WHITE DEATH

Battle for Velikiye Luki, November 1942

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If you are familiarizing yourself with this game, we suggest you select the campaign scenario, and the Soviet vs. German opponent. The opening screen should show a magnified portion of the battlefield. This is considered the 'main' screen. Information is displayed along the top of this screen. From left to right-the simulation time (usually a date but in this case "set-up"), the number of movement points remaining in the turn, the supply remaining, the phase and the weather. There should also be a group of units, side by side, forming two rows, with one row in front of the other. These units are not situated on the map. Press the right arrow key a few times.

The map should scroll by, but the units remain visible. The units are considered to be in an area called the raster. An analogy would be the palm of your hand if this were a board game. The roster is a place where units are kept pending placement onto the battlefield.

Activate the "View Area" item from the menu. A map of the entire battlefield should appear on the screen. This view corresponds to the map printed in the center of this manual. Railroads are red lines, roads are grey lines and cities are collections of black dots.

If you move the pointer around, you will see a rectangular box that follows it around the screen. This box represents the area of the map that will be displayed when you click the Left Mouse Button (LMB).

Position the box over some area of interest and click the LMB. You should now be looking at the main screen display of the area of interest. Now select the "Where" item from the menu. Again you should be presented with a screen similar to "View Area", but this time certain areas will be highlighted in red. These red areas relate to the units in theraster, otherwise this screen functions identically to "View Area". Position the box over some area containing highlighted hexes and press LMB. When the main screen display comes up, position the pointer over one of the areas you believe was highlighted and press the LMB. The rightmost unit in the front row of the raster should be deposited in the selected hex. If this did not happen and you got an "Illegal Move" message at the bottom of the screen, then the hex you selected was not in the highlighted area. Select "Where" from the menu and try again. Sometimes an area to which a unit may move is small, perhaps only one hex, and can be difficult to see if it is near a railroad (reddish line) or Soviet unit (red square).

The size of the raster is limited to two rows. When the present raster is emptied, it will automatically fill with more units if any remain to be deployed. This influx of units in the set-up phase is organized so that all units in a particular raster are designated to be set up in the same general arm This makes it unnecessary to examine the map with "Where" function before depositing each unit. The units in the raster are also ordered according to their brigades in order to make stacking them easy. Complete the set-up phase by deploying all units. If you change your mind

after depositing a unit, it may be collected again by positioning the pointer over the unit and pressing the Right Mouse Button (RMB). Be specially careful to deploy draft mobile (marked with "d") units on or near roads or railroads. To do otherwise will greatly reduce their mobility. The same is true to a lesser extent of wheel and track mobile units.

When all the units have been deployed select "Turn" from the menu. The impulse screen should appear (page 39). Adjust the number of movement points you wish to take with the movement point slider by positioning the pointer over the little bar in the slot, pressing the LMB and then while continuing to hold down the LMB, move the pointer. The technical name for this slider is "proportional gadget" and it works like the similar looking gadgets on some Hi-Fi equipment. When you have the setting you want, release the LMB. Adjust the movement to 4 MPs. The supply gadgets are not adjustable. Move the pointer over the "OK" box and press the LMB.

You should now be back to the main screen. Locate and collect some of your units. Notice that the "Where" now reflects the terrain effects rules. Choose the "Reserve MP" subitem from the "'Move Units" menu item. This assures that when a unit is moved adjacent to an enemy for assault, or an artillery piece is moved, the one MP necessary to conduct combat is not expended on movement. Move some infantry units into assault position (adjacent to enemy). Deploy so that at least two enemy hexes can be assaulted. For the purposes of illustration it will be more instructive if several stacks of units are involved in each assault. For example, a hex containing two enemy units is assaulted from two hexes, each of which contain more than one friendly unit.

When you have done this try to move some artillery to within range of the battles. The range of artillery varies but a range of from two to three hexes will be adequate in this case. Since Soviet artillery can only support an assault involving units from its own division, choose the artillery so that is belongs to the same brigade or division as at least one of the assaulting units. When your troops are positioned, combat can begin.

Select the "definition" subitem from the "combat" menu pick. You are now set to define who is assaulting whom. Position the pointer over the hex you wish to assault and press the LMB. A screen will be presented with a large outline of a hex to the right and a small cluster of hexes to the lower left. The small cluster of hexes represent the hex under attack and the six adjacent hexes. The large hex is where the units contained in any one of these hexes are displayed.

At the top there are two columns labeled AT and CA and three rows labeled Sov Ger and Sel. Numbers in the AT column represent antitank fire and in the CA column, conventional fire. If these numbers are in the Sov or Ger row they represent cumulatives for all units involved. The Sel row represents the firepower of the selected unit,

Unit selection, for whatever reason, in the combat phases (definition, defensive fire, and assault) is done this way: Position the pointer over a hex in the cluster. When you press the LMB the units that are stacked in that hex will appear in the big hex on the right. You may then position the pointer over the desired unit and press LMB. The selected unit displays a white border. Unit selection usually causes some statistics to be displayed. In this phase selecting a unit will cause its firepower to be displayed in the Sel row and added to the cumulative row. Selecting a unit already selected will de-select the unit and subtract its firepower from the cumulatives. All defenders are automatically selected. Only selected units may assault. If a unit appears fuzzy or "ghosted" it is ineligible for selection for some reason (e.g. it has already been included in an assault on another hex). The fact that in some cases up to 16 units can stack in a single hex necessitates that a special screen be devoted to combat. It often happens that once in this screen you wish you could remember what other units were in the vicinity, beyond the seven hexes in the cluster. Press the ENTER key which will return you to the define combat screen.

When you are satisfied with your selection of assaulting units, position the pointer over the box marked "ok" and press the LMB. Pull down the menu. You will notice that some of the selections are "ghosted". These activities are now inappropriate and have deactivated. Select "View Area". The units in the hex you have assaulted should appear as a hollow instead of a solid square. This device will be employed throughout the combat phases to help you keep track of what you have done and what remains to be done. Define the participants in any remaining assaults which you intend to conduct.

When you have finished defining assaults, you have the option of conducting barrages. Select "Barrage" from the menu. Locate an enemy hex within range of one of your artillery pieces. Position the pointer over the hex and press LMB. If there are any deployed, supplied artillery in range they will be displayed for selection. Unit selection/deselection is similar to the unit selection in the assault definition screen. Statistics for the selected unit appear at the bottom. When you are satisfied select "ok". The Barrage is effected immediately. Select only a minimum of artillery for barrage since artillery used in barrage cannot be used in support and therefore will not be available as an illustration in the assault phase.

Select "defense" from the "combat" submenu. You are now in the defensive fire phase of combat. This phase is usually conducted by your opponent, but for purposes of instruction you may carry them out. Defensive fire is conducted in two steps. First the headquarters of the defender is selected. The unit to be designated HQ is selected as described previously. If there are any artillery available from that division, they will be displayed for selection. When you are satisfied with your selection select "ok". You will be returned to the combat screen. You are still in the HQ select mode until you again select "ok", so if you change your mind and want to see what support some other HQ might have available, you may repeat the process. When you select "ok" on the combat screen, you enter the second stage of the defensive fire phase of combat, the actual allocation of fire against target units.

The message at the top of the screen should now read "Phase: defensive fire". What has happened is that all the firepower available to repulse the attack has been added to a general pool. This may be allocated to the assaulting units in any manner you like. If you don't wish to allocate this yourself, select "ok" and it will be allocated automatically. If you wish to do this yourself, select an assaulting unit. When an assaulting unit is selected a slider similar to the movement point allocator appears. Adjust this to the level of fire that you want directed at the assaulting unit. The odds are displayed at the upper right. Using this allocator you can direct some, all or none of the available fire. Returning to a previously selected unit and reselecting it cancels the allocation and returns the allocated fire to the available pool. Note: you cannot deselect the currently selected (the one with the border) unit by reselecting it. When you are done select "ok". Defensive fire is resolved immediately. Select "View Area" from the menu. Any assaults defined, but where defensive fire has not been carried out appear as hollow squares.

You may now carry out defensive fire in those engagements or proceed to the assault phase. If you proceed to the assault phase without completing defensive fire it will be done automatically.

The assault phase is conducted in exactly the same manner as the defensive fire phase except that the rolls of fired and fired upon are reversed and combat resolution does not take place until "resolve" is selected from the menu. To start the assault phase select "assault" from the combat submenu. Notice that this is the only option other than "load", "save" and "quit" that is active in the menu. You may now conduct offensive fire, or select "'resolve" (reactivated after you entered the assault phase) from the menu and let the computer do it for you.

Your impulse is now over and the enemy gets to take his. Choose "Impulse" from the menu. When all movement points for the turn on both sides are exhausted pick "Turn". These are only the bare essentials, the mechanics of playing out an impulse. A more detailed discussion of all the aspects of the game can be found on the following pages.

Play By Telephone

In order to reduce connection time and thus phone bills the play by telephone feature is not interactive. The structure of the White Death play system makes it practical to take this approach. Indeed most of what each player does in the course of the game should not be observed by the opponent. The one exception to this is battle resolution, and this has been taken into account. In order to play with another person who is not present the phasing player starts his impulse in the usual way. When he has concluded all activity up until the point where the non-phasing must take some action (e.g. defensive fire), he selects "save" from the menu. When the "save' screen comes up instead of entering the file name he enters the telephone number of his opponent in the space provided He then selects the "transmit file" gadget in order to send the information to the remote player. The remote player need do nothing special as all necessary information is transmitted at this time.

To the computer receiving this information, it is as if it were loading a saved game, except that there is additional information appended, namely, a history of the significant actions of the opponent such as what units were attacked, what hexes were barraged what losses were inflicted etc. This history is played out on the receiving player's screen as though the remote player were there. When this is done the state of the game on the receiver's computer is exactly the same as that on the sender's. The roles are now reversed. The non-phasing player conducts all activity up to the point where some action is required on the part of phasing player. He then performs the actions described above in order to send the game to the phasing player. In order to receive a game, pick the "load" option and select the "receive file" gadget. The computer will then wait for the call from the other player. The "cancel" gadget will abort either process.

