

TIGERS IN THE SNOW

INSTRUCTION MANUAL



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1.0 INTRODUCTION

TIGERS IN THE SNOW is a computer simulation of the Battle of the Bulge which took place during World War II in December, 1944. The program allows you to recreate this famous battle assuming command of either the Allied or German forces. You have the option of choosing either the computer or another player as an opponent. You can also play both sides or have the computer play against itself. The simulation contains the following features:

Detailed Terrain Map	Supply
Historical Units	Combat Readiness
Attack/Defense Strategies	Second Combat
Weather	Reinforcements/Replacements
Air Power	Fuel Limitations
Artillery	

The program gives you the option to save the game at the end of each turn. Careful attention to detail and accuracy truly makes TIGERS IN THE SNOW a tense and exciting game as Germany desperately tries to regain the offensive.

2.0 GETTING STARTED

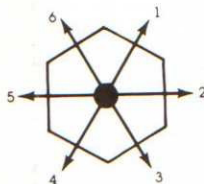
2.1 The game begins on December 16, 1944 and ends December 27, 1944. Each game turn represents one day of actual time. There are a total of 12 game turns.

3.0 SEQUENCE OF PLAY

The game has been divided into several phases. Your input into each phase depends on which forces you control. Listed below are the phases which are explained in greater detail in later sections.

A. German Player Turn

1. German Movement Phase
2. German Combat Phase
 - a. Unit selection segment
 - b. German artillery segment
 - c. Allied artillery segment
 - d. German strategy segment
 - e. Allied strategy segment



5.10 During computer movement, the following information will be displayed as shown in the example below:

ALLIED 4 INF COMBAT: 60 COMBAT STATE: 7 SUPPLIED
COMPUTER MOVEMENT PHASE
TERRAIN: FOREST * MP LEFT: 20 *

6.0 ARTILLERY

6.1 During combat, both players are given the opportunity to allocate artillery points to the battle. Each artillery point allocated adds 10 combat points to the total of the side which allocated the artillery.

6.2 There are two artillery segments during each combat. First the attacking player allocates artillery and then the defender allocates artillery. If a player does not have any remaining artillery points, the computer will skip that player's artillery segment.

6.3 After the attacker has chosen the defending unit and the attacking units, the computer will ask, "ATTACKER'S ARTILLERY PHASE (0-3)". This means that the attacker can allocate from 0 to 3 artillery points. The number of artillery points available for the attack will equal the number of attacking units or the total remaining artillery points, whichever is less. Then the computer will ask, "DEFENDER'S ARTILLERY PHASE (0-2)". At this point the defender allocates his artillery.

B. Allied Player Turn (repeat Steps 1 and 2 of the German Players Turn, using Allied units)

C. Reinforcement Phase

D. Victory Status Phase

E. Save Game Phase

4.0 ZONES OF CONTROL

4.1 The six map positions that surround a combat unit make up that unit's zone of control (ZOC).

4.2 Zones of Control affect movement, combat, and supply.

4.3 All units must expend 4 movement points upon entering an enemy ZOC. Movement from one enemy ZOC directly into another enemy ZOC costs an additional 4 movement points.

4.4 Zone of Control movement costs are in addition to terrain costs to enter the map position. A position may not be entered if a unit does not have sufficient movement points.

4.5 German infantry and Allied mechanized units must stop after entering an enemy ZOC. They are allowed to move from one enemy ZOC directly to another.

4.6 Allied infantry units must stop upon entering an enemy ZOC. They are allowed to move from one enemy ZOC directly into another enemy ZOC only in directions 4, 5, and 6.

4.7 German mechanized units may move through enemy ZOC up to the limit of their movement allowance.

4.8 Units are isolated if there are not 3 or more consecutive positions within the unit's ZOC free of enemy units. (see Supply)

4.9 The isolated supply state changes to limited supply if one friendly unit is in the unit's ZOC.

4.10 Limited supply changes to supplied if two or more friendly units are located within the unit's ZOC.

4.11 Isolated units may not attack. Supply states also modify a unit's combat strength. (see Supply)

4.12 While advancing after combat, units may retreat/advance into an enemy ZOC. Upon retreat, units entering a ZOC will lose a random number of combat points. When advancing, units must stop upon entering an enemy ZOC.

