

D-Day: The Beginning of the End - MANUAL  
Impressions Software Inc.

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Edward Grabowski's  
D-Day: The Beginning of the End  
Campaign Manual

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**WAIT!!!**

This booklet contains instructions for working only the campaign section of this game. If you are looking for instructions or an overview of the Micro Miniatures battle section of this game (where you act out battles using miniatures-style tactical combat), then you are looking in the wrong book. Turn to the booklet titled D-Day Tactical Operations Handbook -- Micro Miniatures Battle Manual for information.

If you are looking for a quick start for the entire game, or for instructions on how to install the game, then take a look at the booklet titled D-Day Technical Supplement and Tutorial.

So, if you're ready to take charge of the invasion of Western Europe, here's the place to find out how.

**INTRODUCTION**

Edward Grabowski's D-Day: The Beginning of the End gives you your chance to fight World War II in Western Europe, from the Normandy invasion to the

taking of Berlin. You control either the Allies (Green) or Axis (Gray) forces, starting on June 6, 1944; you have just under one year to defeat the enemy by capturing the opposition's cities and winning military conflicts. Play takes place at two levels: first, you move your divisions across a map of Western Europe in a turn based game at the campaign level; then when two forces meet, a Micro Miniatures battle takes place with the result having its affect on the campaign level. This game gives you the chance to rewrite history, by choosing the course that the war will take.

#### USING THE INTERFACE

Here are some notes on the interface used in this game:

Whenever this manual instructs you to "click," "left-click," "press" or "select" an item from the game screen, it means that you should move the mouse pointer to that item and press the left mouse button.

Additionally, you can repeatedly select an item without having to click repeatedly by pointing to it, then clicking the right mouse button and holding the button down.

In some parts of the game, you will need to enter text (usually for a name) using the keyboard. Whenever this occurs, a small area of the screen will be blanked out and a small black cursor will appear; you can then type. The Backspace, Delete and Insert keys can be used to edit the text; press the Enter key or click the left mouse button when you are done.

Some menu options can be toggled between two different settings; these are marked with an arrow graphic. When one of these options is displayed in a menu, the setting shown is its current setting; if you click on the option the menu will disappear and the option will switch to its other setting.

Some parts of the game will call up a query panel, which is a small gray rectangle which lets you

quickly answer yes/no questions. This panel will generally appear directly under your mouse pointer, with the pointer centered on the "default" answer. To respond to this panel, simply click on the "Yes" or "No" option.

## CAMPAIGN OVERVIEW

Here is some information you need to know when playing this game:

Goal of the Campaign -- The game begins on June 6, 1944, when the Allies landed at Normandy, and continues until May 3, 1945, when Berlin fell. The status of the war is measured using the victory bar, which maintains a pointer between "G" (Germany is beaten by the Allies) and "A" (Allies are beaten by Germany). At the beginning of the game, this pointer is at the center of the bar; it takes eighty points to move the pointer from the center of the bar to one of its ends. Points are scored according to the following table:

Each battle won	1
Each city captured (First time)	5
Each city captured (Second time)	4
Each city captured (Third or subsequent times)	3
Each HQ destroyed	1

Each time one of the objectives is attained, the successful side gains that many points while the other side loses the same amount (so the taking of an HQ results in a net change of 2 points on the victory bar.)

For victory, the Allies must try to move the victory bar to the "G" end before the game ends; likewise the Germans must try to move the pointer to the "A" end. If neither side can move the pointer all the way to one end of the victory bar within the time allotted, the Soviet Union will take Berlin and the side who has the best position on the victory bar

will be technically declared the winner. (These victory conditions can be adjusted if you like; see the section titled Victory Conditions below.) Also, if at the end of two weeks the Allies do not have any land units on mainland Europe (anywhere but England), the victory will go to Germany.

**Starting Positions** -- Both sides have the same set of victory conditions -- to push the pointer as far as they can towards their end of the bar. However, the Allied player starts in a strategically superior position: he has battleships, more planes, and somewhat better quality soldiers than the German player. He also gets more resource points to spend on improving his forces as the game goes on. The German player has the foreknowledge of where the Allied attack will be taking place -- Normandy -- so he can plan his strategic response with that certain information, and already has fortifications in place. The German player can also build new divisions anywhere he controls, while the Allies can build new divisions only in England (and later in the game, in Italy.)

**Campaign Map** -- Most of your efforts will take place on a scrolling campaign map, which represents Western Europe from England to the eastern border of Germany. This map is made up of a grid of squares; the grid is used to control where and how far your units can move at any given time. This map consists of several types of terrain, which affect the movement of your forces and the battles that take place in them.

**Units** -- At the campaign level, your forces are represented by small square symbols called units. These represent all the types of combat groups you have at your command. There are four basic types of units: Ground Troops, Air Forces, Transports, and Special Units. You control the activities of your forces by giving movement commands and special orders to each individual unit.

There are six types of ground troops: Infantry, Tanks, Artillery, Mechanized Infantry, Mechanized Artillery, and Paratroops. Each division is moved

separately, but will fight together when they are in the same location or close to it. You create more complex fighting forces by keeping several divisions in the same map square, so that they will fight their battles as one, although there is a limit to how many units you can have in one square. (When attacking the enemy, you can pull in forces from squares adjacent to the battle as well. You cannot do this when defending.)

There are four types of air forces: Fighters, Fighter-Bombers, Bombers, and Night Fighter-Bombers. Air forces cannot directly engage ground troops, but they can provide indirect support for their army by bombing enemy units from the air. They can also bomb other targets such as enemy cities. Fighters can shoot down enemy bombers menacing your troops or ground installations.

There are two types of transports: Trains and Transport Ships. Transports allow you to move your forces quickly, but are restricted to only the appropriate types of terrain (track and water, respectively). Each transport unit can only carry one unit at a time. To obtain more transports, each side needs to spend resource points (see below).

There are four types of special units: Battleships, Engineers, Supply Units, and Headquarters. Battleships cannot carry troops, but they can provide indirect support for the army by shelling enemy units. Engineers can build and repair ground structures. Supply units are essential for keeping your troops supplied with food and ammunitions. Headquarters are where your generals stay.

Ground units can be "stacked" in the same map square, but no more than five deep. Air units may also be stacked up to five deep, and an air unit stack can be placed on top of a ground unit stack.

Army Organization -- Your forces are organized in terms of Armies and Divisions. Each division can be given a unique nickname for easy identification, if you like.

**Resource Points** -- At the end of every month of game time, each side gets resource points to spend on improving their forces. Both sides have a base level of resource points available each month, which is increased by the number of cities under their control. Resource points can be used to train and equip more divisions, build more transports, or build more useful items such as planes.

**Other Losses** -- Over time, you will gradually lose men to disease, desertion, training accidents, and other non-combat problems. Some losses are unavoidable, but you can keep the level as low as possible by keeping your troops well-supplied and rested. Tired and starving divisions will lose more men off the battlefield as well as on.

**Personalities** -- Each of your generals starts out with two combat ratings -- attack and defense -- which affect the performance of the troops under his command. As an additional option, you can choose to give your generals personality traits that will have further effects on their soldiers. Also, some personality types are more obedient than others -- if a general is given an order contrary to his nature, he may choose to disobey rather than follow it, adding a further level of unpredictability and challenge to the game. If the personality option is turned off, only the combat modifiers will apply -- all your generals will be obedient.

**Difficulty Options** -- There are four options that increase the difficulty and challenge of the campaign game. First, under the Options menu on the main campaign screen is the Easy Mode option. If this is toggled on, the computer will not play as well as it can. If this is toggled off, the computer will play more intelligently. Second, adding Personalities will add difficulty to the game. The other two options are Fog of War (which limits your visibility, so that you can only see enemy units when they are close to you) and Unit Supply (where you must maintain supply lines through enemy territory to keep large divisions fed and equipped). These latter two options are covered in a chapter at the end of this manual.

**Historical Events --** As an option, the game will display reports at the end of some turns marking key events of the real war in Western Europe during WW2. These do not reflect your progress in the game, but can be used to gauge your skills relative to the historical participants.

**Sequence of Play --** The game is turn based, where each turn represents half a day. There is a night turn and a day turn. During the night turn, the screen will dim. You always get to go first, whether you play the Allied or German army. In each turn you can do the following:

**NOTE:** If the concepts and features mentioned in the list below are confusing to you now, don't worry. They will be explained in the chapters that follow.

Scan the campaign map for incoming enemy divisions.

At the start of each month, spend resource points to improve your forces.

Combine, split and reorganize divisions as needed to best suit your current strategic plans.

Move divisions across the map to intercept enemy divisions, defend your cities or capture enemy cities.

Give special orders to your pieces, to allow them to fortify positions, board transports, destroy structures, and bomb targets.

Use transports (transport ships and trains) to move divisions more quickly.

Resolve any conflicts that you begin, either through Autoplay or a full Micro Miniatures battle.

After you have completed your actions for the current turn, you press the End Turn button at the bottom of the Control Panel (marked with an "L" on the diagram in the Campaign Screen chapter) to let the enemy respond to your moves. If his forces engage yours, then screens will appear to allow you to resolve the battle. The game continues in this way until the victory conditions are met or it



becomes May 3, 1945.

## UNIT INFORMATION

These are characteristics shared by all types of units:

**Unit Owner** The color of each unit indicates its owner: either green for the Allies, or gray for the Germans.

**Unit Type** There are fourteen types of unit that can appear on the map: Infantry, Tanks, Artillery, Mechanized Infantry, Mechanized Artillery, Paratroops, Engineers, Battleships, Fighter Planes, Fighter-Bombers, Bombers, Night Fighter-Bombers, Trains, Transport Ships, Supply Depots, and Headquarters. The accompanying diagram shows what each type of unit looks like.

Put Icons screenshot here, with labels.

These unit types break down into four larger categories: ground troops, air forces, transports, and special units. Details about each type of category are given below.

**Movement Points** Each unit has a certain number of movement points in a turn. These points are spent when moving across the campaign map, with each type of terrain costing a certain amount of movement points to cross. Movement points cannot be saved from one turn to be used in the next.

In addition, there are characteristics that are specific to each type of unit, as specified below.

## Ground Troops

Infantry, Tanks, Artillery, Mechanized Infantry, Mechanized Artillery and Paratroops are your Ground Troops. Each division is a separately controllable part of your forces. (Technically, Engineers, Supply, and Headquarters are all ground troops as well, since they can fight in an emergency. But their primary use is not for fighting, so they will rarely be better than poor quality in combat.)

A division can hold up to 48,000 men per unit, but generally this only happens (if ever) with infantry divisions.

**Number of Men** This represents the number of soldiers in the division; over the course of the game this figure is affected by reinforcement, battle losses, disease, desertion and troop reorganization.

NOTE: For artillery, this rating always refers to the number of guns in the division (each weapon requires multiple men to operate it). However, since the men assigned to each artillery piece are always grouped together, this has no effect on gameplay. Similarly, the number of men listed for a Tank division is actually the number of Tanks present.

**Quality** This represents the average level of expertise held by the men in the division; it is affected by experience earned on the battlefield. There are five levels of quality: poor, average, good, very good, and elite. (Under some circumstances you may see an "elite +" rating, but this will only show up on the Micro Miniatures screen.)

**Weapons** The men in each division use one of several types of weapons available to

your forces; each weapon type is assigned to a percentage of the division. You have a small amount of control over what weapons your divisions carry, but the computer assigns most of them. The weapons for the British and US divisions will differ but will be about equivalent.

Weapon names and ranges are listed in the back of the Micro Miniatures Battle Manual.

**Special Orders** Each division can complete one of a handful of special orders during a turn, allowing them to fortify a position, board ships, board trains, or destroy structures. (Note: tanks and artillery can't fortify.)

**Status** Each division can be in one of four states: Ready (has movement points left this turn), Move Complete (has spent all movement points this turn), Disrupted (has been disorganized by a defeat) and Has Fought (has engaged in battle this turn). A division's status will also change to indicate when it is Tired or has a Supply Shortage, which is indicated on the Division Detail screen.

**Supplies** (Note: This option only applies when the Unit Supply option is turned on - see the Difficulty Options chapter at the end of this manual for details.) This is a special characteristic that is not displayed directly on the screen; it keeps track of a division's connection to its supply line. When a division is in supply trouble, and the Poor Supply display option is turned on, it will be marked with a white "S."

**Army** This indicates the army to which this

division has been assigned. Assigning divisions to specific armies is strictly optional.

**Division Number** This indicates the order of divisions within the unit's chosen army. Division numbers are given and controlled by the computer.

## Transports

When moving your forces, you can use trains and ships to move troops quickly. Trains move only on railroad tracks, but move three times as fast as non-mechanized infantry can on clear terrain. Ships allow you to move troops down rivers (to avoid rough terrain) and across the sea (to avoid all obstacles).

Each train or ship can only carry one unit at a time. The special orders "Board Train" and "Board Ship" are required to use transports. You can use the Division Detail screen to find out which unit (if any) a transport is carrying (see the Viewing Statistics and History chapter for details).

These are the characteristics of transport units:

**Loaded** This indicates if a division is currently loaded into this transport. It also indicates if the transport is in the process of loading a division.

**Weapons** For transport ships and trains, weapons are not applicable.

**Special Orders** Transports do not have any available special orders.

**Status** Each transport can be in one of two states: Ready (has movement points left this turn) and Move Complete (has spent all movement points this turn).

## Air Forces

Air Forces can assist your armies by bombing enemy units or installations, or by shooting down enemy planes over your own territory or units. There are four types of planes available: Fighters, Fighter-Bombers, Bombers, and Night Fighter-Bombers. Fighters are good for shooting down enemy bombers (or other enemy fighters) but can't carry bombs. Bombers can carry the heaviest loads of bombs to drop on enemy targets but are poor dogfighters. Fighter-bombers can both fight and bomb but don't do either as well as the more specialized planes, and Night Fighter-Bombers are specially equipped to bomb effectively in the dark when other planes are less useful.

## Special Units

Special Units provide specialized services for your army. There are four types of special units: Battleships, Engineers, Supply Units, and Headquarters. Battleships can give your ground units indirect support (if they are close enough to the shore) by shelling the enemy. Engineers can build and repair ground installations and disarm minefields without taking damage from them. Supply units are required to keep your forces from starving or running out of ammunition. Headquarters allow your generals to command their troops more efficiently. These last three groups all have soldiers in them who can fight, if necessary, but they will never be better than poor quality fighters.

Each special unit has its own characteristics.

**Battleships:** Battleships can give indirect support to ground troops by shelling enemy units during a fight. A battleship can hit any area within four squares of its position, and may support multiple ground combats in a single turn.

**Supply Units:** Supply units are useful only if the Supply option is enabled. These units can supply all

divisions within five squares of their position.  
(See below for detailed supply rules.)

**Headquarters:** Units within five squares of a headquarters benefit from the attack and defense modifiers of the general at that HQ. If the Personality option is enabled, troops within that area are also affected by the personality of the general.

**Engineers:** Engineers can build and repair structures, and can clear minefields safely. If a group of engineers are attacked while they are building something, and they win the battle, they can continue with their project uninterrupted. If they lose, they will have to begin again from scratch.

When you select an Engineer group to give it orders, a new gray panel appears on the bottom of the campaign screen control panel with four buttons: Airport, Harbor, Minefield, and Repair. Click on the project you want the engineers to begin. To get your engineers to build a Fort, click on Fortify in the Special Orders box.

It takes an Engineer unit three turns to repair any damaged structure. The time it takes an Engineer unit to build a structure varies, according to the following table:

Harbors	14
Airports	10
Forts	4
Minefield	2

s

## CAMPAIGN SCREEN

While playing the campaign level of the game, you spend most of your time looking at the campaign screen. This can be broken down into four sections: Menu Bar, Information Bar, Display Window and Control Panel. These are each described below.

Insert Screen Shot #1: Main Campaign Screen Here.

## Menu Bar

This is the higher of the two bars running along the top of the screen; it allows you to access many of the game's features from four pull-down menus. The names of these menus are printed along the menu bar; to access one of them, simply click on its name on the bar and the menu will appear below. (Keyboard Note: You can also access a menu by typing the underlined letter in its name.)

You can select an option on any menu simply by clicking on it, or by typing the first letter in the name of the option.

For reference, the four menus and their options are listed below. See the following chapters for information on each option.

### FILE Menu

- Save -- Saves the current game.
- Load -- Loads a previously saved game.
- Restart Game -- Starts the battle over.
- Exit to DOS -- Exits the program.

### OPTIONS Menu

- Map Scroll -- Changes the scrolling speed when displaying the battlefield.
- Game Speed -- Changes the speed at which battles occur.
- Display Detail -- Toggles high and low graphic detail.
- Fog of War -- Toggles the optional visibility rules.
- Sound FX -- Toggles sound effects.
- Tunes -- Toggles music.
- Unit Supply -- Toggles the optional supply rules.
- Quickfight -- Toggles the quick setup of forces at the start of Micro Miniatures battles.
- Easy Mode -- Toggles the computer AI from easy to difficult.

**Input Result** -- Allows you to directly input battle results of Micro Miniatures battles.

**Personality** -- Toggles on to give your generals individual personalities.

**Combine Groups** -- Redistributes weapons and equipment for an even mix instead of grouping by type in Micro Miniatures battles.

**Victory Conditions** -- Click to bring up the Victory Conditions screen.

### **STATS Menu**

This menu has no options, but selecting it automatically accesses the Campaign Statistics screen (listing the overall sizes of both forces).

### **MAP Menu**

**Place Name** -- Toggles the display of city names on the campaign map.

**Country Name** -- Toggles the display of country names on the campaign map.

**View Owner** -- Toggles the display of "A" and "G" markers to denote ownership of each city.

**Supply** -- Toggles the display of a white "S" on top of each division whose supply line is cut (Note: this applies only to games where Unit Supply is active.)

**Disrupted** -- Toggles the display of a white "D" on top of each division that is disrupted.

**Aircraft** -- Toggles the display to show either both ground and air units, just air units, or just ground units.

**Ground Change** -- If toggled on, the screen display will change with the weather.

Otherwise it will remain the same throughout the game.

Finally, the current date of the conflict is displayed at the right end of the Menu Bar.

### **Information Bar**



The bar below the Menu Bar displays two pieces of information: the full name of whichever unit is currently selected appears to the left; if the unit is a division then its division name, army name and army commander are displayed. The current weather on the map is listed to the right; this weather will affect the outcome of Micro Miniature battles occurring in the current turn. Weather can be one of four types: Dry, Wet, Fog and Snow. The current season affects the weekly weather appropriately. The Ground condition is also displayed on this bar. There are four types: Hard, Soft, Muddy, and Snow. The ground condition affects the movement of some of your units (see "Terrain", below).

### Display Window

The left hand side of the screen contains a Display Window which can be scrolled to view any area of the campaign map. The terrain of this map (including hills, forest, rivers, seas, railroad tracks, and cities) is displayed here, and each unit is displayed as a small green or gray square. Cities appear as a small cluster of streets and buildings (all sizes of cities look the same), Airfields appear as a cluster of buildings with runways, Minefields are represented by a white capital "M", and Ports (harbors) appear as cities with a white anchor symbol above. (The Normandy beaches also have anchors showing that they can be used as ports, but they are a special case.) Depending on how the Map Options are set (see the menu descriptions above), the map will also display place names, country names, the owners of each city, and sometimes other markings to indicated the condition of your troops (limited supply, disruption, and so forth.)

If the currently selected unit (the one to which you can give orders) is located within the Display Window, it will be surrounded with a white rectangle. Its name will be shown in the information bar and its statistics shown at the top of the control panel (see below).

If there are multiple units "stacked" in the same

location on the map, the unit on top of the stack will be marked with a slim black shadow along its left and top sides. If a stacked unit is selected, the white rectangle surrounding the unit hides the stack shadow -- use the "<S>" indicator in the top-right corner of the Control Panel to identify the stack.

You can use the scroll bars along the right and bottom sides of the window to change its view. To use a scroll bar, do one of three things:

- 1) Click on the scroll box inside the scroll bar, move the mouse in either direction, and click again to release the box.
- 2) Click in the gray spaces to either side of the scroll box to move it towards where you clicked.
- 3) Click on the arrow buttons on either end of the bar.

One final option here is the GRID button, located where the two scroll bars meet. Press this button to display a grid across the display window; this lets you measure the distances between units and other features on the campaign map.

## Control Panel

The Campaign Control Panel on the right side of the screen displays information about the currently selected piece, and contains icons for accessing most of the controls of the game. (It is completely different from the Control Panel used in the Micro Miniatures level of this game.)

NOTE: Some icons are only available for use in particular control modes and with particular types of pieces; in these cases, the icons will disappear or their names will be grayed out to signal that they do not work.

The function of each icon and data display are described below:

NOTE: For reference, the numbers on this

diagram are used throughout this manual when these commands are mentioned. They are also duplicated in the Reference Card included in your game package.