Special Function Key

Sometimes when you are in the Combat Screen (the one with the little cluster of hexes at the bottom left) you wish you could remember what was on the main screen. Pressing the "ENTER" key will toggle back and forth between the screens to let you **have** a look. **The usual functioning of the main screen remains deactivated until the Combat Screen is exited in the normal manner.**

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NOVEMBER, 1942

Overshadowed by the truly massive battles around Stalingrad and Rzhev taking place at the same time. Velikiye Luki has not received as much attention as might otherwise be expected. A small battle only in comparison to those, Velikiye Luki was important in its own right as well as in the context of the other two. In mid-November, with the freeze negating much of the defensive advantages of rivers and making the northern swamps passable for armored vehicles, the time has come. The right flank of Sokolovski's Kalinin Front launched its offensive against the city of Velikiye Luki and aimed at cutting the vital Vitebsk-Leningrad railroad. Lieutenant General Perkayev's Third Shock Army reinforced with three separate corps, was assigned the mission. Defending the sector were two under strength German divisions plus a number of rear-area security and support troops. Insufficient troops were available to cover the entire front and two ten-mile gaps were patrolled only be small detachments of ski troops. Furthermore, it was anticipated that most local German reserves would be drawn into the intense fighting the Rzhev Salient, 100 miles to the east. But the Germans had an important advantage. Velikiye Luki had been intensively fortified in preceding months and all roads in the near-trackless wilderness ran through Velikiye Luki. The stage was set for one the most bitterly fought battles of the war in the East. While failing in its ultimate goal of cutting the Nevel-Leningrad railroad, 3rd Shock Army did mange to inflict a clear tactical reverse on the German forces in Velikiye Luki area. One measure of the German reverse is the scale of casualties suffered Although sources differ on the actual casualty number (one estimate puts it at a minimum of 22,000), they clearly had been bled white by the end of the action. Fewer than 500 German troops escaped the encirclement.

RULE 1: Game Components

White Death consists of the game diskette, charts, and rules booklet adapted from the popular board game of the same name. The map covers the area around the city of Velikiye Luki on a scale of one mile per hex (measured from hexside to hexside). The map information is taken from 1: 100,000 scale maps captured from the Red Army by the Wehrmacht and captured from the Wehrmacht by the Allies.

RULE 2: Units

The units in the game represent all of the historical units which fought in the actual battle of Velikiye Luki. The information on the counters may be read with the assistance of the Unit Identification Chart printed in the back of the rule booklet. Much information can be gathered from the face of each unit such as: type, size, and specific identification of the unit, as well as its method of mobility, remaining movement capability, percentage of original strength, and number of units in the stack. AFV units bear a silhouette instead of a unit type symbol and do not have a unit size indication. All Soviet AFV units are battalions; all German AFV units are

companies. Each strength point represents from 150-200 combat infantry, 4 heavy guns, 6-8 light guns, or 4-5 AFVs.

RULE 3: Zones of Control

All units in the game, except for unstacked German weapons companies have a ZOC consisting of the six hexes immediately surrounding them. A unit must stop immediately upon entering a hex in an enemy ZOC (except as notedbelow) and may not move farther that movement phase. The presence of friendly units or their ZOCs in a hex does not negate the effects of enemy ZOCs. A unit which begins a movement phase in an enemy ZOC may move away but expends one movement point (see Rule 6) in addition to normal terrain costs to do so. Such a unit may move from one ZOC directly to another, thus ending its movement. ZOCs affect supply and retreats as specified in later rules.

A. AFV Units: AFV units are not required to stop upon entering an enemy ZOC. Bach time that an AFV unit attempts to transit an enemy ZOC, however, all enemy units whose ZOC is exited may conduct antitank fire at the moving AFV unit (see Rule 10). This done during the movement phase, is resolved immediately, and does not prejudice the ability of the firing units to fire in the assault phase or the ability of moving AFV unit to be fired at later in the defensive fire phase. An AF'V unit may be fired at as many times as it leaves a ZOC during movement, and a unit may fire at each enemy AFV unit which transits its ZOC. Moving AFV units which suffer losses during movement from antitank fire must check morale (while still in the hex to be exited) as specified in Rule 14, and any AFV unit which fails this morale check immediately ends its movement for that phase. If the unit routs, it suffers the normal effects of routing as if suffered during the defensive fire phase.

B Ski Units: Ski units are not required to stop upon entering any enemy ZOC except that of another ski unit. When entering the ZOC of a non-ski unit a ski unit may continue moving by paying one additional movement point for each enemy ZOC exited. For the purpose of rule, only units which are ski-mobile are considered to be ski units.

C. Weapons Units: Weapons units may never enter an enemy ZOC during the movement phase unless a personnel or AFV unit is also present in the hex. Weapons units which are in an enemy ZOC at the beginning of a movement phase are not required to leave. Weapons units may retreat through enemy ZOCs with the same results as other units (see Rule 14)

RULE 4: Stacking

More than one unit may occupy a hex in a process known as stacking. The maximum number of units that may be stacked is determined by the criteria listed below, and varies for each side. Stacking limits are in effect at the end of the movement and combat phases. Thus a unit may move through a hex containing the maximum number of friendly units, but could not end its movement in such a hex. Units forced to retreat as a result of combat in violation of stacking must retreat additional hexes

until no longer in violation. If unable to do so they are eliminated.

A. German Stacking: The German player may either stack any three battalion equivalents all from the same division or brigade. In either case, the German player may have one additional company in the stack. In the case of four battalions from the same division or brigade, the additional company need not be from the division or brigade. A battalion equivalent is defined as any one battalion counter, any two companies, or all of the companies of a singlebattalion. (Several German battalions consist of four companies.)

B. Soviet Stacking: The Soviet player may either stack all of the units of a single brigade in a hex, or he may stack any two non-divisional artillery units in a hex, or he may stack any two non-divisional artillery units in a hex, or he may stack one regiment and one battalion in a hex. In any of the above cases he may freely add to the stack any one engineer brigade.

C. Limited Intelligence: A player may not examine the contents of an enemy stack except when attacking into that hex in some manner. Normally, a player may only see the counter of the top unit in a stack. He may not examine any other counter in the stack.

RULE 5: Sequence of Play

White Death is played in a sequence of game turns, each representing five days of real time. Each game turn will consist of a variable number of impulses, with-the exact number in each turn determined by the decisions and actions of the players. Briefly, each player has ten movement points which he may expend each turn. The Soviet player always moves first, and thus takes the first impulse of the turn. The Soviet player decides how many movement points he will expend in his impulse (as few as one or as many as ten). After he finishes his impulse, the German player conducts an impulse, also with as many or as few movement points as he desires. This alternation of movement points continues until one side exhausts its supply of ten movement points for the turn. The other player then conducts one or more impulses consecutively until he also has exhausted his supply of ten movement points. This concludes one turn. During a Soviet impulse the Soviet player is referred to as the phasing player and the German player is referred to as the non-phasing player. During German impulses these roles are reversed. All action within an impulse is conducted in the following sequence of play:

1. DECISION **PHASE:** The phasing player decides how many of his remaining movement points will be spent in the current impulse and moves the "current" slider to reflect the expenditure of movement points.

2. MOVEMENT PHASE: The phasing player moves all units desired and declares all attacks. Bach unit may move up to the limits imposed by the Decision Phase.

3. BARRAGE PHASE: The phasing player conducts all barrage attacks.

4.DEFENSIVE FIRE PHASE: The non-phasing player conducts all antitankand conventional defensive fires.

5. ASSAULT PHASE: The phasing player conducts all antitank and conventional fires by attacking units. In order for the Soviet player to assault he must expend 3

MPs or all remaining MPs. The German on the other hand may assault with only 1 MP.

RULE 6: Movement

A. General Explanation: Units move during the movement phase of an impulse. Only the units of the phasing player move during a movement phase. Units move by tracing a path through adjacent hexes, expending movement points (MPs) or fractions thereof for each hex entered. Some hex-sides require additional MP expenditure to leave as well as enter. Units may never enter an enemy occupied hex. Different units have different mobility categories as indicated by the letter code on the face of the counter. Although all units of the same side have the same number of movement points available to them each impulse (the number declared in the Decision Phase), the rate at which they expend them for entering different terrain types is governed by their mobility category. The effects of terrain on movement are explained in Rule 7.

B. Movement-related Activity: There are three actions aside from movement PER SE which require the expenditure of 1 MP.

1. Leaving ZOCs: Units must pay one MP to leave an enemy ZOC except as noted in Rule 3.

2. Deploying: In order for a unit to engage in indirect fire it must fiit deploy. Deployment costs one MP. Once a unit is deployed it remains deployed until it moves from that hex. Upon moving again the unit automatically concentrates (i.e. is no longer deployed). No MP expenditure is required to concentrate. Deployment is only necessary for a unit to engage in indirect fire, concentrated units may conduct any other type of combat normally.

3. Assault: In order for a unit to assault an adjacent enemy unit with either antitank or conventional fire it must expend one MP. A unit is not required to expend one movement point to conduct indirect or defensive fire.

RULE 7: Terrain and Movement

The precise cost to enter a hex of a specific terrain type by units of each mobility category is detailed on the Terrain Effects Chart, as is the cost to cross lake hexsides. For certain mobility categories the MP costs for a creek and a river consist of two numbers separated by a dash. The first number is the cost to enter a hex of that type; the second is the cost to leave that type of terrain. For example, a draft-mobile unit would pay 1 MP to enter a creek hex and would then pay 1 MP to move up or down the creek. When it moved out of the creek, however, it would pay a penalty of 2 MP plus the cost of the first non-creek hex entered.

Roads: The presence of a road in a hex negates the movement effect of all other terrain in the hex. Only bridges negate the effect of river terrain. (See Rule 20). In order to use the mad movement rate a unit must be moving along the road. For example, if a unit moved into a forest/road hex from a non-road hex the unit would treat the hex as a forest hex, not a road hex.

Prohibited terrain: Some terrain is prohibited to certain mobility categories. This terrain is marked on the Terrain Effects Chart with the notation P.

