its weapon type is RIFLE, and its MORALE is 89. The unit belongs to Polk's Corps. It is on a woods square with an elevation of 1 with X, Y coordinates 30, 63. Its fire plot is on square 31, 63.

7.3 Command Menu

When a unit is accessed, a number of commands are available. The commands listed below can be enacted by pressing the appropriate key in either page of the unit statistics.

(∅) = Centers map on unit ("5" for IBM key pad option)

(1-8) = Moves unit in desired direction as indicated by the compass, changing its facing automatically. ("1–9" for IBM key pad option).

(A) = Plots the unit to advance if given the opportunity in fire phases or melee.

(B) = (Advanced Game Only) Builds one level of fortification.

(D) = Prompts you to input a new facing (1–8) for the unit. ("1–9" for IBM key pad option).

(F) = Takes you to the Target Menu which allows you to set a priority fire square.

(H) = Displays Help Menus

(I) = All units that belong to the same division as the accessed unit will

be inversed. The square with the divisional leader will be inversed and blinking (Advanced Game). When you press this key, you will also be able to set the fire plots of all units in that division to "No Fire" or "No Plot."

(L) = (Advanced Game Only) Displays a menu with the name of the divisional or corps commander attached and allows you to transfer that leader if you desire. The menu also allows you to go to the divisional or corps commanders.

(M) = Plots the unit to melee in the direction it is facing.

(N) = Accesses next unit in the unit order (the unit orders are listed in the Order of Battle).

(O) = Toggles between tactical and strategic map.

(P) = Displays the other page of unit statistics.

(Q) = Exits Command Menu and goes to Cursor Menu.

(R) = Will divide the unit into an "A" and a "B" unit or will recombine an "A" and a "B" unit if in the same square and of the same parent unit.

(S) = Changes the mode of the unit.

(T) = Removes units on map to view terrain underneath.

(U) = Accesses next unit in the same square.

(V) = Allows you to view all squares of the accessed unit can see (squares are highlighted).

(X) = Double Time (adds to the unit more operation points at a cost of fatigue).

(Z) = Abort move. The unit you have accessed will return to its original square, facing, and mode with its original operation points and fatigue. (Unless it reveals a hidden unit).

You should study carefully the commands above. Proper use of the commands greatly facilitates the playability of the game. Note that the "Z" key in the Command Menu allows you to take back a unit's move or action. Notice how it differs from the "Z" key in the Cursor Menu, which returns the Cursor to the last square where a unit was accessed with the SPACE BAR. The "N" and "U" keys are very handy when moving groups and stacks of units. Since reinforcements enter in unit order, it's best to use "N" when moving reinforcement columns. Note that the artillery at the end of a reinforcement column isn't in unit order so you should use the "Z" key from the cursor menu to get back to them. The "U" key is essential to examine stacks of units. The "F" key takes you to a target menu where you may scroll over the map, target units, and even view what you can see to fire at. The "O" key toggles you to and from the strategic map and can be very useful in seeing lines of sight when using the "V" key. This map may also be useful when using the "I" key to locate divisions and leaders.

7.4 Operation Points

Units receive operation points at the beginning of the turn and at the Mid-Turn Recovery Phase. A unit receives operation points according to its command control (see section 4.3). Most actions and movement in the Operation and Combat Phases cost operation points (refer to Operation Costs Table at the back of the rulebook). Please note that operation points are expended to fire and melee. Unused operation points are expended to recover fatigue and efficiency on a 1 for 1 basis (3 to 1 if adjacent to an enemy unit) during the Mid-Turn Recover Phase and the end of the turn. Operation costs for movement are doubled during the Night Turn.

7.5 Moving a Unit

Once a unit is accessed, it may be moved by pressing keys "1–8" ("1–9" for IBM key pad option) in the desired direction. Operation points expended to move depend on unit type, unit mode, terrain of the square, and other factors (see Operation Costs Table). Units may always move one square at the cost of all remaining operation points (see ZOC rules, section 7.6). Units may move as part of an advance during the Combat Phase without expending operation points. The advance is allowed if plotted (see Command Menu 7.3) and the unit is otherwise eligible. Artillery may not move unless limbered. Press "Z" to cancel a unit's movement and to put it back to its original square. If using the hidden option, a unit will lose 4 operation points when it uses the "Z" key if it has caused hidden units to appear on the map by moving next to them. Routed units may move the same as other units. Since they may not change mode to column, they never use the road rate, but may cross bridges.

7.6 Zones of Control

The eight squares surrounding a unit constitute its zone of control. Zones of control affect movement costs per the Operation Costs Table. It costs two extra operation points to exit or enter an enemy zone of control. Movement from an enemy ZOC to another will cost extra operation points in addition to normal costs and will only be allowed if no other movement has been made by that unit and the unit is entering a square occupied by a friendly unit (See Costs Table). ZOC to ZOC movement is also allowed during advances in the Combat Phase. Units forced to retreat during combat into an enemy ZOC suffer losses. Changing mode in an enemy ZOC costs two additional operation points.

7.7 Stacking

No more than two non-artillery units may stack together. No more than one artillery unit may be in a single square regardless of the presence of other units. You may have a maximum of two non-artillery units and one artillery unit in a square.

A unit in the Operation Phase may overstack while moving if in column or limbered mode. It may not end its move overstacked. Routing units may also overstack during retreat and movement.

Stacking shapes are dependent on what is in the square. All units in a square assume the direction of facing of the last unit accessed in the square. When a square is fired upon by non-artillery units or artillery at greater than one range, casualties are distributed among the defenders with one of the defending units receiving 3 times the casualties of the others. A square fired upon by artillery at a range of one will affect only one unit in the square.

Units in column receive the road rate only if they are in a square containing a road and moving along it into a square containing another road. A unit in column moving from one road square to another may not stack onto another unit in column or limbered mode. When routed units stack onto friendly units during retreat, each unit loses 8 effectiveness points.

7.8 Unit Modes

Units may be in one of two modes which affect movement and combat. Infantry units may be in column or normal. Cavalry may be mounted or dismounted. Artillery may be limbered or unlimbered. When a unit changes mode, its graphic shape on the map also changes. Changing modes requires the expenditure of operation points as listed on the Costs Table.

Unlimbered artillery may not move. Changing mode in an enemy ZOC costs two extra operation points. Dismounted cavalry has a 0.75 modifier applied to its strength (horseholders). Infantry in column, limbered artillery, and mounted cavalry are considered to be flanked when fired upon from any direction. In addition, they suffer fire modifiers and have special modifiers in melee (see table at back.)

7.9 Facing

A unit may have eight different facings from 1 to 8 ("1–9" for IBM key pad option). Facing may be changed at any time during the operations phase at no cost. Facing automatically changes during movement as a unit faces the square it is moving into. In addition, all units in a square will assume the facing of the last unit accessed in the square.

All units in a square have the same facing. This way you may change the facing of an entire stack by changing the facing of just one unit. Units and stacks of units will assume appropriate shapes on the map to reflect their facing.

Facing determines a unit's line of sight. A unit has a line of sight equal to a 90 degree angle radiating in a V shape from the unit. See 8.3 for further details on line of sight. A unit fired at through a direction not in its line of sight is considered to be flanked.

7.10 Double Time

A unit may receive extra operation points by double time marching at a cost of fatigue points on a one to six basis. Pressing the "X" key in the Command Menu will increase the fatigue level by six and increase the operation points remaining by one. Units with fatigue levels of 40 or higher may not use double-time.

7.11 Fortification

A unit may have a fortification value of 0 to 5 that modifies combat results (See Modifier

Table). Fortifications are built one level at a time by pressing the "B" key at a cost of operation and fatigue points in the Advanced Game only. (see Costs Table). A unit with a fatigue of 20 or more may not fortify. Units will automatically fortify during the End of Day Phase (Section 10.0). In the Intermediate Game, units fortify only after the Night turn. They will do this automatically.

7.12 Leaders and Leader Movement (Avanced Game Only)

Leaders are attached to specific units. Each leader commands a formation. Formations are brigades, divisions, and corps. Leaders are organized into a chain of command that must be updated when a leader is wounded or captured. A corps commander who is wounded or captured will be replaced by one of the divisional commanders in his corps. That divisional commander will be replaced by a brigade leader of his division. Brigade leaders are assumed to be present at both units of their brigade. They are not attached to a particular unit as long as they are a brigade commander. Brigade commanders promoted to command a division act as divisional commanders.

Divisional and corps commanders may be transferred to any unit under their command. Pressing "L" when a unit is accessed will list any leader present and prompt you to transfer it. If you wish to transfer, the cursor will cycle through eligible units. At this time you may also press "D" or "C" which will take you to the divisional or corps commanders. You may also press "E" to exit. If you go to the divisional or corps commanders, you will see displayed the leader's name, his rating in parentheses, and the range from the current unit. You may access the leader by pressing "A". At this point you may choose any of the displayed options.

Pressing "I" for a unit in the Command Menu will inverse all units that belong to the same division as the accessed unit. The location with the divisional leader will blink. At this point, you may plot all units of the division for "No Fire" or "No Plot" or "Exit" by pressing the appropriate key displayed on the screen.

Every time a unit with a leader takes casualties, there is a check to see if the leader is wounded. Leader may be captured in melee only. Each leader has a combat bonus or proficiency rating. A leader with a rating of 20 will increase casualties inflicted by the unit he is with by 20%. See the Order of Battle for each leader's rating. Corps and divisional leaders are important to command control. Brigade leaders affect rally. When a leader is replaced, the unit it is attached to loses 5 efficiency points. The unit receives a new leader rating. All leaders affect command control in a direct way that greatly affects the play of the game. Please refer to section 4.0.

7.13 Fire and Melee Plots

During the Operation Phase units may plot priority fire, melee, and advances if they wish to perform those actions during combat.

To plot melee, press "M". To plot advance, press "A". For both these plots you may toggle between "Y" for yes and "N" for no by pressing

the appropriate command key. Note also that plotting melee will automatically plot advance, as a convenience to the player, since advances are usually desired in melee attacks. You may toggle it back to N for no advance by pressing "A". A unit that moves has its advance plot set to N.

An important note is that a unit will melee only if it has also fired at the square it intends to melee. Plotting melee automatically plots fire into the melee square. Consequently, do not plot melee until after you have moved your unit. A unit will only melee in the direction it is facing. A previous melee plot is erased when a unit moves, changes facing, or is given a priority target plot.

To plot fire press "F", which will display a menu that will allow you to move the cursor to the target square and press "T" to target it. Pressing "V" will highlight all squares eligible to be target squares and pressing "E" will return you to the command menu, inserting a "No Plot" into the fire plot. Press "N" to put a "No Fire" plot into a unit. The unit will not fire at a target greater than one square away, thus conserving ammo. A fire plot will only be accepted if the targeted square is within range and in line of sight (see 8.3, Line of Sight). A unit that plots a melee will automatically plot that square for fire.

Units that are unable to execute their priority fire plot or units without a plot will fire at the nearest enemy unit in range and in line for sight. A unit will change its plot to fire at an adjacent target.

7.14 Reorganization

The command, "R", will breakdown a full brigade into an A and B demi-brigade of equal size. The function costs two operation points. Using the "R" command with the A and B units in the same square will build them up into the parent unit. This will not be allowed if both units have a divisional or corps leaders attached to them. For example, if Ector A contained 250 men and was stacked with Ector B which contained 350 men, Ector A could build into the full brigade. Ector A and B would be taken off the map and Ector would contain 600 men. The reverse function of breaking down can also be executed.

When units build-up or break down, fatigue, effectiveness, and ammo supply are proportionally averaged and given to the surviving unit(s). Facing, plots, disruption, and mode are all defaulted to what the surviving unit(s) had before the build-up/break down. Note that a routed unit may build-up into a unit in normal mode and the surviving unit will be in normal mode (its morale may be low since the routed unit probably had a lot of fatigue). A brigade with only one unit on the map has its brigade command control modifier defaulted to 0 (it is treated as if the other unit was stacked with it.)

8.0 COMBAT PHASES

During this phase, all fire phases and melees are resolved. Casualties are taken. Routs, retreats, and advances are all executed.

8.1 Combat Phases

There are a total of five Fire Phases and one

Melee Phase during a Combat Phase as outlined below:

- Defensive Artillery Fire Phase
- Offensive Artillery Fire Phase
- Defensive Fire Phase
- Offensive Fire Phase
- Retreat/Advance Phase
- Defensive Melee Fire Phase
- Melee Phase
- Retreat/Advance Phase

Defensive Fire Phases are executed by the non-phasing player and Offensive Fire Phases by the phasing player. Messages will appear on the screen and the map will scroll to fired-upon units. Casualties and other combat results will be printed on the screen. Several possible messages may appear on the screen during combat. The most important are listed below:

FLANKED! The target unit has been flanked by the firing unit. This means that the firing unit is not in the line of sight of the target unit or the target unit is in limbered, column, or mounted mode (See Section 8.3). A 50% modifier is added to the strength of the firing unit.

DEFENDER OUTMANUEVERED! A defensive firing unit has a 15% chance of having its strength cut in half if both it and the target are adjacent and in the woods. That 15% chance is increased to 40% if the target has just moved next to the firing unit.

