Sundog Systems Presents:

War Monger
"A World At War"

An incredible War Game Construction Set and Simulator for the Tandy Color Computer 3 with 128K/512K

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A WORLD AT WAR

INTRODUCTION

The premise of this game is to create two armies (Black and White) and have them fight against each other. The computer can control both, one, or neither armies if you like. The armies are placed on a square battlefield that is 64 spaces long on each side. In each space will be a type of terrain. You can design your own types of terrain or use those provided for you. Each army is made up of 1 to 60 individual "units". Each unit has its own unique strength, firepower, range, movement capabilities, icon, and many other characteristics. All of this information makes up a "war". Wars can be saved to disk and recalled at later times. Each war file takes up sixteen granules.

A World At War is a very complicated game. You will need to read the entire manual to fully understand it and use it to its full potential. As you read it, have the program running on your computer and test what the manual says. You will be able to learn much faster this way.

LOADING

Before you load the game you should make a backup copy of both disks. To load **A World At War**, insert disk 1, type LOADM"WAR" and press enter. The program will auto-execute. You will then see a menu with a list of options. Every time you run **A World At War** it will automatically load a blank war called DEFAULT.WAR. If you are creating a war, you can begin editing right away without having to load

another war and modify it. However, if you plan to load another war right away, hold down the BREAK key while the game is loading. This will stop the default war from loading.

MENU

There are seventeen options you can select from the menu. To activate an option, press the key corresponding to the letter in front of the option. These functions are described below. In most cases, the BREAK key will return you to the menu when you are finished with that option. To exit **A World At War**, press Q (for Quit). At the next prompt press Y (for Yes) and you will be returned to Basic.

APPEND DATA FROM FILE

This option will allow you to copy a poriton of a war file to the one in memory. You will first be given a list of eight sections that you can append:

1) Initial Units
2) White Army
3) Black Army
4) Weapon Names
5) Palette
6) Icon Graphics
7) Terrain Graphics
8) Map

You can press BREAK to abort or press 1-8 to select the section you want to append. You will then be given a directory of the war files in drive 0. Again you can press BREAK to abort. Otherwise type in the filename without an extension and press ENTER. The data will be loaded into memory and you will be returned to the menu.

EDIT BLACK/WHITE ARMY

Pressing the B key at the menu will allow you to edit the Black army and pressing W will allow you to edit the White. These functions are the same except that they operate on their respective armies. You can jump from one option to the other without having to return to the menu. Pressing B will transfer you directly to the EDIT BLACK ARMY and pressing W will send you to EDIT WHITE.

At the top of the screen you can now see the words "Black/White army unit number:" followed by a number from 1 to 60. To advance the unit number by one you can press the + (plus) key (do not use the shift key). To back up one unit, press the - (minus) key. Below that are a list of attributes of the present unit. A blue selection line indicates which attribute you are editing. Pressing the up and down arrow keys will move the blue indicator.

Under the unit number is the type of unit (for example, Barbarians). Under that are the characters W: followed by the weapon the unit is using. When the blue selection line is at one of these places, you can press the left or right arrow keys to select a different type or weapon.

STRENGTH: To the right of the word "Strength:" you can see a two digit number which is the strength of that unit. Strength can range from 0 to 99. If the blue indicator is here, then pressing the left arrow key will decrease the number and the right arrow will increase the number. You can also type in a two digit number to change it (ex: 06). Pressing the CLEAR key will reset it to zero. This procedure is the same for changing all other attributes.

FIREPOWER AND DEFENSE BONUS: These two attributes can range from 0 to 99. The Firepower Bonus can also have six additional values. When the

Firepower Bonus is zero, press the left arrow to select one. These special bonuses can cause special damage to enemies.

Firepower Bonus	Effect in Combat
IW	Impair weapon for one round
DW	Damage weapon for one round
CW	Cripple weapon
IM	Impair movement for one round
DM	Damage movement for one round
CM	Cripple movement

When the unit you are editing fires on another unit and does at least five points of damage, the special Firepower Bonus you selected would go into effect. A unit with an impaired weapon would not be as effective in combat on its next combat phase. A unit with a damaged weapon would not be able to fire for one round. A unit with a crippled weapon would not be able to fire for the rest of the game. A unit with impaired movement would only get half as many movement points on its next turn. A unit with damaged movement would not be able to move on its next move phase. A unit with crippled movement will not be able to move for the rest of the game.

RANGE AND ROUND OF ENTRY: Range is the number of spaces a unit can reach with its weapon, from 0 to 99. A unit with a range of 99 will be able to hit any other unit no matter what the distance is. Round Of Entry is what round the unit will first appear on the board. It can range from 1 to 32. You can use this to make reinforcements arrive later during the war.