RULE 8: Rail Movement

Railroads are treated exactly as roads for all normal movement purposes. In addition, each player may conduct rail movement. For this a unit must be entrained. Personnel units may entrain on any rail hex. Weapons and AFV units may entrain in any town hex on a railroad. Entraining costs one movement point. Once entrained a unit may move an unlimited number of hexes along the railroad provided the railroad can be traced back, uninterrupted by enemy units or their zones of control, to a friendly board edge. For the purposes of rail transport the eastern board edge is friendly for Soviet units and all other board edges are friendly for German units. Units using rail movement may not enter a hex in an enemy ZOC. At the conclusion of rail movement the unit must be in a hex in which it could entrain. Each side may rail up to 25 strength points of units a turn (not impulse).

RULE 9: Conventional Combat

Conventional combat represents fire against personnel and weapons units with small arms, mortars, etc. Conventional fire combat takes place during the Defensive Fire Phase and the Assault Phase.

A. Which Units May Conduct Conventional Fire: All units of the non-phasing player which are assaulted may conduct defensive fire during the Defensive Fire Phase. All assaulting units fire during the Assault Phase. Units with a conventional combat factor preceded by an asterisk may only fire defensively.

B. Which Units May Be Fired At: All units of the phasing player which are assaulting may be fired at by all enemy units in the hex they are assaulting. All units of the non-phasing player in a hex under assault may be at by the assaulting units. However, AFV units may never be fired at by conventional fire.

C. How Units Fire: Conventional combat is conducted in five steps.

1. Determine Combat Value: The combat value of a unit is determined automatically by multiplying its combat factor by its remaining strength. The total fire value attacking a single unit is the sum of units firing at it.

2. Determine Defense Value: The defense value of a unit against conventional fire is determined by the type of unit and terrain the unit occupies. For defensive purposes there are three types of units: personnel units, light weapons units, and heavy weapons units. The letters P, L and H on the unit counters serve to differentiate these three types. The specific defense values of units are listed on the Terrain Effects Chart. For example, a personnel unit in clear terrain has a defense value of 6. AFV units have individual defense values as indicated.

3. Determine Odds: Conventional combat fire is directed against individual target units in a hex. All units firing into a hex sum their combined combat value and this total may be apportioned among the defending units in any manner desired within the following limitations. No target unit may be fired at more than once per phase.

No weapons units (light or heavy) may be fired at with higher odds than any personnel unit in the hex is fired at with, nor may a weapons unit be fired at all unless each personnel unit is attacked. By comparing the conventional fire value firing at a unit to its defense value, a simple odds ratio is created. This odds ratio must be converted to one of those listed on the Conventional Combat Results Table, with fractions always rounded in favor of the defender. Thus 29 conventional fire factors firing against a unit with a defense value of 10 would become 2: 1.

4.Resolve the Combat: Thedierollsandtheresu.ltsareimplemented.Theresultwill either be MC or MC followed by a number. The result MC always indicates that the target unit must make a morale check. The number following an MC result is both the number of strength points lost by the unit and the adverse die roll modification to the required morale check. A unit is never required to lose more than half its remaining strength due to a conventional fire attack unless its remaining strength is 1. Thus a unit with a remaining strength of 3 which suffers a result of MC 3 would receive a MC with an adverse die roll modification of 3.

5.Required Morale Checks: Any unit required to take a MC receives it automatically as specified in Rule 14.

D. Advance After Fire: If a hex is cleared of all defending units by an assault, then the assaulting units may advance into the vacated hex. Advance after combat may also occur due to antitank fire (Rule 10) and morale (Rule 14). Only assaulting units may advance after fire.

RULE 10: Antitank Fire

Antitank fire represents the fire of armor-piercing weapons against armored vehicles. Antitank fire takes place during the Defensive Fire Phase and Assault Phase.

A. Which Units May Fire: All units of the non-phasing player which are in a hex being assaulted and have a non-zero antitank factor may fire during the Defensive Fire Phase. All assaulting AFV units may fire during the Assault Phase, Note that non-AFV units may only fire antitank when defending.

B. Which Units May Be Fired At: Only AFV units may be fired at by antitank fire. All AFV units of the phasing player which are assaulting may be fired at by the antitank units in the hex being assaulted. All AFV units of the non-phasing under assault may be fired at by the assaulting AFV units.

C. How Units Fire: Antitank fire is conducted in four steps.

1. Determine Antitank Value: The antitank value of a unit is determined by multiplying its antitank factor by its remaining strength. The total fire value attacking a single unit is the sum of all units firing at it. Fractional antitank values are retained as fractions (not rounded up or down).

2. Determine Odds: The defense value of an AFV unit is shown on the strength identification screen (see menu). (Note that AFV units either in or assaulting into a town or road/forest hex have their defense value reduced by one.) Antitank fire is directed at specific AFV units in a hex. All firing antitank values are summed and these may be divided up among target units however the player wishes. Odds are

determined by comparing the firing antitank value to the target AFV's defense value and converting this to an odds ratio in the same manner as specified in Rule 9.

3. Resolve the Combat Select RESOLVE . The die rolls automatically and the results are shown. The only other possible result is a miss.

4. Morale Check: Any loss result requires the target AFV unit to undergo MC in accordance with Rule 14, with the total number of SPs lost used as a die roll modification.

D. Limitations on Fire: Personnel units and AFV units may fire both antitank and conventional fire in a single phase. Weapons units, however, may fire only one or the other.

E. Advance After Fire: If all defending units are cleared from a hex due to antitank fire, then the firing units may advance into that hex. Only units of the phasing player may advance after fire.

RULE 11: Artillery

Certain units are capable of indirect fire. These units are distinguished by the presence of a range and barrage factor, and in some cases a support factor. All such units will be considered as artillery for the purposes of the rule, whether or not they bear the field artillery symbol. There are tow types of fire: support and barrage.

A. Support: Deployed artillery (see Rule 6) may fire support missions. A support mission adds the support value of one or more artillery units to the conventional fire value of a friendly stack. Support fire may also be conducted in the Defensive Fire Phase (by the non-phasing player).

1. Limitations: Artillery units firing support may not fire conventional fire or antitank fire during that phase. Soviet artillery units may only add their support values to stacks containing units of the same brigade or division. (Note that non-divisional Soviet units may not fire support and thus do not have support factors.) Whenever units of two or more divisions and/or brigades are either stacked together in a hex on the defense or are involved in an assault on a single enemy hex (whether stacked together or assaulting from different hexes), the owning player must designate one of the involved divisions or brigades as the controlling headquarters. All units in the attack or defense are then considered to be part of that one division or brigade for artillery support purposes. If, for example units of brigade A and division B were assaulting an enemy hex and the owning player designated division B as the controlling headquarters, then all artillery units of brigade A would be considered to be from another division and subject tot he restrictions listed above.

2. Procedure: The support value of supporting artillery units is determined by multiplying their support factor times theirremaining strength. An artillery unit may add its support value to any friendly unit within its printed range. If the friendly unit is at a distance greater than half its range, its support value is halved. The support value added to a stack is used as part of normal conventional fire.

B. Barrage: Deployed artillery may fire barrages. Only the phasing player may fire barrages. Barrages are conducted during the Barrage Phase and constitute a separate attack or attacks on the units in a hex. Only one hex may be attacked by a barraging unit.

1. Limitations: Artillery tits firing barrage may not use support, antitank, or conventional fire during that impulse.

2. Procedure: Barrage fire is conducted in three steps.

A. Determine Barrage Value: The barrage factor of a unit is multiplied by its remaining strength to obtain its barrage value. If firing at a target hex at greater than half range, the result is halved. Units may not fire at a target beyond their indicated range. The sum of all firing units' barrage values is the total barrage value attacking a hex. More than one barrage attack may be run on a single hex. For example a player attacks a hex with a total barrage value of 80 and resolves it as one attack on the the column of the Barrage Table and one attack at the 20-29 column.

.B . Resolve the Attacks: Each barrage attack is run against each and every unit in the target hex. Certain types of terrain and certain unit types modify the die roll. Since this can vary with different units in the same hex, the die is rolled once for each unit in the target hex with all appropriate die roll modifications made. All die roll modifications are cumulative with two exceptions. First, AFVs never receive the bunker die roll modification. Second, bunkers themselves receive only the bunker die roll modification and not that for any other terrain in the hex. The columns on the Barrage Table correspond to the total barrage value of the attack. Results mad out in terms of number of strength points lost. In the event of losses the target unit takes a morale check with the actual strength point loss sustained as an adverse die roll modification. If several attacks are run on a unit, only one morale check is made with the total loss result serving as the modifier. As in conventional fire barrage results may not force a unit to lose more than half its remaining strength points in the phase unless the unit has a remaining strength of one. This does not apply to bunkers, which lose as many strength points as called for regardless of the remaining strength of the bunker (See Rule 19).

C. Required morale checks: Morale is checked as indicated above and specified in Rule 14.

3. Observation: To conduct a barrage at full effectiveness the target hex must be observed. If the target hex of a barrage is not observed by or for all firing units then 1 is added to the die roll for every two hexes (or part thereof) of range from the farthest barraging artillery unit.

A. Which units may observe: Any German unit may observe for any other German unit and for itself. Any Soviet artillery unit may observe for itself. Any Soviet unit may observe for any Soviet non-divisional artillery unit and for any artillery unit of its own division or brigade.

B. How units observe: A unit observes a target by tracing a line of sight which does not pass through any blocking terrain from its own hex to that of the unit to be observed. The line of sight may not normally be longer than two hexes. Units adjacent to and on the high side of a slope hexside and tracing line of sight across it may observe to a range of three hexes. Units on high ground and observing hexes not on high ground may also observe to a range of three hexes. The Soviet Guards rocket regiment, when deployed, may be seen from one hex farther away than other units. (Thus, a unit on high ground could see it from four hexes.)

C. Blocking terrain A line of sight may extend from a unit in a town or forest hex and to a unit in a town or forest hex, but it may never pass through a town or forest hex. A line of sight may never be traced down across a slope hexside except from a unit adjacent to the hexside.