- A) **Micro-Map:** The black rectangle in this green rectangle shows what area of the campaign map is shown in the Display Window. Clicking on a location on this map will shift the Display Window to it.
- B) **Unit Statistics:** Lists several statistics for the selected unit.
- C) **Movement Points:** Pressing this button displays the costs needed for the selected unit to move in each of the eight possible directions. The number next to this button shows the selected unit's current store of movement points.
- D) **Select Next/Previous Unit**
- E) **Men in Square / Division:** Pressing this button lists the total number of men (including those from other units) in the square containing the selected unit. If a division is selected, the display next to this button shows number of men in it.
- F) **List Divisions:** This button accesses a screen that lets you to view, combine and split your divisions.
- G) **History:** This button accesses a screen listing the battle history of the war.
- H) **Status Display:** Displays the current status of the selected unit.
- I) **Special Orders:** Displays which orders, if any, are available to the selected unit. Pushing the buttons to the right chooses an order.
- J) **View City Owner:** Toggles the display of "A" and "G" squares to identify the owners of each city on the map. These letter-square will obscure your view of any divisions in those cities; however if the selected unit is in a city it will be shown.
- K) **Aircraft:** Toggles the display to one of three modes: showing both aircraft and ground units, showing just aircraft, and showing just ground units.
- L) **Disrupted:** Toggles the display so that a white "D" appears on top of any disrupted units.
- M) **Supply:** Toggles the display so that a white "S" appears on top of any units that are not being supplied. (Only works if Supply option is enabled.)

N) Reinforcement: Takes you to the Reinforcement screen and the continent overview map.

O) End Turn: This button ends the current turn and gives control to the other side.

Insert control panel as close to this list as possible (similar to the way it was done in the Blue and the Gray manual.

## About the Following Chapters

The next several chapters cover the different controls available at the campaign level.

### VIEWING THE CAMPAIGN MAP

You can only see a small portion of the entire campaign map through the display window; naturally you will want to see more than this. Here are the ways you can do this.

**Moving the Display Window --** There are several ways to move the display window. The first is with the keyboard:

- arrow keys - moves one map-square in the direction of the arrow

- page up - moves up half a screen

- page down - moves down half a screen

- home - moves left half a screen

- end - moves right half a screen

Secondly, you can click on the green Micro-Map (A) in the top-left corner of the Control Panel to move the display; for reference, the black rectangle shows the area that is currently shown in the display window. If you want to scroll smoothly over the campaign map, you can hold down the right mouse button and "drag" the mouse over the Micro-Map.

Thirdly, you can also use the scroll bars as described in the Campaign Screen chapter.

**Campaign Overview Map --** If you would like to see an overview of the entire campaign map, you can find one on the Reinforcement Screen. To get there, press

the Reinforcement (K) button at the bottom of the Control Panel.

This map shows the terrain of the entire campaign map (excluding railroad tracks and waterways), and all of the cities in the game. Cities are colored green and gray to indicate which side controls them. You can use this map to figure out which side has the upper hand regarding territorial gains.

#### RESOURCE POINTS

As the war progresses, you will lose troops in battle, to disease and to desertion. You will also lose planes, ships, trains and so on. Fortunately, you can replace lost men and material and build new divisions and weapons through spending Resource Points.

Resource points arrive at the start of each new month. They can be spent immediately, portioned out over the month, or saved over several months. You can use resource points to "buy" men to replace combat losses, or to form new divisions. You can also use resource points to buy new planes, transports, and so forth, if you desire.

Each month, both sides get a certain base number of resource points (the Allied base amount is higher than the German base amount.). This total is adjusted for the number and size of cities each side controls. For every large city held, each side gets 2,000 additional resource points; for every medium city, 1,000 points; and for every small city, 500 points. These city point totals are reduced when the city is bombed.

To spend your resource points, you need to access the reinforcement screen by clicking on the Reinforcement button (N) on the campaign screen.

#### The Reinforcement Screen

The Reinforcement screen is split down the middle, with the campaign overview map on the left and a control panel on the right. The campaign overview map shows all of the cities on the game map, and

shows who owns them by color. Click on a city on the map to bring up a box showing that city's name, size, and current resource level. The reinforcement panel contains features that are explained in the sections that follow.

The menu bar and information bar are still displayed at the top of the screen, but serve different functions. The menu bar contains the following options (listed by menu heading):

**About** Displays the version number of your copy of the game.

**Events** "On this Day" toggles the reporting of historical events. "Run Events" lets you review all of the historical events in sequence.

**Map** "Cities" toggles the display of cities on the map. "Front Line" toggles the display to show you which cities are within three squares of the enemy.

**Organization** Directly accesses a screen where you can check the personality and combat ratings of your generals.

The information bar indicates whose turn it is to move.

## Campaign Reports

There are two important reports that appear only on this screen: they are the Victory Bar and your Organizational Breakdown. They are located in the reinforcement panel.

**Victory Bar** -- This shows exactly who is winning the war, based on the criteria described in the Campaign Overview chapter. It is a horizontal bar at the top of the control panel, with a gray "G" at one end and a green "A" at the other. An "arrow" pointer located somewhere between the "G" and "A" and a text message below the bar indicate who is winning.

The pointer determines the lengths of the German and Allied sides of the bar; the force with the longer

bar is leading the game. Therefore, if the pointer is closer to the "A" (for Allies), then the bar on the "G" side is actually longer, making them the winner. Victory is declared when the pointer is moved entirely to one end of the bar, eliminating the loser's side of the bar.

NOTE: In other words, the arrow pointer is closer to the force that is losing the war.

Additionally, the arrow points in the direction of the pointer's last movement, so you can see which way the war is heading.

Organizational Breakdown -- The bottom of the control panel displays the organization of forces on either side, broken down into the following categories: army, division, and men. You have control over the number of men and the arrangement of armies and divisions (using the List Divisions and Form Divisions screens). The listings for men at the bottom of the breakdown are best used for comparing the sizes of the two forces.

### Available Resources

In the center of the reinforcement screen is a box labeled Resources. Inside this box you can see the resource points you have available to spend. Just below that is the box you use to specify how much you want to reinforce your current divisions by (see below.)

### Reinforcing Existing Divisions

New recruits can be added to existing divisions to bolster their numbers. You do so by first choosing a percentage by which each division should be expanded.

Example: If you choose to reinforcement by ten percent, then a division of 2,000 men will be assigned 200 additional men (since 200 is 10% of 2,000).

To select a percentage, use the up and down arrows

to alter the percentage displayed next to "Increase" in the Resources box.

When you have the percentage you want, press the Reinforce Divisions button just below it to actually order the assignment of troops. The Organizational Breakdown will immediately show the increase in the size of your forces.

Reinforcements are distributed to one division at a time, moving from one end of the division list (which is maintained by the computer) to the other. If you do not have enough resource points to reinforce all of your divisions with the current percentage, the command will reinforce some divisions fully, and ignore the rest.

### Creating New Divisions

As an alternative to reinforcement, new recruits can also be used to create entirely new divisions. (This is also known as forming divisions.) These divisions are identical to existing ones, except their size, affiliation (the army to which they belong) and starting location are chosen by you. The Allies can only build new divisions in England (and after August 14 they can build divisions in Italy), while the Germans can build divisions anywhere they can reach.

To access this feature, press the Build Divisions button just above the Organizational Breakdown. This accesses the Form Divisions screen, where divisions are built. You can also build new trains, ships, and so forth from this screen. The chart on the left side of the screen displays the statistics of a prospective division, listed as follows:

**Division Type:** Displays the type of unit to build.

**Men <Cost>:** Displays the number of men to be assigned to this division and the cost in resource points.

**Resource Available:** Displays the amount of available resource points.



**Cost per Unit:** Displays the amount purchasing the current unit will cost you in resource points.

**Weapons:** Displays the weapons the unit will be using (if applicable.) You can toggle the main weapon type for some units with the arrow at the right.

**Quality:** Displays the quality the unit will start with.

**Army:** Displays the army to which this division will be assigned.

**Army Commander:** Displays the commander of the army to which this division will be assigned.

**Location:** Displays the city at which this division will be formed. You can only choose those cities which you controlled at the start of the game and which you still control.

To build a new division, complete the following steps:

- 1) Click on the arrows next to Division Type to choose the type of unit to build.
- 2) Use the arrows next to Men to select the number of men to be assigned to the new division. The cost in resource points will be shown in brackets next to the total. (Note: You can change this figure rapidly by pressing and holding down the right mouse button.)
- 3) Optionally, you can choose a specific army for the division using the arrows next to that heading.
- 4) If you want, you can select the main weapon(s) for the division (if it's the sort of unit that has weapons) by clicking on the arrow(s) to the right.
- 5) Use the arrows next to Location to select a city at which the division will be formed. This must be a city which you controlled at the start of the game and which you still control.
- 6) Press the Build button at the bottom of the reinforcement panel to actually create the

division.

You can repeat this process as many times as you like, until you run out of resource points to spend. When you are done, press the Finished button at the bottom of the screen to return to the Reinforcement screen.

**NOTE:** New divisions appear on the campaign map as soon as they are created, but they do not have any movement points until your next turn.

### Resource Costs

The following table shows how many resource points it will cost you to build each type of unit:

Infantry	1 per man
Paratrooper	3 per man
Engineer	10 per man
Tanks	25 per tank
Artillery	20 per gun
Mechanized Infantry	7 per man
Mechanized Artillery	30 per gun
Supply Depot	2 per man
Transport Ship	10,000
Train	5,000
Bomber	175
Fighter-Bomber	125
Night Fighter-Bomber	140
Fighter	100

Headquarters cannot be built; they are created automatically when a new army is started. Battleships also cannot be built as they take too long to complete.

### Organization

Selecting the Organization option from the menu bar accesses the Organization screen, which can be toggled between two displays. The first display names all twenty of your armies and shows their commanders. To change the name of the army, click to the left of the hyphen and type in the new name. To change the commander's name, click to the right of

the hyphen and type in the new commander's name.

If you want to see what the personalities and combat ratings of your commanders are, click on the Reveal Personality button. (Note: Doing this may well take some of the surprise and challenge, and therefore the interest, out of the game, so be sure you want to know before you look.) If you want to change a commander's personality or combat rating, click on the statistic you want to change and cycle through the choices until you find one you like.

The personalities are as follows: Brash, Glory Hound, Aggressive, Independent, Loyal, Determined, Casualty Cautious, Defensive, and Cautious. Loyal generals will rarely disobey, while "Cautious" may not attack when you want him to and "Glory Hound" may attack even if you order him not to! If a unit decides to disobey you, you will receive a message to this effect when you try to move the unit. The unit may also move and even attack on its own initiative.

Click on Default to change the generals' statistics to their historically accurate settings, and click on Randomize to change them randomly so that you no longer know exactly what to expect from each general. (If you select Randomize, you will return to the Reinforcement screen without seeing what the new personality and combat values are for your generals, to preserve the mystery.)

If you want, you can also adjust the personalities and combat ratings of the generals on the other side of the war by clicking on the Opposition button and altering the settings in the same way as above.

### Exiting the Reinforcement Screen

When you are done using the Reinforcement screen, click on the Give Orders button at the bottom of the screen to return to the campaign level.

### SELECTING AND MOVING DIVISIONS

Your primary task on the campaign level is to move your divisions, ships, planes and trains over the

campaign map. This process is straightforward; first you select a unit, and then you select a location adjacent to it where it should move. (These commands are identical for both divisions and transports.)

### Selecting a Unit

To select a unit, simply point to it and press the right mouse button. The unit will then be highlighted on the map with a white outline, and its vital statistics will be listed on the Control Panel. This unit can then be moved using the instructions below.

**NOTE:** Make sure you use the right mouse button to select units; if you use the left one, you may end up moving the currently selected unit by mistake.

Selecting "Stacked" Units -- Up to five ground units and five air units can be stacked onto one square of the campaign map; if the currently selected unit is stacked on top of other units, an "<S>" marker will appear in the top-right corner of the Control Panel.

You select other units in a stack by right-clicking repeatedly on it. Each time you click, the next unit in the "stack" will be selected. If there are more than two pieces in a stack, a panel will pop up listing the units in that stack. Click on the unit you want to select. To move rapidly through a large stack, use a rapid double-right-click.

Using Next/Previous Unit -- The computer maintains a list of all of your units on the campaign map; as an option you can step through all of your units using the Select Next/Previous Unit (D) buttons on the Control Panel.

### Moving a Unit

Having selected a unit to move, all you need to do is click with the left mouse button on a square adjacent to its current location and the unit will move there -- if it has the movement points (see

below) to cross that terrain. You can repeat this process until the selected unit has run out of points.

Alternatively, if you want to move a unit across a longer distance quickly, you can left-click further away from the selected unit's current location. The unit will move as close to the selected location as it can, until it runs out of movement points or encounters the enemy. If the unit encounters the enemy, it will stop in an adjacent square so that you can attack them or undo the movement (see below).

**NOTE:** Use this command carefully, as the unit will not turn to avoid rough terrain on its own. You will have best results if you click in multiple locations to "guide" the unit around obstacles. Note also that you cannot use this command in conjunction with stack mode. Stacks must be moved one square at a time.

**Movement Points --** Different types of units have different movement points available. In general, infantry moves the slowest and planes move extremely quickly. The following table shows the movement points of the various units:

**Ground Troops:**

Infantry, Artillery	4
Tanks, Mechanized Infantry, Mechanized Artillery	8
Paratroops	4 (see below)

**Transports:**

Transport Ships	10
Trains	12

**Special Units:**

Engineers, Headquarters, Supply Units	4
Battleships	10

**Aircraft, Allied:**

B-26, B-24, B-17, Lancaster, Mosquito	90
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Bombers/Night Fighter-Bombers; P-51 Fighter	
Boston A-20 Bomber	82
P-47 Fighter-Bomber, P-61 Night Fighter- Bomber	80
Typhoon Fighter-Bomber, Spitfire Fighter	40

Aircraft, German:	
HE 111, JU 88 Bombers	90
Focke-Wulf 190 Fighter/Fighter-Bomber	39
Messerschmit Fighter	28
Me 110 Night Fighter-Bomber	44

**Fighting and Movement:** In general, engaging in a combat ends a unit's ability to move any further that turn; the rest of its movement points are used up in the battle. Tanks are the one exception to this, as they are very fast and maneuverable. Tanks may engage in a combat and then continue to move as usual until their movement points are gone.

**Paratroops:** Paratroopers operate under a special movement rule when they begin in England. From there, you can select them and then drop them anywhere in France or Germany. However, they cannot be dropped with absolute precision -- they will arrive somewhere within two squares of the selected landing point. If they land in the water or on an enemy unit, they will be destroyed, so be careful. Once on the ground, they move as normal infantry until they are returned to England, from where they can once again be dropped.

**Zone of Control --** Each unit has a Zone of Control which restricts the movement of enemy pieces in the squares directly adjacent to the square the unit itself occupies. You may move freely into and out of an enemy unit's Zone of Control (if you have the movement points), but you may not move from one square within a Zone of Control to another square in that same Zone -- you will have to move out and then move back in again in your new position. This makes it difficult to quickly circle around an enemy unit. (Planes have no Zone of Control.)

**Movement Costs --**  
 These points are spent when crossing various types

of terrain, and can only be spent during the turn in which they are given (i.e. they cannot be saved for next turn).

Each type of terrain has its own cost in movement points, listed below:

Terrain Type	Divisions	Trains	Ships
Railroad	2	1	X
Sea	X	X	2
River	4	X	2
Land	2	X	X
City (any size)	2	2	2
Port	2	2	2
Hills	4 (8*)	X	X
Forest	4 (8*)	X	X

\* Motorized units (Tanks, Mechanized Infantry, Mechanized Artillery) are slowed by wooded areas much more than other units.

Naturally, trains can only travel on railroad tracks; they cannot spend movement points on anything else. Likewise ships can only travel on rivers and seas. However, both trains and ships start out in city squares and can reenter them at will.

For planes, all types of territory cost one movement point.

Ground conditions (displayed on the information bar) can drastically affect the movement cost. On Soft ground, artillery is slowed to 4 points per square. On Mud, both tanks and artillery are slowed. On Snow all ground units are slowed to 4 points per square.

Minefields are a special type of terrain which appear as a white "M" on the campaign map. Any ground unit except an Engineer unit which moves into a minefield will suffer an immediate 5% casualty loss. (Note: This loss cannot be recovered with the Undo command!) An Engineer unit may move into a minefield without taking damage. Any unit that is in

a minefield may disarm it if given the special order "Destroy Structure."

To help you decide where to move, click on the Movement Points (C) button at the top of the Control Panel or press the "P" key. Numbers will appear surrounding the currently selected unit, indicating the cost of moving into each of the eight possible directions. Impassable locations will be marked with an "X".

**Movement Hints** -- Since all units in one square will fight a battle as one large force, you will tend to keep several units in the same square and move them into the same locations at the same time. To this end, you may want to use the Men in Square (E) button on the Control Panel (or the F6 key) to see the total size of this massed force. Also, when moving units in stack mode, if you try to move a stack into a space that is already occupied and the total number of units will be greater than five, the stack will not move.

**Fatigue** -- if your men are moved around too much without rest, they will get tired. A unit becomes tired when it is moved. If the unit is moved again the turn after it gets tired, it will lose a higher percentage of men to non-battle casualties. To rest a unit, simply don't move it or attack with it for one turn. A resting unit can still defend itself if attacked.

### Undoing Moves

If you make a move by mistake, or make one that you want to change, you can undo the move by typing the "U" key on the keyboard. This takes back the last movement that you made on the campaign map.

### Transports (Trains and Transport Ships)

Each side has access to trains and transport ships, which can be used to move troops more rapidly than they can on foot. (Note: Battleships cannot move troops!) Specifically:



Trains can move across the railroad network covering most of the campaign map; however they can be blocked if a section of the railroad system is destroyed by a division, is held by an enemy unit, or is an enemy city.

Transport Ships have the advantage of crossing the sea and avoiding all obstacles and land-going threats. They can carry troops across water, but only pick them up and drop them off at ports (harbors.)

Trains and transport ships are moved using the same commands that you give to divisions. Each train or transport ship can carry one division at a time. You load and unload a division onto one of these transports by issuing special orders; see the following chapter for details.

To see which division (if any) a transport is carrying, select it and then access the Division Detail screen (see the Viewing Statistics and History chapter for details).

## SPECIAL ORDERS

There are four special orders that can be given to your divisions during a turn; they allow you to use ships and trains for transporting individual units, or to complete the strategic tasks of fortifying positions and destroying railroad tracks.

All four of these orders (plus the neutral selection "None") are displayed in the Special Orders (I) box in the bottom third of the Control Panel. If an order is unavailable to the currently selected unit, it will be displayed in gray text instead of black.

To give a special order, select the appropriate unit (see the previous chapter for details) and click on the small circle next to the order of your choice. If the order is available to the selected unit, and the unit has the movement points needed to complete the order, then it will be done.

A unit cannot move while completing an order.

The four special orders, and their restrictions, are:

**Fortify** This order allows a unit to build barricades which will provide additional protection during a battle. These barricades will appear in any future battles involving that unit, until it moves from its current location; then the barricades will disappear and are not available to future battles in that location. Units which can fortify include: infantry, mechanized infantry, paratroops, engineers, headquarters, and supply dumps.

**Restrictions:** This order will be completed at the start of the enemy's next turn. The selected unit must have all of its movement points to complete the order.

**Board Ship**

**Board Train** If a unit is on a square and an unloaded train or transport ship is also there, the appropriate one of these commands will allow a unit to be carried by the transport. Select the appropriate order to load, and the unit will be loaded onto the transport; it will lose the remainder of its movement points for the turn, and gain no more movement points until it is unloaded. The loaded train or ship can then be moved in the player's next turn; note that you select the transport to move, not the unit it carries.

When you want to unload your unit, click again on the appropriate special order to deselect it; the unit will be able to move on its own

starting next turn.

**Restrictions:** Remember that these transports can only carry one unit at a time.

**Destroy Structure** This command allows you to demolish useful ground installations such as railways, airfields, and ports. To use this command, simply move a unit onto the square containing the object to be destroyed and give the order. If the installation is a permanent structure, an "X" will appear over the destroyed object at the start of your next turn. If the installation is temporary (such as a minefield) it will simply disappear. Trains will not be able to move on damaged tracks, ships will not be able to use damaged ports, and so on. A structure remains damaged until it is repaired by an Engineer unit.

**Restrictions:** This order can be given to any unit type. The selected unit must have all of its movement points to complete the order.

## ORGANIZING AND TRANSFERRING DIVISIONS

As the war rages, you may find that you have one large division that you would like to split into two independently moving units; or that you have two or more small divisions that you would like to combine into one larger, stronger one; or that you want to use the optional organizational commands to distinguish between different aspects of your plans. All of the commands for completing these tasks are detailed below.

To access any or all of these commands, you must first press the List Divisions (F) button near the top of the Control Panel; this accesses the Division Detail screen where all of the commands are located.

Located on the left side of the screen is a detailed report on the division that was last selected on the campaign screen. To select other divisions, click on the Next and Previous buttons at the bottom of the screen.

The tasks available to you here are:

**Splitting a Division** -- If the selected Division is big (i.e. contains tens of thousands of men) three buttons will appear at the bottom of this screen: 50%, 34% and 25%. You can press one of these buttons to split that percentage of the original division off into another, separate division. This allows you to spread your forces across a larger area, and therefore control more territory.

**Combining Divisions** -- If a Division is too small, you can combine it with another division of the same type. To do this, you must first move the two divisions into the same map-square. Then, access this screen and select one of the two divisions; the Transfer button should appear at the bottom of the panel to indicate that a transfer is possible. Press this button, and then use the Previous and Next buttons to select the target division (the one to which you will transfer this division's men). Press the Yes button to complete the transfer, or press Cancel to cancel the transfer at any time.