SUCCESSFUL ATTACK! An offensive player who has just moved next to an enemy target has a 30% chance of having its strength increased by 50%. The 30% is increased by 1 for every 3 morale points of the attacker.

UNITS RETREATING OR ROUTING! The units just fired upon will retreat or rout during the next Retreat/Advance Phase.

AMMO BLOW-UP! The artillery unit fired upon loses ammo points.

8.2 Casualties

A unit inflicts casualties with its fire based upon a number of factors. See the Strength/Casualties Modifier Tables for the factors and their effects.

Artillery units lose guns and artillerymen. They are eliminated when their gun or men count reaches 0. Artillery guns are lost due to combat when enemy artillery is firing upon them, when they retreat from an enemy ZOC, or in melee. Infantry fire against artillery results in artillery-men casualties only. An artillery unit will retreat in melee or fire combat if it loses about 30% or more of its original strength in artillerymen casualties only. An artillery lost artillerymen per turn. Artillery units low on men will automatically retreat and casualties will be reduced when fired upon.

8.3 Line of Sight

In order for a unit to plot or execute its priority fire plot, it must have a line of sight to and be in range of the target. Ranges of weapon types are listed on the Weapons/Range Casualty Table. You may view the line of fire of any unit by pressing "V" when the unit is accessed in the

Command Menu or Target Menu. Pressing "V" in the Cursor Menu displays the line of sight from that square. During the Night Turn, a unit's range is limited to 2 squares.

There are three elevation levels on the map representing 40–50 feet of elevation per level. Woods represent a 30 foot elevation obstacle and units 5 feet.

8.4 Melee
To melee, a unit must be plotted for melee and be undisrupted. It will melee into the square it faces and it fired into if the square is adjacent. All units plotted against the same square are combined into one attack. Defending units in a melee have an extra defensive fire before melee is resolved. Units expend operation points to melee (see Costs Table). Units must have enough operation points for both fire and melee, otherwise their melee is cancelled. See the Modifier Tables and the Melee Combat Results Table for details.

8.5 Retreats
As a result of rout, fire combat, or melee, units may be forced to retreat. Retreats are mandatory for routed units. Refer to the table at the back of the rulebook for chance of retreating during melee. Retreats during fire combat are determined by the unit's morale and percentage of losses in any one combat result. The lower the morale of the units in the square under attack and the higher the losses expressed as a percentage of men present, the greater the chances to retreat. Retreated units will generally retreat away from enemy units towards the rear of their lines. A unit that routs will lose up to 100 men captured (140 in melee) depending on the number of adjacent enemy units. Retreating units also suffer casualties in captured men if they have to enter an enemy ZOC. A routed unit that retreats into or out of an enemy ZOC will lose captured men and effectiveness. Friendly units routed onto lose 8 effectiveness points. A unit that retreats ends the retreat facing the same direction it faced in the original square. Units that cause enemy units to retreat gain 2 effectiveness points. Units that retreat lose 3 effectiveness points.

A defending unit that retreats is automatically disrupted. An artillery unit will retreat in melee or fire combat if it loses about 30% or more of its original strength in men.

8.6 Morale, Rout, and Rally
A unit's morale is equal to its effectiveness minus its fatigue. A morale check is made for possible rout whenever a unit takes losses. A unit with a morale of 4 to 15 has a 40% chance of routing. A unit with morale less that 4 routs automatically. A unit with less than 80 men will automatically rout when it takes losses. When a unit routs, it retreats three squares. If it will end its retreat overstacked, the unit continues to retreat until it finds an eligible square. Artillery never routs; it may only retreat.

8.7 Advances
Units plotted to advance will advance in the combat phase into squares vacated by retreating enemy units. Advancing ZOC to ZOC is allowed.

8.8 Disruption
Every time a unit suffers losses, there is a chance it will become disrupted. A defending unit which retreats as a result of melee is automatically disrupted. A disrupted unit loses its priority fire plot. It may not fire except for defensive melee fire nor may it execute melee plots. A unit has a chance of becoming undisrupted at the beginning of the turn and at the Mid-Turn Recovery Phase. Its chances and conditions for recovery are found on the Disruption Recovery Table.

8.9 Ammo
Each unit carries with it a supply of ammo up to four shots. Every time a unit fires, an ammo point is expended. When a unit runs out of ammo, it may only defend in melee and final defensive fire. Units are resupplied on every turn. See Section 5.2 for more details on ammo resupply.

8.10 Fatigue/Efficiency
A unit's fatigue rating is a measure of how tired it is. It gains fatigue when it moves and loses efficiency when it takes losses. See the Fatigue and Efficiency Loss Tables for details. Fatigue and efficiency have a semi-proportional effect on fire strength (see Modifier Tables at back). Effectiveness minus fatigue equals morale. Since gaining fatigue lowers morale, you may raise morale by losing fatigue. You lose fatigue/ recover efficiency by having leftover operation points in the middle and at the end of a turn. One operation point wipes out one fatigue point (three operation points wipe out one fatigue point if next to an enemy unit). A unit will recover half of its lost effectiveness during the End of the Day Phase. Also during this phase, units lose their fatigue completely.

9.0 MID-TURN RECOVERY PHASE
During this phase units will check to recover disruption, fatigue, and effectiveness.

10.0 END-OF-DAY PHASE
At the end of the Night turn (#7), a special phase occurs. During this phase, units lose all fatigue. In addition, units will regain half of the effectiveness that they have lost. Units will also automatically fortify during this phase from 0 to 3 fortificaton points based on fatigue and enemy ZOC. Units in column, mounted, or limbered mode and units with a fatigue of 50 or more will not fortify.

11.0 VICTORY DETER-MINATION PHASE
During this phase, players are awarded points for casualties and territorial objectives. After the appropriate turn is completed, the game ends and the score is compared to the victory levels. You may examine the map and access units of both sides after the game has ended.

11.1 Victory Points
Players receive victory points according to the chart below:

- 1 pt per infantryman/artilleryman lost
- 1.5 pts per cavalryman lost
- 100 pts per brigade leader lost
- 200 pts per division leader lost
- 300 pts per corps leader lost
- 100 pts per artillery gun lost

Multiply the above numbers by 1.5 for captured infantry and artillery guns. Multiply by 2 for captured leaders and cavalry.

Ignore leader points for the Intermediate Game.

CONFEDERATE OBJECTIVE SQUARES	UNION OBJECTIVE SQUARES
8, 1 = 5000 pts	47,32 = 1000 pts
14, 1 = 5000 pts	47,36 = 1000 pts
23, 1 = 5000 pts	49,41 = 1000 pts
7,22 = 1000 pts	35,58 = 1000 pts
25,12 = 1000 pts	27,63 = 1000 pts
25,21 = 1000 pts	
25,27 = 1000 pts	
25,36 = 1000 pts	
25,43 = 1000 pts	

To receive points for an objective square, you must control it. Control is determined during Reinforcement Phases. To control an objective square, you must have 3000 men in or adjacent to it without any enemy units being in or adjacent to it. (Control of Confederate objectives 8,1; 14,1; and 23,1 requires 5000 men in or adjacent to the square.) It is not necessary to keep units in or next to a square to maintain control. However, control is lost if any enemy unit, regardless of size, is in or adjacent to the objective square during a Reinforcement Phase.

11.2 Victory Levels
At the beginning of each turn, a display will appear on the screen showing victory levels and the scores needed to attain those levels.

12.0 STRATEGY AND TACTICS
Union Strategy:
The Union is on the strategic defensive due to the large area he has to cover and protect. Initially the bulk of his army is far removed from the northern area where large quantities of victory point objectives are located. This victory point area actually represents the supply line of the Union.

Given his defensive position, the Union player should set a defensive line from the northern bend of the creek to the northern edge of the map. Reinforcing divisions should march to the center using the primary road that runs straight north to south. Two or three divisions should be devoted to the southern-most end of this line since this is the area the Confederates can strike the quickest.

After a few turns, it should be apparent where the Confederates are launching their main attack. Union reserves should reinforce the threatened areas. Counterattacks can be very worthwhile where local superiority can be achieved.

If the Union can anticipate where the Confederate is committing his army, he can usually match the attack and even counter-

attack where the Confederate is weak. The Union, however, has to be mindful of a Confederate sweep to the far north.

If caught off guard, the Union will lose thousands of victory points in the north. On the other hand, the Union can't afford to commit large numbers of men to uncontested territory.

Command control can be a real problem for the Union. The game system encourages divisions and corps to operate close together. The Union has only three corps to cover a large area. Compromises and careful planning will be required for maximum command control. A significant advantage to the Union is the primary road system that allows the Union army to shift relatively quickly and puts it essentially on interior lines.

Confederate Strategy

Initially, the Confederate is in position to move quickly with a good portion of his army. The surprise and uncertainty of what he does with his army is his greatest advantage over the Union. He could strike north, to the center, mass to the south, or a combination of the three. He must keep the Union guessing until he delivers a telling blow to the stretched-out Union army. There are pros and cons to any approach. The good approach is the one the Union isn't expecting. Well planned feints could keep the Union guessing and draw off valuable reserves.

The nature of the road net and probable battle lines puts the Confederate on exterior lines. Being on exterior lines makes it difficult to shift the Confederate army quickly from one area of the battle to another. To maximize command control, the Confederate should group together divisions and corps.

At the north of the map are three objectives worth 5000 points each to the Confederate. A thrust to that area is a threat the Union must deal with and neutralize. The area up north contains many fields and clear spaces. Bring up artillery to support your offensive in that area. Sometimes it's worth sending one or two corps up north just to further stretch and unbalance the Union defense. Be wary of letting the Union infiltrate your lines and grab the bridges to the Confederate rear that are worth victory points.

Tactics:

Below are listed a number of suggestions and hints to sharpen the tactical edge of the deployed armies. Well conceived and thought-out plans can be foiled and defeated with poorly executed manuevers.

1. Artillery is a potent weapon. Its weakness is the exposed crew. Players will find that extended artillery bombardments will result in units low in ammo and morale. Rest your artillery. There are times when you shouldn't fire until you see "the whites of their eyes". Before you assault an artillery position, be sure that the opposing artillery has been weakened. Artillery in woods firing at units in woods is greatly reduced in its fire power.
2. Flank shots not only give a bonus in fire combat, but give a significant bonus in melee.
3. Watch for disrupted units. They can't fire most of the time and are reduced in melee on the defense (they can't even attack on the offense).
4. The Spencer rifles are lethal weapons. The Union command by Wilder have them. They are deadly at close range.
5. Watch your command control. It has a

tremendous effect in the game. Keep your brigades, divisions, and corps together.
6. Be careful where you place leaders. Their loss can be catastrophic to your command control.
7. Keep in mind that enemy units will lose a considerable number in captured men when they rout in an enemy ZOC.
8. Melee is deadly in this game. All units involved are greatly affected. It does put the matter of who owns the square to rest — quickly.
9. Be aware that in this game, advantages have been given to the attacker who moves next to the enemy, especially in woods.
10. Watch the various modifiers on a unit's strength. A unit can very quickly be reduced to practically nothing, given enough modifiers applied against it. Be careful to rest fatigued units. Fatigue directly affects strength and brings a unit closer to the breaking point. Resting also brings effectiveness back up.
11. Study the terrain and elevation of the ground you are fighting over. Clear lines of sight, especially for artillery, will make a difference.
12. Make sure you will have enough operation points to fire and/or melee.
13. Use double-time marching judiciously.
14. Fortify whenever you are not in contact with the enemy. Give yourself enough time to recover from the fatigue.
15. Remember that the "NO FIRE" plot will allow a unit to fire at units next to him, but not any further. A handy way to conserve ammo and fatigue for long-ranged artillery.
16. Units can plot fire into an empty square in anticipation of enemy units moving into that square the next phase. This option allows you to control your fire on an advancing enemy line.

COMMAND CONTROL EXAMPLES

The examples below involve the brigades of Croxton, Connell, and Van Derveer of Brannan's Division of Thomas' Corps.

During the Command Control Phase, THOMAS is declared as CONFIDENT and BRANNAN is CONFUSED. The brigades of BRANNAN are situated as follows (#4 is a unit from a different division, but same corps): Keep in mind that a unit loses 5 command points per square away from its other half brigade, or division leader, and loses 2 command points per square away from its corps commander.

The #1 unit has the leader BRANNAN attached to it. The #4 unit belongs to a different division and has THOMAS attached to it.

The #1 unit is a full brigade that is 0 squares in range from its divisional leader and 2 squares from its corps Commander. It is docked 0 command points for the half brigade (the brigade has not broken down), 0 command points for the divisional leader, and 4 command points for the corps commander. Its base command control is 28/4 or 7.0 which is rounded down to the maximum of 1.5.

The #2 unit loses 0 for the half brigade, 15 for the division, and 8 for the corps. Its base is 28/23 or 1.2.

The #3 unit loses 0 for the half brigade, 10 for the division, and 4 for the corps. Its base is 28/14 which is rounded down to the maximum of 1.5.

Since THOMAS was declared CONFIDENT, none of the units of this corps lose additional points for the performance of the corps leader. BRANNAN however was CONFUSED subtracting 0.3 command control from each brigade in his division. This results in unit #1 receiving a final command control of 1.2, unit #2 a command control of 0.9, and unit #3 a command control of 1.2.