D. German Observation Battalion: Stationed initially in Velikiye Luki is the German 17th Observation Battalion which included a sound ranging company and a flash ranging company. This unit may observe any deployed Soviet artillery unit within seven hexes of it.

E. Snow: During snow turns all units (including the observation battalion) may only observe adjacent units.

RULE 12: Terrain and Combat

The primary effect of terrain on combat is to determine the defense value of non-AFV units for purposes of conventional fire. The defense value of terrain types is listed on the Terrain Effects Chart. These values are not cumulative; if several types of terrain are in the same hex (for example, river and town) the most advantageous terrain for the defending unit is used. Certain types of terrain have additional effects as detailed below.

A. Prohibited Terrain: A unit may not assault across a prohibited hexside or into a prohibited hexside or into a prohibited hex. For example, an AFV unit (track-mobile) could only assault into a forest hex along a road. Prohibited terrain does not prevent artillery from firing barrage attacks or support fires into a hex, nor any unit from firing defensive fires into a hex.

B. Slopes: A unit firing down a slope hexside has its conventional combat factor and its antitank factor doubled.

C. AFVs: AFV units either in or assaulting into a town or forest hex have their defense values reduced by one. For example, a Soviet T-70 battalion in a town hex would have a defense value of 1, not 2.

D. Bunkers: Units assaulting from a hex containing a bunker do not receive the terrain benefit for the bunker, but instead use the defense value for the town hex.

RULE 13: Frozen Lakes

The lakes shown on the map are frozen throughout the period covered by the game but are sometimes more frozen than others. For this reason the ability and cost to cross a lake hexside is dependent on the weather as shown on the Terrain Effects Chart. In addition to the normal costs and prohibitions shown, under certain circumstances the phasing player gets a die roll for AFV loss through ice collapse.

A. Frozen Turns: On any turn with either clear/frost weather or snow weather, AFV units may cross lake hexsides at the cost shown on the Terrain Effects Chart. Each unit to do so, however, gets a die roll for tank losses. One die per unit per hexside crossed is rolled. On a roll of 1, one strength point is lost.

B. Thaw Turns: On any turn with thaw weather AFV units may not cross full lake hexsides at all. In addition, each AFV unit which crosses a hexside containing any lake at all gets a roll for tank losses as specified above. (Given the generally flat terrain, the sparse vegetation, and the uniform snow covering, it was nearly

impossible to tell where lakes began. Consequently, a number of Soviet tanks did drive into lakes early in the campaign by mistake.)

RULE 14: Morale

Units are called upon to take morale checks as a result of combat results. If a unit's modified die roll is equal to or less than its indicated morale value, the unit has passed its morale check and is unaffected. If the modified die roll is 1 or 2 higher than its indicated morale value, the unit has failed its MC. If the modified die roll is 3 or more higher than its printed morale value, the unit routs. The die roll is modified as specified below.

A. Morale Check Situations: There are three situations in which a unit is required to take a morale check. All are as a result of losses. When required to take a morale check, a unit receives one immediately upon suffering the losses.

1. Losses from antitank fire: An AFV unit which suffers losses from antitank fire must check morale. The total number of strength points lost from the fire is added to the die roll.

2. Losses from barrage fire: A unit which suffers losses from barrage fire must check morale. The actual number of strength points lost is added to the die roll.

3. Losses from conventional fire: A unit which receives an MC result from conventional fire must take a morale check. The number   specified on the Conventional Combat Results Table is added to the die roll.

B. Effects of Morale Checks: Whenever a non-AFV unit suffers a rout result from a morale check, the unit loses one strength point (in addition to any it may have lost in combat) and is retreated two hexes. The retreat route will place the unit two hexes away from its original hex and will be generally away from enemy units to the extent possible, even if this would take the unit through an enemy ZOC. AFV units suffer the same result but do not lose the additional strength point. The result of a less serious failure result varies depending on the situation.

1. Barrage: A unit which checks morale due to a barrage attack and fails may not fire defensive fire that impulse.

2. Defensive fire: A unit which checks morale due to enemy defensive fire (either conventional or antitank) and fails may not assault.

3. Assault: A defending unit which checks its morale due to the fire of enemy assaulting units (either conventional or antitank) and fails must retreat two hexes in the same manner as a rout result. The unit does not suffer the additional strength point loss. If a hex is completely vacated of defending units, due to rout of failed morale, then phasing units that assaulted into that hex may occupy the hex, up to the limits of stacking.

C. Additional Considerations:

1. Zones of Control: A unit forced to retreat or rout through an enemy ZOC may do so, but loses one additional strength point. If the last hex of the retreat would leave the unit in an enemy ZOC it must retreat additional hexes until no longer in an enemy ZOC. If unable to do so the unit is eliminated instead. A unit never loses more than one strength point due to retreats through ZOCs, regardless of how many the unit
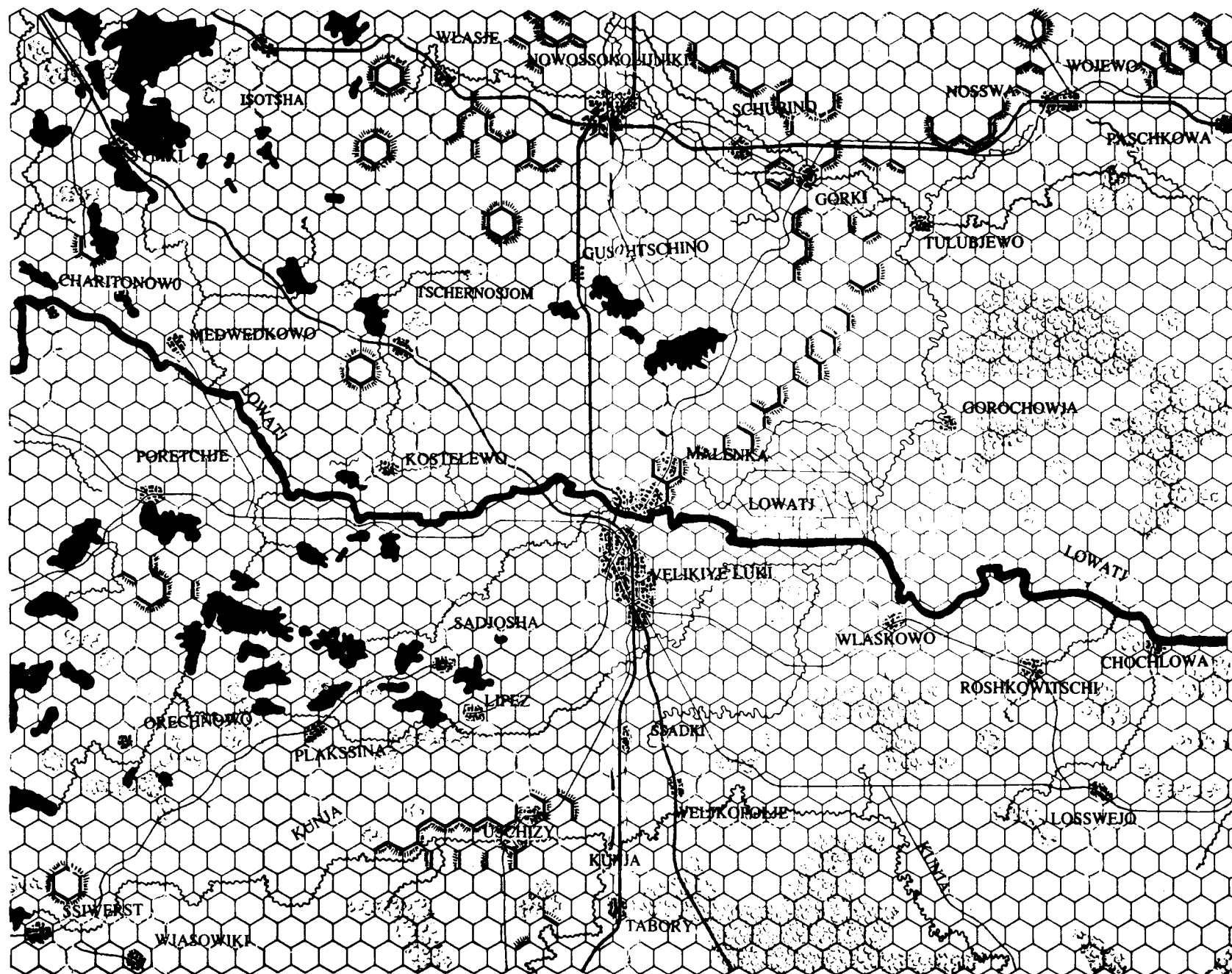
retreats through.

2: Tank Fright: German AFV, antitank, and heavy antiaircraft units, all units stacked with the preceding units, and all units of either side in a town hex are immune to tank fright. All other units are vulnerable to tank fright, including Soviet AFV tits. Whenever a unit vulnerable to tank fright is assaulted by an enemy stack containing an enemy AFV unit, the defending unit must take a morale check following combat at one level worse than normal. That is, if combat did not require the unit to check morale, it does so with an unmodified die roll. If the combat result called for it to check morale with an adverse die roll modification of 1, it does so with a modification of 2, etc.

3. Supply: Any unit which is isolated (see Rule 15) and which is required to check morale, receives an additional adverse die roll modification of 1.

4. Friendly Routed Units: A unit receives an MC as soon as a combat result calls for it. If an attack on the unit in the hex has already caused that unit to rout, all other units in the hex forced to take a morale check do so with an additional adverse die roll modification of 1. Each unit which routs increases the cumulative additional adverse die roll modification for units checking morale in the hex that phase.

5. Snow: During a snow turn any non-AFV unit required to take a morale check and which is not in a town hex gets additional die roll modification of 1.

6. Bunker: Any non-AFV unit in a hex containing a bunker which has at least three remaining strength points (and which is not assaulting out of the hex) is never required to take a morale check regardless of the combat result. Bunkers themselves never check morale, regardless of their strength. (See also Rule 19.)

7. Eliminated Units: If an attack on a unit in a hex totally eliminates the unit (due to step loss) then all other units in the hex forced to take morale checks receive an adverse die roll modification of 1 per unit previously eliminated.