5.0 MOVEMENT

5.1 During the Movement Phase, you may move as many of your units as you desire. A unit begins each turn with a certain number of Movement Points (MP) which depends on the type of unit, weather (German only), fuel (German only), ZOC (Allied only), supply, and a random factor.

5.2 See the Terrain Effects Chart on the enclosed card. Each map position contains a specific type of terrain (i.e., forest, rough, clear, etc.). To enter each position, a unit must pay a certain number of MP (e.g. to enter a forest costs 6 MP in comparison to 2 MP for entering a clear position).

5.3 When a unit's MP reaches zero the computer will automatically end the unit's movement for that turn and proceed to the next unit. A unit cannot exceed its MP allowance. (Example: If a unit had only 1 MP left it could not enter a forest which costs 6 MP.)

5.4 A unit must pay 4 additional MP to move into an enemy Zone of Control. Movement from enemy ZOC to enemy ZOC costs an additional 4 MP for a total of 8 MP plus the cost of the terrain to enter the position (see Zones of Control).

5.5 Allied units are prohibited from leaving the map, either during normal movement or during retreat/advance. German units automatically exit the map during the Victory Status Phase if located on specific map edges and are free of enemy ZOC (see enclosed card).

5.6 No stacking (two or more units on the same map position) is allowed during any phase of play.

5.7 There is no movement phase for the German Player during the first game turn. Allied units are reduced in movement on the first turn.

5.8 When a unit moves, information will be displayed on the screen as shown in the example below. Terrain and MP will be updated as the unit is moved.

**GERMAN 277 VG COMBAT: 46 COMBAT STATE: 7 SUPPLIED
TERRAIN: TOWN * MP LEFT: 19 ***

The above information shows that the German Unit 277 VG has 46 combat points remaining, is in combat state 7 (see section 7.0), is supplied (see section 10.0), is in a town, and has 19 movement points remaining. Note: The CP value displayed during a human phase is actually 1-5 points higher than the unit's true strength (1-15 during a computer phase).

5.9 Movement is accomplished by pressing one of the numeric keys "1-6". The direction of movement corresponds to the position shown on the diagram at the lower right of the display screen (see below). For example, "1" moves your unit to the NE, "2" moves you E, "3" moves you SE, and so on. If you are finished with a unit, type "F" and its movement will end. If you are finished with your movement phase, type "E" to end the phase.

7.1 All attacking units must be adjacent to the defending unit which is under attack. Attacking is completely voluntary. As many as six units may participate in any one attack.

7.2 There is only one defending unit per attack. A unit can attack/defend only once per combat phase, except any unit that can advance 3 or more hexes (whether he actually advances them or not) may be able to attack again in the same phase.

7.3 When the human player is attacking, the computer will flash on the map, one by one, each enemy unit eligible to be attacked. For each unit indicated, the computer will display the information in the format below:

**ALLIED 4 INF COMBAT: 54 COMBAT STATE: 7 SUPPLIED
DO YOU WISH TO ATTACK ALLIED UNIT? Y/N**

If you wish to attack press "Y"; otherwise, press "N". If you press "N" the computer will continue to the next eligible unit. If you wish to end your combat phase type "E". If "Y" is pressed, the computer will display:

**GERMAN 116 PZ COMBAT: 95 COMBAT STATE: 4 SUPPLIED
DO YOU WISH TO ATTACK WITH THIS GERMAN UNIT? Y/N**

When it asks the above question, it will flash the candidate attacking unit. Press "Y" if you wish the unit to attack. The computer will scan each of the six positions around an enemy unit to be attacked. You will be given the opportunity to include any friendly units in those positions in the attack.

7.4 After all of the attacking units have been selected, you will be asked to select one of four attack strategies as shown below:

ATTACK STRATEGY:

1 = MAJOR

2 = MEDIUM

3 = LIGHT

4 = RECON

(see 9.0 for an explanation of the effects on combat.)

7.5 When the computer decides to attack, you will be asked to select one of four defense strategies shown below:

DEFENSE STRATEGY:

1 = COUNTER-ATTACK

2 = HOLD POSITION

3 = WITHDRAWAL

4 = DELAYING ACTION

(see 9.0 for an explanation of the effects on combat.)