When units of different levels of quality are combined, the quality ratings for the two divisions are averaged. Therefore, be careful when combining small high-quality divisions with larger poorer ones, so that you do not lose the high ratings.

**Changing Army Affiliation** -- If you want to associate the selected division with another army, press the Change Army button located beside the Army Name in the report; then select a new army from the list that appears. The division will now be under the command of a different general and different combat adjustments and personality traits will apply.

**Disband Division:** You can disband a division if you

choose, but you do not get their resource points back.

## VIEWING STATISTICS AND HISTORY

There are four ways that you can view statistics on your divisions: by looking on the Control Panel; by pressing the Men in Square button; by accessing the Division Detail screen; and by accessing the Campaign Statistics screen. Additionally, you can review the history of your war via the Battle History screen, and compare it to the historical events of the actual war. Each of these features is explained below:

**NOTE:** Definitions for the statistics mentioned below are located in the chapter titled Unit Information.

**Control Panel --** The Control Panel shows the following statistics for the currently selected unit, listed from top to bottom:

- Unit Statistics (B) Unit Type  
" <S>" (if the unit is stacked with others)
- Terrain Under Unit
- Movement Points Remaining
- Quality (for divisions and planes only)

- Men in Division (E) Approximate number of men in the selected division (Note: This is for divisions only.)

- Status Display (H) Current Status

- Special Orders (I) The current order is highlighted with a red circle.

**Men in Square --** If you have several divisions in one square at a time, you can find out their total strength (in numbers of men) by selecting one of them and pressing the Men in Square / Division (E) button on the Control Panel. (Keyboard note: You can also use the F6 key.)

Detailed Division Information -- If you want to see a full list of your divisions, click on the List Divisions (F) button on the Control Panel. This accesses the Division Detail screen (as discussed in the previous chapter) which displays a complete report on the currently selected division, including:

- Division and Army
- Army Commander
- Division Type (or Transport Type)
- Number of Men (approximate, not applicable to transports)
- Quality (not applicable to trains)
- Weapons (not applicable to transports)
- Carrying (for transports carrying a division)
- Map Location
- Nearest City
- Current Orders
- Current Status

You can step through your divisions (as well as ships and trains) by clicking on the Next and Previous buttons at the bottom of the screen.

Campaign Statistics -- If you want to see the total number of men active and lost for both sides of the war, you can do so by selecting the Stats option from the Menu bar. This displays the Campaign Statistics screen, which lists the number of men active in each division type, and the total number men lost, for you and the enemy.

### Viewing Enemy Divisions

When an enemy division appears on the campaign map, you cannot immediately determine its actual size. This means that small divisions can be used by your enemy to "bluff" you into devoting large forces to defend against them. Additionally, you can tell when divisions are "stacked" (by looking for the slim black shadow below and to the left of a unit), but you cannot tell how many divisions are in an enemy stack.

You can "scout" these units by sending a division to

attack them. When the battle begins, you will receive the full number of active enemy troops; however, if Fog of War is turned on, you can only gain accurate counts of active troops by actually making all enemy troops visible to your pieces (see the Micro Miniatures Battle Manual for details).

## Battle History

You can access a scrollable list of the last 100 battles fought in your war by clicking on the History (G) button located next to the List Divisions button on the Control Panel. A button at the bottom of the screen toggles between displaying the Victor or Losses for each battle. The bottom of the screen also lists total cumulative losses for the war, and losses attributed to disease, desertion, supply losses and so forth.

## Historical Events

From the Reinforcement Screen you can toggle the display of Historical Events which recount the key happenings in the actual war. These events will be reported on the day the events occurred. This toggle command is located in the Events menu on this screen

As an option, you can also run through all of the historical events, to receive a capsule summary of the entire war. To do so, select the Run Events option from the Events menu.

## AS TIME GOES BY

Many aspects of this game are keyed to the passage of time. These aspects are discussed in the sections that follow:

### Ending a Turn

When you have spent all of the movement points that you want to spend in a turn, and you have taken all of the strategic actions that you want to take in that turn, you end it by pressing the End Turn (L) button at the bottom of the Control Panel. This passes control to the enemy, who then gets to move his pieces and perform actions as you have. A turn

is half a day, so a full day does not pass until both the night turn and the day turn have been played.

When the next turn begins, all of your units (except those being carried by transports) will regain their maximum numbers of movement points. Also, structures will be destroyed, built, or repaired as is appropriate.

### At the End of Each Month

When each month ends, each side gets a new fund of resource points. These points may be spent immediately, held for use during the month, or held over many months, as you see fit.

### Other Losses

As time passes, you will lose troops to disease, desertion, starvation (if using the supply option), training accidents and so forth; for game purposes these statistics have been combined in the generic statistic "Other Losses."

Troops are lost at the end of each battle, due the failure of your medics to save soldiers injured in the fighting. Additionally, a small random amount of men are stricken with disease and lost at the end of each month.

### Ending the Game

The game ends when either the main victory bar has been pushed all the way to either end of the bar (see the Campaign Overview for details on what actions affect the victory bar), or when the May 3, 1945 arrives. If you reach that time in 1945 with no clear winner the Soviet Army will reach Berlin, and a technical victory will be granted to the side which moved the pointer on the victory bar the furthest. (As an option, you can change this so that the game continues past this date; see the section below on Victory Conditions Options.)

When you complete the game, the victor will be



declared. Additionally, you will receive your campaign rating, a map showing the final positions of all forces and the option to see the battle history one last time.

**Campaign Rating** -- In addition to declaring a victor at the end of a game, the computer will rate your performance on a scale of 0 to 160. This rating is based on the position of the pointer on the Victory Bar at the end of the war, so it is more meaningful when the game is won by default (and the pointer is not completely shifted to one end of the bar or the other).

### **STARTING A BATTLE**

When you want to engage your enemy in battle, all you need to do is move one of your divisions into the same map-square with one of the enemy's divisions. This signals the computer that you want to attack. The computer will immediately display a query panel asking you to confirm the action. If you say yes, you are then given the opportunity to enter a name for the battle (the computer will default to the name of the city closest to the battlesite).

Naturally, you will want to attack with more than one division at a time; therefore when you attack an enemy, you will be given the option to allow each of your divisions located adjacent to the battlesite to join the fight. A query panel will appear for each appropriate division. A query panel will also appear for each battleship or plane that is in position to lend indirect support to the battle.

**NOTE:** This is why you will often want to move several divisions as a group; when you want to attack the enemy with all of them, you use one to start the attack and order the rest to join the fight.

The defending player will fight with all of his divisions that are located in the map-square you attacked. He cannot ask adjacent units to join the fight.

**Indirect Support** -- When you initiate a battle, you

can call for indirect support if you have the appropriate units nearby. Battleships can shell enemy units if they are within four squares of the battle site. Planes within five squares can give indirect support through bombing or strafing. Both battleships and planes can support multiple ground combats in one turn if they are in the right position to do so.

**Important Note:** Indirect support is not precise, so any barrage will tend to do some damage to your own troops as well as to the enemy, although the enemy will take more than you do. The effects of this can be minimized through careful targeting of the indirect fire on the Micro Miniatures Battle screen.

**Being Attacked --** The above rules work identically for your enemy. Therefore, it is best to keep all divisions of a defensive army in the same map-square at all times, since the defending side of a battle cannot call in divisions from map-squares adjacent to the battlesite.

**Auto-Win --** Some extremely lopsided battles will be written off as "foregone conclusions." If the disadvantaged side is badly outclassed in numbers or quality (or both) and if there are very few total troops on the disadvantaged side, the advantaged side will be automatically granted the victory.

**Autoplay --** Not all battles have to be fought using the Micro Miniatures system; the Autoplay option on the Micro Miniatures Control Panel allows you to quickly calculate the outcome of a battle so you can return to the campaign level. See the Micro Miniatures Battle Manual for details.

**Quickfight --** If you want to fight your battles using the Micro Miniatures system, but would rather not go through the process of setting up your troops, you can turn on the Quickfight Option from the menu bar. When this option is active and a battle begins, your troops will be arranged in formation and a short distance away from the enemy; they also will have orders to fire and engage at

will. The battle will start in "all" control mode, so that one click of the mouse will move all of your troops towards the enemy.

See the Micro Miniatures Battle Manual for explanations of the features mentioned above.

**Movement Points** -- After you have fought a battle, the movement points for all of the attacker's units are used up for that turn. The defender's units are free to move in the next turn.

### At the End of a Battle

The following rules apply to the end of a battle:

**Winning a Battle** -- If you win a battle, all enemy units will retreat from the battle site. If you were attacking, you will need to decide which of your lead units will move in to occupy the square, assuming you had more than one unit in the square that initiated the attack. Upon winning the battle, you will be shown a panel and be allowed to choose which of your units to move in. The default option is for all of the units that initiated the attack to move in. If you were defending the battle site, you will remain in your location. If you win a battle, and you suffer less than half of the level of casualties that you inflicted on the enemy, then there is a small chance that each of your divisions involved in the battle will increase one level in quality.

**Losing a Battle** -- If you lose a battle, or order a retreat, you will fall back away from the battlesite. If you were attacking, you will retreat in the direction you came from; if you were defending, then you will retreat away from where your attacker approached.

**Disruption** -- If your troops lose the battle decisively, they may be disrupted. A disrupted unit cannot move in the turn after it is disrupted; the men need time to reorganize. While disrupted, they can defend themselves if attacked, but they function with a lower morale temporarily.

**Retreat and Surrender --** When a division is forced to retreat, there is usually only one location on the campaign map where it can go. If the division was attacked, this location is directly away from where its attacker approached (i.e. if attacked from the northeast, a division must retreat to the southwest). If the division was the attacker, this location is the map-square from which it attacked.

If this location is blocked, then retreat is impossible. A division which is blocked in this way is forced to surrender to the enemy; when this happens the division and all of its men are eliminated from the game. The computer will tell you that the division has been routed when this occurs. A unit with very low morale may surrender instead. The effects of routing and surrendering are the same -- the entire unit is lost.

There is one exception to this rule: if the losing side in a battle has any other divisions adjacent to the battlesite, they can rescue the cornered forces and bring them to their map-square.

Players should consider the rules of surrender when attacking. Backing the enemy against a lake or the sea is the simplest way of cutting off their escape route. Also, if you can move a division to block the site of a retreat, then you have the potential to eliminate an enemy force completely with one successful battle. (Since the "cut-off" division is adjacent to the battlesite, it will still be able to join the fight.) Fast-moving tanks and mechanized units are best equipped for maneuvering behind the enemy.

**Disbanding --** If one division exits a battle with less than a particular number of men, then it will disband from low morale (a small division feels it cannot protect itself in the field). Therefore it is in your best interest to combine small divisions with other ones, so that they do not disband in a future battle.

The threshold for disbanding (number of men below

which it will occur) is different for each type of division:

Division Type	Disbanding Threshold
Troops	less than 250
Tanks	less than 10
Artillery	less than 3

Note: A Headquarters will also disband if the entire army it commands is wiped out.

#### AIR FORCES IN COMBAT

Planes can contribute to a battle in three ways: they can bomb enemy cities and units directly; they can offer indirect support during a ground battle by bombing the opposition as they fight; and they can dogfight with each other. Not all types of planes can do all of these things, however.

Each aircraft unit starts out with hundreds of planes in it. It will lose planes in each engagement, either from dogfights with other planes or from anti-aircraft fire from the ground troops. It can be reinforced with new planes like any other division to replace battle losses. Because there are so many planes in a typical aircraft unit, destroying one completely is difficult. Squadrons don't disband.

**Strategic Bombing:** Bombers, Fighter-Bombers, and Night Fighter-Bombers can bomb cities and enemy units directly. (Only cities and units are acceptable bombing targets; you can't bomb ships, trains, railroads, etc.) An enemy unit that is bombed will lose men; a bombed city will lose resource points. To send a bomber on a bombing run, select the bomber unit and then left click on the target to be bombed. Since bombers have very long ranges in general, they can reach most targets on the map. The bomber unit will bomb its target, and then return to its home base the next turn for refueling. A bomber can only make one bombing run per day; it must spend the other half-day in the hangar. Unless its orders are changed, a bomber squadron will automatically return to its designated

target every other turn.

Regular bombers are at a disadvantage bombing at night -- they bomb cities only half as effectively, and enemy units (which can hide) only one-quarter as effectively. Night fighter-bombers do not have these penalties.

If a bomber's target moves (if it is a unit) or is destroyed (if a city), the bomber will continue to make runs to that point until its orders are changed. Similarly, if a city is captured by your troops, bombers which are assigned to that city will keep returning to it until reassigned, but will not drop bombs.

Bombers are very susceptible to being shot down by enemy fighters in a dogfight (see below.) To keep your bombers from taking a lot of damage, you can assign a fighter escort. Place your fighter(s) in the same stack as your bomber(s) and target the entire stack to the bomber's target site. If your bomber is engaged by enemy planes, the fighter escorts will assist in the battle. Note: They must be in the same square as the bomber to escort. They cannot give escort help from adjacent squares.

**Indirect Support:** All planes, bombers and fighters, can offer indirect support to a ground battle if they are within five squares of the battle site. Bombers will bomb enemy troops and fighters will strafe. However, a bomber engaged in an active bombing run (i.e. a bomber targeted to a square containing an enemy city or unit) cannot provide indirect support to a ground combat at the same time. If you want to use your bombers for indirect support, you should send them out to a location that is above your own troops or into a nearby unoccupied space. A bomber that is appropriately positioned can offer support to more than one ground combat in the same turn.

**Dogfights:** Planes can battle each other in the skies. Plane battles are started just as land battles are, by moving a plane into the same map-square as an enemy plane. Unlike land battles, you

cannot order planes in adjacent map-squares to join the fight. The only result of a dogfight is a loss of planes; you can't force a squadron to "retreat."

Dogfights are automatically resolved by the computer, using the planes' attack and defense ratings and quality. Bombers dogfight very badly and will always lose to fighters and fighter-bombers. Straight fighters dogfight better than fighter-bombers.

## GAME OPTIONS

The following game options are available from the FILE Menu on the Menu Bar.

- Save        Saves the current game using the Directory Window (see below).
- Load        Loads a previously saved game using the Directory Window (see below). Saved games may be in either campaign or battle mode.
- Restart Game   Starts the game over.
- Exit to DOS    Shuts down the program.

Directory Window -- This window appears when you save or load files. Its features are:

- AutoSave     See below.
- File Window   Click on a file in this window to select it for loading or saving.
- Up/Down Arrows   If there are more files than can be shown in the File Window, press these arrow buttons to view the rest.
- Filename      Click here to edit the current selection for saving or loading.
- Save/Load     Press this button to save or load the selected filename. You may be asked to confirm this action.
- Cancel        Exit without saving or loading.

AutoSave -- As a battle progresses, the game will be silently saved at regular intervals as AUTOSAVE.SAV.

This can be switched off from the Directory Window by clicking on its arrow button.  
**CONFIGURATION OPTIONS**

The following configuration options are available from the Options menu on the Menu Bar:

- Map Scroll** The speed at which the map will scroll; 10 is fastest.
- Game Speed** The speed at which a battle progresses; 10 is fastest. On fast machines (particularly with local-bus graphics), lowering this speed will give you time to react to the enemy's actions. This applies only to Micro Miniatures battles.
- Display Detail Controls** the level of detail shown for battlefield scenery. At Low level, game-time and scrolling are faster. This only applies to Micro Miniatures battles.
- Fog of War** See the chapter titled Difficulty Options.
- Sound FX** Toggles sound effects on and off.
- Tunes** Toggles music on and off.
- Unit Supply** See the chapter titled Difficulty Options.
- Quickfight** Toggles the Quickfight option; see the chapter titled Starting a Battle.
- Easy Mode** Toggles the computer's AI between easy and difficult.
- Input Result** Allows you to enter the results of Micro Miniature battles by hand (in case you prefer to play them out on a conventional map.)
- Personality** Toggles the personality modifiers for your generals on or off.
- Combine Groups** Mixes the weapons and units for the Micro Miniatures battles so that they are evenly distributed instead of clumped together.



Victory Conditions Brings up the Victory Conditions panel. You can use this to change the victory conditions of the game, if you wish.

## VICTORY CONDITION OPTIONS

On this screen, you can set the victory conditions for your current game to whatever level you find interesting. Clicking on the Default button will return all values to the ones stated in this manual.

There are three ways to earn points toward victory: Combat Victories (winning battles), Capturing HQs, and Capturing Cities (which in the default version are worth less each time they are taken due to cumulative damage from the fighting.) You can use the arrow keys to the right of the box to adjust the score earned for each of these events between zero and ten.

The other victory conditions which can be adjusted are as follows:

**Effect Result by City Damage:** If set to No, you get full points for taking a city no matter its conditions. If Yes, your point score for taking the city will be reduced by the same amount that the city's resource level is reduced to. (In other words, if the city has been bombed to 80% before you take it, you will get only 80% of the maximum points for the capture.)

**Success Bar:** If set to Yes, the game ends when either side moves the arrow to the end of the success bar. If set to No, the game will keep going after this point (the Success Bar will still be displayed regardless.) When the success bar option is turned on, the Max Points displayed on the success bar can be set to any number between 80 (the lowest possible) and 1,000. The larger the number on the success bar, the longer it will take to achieve the victory.

**City Capture:** This option only applies to the

Allies. If it is set to No, then no single city's capture will end the game. If set to Yes, you can then select a city (such as Berlin or Paris) whose capture by the Allies is an automatic Allied victory.

End by 3rd May 1945: If this option is set to Yes, the game will end on the historical date of the fall of Berlin. If the option is set to No, the game will continue on past that point.

#### DIFFICULTY OPTIONS

If you desire more strategic challenge from this game, then we suggest you try activating one or both of the two difficulty options: Fog of War and Unit Supply. These add further levels of realism and complexity to the game. Each option is described below:

##### Fog of War

This game option adds the challenge of visibility to the game. When it is turned On, enemy units will not appear on the campaign map until they are within two squares of one of your units. You will therefore need to scout enemy territory for incoming troops; this is a job best done by small fast divisions.

This option also affects the Micro Miniatures level of the game; see the Micro Miniatures Battle Manual for details.

##### Unit Supply

This game option adds the logistical challenge of maintaining supply lines for your large armies as they move deep into enemy territory. When it is activated, you will need to position small divisions throughout the map that will pass fresh men and supplies to further from your home soil. A unit that is without supply for two days (four turns) will start to have problems. The rules of unit supply are detailed in the following paragraphs:

Supply Units -- Your forces are supplied with food, ammunition, and medical supplies by Supply Units. A

unit must be within five squares of a supply unit to be supplied. As supplies are used up, the supply unit's reserves are depleted (listed as "men".) When the supplies ("men") are all gone, the supply unit vanishes. Supply units can be resupplied by "reinforcing" them as if they were a regular combat unit.

**Supply Starvation** -- Once a division has begun to starve, at the end of every turn in which it is without supplies, its starvation factor will increase. A certain percentage of the men in that division will die from starvation, based on this factor. Therefore, the longer a division remains without supplies, the faster its soldiers will die.

As soon as supplies are restored to a division, its starvation factor will reset to zero and the losses will stop.

**Winter Penalties** -- The loss of men due to starvation is doubled in winter (from December to March).

**Other Effects** -- When a division is starving, the following effects are present as well:

The division cannot get reinforcement of troops from the option on the Reinforcement screen.  
If the Supply display option is turned on, the campaign map will indicate units in supply trouble with a white "S."  
The message "Supply Shortage" will appear on the List Divisions screen as part of the unit's Status.

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Edward Grabowski's  
D-DAY: THE BEGINNING OF THE END  
Impressions Software, Inc.  
Micro Miniatures Battle Manual

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**WAIT!!**

This booklet contains instructions for working only the Micro Miniatures battle section of this game. If you are looking for instructions or an overview of the campaign level of this game (where you guide the course of the entire invasion of Western Europe), then you are looking in the wrong book. Turn to the booklet titled D-Day Strategic Operations Handbook

(Campaign Manual) for information.

If you are looking for a quick start for the entire game, or for instructions on how to install the game, then take a look at the booklet titled D-Day Technical Supplement and Tutorial.

If you're ready for a battle, read on.  
**MICRO MINIATURES OVERVIEW**

What follows is a brief overview of using the Micro Miniatures battle system.:

**Goal of the Game --** In this battle system, you issue orders to a miniatures-style army on a scrolling battlefield. Each of your "pieces" can be controlled individually, or in groups; they also have intelligence of their own and sometimes counter your orders to respond to more immediate dangers. When playing a Micro Miniatures battle, your goal is to reduce the enemy's army to less than 50% of its original strength. When this has happened, the winner will be declared.

Additionally, the computer player may decide to retreat when its losses become too great. The likelihood of this increases once you eliminate more than 25% of its original strength.

Trains, Transport Ships, and Battleships do not appear on the Micro Miniatures battle screen (although you may see indirect fire from your battleships exploding on the screen if they are being used to support the fight.) Planes of all types will appear, and the bombers will drop bombs, but you cannot control the planes directly.