RULE 15: Supply and Isolation

Logistical Constraints in White Death are taken into account by three processes: Expending supply; tracing supply; and isolation.

A. Expending Supply: Each player receives supply points every turn. These may be expended immediately or accumulated for use in later impulses or turns. Supply points are expended for four activities: assault, barrage, rocket barrage, and high intensity defensive support.

1. Assault: If the phasing player declares any units to be assaulting in an impulse one supply point will be expended. The expenditure of one supply point allows as many units as desired to attack.

2. Barrage: If the phasing player barrages, two supply points will be expended. As many units as desired may assault and conduct barrages.

3. Rocket Barrage: Only the German player will expend supply points for a rocket barrage. When three supply points are expended, as many units as desired may assault and fire barrages. When only two points are expended (for a normal barrage), then all German rocket artillery units conduct barrage fires at half of their indicated barrage factors.

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4. High Intensity Defensive Support: If the non-phasing player expends one supplypoint. all artillery units may conduct defensive support fines with their indicated support factors. If the non-phasing player chooses not to expend one supply point then all of his artillery units are assumed to have a support factor of 1,

B. Tracing Supply: Tracing supply affects only artillery units. For an artillery unit to conduct indirect fire at full effectiveness it is necessary to trace supply. An artillery unit is in supply if it can trace a path of seven hexes or less to a road or railroad which runs back to a friendly board edge. For the Soviets the eastern edge and the extreme southeastern edge are friendly. All other edges are friendly for the German player. Both the initial seven hexes to the road or railroad, and then the subsequent road or railroad route must be free of enemy units and zones of control. Artillery units not in supply may not conduct barrage and have an assumed support factor of 1.

C. Isolation: All units are subject to the effects of isolation. Any unit which cannot trace a path of any length free of enemy units and their zones of control back to a friendly board edge is isolated. Isolated units have their antitank and conventional combat factors halved (retaining fractions unrounded) and if required to take a morale check do so with an additional adverse die roll modification of 1.

D. Velikiye Luki: The Velikiye Luki fortress constitutes a special case. A separate supply marker is provided to keep track of supply points in Velikiye Luki.

1. Receiving Supply Points: Velikiye Luki initially has the same number of supply points as the general German supply pool (2 points on turn 1). Whenever the German player receives supply points, the indicated number is added to the general pool and a like amount is added to Velikiye Luki, so long as a supply route can be traced from any hex of the city. Once a supply route cannot be traced from the city, additional supply points are air-dropped in. As before, the number of points air-dropped is the same as the number of points called for on the order of appearance, but there is a chance that some or all will be misdropped. The die rolls once for each supply point. In clear/frost weather and in thaw weather the supplies are received on a roll of 1-4. In snow weather the supplies are received on a roll of 1-2.

2. Expending Supply Points: Velikiye Luki supply points may only be expended to conduct operations requiring the expenditure of supply points if points from the Velikiye Luki reserve are expended. Thus, the troops in Velikiye Luki are effectively a separate entity for supply point purposes from troops outside of Velikiye Luki. In addition to the normal functions of supply expenditure, the German player may expend one supply point at the beginning of a turn in Velikiye Luki to allow the hoops in the city to avoid the effects of isolation.

RULE 16: Weather

At the beginning of each turn the die rolls to determine the weather for the turn. The Turn Record Chart indicates what weather results from the die roll on a turn-by-turn basis. Three weather conditions are possible: clear/frost, thaw, and snow.

A. Clear/Frost: Clear/frost weather is the normal weather condition and has no special effects. All lake hexsides and rivers are frozen.

B. Thaw: Lakes and rivers will not support the weight of heavy equipment. The effects of thaw on lakes are as noted on the Terrain Effects Chart and in Rule 13. Thaw also affects rivers. During thaw weather no track-mobile, wheel-mobile or draft-mobile unit may cross a river except at a bridge. Such units still pay the same movement point cost to enter and leave a river hex, but must leave the river hex on the same side of the river as they entered

C. Snow: All lakes andriversare frozen. Snow affects visibility (Rule 11: Artillery), morale (Rule 14), and the air-dropping of supplies to Velikiye Luki (Rule 15).

RULE 17: Reinforcements

New units (reinforcements) appear as called for by the Soviet and German Orders of Appearance. As a general rule, new units appear at the beginning of the player's second impulse (if the player has taken all 10 movement points, reinforcements will appear on the next turn.). Units appear at one of several entry areas.

A. Soviet Entry Areas: There are three Soviet entry areas. The Northeastern Entry Area comprises all hexes on the north edge of the map east of the Lowatj River. The Eastern Entry Area comprises all hexes on the eastern edge of the map.

B. German Entry Areas: There are four German entry areas. The Southern Entry Area comprises the ten hexes on the southern map edge immediately east of the Lowatj River. The Southwestern Entry Area comprises the southernmost railroads exiting the western edge of the map, and all map edge hexes between them. The Western Entry Area comprises the railroad exiting the map due west of Nowossokoljniki and the four map edge hexes on either side of it. The Northwestern Entry Area comprises the railroad exiting the map in the northwest comer and the four map edge hexes on either side of it.

C. Impulse of Entry: Reinforcements enter the map by paying the MP cost to enter the map edge hex they appear in. A unit may appear in any map edge hex of its specified entry zone.

D. Alternate Entry Zones: Any German unit scheduled to appear in the Southern Entry Zone may appear the same turn in the Southwestern Entry Zone. Any German unit scheduled to appear in either the Southern or Southwestern Entry Zone may appear one turn later in the Western Entry Zone.

E. Closed Entry Zones: If there are no German units south of Velikiye Luki and east of the Lowatj River, no German unit may appear in the Southern Entry Zone. If there are no German units within ten hexes of the southern map edge, no German units may appear in the Southwestern Entry Zone.

F. Optional Reinforcements: The entire German 7th Flieger Division was stationed at Velizh (about 20 miles southeast of the south edge of the map) and could have been committed to the battle except for Reichsmarschall Goering's desire to maintain it as a force in being. As it was, only one battalion was committed to battle (that shown on the German setup chart). The die rolls at the start of the first German impulse of turn 12. On a roll of 1-5 only the single parachute battalion (11 1/1) is received. On a roll of 6 the entire 7th Flieger Division is received. German staff appraisals after the battle make much of the fact that the relief attempt came very

close to succeeding without the entire 7th Flieger Division, and that with all of this elite division in action the success of the drive would have been assured. As with many "might have beens" this assumes that the Soviets would have done nothing different. In fact, 3rd Shock Army retained one excellent rifle division in army reserve and there were two divisions and a brigade on the flanks of the battle area, either in reserve or very lightly engaged, which in an emergency could have been committed. As a result, if the German player gets a roll of 6 and thus receives the entire 7th Flieger, the Soviet player at the start of his next impulse gets one die roll foreachofthefollowingunits: 54th Rifle Brigade, 24th Cavalry Division, and 334th Rifle Division. On a roll of l-4 the indicated unit is received. In addition, the Soviet player automatically receives the 47th "Nevel" Rifle Division. All units appear in the entry areas indicated on the Soviet Order of Appearance.

RULE 18: Replacements

Replacements represent drafts of new men used to bring depleted units up to strength. Both the German and Soviet players receive replacement points as specified on the orders of appearance (see menu). On a player's first impulse of a turn the replacement points received that turn may be added to the strength of any non-isolated personnel unit. No unit may be raised above its original indicated strength. German personnel units in Velikiye Luki which have avoided the effects of isolation by expenditure of a supply point may not receive replacements. Starting on turn 5, and every subsequent turn, both the Soviet player and the German player may repair one strength point of AFVs per turn. That is, any AFV unit in play which is below strength may be raised one strength point. On turn 10 (only) the Soviet player may refit one tank brigade of his choice. Any tank brigade in play may be refitted. All units of the tank brigade are removed from play at the beginning of the turn and then enter the east edge of the map at full strength at the beginning of the first Soviet impulse of the next turn (turn 11).

RULE 19: Bunkers

The German player initially receives seven bunker hexes which are deployed in Velikiye Luki as per the setup instructions for the scenario being played. Bunkers have a number of unique characteristics. While a bunker is not a unit per se, it has many characteristics of a combat unit. Bunkers have an indicated strength (either 10 or 15) and suffer losses from barrage fire which reduce this strength. Each bunker has an assumed antitank and conventional combat factor of 1. Thus a bunker with a remaining strength of 7 would have both an antitank and conventional fire value of 7. Bunkers may use their antitank and conventional fire factors only in defensive fire. A bunker unit with a remaining strength of 3 or more frees any other friendly unit in the hex from the necessity of taking any moralechecks,except for units which assault from the hex in that phase. However, AFV units never receive any of the benefits of being in a bunker.

RULE 20: Bridges

A bridge in a river hex negates the river for movement purposes and allows units to enter and leave the hex as if it were a road hex. Bridges are shown on the high resolution map as roads across rivers, and they can be built and destroyed during the course of the game. At the start of Scenario I and the Campaign Game there are four standing bridges across the Lowatj River.
A. Destroying Bridges: Any engineer or construction unit may destroy a bridge by entering the bridge hex and expending one additional MP.
B. Building Bridges: The four Soviet engineer brigades and the one German bridging battalion are capable of building bridges. Each of these units may build one bridge during the course of the game. To build a bridge the unit moves into a river hex and expends one additional movement point The bridge remains until destroyed.

RULE 21: Special Units

A number of units in the game have special characteristics or abilities as detailed below.
A. Close combat units: All Soviet submachinegun and engineer units and all German engineer, commando, and parachute units are considered close combat units, whether by equipment or by training. When either in or assaulting into a town or forest hex close combat units double their antitank and conventional combat factors.
B. Brandenburg Commandos: Although later in the war the Brandenburgers were converted to conventional motorized infantry, at this stage they were still chosen and trained for special operations. The elements of the 803rd Regiment present at Velikiye Luki contained a very high proportion of men fluent in Russian, and on several occasions elements of the battalion were able to bluff their way through Soviet lines. Brandenburg commando companies may attempt to move through Soviet zones of control during the German movement phase. For each hex containing Soviet ZOC entered by a Brandenburg unit or stack of units, the die rolls once. On a roll of 1 the Brandenburgers have been found out and end their movement for the phase. Brandenburgers may attempt to lead a column of non-Brandenburger troops through Soviet ZOCs (and in fact this is how the few troops who managed to escape from Velikiye Luki did so). Units may stack with one or more Brandenburg units up to the stacking limit and move with it. However, for each non-Brandenburg unit in the stack, 1 is subtracted from the die roll for detection when moving through enemy controlled hexes.