In the example above, if THOMAS had been attached to #2 instead of #4, the special rule that units in the same square or next to a corp commander ignore the range of their division commander (division range = corps

range), would go into effect. This would result in the following command control values:

Unit #1	HALF	= 0
	DIV	= 0
	CORPS	= 6
	BASE	= 28/6 or 1.5
	CONFUSED	= −0.3
	FINAL	= 1.2
Unit #2	HALF	= 0
	DIV	= 0
	CORPS	= 0
	BASE	= 1.5 (MAX)
	CONFUSED	= −0.3
	FINAL	= 1.2
Unit #3	HALF	= 0
	DIV	= 10
	CORPS	= 6
	BASE	= 28/16 or 1.5
	CONFUSED	= −0.3
	FINAL	= 1.2

The above examples illustrate the need for proper placement of division and corp commanders. It shows how a corps commander can bolster the control of a dispersed division.

CONFEDERATE ORDER OF BATTLE

UNIT #	TURN OF ENTRY	ENTRY SQUARE	UNIT NAME	BRIGADE LEADER BONUS	MEN	WEAPON	EFF	DIVISION LEADER	DIVISION LEADER BONUS	CORPS LEADER	CORPS LEADER BONUS
0	8 AM	33,61	JACKSON	25	1285	RFL	90	CHEATHAM	30	POLK	20
2	8 AM	33,62	SMITH	30	1500	RFL	90	CHEATHAM	30	POLK	20
4	8 AM	32,62	MANEY	15	1177	RFL	70	CHEATHAM	30	POLK	20
6	8 AM	32,63	STRAHL	15	1149	RFL	70	CHEATHAM	30	POLK	20
8	8 AM	31,63	WRIGHT	20	1252	RFL	80	CHEATHAM	30	POLK	20
10	8 AM	26,62	ANDERSON	10	1765	RFL	60	HINDMAN	30	POLK	20
12	8 AM	26,63	DEAS	25	1842	RFL	90	HINDMAN	30	POLK	20
14	8 AM	25,63	MANIGALT	10	2215	RFL	60	HINDMAN	30	POLK	20
16	2 PM	27,63	WOOD	30	1682	RFL	99	CLEBURNE	45	HILL	30
18	2 PM	27,63	L. POLK	30	1450	RFL	99	CLEBURNE	45	HILL	30
20	2 PM	27,63	DESHLER	25	1783	RFL	80	CLEBURNE	45	HILL	30
22	4 PM	27,63	HELM	30	1413	RFL	99	BRECKENRIDGE	30	HILL	30
24	4 PM	27,63	STOVALL	20	897	RFL	80	BRECKENRIDGE	30	HILL	30
26	4 PM	27,63	ADAMS	30	1202	RFL	99	BRECKENRIDGE	30	HILL	30
28	8 AM	51,43	COLQUITT	15	1400	RFL	70	GIST	25	WALKER	30
30	8 AM	49,40	ECTOR	10	500	RFL	60	GIST	25	WALKER	30
32	8 AM	49,38	WILSON	15	1200	RFL	70	GIST	25	WALKER	30
34	8 AM	47,39	GOVAN	10	1200	RFL	60	LIDDELL	25	WALKER	30
36	8 AM	46,39	WALTHALL	20	1837	RFL	80	LIDDELL	25	WALKER	30
38	8 AM	38,55	BROWN	20	1320	RFL	80	STEWART	50	BUCKNER	30
40	8 AM	37,55	BATE	30	1085	RFL	99	STEWART	50	BUCKNER	30
42	8 AM	37,56	CLAYTON	20	1352	RFL	80	STEWART	50	BUCKNER	30
44	8 AM	34,57	GRACIE	25	1992	RFL	80	PRESTON	25	BUCKNER	30
46	8 AM	34,57	TRIGG	5	1536	RFL	50	PRESTON	25	BUCKNER	30
48	8 AM	34,57	KELLY	7	1146	RFL	55	PRESTON	25	BUCKNER	30
50	8 AM	35,47	FULTON	10	896	RFL	60	JOHNSON	25	HOOD	60
52	8 AM	35,48	GREGG	15	1207	RFL	70	JOHNSON	25	HOOD	60
54	8 AM	35,49	McNAIR	15	1352	RFL	60	JOHNSON	25	HOOD	60
56	4 PM	53,33	KERSHAWS	20	1000	RFL	70	KERSHAW	20	HOOD	60
58	4 PM	53,33	HUMPHREY	7	600	RFL	55	KERSHAW	20	HOOD	60
60	8 AM	35,45	SHEFFIELD	20	1200	RFL	80	LAW	25	HOOD	60
62	8 AM	35,46	ROBERTSON	25	900	RFL	90	LAW	25	HOOD	60
64	8 AM	34,46	BENNING	25	1000	RFL	90	LAW	25	HOOD	60

CAVALRY

UNIT #	TURN OF ENTRY	ENTRY SQUARE	UNIT NAME	BRIGADE LEADER BONUS	MEN	WEAPON	EFF	DIVISION LEADER	DIVISION LEADER BONUS	CORPS LEADER	CORPS LEADER BONUS
66	8 AM	51,21	WHEELER	7	1200	RFL	55	ARMSTRONG	25	FORREST	70
68	8 AM	41,31	DIBRELL	15	1800	RFL	70	ARMSTRONG	25	FORREST	70
70	8 AM	41,32	DAVIDSON	7	1350	RFL	55	PEGRAM	25	FORREST	70
72	8 AM	43, 1	SCOTT	7	1700	RFL	55	PEGRAM	25	FORREST	70

ARTILLERY

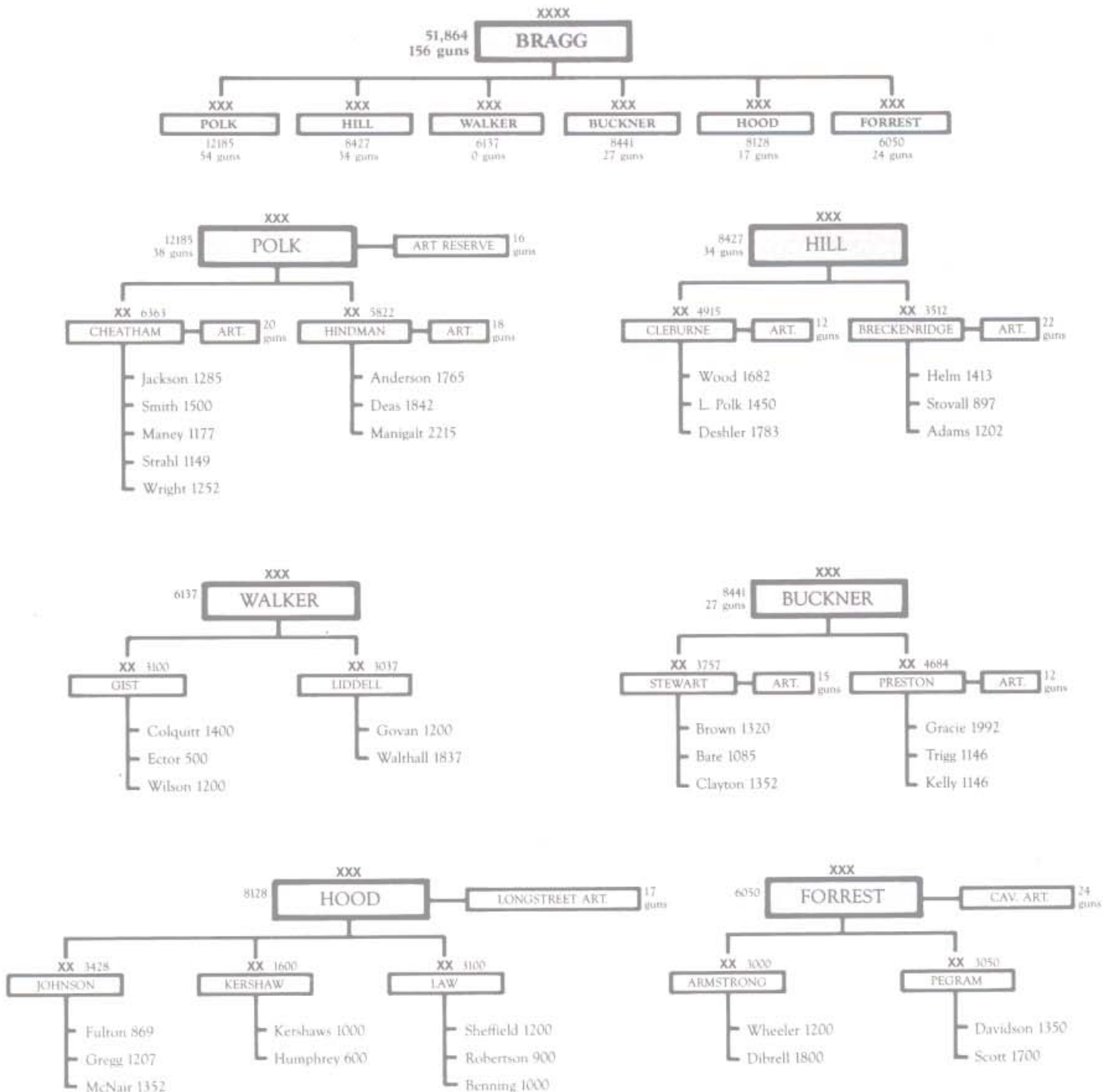| UNIT #	TURN OF ENTRY	ENTRY SQUARE	UNIT NAME	# GUNS	MEN	WEAPON	EFF				
74	8 AM	34,61	CHEATHAM	20	320	NAP	60				
75	2 PM	27,63	CLEBURNE	12	192	N/R	60				
76	4 PM	27,63	BRECKINRIDGE	22	352	N/R	60				
77	4 PM	27,63	RESERVE	16	256	N/R	60				
78	8 AM	27,63	HINDMAN	18	288	N/R	60				
79	8 AM	37,57	STEWART	15	240	N/R	60				
80	8 AM	35,59	PRESTON	12	192	N/R	60				
81	8 AM	29,63	BUCKNER	23	368	P/R	60				
82	8 AM	36,49	LONGSTREET	17	272	N/R	60				
83	8 AM	43,32	C. CORPS	24	384	N/R	60				

UNION ORDER OF BATTLE

UNIT #	TURN OF ENTRY	ENTRY SQUARE	UNIT NAME	BRIGADE LEADER BONUS	MEN	WEAPON	EFF.	DIVISION LEADER	DIVISION LEADER BONUS	CORPS LEADER	CORPS LEADER BONUS
84	8 AM	26,34	SCRIBNER	20	1879	RFL	80	BAIRD	30	THOMAS	70
86	8 AM	26,34	STARKWEATHER	15	1567	RFL	70	BAIRD	30	THOMAS	70
88	8 AM	26,32	KING	7	1634	RFL	55	BAIRD	30	THOMAS	70
90	4 PM	16,63	BEATTY	25	1098	RFL	90	NEGLEY	25	THOMAS	70
92	4 PM	16,63	STANLEY	15	518	RFL	70	NEGLEY	25	THOMAS	70
94	4 PM	16,63	SIRWELL	5	1139	RFL	50	NEGLEY	25	THOMAS	70
96	8 AM	25,26	CONNELL	15	1338	RFL	70	BRANNAN	50	THOMAS	70
98	8 AM	25,28	CROXTON	22	2279	RFL	85	BRANNAN	50	THOMAS	70
100	8 AM	25,27	DERVEER	25	1788	RFL	90	BRANNAN	50	THOMAS	70
102	8 AM	17,54	E. KING	10	1600	RFL	60	REYNOLDS	35	THOMAS	70
104	8 AM	17,55	TURCHIN	20	1633	RFL	80	REYNOLDS	35	THOMAS	70
106	12 PM	16,63	CARLIN	10	1115	RFL	60	DAVIS	20	McCOOK	30
108	12 PM	16,63	HEG	10	1118	RFL	60	DAVIS	20	McCOOK	30
110	10 AM	16,63	WILLICH	15	1325	RFL	70	JOHNSON	25	McCOOK	30
112	10 AM	16,63	DODGE	15	1030	RFL	70	JOHNSON	25	McCOOK	30
114	10 AM	16,63	BALDWIN	10	1500	RFL	60	JOHNSON	25	McCOOK	30
116	2 PM	16,63	LYTLE	20	1300	RFL	70	SHERIDAN	20	McCOOK	30
118	2 PM	16,63	LAIBOLDT	7	1300	RFL	55	SHERIDAN	20	McCOOK	30
120	2 PM	16,63	BRADLEY	5	1300	RFL	50	SHERIDAN	20	McCOOK	30
122	8 AM	22,63	BUELL	15	1321	RFL	70	WOOD	30	CRITTENDEN	30
124	8 AM	22,62	HARKER	20	1391	RFL	80	WOOD	30	CRITTENDEN	30
126	8 AM	24,58	CRUFT	15	1304	RFL	70	PALMER	25	CRITTENDEN	30
128	8 AM	24,57	HAZEN	15	1467	RFL	70	PALMER	25	CRITTENDEN	30
130	8 AM	24,56	GROSE	10	1685	RFL	60	PALMER	25	CRITTENDEN	30
132	8 AM	22,61	S. BEATTY	10	1384	RFL	60	VAN CLEVE	25	CRITTENDEN	30
134	8 AM	23,60	G. DICK	7	1122	RFL	55	VAN CLEVE	25	CRITTENDEN	30
136	8 AM	24,59	BARNES	10	1223	RFL	60	VAN CLEVE	25	CRITTENDEN	30
138	8 AM	30, 1	WHITAKER	10	2500	RFL	60	STEEDMAN	50	GRANGER	60
140	8 AM	14, 2	MITCHELL	7	1136	RFL	55	STEEDMAN	50	GRANGER	60
142	8 AM	14, 3	D. McCOOK	10	1400	RFL	60	STEEDMAN	50	GRANGER	60
CAVALRY											
144	8 AM	18,47	MINTY	15	1800	RFL	70			B. MITCHELL	35
146	8 AM	24,47	WILDER	30	2200	SPN	90			B. MITCHELL	35
ARTILLERY				**# GUNS**							
148	8 AM	25,34	BAIRD	18	288	N/P	60				
149	4 PM	16,63	NEGLEY	18	288	N/R	60				
150	8 AM	25,25	BRANNAN	16	256	NAP	60				
151	8 AM	17,56	REYNOLDS	22	352	N/R	60				
152	12 PM	16,63	DAVIS	10	160	NAP	60				
153	10 AM	16,63	JOHNSON	18	288	LJR	60				
154	2 PM	16,63	SHERIDAN	18	288	N/R	60				
155	8 AM	21,63	WOOD	12	192	NSP	60				
156	8 AM	23,57	PALMER	24	384	N/R	60				
157	8 AM	22,58	VAN CLEVE	18	288	N/P	60				
158	8 AM	13, 2	GRANGER	18	288	N/R	60				