7.6 After strategies have been chosen, the computer will display all of the attacking and defending units by name at the bottom of the screen. On the map itself, attacking units will be numbered "1-6" and the defending unit will be shown as "D". The names remain for some seconds unless you press any key to continue. The combat results will then be displayed as in the example below:

MAJOR VS DELAYING ACTION

ODD: 11.05

ATTACKER LOSSES: 0

DEFENDER LOSSES: 13

*** DEFENDER RETREAT 3 HEXES ***

(HIT KEY)

In the example, the attacker chose a "MAJOR" strategy and the defender chose a "DELAYING ACTION" strategy. The odds are determined by dividing the total attacker's modified combat points by the defender's modified combat points. In the example, the attacker lost 0 combat points and the defender lost 13 combat points. If the attacker had lost combat points in the battle, they would have been distributed evenly among the attackers according to strength. The defender is required to retreat 3 map positions or take additional losses.

7.7 The unit's combat points are modified by terrain, supply, supply state, combat state, and artillery support.

7.8 Losses are based on the attacker/defender combat points ratio (odds), attack/defense strategies, airpower (for Germans only, see 13.0), and a random factor.

7.9 During the combat phase, you may receive various messages as a result of the combat situation and/or results:

*** STRATEGY ALTERED ***

*** UNIT ELIMINATED ***

The message "STRATEGIES ALTERED" will appear occasionally and causes the strategy to be selected randomly. This simulates the "fog of war" in which orders are not always followed or carried out as expected. The message "UNIT ELIMINATED" indicates that one of the units in the battle has been eliminated.

7.10 When a unit's CP falls below 20 there will be a chance that the unit will be eliminated at any time it suffers losses in combat.

8.0 RETREATS/ADVANCES

8.1 Units may be required to retreat/advance as a result of combat. If the unit does not retreat the full number of hexes (map positions) required, the unit will suffer additional losses based on the number of retreat hexes remaining and a random factor. Pressing "F" will abort the retreat and incur the losses.

8.2 During retreat, the human player will be asked to input a direction in the same manner as in the movement phase.

8.3 If a unit retreats into an enemy ZOC, it will suffer additional losses.

8.4 Units cannot retreat off the map or onto another unit.

8.5 After all retreating units have completed their movement, the other player will have the opportunity to advance his unit(s). The first position to be moved into must be the enemies vacated hex. The advancing unit may then move into any position. In the case of the defender advancing, with more than one retreating attacker, the defender must advance first into the position vacated by the attacker closest to the number 1 position (moving clockwise). There will be no confusion on this position, as it will be the only one that the computer will allow you to advance into. If the retreating unit is eliminated, the advance result is increased by one hex. If an attacker retreat is called for, and one of the attacking units is eliminated or does not retreat the full result, the advance is correspondingly increased or decreased.

8.6 The computer will retreat/advance its own units. The computer may not advance at all times depending on a random factor and the strategic mode that it is currently in.

9.0 STRATEGY OPTIONS

9.1 For each attack both sides must chose a combat strategy.

9.2 The choice of each player will impact the number of losses on both sides and the extent of the retreat and advance. The strategy selected represents the player's commitment to the battle. The smaller the commitment, the smaller the losses. The final impact on losses is the mixture of both player's strategy.

9.3 During combat, after both sides have chosen their strategy, a message will occasionally appear: **STRATEGY ALTERED** The new strategy, which has been chosen at random by the computer, will be displayed with the combat results. The chances of receiving this message depends on the strategy selected and a random factor. The greater the commitment, the greater the chance of the options being changed. The German player has a lower chance of a change.

14.0 REINFORCEMENT/REPLACEMENTS

14.1 At the end of every turn the computer will check to see if any reinforcements are due. Those that are will be placed on the map, unless the entry position is occupied. In that case the computer will wait one turn and then select a new position. (See data card.)

14.2 A unit, beginning its movement free of enemy ZOC, will receive replacement combat points at that time.

15.0 COMBAT STATE

15.1 The Combat State of a unit ranges from 0 to 7.

15.2 A unit's Combat State is increased by one each turn. Two points are subtracted for each new hex entered.

15.3 Combat State reflects the amount of time that a unit remains in one location. It simulates fortifications, improved positions and the time needed to lay out a successful attack/defense. It also simulates the loss of unit integrity suffered with frequent and long marches.

15.4 Combat State modifies a unit's CP by 10% per point. Thus a unit with a Combat State of 5 will defend and/or attack with a strength 50% higher than its listed CP.