MOVEMENT POINTS: When you move the unit from one terrain to another, it will cost a certain number of movement points depending on the terrain the unit is moving into. A unit can have up to 99 movement points.

MOVEMENT COSTS: There are ten of these, each with a value ranging from 0 to 31. A value of 31 indicates that that unit cannot move into that type of terrain, no matter how many movement points it has.

When you are done with the first screen, you can press the spacebar and go to the second. The +/- and arrow keys work in the same manner as on the first screen. Pressing the spacebar again will return you to the first screen.

FIRE AND MOVE TACTICS: There are two types of tactics which the computer will use if it controls the army you are editing. They also can be changed using the left and right arrow keys.

Fire Tactics:
Fire on nearest enemy
Fire on strongest enemy
Fire on weakest enemy
Retaliate when possible
Retaliate only
Concentrate fire on one enemy

Move Tactics:
Move toward nearest enemy
Move toward strongest enemy
Move toward weakest enemy
Move toward last fired on
Move toward cities
Remain stationary
Capture flags
Move north/south/west/east always

Only a few of these really need explanation. A "Retaliate when possible" unit will fire on the nearest enemy unless it is attacked, in which case it will retaliate. A "Retaliate only" unit will attack only after it has been attacked. A "Concentrate fire on one enemy" unit will fire on an enemy who is within range of the most friendly units; such units tend to

gang up on one enemy. A "Move toward cities" unit will move into the nearest city where it will remain for the rest of the game. The "Remain stationary" unit will not move if it is controlled by the computer. However, if it is being controlled by a player, normal movement applies.

The tactics are followed by eight flags. A flag can have a value of YES or NO. The flags can also be changed using the left and right arrow keys.

Flags:
Active Unit
Armored
Armor Piercing
Transport
Transportable
Ignore Terrain
Recover Strength
Entrenchable
Replenish Strength In Cities

The active flag is usually set to NO. The PLACE option will allow you to place the units, and when you do, this flag will automatically be set to YES. It is best not to change this flag.

Certain units can be armored or armor piercing. If an armored unit is attacked by a unit that is not armor piercing, the armored unit will get 10 extra defense points. A tank would be both, infantry neither, and artillery armor piercing only.

Certain units can also be transported by others. If you want the unit to be capable of transporting others, set the Transport flag to YES. If you want it to be transportable (as in the case of infantry), set the Transportable flag to YES.

Certain units (such as aircraft) do not need separate terrain costs. If the Ignore Terrain flag is YES, then the cost of moving from one space to another is always one (normal terrain costs are ignored). Such a unit cannot be captured.

A unit which has its Recover Strength flag set to YES will recover 2 points of strength per round. It's strength will never become higher than what it started with.

An Entrenchable unit can entrench itself onto four different types of terrain to gain an extra 10 defense points: clear and rough terrain, ridges, and hills. Usually only infantry type units can entrench.

A Replenish Strength In Cities unit will replenish 3 strength points per round provided that it is occupying a city.

At the bottom of the screen are all of the icons that are available. The icon is what the unit will look like on the map. There is a white cursor that identifies the icon. You can select one by using the < and > keys. The ENTER key will move the white cursor down one line.

There are two additional operations you can do on either screen. The first is the capacity to copy one unit to another. Move to the unit you want to copy using the + and - keys, press C (for Copy), move to the unit you want it to be copied to, and press H (for Here). To make another copy of this unit at another location, you would simply have to press H again.

The second operation can greatly cut down the time it takes you to create an army. It allows you to set all of the above attributes with one keystroke. Pressing I will initialize all of the unit's attributes to predetermined values according to its unit type. Try selecting Archers and then press I. As you can

see, all the attributes have changed. These attributes are unique to Archers, and are different for other types. These initializing values can also be changed using the EDIT INITIAL UNIT VALUES option at the menu.

It is also possible to use the joystick when editing units. If you have selected that you will be using at least one joystick (see the JOYSTICK option) then it can be used to change attributes. Moving the joystick up is like pressing the up arrow key, just as moving it down is like pressing the down arrow key. To change an attribute, hold down on the fire button and move the joystick left or right. Left will decrease the attribute and right will increase it.

You can stop editing the army by pressing the BREAK key. You will be returned to the menu. This will work on either screen.

CLASSIFY TERRAIN

This option has several functions. At the top of the screen you will see the words "DEFENSE BONUS:" followed by a number from 0 to 31. If a unit is attacked while it is on this terrain, it will get this many additional defense points. Pressing the left arrow will decrement the number by one and the right arrow will increment the number by one.