CONFEDERATE ORGANIZATIONAL CHART
ARMY OF TENNESSEE
51,864 men (43,318 infantry, 2496 artillerymen, 6050 cavalry); 156 guns

XXXX

51,864
156 guns — **BRAGG**

XXX
- **POLK** — 12185, 54 guns
- **HILL** — 8427, 54 guns
- **WALKER** — 6137, 0 guns
- **BUCKNER** — 8441, 27 guns
- **HOOD** — 8128, 17 guns
- **FORREST** — 6050, 24 guns

XXX

12185
38 guns — **POLK** — ART RESERVE, 16 guns

XX 6363 — CHEATHAM — ART. 20 guns
- Jackson 1285
- Smith 1500
- Maney 1177
- Strahl 1149
- Wright 1252

XX 5822 — HINDMAN — ART. 18 guns
- Anderson 1765
- Deas 1842
- Manigalt 2215

XXX

8427
34 guns — **HILL**

XX 4915 — CLEBURNE — ART. 12 guns
- Wood 1682
- L. Polk 1450
- Deshler 1783

XX 3512 — BRECKENRIDGE — ART. 22 guns
- Helm 1413
- Stovall 897
- Adams 1202

XXX

6137 — **WALKER**

XX 3100 — GIST
- Colquitt 1400
- Ector 500
- Wilson 1200

XX 3037 — LIDDELL
- Govan 1200
- Walthall 1837

XXX

8441
27 guns — **BUCKNER**

XX 3757 — STEWART — ART. 15 guns
- Brown 1320
- Bate 1085
- Clayton 1352

XX 4684 — PRESTON — ART. 12 guns
- Gracie 1992
- Trigg 1146
- Kelly 1146

XXX

8128 — **HOOD** — LONGSTREET ART. 17 guns

XX 3428 — JOHNSON
- Fulton 869
- Gregg 1207
- McNair 1352

XX 1600 — KERSHAW
- Kershaws 1000
- Humphrey 600

XX 3100 — LAW
- Sheffield 1200
- Robertson 900
- Benning 1000

XXX

6050 — **FORREST** — CAV. ART. 24 guns

XX 3000 — ARMSTRONG
- Wheeler 1200
- Dibrell 1800

XX 3050 — PEGRAM
- Davidson 1350
- Scott 1700

UNION ORGANIZATIONAL CHART
ARMY OF THE CUMBERLAND
50,576 men (44,504 infantry, 3072 artillerymen, 3000 cavalry); 192 guns

XXXX
50,576 / 192 guns — **ROSECRANS**

- **XXX** THOMAS — 18733 / 74 guns
- **XXX** McCOOK — 9988 / 46 guns
- **XXX** CRITTENDEN — 11897 / 54 guns
- **XXX** GRANGER — 5086 / 18 guns
- **XXX** MITCHELL — 1800 / 0 guns

XXX
18733 / 74 guns — **THOMAS** — **X** 2200 WILDER

- **XX** 5080 BAIRD — ART. 18 guns
  - Scribner 1879
  - Starkweather 1567
  - King 1634
- **XX** 2755 NEGLEY — ART. 18 guns
  - Beatty 1098
  - Stanley 518
  - Sirwell 1139
- **XX** 5465 BRANNAN — ART. 16 guns
  - Connell 1338
  - Croxton 2279
  - Derveer 1788
- **XX** 3233 REYNOLDS — ART. 22 guns
  - E. King 1600
  - Turchin 1633

XXX
9988 / 46 guns — **McCOOK**

- **XX** 2233 DAVIS — ART. 10 guns
  - Carlin 1115
  - Heg 1118
- **XX** 3855 JOHNSON — ART. 18 guns
  - Willich 1325
  - Dodge 1030
  - Baldwin 1500
- **XX** 3900 SHERIDAN — ART. 18 guns
  - Lytle 1300
  - Laiboldt 1300
  - Bradley 1300

XXX
11897 / 54 guns — **CRITTENDEN**

- **XX** 2712 WOOD — ART. 12 guns
  - Buell 1321
  - Harker 1391
- **XX** 4456 PALMER — ART. 24 guns
  - Cruft 1304
  - Hazen 1467
  - Grose 1685
- **XX** 3729 VAN CLEVE — ART. 18 guns
  - S. Beatty 1384
  - Dick 1122
  - Barnes 1223

XXX
5086 / 18 guns — **GRANGER**

- **XX** 5086 STEEDMAN — ART. 18 guns
  - Whitaker 2500
  - Mitchell 1136
  - D. McCook 1400

XXX
1800 — **MITCHELL**

- Minty 1800

14

Numbers in parentheses refer to diagonal moves — directions 2, 4, 6, and 8 (1, 3, 7, 9 on the IBM key pad). For the BASIC game, please ignore the numbers and letters printed in green. ZOC stands for zone of control, which is a wargaming term for the squares next to a unit. P = Prohibited and N/A = Not Applicable.

TERRAIN/ACTION	INF./ DIS. CAV.	MTD. CAV.	LIMB. ART.	UNLIMB. ART.
Clear	2(3)	1(2)	2(3)	P
Fields	2(3)	2(3)	3(5)	P
Woods	4(6)	4(6)	8(12)	P
Bridge [1]	1(5)	1(5)	1(5)	P
Secondary Roads [2]	2	2	2	P
Primary Roads [3]	1	1	1	P
Enter higher elevation	+6	+4	+8	P
Change mode to column, mounted, or limbered [4]	2	2	N/A	4
Change mode to normal, dismounted, or unlimbered [5]	4	4	4	N/A
Enter or leave enemy ZOC	+2	+1	+3	P
Move from enemy ZOC to enemy ZOC [6]	+8	+5	+8	P
Fortify	8	8	P	8
Reorganize	2	2	N/A	N/A
Melee (attacker)	2	2	P	P
Melee (defender)	2	2	2	2
Fire in fire phase	2	2	P	4

Notes:

[1] Units must be in column, mounted or limbered mode to enter a bridge square.

[2] Regardless of other terrain in the square; a unit that moves from any road to a secondary road pays 2 operation points unless it is moving diagonally (directions 2, 4, 6, and 8), in which case, it doesn't benefit from the road. The unit must be in column, mounted, or limbered mode to receive the road benefits.

[3] The same as Note 1 except the cost is 1 operation point.

[4] The cost for CAV ART is 2 instead of 4 to limber. All units pay 1 operation point extra to change to these modes in woods.

[5] The cost for CAV ART is 2 instead of 4. All units pay 2 operation points extra to change to these modes in woods.

[6] In order to be able to move enemy ZOC to ZOC, a unit must be moving into a friendly occupied square.

TARGET LOCATION	FIRE MOD.	MELEE MOD.
Clear	1.00	1.00
Woods	0.60	0.60
Fields	0.90	0.90
Higher Elevation	0.70	0.70
Bridge	1.00	1.00

FIRING UNIT'S LOCATION	FIRE MOD.	MELEE MOD.
Bridge	0.60	0.40
All Others	1.00	1.00

SPECIAL CONDITIONS	FIRE MOD.	MELEE MOD.
Target unit is flanked	1.50*	1.50***
Firing unit is disrupted	0.50**	0.50
Firing unit is "routing"	0.50	N/A
Firing artillery in woods to woods	0.20	1.00
Firing unit out of ammo	0.30**	0.70

MODES	FIRE MOD.	MELEE MOD.
Normal	1.00	1.00
Column	0.30	0.30
Mounted	0.85	2.00
Routed	0.50**	0.50****
Unlimbered	1.00	1.00
Limbered	0.20**	0.50****
Dismounted	0.75	1.00

* During Final Defensive Fire, the modifer is 0.5 for the flanked unit firing.

** May only fire during Final Defensive Fire and with these modifiers.

*** The flanked defender in Melee and Final Defensive Fire has a modifier of 0.50. The flanker has a modifer of 1.50.

**** May only defend in Melee and with this modifier.

NOTE: The 0.20 fire modifier given to Artillery firing from a woods square overrides the 0.60 modifier the target would receive if located in woods.

The Fire and Melee strength modifiers would support the following examples:

1. A target unit in woods on higher elevation than the firing unit would result in modifier of 0.42 (0.7 × 0.6) in the Fire Phases and the Melee Phases.

2. A target unit flanked by a firing unit in clear terrain would give the firing unit a 1.5 modifier in the Fire and Melee Phases. In the Fire Phases, the flanked unit would fire with a 1.0 modifier (if it had a target) but would melee with a 0.5 modifier.

3. An artillery unit in woods firing at a unit in woods would receive a 0.20 modifier (not 0.2 × 0.6 — the 0.2 supersedes).

Leader Bonus: Direct Modifier. A leader with bonus of 20 would give a modifier of 1.2.

Target Density: 1% more casualties per 50 men when more than 1000 men are in the target square. 1% less casualties when less than 1000 men. Maximum modifier of 1.4.

Density of Firing Units' square: (non-artillery) If over 1000 men are firing from the square, a modifier of .01 per 50 men over this number is applied (1200 men = .96 modifier).

Fortification Level: The firing unit is penalized by 10% per level that the target is fortified. A fortification level of 5 would give a modifier of 0.5.

Effectiveness: Semi-Direct Modifier. Strength is reduced by .01 for every 2 points effectiveness below 100. An effectiveness of 90 would give a .95 modifier.

Fatigue: Semi-Direct Modifier. Strength is reduced by .01 for every 2 points of fatigue. Fatigue of 20 would give a modifier of .90.

Command Control: Direct Modifier. A rating of 1.1 would give a modifer of 1.1.

Artillerymen: Each gun requires 16 artillerymen to fully support it. When artillery fires, it receives a modifier proportionate to the number of men it has to man its guns. A Union artillery unit with six guns would need 96 men to function fully. If it lost 19 men, the unit would receive a modifier of 0.8.

Random Modifier: Modifier of 1.3 to 1.5 determined randomly.

Unit Outmaneuvered: Firing Unit receives modifer of .5.

Successful Attack: Firing Unit receives modifer of 1.5.

Scattered Artillery Fire: Artillery receives modifier of .3.

Maximum and Minimum Modifiers: All modifiers are cumulative with a maximum of 2.0 and a minimum of 0.2.

All modifiers are cumulative as shown in the example below:

A unit firing under the conditions below would receive the indicated modifiers (all modifiers are multiplied together).

– Firer has 2000 men in square	= 0.80
– Target in woods	= 0.60
– Target has 3000 men in square	= 1.4
– Firer in column mode	= 0.30
– Firer has 75 effectiveness	= 0.80
– Firer has 15 fatigue	= 0.93
– Firer has leader bonus of 15	= 1.15
– Firer has command control of 1.3	= 1.30
– Random modifier is 1.3	= 1.30
TOTAL	0.29

A unit above with 2000 men would fire with a strength of 580. (With rifles at range one, it would kill 23 men plus a random of 7 to 11.)