RULE 22: Garrisons

The troops initially placed in the first scenario and the campaign game are garrison units and may not be moved the first turn. At the beginning of turn 2 the Isotcha and Nowossokoljniki garrisons are released and may move freely. At the beginning of the turn the die rolls for the German to determine if the Velikiye Luki garrison is

released. On turn 2 the garrison is released on a roll of 1. On turn 3 it is released on a roll of 1 or 2, on turn 4 on a roll of l-3, etc. Until released, the Velikiye Luki garrison may not leave the city, although it may move freely within the city.

SCENARIOS

White Death contains five scenarios ranging from two to four game turns in length plus a 13-turn campaign game. Each scenario covers one of the five distinct phases of the campaign. When the player selects a scenario, the computer automatically places the units historically available in areas closely approximating their actual location in the given time-frame.

SCENARIO 1: Purkayev's Attack (Turns 14)

1. Historical Background and Summary: Since the German front was only thinly held, a major rupture of the line was little problem. Purkayev's 3rd Shock Army did face several problems, however. First among them was a real shortage of heavy artillery. Although Kalinin Front made available one heavy mortar regiment and one heavy artillery regiment, most of the front's supporting assets were tied up in the assault on the Rzhev salient. Once the front stabilized and massive barrages became necessary to break key points of resistance, it would be necessary to rely on massing divisional assets, and that could cause problems. Second, all roads led through Velikiye Luki, and it was unlikely that the city could be taken by immediate direct assault. Until the city was at least partially in Soviet hands it would be difficult to put even divisional artillery across the Lowatj River. The resulting tactical situation was fraught with potential peril: Velikiye Luki had to be taken to threaten the Nevel-Leningrad railroad in strength. Velikiye Luki, to be taken, had to be isolated and then pounded into submission by heavy concentrations of artillery. To surround it troops had to be put across the Lowatj, but to mass the artillery concentration necessary to take the city the troops would have to leave their divisional guns on the east bank, thus leaving them vulnerable to a counterstrike. Purkayev's solution was probably the only viable option open to him. Infantry and armored elements penetrated the German lines as quickly as possible and made for the Lowatj and the railroad beyond it. Surrounded German units were left behind for the follow-up echelons to deal with. By the end of the first scenario (about twenty days of fighting) the Soviets were across the Lowatj in strength and, while they had little artillery with them and had temporarily run out of steam, they had kept the Germans off-balance. Advanced elements of the 3rd Shock Army had in places been within sight of the vital rail line and had clearly gained a tactical success.

SCENARIO II: Woehler's Response (Turns 5-7)

For Army Group Center, the attack could not have come at a worse time. The best of the army group reserves were inevitably sucked into the desperate inferno raging about the Rzhev Salient, and no help could be expected from higher up as the High Command desperately juggled troop assignments to find reserves for the cataclysm engulfing the southern flank around Stalingrad. Army Group North was able to part with an under-strength Panzer division, and an infantry division on garrison duty in East Prussia was railed into the area, but major reinforcements beyond these would have to come from what limited army group assets could be shaken loose. Army group's initial response was to have the troops in Velikiye Luki tight their way out, a task which they were probably capable of, given the weakness of the Soviet units actually across the Lowatj. Hitler intervened at this point, however, and demanded that the fortress be held and relieved by attacks from the troops outside the pocket. Army group protested that the troops in the area lacked the strength to break through to the beleaguered garrison, but in retrospect it is probably true that had Velikiye Luki been abandoned in early December it would have been nearly impossible to stop 3rd Shock Army short of Nowossokoljniki and the Nevel-Leningrad railroad. With the need to rescue the garrison from the outside it soon became obvious that General Chevallerie's LIX Corps could not control units both along the entire front and in the pocket as well as coordinate the relief attempt. The operation had simply grown beyond a single corps proposition. Consequently a new headquarters was created--Gruppe Woehler, commanded by Lt. General Woehler, Army Group Center's chief of staff. Even by austere German staff standards, the staff of the new command was small, working in a one-room peasant hut. By mid-December Woehler was able to take command of the relief force (now swollen by the addition of a motorized division from Army Group Center reserve) and brought to the command the valuable knowledge that came with the army group chief of staff position-location of supply depots and the ability to call in accumulated favors. Woehler's command was small, but it never lacked winter clothing. Woehler faced two initial tasks. First, there were two groups of troops cutoff southwest of Velikiye Luki, most of the remnants of the 3rd Mountain Division and 83rd Infantry Division that had held the LIX Corps front line. Second, the general front had to be strengthened and prepared to serve as a jumping-off point for the relief drive. Assigning the southern flank to the old LIX Corps units, Woehler instructed the encircled troops to fight their way out on their own. The southern flank was not much of a concern as the II Luftwaffe Corps holding the area to the south (off the map) was only lightly engaged and could probably shake loose a division in the near future. The northern flank was nearly impassable and could be guarded by small detachments. Consequently, Woehler used his main strength to reinforce the center and clear the area up to the Guschtschino-Tschemosjom line. The relief attempt, when launched, would drive northeast from this line, with its flanks protected by lakes to the north and the Lowatj to the east.

SCENARIO III: The First Relief Attempt (Turns 8-9)

The isolated elements of the 3rd Mountain Division and the 83rd Infantry Division had broken out. The front on the south, a more difficult proposition than had been envisioned, had been stabilized by the intervention of 1st Motorized Brigade, and in fact Soviet troops had been drawn off the more important central front by the SS

attack. The troops in Velikiye Luki were grudgingly losing ground, but exacting a stiff price for it. In the central area ground had been gained. In short, all of Woehler's most important goals had been at least partially achieved. It was time for the relief attempt itself to be launched. Purkayev, while not complacent, must have met Woehler's first relief attempt with more confidence than he had felt for the last two weeks. With the bulk of 2nd Mechanized Corps in action across the Lowatj River, he could at least match any armored strength the Germans would throw against him, but the fact remained that the Germans had definitely regained the initiative. The Red Army's task now was to repulse the German attack with sufficiently bloody losses both to maintain the siege of Velikiye Luki and stand a chance of resuming the drive toward the Nevel-Leningrad railroad. The drive was launched shortly before Christmas and made good initial progress, but it bogged down at about the half way point in the face of mounting Soviet resistance.

SCENARIO IV: The Second Relief 'Attempt (Turns 10-11)

Gruppe Woehler had failed in its first attempt to break through to Velikiye Luki but had managed to inflict severe losses on the defending Soviet units. 3rd Shock Army troops had been severely hampered by a scarcity of divisional artillery on the west bank and had been forced to accept disproportionate manpower and armored vehicle losses to make up for the deficiency and keep the pocket sealed. More guns were coming across now however, and ammunition was getting across in the critical area around Velikiye Luki itself. Gruppe Woehler's drive had been terminated in the face of this mounting resistance and could only be resumed when additional troops became available. The troops made available to beef up the relief attempt consisted of two additional infantry divisions, but it soon became apparent that only one of them was capable of making a significant offensive contribution. Another attempt had to be made though, as the situation in Velikiye Luki was becoming desperate. The fortress was now permanently cut in half, and on January 5 the Soviets had cleared both sides of the Lowatj River in the town by a converging north-south attack. Unless the siege could be lifted immediately, the garrison was finished. Woehler's second relief thrust made good ground and came within about three miles of linking up with the troops in the Citadel. but Purkayev's weary tankers and riflemen found the energy to go over again to the offensive, this time against the flanks of Woehler's penetration, and the German spearhead itself was forced to go over the defensive to avoid encirclement.

SCENARIO V: The Final Relief Attempt (Turns 12-13)

Gruppe Woehler and 3rd Shock Army now staggered as two punch-drunk fighters, both seriously hurt and neither able to gain a decisive advantage over the other. There was little hope of relieving what scattered parts of the Velikiye Luki garrison remained in the ruined city, but 3rd Shock Army had abandoned hope of cutting the Nevel-Leningrad railroad as well. While the Germans had avoided complete disaster, they had paid too high a price in blood to do so, and all that remained was

to attempt to salvage as much as possible. Woehler decided on one final attempt to rescue as many survivors from the Citadel area as possible. Where brute force had failed, perhaps guile would succeed. The Brandenburgers would make their way through the Soviet lines and then spearhead a breakout attempt by the defenders of the Citadel. On January a company of Bmndenburgers riding on captured T-34 tanks and German assault guns broke into the city. The breakout attempt came on the night of January 13-14 and was to link up with the relief attempt now spearheaded by a fresh battalion of paratroopers (the only battalion released by 7th Flieger Division). A handful of troops managed to break through.

MENU OPTIONS: What They Do and How to Use Them

The option menu can be pulled down with the RMB from the upper left top of the screen whenever you are viewing the window mode of the on-screen map. To switch from the broad overview map to the window mode, just click the mouse button. To retrieve the menu and select an option, move to the top left and press the RMB. Continue depressing the button as you move the mouse, until the option you want is highlighted, and then release the button. The menu disappears, and the option you selected is activated. As an alternative, several options can be activated from the keyboard more quickly with the Amiga-key/letter-key combinations indicated on the menu. It is possible for you play White Death the computer game without scrutinizing the rule book, since the computer will intervene whenever a rule violation is attempted. However, for a better understanding of the game and a more effective use of your resources, we recommend that the menu options and the rule book be used in tandem

MOVE UNITS: This option initiates the movement phase. It allows you to move units from the raster to the hexes you select and/or to collect units from one hex in order to move them to another hex. The raster is an area across the top or bottom of the screen, which can hold up to 15 units at a time. Units are moved out of the raster line-up from right to left. Upon loading the campaign game, you will find the raster is already filled with German units for the initial set-up. The initial Soviet units appear in the raster automatically after the Germans are set up. At all other times, except when reinforcements are automatically introduced, you must first collect a unit (click on it with RMB) into the raster before you can move that unit. To move a unit out of the raster and into a hex, simply click on the destination hex with LMB. The unit next-up in the raster will immediately go into the destination hex. Pointing to Move Units brings up a sub-menu from which you can select one or more of the following options:

Top Unit: Allows you to collect only the top unit from a stack of units in a hex, one-at-a-time. Point and click on a friendly unit with RMB to collect it. Click the LMB on a destination hex to deposit it.