Of the other nine types of units, Infantry, Mechanized Infantry, Paratroopers, Supply Units, Engineers, and Headquarters are all classed as Infantry pieces (although as on the Campaign level, some of these will be much poorer fighters than others). Artillery and Mechanized Artillery are classed as Artillery, and Tanks are simply Tanks. There is also a special non-fighting piece called a Landing Craft which appears only when a beach

landing is being made.  
Insert screenshot of four types of pieces  
(icons.pcx)

Sequence of Play -- Here is a brief outline of how you fight a Micro Miniatures battle. If you have not played a Micro Miniatures game before, you may be unfamiliar with some of the concepts mentioned here; however, you can learn about them quickly by skimming the later chapters of this manual.

- 1) The game starts with the battle paused, and in Setup mode; while in this mode you can set the locations of your troops only at your end of the battlefield. Scroll over the battlefield to see the locations of your units and those of the enemy, or use the Overview map to do the same; review the Statistics for each unit or for the entire army using the Stats icons.
- 2) Select a piece to control by clicking on its head; depending on the control mode you have selected, you are now prepared to set up either that piece, its group or the entire army.
- 3a) Change the piece's location (and any others being selected by control mode) by clicking on a location on the battlefield or
- 3b) Change the piece's orders (and any others being commanded by control mode) for firing at or engaging the enemy, by selecting the two Orders displays or
- 3c) If in group mode, change the group's formation (how it is arranged on the battlefield) by clicking on the three formation controls or
- 3d) Use the change group number (if in Single Mode), copy group number (if in single or group modes) or the list groups screen to switch units between groups (so that you can create new formations and movement as fit your plans).
- 4) Repeat steps 2 through 3d as many times as you like. At any time during this process, you can



- press the Move Pieces button and all of the setup orders you have given will occur immediately.
- 5) When you have finished setting up your troops, press End Setup to begin play. The game will remain paused, but now the orders you give will be carried out in real-time (instead of all at once), and you have access to the rest of the battlefield (not just your end of it).
  - 6) Repeat steps 2 through 3d as many times as you like. When you have finished giving orders, press Play to unpaue the battle; your orders will be carried out in real-time. Move the mouse (though there is no pointer) to shift your view while you move, and click the left mouse button when you want to pause the game and/or give new commands.
  - 7) Continue playing until either side loses 50% of its original strength, or until one side chooses to retreat. At this point the computer will declare a winner. At any time when the game is paused you can also select Autoplay to let the computer resolve the conflict for you, or Retreat to concede the battle and escape.

Setup -- As described above, a Micro Miniatures battle begins in Setup mode. This mode allows you to set up your troops on the terrain only at your end of the battlefield, creating the formations, orders and group assignments that will let you prepare the best tactics for facing the enemy.

In setup mode, you use the same commands that you do when actually fighting the battle; the only difference is that the results take place immediately (when you press the appropriate button), instead of being acted out over time.

Before actually going into a Micro Miniatures battle, you should be sure to check on the main Campaign Screen to see that the options which apply to the Micro Miniatures play are set the way you wish. The relevant options, all found under the Options menu on the Campaign screen, are: Quickfight (pieces are already arranged for you in a reasonable formation before the battle begins), Input Result (allows you to simply enter the result without playing out the battle), and Combine Groups (mixes

your piece types and weapons for a better distribution.)

**Time --** The Micro Miniatures System is a pseudo "real-time" battle system. After setup mode the battle starts paused, allowing you to issue commands. You then press the PLAY button to unpause the game and see the army act out your orders in real-time. When you wish to issue fresh commands you can click the left mouse button to "freeze" the battle again.

**Pieces and Scale --** In this system, your troops are represented with small graphic images of soldiers called pieces. Each side has up to 125 pieces in a given battle; each piece represents several men on the battlefield.

The number of men in each piece depends on the number of men fighting in a given battle; men are divided so that all the infantry on the larger side fit into 100 pieces, their tanks into 15 pieces, and their artillery into 10 pieces. The side with fewer men will then have fewer pieces; but all pieces of a given type will start with the same number of men.

**Piece Types --** There are three basic types of pieces: infantry, tanks and artillery. Infantry are foot soldiers that carry one of a variety of weapon types. Tanks are large armored vehicles with guns. Artillery are soldiers manning one of a variety of artillery guns.

**Army Control --** To help you move your pieces more quickly, you can give movement commands at three levels: single, group and all. These levels will allow you to make major changes to the entire army, or "tweak" a single piece into position -- both with the same movement commands.

**Indirect Fire --** If you have battleships or planes in position, they can provide indirect support for the battle (although they will remain off screen.) You can use the Tactical screen to call for a naval artillery strike or an air strike against a precise location on the battlefield (although the ship's

guns aren't always totally accurate.)

**Terrain --** The battlefield is a rectangle of 80 by 80 squares. Each square can hold only one piece at a time. A "square" of the battlefield represents approximately 250 x 250 yards.

The terrain of each battle started in the game's campaign level is generated by the computer, based on the terrain in the square of the campaign map where the battle occurs. (Note: This is not the case for the Micro Miniature Beach Landings designed for D-Day -- these are "hand-crafted" for accuracy.) The terrain your pieces encounter on the battlefield will affect how they move and fight. Obstacles and rough or steep terrain will slow your troops (tanks and artillery will be slowed more often than infantry), although some obstacles can also provide useful cover from enemy fire, and high ground is helpful for both attacking and defending.

When you start a battle during a campaign game, your forces will be initially placed at the end of the battlefield which is most appropriate to the direction from which the attack originated.

#### **USING THE INTERFACE**

Here are some notes on the interface used in this game:

Whenever this manual instructs you to "click," "left-click," "press" or "select" an item from the game screen, it means that you should move the mouse pointer to that item and press the left mouse button.

Additionally, you can repeatedly select an item without having to click repeatedly by pointing to it, then clicking the right mouse button and holding the button down.

In some parts of the game, you will need to enter text (usually for a name) using the keyboard. Whenever this occurs, a small area of the screen will be blanked out and a small black cursor will appear; you can then type. The Backspace, Delete

and Insert keys can be used to edit the text; press the Enter key or click the left mouse button when you are done.

Some menu options can be toggled between two different settings; these are marked with an arrow graphic. When one of these options is displayed in a menu, the setting shown is its current setting; if you click on the option the menu will disappear and the option will switch to its other setting.

Some parts of the game will call up a query panel, which is a small gray rectangle which lets you quickly answer yes/no questions. This panel will generally appear directly under your mouse pointer, with the pointer centered on the "default" answer. To respond to this panel, simply click on the "Yes" or "No" option.

#### ABOUT PIECES

The soldiers on your battlefield are called pieces; each one actually represents several men, fighting as one unit. You control the battle by giving orders to these pieces, either individually or in groups.

Each piece has several characteristics that controls the way it moves, fights, and responds to orders. They are listed below, in the order in which they appear on the Micro Miniatures Control Panel:

**Piece Number** Each piece on both sides is assigned a number. In general, the Allied troops have numbers from 1 to around 125, and the German pieces have numbers from 126 to about 250.

**Piece Type** This identifies the piece as infantry, tanks or artillery.

**Weapon** Each piece is assigned at least one weapon. For infantry, this is a type of gun. For artillery, this is a type of artillery piece. For a tank, this is the type of tank.

Each weapon type causes its own

amount of damage, based on its destructive power and the time it takes to reload.

**Quality** Each piece has a quality rating that measures its experience and training; this determines a piece's ability in hand-to-hand combat and when firing weapons. This can be one of six levels: poor, average, good, very good, elite and elite-plus. Naturally pieces of higher quality will perform better on the battlefield.

**Morale** Each piece has a morale rating that measures its desire to fight. It affects a piece's willingness to engage in hand-to-hand combat, and its success when fighting hand-to-hand. There are five levels of morale: very low, low, fine, high, very high.

**Number of Men** Each piece represents several men. A piece takes "damage" from attacks by depleting some of its men; when all the men are killed, the piece "dies." (Note: For artillery and tanks, this number actually refers to the number of artillery pieces or vehicles, even though each gun or tank actually uses more than one operator. When a tank or artillery "man" is lost, the gun or tank and all its operators are lost.)

**Group Number** Each piece is assigned to one of fifty available groups; these groups allow you to move several pieces with one command.

**Attack** This rates the damage caused by a piece when it attacks in hand-to-hand combat.

**Defense** This measures the ability of a piece

to defend itself in hand-to-hand combat.

**Damage** This rates the damage caused by a piece when it fires a long-range weapon, be it a hand-held gun, artillery piece, or tank weapon. The amount of damage caused by the gun is additionally affected by the type of weapon fired and other factors.

**Movement Rate** This is how fast the piece moves, in squares.

**Weapon Range** This is the range over which the piece's weapon can fire, in squares.

**Order: Fire** This defines where and when a piece should fire its gun, artillery piece or tank weapon.

**Order: Engage** This defines when a piece should engage in hand-to-hand combat.

**Special Characteristics: Artillery**

The following characteristic only applies to artillery pieces:

**Set Target** Each artillery piece can be assigned a specific target location; a piece will bombard that area, destroying bridges, barricades and soldiers that appear in that area.

**MAIN SCREEN LAYOUT: COMMAND MODE**

When you are fighting a Micro Miniatures battle, the main screen can be in one of two modes: command mode, where you give orders while the fighting is paused; and battle mode, where you scroll over the battlefield and watch your forces fight. Almost all of the controls in the game are accessed from command mode.

The main screen in command mode can be broken down into four sections: Menu Bar, Information Bar, Display Window and Control Panel. These are each described below.

Insert Screen Shot -- mmscreen.pcx -- here

## Menu Bar

This is the higher of the two bars running along the top of the screen; it allows you to access many of the game's features from four pull-down menus. The names of these menus are printed along the menu bar; to access one of them, simply click on its name on the bar and the menu will appear below. (Keyboard Note: You can also access a menu by typing the underlined letter in its name.)

You can select an option from any menu simply by clicking on it, or by typing the first letter in the name of the option.

For reference, the four menus and their options are listed below. See the following chapters for information on each option.

### FILE Menu

- Save -- Saves the current game.
- Load -- Loads a previously saved game.
- Restart Game -- Starts the battle over.
- Exit to DOS -- Shuts down the program.

### OPTIONS Menu

- Map Scroll -- Changes the scrolling speed when displaying the battlefield.
- Game Speed -- Changes the speed at which battles occur.
- Display Detail -- Toggles high and low graphic detail.
- Fog of War -- Toggles the optional visibility rules.

Sound FX -- Toggles sound effects.  
Tunes -- Toggles music.  
Uniforms -- Toggles the use of different uniform types for infantry pieces.

#### STATS Menu

This menu has no options, but selecting this menu automatically accesses the STATS screen.

#### VIEW Menu

Attack -- Displays Attack statistics for every piece on screen.  
Defense -- Displays Defense statistics for every piece on screen.  
Firepower -- Displays Firepower statistics for every piece on screen.  
Group -- Displays Group Numbers for every piece on screen.  
Morale -- Displays Morale statistics for every piece on screen.  
Number of Men -- Displays the number of men each piece represents for every piece on the screen.  
Overview -- Accesses the Overview map.

Finally, the date of the battle is displayed at the right end of the Menu Bar.

#### Information Bar

The bar below the Menu Bar displays two pieces of information on the current battle: the name of the battle is listed to the left, and the weather and ground condition of the battlefield is listed to the right.

Note: You can change the name of the current battle by clicking on it, then typing a new name and pressing the ENTER key.

#### Display Window

The left hand side of the screen contains a Display



Window which can be scrolled to view any area of the battlefield. The terrain of the battlefield (including hills, trees, rivers and structures) is displayed here, and each piece is displayed as a small soldier.

If the currently selected piece (the one you to which you give orders) is located within the Display Window, it will be surrounded with a white rectangle. If that piece currently has movement instructions, and its current destination is located within the Display Window, then it will be marked with a white "X".

If you are in group mode (where you give orders to a group of pieces instead of one), all of the other members of the selected piece's group will be surrounded with gray rectangles. And if any of those pieces currently have movement instructions, their destinations (if they appear in the Display window) will be marked with a gray "X".

You can use the scroll bars along the right and bottom sides of the window to change its view. Scroll bars change the location shown in the display window when you move the white scroll box inside of each bar. To use a scroll bar, do one of three things:

- 1) Click on the scroll box inside the scroll bar, move the mouse in either direction, and click again to release the box.
- 2) Click in the gray spaces to either side of the scroll box to move it towards where you clicked.
- 3) Click on the arrow buttons on either end of the bar, to move the scroll box towards them.

There are other ways to shift the Display Window -- see the chapter titled Viewing the Battlefield for details.

One final option on the Display Window is the Grid button, located at the corner where the two scroll bars meet. Press this button to display a grid

across the display window; this lets you measure the distances between pieces and other items on the battlefield.

## Control Panel

The Micro Miniatures Control Panel on the right side of the screen displays information about the currently selected piece, and contains icons for accessing most of the controls of the game. (It is completely different from the Control Panel used in the campaign level of this game.)

**NOTE:** Some icons are only available for use in particular control modes and with particular types of pieces; in these cases, the icons will disappear or their names will be grayed out to signal that they do not work.

The function of each icon and data display are described below:

**NOTE:** The numbers on this diagram are used throughout this manual when these commands are mentioned, for reference. They are also duplicated in the Reference Card included in your game package.

- 1) **Micro-Map:** The white rectangle in this green rectangle shows what area of the battlefield is shown in the Display Window. Clicking on a location on this map will shift the Display Window to it.
- 2) **Piece Statistics:** Lists four statistics for the selected piece.
- 3) **Overview:** Displays one of three maps of the whole battlefield. The battle can be viewed in real-time from the largest map.
- 4) **Select Next/Previous --** If in single or all mode, these buttons jump from piece to piece in your army; if in group mode, they jump from group to group.
- 5) **Number of Men --** In group mode, this displays the number of men, and the number of pieces in the selected group, separated by a dot. In single and

all modes, this displays the number of men in the selected piece.

6) List Groups -- Allows you to Transfer one group into another one.

7) Change Group -- When this is turned on, clicking on pieces adds them to the selected piece's group. Works only in single and group modes.

8) Group Number -- In Single Mode, the up and down buttons allow you to change the group to which the currently selected piece is assigned.

9) View Buttons -- Display stats for each piece located in the Display Window. Buttons in order from top left : Attack Rating, Range in Squares, Group Number, Defense Rating, Rate of Fire, Morale, Move Rate, Damage Rating, Men in Piece.

10) Ratings -- Displays the battle ratings for the selected piece. If in single mode, a plus or a minus sign will show ratings positively and negatively affected by terrain.

11) Order: Fire -- Displays the firing orders for the selected piece. If in single mode, a number will show the range of the selected piece's weapon. The arrow button changes the order for the piece and, depending on which mode you are in, its group or the entire army.

12) Order: Engage -- Displays the engagement orders for the selected piece. The arrow button changes the order for the piece and, depending on which mode you are in, its group or the entire army.

13) Indirect -- Displays the Indirect Targeting screen to let you set targets for air and sea bombing of the field.

14) Halt -- Stops the movement of the selected piece and, depending on which mode you are in, of the group or the entire army.

15) Formation -- In group mode, the arrow buttons next to the three gray boxes order a group to make a formation with a certain direction, thickness and facing (respectively).

16) Mode -- Select one of three buttons (Single, Group, All) to control which mode you are in; affects who receives your movement (and Order) commands.

17) Retreat -- Concede defeat and escape the battle.

18) Autoplay -- Calculate the rest of the battle

automatically and give the result.

19) Play -- Enter battle mode and unpause the game.

Insert Screenshot -- panel.pcx -- here

## In Setup Mode

At the start of a battle, the Control Panel is configured slightly differently for Setup Mode. Buttons 18 (Autoplay) and 19 (Play) are replaced with the following two buttons:<sup>2</sup>

18A) Move Pieces -- This button immediately acts out all setup orders given thus far.

19A) End Setup -- This button begins the game (where all orders are now acted in real-time).

### SETUP MODE

The chapters that follow describe how you use the controls after a battle has begun; however right at the start of the battle, the controls are slightly different. When you engage in battle as part of a campaign game, you must go through Setup Mode before the battle begins, to place your troops into tactically worthwhile positions and prepare them for the fight.

**NOTE:** This is unnecessary when you play a Historical Battle or other prearranged scenario included with the game. In these battles your pieces are already set up for you in historically authentic formations.

Before a battle actually starts, the Main Screen appears in Setup mode; this is indicated by a small display on the information bar. Additionally, the Autoplay (18) and Play (19) buttons are replaced with two new buttons: Move Pieces (18A) and End Setup (19A).

When in setup mode, you can do some or all of the following things to improve your tactical situation:

- Move pieces, groups or the entire army into new locations on the map.
- Put groups into new formations.
- Change firing and engagement orders.
- Combine or rearrange groups to best suit your tactical plans.

You accomplish these things through the same commands and features that you use during a battle. These commands work in the same ways that they do during a battle, with one key difference: time does not pass while your orders are carried out. This allows you to maneuver troops into their setup positions quickly; they simply "jump" to their destinations when you tell them.

**NOTE:** Naturally, if you were a devious commander, you might try to use this to instantly outflank the enemy. Therefore, when you are in setup mode you can only place pieces in locations on your end of the battlefield.

Whenever you give orders to move pieces or assign them to new formations, these orders are remembered but not acted upon. When you want to actually move these pieces into their new positions, just press the Move Pieces (18A) button at the bottom of the Control Panel; this immediately acts out all pending movement and formation orders. You can press this at any time during setup mode.

When you have finished setting up for a battle, you start it by pressing the End Setup (19A) at the bottom of the Control Panel.

**NOTE:** Remember that you do not have to do any setting up at all; if you want, you can leave your troops the way they are. And if the battle seems inadvisable, you can also press the Retreat (17) button at the bottom of the Control Panel from within setup mode.

To use Setup Mode, you naturally need to be familiar

with how the many features of the Control Panel work. We recommend you skim the following chapters of this booklet before you set up your first battle; additionally you can use the tutorial included in the Technical Supplement and Tutorial booklet to become familiar with some features and commands.

## VIEWING THE BATTLEFIELD

The game screen only shows a small portion of the entire battlefield. Naturally, you will need to see more of the battlefield than this to keep track of your forces and those of the enemy. There are two ways of viewing the rest of the battlefield: one is moving the display window, and the other is using the Overview maps.

**Moving the Display Window --** There are several ways to move the display window. The first is the keyboard:

- arrow keys -- moves one map-square in the direction of the arrow
- page up -- moves up half a screen
- page down -- moves down half a screen
- home -- moves left half a screen
- end -- moves right half a screen

Secondly, you can click on the green Micro-Map (1) in the top-left corner of the Control Panel to move the display; for reference, the white rectangle shows the area that is currently displayed in the battle window. If you want to scroll smoothly over the battlefield, you can hold down the right mouse button and "drag" the mouse over the Micro-Map.

Thirdly, you can also use the scroll bars as described in the Main Screen Layout chapter.

**Overview Maps --** Clicking on the Overview (3) button below the Micro-Map displays one of three maps showing the entire battlefield.

- Armies:** This is the default map. It shows Allied forces as green squares and German forces as gray squares.

**Territory:** This map shows you the territory of the battlefield. Sloping terrain is shown in dark brown, trees and other obstacles in tan. Water is blue and sand gold.

**Magnify:** This will bring up the larger Tactical map, which fills half the playing screen. On the Tactical map, German units appear as gray boxes and Allied units as green boxes. Sloping terrain appears rust-colored, while trees and other obstacles are brown. If you click on the button marked Play, you will be able to follow the entire battle from this screen as it is played out. Press S to pause the battle at any time. To return to the smaller overview maps, click on Shrink. To return to the main battle screen, click on Done.

## **CONTROL MODES**

When you give an order to your forces, it can be received by one, some or all of your forces. You can choose the level at which you control your soldiers by selecting one of three control modes: all, group and single. The three modes apply mainly to movement commands and the orders "Fire" and "Engage":

The highest level is ALL: in this mode any movement commands or orders you give will apply to every piece in your army.

The middle level is GROUP: in this mode any movement commands or orders applied to a group member will also be carried out by its fellow group members. Any number of pieces (of any type) can be placed in the same group, and each battle starts with your army divided into groups for you.

The lowest level is SINGLE: in this mode you control each piece individually.

In addition to movement and orders, there are some other commands which work differently in different modes, or only work in one or two particular modes. These circumstances are outlined when the commands arise in the manual.

Selecting which control mode you want to use is

simple; click either on Single, Group or All in the Mode(16) box at the bottom of the Control Panel. (Keyboard Note: Pressing the "m" key cycles through these choices).

## SELECTING PIECES

When giving orders to your troops, you must first select a particular piece who will receive those orders. If you are in single mode (see above), this piece will be the only one to carry out the next order you give. If you are in group or all mode, other pieces will move or respond with the selected piece. Once a piece is selected, all future orders are sent through it until you select another.

There are two ways to select a piece: by right-clicking on it in the Display Window, or by pressing the Select Next/Previous buttons. Both are explained below:

**Right-clicking on a Piece --** The easiest way to select a piece is to locate it in the display window, point to it with the mouse and press the right mouse button. Don't use the left button as that controls movement (and is covered later).