WEAPON TYPE	ABBREV.	1	2	3	4-6	7-10
Rifle	RFL	4	2	0	0	0
Spencer	SPN	8	4	0	0	0
12 lb. Napoleons	NAP	14	4	2	1	0
12 lb. Napoleons/ 10 lb. Parrotts	N/P	11	5	3	1	1
12 lb. Napoleons/ 3" Rifles	N/R	11	4	3	1	0

WEAPON TYPE	ABBREV.	1	2	3	4-6	7-10
12 lb. Napoleons/ 6 lb. Smooth bores/ 10 lb. Parrotts	NSP	12	5	2	1	1
10 lb. Parrotts/ 3" Rifles	P/R	8	5	4	2	1
12 lb. Lights/6 lb. James/3" Rifles	LJR	10	5	2	1	0

The number under the range column corresponding to the proper weapon type is the number of men suffered as casualties per 100 men firing for small arms (the top two on the list) and per one gun for the artillery. The casualties derived here are further modified by various strength/casualty values.

DISRUPTION TABLE

A unit has a chance of being disrupted based on the number of men in the unit and its number of casualties. The chart below gives some examples:

MEN IN UNIT	NO CHANCE OF DISRUPTION	CHANCE WITH 20 LOSSES	CHANCE WITH 40 LOSSES	CHANCE WITH 60 LOSSES	CHANCE WITH 80 LOSSES	CHANCE WITH 100 LOSSES	CHANCE WITH 120 LOSSES
500	less than 7 losses	11%	27%	42%	58%	73%	100%
1000	less than 15 losses	6	21	37	53	68	100
1500	less than 19 losses	1	17	32	48	63	100
2000	less than 26 losses	0	12	27	43	58	100

EFFECTIVENESS TABLE

ACTION	COST
Unit moved onto by routing unit	−8
Unit suffers leader casualty	−5
Unit stacked with unit that routs	−15
Unit retreats	−3
Unit causes retreat	+2
Per casualties of 5 men	−1*

* A unit with more than 600 men suffers proportionately less effectiveness loss. A unit with 900 men would lose 67% less and a unit with 1200 men would lose 50% less effectiveness.

DISRUPTION RECOVERY TABLE

Recovery from disruption is based on command control and whether or not a unit is in an enemy ZOC.

COMMAND CONTROL	NO ENEMY ZOC	IN ENEMY ZOC
.5	35%	12%
.6	40%	13%
.7	45%	15%
.8	50%	16%
.9	55%	18%
1.0	60%	20%
1.1	65%	21%
1.2	70%	23%
1.3	75%	25%
1.4	80%	26%
1.5	85%	28%

FATIGUE TABLE

ACTION	COST
Fire Combat	
Infantry and Cavalry	+4
Artillery	+6
Melee Combat	
All units	+5
Enter clear terrain	+1
Enter fields	+2
Enter woods	+3
Enter road to road square	+0 or +1 (randomly dependent on efficiency)
Fortify	+15
Per 1 operation point of double-time	+6

RALLY

Generally speaking, the higher the morale and command control a unit has, the greater its chances to rally. See chart below for examples of percentages to rally.

COMMAND CONTROL	MORALE 25	MORALE 50	MORALE 75
.7	62%	72%	82%
.8	64%	74%	84%
.9	66%	76%	86%
1.0	68%	78%	88%
1.1	70%	80%	90%
1.2	72%	82%	92%
1.3	74%	84%	94%
1.4	76%	86%	96%
1.5	78%	88%	98%

MELEE RESULTS

The attacker's modified strength is divided by the defender's modified strength to determine the odds which govern the losses and retreats from melee. The odds of 2 to 1 are considered the break-even point. The defender or attacker (not both) may retreat according to the chart below. The defender is checked first and then the attacker (provided the defender does not retreat).

ODDS	% CHANCE ATTACKER RETREAT	% CHANCE DEFENDER RETREAT
<0.3	60	10
0.3 to 0.49	50	20
0.5 to 0.99	40	30
1.0 to 1.99	30	40
2.0 to 2.99	20	50
3.0 to 3.99	0	60
4.0 to 4.99	0	70
5+	0	80

Scott

Whitaker

Steadman

McDonald Brannan

Baird

Forrest

REED'S BRIDGE

R

Gist

Liddell

BROCK'S FIELD

BROTHERTON

LAMBERT'S FORD

Minty Wilder

Law

Johnson

ALEXANDER'S BRIDGE

Reynolds

Stewart

Palmer

Preston

Van Cleve

CHICKAMAUGA CREEK

DALTON FORD

Wood

R

Cheatham

| ★ | Union Artillery | ✖ | Confederate Artillery | ★ | Union Cavalry | ▧ | Confederate Cavalry | R | Reinforcement Squares |

★ Union Artillery	☒ Confederate Artillery	⚝ Union Cavalry
◰ Confederate Cavalry	Ⓡ Reinforcement Squares	

MORNING TO NOON SEPTEMBER 20, 1863

Map legend:

Symbol	Description
★	Union Artillery
⊠	Confederate Artillery
⁂	Union Cavalry
◩	Confederate Cavalry
R	Reinforcement Squares

McAFEE CHURCH

MISSIONARY RIDGE

LAFAYETTE ROAD

DYER

McFARLANDS GAP

MISSIONARY RIDGE

CHICKAMAUGA CREEK

Steadman ★ ← Forrest

McDONALD

REED'S BRIDGE

Gist
Breckenridge

Baird ★
Liddell

Johnson ★
JAY'S MILL

Wood
Negley ★ Palmer ★

Brannan
Van Cleve ★
Reynolds ★

Steadman
Brannan ★
Cleburne

BROCK'S FIELD

Wood ★
Stewart

Davis ★
Cheatham

Sheridan ★
Johnson Law Kershaw

LAMBERT'S FORD

Hindman

Wilder ★
Preston

ALEXANDER'S BRIDGE

VINIARD

LAFAYETTE ROAD

BLOODY POND

CHICKAMAUGA CREEK

DALTON FORD

LEE & GORDON'S MILL

R   R

Symbol		Symbol		Symbol	
★	Union Artillery	⊠	Confederate Artillery	✦	Union Cavalry

Symbol		Symbol	
◿	Confederate Cavalry	R	Reinforcement Squares

THOMAS AT CHICKAMAUGA

By Robert S. Billings

About 10:00 A.M. on September 20, 1863, Lady Luck rode up and kissed the Confederacy on the forehead. It was an opportune time. A short two months before, Lee's Army of Northern Virginia had been struggling to recover from its devastating loss at Gettysburg. In the West, Vicksburg had finally fallen — and in Tennessee the Army of the Cumberland was engaged in an elaborate maneuver which would yield them Chattanooga without a major battle. For once Union hopes were bright and the Confederacy seemed to have fallen on evil days.

But plans were in the works to change all this. In all theaters of operation Confederate leaders had been struggling against superior numbers. At Chancellorsville the South had been outnumbered better than two-to-one — and yet Lee had produced his greatest masterpiece of battle there. It seemed the same everywhere. Superior numbers always for the North; only superior leadership or spirit keeping the South in the war.

Now, taking advantage of their interior railroad lines of communication, The Confederates were rushing Longstreet's large corps to Bragg in Tennessee. There they would join with other reinforcements from the west and, superior numbers at last on their side, they would strike the Army of the Cumberland such a fierce and unexpected blow that it would disintegrate in the mountainous, forested terrain cut by often unfordable rivers. This would be no set-piece battle with the armies retiring afterward to rest and recuperate. This would be a battle of annihilation, with the Confederacy in sufficient force to destroy an entire Union army. Then Longstreet's men would ride their trains back to Lee before the Army of the Potomac was even aware they were gone. The momentary dimming of Southern hopes would be reversed; the sun would sparkle once again upon her bravely fluttering battle flags.

The plan was working! Longstreet's troops entrained and were shuttled westward. Union General Rosecrans, confident after his masterful maneuvers had driven Bragg from Chattanooga, was barging ahead with his Army of the Cumberland to stick his head right into the noose.

Battle was joined on the 19th of September. The fighting was indecisive — but Longstreet's troops had not yet fully arrived. On the next day they were there. They lined up five divisions for a massive assault on the Union right. And then, with everything arranged for a Confederate victory, Lady Luck appeared in the form of a poorly conceived, fuzzily written, and spitefully obeyed order. Within a few minutes half the Union army was in wild retreat — all semblance of order destroyed. Leaders later revered by history books (Sheridan not least among them) were thrown into a state of numbed shock and raced with their men toward the rear.

It was the golden chance the Confederacy had always longed for, had felt for once it deserved. The Confederates had solidly outnumbered the entire Union army — now they could turn all their vastly superior force aginst the small remnant left on the field and win their battle of annihilation.

All that stood in their way was the already hard-fought Fourteenth Corps — and one man standing on a hilltop.

When history is rushing madly on in one direction — only to plunge head-on into a man who seems by the force of his own character to change its very course — there must have been a long preparation for that moment. Only in childhood dreams does pure luck alone, the being in the right place at just the right time, raise a man from obscurity to the status of history-changer. And a closer look assures us that that man and that hilltop had been waiting for each other through more than two years of campaigning, and before that through a lifetime of preparation.

The man was George H. Thomas, commanding general of the Fourteenth Corps of the Army of the Cumberland. And everything we know about him reverberates with a more solid tone than the pack of ego-driven, vain, self-deluding generals who captured the public eye and promoted themselves into high military positions — only to fail miserably when their moment of truth arrived. The McClellans, the Popes, the Hookers — they rode on stage with a flourish of trumpets and boastful words to the press. Not George H. Thomas.

Everything about the man seems an enigma and a contradiction. History has given him scant attention — perhaps wisely, at least for the reputations of several names we are accustomed to speak with reverence. The glow attached to men like Sheridan, Sherman, Grant, and even Lincoln himself is somewhat diminished when one looks closely at their relationships to this far less well-known man. If we are to have great mythic heroes, perhaps it is for the best that men like George H. Thomas are kept in the wings, while others parade their radiance before the audience.

The long preparation might have begun when as a schoolboy in Virginia he secretly taught what he had learned each day to the black youth on his father's plantation. (So one source tells us — but then all the facts of his early life are shrouded in mystery. When he decided to remain loyal to the Union, his pure-Virginia-bred sisters turned his portrait's face the wall, asked him to change his name, and never spoke to him again.)

A part of that preparation certainly was his service with Zachary Taylor in the Mexican War. As a mere lieutenant leading a section of artillery at Buena Vista, when much of the infantry had routed and disaster appeared inevitable, he kept his section firing at Santa Ana's attacking thousands. Without infantry support and ordered to retreat, he managed it by letting the natural recoil of the pieces drive them slowly and gradually backward. Infantry support finally arrived and the day was saved.

When the Civil War came there was a mass exodus of West Pointers to the South. There had been, apparently, an elite within the Federal army based on Southern birth and West Point training. Thus highly competent Southern officers stayed in the military; those from the North got the point and soon went into other fields of endeavor. Thus it was that the Confederates had the overwhelming share of top-ranked Regular Army leaders for their forces; the Union army had to spend years of sifting through incompetents before finding men capable of leading their vast armies to victories in the field.

When the massive shift of allegiance occurred, the members of the "club" (especially the Virginians) went over almost en masse to the rebellion. Virginians assumed their loyal son George H. Thomas (whom they had presented with a ceremonial sword after his valorous deeds in the Mexican War) would rush to the defense of his home state. When he did not there was shock and disbelief. Then came the spiteful stories: he had tried to "sell" himself to the highest bidder; he had been controlled by his "Northern" wife; he was a weak and vacillating person, incapable of firm decision. (Most of these were put in writing only after he was dead and could not reply.)

So the Virginia West Pointer stayed with his colors. One would think that a grateful government would have rewarded such loyalty with trust and immediate appointment to high rank. The truth is that he was accepted with much suspicion, lack of appreciation for his considerable talents, and even complaints in some quarters that he was a traitor secretly serving his native state.

Unfortunately for the rumor mongers, many of the "loyal" politicians tended to lose battles, while men commanded by George H. Thomas tended to fight well. His military judgments tended to be embarrassingly borne out by later consequences. (As when he advised that General Patterson's forces should be placed closer to McDowell's before Bull Run — if his advice had been followed it would have been the Union army that received the crucial reinforcements late in the day of the first Manassas battle, and the headlong rout might well have been toward Richmond rather than Washington).

So despite suspicion of his loyalty and a quiet pride that refused to pander for promotion, he gradually rose in rank. Then he had total command of one small but crucial battle himself. The result was one of the very first Union victories at the Battle of Mill Spring. In a war of many partial and ineffective victories, this one was so complete that much of the Confederate artillery and stores had to be left behind, and the Southern troops were so demoralized that much of their army evaporated in desertions. Yet in Lincoln's announcement of the victory, against all previous and later custom, the commanding general's name was not mentioned even once.

Then Thomas became a leading subordinate commander in General Buell's Army of Ohio, which was to combine with Grant's forces to move on Corinth. Unfortunately the Battle of Shiloh intervened. Grant was caught in a way Thomas never was and nearly defeated. But stubborn determination by Grant and Sherman helped make up for their earlier failure; the Army of the Ohio began to arrive in time for some of the action, and the battle was retrieved.

General Henry W. Halleck, a fussy political schemer often called "Old Brains" without much corroborating evidence, put Thomas in command of Grant's four divisions in addition to his own. This was a sudden jump to army command over men his senior (Grant among them). Halleck thus humiliated Grant and Thomas had to bear the weight of Grant's active dislike because of it. It was a possible route to higher command for Thomas. His response was typical of the man. As soon as he could do so, he asked to be returned to command of his own division, giving up the command of five. Such behavior among Union generals was unheard of. There must

be something wrong with this strange Virginian.