Below this are twelve classifications for the current terrain. The one that you have selected will be in blue letters instead of white. The up and down arrows will select a different classification.

Clear
Rough
Ridge/Hill
Bridge
Paved Road
Gravel Road
Forest
City
Water
Wall
Mountain
Other

Pressing the CLEAR key will reset the Defense Bonus to 0 and the class to Clear.

At the bottom of the screen is a selection set of terrains. You can use the < and > keys to select a different terrain or press the ENTER key to go to the next set. There are 9 sets totalling 200 different types of terrain.

To the right of the screen are the words "WORLD MAP COLOR:" and a block of color. This is the color that the terrain will show up as on the world map (see Appendix B). Pressing C will change the color. There are sixteen colors in all.

Below this are the words "PALETTE #:" followed by a number from 0 to 15. This is the palette number for the world map color. Notice that it is incremented by one when you press the C key. Below this is the word "COLOR:" followed by a number from 0 to 63. This is the color that is in the current palette. Pressing + will increment it by one and pressing - will decrement it by one.

It may be that your monitor or television does not get the same colors as the one A World At War was progammed for. If this is the case, you will need to come to Classify Terrain and modify all the palette

colors. Below is a list of the colors that should correspond to each palette. Be sure and return the world map color to its original palette. You can then save the Default file back to disk, assuming it is a copy and you have made no other changes to it.

Palette	Color
0	Black
1	Red
2	Blue
3	Green
4	White
5	Yellow
6	Orange
7	Purple
8	Medium Grey
9	Dark Grey
10	Light Green
11	Dark Green
12	Light Blue
13	Pink
14	Brown
15	Peach

By pressing the T key you can go directly to the EDIT TERRAIN option. Pressing the BREAK key will return you to the menu.

DIRECTORY

This helpful option will allow you to get a directory of drive 0 without returning to Basic. The exact number of bytes in the file is printed next to the number of granules, otherwise the format is like Basic's. The spacebar will pause the listing. Press it again to continue. After the directory the number of free granules is also printed. Then, press any key and you will be returned to the menu.

GO TO WAR

Once you have loaded the war you want to play you can begin the war at the menu by pressing G. If the war was an old one that you had saved in the middle, you would want to use the RESUME option instead (see RESUME).

You will first be given a list of options that you can change:

1) Who will play the white army: computer or player
2) Who will play the black army: computer or player
3) Can game be won by capturing flags: yes or no
4) Can units call up enemy status: yes or no
5) Units can be captured: yes or no
6) Computer view mode: Normal, Fast, World, or None

You can press BREAK to return to the menu, or press 1-6 to change an option. Be sure and look them over, because they are initialized each time you Go To War. These options are pretty self explanatory, except for the last. The view mode affects what you see on the screen when it is the computer's turn. The Normal mode has normal sound affects and a pause with each separate engagement. It will also show you a section of the map, with the currently attacking unit in the center. You will also see the computer move its army. The Fast mode has no sound or pause, but it does display the attacking unit. The World mode will show you the world map during combat and otherwise act like the fast mode. All three of these modes will give combat readouts at the bottom of the screen. The last mode, None, will not change the screen in any way while the computer is playing, aside from updating the strength of each army at the top of the screen.

There are six phases of combat you will go through in one round:

WHITE OBSERVATION
BLACK OBSERVATION
WHITE FIRE
BLACK FIRE
WHITE MOVE
BLACK MOVE

If an army is controlled by the computer, then you can't do anything during its phases except watch according to the view mode. Otherwise, you will control the army until you are done with it. An explanation of this is given below. But first, there are some options common to all phases: Bottom, Concentrated, Done, Quit, Top, Vanish, and World Map. To activate one of these, you can simply press the first letter of the function. Top and Bottom will put the orange cursor at the top or bottom of the map. Concentrated will put it where the units are most concentrated. Done will end the phase and go to the next. Vanish will make all the icons disappear so that you can see the terrain under them, and reappear when you press V again. The World Map function is explained in Appendix B. Quit will return you to the menu. To avoid accidents, you must press the Q key twice when returning to the menu. At the bottom of the screen during all phases will be a list of these functions (and additional ones unique to that phase) to remind you.

Another thing common to all phases is the configuration of the screen. At the top you can see PHASE: and the name of the phase you are in. In the top right corner is ROUND: and the round you are in. Below this are the words WHITE:XXXX/XXXX BLACK:XXXX/XXXX. Instead of X's there will be numbers. The first will be the total strength of that army, and the second is the total strength the army began with. Under these two lines is the map window.

Under the map is a space for a unit status (see Appendix A) and at the very bottom of the screen is the aforementioned list of functions available.