16.0 BRIDGES

16.1 Bridges are not physically located on the map. They are, however, reflected in the movement costs to enter a river.

16.2 Check the data card for costs to move through rivers. If a German Unit has an insufficient number of MP's to move through a river, the message **BRIDGE BLOWN** will appear.

17.0 BRITISH MOVEMENT RESTRICTIONS

17.1 British units cannot enter and thereby cross the Meuse River until a German unit exits the map.
Exception: The British 29th armored brigade may move freely.

18.0 EXITING THE MAP

10.0 SUPPLY

10.1 There are two types of supply in *TIGERS IN THE SNOW*: general supply and local supply. General Supply affects combat. The lower the level of supply, the greater the chance that the combat points of a unit will be cut in half during combat. Local Supply also affects combat. The lower the local supply state, the less effective the units combat points are during a battle.

10.2 General supply represents the overall theatre combat supply state. A certain amount of supply is made available each game turn. Supply is then consumed during combat and is a function of the unit's combat points and the combined strategies selected by the players. The more intense the combat strategies, the greater the amount of supply consumed.

10.3 As General supply is depleted, the chances of that unit not receiving supplies will increase. When this occurs, the "UNIT DID NOT RECEIVE SUPPLIES" message will appear. The unit's CP will be halved for that particular battle. Please note that a unit may be in SUPPLIED state, but not receive supplies for a given battle. This rule simulates the difficulty both sides experienced with the muddy roads and traffic jams. All units will automatically not receive supplies if the General supply is zero.

10.4 Local supply represents the state of supply of a unit based on the combat situation of that unit. It is used to reflect the fact that situation of that unit. It is used to reflect the fact that some units are harder to keep in supply because of the position and activity of the enemy. In this game, local supply is simulated by examining the six positions around a unit. If a unit does not have 3 or more consecutive positions in its ZOC free of enemy units, then that unit is considered ISOLATED. If one friendly unit is adjacent to an isolated unit, then that unit's supply state is considered to be LIMITED. Two friendly units adjacent to an isolated unit cancel the effect of isolation and that unit is again considered to be SUPPLIED (see examples). Isolated units have both movement points and combat points halved, and they are not allowed to attack. They are also not allowed to retreat, so they must pay the combat point penalty if forced to retreat. Units in LIMITED supply have their movement and combat points reduced by 1/4.

ISOLATED



LIMITED



SUPPLIED



10.5 The Allied units may have their local supply state increased by one through airdrops. Airdrops can only occur during clear or scattered weather. The Allied player has no control over airdrops. Each Allied unit is eligible for an airdrop during good weather (clear or scattered). The computer will randomly decide if the airdrop has been successful for each unit. As would be expected, the chances for successful airdrop are better during clear weather. If the airdrop is successful, the supply state of isolated units increases to limited, and limited to supplied.

10.5 Local supply is determined at the instant of movement and combat. It is possible for a unit to be isolated at the beginning of a phase and supplied by the end, or vice-versa.

11.0 FUEL

11.1 The German mechanized forces had a limited fuel supply. As German units move, Fuel points will be consumed. Fuel is also consumed during combat.

11.2 As the Fuel point allotment decreases the chances that a given unit will run out of fuel increases. When this happens the unit will receive less movement points.

11.3 Allied units have no fuel restrictions.

12.0 WEATHER

12.1 Weather is simulated in *TIGERS IN THE SNOW* to reflect the actual weather of the battle. The weather will be different each time you play the game, but it will always follow a pattern similar to the weather of December 1944.

12.2 Weather influences Allied airpower. In this game all airpower effects are a function of weather. Generally speaking, the better the weather the more effect air power has on the game (See 13.0 for the effects of airpower.). Weather is simplified to four possible conditions: CLEAR, SCATTERED, CLOUDY, and OVERCAST.

13.0 AIRPOWER

13.1 Airpower effects combat, supply, and movement.

13.2 The German player may suffer greater losses during good weather combat due to the effects of airpower. The better the weather, the greater the chances of additional losses.

13.3 Airpower can improve the Allies local supply state through the use of airdrops.

13.4 The effect of airpower on movement (air interdiction) takes the form of reduction of German unit's movement points. The better the weather, the greater the possible movement point losses.