Buell's army was renamed the Army of the Cumberland, and Thomas took a very active part in the training of the new men who were coming in. This army became a disciplined force — far more so than the men who followed Grant and Sherman. And before long it would be tested against the invading Bragg's army.

Buell refused much of Thomas' advice and got himself in a bad situation where a Confederate force under Kirby Smith, in a lightning strike, was soon shelling Cincinnati. The schemer Halleck, now risen to vague but powerful position in Washington, decided to replace Buell with Thomas. Once again General Thomas did the unheard-of thing: he said it was wrong to take the command from a general who had planned an action and was about to undertake it. Therefore he declined the command. Schemers like Halleck hardly knew what to do with such a man.

Then Buell, who had done so much to organize and train the Army of the Cumberland, ruined his own career by showing he could not handle his army effectively at the Battle of Perryville. His three corps commanders were incompetent — and his one good battle leader (Thomas) was wasted in the fifth-wheel position of second-in-command. Now Thomas was ready to take command of the army.

But now the schemers in Washington, distrustful of a man whose personal ambition was so much more under control than theirs, turned instead to General Rosecrans. In the Union army, apparently, you had to grasp when the grasping was good — and devil take your scruples. Thomas was, however, given command of the Fourteenth Corps, one of three in General Rosecrans' army.

Rosecrans moved his army forward to meet Bragg at Murfreesboro. The two commanders both decided to attack on their left flank. The Confederates struck first and nearly tore apart Rosecrans' ill-prepared right corps. Within a few minutes disaster was hovering over the Union force, its left corps set for an attack it could not deliver and its right collapsing. But the center corps was Thomas' Fourteenth. It was enough. Gathering and siting artillery, skillfully positioning his infantry, coordinating the efforts of the remnants of the corps on his right, Thomas held firm. When that night everybody else was talking retreat, Thomas, intermitently napping after his hard day of fighting, roused himself to declare, "This army can't retreat." Suddenly all talk of retreat quieted; plans were made to stay and fight. Soon thereafter Bragg decided to withdraw and leave the Union forces in possession of the field. Once again

the Virginian had saved the day for the Union.

Then Rosecrans began an elaborate set of maneuvers that successfully forced Bragg to evacuate Chattanooga. That was when the Confederacy made its momentous decision to heavily reinforce Bragg's army and lead Rosecrans' army right into a trap in which it could be annihilated.

On September 9 Rosecrans was euphoric. He had just conducted a masterpiece of maneuver, forcing Bragg to yield the transportation hub of Chattanooga without a battle. The Union army's three corps were already pursuing Bragg's retreating forces past Missionary Ridge and striking at the passes through Pigeon Mountain. Push on through fast, Rosecrans told Thomas, who was at the center of the three "gaps."

But Thomas smelled a rat. Rosecrans, in his eurphoria, seemed unconcerned that his three corps were widely separated — by as much as fifty miles. He had believed the Confederate deserters who had claimed Bragg's forces were in wild retreat. Thomas wasn't so sure. If Bragg were not in disorderly retreat, but being heavily reinforced and waiting for an opportunity to strike back (as was actually the case), the present dispersal of the Union army would give him a golden opportunity. He could turn his overwhelming forces against the three Union corps one at a time, annihilating each in turn.

So Thomas intended to take his time about shoving his neck into what might turn out to be a waiting noose. He sent back a warning to Rosecrans that he had information of a heavy Confederate concentration on the far side of Pigeon Mountain. Rosecrans replied sternly that Thomas was moving far too slowly — he should have passed through the Pigeon Mountain gap some time before.

On the morning of September 11, Thomas still hadn't made an all-out push through the gap. His orders to his lead division were to guard against a possible flank attck from the north. He might have been reading Braggs's own orders for September 11. The latter planned to attack Thomas through the gap while a whole corps plus a division would pour down on him from the northern flank. If Thomas had rushed to obey Rosecrans' orders the destruction of the Union army piecemeal would have been a near certainty.

Finally Thomas' warnings penetrated. Rosecrans suddenly realized he was in a desperate situation, with his army hopelessly scattered while facing a highly concentrated superior force. He gave orders for the other two corps to concentrate on Thomas' corps. But they were marching over treacherous

mountain roads — would they arrive in time?

Bragg, in an ideal situation for a total victory, was having his own problems. His subordinates, though there was no reason for it in their case, were being as cautious as Thomas. Bragg would order his commanders to attack — and they would hold a council of war and decide to delay. So the cliffhanger situation was drawn out, day after day.

The concentration of the Union army in fact took five days, and on September 18 it was still not in position to defend itself. But the hurrying pieces were finally about to coalesce into an army again. The lead elements of Thomas' corps reached Crawfish Springs at 4:00 P.M. — only to find the Confederates had extended their force miles to the north. If there were no powerful forces there in the morning to block them, the Confederate army would outflank Rosecrans army and strike its rear, cutting it off from Chattanooga. There was nothing for it but to make a hurried night march with men, artillery, and supply trains all crowded along the State Road moving northward. It was a march across the enemy's front, an extremely dangerous maneuver, but it had to be done if the Union Army was not going to be badly flanked on their left the next day. So the men and horses stumbled through the darkness while those who knew the situation held their breath and waited for disaster to strike. But when early light came the leading units of Thomas corps had arrived at their destination (the junction of the Reed's Bridge Road and the State Road) and were moving off the road into Kelly Field, east of the State Road.

Early on the morning of September 19 both sides knew they were going to fight a battle — but each was very unclear about the enemy's situation. Bragg had thought he was moving a large part of his army past the Union left (or north) flank, and he anticipated a massive turning movement against little opposition here (as he was sure the bulk of the Union army was in the area of Lee and Gordon's Mill — about three and a half miles south of where the night march had taken the Union left flank). The Union officers, for their part, knew little detail about the position of Bragg's force. The whole countryside in this area is rough, irregular terrain, much of it covered by trees. Visibility in most parts of the battlefield was thus extremely limited, often to merely a few yards. It was nightmarish terrain for a worried general in command: nowhere could he get a view of the whole area; disaster might strike and he might never know it until the enemy was rushing into his rear.

Thomas was informed by a subordinate commander that only one Confederate brigade had crossed Chickamauga Creek and was isolated there. This was way off the mark, for almost all the Confederate army was across and readying for the battle. But Thomas, on the basis of the report, sent Brannan's division forward to see what it could do with this "isolated" brigade.

What Brannon's men found was a little more than had been figured on. In fact, they met several brigades — of Nathan Bedford Forrest's cavalry, fighting dismounted as infantrymen. Though the cavalry units had to waste one-fourth of their strength holding the horses in the rear, there were plenty of men to hold off a brigade or two. But other men were coming up from Thomas' second division in line, General Absolam Baird's. Forrest fed in more men but sent a hurry-up call for infantry support.

It was Bragg's turn to be shocked. He had thought he had the Union army completely outflanked on the north — and here was enemy infantry extended way past his own northern flank. There was nothing to do but feed the infantry as fast as possible.

For some hours that's what both Thomas and Bragg did. The fighting wavered back and forth in the area enclosed on the west by the State Road and on the east by Chickamauga Creek. Bragg was not in the most enviable position — with an almost unfordable creek at his back. His advantage was that he probably had sufficient force to keep from getting pushed back against that creek.

When Thomas became aware that Brannan's men were fighting cavalry, he sensed a chance to strip the initiative from Bragg. If enough force was quickly added to the attack, they might be able defeat each reinforcing infantry element as it was rushed into position.

But Rosecrans disagreed. He was not at all sure of where the enemy really was — better to take a good defensive position and see what would happen.

Forrest had been pushed back at first, but by 10:00 A.M. he was beginning to get solid infantry support, and then Thomas became uncertain of his own ability to hold. He asked for a division from Crittenden's Corps, stationed on his right.

The battle seemed to take on a life of its own, drawing units into action as reinforcements to save other units from being overwhelmed. The fighting gradually grew nearly continuous; casualties were heavy; pandemonium seemed to reign everywhere. Artillery was overrun and recaptured. Divisions from different corps were intermixed as they were fed in as needed and available. Thomas started the battle with two of his own divisons on his left flank (Brannan's and then Baird's);

Johnson's division from McCook's Corps was rushed in to save Baird's flank; Palmer (Crittenden's Corps) then had to help out Johnson but was soon outflanked; Van Cleve (Crittenden's Corps) tried to help Palmer but was in turn forced to retreat; Reynold's division (Thomas' Corps) finally got into action but could not swing the tide; next Davis' division of McCook's Corps went in but had to be assisted by Wood's division (Crittenden's Corps). Later in the afternoon Sheridan's division (McCook's Corps) had to be used to help out Wood. During the day Thomas had asked that his one remaining division (Negley's) be sent to support his left; by the end of the day this division still had not arrived from its original position far to the right.

In all this seesaw of attack, retreat, and counterattack, there seemed very little actual gain being made — although the lines might advance and retreat up to a mile at a time. Thomas was concerned that his left flank hold firm — and at the end of the day it was still intact. There had been some near things along the line but no real breakthrough. About the middle of the afternoon, Bragg had switched his attack from Thomas' left to the the gap on his right between his men and Crittenden's. There Van Cleve's division was forced to fall back and Confederate troops were finally in the State Road. Contact was temporally lost between Thomas' and Rosecrans' headquarters as the Confederates penetrated to within a short distance of Rosecrans' command post. Here for a moment was something really serious.

Hazen's brigade of Palmer's division was replenishing ammunition when a call for help came from Van Cleve. Hazen promptly formed up his men and struck south into the enemy attack. When it looked as if his men were going to break, he quickly collected twenty cannon, conscripted passing stragglers for infantry support, and stopped the Confederates' momentum. Then more of Crittenden's men joined in and pushed the attackers back of the State Road — though the sun had nearly set before the road was again clear.

Bragg had one more blow to strike, however, before the long day was over. This was another attempt to send an attacking force around the Union's left. It was about sunset before General Cleburne's Confederates were in position. Then they came on in the gathering gloom with a sudden, screaming attack that seemed about to collapse the left hinge of the line. They pushed it back and swept around and even behind it. Thomas, on the southern end of Kelly Field at the time, heard the commotion and rushed to the threatened area, picking up Palmer's divison as he went. It was a hard-fought, confused scuffle in the dark, with troops often firing into their own men, but although some of Cleburne's men had temporarily advanced

as much as a mile, when it was over the Union line had held its position.

It was time to take stock and try to patch things up for the the next day's fighting. Rosecrans called a council of war and Thomas, exhausted from the the long day's crises after two nights without sleep, attended but nodded off until a question would be directed at him. He answered always the same: "I would reinforce the left."

There was little rejoicing among the Union generals. They had just been hanging on and they knew it. Rosecrans refused to accept Thomas's suggestion that the Union right be drawn back to Snodgrass Hill in a position at right angles to Thomas's line, which was now being heavily fortified. But this movement would have required the abandonment of a Union field hospital. In light of the events about to occur, Thomas's suggestion seems remarkably prescient.

The commanders returned to their units and the armies prepared for the long, uncomfortable night (the weather had turned cold, most of the Union soldiers were without water to quench their thirst, while some of the Confederates were shivering in uniforms still wet from crossing Chickamauga Creek). Both sides had to suffer the groans and screams of the thousands of wounded who could not be reached between the lines. Thomas lay and studied his map by the light of a fire. At 2:00 A.M. he received word that Baird's troops, now on the extreme left, did not reach as far as the Reed Bridge Road. He made a note to do something about that as soon as it was light. Now there were a few hours when sleep could, for a lucky few, blot out the confused struggles of the day past and the ominous fears of the day to come.

At 6:00 A.M. Thomas was up and again requesting that Negley's brigades be hurried to him to bolster his inadequate left flank. If he could just be assured that flank would hold, his line looked reasonably firm. He had Baird's division on the left, well in advance of the State Road; Johnson's came next, with two brigades in line and one in reserve; Palmer's division was on Johnson's right, two brigades in line and one in reserve; next was Reynold's division, which bent back to the southeast and crossed the State Road. Because his third brigade was detached, Reynolds collected about half his regiments and kept them back as a reserve. Brannan, whose division had been roughly handled on the previous day, had been pulled back as corps reserve — then moved forward again to extend Reynold's line. Brannan had two brigades in line facing south and one brigade pulled back as a reserve. Thomas' line was thus a solid one, bolstered by timber barricades in many places, and with adequate divisional reserves. There was no corps reserve, however — and the left flank was hanging in the air with no natural barrier and no reserve.

There was, however, an army reserve. It consisted of Crittenden's two remaining divisions: Woods' and Van Cleve's.

As the right wing of the army, McCook's Corps extended Thomas' line to the south with the divisions of Negley, Davis, and Sheridan, plus Wilder's brigade (previously detached from Thomas' corps). There was one other small force, commanded by General Granger, which Rosecrans had ordered left some miles in the left rear near Rossville. It was to protect the route to Chattanooga — but its commander had been waiting impatiently for orders all during the previous day. Thomas requested that this force be kept near enough to support his left flank if necessary. But no orders had been sent by Rosecrans.