If the computer is controlling both armies, there is not much you can do except watch. To stop the war, hold down the BREAK key and you will be returned to the menu as soon as the computer is done with the phase. Below is an explanation of each phase when played by a player.

Observation Phase

This is the first two phases of the game. Reinforcements may appear for the first time. If another unit is positioned in the space where a reinforcement is supposed to appear, then the reinforcement will appear one space south instead. Before the phase begins, any units that occupy a city and have their Replenish Strength flag set to YES will receive 3 strength points (unless this exceeds their maximum strength).

Any units that are on top of a flag terrain at the beginning of the observation phase will change it to the color of their army. If you selected the option that the game can be won by capturing all the flags, you might receive a victory message and the game will end.

If a unit has been wounded in combat and its Recover Strength flag is YES, it will receive up to 2 strength points. Unless you specified at the options menu that units cannot be captured, the computer will also check for units being captured. If a unit is surrounded by at least four enemies, it will be considered captured. It cannot entrench, fire, or move. It can be rescued if a friendly unit moves up next to it and there are less than four enemies next to it. Units who have the Ignore Terrain flag set to YES cannot be captured nor can they rescue

captured units. They can assist in capturing the enemy, however.

This phase has three purposes. The first is simply to observe the status of the units. When you have the orange cursor on a unit, its status will show up (see Appendix A). However, if the unit is an enemy, and you selected the option that units cannot observe enemy unit status, then the status will not show up.

The second purpose is to allow you to entrench and unentrench any of your units. Pressing the E key (or the fire button) will toggle the Entrenched flag (if that unit is capable of entrenching). When a unit is entrenched it gets 10 extra defense points but cannot move during the Move Phase. Units can only entrench on clear terrain, rough terrain, hills, or ridges.

The third purpose is to allow a unit to board or get off a transport. If you have a transportable unit that is right next to a transport, then you can move the orange cursor to the transportable unit and press the L key (for Load). This unit will load itself onto the transport and disappear from the screen. Notice that the transport now has its TP flag (see Appendix A) turned on. When a transport is moved, its cargo will be moved with it. To unload a transport, you would position the orange cursor right next to the transport (in empty terrain) and press the U key (for Unload). The unit it was transporting will reappear at the cursor. A unit cannot unload on terrain that has a movement cost of 31. If a transport is destroyed in combat, the unit it was carrying will also be destroyed.

Fire Phase

This phase allows you to fire on the enemy. This is done by positioning the orange cursor over a friendly unit. You can then press the spacebar, the A key (for Attack), or the fire button to select that unit as the attacker. Unless the unit has a damaged or crippled weapon or has been captured, the cursor will turn red indicating that you have selected the attacker. Any enemy units that the attacker cannot hit will disappear. You may now select the enemy you want to fire on. Move the red cursor to the enemy, and again press the spacebar, A key, or joystick button. If the red cursor is over empty terrain or a friendly unit, the fire will be cancelled and the cursor will become orange again. Otherwise your unit will fire on the enemy you selected.

When a unit fires on another, some information will be printed on the second to last line of the screen. You will see: "XXX VS XXX DAMAGE=XX". In place of the X's there will be numbers. The first is the attacker's score and the second is the defender's score (explained below). The third will be the ammount of damage the enemy sustained. The damage will be subtracted from the enemy's strength. If the strength is reduced to zero, the unit will be destroyed. There are seven messages that may also be printed next to DAMAGE=XX.

Message	Meaning
DESTROYED	Enemy was destroyed
WEAP IMPRD	Enemy's weapon has been impaired
WEAP DMGD	Enemy's weapon has been damaged
WEAP CRPLD	Enemy's weapon has been crippled
MOVE IMPRD	Enemy's movement has been impaired
MOVE DMGD	Enemy's movement has been damaged
MOVE CRPLD	Enemy's movement has been crippled

The attacker's score is found by adding his strength and firepower bonus. If the attacker has an impaired weapon, this total will be cut in half. The defender's score is found by adding his strength, defense bonus, and any special modifiers. The special modifiers include armor, entrenching bonus, and a special bonus for the type of terrain the defender is on. The defender will not receive terrain bonuses if its Ignore Terrain flag is YES. An entrenched unit will get 10 extra defense points. If the defender is armored and the attacker is not armor piercing, the defender will again get 10 extra defense points.

You have one more option that can help the game move along a little faster. Pressing the F key (for Finish) will make the computer finish your turn for you. The computer will make any units that have not fired fire on the enemy according to their fire tactic (see Edit Army). You will see this happen according to the view mode.