18.1 Note the areas indicated where German units may exit the map.

18.2 German units automatically exit the map (and receive the victory points) when they are located on an eligible map edge free of enemy ZOC during a victory status phase.

19.0 VICTORY CONDITIONS

19.1 The victory status will be displayed at the end of the last seven turns of the game at the bottom of the screen.

19.2 Please refer to the enclosed card which explains how victory points are awarded and gives the victory level breakdown.

20.0 SAVING A GAME

20.1 A game may be saved at the end of each turn.

21.0 STRATEGY AND TACTICS

21.1 German Strategy

The burden of the attack is on the German player. He has very little time and cannot afford any costly mistakes. He must constantly attack at major and medium strategies to force high retreat results. If he can achieve an advance of 3 or more he is able to attack again. If there are strong panzer units in the battle, this can be a tremendous advantage.

The German's major objective is to exit a minimum of two panzer units off the Northwest or West map edges receiving 200-400 victory points per unit depending on the turn it exits and its combat strength. To be able to cross the Meuse before 12/22/44 the German must break out of the bulge with sufficient forces to cover the flanks of units about to exit (units do not receive victory points nor are allowed to exit if in an enemy ZOC). The towns of Bastogne, Marche, and Rochefort are worth sizable victory points and must be taken for any major victory to be achieved.

Bastogne is usually heavily defended. The German must decide to leave it alone and cross the Ourthe River heading for the map edge or concentrate on taking Bastogne.

Watch your fuel and supply levels as their depletion will slow and eventually stop your offensive.

21.2 Allied Strategy

For the most part the Allied player is in a defensive mode during the majority of the game's turns. The northern flank has enough units and strength to be held. The southern flank can usually be held only in the area around the 4th Division and CCR/10. Deploy units carefully in front of the German's expanding bulge to slow his advance. Avoid getting surrounded and thereby isolated.

The Allied basic objective is to deny the Germans the towns worth victory points and prevent their crossing the Meuse. Protect the map edges worth victory points. If the German manages to breakthrough, try to isolate his forward units. Counterattack where the German is weak. If possible, break through to the east edge which is worth considerable victory points to the Allied player.

Beware of retreating during combat. If the Germans are given 3 or more advance hexes they will be able to attack again.

22.0 HISTORICAL COMMENTARY

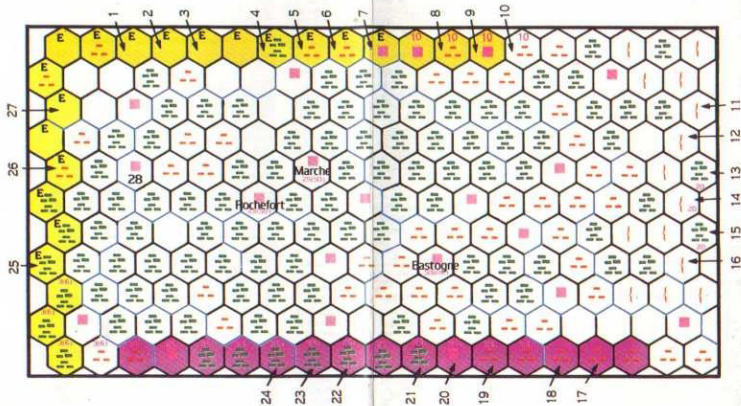
The Battle of the Bulge was Germany's last major counter-offensive on the Western front in World War II. Code-named Wacht am Rhein (Watch on the Rhine), the offensive was launched in the early morning hours of December 16, 1944. Opening the battle, the Germans unleashed a devastating artillery barrage which created havoc and confusion among the green American combat units. Outnumbering the defenders by a three-to-one margin, the German infantry quickly infiltrated many of the American outposts.

During the first two days the veteran 28th U.S. Infantry Division and the 14th Armored Cavalry Group were completely overrun. The 106th U.S. Infantry Division was isolated and expected no help. The 106th surrendered on December 19, 1944.

The stubborn defense by the 7th Armored Division of the St. Vith sector kept the German panzer units from breaking out to the west in the northern part of the battlefield. The valiant St. Vith defenders finally withdrew across the Salm River into the 82nd Airborne's sector on the 23rd of December.