With the coming of light the Confederates were scheduled by their commander to begin operations early. All Longstreet's troops (including the commander, who had arrived durring the night) were at last on the field and were placed as the south wing of Bragg's army. Polk commanded the north wing and was to begin the attack. But the usual foul-ups occurred and the attack had to be delayed until nearly 10:00 A.M.

As the sky grew light Bragg expected to hear the sound of battle from his right. He had changed his command structure after General Longstreet had arrived with the rest of his men during the night: the army was divided into two wings, with Polk commanding the right and Longstreet the left. Polk was to initiate the action shortly after daylight.

But the expected roar of guns did not occur. Bragg waited impatiently. Still no sound of guns. Finally in exasperation he sent to see what was wrong. The messenger found Polk just preparing to eat breakfast. One of Polk's corps commanders, D. H. Hill, had not been properly informed and his troops were not ready. More delay. Hours went by. It was 9:45 before the belated attack was finally launched.

Breckinridge's division led off on the extreme right. There he was met by Beatty's brigade of Negley's division (Thomas had been waiting for the whole division; he was lucky to get even the one brigade in time). Breckinridge's men poured into and around Beatty's gamely fighting brigade. With Confederate troops in front, on the left flank, and even behind them, Beatty's men were punished severely but did not collapse.

Meanwhile the attack had been expanded to include Polk's other troops. Here Thomas' men were in much better shape. Many log breastworks had been erected, and from behind them the Union men were able to stop the attacking Confederates. But trouble was fast building elsewhere.

Rosecrans had previously ordered Negley to shift to the left flank, where Thomas

wanted him. But before Negley could move out of the line, he had to wait for Wood's division to replace him. And Wood had not appeared. Learning of this, Rosecrans found General Wood and angrily denounced his failure to follow orders quickly enough. Wood moved off to carry out his orders — holding back his own feelings of anger at such a public reprimand. This little event would have terrible consequences in just a few more minutes.

A staff officer, riding along the Union line a short time later, could see no troops between Reynold's and Wood's divisions. This was serious — an apparent gap of a quarter-mile in the battle line. (There was no gap: Brannan's men were there, but back among some trees where they were hidden.) The staff officer informed Thomas of the "hole" in the line, and Thomas immediately sent the information to Rosecrans. Apparently Rosecrans did not have a clear sense of the order in which his divisions were placed, for he had the following order sent to Wood: "The general commanding directs you close on Reynolds as fast as possible, and support him."

General Wood read the order and was baffled. Brannan was to his left. Reynolds was further on somewhere. He did not see how he could "close" on Reynolds without pulling back and going around behind Brannan. Rosecrans' headquarters was nearby — it would have been easy to verify the order quickly. But only a short while before Wood had been publicly rebuked for moving too slowly. Should he delay carrying out this peremptory order to check its meaning with his commander? No, that was too much. He would obey it as literally and as quickly as possible. He started the process of moving his division out of line and to the left.

Just at this time Longstreet was preparing to send three divisions crashing into the Union right. Suddenly it looked as if the Union army had opened up a hole for them. Wood had moved out; Davis, who had been ordered to replace Wood, had not yet arrived. Longstreet saw the gap and headed his men toward it.

Meanwhile, two of Sheridan's brigades, not far to the south, had been ordered to move to the north in support of Thomas. Lady Luck had really smiled on the South. Three of Longstreet's divisions would be plunging into a gap and striking two whole divisions and two brigades of a third — all in motion to the flank.

The Confederates came on with a rush into the gap, striking the confusion of Davis', Wood's, and Sheridan's maneuvering ranks — and sending them flying. The Union line that had been so carefully preserved during the first day of battle and

up until nearly noon of the second was splintered and half of it demolished within a few minutes.

It all happened so fast nobody could do anything. In almost no time Rosecrans' headquarters was overrun, with the commander barely clearing out in time to avoid capture. Within minutes the Dry Valley Road (the only road to the rear from this sector) was crowded with fleeing men, horses, wagons, guns — all the wreckage of a defeated army in flight. To make matters worse, the the road narrowed to go through McFarland's Gap (which was the only way across Missionary Ridge in the area). So the fleeing mob jammed up in the bottleneck until nothing was moving.

Rosecrans, shocked at the sudden turn of events, rode back with the mob. At McFarland's Gap he met his chief of staff, James A. Garfield. He told Garfield to go back to Chattanooga and try to organize the retreating army to defend the city — while he himself tried to reach Thomas back on the battlefield. Garfield protested that Rosecrans should be the one to organize the defenses in Chattanooga; Garfield himself would go to Thomas with any necessary instructions.

Rosecrans, now in a nearly hopeless state of shock, agreed without argument. So he rode back to Chattanooga and a ruined military career. Garfield rode back to Thomas and later became President of the United States. Of such small decisions are careers made or broken.

Back on the battlefield Thomas' troops stood by their arms and could only wonder what all that thunder of battle on their right could mean. For the line, down along the State Road had repelled all attacks, taking a terrible toll of Confederate casualties from behind the log barricades.

Thomas himself had been keeping a careful eye on his endangered left flank. There Beatty's brigade was in perpetual danger of encirclement from its open left flank. Negley's other two brigades had been called for long before but had never showed. Then Thomas had asked that Sheridan's division be sent from the right wing to support the tottering left flank. (Rosecrans had agreed — but those were the two brigades which were just starting out when they were engulfed in the collapse of the whole right wing of the Union army. There would be no help there.)

Anxious for the arrival of some support, Thomas decided he would have to ride himself to find out what was delaying everything. He rode southward along his line, toward the terrific din of battle coming from the right. He passed the divisions of Johnson and Palmer, still

holding well in their positions. Next was Reynolds. There he found some of Wood's troops (moving to "support" Reynolds, as the Rosecrans' catastrophic order had commanded). Thomas countermanded the order and sent Barnes's brigade, the first of Wood's troops to arrive, on the run to give the much-needed support to the open left flank. That should hold the situation in the north for awhile. But what was all this din in the south — which seemed to be moving more to the west with every minute?

It was now somewhere around noon (all sense of real time had been lost; Thomas thought it was at least 2:00 in the afternoon). He was still hoping to see Sheridan's troops coming to his support. He found Harker's troops (Wood's second brigade to arrive) and stood with the brigade commander watching a host of blue-clad soldier moving toward them. That must finally be Sheridan.

But some Confederates had been seen wearing blue uniforms earlier; Thomas ordered the color bearers to wave their flags for identification. They did and a hail of bullets greeted the action. Here on the right, the "safe" wing — the ground was swarming with Confederate troops!

And here was Thomas' first knowledge of his own catastrophe about to happen. Here it must have first come to him that he alone was in command on the battlefield — with at least half the army shattered and gone heaven knew where. It was the kind of paralyzing shock that Rosecrans had been hit with a few moments before; the kind that had made Hooker a broken man when he had first seen Jackson's men appearing from nowhere on his right flank at Chancellorsville. And most men, facing such a moment, can only stare helplessly in disbelief. It is not the moment they wanted or anticipated — but it is the moment they have lived their lives preparing for.

Now the man who had defied all conventional loyalties to stay with the Union, the man who had fought so many unrecognized battles, the man who had twice declined higher command because he felt his advance would have been taken unfairly at someone else's expense — that man must take over and carry on with whatever resources his past had prepared him for.

Three nights with hardly any sleep, a day and a half of hard fighting, his own line finally secured — and now this! Now there was no time for strutting poses, elaborate excuses. Now there was only time for a man's hard inner core of character to emerge and take command.

Quickly he saw what must be done. His own front along the State Road was held securely. Something had to be improvised for the broken flank. He glanced behind him.

There was the imposing bulk of Snodgrass Hill, perhaps three-quarters of a mile away. That was where he had originally recommended the right wing of the army be placed. Now that would have to serve as the anchor for the broken wing.

But where would the troops come from? (The ones who should have been there were now racing down the Dry Valley Road toward Chattanooga.) Well, when you don't have what you need, you must make do with what you have. Thomas rode to Snodgrass Hill and took stock. Brannan's division (what was left of it — one brigade) was there. It was a beginning. He had Harker's brigade of Wood's division (which had moved north early enough to escape the rout). Hazen's brigade, which had been near the south end of the State Road line, was moved up higher on the northeastern slope of Snodgrass Hill. For the rest, there was a mass of men — pieces of regiments, individual soldiers and officers who had no unit but refused to give up the stubborn need to stand here with their grim-faced, stolid commander, who was apparently everywhere at once but never in a hurry, carrying the full responsibility but not too busy for a word of gratitude for a soldier standing to his duty.

Somehow a skeleton line was improvised on the ridge facing south — just in time to meet the first charges of Longstreet's exultant men. Firing furiously, the skeleton line held. But they knew more and heavier charges would come as Longstreet directed more of his victorious thousands against this hopelessly outnumbered few.

And that was not all. The ammunition wagons had been caught up in the wild retreat of the Union right wing — and already there were cries for more ammo. The quick search of the dead and wounded for such cartridges as they had on them had begun.

Suddenly another problem appeared. While his few units were desperately fending off attacks on Snodgrass Hill from the south, Thomas had his attention directed toward a dust cloud being raised from the northwest. It was marching men all right — but whose? If they were Confederates then the circle would be complete, all avenues of escape eradicated.

Still no one could make out what colors these men were marching under. An aide finally braved sharpshooter fire and rode toward the advancing columns. In a few minutes he was back. They were Union soldiers! Granger's "reserve" corps — the small force of only three brigades Rosecrans had ordered to stay near Rossville. Granger had waited all day on the 19th and all the next morning — anxious to be on his way to the sound of the guns. When no orders arrived he finally determined to enter the battle, orders or no orders. Leaving only one brigade to guard the Rossville gap, he was now coming with Steedman's division as fast as his men could march.

Relief flooded through the officers

watching from the ridge. The force was small — but what a welcome sight it was! These men could help fill the gap between the ridge force and the other men still down there holding the State Road line (there was about three-quarters of a mile between the two lines, and it is very difficult now to understand why the Confederates didn't simply walk through at this point. But it was far from clear terrain; trees obscured the view in many places and in the confusion of the battle this section was being largely ignored). Still — at any moment an attack there might reveal the hole to the Confederates.

But Thomas was not to be allowed the luxury of a continuous line. Before Steedman's infantry had reached their position, Thomas had an urgent call from the west edge of his Snodgrass Hill line. A mass of Confederate artillery and infantry were preparing for a grand assault. Brannan's few remaining men could not be expected to hold them again. They had been fortunate to have one regiment with Colt revolving rifles, and these men had been stopping the assaults cold with rapid fire that Confederates afterward said they were sure came from a whole division. But this new mass would be too much for them.

In a moment Thomas made the decision. Steedman was ordered to counter-march his men to the west end of the ridge and stop the assault which was now under way. Desperately he rushed his men to the threatened area. Before he could get them there the Confederates had pushed their way to the very top and had their colors planted there!

There was nothing else for it. Steedman grabbed a flag and led the charge of his men up the slope to the end of the ridge now occupied by Longstreet's men. With no artillery support of any kind, rushing helter-skelter together in a mad rush, Steedman and his men took the section of the ridge back. Then they held it as the Confederates counterattacked. The toll was devastating — nearly half the division lost in twenty-five minutes. But the ridge line had been restored.

The battle roared on. Longstreet's seventeen brigades against a scant half-dozen weakened but determined Union brigades. Slowly the sun crept down the sky — it seemed to the men it hardly moved for hours. Though the State Road line had been having a fairly quiet time of it, the men on Snodgrass Hill could hardly say the same. But at least Steedman had brought 90,000 rounds of ammunition with them — so the nearly empty cartridge boxes could be partially replenished.

About this time Garfield, Rosecrans' chief of staff, arrived at the ridge after a perilous journey. He had brought authorization from his commander for Thomas to withdraw. The orders were of little use now. To begin a withdrawal in the midst of this fight for survival would doom the whole remaining part of the army to destruction. Thomas knew his only hope lay in holding out till sundown. So he continued to ride back and forth directly behind his men, barely holding on to the ridge.

Down by the State Road line, meanwhile, the division commanders were puzzled about what to do. All sorts of rumors were flying about: the rest of the army had fled; Thomas was killed; everyone else had collapsed and left them there. What should they do? It was suggested that the senior general take command and try to get them out. But not one of the division commanders would agree to take the responsibility of starting the retreat. Thomas had placed them there and there they would stay till he ordered them out.

Finally word came. Thomas was still in command. The army would retreat in good order — beginning with the men down in Kelly Field by the State Road.

It was not an easy thing. Polk, commanding the Confederate right wing, finally got his men set for another attack — just as the pull-out started. And at the same time Longstreet's reserve came in for a final assault up Snodgrass Hill.

To make matters worse, just as Reynolds' division was leading the way out, Thomas became aware that Confederate troops had come around the left flank again and were in the space between the State Road and Snodgrass Hill. This would be truly disastrous for all the men who had to get out of the State Road line. Thomas got Turchin's brigade of Reynolds' division lined up facing their former rear and had them attack toward Snodgrass Hill. In a spirited charge the brigade cleared the area, taking 250 prisoners. The way out was now open again.