If you use the Finish function a lot you may want to change a unit's fire tactic in the middle of a game. Pressing E (for Edit tactic) will allow you to do this. You will be shown what tactic the unit is using. You can then change it using the left and right arrow keys. Press the ENTER key after you have selected the tactic you want.

When the last unit of an army is destroyed, the game will end. If there are still reinforcements on the way but the rest of the army is destroyed, the game will still end. At the bottom of the screen you will see "The White/Black Army is victorious." depending on who won. The final score will be at the top. Press any key and you will be returned to the menu.

Move Phase

With the move phase you can move each of your units. Move the orange cursor to the desired unit and press the spacebar, M key (for MOVE), or fire button. The cursor will become red, and you will be able to use the arrow keys or joystick to move the unit. Pressing the spacebar, M key, or fire button again will return the cursor to orange and allow you to select another unit for movement.

When a unit moves onto a new terrain, its movement points will be reduced. The ammount of the reduction depends on the terrain type unless the unit's Ignore Terrain flag is YES. In that case, the cost for moving from one space to another is always one. The number of movement points the unit has remaining is displayed in the unit's status (see Appendix A). If the unit has zero move points, the cursor will automatically become orange and you can select another unit.

If you make a mistake in moving a unit, you can press the R key (for Recall movement). The unit will return to its former position and its movement points will be returned.

Like the Fire phase, you can press F (for Finish) and the computer will finish your move phase for you. It will move any units that have enough move points according to their move tactic (see Edit Army). Also like the fire phase, you can change the tactic. Press E (for Edit tactic) and use the left and right arrow keys to, change it. Press ENTER when you are satisfied.

EDIT ICON GRAPHICS

This option will allow you to edit the icon graphics. It is essentially the same as EDIT TERRAIN except for one small difference. All the available icons are at the bottom of the screen. The ENTER key will move down one line and the < and > keys are still used to select the graphics to edit. There are a total of 48 icons available. All other functions are described in the EDIT TERRAIN GRAPHICS option.

JOYSTICK

Pressing the J key at the menu will select the number of joysticks that will be used. It will always start out at zero. Press J once and you will have selected one joystick. Press it again and you will select 2. The left joystick can be used at the EDIT MAP and PLACE UNITS options. If you are using two joysticks, the left one will be used by the player playing the White army, the right one by the Black army. The arrow keys can always be used whether or not you choose to use joysticks.

KILL FILE

This option will allow you to kill a file in drive 0. You will be given a complete directory and then be prompted for the filename you want to kill. You can press BREAK to abort the procedure. Otherwise, enter the filename with an extension and press ENTER. The file will be deleted from the disk and you will be returned to the menu.

LOAD WAR

Unless you have just created a war, you will probably want to load one before you Go To War. You will be given a menu of all the war files in drive 0 (they always have the extension WAR). You will then be asked which one you want to load. You can either press break and be returned to the menu or type in the filename you want to load, followed by the ENTER key. Do not type the extension. If there is some kind of error in loading, you will get an error message. You will be returned to the menu after the file is loaded.

EDIT MAP

On the screen you can see a section of the map with a hollow orange cursor at the top of the screen. At the bottom is a section of the terrain types lined up and ready to select using a white cursor. Above these is the word "SETS:" and a brief description of what they are (e.g. cities).

You can use the arrow keys or the joystick to move the orange cursor around the map. Using the < and >keys will select a different terrain type. Pressing the ENTER key will bring up a new set of terrain types to choose from (there are nine sets totaling 200 different terrain types).

There are three keys that you can press that will change the position of the cursor. T for Top, B for Bottom, and C for Concentrated. Only the last really needs explanation. It will put you at the spot where units are most concentrated.

You can proceed to edit the map by positioning the orange cursor on the map and the white one over the desired terrain at the bottom. You can then press the spacebar or the fire button, and the terrain at

the bottom will appear on the map at the location of the orange cursor.

If you press the CLEAR key, a random clear terrain will be placed at the cursor. This can make editing go much faster because you do not have to return to the clear terrain sets every time you make a mistake. Several other keys can make map-making go much faster. Pressing F will randomly select one of the open forest terrains and store it at the orange cursor. Pressing M will do the same for mountains and R for rough terrain.

If you want to fill in a large ammount of space with a single terrain, press the F1 key. Now everywhere you move the cursor, the terrain under the white cursor will be stored on the map. Notice the orange cursor has turned red. This function is primarily intended for making lakes and long stretches of roads. Press the F1 key again to return to normal operation.

From the Edit Map option you can jump directly to the Place Units option without passing through the menu by pressing the P key. This is handy if you like to create the map and set down units at the same time.

The last function is a powerful one. Once you have established all the open water, forest, or mountain, you will need to lay down all the edges. Doing this manually could take some time. Simply press the H key can all the hedges will be done for you. This applies only to the window, not the entire map.