By December 21st, Bastogne was encircled with the 101st Airborne, CCB110, CCR19, and other remnants holding the perimeter. Part of the Panzer Lehr and the 26th Divisions began assaulting the town. While the north and south flanks were in a stalemate, the German 116th Panzer, Panzer Lehr, and 2nd Panzer Divisions had crossed the Ourthe River and were heading for the Meuse River.

Allied reinforcements met the German advance, stopping them from reaching their goal of crossing the Meuse River. Running out of fuel and supplies, the final German offensive on the Western Front lost its momentum and came to a halt.



LOADING INSTRUCTIONS (Disk)

NEW GAME: Turn on your computer and monitor. Turn on the disk drive, and when the red light shuts off insert the game disk. Type **LOAD****, 8, 1 and press **RETURN**.

PREVIOUS GAME: Follow the instructions for a new game. In the menu selection choose **OLD GAME** as an option. You will be asked to replace the game disk with your saved game disk. Carefully follow the instructions given in the program.

LOADING INSTRUCTIONS (Cassette)

NEW GAME: Connect your cassette recorder to your computer. Place recorder at least two feet away from the monitor. Turn on your computer and monitor. Place the game cassette in the recorder and rewind the tape. Press **SHIFT** and **RUN/STOP** Keys together. Press **PLAY** on the recorder.

PREVIOUS GAME: Follow the instructions for a new game. At the appropriate time the computer will prompt you to replace the game cassette with the saved game cassette. Press **RETURN** when the saved game cassette is in the recorder and the **PLAY** button is depressed.

SAVING A GAME

DISK VERSION: When you choose to save a game, the program will instruct you to replace the game disk with a formatted blank disk. Carefully follow the instructions given in the program.

CASSETTE VERSION: When you choose to save a game, the program will instruct you to replace the game cassette in the recorder with a blank cassette. Depress the **PLAY** and **RECORD** buttons on the recorder. Follow the prompts given to you in the program.

The computer offers the option to save the game after every turn

PLAYING THE GAME

You will be required to answer the following questions:

DEMO GAME Y/N?

COMPUTER AS ALLIED Y/N?

RATING (1-9)?

COMPUTER AS GERMAN Y/N?

RATING (1-9)?

ST. VITH-BASTOGNE SCENARIO 12/16 - 12/22 Y/N?

See the Victory Conditions section on the data card for details about the St. Vith-Bastogne Scenario.

Historical ratings are 5 for both sides. Three combat points per unit are added per level above 5 and subtracted per level below 5. See the chart below.

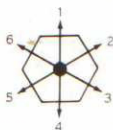
Rating Change to CP/unit

1	-12
2	-9
3	-6
4	-3
5	0
6	+3
7	+6
8	+9
9	+12

NOTE: If you save a game and wish to keep the CP unchanged be sure to give both sides a rating of 5 regardless of their original ratings when you start-up again to play the game.

The question **NEW GAME Y/N?** will appear on the screen. If you answer **N**, follow the instructions which will be displayed.

There is no German Movement Phase in the first turn, so play proceeds to the German Combat Phase. If you are playing the German you will be asked if you wish to attack a particular Allied unit flashing on the screen. The Allied unit I.D. and approximate strength will be shown. If you answer **Y** to the question, you will be given the opportunity to include or not include each adjacent German unit in the attack. You will be given the chance to attack all Allied units adjacent to German units. Press **E** at anytime to exit the combat phase completely. After the units are selected for a battle the computer will ask the number of artillery points you wish to commit (if available) and the attack strategy you wish to follow. If you are playing the Allied and you are attacked by the Computer German you will be asked to input the number of artillery points and the defense strategy. During combat you may be required to retreat or given the option to advance. Simply press the number of the direction in which you desire to move. See diagram below.



When advancing you must first move into the defender's vacated position. If you do not wish to advance or retreat a particular unit, press **F**. Retreating units who cut short their retreat have additional losses. Play now proceeds to the Allied Movement Phase. To move a unit, simply press 1-6 of the direction you wish to go (see diagram at left) as you did during retreats and advances. Pressing the **F** key for any particular unit will end its movement. Pressing

the **E** key will end the movement phase completely for all units. Play now passes to the Allied Combat Phase which is identical to the German Combat Phase with the roles reversed. Reinforcements appear on the map, victory points are assessed, and the turn ends with the option to save the game at this point.