As the men who had been on the State Road cleared their forward area, those on Snodgrass Hill were also being withdrawn, some toward McFarland's Gap, others toward Rossville. It was unfortunate that the rear guard, three regiments of Brannan's division (which seems to have been in the thick of the fighting for most of the two days), had to be hit with another attack before they could pull back. They had no ammunition left — but they had to delay that charging mass coming at them. What should they do?

"Charge bayonets," Granger, the officer left in command of the rear guard, ordered. Out came the bayonets to be clamped on empty rifles. The order to advance was given, and with a cheer the men rose up and rushed down at the attacking horde. Amazed, the Confederates were temporarily stopped. But the men with empty rifles could do little else. Some, having fought their way through the Confederate line, could only turn and try to fight their way back out again. Over 200 were killed or wounded; over 500 were captured. But the Army of the Cumberland was away. The men had fought their longest day and survived — under the man they had all come to trust as the "Rock." They had not won a victory — but they had fought until the "victory" of their enemies would be an empty one.

It was a technical Confederate victory. But it marked the end of any real chance for the Confederacy to defeat the Army of the Cumberland. And a glance at the comparative casualty figures is surprising: Union, 16,169; Confederate, 18,454. Even though half the Union army was thrown into a rout (in which one would expect losses to be very high), the northerners actually inflicted much more damage than they received.

Thomas was given command of the army. And a short time later the Confederates were driven away from Chattanooga — with the help of Grant and Sherman, but with Thomas's troops winning the key victories.

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DISRUPTION TABLE

A unit has a chance of being disrupted based on the number of men in the unit and its number of casualties. The chart below gives some examples:

MEN IN UNIT	NO CHANCE OF DISRUPTION	CHANCE WITH 20 LOSSES	CHANCE WITH 40 LOSSES	CHANCE WITH 60 LOSSES	CHANCE WITH 80 LOSSES	CHANCE WITH 100 LOSSES	CHANCE WITH 120 LOSSES
500	less than 7 losses	11%	27%	42%	58%	73%	100%
1000	less than 15 losses	6	21	37	53	68	100
1500	less than 19 losses	1	17	32	48	63	100
2000	less than 26 losses	0	12	27	43	58	100

EFFECTIVENESS TABLE

ACTION	COST
Unit moved onto by routing unit	−8
Unit suffers leader casualty	−5
Unit stacked with unit that routs	−15
Unit retreats	−3
Unit causes retreat	+2
Per casualties of 5 men	−1*

* A unit with more than 600 men suffers proportionately less effectiveness loss. A unit with 900 men would lose 67% less and a unit with 1200 men would lose 50% less effectiveness.

DISRUPTION RECOVERY TABLE

Recovery from disruption is based on command control and whether or not a unit is in an enemy ZOC.

COMMAND CONTROL	NO ENEMY ZOC	IN ENEMY ZOC
.5	35%	12%
.6	40%	13%
.7	45%	15%
.8	50%	16%
.9	55%	18%
1.0	60%	20%
1.1	65%	21%
1.2	70%	23%
1.3	75%	25%
1.4	80%	26%
1.5	85%	28%

FATIGUE TABLE

ACTION	COST
Fire Combat	
Infantry and Cavalry	+4
Artillery	+6
Melee Combat	
All units	+5
Enter clear terrain	+1
Enter fields	+2
Enter woods	+3
Enter road to road square	+0 or +1 (randomly dependent on efficiency)
Fortify	+15
Per 1 operation point of double-time	+6

RALLY

Generally speaking, the higher the morale and command control a unit has, the greater its chances to rally. See chart below for examples of percentages to rally.

COMMAND CONTROL	MORALE 25	MORALE 50	MORALE 75
.7	62%	72%	82%
.8	64%	74%	84%
.9	66%	76%	86%
1.0	68%	78%	88%
1.1	70%	80%	90%
1.2	72%	82%	92%
1.3	74%	84%	94%
1.4	76%	86%	96%
1.5	78%	88%	98%

MELEE RESULTS

The attacker's modified strength is divided by the defender's modified strength to determine the odds which govern the losses and retreats from melee. The odds of 2 to 1 are considered the break-even point. The defender or attacker (not both) may retreat according to the chart below. The defender is checked first and then the attacker (provided the defender does not retreat).

ODDS	% CHANCE ATTACKER RETREAT	% CHANCE DEFENDER RETREAT
<0.3	60	10
0.3 to 0.49	50	20
0.5 to 0.99	40	30
1.0 to 1.99	30	40
2.0 to 2.99	20	50
3.0 to 3.99	0	60
4.0 to 4.99	0	70
5+	0	80

QUESTIONS OR PROBLEMS: Our main business telephone number is (415) 964-1353. We also have a Technical Support Hotline number: (415) 964-1200, which you can call if you have problems with your disk or need a clarification of the game/rules. Both numbers can be called every weekday, 9 to 5 Pacific Time.

REBEL CHARGE AT CHICKAMAUGA

Map labels:
McAFEE CHURCH
MISSIONARY RIDGE
LAFAYETTE ROAD
McFARLAND'S GAP
MISSIONARY RIDGE
DYER
CHICKAMAUGA CREEK
McDONALD
KELLY'S FIELD
JAY'S MILL
REED'S BRIDGE
SNODGRASS HILL
BROCK'S FIELD
LAMBERT'S FORD
BROTHERTON
BLOODY POND
ALEXANDER'S BRIDGE
VINIARD
LAFAYETTE ROAD
CHICKAMAUGA CREEK
DALTON FORD
LEE & GORDON'S MILL

Legend:
- Woods
- Fields
- Chickamauga Creek
- Primary roads
- Secondary Roads
- Bridge
- Ridge
- Elevation 2
- Elevation 3
- Union Objective Squares = 1000 points
- Confederate Objective Squares = 1000 points
- Confederate Objective Squares = 5000 points

OPERATION COSTS TABLE

Numbers in parentheses refer to diagonal moves — directions 2, 4, 6, and 8 (1, 3, 7, 9 on the IBM key pad). For the BASIC game, please ignore the numbers and letters printed in green. ZOC stands for zone of control, which is a wargaming term for the squares next to a unit. P = Prohibited and N/A = Not Applicable.

TERRAIN/ACTION	INF./ DIS. CAV.	MTD. CAV.	LIMB. ART.	UNLIMB. ART.
Clear	2(3)	1(2)	2(3)	P
Fields	2(3)	2(3)	3(5)	P
Woods	4(6)	4(6)	8(12)	P
Bridge [1]	1(5)	1(5)	1(5)	P
Secondary Roads [2]	2	2	2	P
Primary Roads [3]	1	1	1	P
Enter higher elevation	+6	+4	+8	P
Change mode to column, mounted, or limbered [4]	2	2	N/A	4
Change mode to normal, dismounted, or unlimbered [5]	4	4	4	N/A
Enter or leave enemy ZOC	+2	+1	+3	P
Move from enemy ZOC to enemy ZOC [6]	+8	+5	+8	P
Fortify	8	8	P	8
Reorganize	2	2	N/A	N/A
Melee (attacker)	2	2	P	P
Melee (defender)	2	2	2	2
Fire in fire phase	2	2	P	4

Notes:

[1] Units must be in column, mounted or limbered mode to enter a bridge square.

[2] Regardless of other terrain in the square, a unit that moves from any road to a secondary road pays 2 operation points unless it is moving diagonally (directions 2, 4, 6, and 8), in which case, it doesn't benefit from the road. The unit must be in column, mounted, or limbered mode to receive the road benefits.

[3] The same as Note 1 except the cost is 1 operation point.

[4] The cost for CAV ART is 2 instead of 4 to limber. All units pay 1 operation point extra to change to these modes in woods.

[5] The cost for CAV ART is 2 instead of 4. All units pay 2 operation points extra to change to these modes in woods.

[6] In order to be able to move enemy ZOC to ZOC, a unit must be moving into a friendly occupied square.

FIRE AND MELEE STRENGTH MODIFIERS

TARGET LOCATION	FIRE MOD.	MELEE MOD.
Clear	1.00	1.00
Woods	0.60	0.60
Fields	0.90	0.90
Higher Elevation	0.70	0.70
Bridge	1.00	1.00

FIRING UNIT'S LOCATION	FIRE MOD.	MELEE MOD.
Bridge	0.60	0.40
All Others	1.00	1.00

SPECIAL CONDITIONS	FIRE MOD.	MELEE MOD.
Target unit is flanked	1.50*	1.50***
Firing unit is disrupted	0.50**	0.50
Firing unit is "routing"	0.50	N/A
Firing artillery in woods to woods	0.20	1.00
Firing unit out of ammo	0.30**	0.70

MODES	FIRE MOD.	MELEE MOD.
Normal	1.00	1.00
Column	0.30	0.30
Mounted	0.85	2.00
Routed	0.50**	0.50****
Unlimbered	1.00	1.00
Limbered	0.20**	0.50****
Dismounted	0.75	1.00

* During Final Defensive Fire, the modifer is 0.5 for the flanked unit firing.

** May only fire during Final Defensive Fire and with these modifiers.

*** The flanked defender in Melee and Final Defensive Fire has a modifer of 0.50. The flanker has a modifer of 1.50.

**** May only defend in Melee and with this modifier.

NOTE: The 0.20 fire modifier given to Artillery firing from a woods square overrides the 0.60 modifier the target would receive if located in woods.

The Fire and Melee strength modifiers would support the following examples:

1. A target unit in woods on higher elevation than the firing unit would result in modifier of 0.42 (0.7 × 0.6) in the Fire Phases and the Melee Phases.

2. A target unit flanked by a firing unit in clear terrain would give the firing unit a 1.5 modifier in the Fire and Melee Phases. In the Fire Phases, the flanked unit would fire with a 1.0 modifier (if it had a target) but would melee with a 0.5 modifier.

3. An artillery unit in woods firing at a unit in woods would receive a 0.20 modifier (not 0.2 × 0.6 — the 0.2 supersedes).

ADDITIONAL MODIFIERS FOR FIRE AND MELEE

Leader Bonus: Direct Modifier. A leader with bonus of 20 would give a modifier of 1.2.

Target Density: 1% more casualties per 50 men when more than 1000 men are in the target square. 1% less casualties when less than 1000 men. Maximum modifier of 1.4.

Density of Firing Units' square: (non-artillery) If over 1000 men are firing from the square, a modifier of .01 per 50 men over this number is applied (1200 men = .96 modifier).

Fortification Level: The firing unit is penalized by 10% per level that the target is fortified. A fortification level of 5 would give a modifier of 0.5.

Effectiveness: Semi-Direct Modifier. Strength is reduced by .01 for every 2 points effectiveness is below 100. An effectiveness of 90 would give a .95 modifier.

Fatigue: Semi-Direct Modifier. Strength is reduced by .01 for every 2 points of fatigue. Fatigue of 20 would give a modifier of .90.

Command Control: Direct Modifier. A rating of 1.1 would give a modifer of 1.1.

Artillerymen: Each gun requires 16 artillerymen to fully support it. When artillery fires, it receives a modifier proportionate to the number of men it has to man its guns. A Union artillery unit with six guns would need 96 men to function fully. If it lost 19 men, the unit would receive a modifier of 0.8.

Random Modifier: Modifier of 1.3 to 1.5 determined randomly.

Unit Outmaneuvered: Firing Unit receives modifer of .5.

Successful Attack: Firing Unit receives modifier of 1.5.

Scattered Artillery Fire: Artillery receives modifier of .3.

Maximum and Minimum Modifiers: All modifiers are cumulative with a maximum of 2.0 and a minimum of 0.2.

All modifiers are cumulative as shown in the example below:

A unit firing under the conditions below would receive the indicated modifiers (all modifiers are multiplied together).

– Firer has 2000 men in square	= 0.80
– Target in woods	= 0.60
– Target has 3000 men in square	= 1.4
– Firer in column mode	= 0.30
– Firer has 75 effectiveness	= 0.80
– Firer has 15 fatigue	= 0.93
– Firer has leader bonus of 15	= 1.15
– Firer has command control of 1.3	= 1.30
– Random modifier is 1.3	= 1.30
TOTAL	0.29

A unit above with 2000 men would fire with a strength of 580. (With rifles at range one, it would kill 23 men plus a random of 7 to 11.)

WEAPON/RANGE CASUALTY TABLE

WEAPON TYPE	ABBREV.	1	2	3	4-6	7-10
Rifle	RFL	4	2	0	0	0
Spencer	SPN	8	4	0	0	0
12 lb. Napoleons	NAP	14	4	2	1	0
12 lb. Napoleons/ 10 lb. Parrotts	N/P	11	5	3	1	1
12 lb. Napoleons/ 3" Rifles	N/R	11	4	3	1	0
12 lb. Napoleons/ 6 lb. Smooth bores/ 10 lb. Parrotts	NSP	12	5	2	1	1
10 lb. Parrots/ 3" Rifles	P/R	8	5	4	2	1
12 lb. Lights/6 lb. James/3" Rifles	LJR	10	5	2	1	0

The number under the range column corresponding to the proper weapon type is the number of men suffered as casualties per 100 men firing for small arms (the top two on the list) and per one gun for the artillery. The casualties derived here are further modified by various strength/casualty values.

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