To select a piece with the mouse, you must right-click on the correct part of a piece. This differs for different types of pieces, as explained below:

**Infantry:** Click on the piece's head.

**Tank:** Click on the top-left corner of the piece. This will be just to the left of the piece's turret.

**Artillery:** Click on the top-left corner of the piece.

If you want help figuring out where to click, you can activate the Grid button (located where the scroll bars meet, at the bottom-right corner of the display window) to display a grid over the battlefield. Tanks and Artillery are two map-squares across and two map-squares down, so it is easy to



see where to click to select them.

Select Next/Previous (4) -- These buttons, located near the top of the Control Panel, will cycle through your forces in one of two ways. If you are in single or all mode, the buttons will jump you from piece to piece on the battlefield, in order of their Piece Numbers (see the About Pieces chapter). If you are in group mode, the buttons jump you from group to group; this is a convenient way of quickly scanning what each group is doing on the battlefield.

When a piece is selected, it will become highlighted by a white rectangle. If it is currently moving to a new location, its destination will be marked with a white "X". Also, the Control Panel will display a variety of statistics on this piece (see the Statistics chapter for details).

If you are group mode, the other pieces in its group will be highlighted with gray rectangles, and the destinations for those pieces will be marked with gray "X's". This allows you to see, at a glance, exactly which pieces your group commands will affect.

Finally, if you shift your view to another part of the battlefield and want to quickly move to the area surrounding the selected piece, you can do so by pressing the "C" key on the keyboard.

#### MOVING TROOPS

Commanding a piece to move is simple; just point to the desired destination (i.e. where the piece's feet should be) in the display window and click the left mouse button. This location will be marked by a white "X".

If you are single mode, only the selected piece will be ordered to move. If you are in group mode his fellow group members will also move the same relative amount, and their destinations will be marked with gray "X's". If you are in all mode,

everyone will move (but only the selected piece's destination will be marked).

## Movement Rules

Here are some rules that affect movement:

Movement is not affected by weather or ground condition (since all troops on the battlefield are affected equally, this cancels out.)

Tank pieces move twice as fast as infantry.

Artillery pieces move half as fast as infantry.

(Note: Because of these two rules, groups made up of multiple piece types will move unevenly.)

Pieces are slowed by water, trees, hill crests, buildings, rubble, sand, fortifications and obstacles (beach obstacles, barbed wire, and so on).

If a piece is standing on terrain that affects its Attack and Defense ratings, and you are in single mode, then those effects will be shown by a plus or minus sign next to those ratings (10) on the Control Panel. A plus means the rating is improved by the terrain; a minus means the rating is lowered. You can use this to make sure that your men are properly located to get benefits (and avoid drawbacks) from barricades and other terrain features.

Each map-square on the map can hold only one piece at a time; so when allied pieces collide with each other, or are ordered to move into the same map-square, the pieces will try to avoid each other, while remaining as close to their destination as possible. This also occurs when pieces try to create formations (see a later chapter for details).

## Beach Landings

There are a few special rules that apply to attacks made by troops on the beaches at Normandy. In order to attack the beaches, the Allies need to employ special pieces called Landing Craft -- small boats which can ferry other pieces to shore.

Landing craft will appear as a single group of twenty, and they will always belong to the same group (so the Group and All modes are equivalent for them.) An empty landing craft has a black rectangle in the center, while a loaded one has a series of dots. At the top of the screen will be a line of transport ships which hold your forces.

Landing craft are controlled in the same way as any other piece (click on the top left-hand corner to select.) To use landing craft, move them onto the transport ships. Each craft will automatically load two troop pieces. Move the landing craft to the shore, and the troops will automatically disembark. Repeat this process three times (which will bring all your pieces to the beach.)

In general, artillery pieces will be the last to be taken off the transport ships and moved to the beach. Tanks and infantry will be transported first. Men in the landing craft can be shot and killed, but the landing craft themselves can't be destroyed (the Allies have so many that losses can simply be ignored.)

### Stopping Troop Movement

If you want to stop a piece, group or the entire army from moving, press the Halt (14) button above the three Formation icons on the Control Panel. The "X" markers for all of the pieces involved will disappear to signal that they have stopped. This command is affected by control mode just like the movement command.

Additionally, a piece will stop in any of the following situations:

- When it reaches its chosen destination.

- If it gets involved in hand to hand combat (but in most cases, they will continue to their destination after a fight).

- If another piece in its group gets involved in hand-to-hand combat, and its current destination would take it too far away from the fighting piece.

One final note: Troops do not leave the battlefield.

## Troop Facing

Depending on the orders you give to a piece (see below), the direction in which it is facing will control at whom it shoots. If you want to change the facing of a piece, you can use the Formation (15) icons described in a later chapter. Alternatively, you can move the piece at least one square in the direction you want it to face.

### GIVING ORDERS

In addition to commanding pieces to move, you must also give them orders which define when and where they shoot at the enemy and engage in hand-to-hand combat. Additionally, there are special orders that apply specifically to tank and artillery pieces. All of these are noted below.

### General Orders: Fire and Engage

The two Orders buttons, Fire (11) and Engage (12) allow you to tell your pieces when and where to fire at the enemy, and when to engage the enemy in hand-to-hand combat. These orders affect the selected piece, its group or the entire army, depending on what control mode is active.

These two orders are located halfway down the Control Panel. The currently selected orders are displayed in gray boxes; to change them click on the arrow button to the right of the display.

The options for Fire are:

**Hold** Do not fire. This improves the chances of pieces engaging in hand-to-hand combat.

**At Will** Fire in any direction, at anything within range.

**At Target** For Group and All modes, pieces will fire only in the direction that the piece is currently facing. This enables

controlled fire, but you will need to control the facing of your pieces (see the Moving Troops chapter).

In Single mode, a new button will appear on the control panel, labeled Set Target. Clicking on this button brings up the Tactical Map. Left click at the place on the tactical map you want the selected piece to fire. If you do not set a specific target, the piece will fire at any targets of opportunity it faces.

The options for Engage are:

**On Command** Do not engage in hand-to-hand combat unless an enemy piece is very close (two map-squares away or closer).

**At Will** Engage any enemy pieces located five map-squares away or closer.

**NOTE:** In certain situations, your pieces may appear inactive or unwilling to fight a nearby foe, even though they have been ordered to do so. This occurs when a piece has poor morale, causing it to disregard its engagement orders.

**NOTE:** Artillery pieces avoid hand-to-hand combat at all costs, due to their small size. Therefore they will ignore any orders to engage the enemy, unless they are directly attacked first. Tanks, however, will fight at close range without difficulty.

### Indirect Fire

Indirect fire is provided by your battleships and planes, if they are in the area (and if you ordered them to support the battle while you were on the Campaign map). You can call for indirect fire in either Setup or Play mode, and it works the same way in both. To call for a barrage, click on the Indirect (I3) button on the control panel. The Set Indirect Targets screen will appear. The right half of the

screen shows the Tactical Map (which is also available through the Overview (3) button on the main control panel.) The left half has the statistics and commands for your indirect support divisions.

If you have both sea and air support available, a button will appear on the command screen saying Air Support or Sea Support. Click on this button to switch to the non-current type of support in order to set their targets.

On the left you can see what type of support you are currently targeting, how many divisions are available, and which unit you are currently targeting. If the current unit has not had a target designated, the message "No Target Set" will be visible. To set a target, simply left click at the place on the tactical map where you want the bombs to fall. A white square will appear, marking that target.

Click on Next and Previous to bring up your other divisions and set targets for them. If you want to change a target, bring up the division information and click on Cancel Target, then choose another one. Click Finished when you are done.

Indirect support fire is not perfectly accurate. The shells and bombs will land somewhere within three squares of the target site, and will damage your men as well as the enemy if your troops are in the area.

## FORMATIONS

Since you control several pieces at once that are collected into one group, the Formation commands allow you to move your groups into easily controlled and arranged patterns (like lines and squares). These formations can then be arranged in tactically useful positions on the field, for a variety of purposes: to create traditional defensive "lines" for blocking admittance to an area, to attack said

lines, to flank the enemy, or even to cross bridges in the quickest way possible. Basically, formations should be the building blocks of your tactical plans.

The three Formation (15) icons appear below the Orders displays on the Control Panel. They only function in group mode; in other modes the word "Formation" is grayed out and the buttons do not respond. Each icon represents a different characteristic of a formation: direction, thickness and facing. Use the two arrow buttons next to each icon to change the settings for each aspect.

Each of the three characteristics of a formation are explained below:

**Direction:** This determines how pieces will line up over the battlefield: as a horizontal row, vertical column or diagonal.

**Thickness:** This determines how closely pieces are arranged in the formation. It has five settings:

- single tight (one solid line) -- shoulder-to-shoulder, single row
- double tight (two solid lines) -- shoulder-to-shoulder, two rows deep
- single skirmish (one dotted line) -- spread out, single row
- double skirmish (two dotted lines) -- spread out, two rows deep
- square -- form a perimeter square.

**Facing:** This determines in which direction the pieces face. Generally this icon is only useful after the pieces have reached their locations in the formation; changing this icon then rotates the pieces in the group to the proper facing.

If you change either the direction or thickness icons, the group will assume a new formation. If you change only the facing icons, you will change the direction of every piece in the group, but they will not assume the formation. This is useful when you

want to direct your pieces to fire in a specific direction.

After you change a formation, you can review the new facings and destinations that were assigned to your pieces by left-clicking on any inactive part of the screen (i.e. the area surrounding the Formation icons).

When you order a group to assume a formation, it chooses the location of the currently selected piece for the top-leftmost corner of the formation. The exceptions to this are diagonal formations which run from bottom-left to top-right; in these cases that location becomes the bottom-leftmost corner of the formation. The selected piece will not necessarily fill that location, since the pieces line up in order based on their piece numbers.

## CHANGING GROUPS

At the start of a battle, your pieces might not be arranged in groups which best suit your tactical plans. Likewise, you may lose pieces during a battle and want to consolidate the survivors into fewer groups. To handle these situations, there are three ways to move pieces between groups: changing individual group numbers, copying group numbers and transferring groups. Each of them is explained below.

**NOTE:** For each of these methods, you can use up to fifty group numbers. Allied players use group numbers from 0 to 49; Germans use group numbers from 50 to 99. In most battles, there will be plenty of unused group numbers available.

**Changing Group Numbers --** This changes the group number of an individual piece; to do this, you must be in single mode. The process is simple: select a piece, and then press the Group Number (8) arrow buttons near the top of the Control Panel to select the appropriate group number.



**Copying Group Numbers --** This copies the group number of the selected piece onto any other piece you choose; it can be done in either single or group mode. First, select the piece or group whose group number you wish to copy. Then, press the Change Group (7) button (named "Group") on the Control Panel to turn on Change Group mode; this will be indicated by a text panel and a display on the information bar. Now, simply left-click or right-click on any of your pieces on the battlefield, and they will be added to desired group. (Note: If you are in group mode, you can see them join the group as they become highlighted with gray rectangles.)

When you use this method, make sure to press the Change Group button to turn it off before you try to issue other orders.

**Transferring Groups --** This allows you to merge an entire group into another; it works in any control mode. You start by pressing the List Groups (6) button near the top of the Control Panel. This accesses the List Groups screen, which allows transfers and also displays group information. From the List Groups Screen:

- 1) Press NEXT and PREVIOUS to move through the groups until the one you want to disband appears. The selected group's location is always displayed on the small Overview map near the center of the screen.
- 2) Press TRANSFER.
- 3a) Use NEXT and PREVIOUS to select the group to which you want to transfer; click on YES to transfer the group.
- 3b) If you change your mind, click on CANCEL at any time to exit the TRANSFER procedure.

You can repeat these steps as many times as you like. Click on FINISHED when you are done.  
**STATISTICS**

There are three ways you can view statistics on your forces: by looking on the Control Panel; by using the nine View Statistics commands; and by accessing

the Stats screen. Each method is explained below:

**NOTE:** Definitions for the statistics mentioned below are located in the chapter titled About Pieces.

**Control Panel --** The control panel shows the following statistics for the currently selected piece, listed from top to bottom:

Piece Statistics (2) Piece Number and Type  
Weapon Carried (or Tank type)  
Quality  
Morale  
Number of Men (5) If in single or all mode, this shows the number of men in the selected piece. If in group mode, this shows the number of men and pieces in the selected group, separated by a dot.  
Group Number (8) The number of the group to which your piece belongs.  
Ratings (10) Attack (including terrain effects)  
Defense (including terrain effects)  
Movement (in squares)  
Weapon Range (in squares)  
Weapon Rate of Fire  
Weapon Damage  
Orders: Fire (11) Firing orders  
Orders: Engage (12) Engagement (hand-to-hand) Orders

**View Stats Commands --** If you wish to see information on all of the pieces (both yours and the enemy's) displayed in the battle window, you can access the following six commands from the View menu (on the Menu Bar), or by pressing the appropriate View Button (9) near the top of the Control Panel:

Column 1, Row 1 Attack

Column 1, Row 2	Defense
Column 1, Row 3	Movement Rate
Column 2, Row 1	Range in Squares
Column 2, Row 2	Rate of Fire
Column 2, Row 3	Damage Rate
Column 3, Row 1	Group Number
Column 3, Row 2	Morale
Column 3, Row 3	Number of Men

Each of these options displays the appropriate statistics in arrowheads floating above each piece. Attack, Defense and Damage ratings run from 0 to 99. Group Numbers run from 0 to 49 for Allied players, 50 to 99 for Germans. Morale runs from 0 (very low) to 4 (very high).

Stats Screen -- Selecting this option from the Menu Bar displays a screen that shows the course of the battle. This screen lists the number of men and pieces currently active and lost during battle, sorted by piece type, for both sides.

NOTE: The statistics for the enemy will only include those Active men that you can currently see; if Fog of War is active (see a later chapter of this manual), then these numbers will not necessarily represent all of the enemy forces.

### Viewing Enemy Statistics

If an enemy piece is visible on the map, then you can view its statistics by right-clicking on it. This displays a gray panel of statistics over the control panel showing you the enemy unit type, weaponry, quality, morale, and the combat statistics for Attack, Defense, Move, Range, Rate of Fire, and Damage. When you are done, click either mouse button to close the panel and continue.

This feature lets you know exactly what kind of troops you are facing, and can be crucial when making tactical plans.

### GETTING THE BATTLE MOVING

Whenever you are in command mode, the game is paused so you can give orders. The following commands allow you to see your orders carried out, or simply have the computer complete the battle for you:

**Play** -- Pressing the Play (19) button at the bottom of the Control Panel enters battle mode. In this mode, you can scroll over the battlefield and watch your troops carry out your orders in real-time. This mode is explained in the following chapter.

**Real-Time Overview** -- If you wish, you can use the Tactical Map to view the action over the entire battlefield in real-time. To access this map, press the Overview (3) button near the top of the Control Panel and click on Magnify to bring up the tactical map. Press the Play button to unpauses the game; pieces (represented as gray and brown squares) will begin to carry out their orders. To pause the game again, press the "S" key on the keyboard.

**Autoplay** -- Pressing the Autoplay (18) button at the bottom of the Control Panel lets the computer calculate the results of a battle without actually fighting it out, based on the compositions of the two sides. It will quickly resolve the battle for you and give you the result. This feature is useful in long campaign games, where you may not want to fight every skirmish that arises.

**NOTE:** Remember that a battle will end automatically when either side has lost more than 50 percent of their original starting force. Alternatively either side may retreat before this happens (see below).

**Retreat** -- Pressing the Retreat (17) button at the bottom of the Control Panel lets you withdraw your forces from the battle at any time; you may use this when starting or continuing a battle seems inadvisable or hopeless.

The computer may call for a retreat when it loses too many men; this becomes more likely after it loses 25 percent of its original strength.

## BATTLE MODE

When you enter battle mode (by pressing the Play (19) button at the bottom of the Control Panel), the screen is filled with a scrolling view of the battlefield. Both your pieces and those of the enemy begin to carry out their orders in real-time. In this mode, all you can do is scroll the display and pause the game. The features of Battle Mode are explained below:

Insert Screenshot -- battle.pcx -- here.

**Scrolling the Display --** You scroll the display with either the keyboard or the mouse. The keyboard commands are identical to those in command mode:

- arrow keys -- moves one map-square in the direction of the arrow
- page up -- moves up half a screen
- page down -- moves down half a screen
- home -- moves left half a screen
- end -- moves right half a screen

To scroll using the mouse, simply move the mouse in the direction you wish to scroll. To stop scrolling, move the mouse back to its original position.

In either case, a small, green square called a View Indicator is displayed in the top-left corner of the screen. The white rectangle inside it indicates what part of the battlefield is currently displayed.

**Battle Animations --** As a battle progresses, you will see some or all of the following animations:

- Moving Pieces** Pieces will be animated as they move from map-square to map-

square. Additionally, if they are in water, they will be shown partly submerged in water.

**Clashing Arms** When two pieces are engaged in hand-to-hand combat, you will see them fighting with each other. While this is occurring, they are damaging each other -- depleting the number of men in each piece.

**Gun smoke** Pieces equipped with guns fire at regular intervals, indicated by puffs of gun smoke at the ends of their rifles. However, this does not indicate whether or not the hit was successful.

**Tank and**

**Artillery Fire** Tanks and artillery pieces fire at regular intervals, just like gunmen; and similarly they are indicated with gun smoke at the mouth of the tank weapon or artillery piece. However, the impact of the blast is also marked by smoke, followed by a black crater. Gun fire misses are just as deadly to their unfortunate victims as a straight-on hit. Artillery is much more powerful than regular guns.

**Corpses** When a piece is "killed" (when all of the men it represents are killed), a corpse will appear on the battlefield to mark its passing.

**Pausing the Game** -- To pause the game, simply click the left mouse button, or type the "E" key on the keyboard. This freezes time on the battlefield and returns you to Command Mode.

**GAME OPTIONS**

The following game options are available from the FILE Menu on the Menu Bar.

- Save        Saves the current game using the Directory Window (see below).
- Load        Loads a previously saved game using the Directory Window (see below). Saved game may be in either campaign or battle mode.
- Restart Game   Starts the battle over.
- Exit to DOS    Shuts down the program.

### Directory Window

This window appears when you save or load files. Its features are:

- AutoSave     See below.
- File Window   Click on a file in this window to select it for loading or saving.
- Up/Down Arrows If there are more files than can be shown in the File Window, press these arrow buttons to view the rest.
- Filename     Click here to edit the current selection for saving or loading.
- Save/Load    Press this button to save or load the selected filename. You may be asked to confirm this action.
- Cancel        Exit without saving or loading.

AutoSave -- As a battle progresses, the game will be silently saved at regular intervals as AUTOSAVE.SAV. This can be switched off from the Directory Window by clicking on its arrow button.

### CONFIGURATION OPTIONS

The following configuration options are available from the Options menu on the Menu Bar:

- Map Scroll    The speed at which the map will scroll; 10 is fastest.

- Game Speed** The speed at which a battle progresses; 10 is fastest. On fast machines (particularly with local-bus graphics), lowering this speed will give you time to react to the enemy's actions.
- Display Detail Controls** the level of detail shown for battlefield scenery. At Low level, game-time and scrolling are faster. This only applies to Micro Miniatures battles.
- Fog of War** See the chapter titled Fog of War.
- Sound FX** Toggles sound effects on and off.
- Tunes** Toggles music on and off.
- Uniforms** Controls the use of multiple uniform types on the battlefield. See below.

## Uniforms

The human player can change the uniform of his troops on the battlefield by clicking on the Uniforms option on the Options menu and then stepping through the available uniforms to find one he likes.

### FOG OF WAR

This game option adds the challenge of visibility to the game. It makes the Micro Miniatures system even more tactically challenging and exciting, and greatly increases the difficulty of the game.

When this option is turned on, the following effects occur:

Enemy pieces will only appear on the battlefield if they are in sight of your pieces. The distance you will be able to see will vary with the weather. Bad weather will also reduce your troops' chance to hit (as well as that of your enemies.)

Enemy unit data will not appear on the Overview



map or View Stats commands.

The Stats screen will only include the enemy troops that you can see as Active.

The campaign level of the game is also affected by Fog of War; see its manual for details.

-----  
1 Replace drawing with inset of Control Panel, with numbers that match the accompanying descriptions. Note to myself: be sure to match the details of each statistic.  
2 Inset of Control Panel bottom in Setup Mode, w/numbers for Move Pieces and End Setup

**D-Day: The Beginning of the End  
Impressions Software, Inc.  
Technical Supplement and Tutorial**

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**Some game features may have been added or modified  
since this game's documentation went to press. If  
so, information on these new features has been  
included in the text file "README.TXT." To access  
this file, load it into any text editor (like  
Windows' NOTEPAD or DOS 5's EDIT utility), or access  
the directory where this game was installed and type  
"TYPE README.TXT | MORE <ENTER>". (The character  
before the word "MORE" is a vertical bar, which is  
generated by holding down the Shift key and pressing  
the back-slash key.) This text can also be read  
directly from your game disks.**

**Thank you for buying this game. It has been  
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## Installation and Loading

(Note: If you purchased the Amiga version of this game, the installation instructions are included elsewhere in the game package.)

This game cannot be run from a floppy drive -- it must be installed to a hard disk. When fully installed, it will take up less than four megabytes of hard drive space.