VICTORY CONDITIONS

Each side is awarded victory points according to the following schedule:

German	Allied	Computer German	
1	1	1	per casualty point inflicted
3	0	6	per unit on south edge of map
10	0	20	per unit on north edge of map
0	20	0	per unit on east edge of map
50	0	100	each turn a unit is in Bastogne
25	0	50	each turn a unit is in Marche or Rochefort (points awarded for each city separately)
CP (16-Turn #/4)	0	CP (16-Turn #/4)	per unit exiting the map

See the map for specific locations of map edges, town, and exit position. At the end of each turn victory points are assessed. The last few turns the victory status will be displayed. Victory levels are determined by the score as shown in the chart below (score = German VP - Allied VP):

Campaign Scenario Score	Victory Status or Level	Bastogne-St. Vith Scenario Score
50 or less	Allied Strategic Victory	50 or less
51 to 299	Allied Operational Victory	51 to 174
300 to 699	Allied Marginal Victory	175 to 324
700 to 949	German Marginal Victory	325 to 424
950 to 1199	German Operational Victory	425 to 699
1200 or more	German Strategic Victory	700 or more

ADDITIONAL DISPLAYS

- "UNITS ELIGIBLE FOR SECOND COMBAT", appears just before victorious attacking units advance, alerting the player that these units will be allowed to attack again. Second combat is automatic if the attacker is allowed to advance 3 hexes. There is a 25% chance for second combat for advance allowance of 2.
- "FUEL SHORTAGE", appears when that German unit loses movement points from his allowance due to low fuel points.
- "GERMAN UNIT HAS EXITED EARNING ____ VICTORY POINTS", appears when a German unit has exited the map.
- At the beginning of each game turn the following is displayed:
ALLIED AIR INTERDICTION REDUCED
 GERMAN FUEL ____ POINTS
 GERMAN SUPPLY ____ POINTS
 GERMAN MOVEMENT ____ POINTS PER UNIT.
- A report message is displayed under the following conditions:
 - Automatically at the beginning of the Movement & Combat Phases.
 - When the "D" key is pressed during movement instead of a number for a direction.
 - When the "D" key is pressed during combat instead of the "V" or "N" keys.

The report message is displayed as follows:

	CLEAR	SCORE 9
12/16/44		
ARMY	SUPPLY	VICTORY
ALLIED	828	21
GERMAN	1577	50
		ARTILLERY
		5
		8
		FUEL
		N/A
		1023

Hit any key to exit the report message.

- "TRAFFIC JAM ON BRIDGE", appears when an Allied unit attempts to cross a river and fails to do so due to lack of movement points.

ALTERED STRATEGIES

An attacking player has some control over the frequency and timing of receiving an altered strategy. The computer keeps track of strategies you choose during a given turn. Major attacks are heavily weighted whereas Medium attacks are weighted only about 1/3 of a Major. Light and Recon attacks are weighted 1/3 of a Medium attack. The heavier your overall attack is for the turn the greater the frequency of altered strategies. After about 3 or 4 Major attacks (or equivalent thereof) a noticeable increase of strategy changes will be experienced.

UNIT ELIMINATION

The rule booklet states that when a unit has 20 or less combat points there is a good chance that it will be eliminated. In reality there is a chance that a unit may be eliminated with up to 25 combat points remaining.

MAP SCROLL

The game map is larger than one screen. Moving units will automatically cause the map to scroll. You may center the screen on a unit by pressing **6**.

TWO CYCLES

Both sides have two cycles in which to move their units. Each unit will come up twice to be moved (unless it has no movement points). You may exit at any time by pressing "E".

LOCAL SUPPLY STATES AND EFFECTS

Supply State	Defense Modifier	Attack Modifier
isolated	.5	not allowed
limited	.75	.75
supplied	1	1

ZOC MOVEMENT COSTS AND RESTRICTIONS

COSTS

4 MP — to move into an enemy ZOC

8 MP — to move from one enemy ZOC directly into another enemy ZOC

RESTRICTIONS

Allied Infantry — may only move into a ZOC if it doesn't begin its turn in a ZOC, providing it has enough MP. EXCEPTION: Movement from ZOC to ZOC is permitted in directions 1, 2, and 6.

German Infantry and Allied Mechanized — may move from one ZOC to another if they have the MP to do it. Movement ends.

German Mechanized — may move through ZOC to the limit of their MP.