Pressing the BREAK key will return you to the menu.

PLACE UNITS

On the screen you can see a window of the map just like in EDIT MAP. Below it are 15 of the 120 icons, each representing a unit from an army. Between the map and the icons is the status of the unit that is being selected with the blue cursor (see Appendix A). It helps to have the status there because two different units may have the same icon.

Like the EDIT MAP option, you can move the orange cursor with the arrow keys or the joystick and use the Top, Bottom, and Concentrated functions. The blue icon cursor below can be moved with the < and > keys. Only a quarter of an army (15 units) is displayed at one time. Pressing the ENTER key will switch to another quarter. There are a total of eight sets, four from the White army and four from the Black.

When you have found a spot on the map where you want the unit to be placed, press the spacebar or fire button. The unit's Active flag will become YES and the unit will appear at the orange cursor on the map. Note that the unit is blinking. That is because it is the unit under the blue cursor. This will help you if you ever need to rearrange an army's position.

You can also remove units from the map. Select the unit with the < and >keys and press R (for Remove), or move the orange cursor over a unit and press U (for Under cursor). That unit will disappear from the map. All this really does is reset the Active flag to NO. If you want to see the terrain under an icon, press the V key and all the icons will vanish until you press the V key again. The world map function is also available (see Appendix B).

It is also possible to jump directly to the Edit Map option without having to return to the menu by pressing the M key. This is handy in case you

happen to see some terrain you want to change while placing units.

You can jump directly to the EDIT MAP option by pressing the M key in case you see some modification to the map you want to make. Pressing BREAK will return you to the menu.

RESUME WAR

This option is slightly different than Go To War. If you stopped your war in the middle, saved it, came back, and loaded it, you would want to use this option. Go To War resets certain variables that would change things from the way you left them. This option returns you to the war almost exactly how you left it. If there are any differences, it is because you ended it in the middle of a phase. When ending a war that you plan to return to, it is best to stop at the beginning of a new phase.

SAVE WAR

After you are done creating a war or if you want to save your current game, you should use this option. You will be given a directory of all the war files in drive 0 and then be prompted for a filename. Pressing BREAK will return you to the menu. Otherwise, type the filename and press ENTER. Do not type the extension. It will then be saved, and you will be returned to the menu. If you are saving a game, make sure the filename is different than the original war file.

EDIT TERRAIN

This option allows you to edit the terrain graphics. Taking up most of the screen is an expanded view of the terrain you are currently working on and an orange cursor. Below it is a section of the terrains you can edit and a white cursor. Use the < and > keys to select the terrain you want to edit. You can also press ENTER to move to a different set of terrains. If you keep pressing ENTER, you will reach a set of thirty-two unused terrain spaces that you may want to work with if you do not want to change the other pre-existing graphics. It is best to not make any radical changes to these graphics due to their relationship with defense bonuses, movement costs, and auto-hedging.

Once you have selected a terrain, you can begin to edit it. Move the orange cursor with the arrow keys to select a pixel to change. Then press A though P to change the color of that pixel:

Key	Color
A	Black
B	Red
C	Blue
D	Green
E	White
F	Yellow
G	Orange
H	Purple
I	Medium Grey
J	Dark Grey
K	Light Green
L	Dark Green
M	Light Blue
N	Pink
O	Brown
P	Peach

There are several other functions available to you. Pressing the X key will make a horizontal mirror image of the terrain. Pressing the Y key will make a vertical mirror image of the terrain. Pressing S will scramble the graphics. Pressing the CLEAR key will reset all the pixels to black. Pressing R will read the graphics into a buffer. You can then press W to write the buffer to another terrain. These two functions can be used to make multiple copies of a terrain. Whenever you clear or scramble the graphics, the original graphics will automatically be read into the buffer. Thus, if you make a mistake you can use the W key to recover.

If you want to see how the present terrain is classified, you can press the F1 key and you will be sent directly to the CLASSIFY TERRAIN option. When you are done you can press the BREAK key to return to the menu.

EDIT INITIAL UNIT VALUES

There are 30 types of units and weapons. Several are blank, leaving room for you to create your own. You can also edit the ones that are provided for you.

Do you remember the Initialize option with EDIT ARMY? Pressing I would initialize that unit to some pre-existing values. With the EDIT INITIAL UNIT VALUES option you can change these values. You can also make new types of weapons and units.

Like the EDIT ARMY option, there are two screens. You can switch from one to the other by pressing the spacebar. The two screens are similar to the EDIT ARMY screen, and so is the editing procedure. You can press the + key to advance one unit and the - key to back up one. There is also a blue selection line that can be moved with the up and down arrow keys. With two exceptions, the left and right arrow

keys will change the value of the attribute located at the blue selection line. The attributes are described in detail in the EDIT ARMY section.