### Hard Drive Installation

Turn on your PC, and wait for DOS prompt (C:\ etc.)  
-- exit Windows or DOS-Shell if they run automatically on startup.

Insert disk 1 in the appropriate floppy drive, and access that drive by typing

A: <ENTER>

or

B: <ENTER>

-- whichever is appropriate for your PC. Then type

INSTALL <ENTER>

at the DOS prompt, and follow the on-screen instructions. The procedure is self-explanatory. At the end of the procedure you can enter information for your soundcard, if you have one. When done, the

game will be ready to run from your hard drive.

### Playing from the Hard Drive

If you do not still have the computer on, do so now, and exit Windows or DOS-Shell if they run automatically on startup. From the DOS prompt, type

```
C: <ENTER>
```

or

```
D: <ENTER>
```

or even E:, if necessary, to access the hard drive where you installed the game. Then, type

```
CD<path-name> <ENTER>
```

to select the directory which contains the game. <path-name> should be the same directory name you gave when installing the program minus the drive designation that starts it off. (For example, to access C:\DDAY, access the C: drive and type CD\DDAY.)

Then type

```
DDAY <ENTER>
```

to play.

### Changing your Soundcard Setup

If you change your computer's sound setup after installing the game, you can reconfigure your computer by accessing the directory where the game is stored and typing

```
SETUP <ENTER>
```

This configuration program works identically to the one you used when installing the game.

## Sound and Soundcards

With the proper sound setup installed in your computer, this game can produce a variety of sounds (including music and digitized sound effects). However, if you intend to use your computer's internal PC speaker instead of a soundcard, you may find the game's sound effects to be garbled or inaudible. If this is the case, you can turn them off by toggling the Sound FX command on the Options menu.

## Memory Requirements

The memory requirements for running this game will be listed in the text file README.TXT included with the game. (Instructions on viewing this file appear on the title page of this booklet.) If you cannot run this program on your machine, you may not be fulfilling the game's memory requirements. See the technical support information below for some suggestions on how to deal with this problem.

### Game Startup

When you first start D-Day, you will see a gray panel with three options displayed:

A) **Standard Game:** This option will take you straight into the basic game, which begins with the Allied invasion of Normandy. You will be asked to select which side you wish to play, or if you want to start a two-player version of the game. After you have chosen your side, the game will begin. This is the option you should choose if you wish to follow the tutorial below.

B) **Load Saved Game:** Choosing this option allows you to resume a previous saved game. For details, see the Game Options section of the Campaign Manual (Strategic Operations Handbook.)

C) **Historical Scenario:** This option will allow you to start the game from any of three different points

in the campaign or to reset the starting conditions for any of them (including the standard campaign.) After you select an option, you will be asked to choose which side you wish to play, or if you want to set up a two-player game.

- 1) RACE TO BERLIN: Begins the standard game, but selecting this option allows you to adjust the starting conditions.
- 2) BREAKOUT TO PARIS: Begins in August of 1944 and ends with the conquest of Paris.
- 3) BATTLE OF THE BULGE: Begins in December of 1944 and ends with the capture of Berlin.

**CHANGING THE STARTING CONDITIONS:** If you select any of the three historical scenario options, you will be asked if you want to adjust the setup. If you prefer to use the standard game setup, click on NO. If you would like to rearrange the positions in which your units and those of the enemy will start, click on YES. The Campaign Setup screen will appear.

The campaign map on the Campaign Setup screen can be scrolled exactly as it is scrolled during a game (see the Campaign Manual for details.) To relocate a unit, select it as usual and then left click on the map position where you want it placed. You can place any unit in any position on the map, with two exceptions: you cannot place a unit directly on top of an enemy unit, and you cannot put more than five units in a single square.

To relocate any or all of your five starting ports (the Normdany beachheads), click on one of the five Set Port buttons, then click on the new position of the port. The anchor symbol will move to the port's new location, and the X and Y coordinates displayed will change.

You may also alter the game setup by changing the resource allotment for your forces and/or the enemy's forces. Click on Recruitment and an input box will appear with the default monthly resource points your troops will receive. Use the arrow keys to adjust that number to a value you prefer. Click on Adjust to set your enemy's resource level in the

same fashion, then click on Adjust again to exit the panel.

The View City Owner, Men-in-Square, and Next/Previous buttons work on this screen the same way they do on the main campaign screen. (The Move Pts button doesn't function, however.)

When you are finished changing the setup, click on End Setup. After confirmation, the game will begin.

### Keyboard Commands

Although a mouse is required to play D-DAY, many of the game's commands can be executed from the keyboard instead if you find that more convenient. In addition, there are a few commands which you may find useful that can only be accessed through the keyboard. Many of the keyboard commands are clearly marked on the screen. For Menu Selection and Icons, just type the underlined letter in the word marking the menu or icon. For Menu Options, type the first letter in an option as it appears on the menu. (Note: This works for most, but not all, menu options.)

On both the Campaign and the Micro Miniatures level, you can use the keyboard to scroll around the screen, as follows:

arrow keys    move the display window one map-square in the direction of the arrow  
page up    move the display window up half a screen  
page down    move the display window down half a screen  
home    move the display window left half a screen  
end    move the display window right half a screen

In addition, pressing C will cause the screen display to Center on your currently selected piece, and pressing G will cause the Grid to be displayed.

Some of the function keys also map to useful commands, but they differ between the Campaign and the Micro Miniatures levels.

On the Campaign screen, the following function keys are available:

- F6 Displays army strength
- F10 Toggles "Stack Mode" on and off

On the Micro Miniatures screen, the following function keys are available:

- F1 Displays attack rating
- F2 Displays defense rating
- F3 Displays movement rate
- F4 Displays range
- F5 Displays rate of fire
- F6 Displays damage rating
- F7 Brings up Overview map

#### Difficulty Options

There are a number of ways you can affect how difficult D-DAY will be. At the beginning, you will probably want to leave the optional difficulty switches left on the easier setting, and then gradually add them in as you become more expert at the game. (Note: By using the Victory Conditions panel as described in the Campaign Manual, it is possible to make D-Day either trivial to win or completely impossible. The same holds true for the Game Setup options. The following alternatives are for players who would prefer a level somewhere between the two extremes.)

**Choosing Sides:** The Allies will always start out in a somewhat better position than the Germans (unless the starting conditions have been altered, as described under the Game Setup section.) For an easier game, play the Allied side.

**Fog of War:** If this option is turned on, your ability to gain information on the enemy's strength and movement will be limited, increasing the difficulty. This affects both the Campaign and the Micro Miniatures levels (see the complete manuals for details.)

**Easy Mode:** If this option is turned on, the computer



will be less strategic in its moves and slower to respond to you. For a harder game, turn this option off. This affects both the Campaign and the Micro Miniatures levels.

**Supply:** This option only affects the Campaign level. When it is turned on, you will have to pay attention to your supply lines or your troops will start to run short and have problems. When it is off, you don't have to worry about supply. For a harder game, turn this option on.

**Personality:** This option only affects the Campaign level. When it is turned on, your generals will have distinct personality traits which may sometimes cause them to follow their own plans instead of yours. When it is turned off, all of your generals will be perfectly obedient. Keep this option turned off for an easier game.

## SUMMARY

OPTION	EASIER	HARDER
Side	Allies	Germans
Fog of War	Off	On
Easy Mode*	On	Off
Supply	Off	On
Personality	Off	On

\*The default setting for this option is Off (Harder). All others default to the easier option.

## D-DAY Quick Start Tutorial

### Before You Start

This tutorial is meant for the player who wants to get started playing D-DAY right away. If you follow it step by step, it will teach you the basics of the game on first the Campaign level, and then on the Micro Miniatures battles level. If you are not interested in the Micro Miniatures battles, you can skip the second part of the tutorial. Once you're familiar with the basics, you'll probably want to consult the manual to get all the details and learn about the features not covered here.

Before starting to follow this tutorial, make sure that your game is properly installed on your hard drive, and load the game as described above. When the game starts, get through the title screens (either by waiting for them to go away, or by clicking on them), select the Standard Game Option, and choose Allies as your side. Leave all the game options set on their default values.

The game interface operates on a few simple rules which you will need to know to follow this tutorial:

Whenever this manual instructs you to "click," "left-click," "press" or "select" an item from the game screen, it means that you should move the mouse pointer to that item and press the left mouse button.

Additionally, you can repeatedly select an item without having to click repeatedly by pointing to it, then clicking the right mouse button and holding the button down.

In some parts of the game, you will need to enter text (usually for a name) using the keyboard. Whenever this occurs, a small area of the screen will be blanked out and a small black cursor will appear; you can then type. The Backspace, Delete and Insert keys can be used to edit the text; press the Enter key or click the left mouse button when you are done.

Some menu options can be toggled between two different settings; these are marked with an arrow graphic. When one of these options is displayed in a menu, the setting shown is its current setting; if you click on the option the menu will disappear and the option will switch to its other setting.

Some parts of the game will call up a query panel, which is a small gray rectangle which lets you quickly answer yes/no questions. This panel will generally appear directly under your mouse pointer, with the pointer centered on the "default" answer. To respond to this panel, simply

click on the "Yes" or "No" option.

You may find it useful to get out the Quick Reference Card included with your game and keep it nearby for easy reference as you follow this tutorial. Any time a part of the game's controls is mentioned, the reference letter or number for that control will be given in parentheses after the name, like this: City Owner (J).

In this tutorial, instructions for you to follow will appear in plain text like this. Things that you should be looking for on the game screen will appear in bold text like this. Important notes on game strategy will appear in italic plain text, like this. And finally, anything that's a key point in game play will appear in bold italics like this.

A final note: the opening moves described in this tutorial have been chosen so that as many of the important points of the game play can be described in as short a time as possible. They are not necessarily the best (or for that matter the worst) opening moves to make for the campaign. After you play the tutorial, you may wish to restart the game and make a different set of opening moves to suit your own long-term strategy for the campaign.

## Part I: Campaign Level

### A. Getting Your Bearings

At the start of this tutorial, you should be looking at the Campaign Screen. The left two-thirds of the screen holds the Display Window, and the right third holds the Control Panel. The display window shows a geographical map showing part of Western Europe. At the start, you're looking at the Normandy area on the northern coast of France; the English Channel; and the south coast of England. The green areas are land and the blue areas are water. A lighter green area on the map indicates hilly terrain, while the darker green patches are forest. Both hills and trees will slow down the movement of your troops. The display window map is divided into squares which are not normally visible. To see the squares, you

need to bring up the Grid. You can do this in one of two ways: either press the "G" key, or find the Grid button on the screen (it's in the lower right corner of the display window, in the spot where the vertical and horizontal scroll bars meet) and click on it. To remove the grid, press "G" again or click on the Grid button a second time. You'll find the grid useful for planning out the best routes for your units to take to their targets.

You can also see a number of rectangular boxes representing military units. The green ones are the Allied units (yours, in this tutorial) and the gray ones are the Germans (the opposition, played by the computer for now.) Each box has a symbol inside telling you what kind of unit it is. (Refer to the Quick Reference Card for a complete table.)

Visible on the European continent are several geographic features: rivers, railroad tracks (crosshatched lines), cities (clusters of streets and buildings), and ports (white anchor symbols). Ports are usually associated with cities on the coast, but they can appear on open coastline if built there by engineers. At the start of the game there are five of these "artificial" ports in place off of the Normandy shore, representing the Allied beachheads. Later, when you learn how to scroll around the map, you may see a white letter "M" representing a minefield or a cluster of buildings with a landing strip representing an airfield.

You'll notice that several of the cities in France and England can't be seen because they have units in place on top of them. To view all the cities and learn which side currently controls them, go to the control panel and click on the City Owner (J) button. A box will appear on each city square showing where the city is and indicating who occupies it: a green box with a capital "A" marks each Allied city, and a gray box with a capital "G" marks each German one. Locate the German-held French city of Caen -- this will be your first strategic target. Once you've found Caen, click the city owner button again to go back to the normal view.

The standard game begins with the Allied units in place just prior to landing on the Normandy beaches. At each of the five beach ports are three units: an infantry unit, an armored (tank) unit, and an artillery unit. Standing just offshore are three battleships ready to shell the enemy. There are also three paratroop divisions which have already been dropped in France, two divisions to the west of the beachhead and one to the east. Further out in the English Channel are more battleships, and over in Britain itself are the rest of the Allied troops and transports, plus the Allied air forces.

In order to be able to see the rest of the continent, you need to know how to move the display window around, and there are two ways to do this. The first way is with the Micro Map (A) that appears in the top left corner of the control panel. The Micro Map shows all of the Western European theater, with a black rectangle on top that tells you what area the display window is currently showing. Click any mouse button on the Micro Map, and the display window view will jump to center on the point you clicked.

The second way to shift your view is to use the Scroll Bars, which are the gray bars with the arrowheads at their ends found at the bottom and right edges of the display window. You can use the scroll bars in four ways:

1. Click on the arrowheads on the ends of the bar and the view will move one square in that direction.
2. Find the light gray rectangular scroll button that appears on the bar itself. Left click on it and hold down the mouse button. Move the mouse pointer in the direction you want to scroll (the button won't move) and then release the button. The view will jump several squares in that direction.
3. Left click on the scroll button and release. The scroll button will turn blue. Drag the scroll button in the direction you want the view to move and it will jump in that direction. Left click again to release the scroll button.

4. Click in the gray spaces to either side of the scroll button to jump the view in that direction.

Scroll around the map using whatever method you like best until you feel comfortable with scrolling. To return the view to where you began, press the "C" key, and the display window will center on your currently selected unit. This should be the one you started with unless you've accidentally managed to select a different unit. If you have, just scroll around until you find the Normandy beaches again and then go ahead with the next section of the tutorial.

#### B. Moving into Position

To give orders to a unit, you must first "select" it. The currently selected unit is marked by a thin white border around the unit box. Right now, you should have the U.S. 82nd Division, 1st Army paratroop unit selected. Look in the tan bar just on top of the display window and control panel; this is the Info Bar and it will display the unit symbol, division number, army number, and commander name of your currently selected unit. (For some types of units, such as transports and battleships, it will only tell you what that unit is, since division, army, and commander names aren't applicable.) If the info bar doesn't say "U.S. 82nd Division, 1st Army - Bradley", you've somehow managed to select another unit, but don't worry about it. Just make sure you can see the Normandy beaches in the display window.

Look just to the east of the Normandy beaches and find the single Allied paratroop division that has deployed there. Right click on this unit to select it, and the white selection border will appear around the edges as the unit information is displayed in the info bar. This is the UK 6th Division Paratroops of the British Second Army, under Dempsey. In addition to the information on this unit shown on the info bar, you can find more data on this unit and its current position on the control panel.

At the top of the control panel, on the right side next to the micro-map, you can see the unit type

("Paratrpr") and the terrain type the unit is currently standing on ("Passable"). Just under that, the unit's available Movement Points (C) are displayed, and about halfway down the panel you can see what the unit's current Status (H) is ("Ready") and what Special Orders (I) it has been given ("None").

Paratroopers start out with four movement points to use each turn. The worse the terrain, the more movement points it costs that unit to cross it, and some types of terrain aren't crossable at all for certain kinds of units. To see what how many movement points it will cost your unit to move into the nearby squares, click on the button that says Move Pts. (C) The eight squares immediately adjacent to your selected unit will each display a yellow rectangle with either a number or an "X" on it. The numbers show you how many movement points it will cost your unit to go to that square, while an "X" means the unit can't move into that area at all.

For your paratroops, you can see that they can't go into any of the three northern squares or the square directly east, because those are all open sea. Moving directly to the west is costly because it's shoreline (beaches), which slows movement. Moving to the southeast is also difficult, because it's forested. Moving directly to the south or to the southwest is easier because there's a railroad track there along which your troops can march.

Now, you want to move your paratroopers into position for an attack on the city of Caen. To move a unit, simply left click on the square where you want them to go. Move your paratroopers one square to the southwest so that they are directly east of Caen.

You can move your units one square at a time, choosing their route carefully, or you can click at a distant location and, assuming the unit has enough movement points, the unit will jump directly to the new location. The computer will not always choose the best route for your troops, however, so if there is difficult terrain in the way you will probably

want to turn on the grid and move your unit carefully over the best ground so that they can go the farthest possible distance.

Your paratroops are unlikely to be able to take the city by themselves, so you'll want to get some more troops into the area before you attack. Right click on the easternmost of the Normandy beach ports. A gray panel will appear showing you what units are in that square. This selection panel only appears when you have more than two units in the same square, to aid you in finding the unit you want. If there are less than three units in the square, this panel won't be displayed. Click any mouse button on the UK 3rd Infantry Division of the British Second Army to select it. When the selection panel disappears, you'll see that the infantry unit piece is now on top of the stack. The white anchor symbol is hidden whenever a unit on it is selected, but it's still there.

Click on Move Pts (C) to see how this unit can move. Notice that it can't go into the square to the southeast. This has nothing to do with the terrain - - instead, it's because of the Zone of Control of the German unit sitting just south of that beach. Every ground unit has a zone of control which covers the eight squares immediately adjacent to it. This zone only affects enemy land units; friendly units aren't affected, and airplanes of both sides ignore zone of control rules completely. When a unit is within the zone of control of an enemy unit, it may not move into another square also in that zone. It must either retreat out of the zone of control and go around, or attack the enemy unit. Note that this only applies to the same zone of control; a unit can move out of one zone of control directly into another, if you wish.

Since you can't get your UK 3rd Division infantry off the beaches without attacking, it's time to undertake the main offensive.

### C. Engaging the Enemy

Your plan to take Caen involves two main phases:



first, you'll try to get the UK 3rd infantry division off the beaches so they're in a position to move on Caen, then in the next turn you'll try to take the city itself, starting with an attack by your paratroopers from the east. The first phase will be accompanied by a strategic bombing of the city to disorganize and weaken the defenders, and the second phase will have bombing support from both the sea and the air.

Before moving your infantry off the beaches, you want to set up a strategic bombing of Caen. Most of your bombers are much more effective during the day than at night, so you want this to take place in the current (daytime) turn. Scroll up the map until you find the port city of Norwich on the west coast of England. Directly to the south of Norwich is a stack of bomber units. Right click on this stack to bring up the selection panel and select the B-26 Bomber. Notice that, compared to ground troops, airplanes have an enormous range (i.e. many movement points.) Scroll the display window back down until you find Caen again, and left click on the city. Your bomber will appear over Caen. This sort of strategic bombing takes place automatically -- you don't have to specifically order an attack. If you send an air unit that can bomb over a legitimate target (a German unit or city) it will do so without help from you.

Air units will hide ground units on the display window if they occupy the same square, but the ground units are still there. To see them clearly, click on the button marked Aircraft (K) on the control panel. The first time you click this button, the air units will disappear from view. The second time you click it, the ground units will disappear and only the air units will be visible. Clicking the button a third time restores to view to normal (all units are shown.) Note that any currently selected unit always appears, no matter what the display mode is set to, so if you try this with your bomber still selected over Caen you still won't see the German units beneath it. (If you really want to see them, select a different nearby ground unit and then click on the Aircraft button again.)

Now you've got to get up onto those beaches. Select the UK 3rd Infantry Division again, then click on the German unit directly to the south. A small gray box will appear, asking you if you're sure you want to make an attack. Click on Yes. Another gray panel will appear asking you to give a name to the battle (the default name will always be the name of the closest city, which in this case is Caen.) Press return to accept the default name, or type in a new name, if you prefer.

All units which are within the target unit's zone of control can participate in the battle, if you choose. A ground unit can only participate in one battle per turn, so in general you may want to choose what units are to participate in an attack with some care. Here, however, there's no reason not to throw everything you've got against the Germans. There are six units in position to help your UK 3rd Infantry Division, and the screen will move to center on and select each one as it asks you whether or not that unit should also attack. Click on Yes for all six of your ground units.

Next, the computer will move on to your battleships, and ask if you want them to provide indirect support for the attack by shelling the beaches. You have 5 battleships in position to offer support for this battle, so click on Yes for all of them. Battleships can support a battle if they are within four map squares of the battle site, and they can support multiple battles per turn. Notice that although you have a plane in position, it cannot offer you indirect support -- it is already engaged in an active bombing run of its own (we'll come back to this in a moment.)

When you have assigned all your troops to the battle, the battle summary screen will appear listing how many men you have of each of the three types (infantry, tanks (armor), and artillery) going into the battle and how many of each the enemy has. If you've followed this tutorial properly, you should see that you have the Germans badly outnumbered. Toward the bottom of the screen is a

line telling you what the response of the enemy will be: here, it should say "Germans will hold," showing that they're on the defensive. If the opposition decided to make an offensive response to your attack instead, it would say "Germans will advance." If you decide to play out the battles using Micro Miniatures, you can use this information to plan how to make your attack.

At the very bottom of the screen is a gray button labeled Fight. When you are done reading the battle summary, click here. The Micro Miniatures battle screen will appear. In the lower right hand corner of the control panel on this screen are three gray buttons; click on the one that says Autoplay (18) to have the computer resolve this battle. (If you wish to fight out this battle with the Micro Miniatures system, see Part II of this tutorial.) A gray panel will appear telling you that the computer is calculating the results, and then the Final Position screen will be displayed. This shows you how many troops of each type you lost in the battle and how many the enemy lost. At the bottom it will say who won the battle (it should be the Allies.) When you've finished reading the screen, click on Finished.