Whole Stack: Allows you to inspect all units (your own, not your opponent's)

stacked in a hex, before you actually collect and deploy them. With this option, when you click on a stack, the units therein will be displayed across the top of another screen. When you then click on a unit, a white border surrounds it, and statistics regarding that unit's strengths and other particulars appear. If you want to move this unit, leave the white border on, hit OK, and into the raster it goes. It If you want the unit to remain where it was, click the whiteborderoff, and backitgoes.Ifyoudecide you don't want to move any of the units in that stack, click off all the white borders before hitting OK. No penalty is incurred in changing your mind.

Reserve MP: Since you must have at least 1 MP left over in order to attack, this option prevents your accidentally expending them all in the movement phase. It reserves 1 MP. Use All MPs: In this mode, moving unit(s) will allow you to expend all available MPs.

Force Stack: Allows stacking limit violations. Certain actions of a player can cause a situation known as gridlock, where units that cannot legally stack together contend for the same space. For example, unit A and unit B cannot stack in the same hex. Unit A is moved into an enemy ZOC and becomes immobile. Unit A is then collected and unit B is moved into the same hex and it too becomes immobile. Unit A in raster and unit B on the 'board' are gridlocked. Under these conditions Force Stack can be used toforceunit Aandunit B tostackinthesamehex. A wordofcaution: Theunitforced into the stack will not be able to assault in that impulse, and abuse of this emergency measure (force-stacking a large number of units in a hex) can cause unpredictable results. This option can also be used to correct the "Flying Dutchman" problem (see ENTRAIN below).

Raster Info: Enables you to examine individual units in the raster in order to check their strength factors and other pertinent values before depositing them on a hex.

Alternate Entry Zone: Reassigns reinforcements to alternate zone for entry (see Rule: 17 B).

ENTRAIN: This option enables you to move an eligible (see Rule 8) unit by rail after you collect it into the raster. When you select this option the Entrain screen comes up. It displays the points available in the upper right. You select units you want to entrain. Units selected will be marked for entrainment and sent to the raster. You then point to the railroad hex where you want entrainment to begin. After being deposited on the railroad hex all subsequent movement of entrained units will be rail movement. The units in the raster are rearranged so that all units selected for entrainment will be deposited before all units not so selected. The actual entrainment of a unit thus selected does not occur until it is deposited into a hex containing a railroad, in the case of personnel units, or into a town hex containing a railroad, in the case of weapons and AFVs. (See Rule 8.) The entrained unit is then collected. An examination of its movement (see Where option) will reflect its entrained status (see Rule 8) When the unit is again deposited, it will revert to its former status and

canresumenormalmovement.   Itispossibletoentrainunitsarrivingasreinforcements. In order to do this there must be a rail hex in their entry zone. The requirement that non-personnel units entrain in towns is suspended for units entering as reinforcements.

If you accidentally entrain a reinforcement with no permissible hex in which to detrain, it becomes, in effect a *"Flying Dutchman"* In this predicament, the Force Stack option can be used to deposit it in its entry zone. It will then be able to move normally. The selection of any Move Units sub-option from the menu cancels the Entrainment selection of all units in the raster that were selected for entrainment but not yet entrained (deposited in a rail hex). A unit may be entrained as many times in an impulse as rail point allowances permit.

ROTATE: Unless this option is chosen units in the raster are moved out one-at-a-time, from right to left, with each click of the mouse button. Selecting this option allows you to move out a unit which is farther back in the queue. Each click moves the first unit to the back of the line and moves the line forward one step.

REPLACEMENT: This enables you to replace damaged units provided you have replacement points available to you, as listed in the reinforcement chart. When you select this option, damaged units are displayed on screen. Select the units to which you want to add replacements. Each click represents 1 strength point replaced. You may use all your replacement points on one damaged unit, distribute themamong several or reserve some for future needs.

WHERE: This option displays the entire battlefield map on the screen. Hexes into which the unit currently in the raster is legally able to move are outlined in red. However, you cannot move the unit while in this mode. Move the window cursor over an area containing red hexes into which you want to move the unit, and click the button. The screen switches and you then see a full-screen view of the window area selected. You may now move the unit into an accessible hex. Note: Hexes will no longer be outlined in red when in the window mode, so it's advisable to orient their location in relation to recognizable map features such as roads and rivers, etc. Where can only be activated while in the Move Units mode.

VIEW AREA: Displays an overview of the battlefield with solid black squares marking German positions, and solid red squares the Soviets'. Windowing-in on a specific area will show you the identities of the units there.

FIND UNITS: This shows you the locations of a specific type of unit such as artillery, anti-tank, etc., which you select from a sub-menu. These units show up as open black squares for the Germans and open red squares for the Soviets. The find units option also reshuffles the stack on a hex so that all of the type of unit selected are topmost on the stack.

ISOLATION: Enables you to determine at a glance if any of your units is isolated. Select sub-option either German or Soviet. This option brings up the field map painted with red hexes. If areas of isolation exist, they show up as blank areas among

the red hexes. When ISOLATION /GERMAN is selected, any black square within the blank area is isolated. When ISOLATION/SOVIET is chosen, any red square within a blank area is isolated.

SUPPLY: This option traces the supply lines for artillery purposes. (See Rule 15 B.) All road hexes which form a continuous line, unbroken by enemy ZOCs back to a friendly board edge, are marked in red.

BRIDGE: This option calls up sub-options Build and Demolish.

Build. After placing an appropriate construction unit into a river hex, select Bridge/ Build, then click on the construction unit, and the bridge is built.

Demolish: After placing any appropriate unit on a bridge hex, select Bridge/ Demolish, then click on the unit, and the bridge is demolished.

BARRAGE: With this option you select the target you intend to attack and the units you want to fiie the barrage. While in this mode, click on an enemy target hex. This brings up a screen with your eligible units displayed across the top. When you click on one of these, a white border appears around it, and information pertaining to that particular unit, maximum range, range-to-target, etc. is displayed on screen. If you want to use the unit, leave the white border on, but do not hit OK yet. If you do not want to use the unit for this barrage, or are undecided, click on the unit again and the white border disappears. You then point to another unit in the line-up and repeat the procedure until you have selected enough available units to achieve the desired strength of barrage. Only when you have selected all the barrage units you intend to, hit OK. The barrage takes place immediately, and the results appear. If you do not want to use any of the units in the line-up, click off all the white borders, then click OK. The units go back to where they were, and nothing happens. You may at this point click on another barrage target and repeat the process until you have finished barraging. At this point you have the option of choosing menu option Combat, or turning the Impulse over to your opponent.

COMBAT: Selecting this option begins the combat phase and brings up a sub-menu.

Definition. designates the enemy targets you are going to attack, and the units with which you wish to assault. To declare an enemy hex a target for your attack, click on it, and an attack screen comes up. The lower left comer shows a cluster of hexes. The one in the center represents the enemy hex you just selected, with its six adjacent hexes surrounding it showing whether they are occupied by enemy or friendly units or none at all. Click on the center hex to take a look at enemy units within it' (During this phase you can look into an enemy stack.) Click on friendly hexes one-at-a-time. The units within are displayed for your inspection. If you want to use them, click on the white border around them; if not, leave it off. Do not hit OK yet, or you will not be able to select any more units. When you have inspected and selected all the units

you intend to use, then hit OK and return to battle screen. During combat phases, selecting VIEW AREA will assist you in locating enemy hexes you have already designated for attack. These will now appear as open squares instead of solid squares on the map. Continue process of selecting targets until all intended attacks are designated. At this point your opponent has the option of taking defensive action against you.

Defense: is selected after Combat/Definition is finished. This selection enables the non-phasing player to take defensive actions. Find a hex being attacked. As in Combat/Definition above, selecting VIEW AREA now will display those hexes as open squares. Click on it to begin organizing defense. A screen comes up showing defending hex in the center with its adjacent hexes surrounding it as in previous option. First choose defending headquarters from among units in the center hex. If there is any artillery support available, you will then be asked if you want to conduct high intensity or low intensity fire, providing you have enough supply points (you need at least one) for high intensity fire. All artillery units available to assist in defense will then appear on screen. To accept them, click on the units; whiteborders will appear as described in previous options. When all done, click OK and return to the organize defense screen. You have already selected defensive headquarters; if you don't want to change it, hit OK again. Now you allocate defensive fire. Click on an attacking hex. Select first individual unit within it to fire defensively upon. When you click on it, a screen with a slider bar will appear. Sliding the bar to-the top with the cursor shows you how many fire points are available. Select some, all, or none. Available fire may be apportioned among enemies in whatever ratio desired. The odds are displayed in upper right, and they change as the slider bar is lowered. (Hint: Don't waste points by moving the slider higher than necessary to achieve maximum odds.) The odds for that unit are set as soon as you click on the next unit. When you have selected all of the enemy units upon which you intend to direct defensive fire, then and only then, hit OK. (If none are selected before the OK, the computer will perform the allocations.) Combat immediately ensues until resolved.

Assault: After defensive fire is completed, this option enables the phasing player to complete his attack phase. The assault is conducted against previously defined enemy hexes. Here again, VIEW AREA will show you where they are. Click on one of the target hexes. A screen comes up showing the enemy hex in the center of its six adjacent hexes. You are asked to select assaulting headquarters. Click on one of your attacking hexes; then click on one of your units to be attacking HQ. Select OK to begin allocating offensive fire. Click on the enemy hex. Select the defender you want to fire upon (click on the white border). Move the slider bar to select fire points (same as in defense phase above). Continue until you have completed assault plans on all the enemy hexes you selected in the Combat/Definition phase, then go to RESOLVE.