The two exceptions are the first two things at the top of the first screen. You can see the words Weapon #1 and Unit name #1. Near these there are their respective names. Position the blue selection line on one and press the M key (for Modify). A cursor will appear. You can press the BREAK key to abort and there will be no change. Otherwise, use the keyboard to type in the new name. Press ENTER when you are done. Notice that the name is now changed.

Pressing the BREAK key at any time except when modifying a name will return you to the menu.

Appendix A: Unit Status

Throughout various options of the game you will encounter four lines of information near the bottom of the screen that make up a unit's status. The first line has the number symbol (#) followed by that unit's number from 1 to 60. This is followed by the "BLACK" or "WHITE" depending on which army it is a member of. This is followed by the name of the unit. The second line has the characters "W:" and the weapon of the unit. The third line is a list of attribute values for that unit:
   S=XX/XX F=XX D=XX R=XX M=XX/XX

Instead of X's there will be numbers. S stands for Strength. The first number after S is the unit's present strength. The second number is the strength the unit began the game with. F stands for Firepower Bonus, D stands for Defense bonus, R stands for Range, and M stands for Movement Points. In each case, the number that follows the letter is the value for that attribute. The second number with movement points is how many the unit will get at the beginning of each Move Phase.

The fourth line is a list of what flags of that unit are set to YES. Each flag is represented by two letters. If all the flags were set to YES, the line would look like this:

   AR AP TR TA IT IL RS EA RP EN TP CA

Symbol	Flag
AR	Armored
AP	Armor Piercing
TR	Transport
TA	Transportable
IT	Ignore Terrain
RS	Recover Strength
EA	Entrenchable
RP	Replenish Strength In Cities
EN	Entrenched
TP	Transporting Another Unit
CA	Captured

Appendix B-World Map

At any time during the Place, Edit Map, or during a war, you can press the W key and a world map will be drawn for you. It shows the entire map on the screen. The units will show up as black or white dots (depending on what army they are a member of). There is an orange dot blinking on the map that represents where the cursor currently is. The units can be removed by pressing the V (for Vanish) key. You can also make the entire background become a neutral green by pressing the B (for Background) key. This will sometimes help you tell where each unit is. Any other key will exit the World Map mode.

Terrain will show up on the map according to its World Map Color (see Classify Terrain). Below is a list of the default colors:

Terrain	Color
Clear/Ridge/Hill	green
Road/Bridge	black
Forest	dark green
Water	blue
Wall/Mountain	grey
City	orange
Other	black

Appendix C-War Files

There are six sample wars provided with the game. The first two are on disk 1 and the last four are on disk 2. It may help you get a better feel for the game if you play each of them before designing your own wars. You may also want to use them when creating your own wars. One thing you may want to remember is that the White army attacks first, giving it an advantage. You may want. to make the Black army a little stronger to compensate. You may also want to let the computer play itself a few times in the None view mode to give you an idea of how even the war is. Following is a brief description of each.

War 1 -- Capture the Flags
Filename:FLAGS

This war is composed of two teams which try to capture all the flags. Each unit represents a single teammate who has his own name and unique characterisitics. They throw water balloons at each other, which can freeze the other teammate in his tracks (Damage Movement). If a teammate gets too wet, he goes home (Unit Destroyed). Before beginning this game, be sure to select the option that allows the war to be won by capturing all the flags.

War 2 -- Armored Warriors
Filename:WARRIOR

This war is set in the future where the main medium of combat is 100 foot tall mechanical walking machines. Humans control the machine from the cockpit in the head. Both armies also have tanks, aircraft, artillery, and infantry. The armies are protecting cities which are at opposite ends of the map. Some units can return to the city for repairs. The cities will also produce reinforcements regularly. The game will end when one army is destroyed.

War 3 -- War in Space
Filename:SPACE

This war is set in space. At the bottom of the map is earth, and near it the moon. The white army, which has space stations, space ships, and nuclear missile silos, is defending the earth from an invading space fleet (the Black army). This fleet is composed of fast destroyers, powerful battleships, and huge motherships. The Black army is considerably stronger than the White. If you find it easy beating the computer or a friend, try defending earth. The game ends when one army is destroyed.

War 4 -- Dungeon
Filename:DUNGEON

This game is set in a dungeon. The Black army is a company of ten powerful adventurers. There are knights, archers, thieves, and wizards. The White army occupies the dungeon. It contains orcs, goblins, and other nasty creatures. The goal of the adventurers is to either clean out the dungeon or capture the flag at the end (be sure to select the flag-capturing option). The goal of the White army is to wipe out the adventurers.