The game will tell you what happened to the losing troops (most likely you will have disrupted or routed the German forces.) If you won, a gray panel will appear asking you which of the troops involved in the battle you want to move into the newly-won area. Only those troops which had enough movement points available to move into that square before the battle began will be able to move in and take possession after the battle. For this tutorial, you should be able to choose from any of the seven units who fought, as they all had at least two movement points left when the fighting began.

The unit which you selected to spearhead the attack (the UK 3rd Infantry Division) must move into the square. Any other units in the same square with your spearhead unit will be listed as moving in to the new square, and support units from other squares will be listed as holding position. You can change

any unit's orders except the one that started the attack by simply clicking on the unit's icon or name. To the three units already moving in, add the Canadian infantry and armor divisions (you may only select up to five units to move in, so the Canadian artillery will hold position where they are.) Click on Finished when you're done, and the campaign screen will reappear with the units in their new positions.

Assuming you were victorious in your first battle, you are now in position to take Caen in the next turn. Click on the button in the lower right hand corner of the control panel that says End Turn (O). When you are asked to confirm, click on Yes. You will see a series of panels telling you of the results of your aircrafts' bombing runs, then telling you that the German commander is making his moves. (Most likely, he won't do anything.) Then you will see a panel telling you that it's your turn to move again, and the display window will darken to indicate that it is now night. Notice that your bomber which was bombing Caen has returned to its home base near Norwich to rest and refuel. Planes can only go on one mission per day -- they must spend the other half-day turn in their airbase preparing for their next flight. The next day, they will automatically return to their previous target until and unless they are given a new one.

For the battle to take Caen, you want to call in some indirect air support. Regular bombers are less effective at night, so you'll be bringing some of your special night fighter-bombers up for duty. Scroll up to Britain again and located London. Two squares south and one square east of London are two units of night fighter-bombers, a group of P-61s and a group of Boston A-20s. Right click on the stack and check that you have the P-61s selected (if you don't, just right click on the stack again to switch to the other unit.) Scroll back down to Caen and left click on the square just northeast of the city. There should be no other units on this square at this time.

If you plan to use an air unit as support for a

battle, you must be sure to position it over a friendly unit or city or over unoccupied ground. If you put an air unit over an enemy unit or city, the planes will bomb the target below them and will not be able to give you air support in the battle. Planes can give air support to any battle within five squares of their position, and they can support multiple battles in one turn.

Now select your UK 6th Division paratroops that are positioned east of Caen, and send them to attack Caen. Support them with the five divisions you moved into position north of the city last turn, and give them indirect support from your battleships and your night fighter-bomber unit. Play out the battle as you did above. (If you wish to play out the battle with the micro miniatures instead, see Part II of this tutorial.) With any luck, when all the dust settles you should have liberated the city of Caen from the Nazi tyranny.

#### D. Finishing Up

Now that you've fought a few battles, you can review your campaign by clicking on the button on the control panel labeled History (G). This will bring up a screen showing you the last hundred battles that you've fought and their outcome. Once you have more than a page full of battles, you can use the arrow keys to scroll the display up and down the list. The screen has two display modes, Losses and Victor. Click on Victor to display who attacked and who won the battle, and click on Losses to show what the casualties were for both sides. Click on Finished when you're done to return to the main Campaign Screen.

The other place to go to see how well you're doing is the Reinforcement Screen. From the main Campaign Screen, click on Reinforcement (N) (at the bottom left of the control panel.) The left half of this screen shows you a map of Western Europe with the cities controlled by the Germans marked with gray squares and the cities controlled by the Allies marked with green squares. If things went well, there should be a single green square in France to show your victory in Caen. The Success Bar at the

top of the right half of the screen should show that the Allies are winning (although the arrow may not have moved noticeably.)

The other main use of this screen is to reinforce your troops and to build new divisions. These topics are covered in the Campaign Manual. Directions on how to do other useful things such as employ transports to move your forces around more quickly and reorganize your divisions for more effective fighting are also given in the Manual.

You now know the basics of how to play the Campaign Level of Edward Grabowski's D-DAY. If you like, you can play the entire game with just these instructions by using the Autoplay feature to resolve your battles. For a longer and more detailed game, continue reading below to learn how to command your forces on the field of battle with the Micro Miniatures system.

## Part II: Micro Miniatures Level

The complexity of the Micro Miniatures system makes it possible for you to track and control nearly every aspect of each battle as it occurs. To describe all the features of the Micro Miniatures system would require dozens of pages, so the intention of this tutorial is to give just a basic overview of most important commands. For complete details on all the options available to you with the Micro Miniature system, please see the Micro Miniatures Battle Manual included with this game.

This tutorial will lead you through the two battles which take place as you follow the Campaign Tutorial above. The first battle will be a beach landing in Normandy, and the second an attack on the city of Caen. Battles which include a beach landing operate under a slightly different set of rules from battles that take place entirely on land. The vast majority of the battles you will be able to play during D-DAY will be on land and will not involve beach landings, but since the historical focus of this game is on the landings at Normandy, chances are that a number of the first few battles you will want to play will

require these special rules. This is why we have included beach landing instructions in this tutorial as well as instructions for the more common land battles.

In an ordinary battle, there are two distinct phases: Setup (where you arrange your forces for the battle) and Play (where the battle actually takes place). The play phase is divided into two modes as well: Command Mode (during which the game is paused while you issue commands to your troops) and Battle Mode (during which you can watch the battle take place in real time as your troops carry out your orders.) Command mode is similar in many ways to the Setup phase.

There are two major differences between a beach landing and a land battle. In a beach landing, you do not have the option of arranging your troops in formations until they are actually on the field of battle and engaged in combat, so therefore there is NO Setup Mode. Also, in a beach landing there is a special transport which appears only in this sort of battle, called a Landing Craft. There is a special set of rules for controlling the movement of your landing craft which are somewhat different from the rules for moving the rest of your forces.

Section A of this tutorial will cover the beach landing and explain the basic play of the game. Section B will back up a step and explain how to arrange your troops for battle on land.

A. Getting Your Bearings (Landing at Normandy)  
When the Micro Miniatures screen appears, you can see that it looks fairly similar to the Campaign Screen. The left two-thirds are the display window, and the right third is the control panel. With a few exceptions, however, the controls for the Micro Miniatures are completely different from the controls for the campaign level. Although there are similarities between the way you play the two levels, they are more different than they are alike.

The terrain at this level is very different from the

terrain on the campaign level, although it mostly affects your troops in the same way. Land is green, with shaded areas showing where the land slopes up into hills. Water is blue, and sand is gold. Most other features of the terrain are easily identified from the picture -- trees look like trees, bridges look like bridges, and so on. A city appears as a block of houses and streets. If a block of houses is destroyed, it turns into a square of rubble. On the beaches, you will see triangular upright "beach obstacles," devices planted by the Germans to slow down tanks and artillery. Certain types of terrain will give attack or defense bonuses or penalties to the forces standing on them. Terrain affects different types of troops differently -- what is helpful or damaging for a foot soldier might not have much effect on a tank, and vice versa.

When you start a Micro Miniatures battle, all of the men in your units are sorted into one of three types of "pieces" -- Infantry (for foot soldiers), Artillery (for wheeled guns), and Tanks. On beach landings, you have a fourth type of piece -- the Landing Craft. (See the Quick Reference Card for pictures of each of these pieces.) The number of pieces you have depends on how many men are involved in the combat, both yours and the enemy's.

To determine the number of pieces each side will have, the total forces of the larger side are divided into up to 125 units (up to 100 infantry pieces, up to 15 tanks pieces, and up to 10 artillery pieces.) The number of men (or tanks or guns) in each piece is calculated, and the smaller side is issued enough pieces of the same size to make up his numbers. Therefore, whatever the actual size of the forces involved in the battle, there will always be roughly the same number of "pieces" on the Micro Miniatures field (somewhere between 125 and 250). Landing craft are the exception -- there are always twenty landing craft, no more, no less, and only the Allied side ever has them. Tanks and artillery pieces represent both the tank or gun and all the men manning the equipment, so they occupy twice as much space on the battlefield as the infantry pieces do. (Landing craft are also double-



sized pieces.) When all the men in the piece have been killed, the piece "dies" and is replaced on the field of battle by a "corpse" pieces. (Destroyed tank and artillery pieces also turn into infantry corpses.)

Changing the area of view in the display window works almost exactly as it does on the Campaign level. You can scroll in the same ways with the scroll bars, and the grid button remains the same as well. The micro-map has been replaced with a tan rectangle representing the battlefield, which you can use to move your view around quickly just as if it were the micro-map. The gridding works in a slightly different way, because unlike the strictly two-dimensional view on the campaign level, the Micro Miniatures screen attempts to give a three-dimensional feel to the graphics. Therefore, it's possible for pieces to "overlap" in ways they can't on the campaign level. (Once you learn how to select and move pieces, you may want to experiment with this to get a feel for how it works, or read the Micro Miniatures manual.)

To get an idea of the layout of the whole battlefield, go to the control panel and click on the button that says Over (3). This button will bring up the small version of the overview map and four more command options. This map toggles between two views. The first, Terrain, gives you a rough idea of the lay of the land, showing flat ground in brown, sloping ground in rust, sand in gold, water in blue, and obstacles (trees, fences, pillboxes, etc.) in tan. The second, Armies, shows you the German-occupied squares in gray and the Allies-occupied squares in green. Toggle back and forth between these views by clicking on the button with the option you want on it. Click on Magnify to bring up the Tactical Map, which gives you a larger overview of the battlefield. You'll use the Tactical Map to target your indirect support fire (from your battleships and planes) later on. (There are other interesting things you can do from the Tactical Map; see the Micro Miniatures manual for details.) When you are done viewing the field, click on Done and get ready to start giving orders.

### B. Playing Out the Battle (Normandy)

You begin the Normandy battle in Command Mode. In this mode, the control panel is displayed and you can give orders to your troops. You cannot actually move your troops in this mode, however; you simply issue commands which your pieces will carry out when you go into Play Mode. In Play mode, the control panel disappears so that you can see more of the battlefield at once, and you cannot give any commands to your troops.

The basic rules for selecting and moving pieces are the same as they are on the campaign level: right click on a piece to select it, and left click on its destination. But there are a few important differences you need to know about before you start giving orders.

First, there are three different Modes (16) which you can use to select pieces: single, group, and all. Single offers the greatest level of control -- you direct each piece's actions individually -- but is usually far too time-consuming to be practical once the battle starts. All mode is the simplest -- you move your army as one unit -- but provides little control. The Micro Miniatures system provides a middle mode called Group which offers you a balance between fine control and ease of play. When your pieces are created by the computer at the start of the battle, each piece is assigned a Group Number. When you are in Group mode, all pieces in the same group can be given orders at once. This allows you to, for example, send one group forward to skirmish while a different group circles around in a flanking action. You can change a piece's group number if you want (see the Micro Miniatures manual for details.)

Second, unlike the Campaign level, your pieces will not move instantly when you left click on the new position. Instead, the piece will "remember" what its orders are, and will carry them out in real time when you go to Play.

Begin by scrolling around the battlefield to get an

idea what the situation is. At the very top of the screen is a line of immobile troop transport ships which brought your army to the shores of France. Waiting on the ships are the Landing Craft. They are currently loaded with men, so you can see a number of small yellow dots in the center of the craft. (Empty landing craft have no dots.) Each landing craft can hold two pieces (the number of men in each piece is irrelevant -- only the total number of pieces in your forces matter for this.) Since you have numerical superiority, you'll have the full 125 pieces in your army. With your twenty landing craft, it will take you three trips to get all your men to the beach. Infantry and Tanks are always offloaded first, and Artillery pieces last.

Midway down the field is the beach itself, which is covered with barbed wire and beach obstacles. Beyond the beach are the German defenders (not many pieces, since you have them badly outnumbered) and their concrete fortifications. You want to get your troops onto the beach, and past the beach obstacles, so they can attack the Germans.

Find the Mode Box (16) and make sure that you are in All mode. Locate the leftmost landing craft and right click on its upper left corner. A white rectangle will appear around the craft. (No markings will appear around the other craft, but as long as you're in All mode you'll be giving orders to every craft when you give orders to the selected one.) Scroll down to the beach and left click. A white "X" will appear on the place you clicked. As soon as you go into Play mode, your selected landing craft will start to move toward that position. All the other landing craft will move with it, staying in the same relative position to the selected craft.

Now, click on Play (19) in the bottom right corner of the control panel. The control panel will vanish so that you can see more of the battlefield, and your landing craft will start to move through the water. You can halt the action and return to command mode at any time by clicking the left mouse button. Do this if you get confused or just want to stop the action and look around.

To scroll around the battlefield in Play mode, just move the mouse in the direction you want to scroll. (There is no mouse pointer.) A small rectangle representing the whole battlefield is displayed in the top left corner. Inset in this rectangle is a white box that shows you what area of the battlefield you are currently looking at.

As you watch, you should see your landing craft advance to the beach under fire. (It's possible for your men to get hit and killed while in the landing craft, but the landing craft themselves can't be destroyed.) When the craft hit the beaches, the men will automatically get out of the craft. This will take a few seconds. You may see explosions on the beach as the German artillery fires on your men from their bunkers, and your tanks will start to fire back. Left click to pause the action and return to command mode.

Select your first landing craft again, then scroll back out to the ships and left click on the left end of the last ship. Landing craft will load automatically if they land on a ship (assuming there are men still on the ship) but will remain empty if they fail to dock, in which case you might have to switch to single mode and start giving individual orders to get all your craft loaded.

Now go back to your men on the beach. Switch to Group Mode. Right click on the head of the infantry figure that's farthest to the left on the field. A white rectangle will appear around him, and gray rectangles will appear around the rest of the pieces in his Group. (Note that if the pieces in a group get spread out, you may have to scroll the screen to see where they all are.) Look at the place on the control panel labeled Men (5). When you are in group mode, you'll see two numbers separated by a dot, like this: 50.8. This tells you that there are fifty men in each of your pieces, and there are eight pieces in your currently selected group.

Scroll down past the beach fortifications and left click on the far side. You will see a white "X"

appear, and you should also see one gray "X" appear for each piece in the group after the first. When you go to play mode, those pieces will try to move to those positions. They may not all make it at the same time -- some may die on the way if hit by German artillery fire, and some may get slowed down by beach obstacles or wire. But they will all keep trying to get to their positions until they make it, or they die, or you give them new orders. If they run into a German piece, they will stop to fight it, and then continue on to their assigned position (if they survive the fight.) Remember that each piece represents many men, so even if the piece doesn't "die" it may well lose some of its men as the battle progresses, adding to your total losses.

Now, you'll probably want to go back and select the rest of your ground troops and give them assignments. Order them out over the beaches and after the Germans like you did the first group. The click on Play to resume the battle. As the action continues, you'll see animation depicting the events of the fight -- smoke and craters will appear from artillery fire, tanks will roll, and infantry will engage in hand-to-hand combat.

At this point you have several things going on at once. You have troops moving forward toward the enemy, and at the same time you have landing craft heading back to the ships to pick up the rest of your men. Continue going back and forth between Play and Command modes, giving new orders, until either someone wins (you will see a gray panel saying "The battle has ended" but not telling you who won) or you decide to call for a withdrawal. You can call for a withdrawal by clicking on the Retreat (17) button on the control panel, which will end the battle immediately, but since you've got a real advantage in numbers over the opposition that shouldn't be necessary. Chances are you'll win this battle handily.

At this point you should return to the Campaign tutorial and resume large-scale maneuvers until you are in position for the next battle -- the attack on the city of Caen.

### C. Setting Up Your Forces (Attack on Caen)

If you followed the Campaign tutorial properly, you should have a numerical superiority over the Germans in this battle as well (though not as great a one as in the Normandy battle.) Click on Over (3) to bring up the overview map and see how your forces and the German forces are arranged. (If the map is currently showing you the Terrain view, click on Armies to see the right map.) Since you attacked from the east, your forces will be on the east side of the field and the Germans on the west. The German forces are already set up in their defensive lines, while your troops are just sitting in blocks on the field, waiting for you to put them into a reasonable tactical position.

Close the overview map and scroll around the battlefield. Notice the block of houses and streets in the center of the map. This represents Caen. If the city is shelled, its buildings will turn to rubble. You can see that some of the Germans have taken cover behind the buildings in Caen, and others are standing on hills (which gives them a tactical advantage.) In order to give your troops a chance to successfully storm the enemy position, you need to arrange them better than they are now. All your tanks are clumped together at the top of the screen, the infantry are bunched in the middle, and the artillery guns are grouped at the far end.

Unlike in the Normandy battle, you begin the battle at Caen in Setup phase. During this phase, you can freely move your pieces around on your half of the battlefield to get them into position and try to take advantage of the territory. You can't move them into the German-controlled half of the field.

On the control panel, the only difference between Setup mode and Play mode (which you've already seen) is that the Play (19) and Autoplay (18) buttons have been replaced by the Move Pieces (18A) and End Setup (19A) buttons. Otherwise, everything else is the same and functions in the same way. You select pieces in the same way (in all three modes) and

choose their destination in the same way. However, when you get done issuing orders, you will click on Move Pieces (18A) and your men will instantly jump into position. All this happens in paused time -- the action hasn't yet begun and no combat is taking place.

The first thing you're going to do is get your tanks into position to act as your advance line. Scroll to the top right corner of the battlefield, where you should see a group of fifteen tanks. Put the game in Group mode if it isn't already, then click on the upper left corner of the tank in the upper left corner of the block. You'll see the white and gray selection rectangles appear, showing you which of the tanks are in the same group as your selected one. First, you're going to put this group of tanks into a more useful Formation (15), and then you're going to move them into position.

Click on a position about five squares down and five squares forward of the tanks' current positions. A block of "Xs" will appear (one white and the rest gray) showing where the tanks will end up. Click on Move Pieces (18A) and they will jump to their new location. Now go to the Formation (15) box. The first control in this box determines the orientation of the formation, the second controls the thickness, and the third controls the facing. Click twice on the up arrow in the first box, twice on the up arrow in the second box, and twice on the down arrow in the third box. This should give you a vertical line, with the men widely spaced (skirmish), and facing the Germans. Click on Move Pieces (18A) and your tanks will jump into their new formation. Set up the second group of tanks in a similar formation.

Note that if the movement of the pieces would cause them to occupy spaces which already have pieces in them, your formation or movement will be disrupted as the pieces with nowhere to go move into nearby empty spaces. So make sure that there's room for maneuvering before you call for a large formation or you might end up with a mess. You can either move a group or put it into formation in one move -- you can't do both at once.

Now click on one of the tanks in the first group again to select the group, scroll the map until you can see your infantry all neatly lined up, and arrange your tanks in a row in front of the infantry (between the infantry and the enemy). Do the same with the second group of tanks.

Click on All in the Mode (16) box. Your currently select tank will stay selected but the gray group boxes will vanish. Scroll toward the German lines and left click as close to the enemy as possible, then click Move Pieces (18A). Your whole army will jump forward. (If you can seem to get the white targeting "X" to appear, you're trying to move your men too far forward into the German lines. Try again, but don't go so far.)

Return to Group mode, and find your artillery pieces. Click on one of the artillery pieces to select the group, and move the artillery into position behind the infantry. Then arrange the artillery groups into skirmish lines facing the Germans in the same way you did with the tanks. Then return to All mode and make sure that you have your army as close to the German lines as you can get them.

You now have your forces in a block, tanks in front, infantry in the middle, and artillery to the rear. Although this is far from the optimal arrangement, it's a lot better than it was before. Before you start the battle, though, you want to call in your indirect support. Click on the button marked Indirect (13). This brings up the Tactical Map and the indirect support targeting screen.

Since you have both sea and air support for this battle, there will be a button in the middle of the screen reading either Air Support or Sea Support. Click on this button to change between the two types of indirect support. (If you have only one type available, this button will not appear.) On the tactical map you can see a rough layout of the battlefield, the German forces marked with gray squares and the Allied forces marked with green



squares.

On the command side of the screen it will tell you how many divisions of air or sea support you have available, and which division you are currently setting the target for. To move to a different division, click on Next or Previous. For each division, you set a target by left clicking on the tactical map on the place you want the bombs to fall. A white box will appear to show you where the target has been set. It's a good idea to try to target areas of the German lines where you don't expect your forces to be going, as otherwise you may wind up taking a lot of losses from "friendly fire." When you have set a target for each available division of indirect support (both sea and air), click on Finished to return to the main battle screen.

You're now ready to start the battle. Click on End Setup (19A) to switch to play mode. From this point, you should play the battle out just as you did in Normandy -- give orders to your forces and watch as they try to carry them out. Since you have tanks and the Germans don't, and you have numerical superiority as well, a simple charge right over the top of them is likely to bring you victory.

You now know the basics of the Micro Miniature system. There are a number of other useful and fun options you can use during these battles that were not covered here; please see the Micro Miniatures Manual if you want to find out what you've missed. Also, the tactics and formations used here are very simplistic -- you'll be able to come up with much more effective maneuvers once you've gained some experience with the system.

If you enjoy watching and directing the battles using the Micro Miniatures, but don't want to have to bother with setup, you can get the computer to do most of the setup for you by using the Quickfight and Rearrange Groups options from the Campaign Screen. (See the Campaign Manual for details on what these options do and how to enable them.)