RESOLVE: This **executes the assault** plans after you have completed them. The battle commences against each hex and each unit targeted within it, one at a time.

Losses are calculated, retreats are carried out, morale checks are taken, and the results are reported. If any hex has been vacated, you are given the opportunity to move in.

IMPULSE: This turns the initiative (or phase) over to your opponent. Except for when you have begun your combat phase, if you wish you may choose this option to, in effect, "pass".

TURN: After all movement points have been exhausted by both sides, this option starts the next turn.

LOAD: This allows you to start a game over from scratch, start again with a saved game or with one of the five scenarios.

SAVE: Allows you to save the current game at any point as you go along, whether you wish to continue it or resume it at another time, or just keep it for revue after completion. Click on the empty filename box on screen, then type in a filename. Or, click on a filename already in the directory, and the current game will replace the previously saved game with the same name.

QUIT: Ends play without saving, and returns you to system.

MOVEMENT RELATED ACTIVITY

Movement Through Enemy ZOCs:

Normally, entry of a unit into an enemy ZOC effectively ends movement for that unit during the current impulse. AFV units, however, can transit enemy ZOCs (Rule 3: A). To do this, deposit the AFV in the ZOC you wish to transit. A requester will appear asking if you wish to continue. If you answer "No", movement ends, as with any other unit. If you select "Yes", defensive fire is directed at the AFV unit. If the AFV suffers losses or an adverse morale check as a result of defensive fire, its movement is ended. Otherwise it may continue to move as long as sufficient MPs remain. Brandenburg Commandos may also move through enemy ZOCs (Rule 21: B) and by stacking with other units can attempt to sneak them through as well. To do this, first deposit the units you are attempting to sneak through into the enemy ZOC. If they are AFV units answer "No" to the "continue?" requester. When you have moved all the units you wish to be escorted by the Commandos into the hex, add the Commando unit. If they are discovered, movement ends; if not, the entire stack may continue movement.

Movement Over Frozen Lakes:

The situations above along with Frozen Lake Transit (Rule 13) represent special cases of movement related activity. In all of these cases the area shown by the

"Where" function shows the movement as terminating at these special locations. Once the units are deposited in these hexes, the required checks made and the units again collected, the "Where" function will recalculate and display the updated movement range for the units.

Intrinsic Garrisons:

All towns west of the Lowatj River and containing a railroad have an intrinsic garrison initially. The garrison is not shown as a counter on the map, but can be assaulted in the same way as any other hex. Each garrison is considered to be a personnel unit of one strength point and a combat factor of four. Any loss eliminates the garrison. If there no other German units in the hex the garrison must be eliminated before a Soviet Unit may enter the hex,

Unit Counters

In addition to the symbol designating the type of unit, there is other information to be found on the counter. Centered at the top is the division/brigade of the unit. Centered at the base is the unit identification. At the very center is an indication of the units size:

I ....Company
II ....Battalion
III ....Regiment
X ....Brigade

Just to the right of the size is the unit's mobility type:
s .... Ski
l ....Leg
d ....Draft
w .... ,........... Wheel
t ....Track
m .... Motor Cycle
h ....Horse

To the left of the size and towards the base is a number indicating how many units are stacked in the hex. Just above this a number may appear indicating bunker strength if the unit is in a bunker.
In addition to the text on the counter. there are two vertical bars at the extreme right and left. The bar on the right indicates the current strength of the unit relative to its initial strength. The bar on the left indicates how much movement, relative to what it had at the start of the impulse, a unit has left.
When the counter is presented for artillery selection, the mobility type (now irrelevant since the movement phase is over) is replaced by a 'Y' if

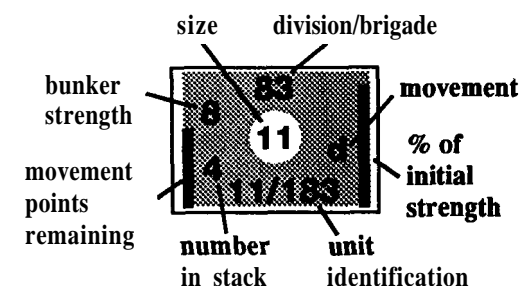the unit is drawing on Velikiye Luki supply.

Default Actions

Although the experienced player probably will want to do it, it is not necessary to allocate offensive and defensive fire during the combat phase. It is only necessary that the units assaulting a hex be identified. If the player does not want to specify what portion of his firepower is directed at which unit, or he neglects to allocate all the firepower at his disposal, or attempts to skip the phase altogether, this allocation will be done automatically. This is both a safeguard against pushing the wrong button as it were, and an aid to the less experienced player. The default actions do not allocate artillery for either support or barrage

UNIT IDENTIFICATION

Infantry

Mountain Infantry

Armored Infantry

Paratroopers

Machinegun

Heavy Infantry

Motor Cycle

Cavalry

Ski

Engineer

Bridge Construction

Railroad Construction

Construction

Observation

Security

Police

Antitank

Antiaircraft

Field Artillery

Mortar

Mountain Artillery

Self-propelled Artillery

Rocket Artillery

Heavy Antiaircraft

Airborne Artillery

UNIT COUNTER

size   division/brigade

bunker strength

movement

% of initial strength

movement points remaining

number in stack   unit identification

AFV Units

Soviet

T-60

T-70

T-34

KV 1

SU-76

su-122

German

PzKw II

PzKw 38t

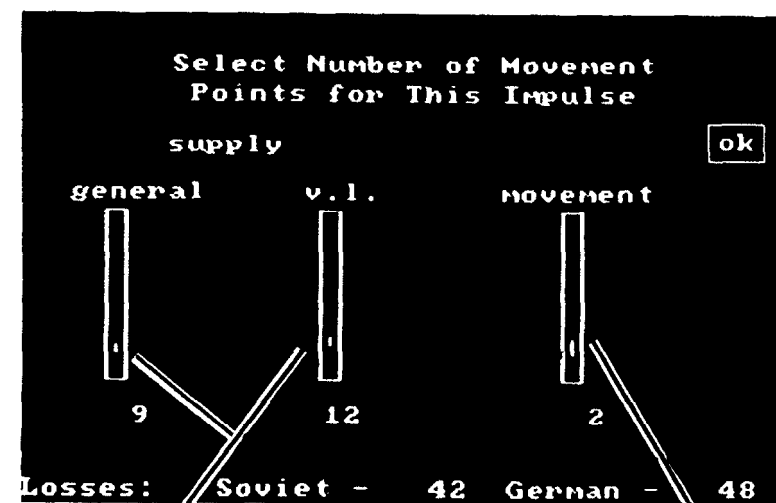PzKw III (short-barrelled 5 cm)

PzKw III (long-barrelled 5 cm)

PzKw IV

StuG III (short-barrelled 7.5 cm)
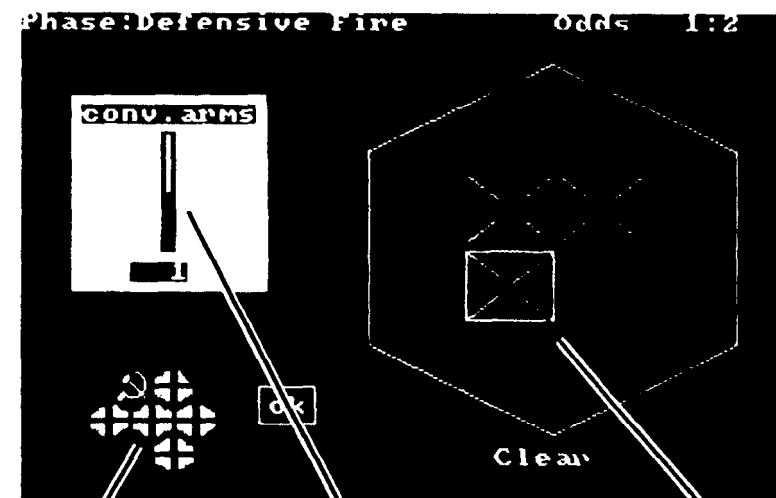
StuG III (long-barrelled 7.5 cm)

Marder II

Impulse Screen

Select Number of Movement
Points for This Impulse

supply

ok

general   v.l.   movement

9   12   2

Losses: Soviet -   42   German -   48

Supply Sliders
(Read Only)

Movement Point Slider
(Set With Mouse)

Combat Screen

Phase:Defensive Fire   Odds   1:2

conv.arms

ok

Clear

Hex Cluster

Fire Allocation
Slider

Unit Under
Attack

Whole Stack / Info Screen

support fact.   0 barrage fact.   0
combat fact.   **6 anti-tank fact   1/2
defense   1 morale   7
strength   3 range   0
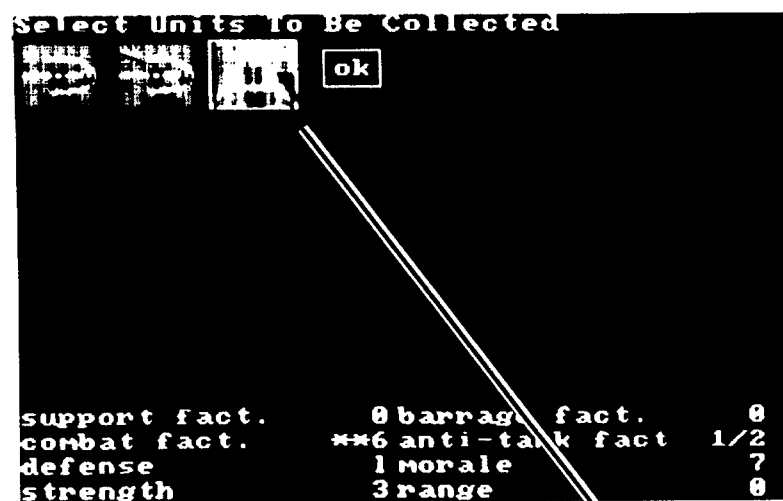
Particulars   Selected   Unit

Artillery   Support   Selection

Phase:Organize Defense   1

maximum range   8 effective value   1
range to target   2

40