ALLIED UNITS

Name	Combat Points	Date of Entry/ Entry Hex
2nd INF DIV	80	At Start
99th INF DIV	75	"
4th INF DIV	75	"
106th INF DIV	55	"
12/28 INF REG	20	"
110/28 INF REG	20	"
109/28 INF REG	30	"
9th INF DIV	75	"
CCA/9 ARM REG	45	"
CCB/9 ARM REG	35	"
CCR/9 ARM REG	35	"
14th CALV REG	30	"
CCA/10 ARM REG	40	16th/16
CCB/10 ARM REG	40	16th/20
CCR/10 ARM REG	40	16th/17
CCA/7 ARM REG	40	16th/10
CCB/7 ARM REG	40	16th/9
CCR/7 ARM REG	40	16th/8
82nd AIRB DIV	70	16th/28
101st AIRB DIV	70	16th/24
1st INF DIV	75	17th/10
30th INF DIV	70	19th/8
3rd ARM DIV	100	20th/6
4th ARM DIV	100	20th/21
43rd INF DIV British	65	20th/7
29th ARM BRIG British	45	21st/26
80th INF DIV	70	21st/20
5th INF DIV	70	21st/19
84th INF DIV	70	21st/5
26th INF DIV	55	21st/22
2nd ARM DIV	100	22nd/2
GDS ARM DIV British	100	22nd/1
53rd INF DIV British	65	22nd/27
33rd ARM BRIG British	35	22nd/3
75th INF DIV	70	23rd/25
51st INF DIV British	65	24th/4
35th INF DIV	70	25th/23
83rd INF DIV	70	25th/6

TERRAIN EFFECTS CHART

Symbol	Name	Movement Cost	Combat Modifier: ATT./DEF.
	Forest	6	1/2
	Rough	4	1/1.5
	Clear	2	1/1
	Westwall	4	German 2/2.75 Allied 1/1
	River		5/1 (to attack across) (to move across)
	German	+3 to +7	
	Allied	+2 to +5	(to move across)
	Town	3	1/2.25

ALTERNATE REINFORCEMENT HEXES

North Edge Reinforcements West Edge Reinforcements

South Edge Reinforcements German Reinforcements

1-28 Entry Hex

E Exit Hex

3(6) Victory Points -

Human

ALTERNATE REINFORCEMENT POSITIONS

If a unit's entry hex is occupied, the unit will attempt to enter on a hex located in the alternate entry hex for the appropriate map edge. The exact hex selected will be either the most northern or most western hex unoccupied.

GERMAN UNITS

Name	Combat Points	Date of Entry/ Entry Hex
277th VG DIV	55	At Start
272nd VG DIV	50	"
326th VG DIV	50	"
12th VG DIV	55	"
560th VG DIV	50	"
18th VG DIV	35	"
62nd VG DIV	50	"
26th VG DIV	65	"
352th VG DIV	65	"
276th VG DIV	55	"
212th VG DIV	65	"
3rd FJ DIV	70	"
5th FJ DIV	70	"
116th PZ DIV	100	"
2nd PZ DIV	100	"
LEHR PZ DIV	100	"
1st SS PZ DIV	115	"
12th SS PZ DIV	115	16th/13
3rd PZGR DIV	75	16th/12
150th PZ BRIG	45	16th/11
9th SS PZ DIV	115	18th/14
2nd SS PZ DIV	115	18th/13
FBE PZ BRIG	50	18th/12
79th VG DIV	60	22nd/16
15th PZGR DIV	75	22nd/14
9th PZ DIV	100	22nd/15
FGR PZ BRIG	45	22nd/13
167th VG DIV	55	24th/15

ABBREVIATIONS

INF — Infantry
ARM — Armor (Mechanized)
AIRB — Airborne
CALV — Armored Cavalry (mechanized)
FJ — Fallschirmjäger (mechanized)
PZ — Panzer (armor) (mechanized)
PZGR — Panzer Grenadier (armored infantry) (mechanized)

VG — Volksgrenadier (infantry)
FGR — Fuehrer Grenadier
FBE — Fuehrer Begleit
REG — Regiment
DIV — Division
BRIG — Brigade
BATT — Battalion
XXX / 28 — XXX regiment of 28th division
CCA — Combat Command A
CCB — Combat Command B
CCR — Combat Command R