This concludes the D-DAY tutorial. We hope you enjoy the game!

### How the Micro Miniatures System Works

NOTE: Reading this section may spoil some of the surprise and enjoyment you can get from discovering the game's workings by actually playing it. If you think this is likely to be true for you, you may want to skip reading this section. If not, read on for some insights into how the Micro Miniatures System calculates its battles, which will help you plan your battle tactics.

Choosing Gunfire Targets -- Each piece armed with a gun must decide whether to shoot at an enemy piece, and which target to select. Each of these is controlled by a different set of rules.

The rules for determining whether or not a piece should fire are:

A piece ordered to hold cannot fire.

A piece cannot fire while engaged in hand-to-hand combat.

A piece in water cannot fire.

The rules for determining which target to select are:

If the piece's order is to fire at will, it will fire at the closest target it can find in any direction.

If the piece's order is to fire at target, it will fire at the closest person in front of them, looking forty-five degrees to either side.

If the piece is Artillery, and it is ordered to fire at will, and you have Set a target for it, then it will aim for that target location.

Gunfire -- At regular intervals, each piece that decides to fire its gun will select a target and attempt to hit it. Calculating the success of the

attack is broken down into two areas: hitting the target and causing damage. Each is modified by different factors:

The chance to hit a target is based on several factors:

- range to the target
- quality of firing piece
- morale of firing piece
- formation ordered for the target's group; note that even when a formation of pieces is dispersed, the men within a piece remain in formation. Skirmish formations are harder to hit, while square formations are easier.
- terrain obstructions between shooter and target, including hills, barricades and especially trees, houses, and fortifications.
- weather on the battlefield. Dry weather is best and has no effect; as weather gets worse through rain and snow to fog, the chances to hit are decreased.

If the target is successfully hit, then damage is calculated based on these factors:

- damage rating of the shooter
- the number of men firing
- weapon type. Each type of weapon causes its own amount of damage, based on its destructive power. Light weapons (machine guns and rifles) must be very close to a tank to have any chance of damaging it.

Artillery Fire -- Basically, artillery operates identically to other pieces that fire guns, except for the following changes:

- Artillery can be set to fire at a particular location.
- When an artillery piece misses, it actually hits in another location near the intended target. If another piece is in that location, it suffers the full damage from the attack.
- The aforementioned misses happen in a small circle-

like area around the intended target, assaulting everything within it. This is therefore known as bombardment.

Artillery fire can destroy bridges, barricades, houses and fortifications as well as men.

There will usually be some damage to your own troops from "friendly fire," although this can be minimized with careful targeting.

An artillery piece or tank must have "line of sight" on its target in order to fire. A piece has line of sight if it is within seven squares of its target, or if there is another piece close enough to that target to act as a "spotter."

**Indirect Support Bombardment:** Air and sea bombardment rules work the same as artillery rules for determining hitting and damage, except that "line of sight" does not apply.

**Morale --** Each piece's rating in morale is based directly on its experiences in the battlefield. When a piece is successful in combat, its Morale increases; if unsuccessful it decreases. Not only that, but this success or failure affects pieces surrounding that one as well. In this way, each individual's morale and actions affect (and are affected by) the morale and actions of the other. Gunfire and artillery shelling in the area of a piece will decrease its morale. Additionally, the death of a nearby enemy piece raises the morale of your own pieces.

Morale affects the willingness of a piece to engage in hand-to-hand battle, and affects the abilities of a piece in hand-to-hand battle and when firing a weapon.

**Attack Initiative (or "Why won't my pieces engage?")**

-- If a piece has poor morale, it will not engage a nearby enemy even if ordered to. At this low morale level, the piece would rather be insubordinate than risk its life (or lives). If such a piece's morale is raised by nearby events, then it will return to the fight.

**NOTE: This does not apply to artillery pieces, who will never engage in hand-to-hand combat unless directly attacked.**

**Hand to Hand Battles -- When two opposing pieces meet a hand-to-hand fight ensues. There is one calculation, based on the following factors:**

- the advancing unit's attack strength**
- the defending unit's defense strength**
- the number of men in each piece**
- the terrain the two pieces are on**
- the quality of the two troops**
- the morale of the two troops**
- the number of other enemy/friendly troops immediately nearby**
- whether the piece has orders to fire, as this hampers hand to hand combat**

**The results will generally cause the loss of men in both fighting pieces. The side with fewer losses will experience a gain in morale, while the losing side's morale will drop. The losing side will pull back from the assault to regroup, and if it suffers sufficient damage, it will keep on going into retreat.**

**Death -- When a piece loses all of its men, it is destroyed and it changes to a corpse.**

**Effects of Weather -- Weather has two effects: on accuracy when firing a gun or artillery piece (see above), and on visibility when Fog of War is activated (see below).**

**Basic Ratings -- The attack, defense and movement ratings for each type of piece are as follows:**

	<b>Attack</b>	<b>Defense</b>	<b>Movement</b>
<b>Infantry</b>	1	1	2
<b>Tank</b>	3	3	3
<b>Artillery</b>	1	1	1

**Weapons Ratings -- Each weapon has its own effective**

range (measured in map-squares), rate of fire, and power. They are listed below (the weapon range also appears in the Orders: Fire (13) display when you are in single mode):

Weapon	Range (in squares)	Rate of Fire	Power
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#### Infantry

##### Weapons

M1	4	3	1
Lee Enfield	4	3	1
Mauser	4	3	1
Thompson	2	4	1
Sten	2	4	1

##### Submachinegun

MP40	2	4	1
.30.50 MG	10	5	1
LMG	4	5	1
.60.80	16	2	3

#### Mortar

#### Tanks

Sherman M4	37	2	3
Stuart M5	29	2	3
M7	44	2	3
Churchill	37	2	3
Cromwell	37	2	3
Panzer IV	37	2	3
Panther	37	2	3
Wespe	42	2	3

#### Artillery

##### Weapons

155 mm	49	1	3
Howitzer			
105 mm	44	2	3
Howitzer			
155 mm Gun	84	1	3
4.5 Gun	49	1	3
25 Pounder	49	1	3
6 Pounder	10	2	3
105mm	42	2	3

##### Howitzer

150mm    117    1    3  
Howitzer

Terrain -- The terrain your pieces encounter on the battlefield will affect how they move and fight, according to the rules below:

Type	Move Effect	Combat Effect
Grass	None	None
River	Slows	Decreases defense/attack
Trees	Slows	Increases defense
Hill	Slows	Increases defense/attack
Crests		Increases defense
Barricades	Slows	Increases defense
Sea	Slows	Decreases defense/attack
Beach	Slows	Decreases defense/attack
Houses	Slows	Increases defense
Rubble	Slows	None

Weather and Visibility -- When Fog of War is on, the range at which you can see enemy pieces is determined by the weather, as indicated below:

Type of Weather	Range of Visibility
Dry	16 map-squares
Wet	12 map-squares
Snow	8 map-squares
Fog	4 map-squares

#### Designer's Notes

D-DAY can be described as a typical campaign-style wargame wherein the battles are resolved, not by

rolling dice and consulting tables, but by having your computer play out the scenario as you watch. It merges the two classic styles of wargaming: large scale conflicts played out with cardboard counters, and individual battles played out with tabletop miniatures. Translating these styles for play on a computer necessarily demands changes -- some for the better, some perhaps not. While there are considerable advantages, something is lost as well.

I find the loss of the panoramic view is the biggest disadvantage. Although D-DAY displays quite a reasonable field of view, it doesn't match up to what you can get by covering your den floor in a cardboard carpet decorated with two colors of cardboard confetti. On the plus side, however, I find that the computer medium adds a new dimension to the play, and challenges players to rethink some of their "old ways." It also allows us to add features that never really worked in the old classic wargames.

For instance, in a classic wargame the numerical figures for the troops involved have to be greatly simplified, especially for the resolution of battles, as otherwise the amount of accounting work required to determine the outcome would be insupportable. Computers, however, love this sort of number crunching, so your forces can be easily tracked down to the last man, tank, or artillery piece -- although including this level of detail in the play generates its own problems, since the available historical data is very often incomplete or contradictory. Certainly, getting reasonably accurate information for D-DAY was easier than getting similar data for the American Civil War (for *The Blue and the Gray*), but there were still discrepancies, both between accounts compiled by learned scholars, and between members of our own staff, who would often argue about exactly who was where, and when.

Another major advantage to the computer simulation over a standard cardboard-and-miniature wargame is that hidden movement can be dealt with effectively and realistically. The accuracy of the "Fog of War"



rules we've incorporated can be debated, but they are definitely an improvement over hanging a blanket down the middle of the den to separate your forces from those of your opponent.

Does this imply that I believe computer games are "better" than the old classics? In truth, I believe a good game is a good game regardless of format -- and so, along with the new breed of computerized wargames, I'll be still playing some of the old classics. Computerized wargames are not necessarily "better" than the old style of games -- just different.

One definite difference between a computerized wargame and a standard one is the possibility of playing a solo game, testing your capabilities as a commander against the computer's programmed strategy. To make the computer a challenging opponent, I have based the computer's "moves" on time-tested battle techniques, and also given it the same historical hindsight that the human player possesses -- for instance, unlike the German commanders in the actual D-Day invasion, the computerized German player will not always wait for the second thrust further up the coast from Normandy, but like most (well, all) of the human opponents I've had will react to Normandy as the main invasion.

While we earnestly believe that "the customer is always right," the complexity of our games sometimes lands us in the situation of two different customers wanting two different -- and mutually incompatible -- things from our products. We've done our best to provide something in D-Day to please everyone. For the casual wargamer or the computer game fan who wants something quick and entertaining, we have included options such as Quickfight, to simplify and shorten the game. For the experienced wargame player, we have included a number of options to increase the detail, complexity, and realism of the game (and also the time it takes to finish.) For example, the Supply option brings the problem of keeping your troops in food and ammunition to a realistic level, and the Personality option will

give your generals minds of their own -- which might result in them going against your orders from time to time!

D-Day has been a lot of fun to build, and I hope it will be at least as much fun for you to play.

-- Edward Grabowski

### Technical Tips

We have found that many of the common problems our customers experience with their machines have simple answers. If you are having one of the problems listed below, the solution provided should be tried first before you search any further for answers.

#### 1. Abnormal Program Termination

The "ABNORMAL PROGRAM TERMINATION" error usually indicates that a program cannot run because the system has not been configured to free up enough conventional memory. Under DOS, conventional memory is limited to 640 Kilobytes (K) total (regardless of how much RAM is installed in the machine) and is reduced by DOS and various Terminate and Stay Resident (TSR) programs. Most of our games will comfortably run with 585K or better of free conventional memory.

To find out which version of DOS you are using, type "VER<enter>" at any DOS prompt; this will return a message that says "MS-DOS version n.nn" where "n.nn" refers to some number, "6.02" for example.

- If your DOS version is 5.0 or higher: type "MEM<enter>" and find the "LARGEST EXECUTABLE PROGRAM SIZE".

- If your DOS version is lower than 5.0: type "CHKDSK<enter>" and find the "BYTES FREE". If the free memory value is less than 585k, the system configuration needs to be altered to increase the free conventional memory.

To increase free conventional memory:

- a. For DOS 6.0 or higher, run MEMMAKER (If the drive is compressed in some way, make sure the device driver is loaded in the CONFIG.SYS file so that it can be properly placed in upper memory). If this doesn't free up enough memory, create a boot disk, as described below.
- b. Alter your CONFIG.SYS and AUTOEXEC.BAT files to load DOS, device drivers and other TSRs into upper memory at boot up (consult your DOS manual for specifics on how this is done).
- c. Create a Game/Boot Disk. If you don't know how to do this, consult the following Tech section entitled "Creating a Game/Boot Disk".

## 2. Creating a Game/Boot Disk

These instructions will work best with an 80386 or better computer with two megabytes or more of total system memory running DOS version 5.0 or better. If the CPU, memory or DOS version recommendations are not met, the instructions below should still work, but will most likely result in error messages that can, for the purposes of a game/boot disk, be ignored.

Creating a boot disk from DOS:

Format a floppy disk in drive A: (place a blank disk into A: and type "Format A:"; follow the instructions onscreen; if an error message is encountered, make sure the disk is the correct density for the drive and then consult your DOS manual).

Place a blank formatted floppy disk into drive A: and type:

C:<enter>

SYS A:<enter>

DOS 5.0 and higher:

COPY CON A:CONFIG.SYS<enter> (It is normal that the prompt no longer appears when you type <enter>) now type:

DEVICE=C:\DOS\HIMEM.SYS<enter>

DEVICE=C:\DOS\EMM386.EXE NOEMS<enter>

DOS=HIGH<enter>

DOS=UMB<enter>

<ctrl>-Z<enter> (hold down the <ctrl> key and type "z")

Now continue through the following instructions for DOS 3.0-5.0.

DOS 3.0 and higher:

now type:

COPY CON A:AUTOEXEC.BAT<enter>

PROMPT \$P\$G<enter>

PATH C:\DOS<enter>

C:\MOUSE\MOUSE.COM<enter> (alter this line depending on the path and name of your mouse driver \*.COM file.)

C:<enter>

<ctrl>-Z<enter> (hold down the <ctrl> key and type "z")

If the hard drive is configured with auto-compression software, such as Stacker or DoubleSpace, refer to that package's manual for instructions on loading the driver into upper memory (Note: device drivers cannot be loaded into upper memory unless the CPU is a 386 or better).

To boot from this floppy disk, leave it in drive A: and restart the computer. Change to the directory that holds the game, then type in the command appropriate to run the program (then have fun).

### 3. Mouse Problems

If your mouse does not work at all:

-Is the mouse installed for DOS? Windows uses its own drivers, and therefore works without a properly installed DOS mouse driver, so you cannot assume that because a mouse works with a Windows system that a mouse driver for DOS programs is currently installed.

To find out whether or not such a driver is installed:

-enter a DOS application that supports a mouse, such as the EDIT utility (DOS 5.0 or later) or a DOS word processor (or anything else that loads from the DOS prompt and uses a mouse). If the mouse does not

respond at all in such a program, then the DOS driver is not properly loaded. Check the disk or manual that came with your mouse for instructions on how to install it.

-Do you have enough conventional memory free? Some programs incrementally sacrifice sound or mouse functionality when sufficient memory resources are not available. Refer to your DOS manual for instructions on how to increase free conventional memory.

If the mouse works sporadically (jumping around, not clicking properly, etc.):

-You may not have a 100% Microsoft compatible mouse driver (This has nothing to do with hardware, only software). Check your hard disk for a file called MOUSE.COM, as some upgrade versions of DOS include this Microsoft mouse driver (type "dir mouse.com /s<enter>" at the C:\ root directory prompt). If not already on your system, such a driver can be obtained from either the vendor or manufacturer of your computer.

#### 4. Sound Card Setup

Setting sound card parameters:

To use a sound card with an Impressions program, it is sometimes necessary to set a number of parameters using the setup utility located in the game directory.

The significant values are the I/O Address, the Interrupt Request Channel (IRQ) and the Direct Memory Access (DMA) values of the relevant sound card. These can sometimes be found on a line in the AUTOEXEC.BAT file, which is found in the root directory of the main hard disk (C:\); if, for example, you own a Sound Blaster or compatible the line might begin with something like: "SET BLASTER" (if the card is something other than a Sound Blaster, it might be something else, "SET PROAUDIO" for example) followed by a sequence of letter/number combinations including: Annn, In, Dn (where n represents a numerical digit); Annn is the address, In is the IRQ and Dn is the DMA value.

The setup program allows for specification of the type of sound card as well as the Address and IRQ values of the installed card (DMA is usually assumed to be 1 which usually cannot be changed in the setup utility); If any of these are incorrectly set, sound will not work with the program.

If no SET BLASTER, or similar, line is found in the AUTOEXEC.BAT file, consult either the sound card manual or the technician who installed the device to obtain the Address, IRQ and DMA values.

**Sound card emulation:**

If you are using a card that is not listed as an option in the setup program, it probably emulates something else. It is usually a good idea to use the oldest version of whatever card your system is emulating (i.e. choose SoundBlaster over SoundBlaster pro), as the older cards are usually better documented so that emulation of those usually works better.

### 5. Memory Managers

Third party memory managers, such as QEMM, 386Max, etc. sometimes cause problems. They make certain assumptions about memory use which are not true of many high performance graphics intensive programs. If you are using one of these memory managers and encounter graphics distortions, try temporarily disabling third party memory managers.

Boot up from a system disk whose CONFIG.SYS and AUTOEXEC.BAT files load only the memory management utilities included with MS-DOS (HIMEM.SYS and EMM386.EXE). To free conventional memory use the DEVICEHIGH and LH instructions, with the DOS memory managers, to load TSRs and device drivers into upper memory.

If you don't know how to create a system disk, consult either your DOS manual or the previous Tech section called "Creating a Game/Boot Disk".

Still Having Problems? Before You Call...

In order to allow us to help you more effectively, please try to follow the suggestions below before

you call for help. This will assist us in finding the answer to your problem as quickly as possible so that you can begin playing and enjoying your new game. Remember to consult the README.TXT text file in the game directory on your hard disk for last minute changes to game play and technical information.

- 1. READ AT LEAST THE FIRST FEW CHAPTERS OF YOUR DOS MANUAL.** The more you know about the operating system your machine is running the easier it will be for any technical support to help you solve any problems. You should at least be familiar with how DOS commands work, what disk files and directories are and what utilities are available on your machine for editing text files.
- 2. FIND OUT AS MUCH AS POSSIBLE ABOUT HOW YOUR MACHINE IS CONFIGURED.** What version of what brand operating system is running on the machine? (At the DOS command prompt, type "VER" and hit enter to find out what version of DOS is running) What kind of chip is running your machine? ('486? '386? '286? 8086?) How much memory is in the system? How much conventional memory is free? (Free conventional memory should be above 580k or so) How much hard disk space is free? What kind of video card is in your machine? (SVGA? VGA? EGA? Brand name?) What kind of sound card, if any, is in your system? Do you have a CD-ROM drive? Are you using Stacker, Doublespace or some other kind of disk compression? Are you using QEMM or some other third party memory manager? If Windows 3.1 is installed on the machine, you can run Microsoft Diagnostics to find out some of these things, if you do not already know about them (type "MSD", then hit <enter> at the command prompt). If necessary, call whomever it was that originally configured your system to answer these questions.
- 3. SET UP THE COMPUTER NEAR THE PHONE WITH THE PROGRAM INSTALLED ON THE HARD DRIVE.** It is very difficult for a technical support person to troubleshoot a computer problem over the phone without having access to the machine in question

while it is running. If this is not an option, list every detail about the occurrence of the problem, including all pertinent system configuration information, and keep this list handy when calling tech support.

4. **DEFRAG YOUR HARD DISK.** Non-contiguous files on a hard disk can sometimes cause strange and mysterious things to occur. While in the game directory, type "CHKDSK \*.\*", then hit <enter> at the DOS prompt to find out if all the game files are contiguous or not. A hard disk can be defragmented, or defragged, by using a disk utility program such as SPEEDISK, which is packaged with Norton Utilities, or DEFRAG, a program included with MS-DOS version 6.0 or above. This reorders disk space, making stored files contiguous. If a hard drive has not been defragged for more than a month, and has been used even moderately, it is likely that many of the files on the disk have become non-contiguous.
5. **CHECK FOR VIRUSES.** Viruses can mess up even the most carefully configured system. Use a memory-resident virus checker (such as VSAFE, a utility that comes with MS-DOS version 6.0 and above) whenever you insert new disks into your machine, and run an anti-virus utility (such as MSAV, another utility that comes with MS-DOS v.6.0 and above) before you call.

### Technical Support

If you have difficulties with this game and cannot find the solution in this booklet, please call our Technical Support Line at the number listed in the data card contained in The Definitive Wargame Collection. Please call between the hours of 5:30 p.m. EST, Monday through Thursday, and 9am-5pm EST on Friday, and a member of our support staff will assist you. We will be best able to help you if you are at your computer when you call.

Impressions Software also supports a BBS system to provide the latest product information, software updates, and software patches. If you have a modem, you can reach our bulletin board at (617) 225-2042.



Information about Impressions can be found on several of the major on-line services. General information about Impressions games can be found in the following places:

CompuServe: Type "GO GAMEPUB" and look for the Impressions section.

GENie: Type "M805;1" and watch Category 9 ("Strategy and War Games") for the IMPRESSIONS topic.

Prodigy: JUMP to "GAMES BB" and look in the "Strategy/War Games" topic.

Impressions can also be contacted directly through the following addresses:

CompuServe: 71333,463

GENie: IMPRESSIONS

Prodigy: BCFP34A

If you are not a member of any of these services, and are interested in obtaining more information, please contact:

CompuServe: Dial 1 (800) 524-3388 and ask for operator #417 to receive a free introductory membership, \$15 usage credit, and a month's worth of basic services free.

GENie: Dial 1 (800) 638-9636 for a service representative from 8 a.m. to 12 midnight Monday through Friday, and from 12 noon to 8 p.m. weekends.

or Use your modem between 8 a.m. and 6 p.m. to connect directly to GENie at 1 (800) 638-8369.

Prodigy: Dial 1 (800) 776-3552 and ask for extension 518.