War 5 -- Planetary War
Filename:PLANET

This war encompasses an entire planet. Each army has infantry, tanks, ships, aircraft, and submarines. Both sides will receive reinforcements over the course of the game. Infantry and tanks can replenish strength in cities. Infantry can also entrench itself, and be transported by ships. The game ends when one army is destroyed.

War 6 -- War in the Pacific
Filename:PACIFIC

This war is set in World War II, in the Pacific Ocean. The Black army represents the Japanese, and the White army represents America and Australia. Armies are made up of infantry, destroyers, cruisers, battleships, and aircraft. The White army is outnumbered at first, but will receive reinforcements twice as fast as the Black. The game ends when one army is destroyed.

Note:

Although the Sundog Systems loader asks you for the type of monitor you are currently using, this choice is not reflected in the actual program. The palettes used for each war are saved along with the WAR file. You can load the WAR, change these palettes (refer to the manual on how to do this) and resave the WAR. The default WAR is set up for an RGB monitor, however all the other example WAR files are set up for a Color Composite monitor. Please reset these WAR palettes to your preference.

EDIT MAP

< > CR	Select terrain with white cursor
arrow keys	Move orange cursor around map
SPACE/FIRE	Store current terrain at cursor
CLEAR	Store a random clear terrain at cursor
R	Store a random rough terrain at cursor
F	Store a random forest terrain at cursor
M	Store a random mountain terrain at cursor
H	Auto-hedge map in window
W	Display world map
T	Go to top of map
B	Go to bottom of map
C	Go to most concentrated spot on map
P	Jump to the PLACE UNITS option
F1	Toggle fill in mode
BREAK	Return to menu

EDIT BLACK/WHITE ARMY

+/−	Select new unit to edit
up/down arrow	Select attribute to edit
right/left arrow	Increase/decrease value of attribute
##	Change attribute to this value
CLEAR	Reset attribute to zero
SPACE	Toggle editing screen
C	Copy this unit
H	Copy to this unit
I	Initialize unit
B	Jump to EDIT BLACK ARMY
W	Jump to EDIT WHITE ARMY
BREAK	Return to menu

EDIT INITIAL UNIT VALUES

+/−	Select new unit/weapon type
up/down arrow	Select attribute to edit
right/left arrow	Increase/decrease value of attribute
##	Change attribute to this value
CLEAR	Reset attribute to zero
SPACE	Toggle editing screen
C	Copy this unit
H	Copy to this unit
M	Modify the name of weapon or unit
BREAK	Return to menu

CLASSIFY TERRAIN

< > CR	Select terrain with white cursor
left/right arrow	Change defense value
up/down arrow	Change classification
C	Change world map color
CLEAR	Reset defense value and classification
+/−	Change palette color
T	Jump to EDIT TERRAIN option
BREAK	Return to menu

PLACE UNITS

< > CR	Select icon with blue cursor
arrow keys	Move orange cursor around map
SPACE/FIRE	Place unit at cursor
R	Remove unit under blue cursor from map
U	Remove unit under orange cursor from map
W	Display world map
V	Toggle visibility of units
T	Go to top of map
B	Go to bottom of map
C	Go to most concentrated spot on map
M	Jump to EDIT MAP option
BREAK	Return to menu

EDIT ICON/TERRAIN GRAPHICS

< > CR	Select icon/terrain with white cursor
arrow keys	Select pixel to edit with orange cursor
SPACE	Toggle paint brush mode
A–P	Change pixel color
R	Read graphics into buffer
W	Write buffer to graphics
S	Scramble graphics
X	Flip graphics horizontally
Y	Flip graphics vertically
CLEAR	Reset graphics to black
F1	Jump to CLASSIFY TERRAIN option
BREAK	Return to menu

GO TO WAR

All phases:

B	Go to bottom of map
C	Go to most concentrated spot on map
D	Done with phase
Q	Quit game (press twice)
T	Go to top of map
V	Toggle visibility of units
W	Display world map

Observation Phase:

E/FIRE	Entrench unit under cursor
L	Load unit under cursor onto transport
U	Unload unit onto open terrain at cursor

Fire Phase:

A/SPACE/FIRE	Select unit under cursor to fire
again:	Fire on unit under cursor
again:	Return cursor to attacker
F	Let computer finish turn
E	Edit fire tactic of unit under cursor

Move Phase:

M/SPACE/FIRE	Select unit under cursor to move
again:	Quit moving unit under cursor
F	Let computer finish turn
E	Edit move tactic of unit under cursor

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